KENWOOD

KAS-20SE DISPATCH SERVER SOFTWARE KAS-20CE DISPATCH CLIENT SOFTWARE

Function Reference (FUNC)

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About this Manual

This document is created for the product having the following design specifications.

Item	Specifications	How to Verify
Market Code	K	-
Version of KAS-20SE	V 1.00	Can be viewed in the **About** dialog box of KAS-20SE.
Version of KAS-20CE	V 1.00	Can be viewed in the **About** dialog box of KAS-20CE.

K: Designed for the North American market.

About Notations

The following are notations used in this manual:

[ ]

The characters in [ ] indicate the names of the operating parts of each device, and the key names on the PC keyboard.

“ ” (Double Quotation Mark)

The characters in “ ” indicate the name of the items, buttons, and menu commands displayed on a screen of KAS-20SE/ KAS-20CE.

Bold Letters

The characters in bold letters indicate the names of the functions, panes, sections, dialog boxes, tabs, edit boxes, dropdown lists, and checkboxes of KAS-20SE/ KAS-20CE.

[ ] + [ ]

This notation is used to instruct the user to press 2 keys on the PC keyboard at the same time. For example, the notation to enter a capitalized A on the PC is **[Shift]** + **[a]**, for pressing the **[a]** key while pressing the **[Shift]** key.

Notation of Devices to Be Monitored

In this manual, the transceivers, groups and IP console that are monitored by the KAS-20CE are referred to collectively as “mobile stations”.

Notation of Users

The following notations are used to refer to the respective KAS-20SE/ KAS-20CE users in this manual.

Notation	Description
Dispatcher	User who monitors a mobile station via AVL Window, Indoor Location Window or Dispatch Window.

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About Characters Available to Enter

Usable Alphanumeric Characters and Symbols

0 1 2 3 4 5 6 7 8 9 A B C D E F G H I J K L M N O P Q R S T U V W X Y Z a b c d e f g h i j k l m n o p q r s t u v w x y z ! " # $ % & ' ( ) ~ + - , . / : ; < = > ? @ [\ ] ^ _ ` { } * | (Space)

File Name

All characters except the following symbols can be entered.

\ / : * ? ” < > |

User ID

- **Usable letters and numbers for the first character**

0 1 2 3 4 5 6 7 8 9 A B C D E F G H I J K L M N O P Q R S T U V W X Y Z a b c d e f g h i j k l m n o p q r s t u v w x y z

- **Usable letters and numbers for the second and subsequent characters**

0 1 2 3 4 5 6 7 8 9 A B C D E F G H I J K L M N O P Q R S T U V W X Y Z a b c d e f g h i j k l m n o p q r s t u v w x y z @ $ # _

Note

“sa” (both upper and lower cases) cannot be used as the User ID.

Password

0 1 2 3 4 5 6 7 8 9 A B C D E F G H I J K L M N O P Q R S T U V W X Y Z a b c d e f g h i j k l m n o p q r s t u v w x y z ! " # $ % & ' ( ) ~ + - , . / : ; < = > ? @ [\ ] ^ _ ` { } * | (Space)

Note

The following text strings cannot be used as the password.

“sa”, “password”, “admin”, “administrator”, “sysadmin” (both upper and lower cases)

Text String

All Unicode (UTF-16) characters can be entered.

User Controls Without Focus

The user controls that are without focus are as follows.

Screen	Item
AVL Window	Radio Resource List
	Map
	Log
	System Status
	Preset Map
	Master Volume
	Custom Button
	Clock
Indoor Location Window	Radio Resource List
	Map
	Log
	System Status
	Preset Map
	Master Volume
	Custom Button
	Clock
Dispatch Window	Radio Resource List
	Dispatch Tile
	Log
	System Status
	Layout Locked
	Delete
	Add Patch Group
	PTT
	Mic Input Level
	Master Volume
	Custom Button
	Clock

How to Search for Information

For your convenience in reading this document using Adobe Acrobat or Adobe Reader, a link to the corresponding item is pasted in the Contents page, the Index page, the bottom of each page, and the main text. Clicking a link instantly opens the corresponding page.

Placing a pointer over a link changes the shape of the pointer to a hand (☟).

Contents

Clicking a title in the Contents page instantly opens the corresponding page.

Index

Clicking a function name, a title or a page number in the Index pages allows a jump to the corresponding page.

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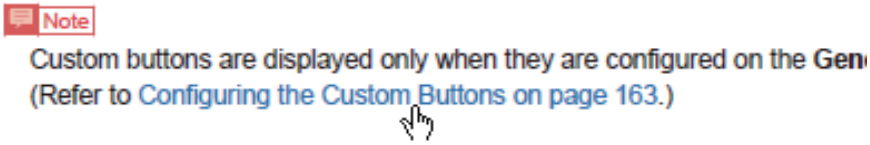

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Search the Text

The text in this document can be searched using the search function of your Adobe Acrobat or Acrobat Reader.

KAS-20CE Settings

Registering the mobile stations to be managed

The mobile stations to be managed by the KAS-20CE can be registered according to each system and the respective functions can be configured.

Configuring a Mobile Station
Page 98

Sorting the mobile stations to be monitored according to user

The mobile station to be monitored by the user of the KAS-20CE can be specified.

Configuring the Mobile Station for Each User
Page 130

Using a scanned map

A scanned map image can be registered and displayed on the AVL Window.

Configuring Scanned Map
Page 163

Registering the status to use in advance

The status message to be sent or received between the KAS-20CE and the mobile station can be configured.

Configuring the Status Message
Page 122

Using the Custom Buttons

Various communication-related operations can be performed by displaying the buttons assigned with a function on the KAS-20CE screen.

Configuring the Custom Buttons
Page 189

AVL Window

Sending a status message

A status message that has been registered in advance can be sent selectively.

Sending a Status Message
Page 215

Sending a Status Message
Page 230

Sending a text message

A text message can be sent by entering the message or selecting a predefined message. Text message for sending can also be selected from the transmission history.

Sending a Text Message
Page 218

Sending a Text Message
Page 235

Displaying one's own created icons on the map

Icons created by the user can be displayed on the map.

Registering Layers for Display on the Map
Page 247

Managing mobile stations using a scanned map

Scanned maps can be displayed on the AVL Window for managing the mobile stations.

Displaying/Hiding the Scanned Maps
Page 251

Managing the movement of the mobile stations by specifying a range on the map

KAS-20CE is able to automatically detect and record any entry into or exit from the geographical range defined on the map.

Displaying/Hiding the Geofence Areas
Page 253

Creating a Geofence Area
Page 254

Checking the communication log

The communication log with the mobile stations can be checked.

Checking the Communication Log
Page 221

Checking the Communication Log
Page 268

Checking the status of alerts that have occurred

The information on alerts that have occurred at a mobile station can be checked.

Display and Operation during an Alert
Page 279

Checking the status of emergencies that have occurred

The information on emergencies that have occurred at a mobile station can be checked.

Display and Operation during an Emergency
Page 282

Indoor Location Window

Sending a status message

A status message that has been registered in advance can be sent selectively.

Sending a Status Message (BLE Beacon Icon)
Page 302

Sending a Status Message (BLE Beacon)
Page 316

Sending a text message

A text message can be sent by entering the message or selecting a predefined message. Text message for sending can also be selected from the transmission history.

Sending a Text Message (BLE Beacon Icon)
Page 305

Sending a Text Message (BLE Beacon)
Page 321

Managing the movement of the mobile stations by specifying a range on the map

KAS-20CE is able to automatically detect and record any entry into or exit from the geographical range defined on the map.

Displaying/Hiding the Geofence Areas
Page 333

Creating a Geofence Area
Page 334

Checking the communication log

You can display the communication log with the mobile station that is linked to BLE Beacon for viewing.

Checking the Communication Log (BLE Beacon Icon)
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Checking the Communication Log
Page 349

Checking the status of alerts that have occurred

The information on alerts that have occurred at a mobile station can be checked.

Display and Operation during an Alert
Page 359

Checking the status of emergencies that have occurred

You can view the information on emergencies that have occurred at a mobile station that is linked to BLE Beacon.

Display and Operation during an Emergency
Page 362

Dispatch Window

Initiating a voice call with a mobile station

A voice call can be initiated once the VOICE PATH LICENSE has been authenticated.

Initiating a Voice Call
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Initiating a Voice Call
Page 400

Sending a status message

A status message that has been registered in advance can be sent selectively.

Sending a Status Message
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Sending a Status Message
Page 402

Sending a text message

A text message can be sent by entering the message or selecting a predefined message. Text message for sending can also be selected from the transmission history.

Sending a Text Message
Page 390

Sending a Text Message
Page 404

Configuring the order of receiving priority

Upon receiving a call from a mobile station with a higher priority during reception, the KAS-20CE can switch automatically to the reception with a higher level of priority.

Configuring the Order of Receiving Priority
Page 398

Encrypting the transmission data

The encryption key for sending data can be configured.

Encryption Setting During Transmission
Page 408

Forwarding a voice call received to a specific mobile station

A voice call received by the KAS-20CE can be forwarded to a mobile station that is registered in Patch Group.

Forwarding a Voice Call
Page 414

Checking the communication log

The communication log with the mobile stations can be checked.

Checking the Communication Log
Page 407

Checking the Communication Log
Page 429

Checking the status of alerts that have occurred

The information on alerts that have occurred at a mobile station can be checked.

Display and Operation during an Alert
Page 442

Checking the status of emergencies that have occurred

The information on emergencies that have occurred at a mobile station can be checked.

Display and Operation during an Emergency
Page 443

Muting the Audio of KAS-20CE

Voice calls that are received from another KAS-20CE can be muted.

Radio Resource List Pane Display
Page 383

The KAS-20E AVL/ Dispatch system tracks and manages mobile stations by connecting the KAS-20SE/ KAS-20CE application software with a digital wireless communication system via IP network or through wireless communication via transceivers connected using serial cables (hereinafter referred to as “serial connection”).

1.1 Overview of KAS-20SE/ KAS-20CE

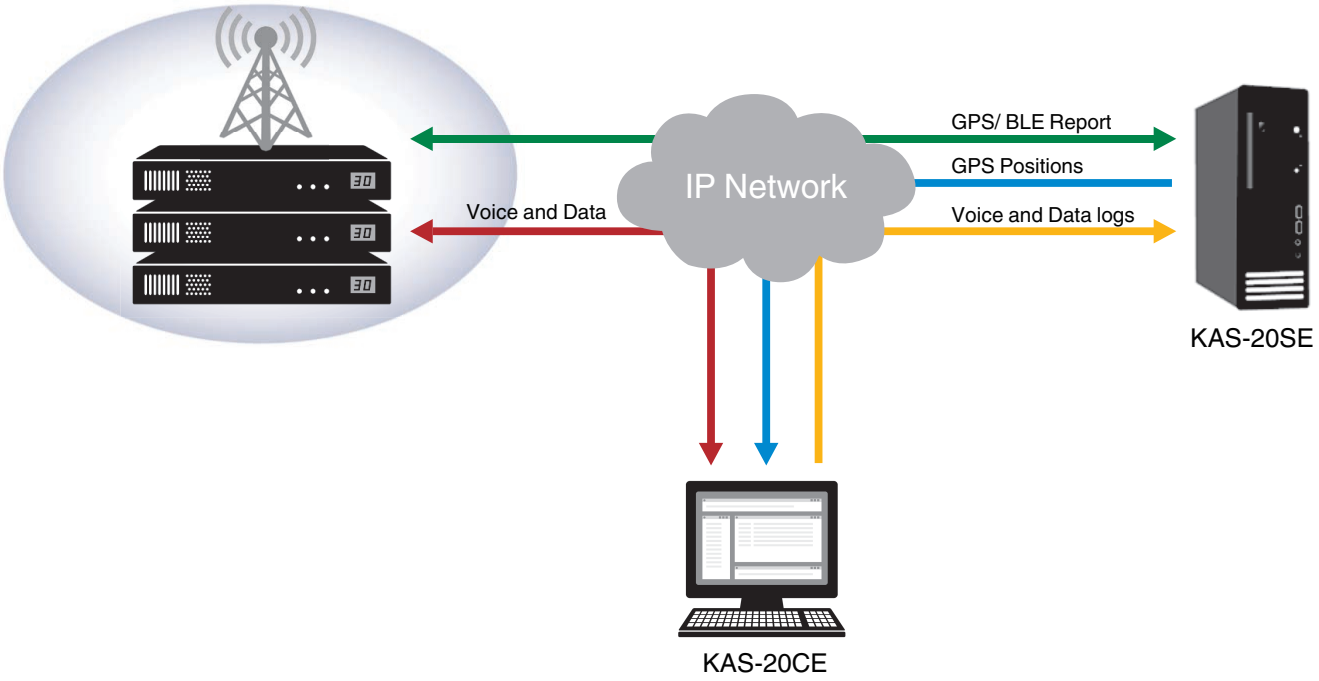

Figure 1-1 Overview of KAS-20SE/ KAS-20CE (IP Network Connection)

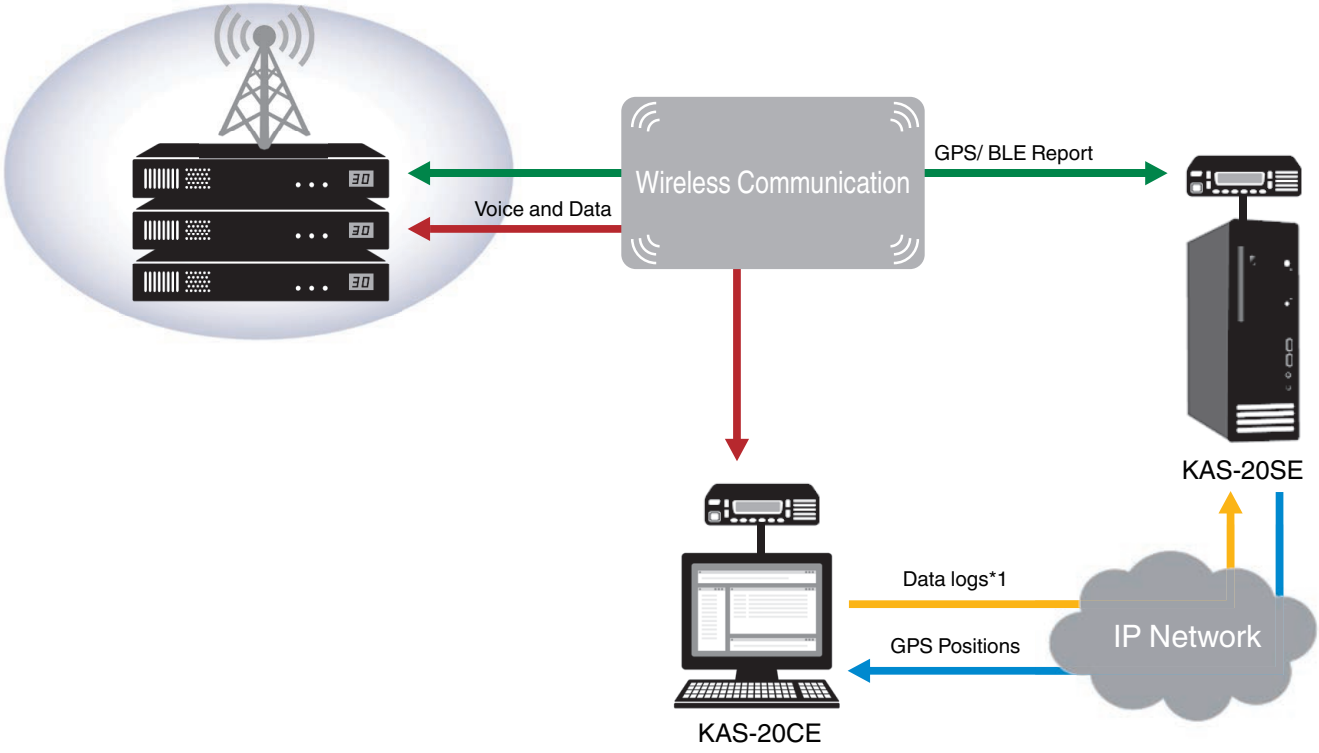

Figure 1-2 Overview of KAS-20SE/ KAS-20CE (Serial Connection)

Overview of KAS-20SE

KAS-20SE is a server software program that performs tasks such as acquiring positional information of the transceiver via the IP network or wireless communication and managing the log of voice calls initiated by the KAS-20CE and other information with a database. The KAS-20SE can be installed on the same PC that is installed with the KAS-20CE or on a different PC.

By gaining access to the KAS-20SE, the KAS-20CE is able to save or browse voice call logs and acquire the positional information of the transceiver. At the same time, by accessing the KAS-20SE and sharing the database of multiple KAS-20CE units, information such as the positional data and voice call logs can be shared. Settings for the system to be connected and those for users to access from the KAS-20CE are configured on the KAS-20CE, and settings data are saved in the database of the KAS-20SE.

Overview of KAS-20CE

The KAS-20CE is a client software equipped with multiple consoles including functions for initiating voice calls and for managing the positional information of the transceivers. By establishing connection with a wireless system through the IP network or through wireless communication via transceivers that are connected serially, it is able to perform functions related to voice calls, text messages and remote control. And by gaining access to the KAS-20SE, the KAS-20CE is able to save or browse communication logs and acquire the positional information of the transceiver.

Note

- Upon receiving audio data or status messages that contain GPS Data, the KAS-20CE sends the GPS Data to the KAS-20SE. This enables sharing of the GPS Data with other KAS-20CE units.
- By the KAS-20SE receiving the Emergency status (Emergency, Emergency Man-down, Stationary Detection, Motion Detection, Lone Worker), Emergency Alarm, Lone Worker response status, and Power-off Status, information can be shared among multiple KAS-20CE units.

1.2 KAS-20E AVL/ Dispatch System Configuration

The KAS-20E AVL/ Dispatch system is made up of the KAS-20SE, a server application software, and KAS-20CE, a client application software.

Standalone Configuration

By installing the KAS-20SE and KAS-20CE on the same PC, the KAS-20E AVL/ Dispatch system can be used as a standalone configuration.

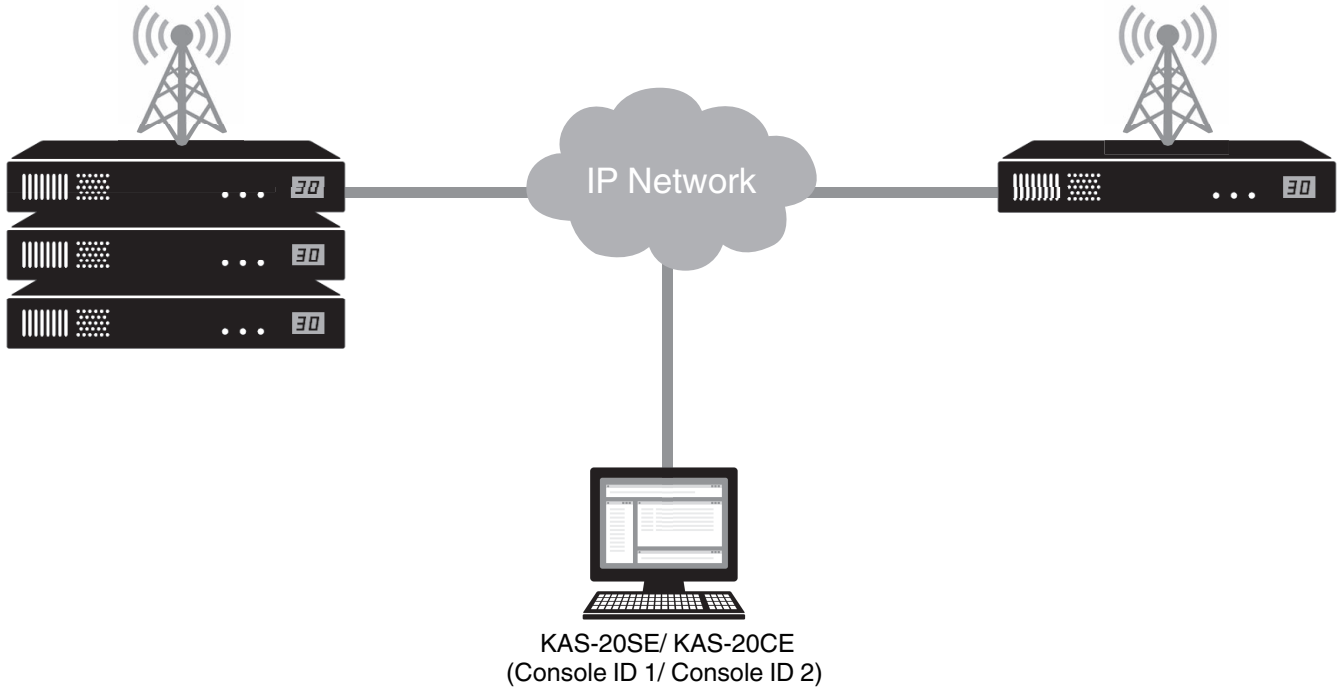

Figure 1-3 Configuration Diagram of the KAS-20E AVL/ Dispatch System (Standalone/ IP Network Connection)

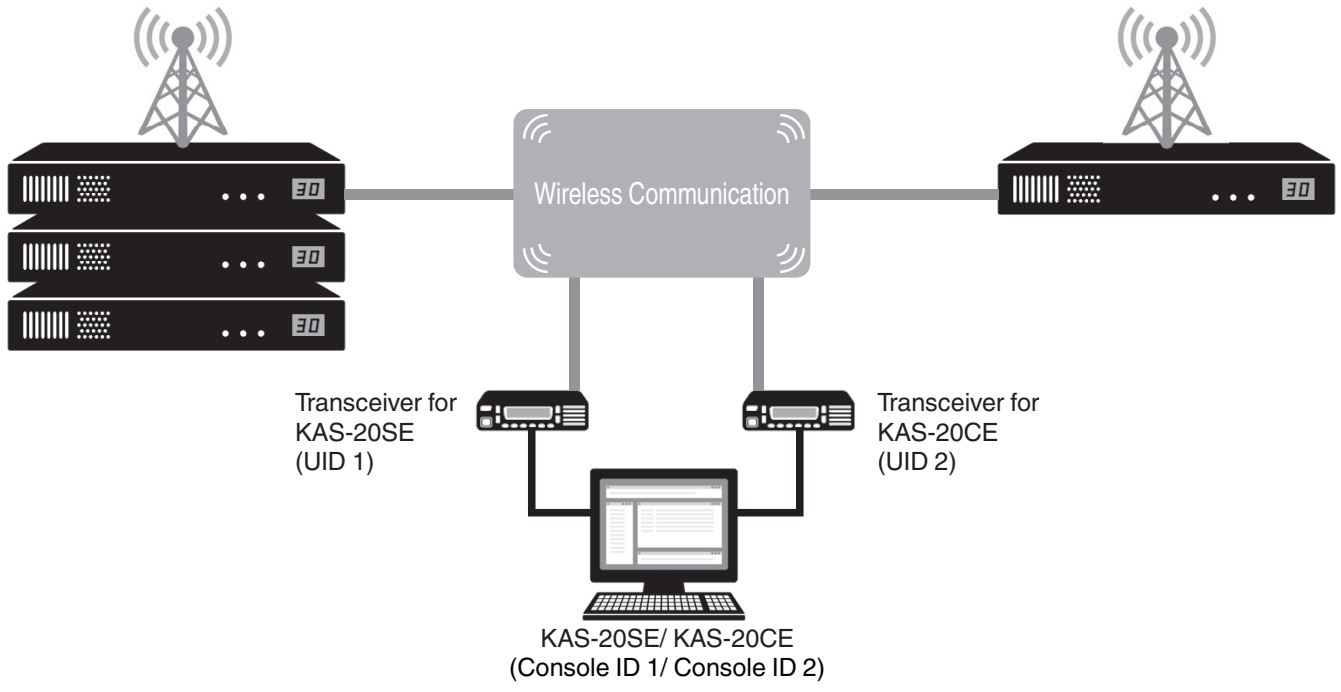

Figure 1-4 Configuration Diagram of the KAS-20E AVL/ Dispatch System (Standalone/ Serial Connection)

In the case of a standalone configuration, the KAS-20E Dealer license and the Software Upgrade License for the functions to be used need to be authenticated.

For example, when using the AVL, Indoor Location, and Dispatch functions with the configuration on page 3, the following licenses need to be authenticated. (Refer to About Software Upgrade License on page 13.)

Software to install:

- KPT-300LMC
- KAS-20SE
- KAS-20CE

Licenses to install:

- KAS-20E Dealer License
- LOCATION MANAGEMENT LICENSE (KWD-20C-LM)
- INDOOR LOCATION LICENSE (KWD-20C-IL)
- VOICE DISPATCH LICENSE (KWD-20C-VD)

Note

- Software licenses need to be authenticated by the KPT-300LMC. (Refer to KAS-20SE/ KAS-20CE License Levels on page 13, About Software Upgrade License on page 13.)
- The UIDs and Console IDs used in the configurations in Figure 1-3 and Figure 1-4 are examples for explanatory purposes. Make sure to configure the UID and Console ID according to the settings of the system to be connected.
- The system can be used without having to connect the transceiver for KAS-20SE to the PC in a serial connection when the KAS-20SE is not communicating (Auto Polling, Lone Worker, receiving of GPS Data, etc.).

Server-Client Configuration

By installing the KAS-20SE and KAS-20CE on two separate PCs, the KAS-20E AVL/ Dispatch system can be used as a server-client configuration.
The KAS-20SE can be accessed from multiple PCs that are installed with the KAS-20CE. KAS-20CE supports the concurrent use of up to 10 clients at any one time (9 clients only for NXDN Conventional/ DMR Conventional (via TKR-D series) in an IP network connection).

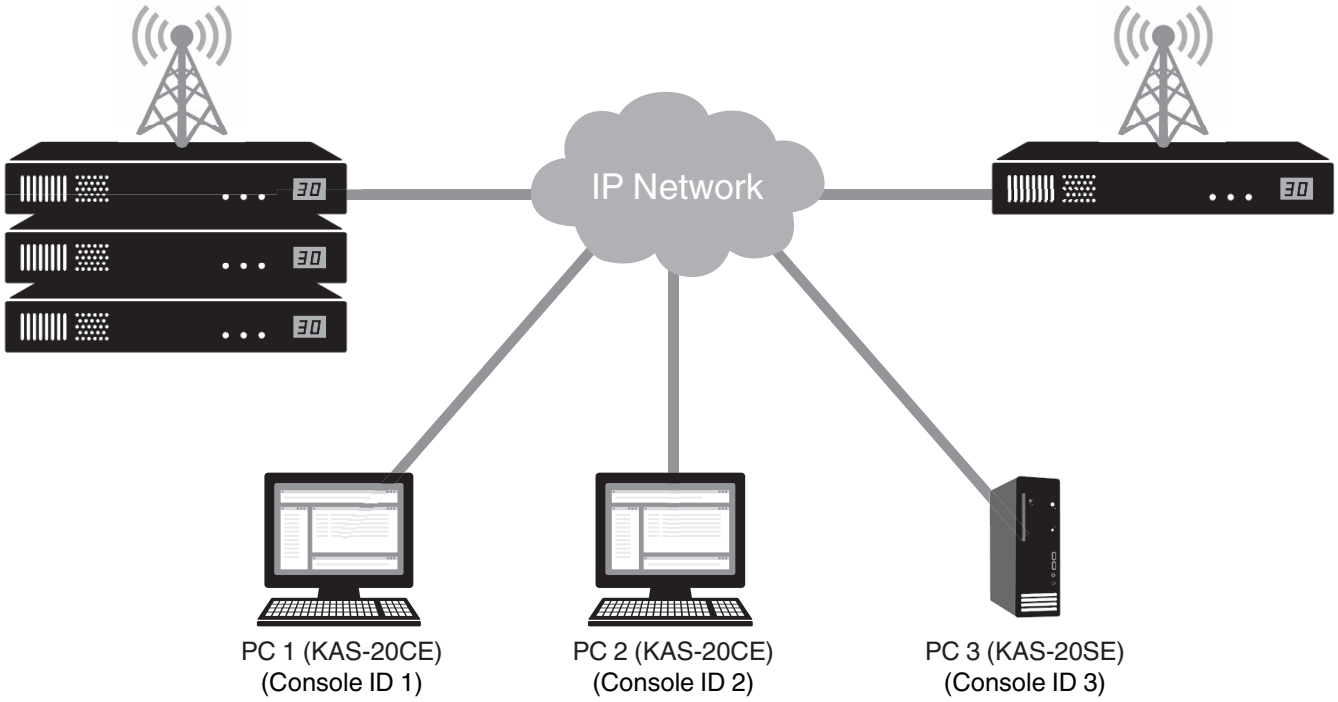

Figure 1-5 Configuration Diagram of the KAS-20E AVL/ Dispatch System (Server-Client/ IP Network Connection)

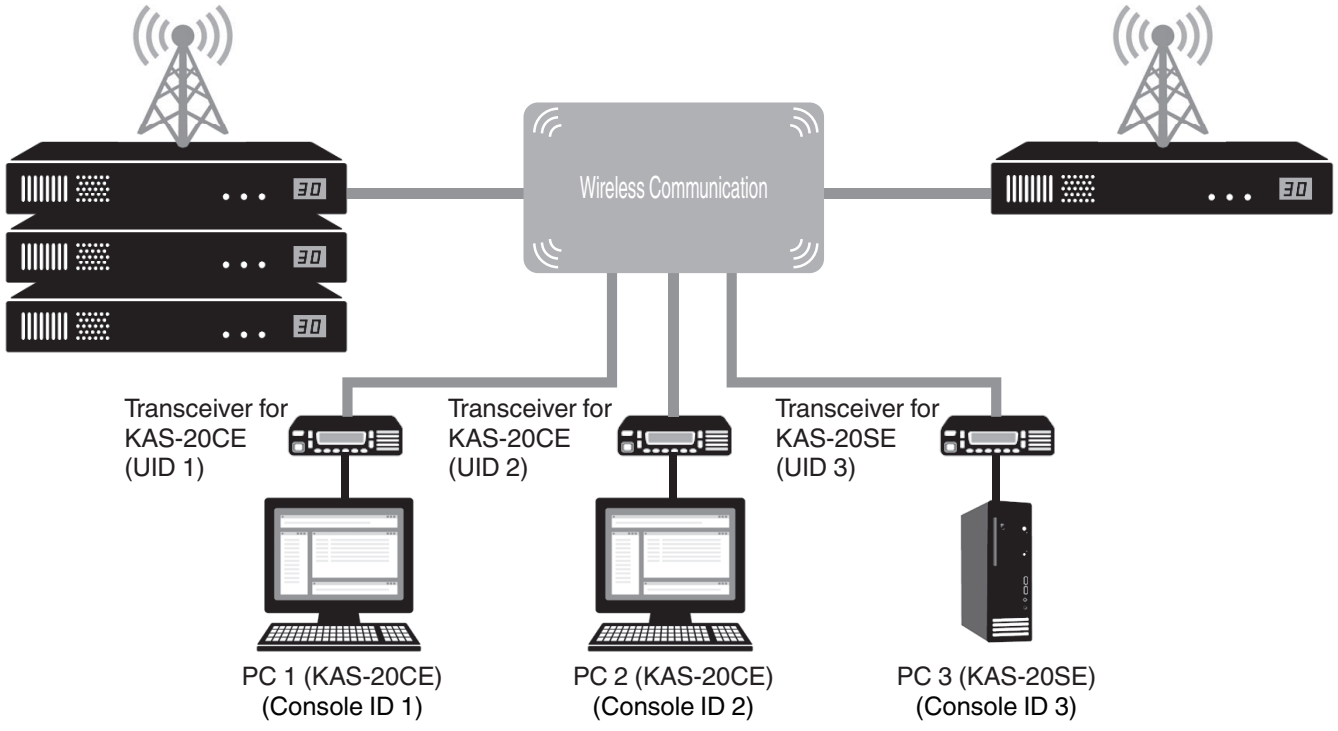

Figure 1-6 Configuration Diagram of the KAS-20E AVL/ Dispatch System (Server-Client/ Serial Connection)

In the case of a server-client configuration, the following licenses need to be authenticated on each PC. (Refer to About Software Upgrade License on page 13.)

For PCs installed with the KAS-20SE (PC 3 in the example below):

- MULTI-CLIENT LICENSE (KWD-20S-MC)

For all PCs:

- KAS-20E Dealer License
- Software Upgrade License for the functions to be used

For example, in Figure 1-5 or Figure 1-6, for PC 1 to make use of the AVL and Indoor Location functions, PC 2 to make use of the AVL and Dispatch functions, and PC 3 (server) to make use of the audio recording and playback functions (usable only for IP network connections), the following licenses need to be authenticated.

PC 1:

Software to install:

- KPT-300LMC
- KAS-20CE

Licenses to install:

- KAS-20E Dealer License
- LOCATION MANAGEMENT LICENSE (KWD-20C-LM)
- INDOOR LOCATION LICENSE (KWD-20C-IL)

PC 2:

Software to install:

- KPT-300LMC
- KAS-20CE

Licenses to install:

- KAS-20E Dealer License
- LOCATION MANAGEMENT LICENSE (KWD-20C-LM)
- VOICE DISPATCH LICENSE (KWD-20C-VD)
- VOICE PATH LICENSE (KWD-20C-VP) (usable only for IP network connection)

PC 3:

Software to install:

- KPT-300LMC
- KAS-20SE

Licenses to install:

- KAS-20E Dealer License
- VOICE RECORD LICENSE (KWD-20S-VR) (usable only for IP network connection)
- MULTI-CLIENT LICENSE (KWD-20S-MC)

Note

- Software licenses need to be authenticated by the KPT-300LMC. (Refer to KAS-20SE/ KAS-20CE License Levels on page 13, About Software Upgrade License on page 13.)
- The UIDs and Console IDs used in the configurations in Figure 1-5 and Figure 1-6 are examples for explanatory purposes. Make sure to configure the UID and Console ID according to the settings of the system to be connected.
- The system can be used without having to connect the transceiver for KAS-20SE to the PC 3 in a serial connection when the KAS-20SE is not communicating (Auto Polling, Lone Worker, receiving of GPS Data, etc.).
- If a system is operated in a server-client configuration, the time on all PCs with the KAS-20SE and KAS-20CE installed needs to be set as the same.

About Console ID

The KAS-20SE and KAS-20CE communicate separately with the system. For this reason, a separate Unit ID for the Console (Console ID) is needed for the KAS-20SE and KAS-20CE respectively when connecting to an IP network. For more details on the settings, refer to “Configuring the Communication System to Be Connected to KAS-20SE on page 45” and “Configuring the IP Network on page 67”.

In a serial connection, the Console ID is used in the communication log display. It is recommended to configure the Console ID to the same value as the Unit ID of the transceiver connected using the serial cable.

About KAS-20SE

KAS-20SE is a server application software that stores and manages setting data, log data, GPS data, and BLE Data in the database.
It also handles processes such as managing the capacity of the database, request for GPS Data or BLE Data transmission, and determination of Geofence.

Note

To grant access from a client PC to the server PC in a server-client configuration, it is necessary to authenticate the MULTI-CLIENT LICENSE (KWD-20S-MC) on the server PC. (Refer to About Software Upgrade License on page 13.)

About KAS-20CE

KAS-20CE is a client application software that possesses the three functions of AVL, Indoor Location and Dispatch. KAS-20CE allows you to display and manage mobile stations on a map, send or receive text or status messages between the KAS-20CE and a mobile station or initiate a voice call. In addition, viewing of the communication log is possible.

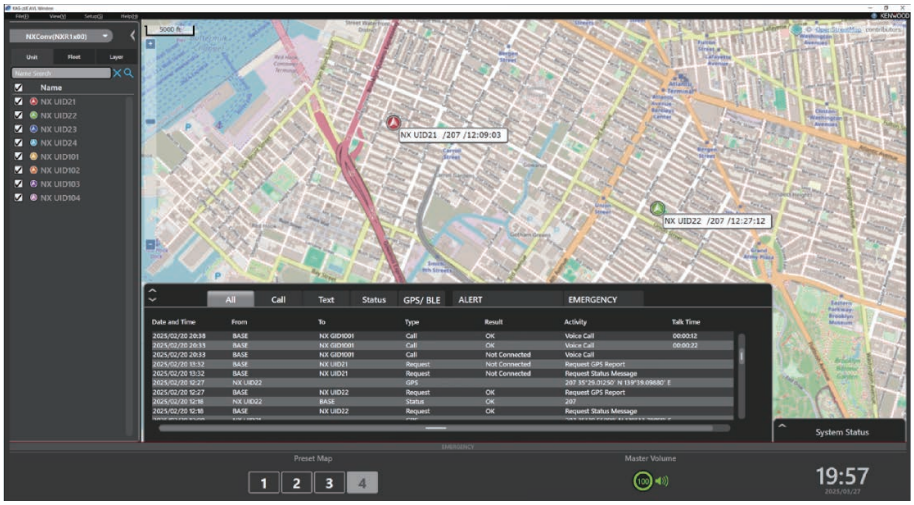

Figure 1-7 AVL Window

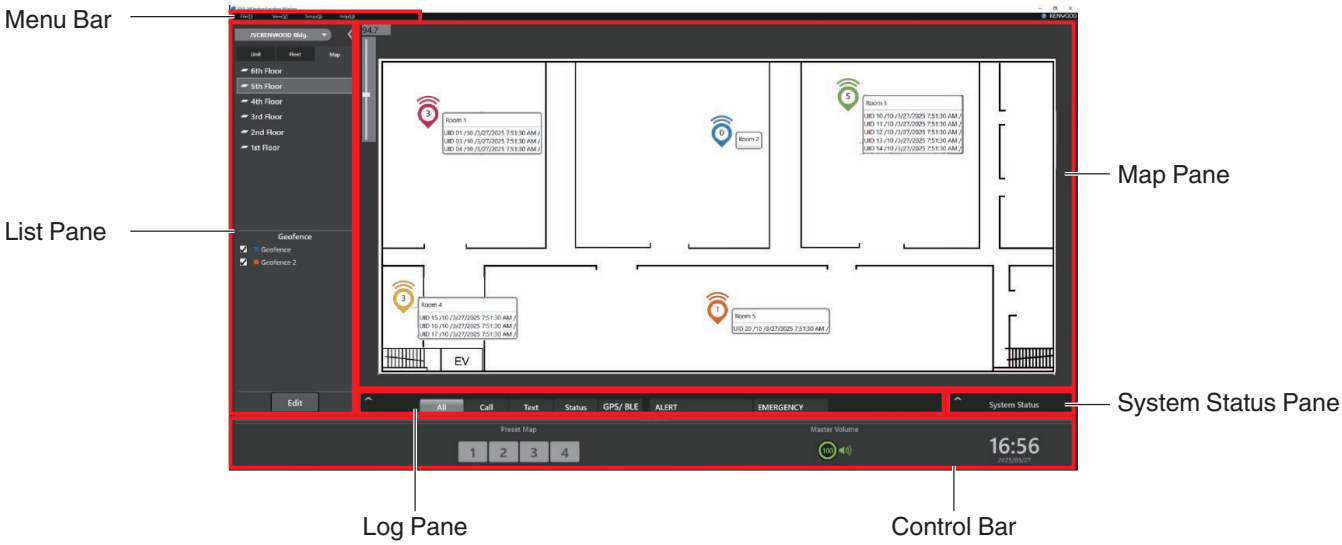

Figure 1-8 Indoor Location Window

Figure 1-9 Dispatch Window

Note

- When using all the three functions (AVL, Indoor Location and Dispatch), AVL Window, Indoor Location Window and Dispatch Window will each start up when the KAS-20CE starts up. In this case, it is recommended that you get ready three PC monitor displays for displaying the AVL, Indoor Location, and Dispatch operation screens respectively.
- To use the AVL function, a LOCATION MANAGEMENT LICENSE (KWD-20C-LM) is required. (Refer to About Software Upgrade License on page 13.)
- To use the Indoor Location function, a INDOOR LOCATION LICENSE (KWD-20C-IL) is required.
- To use the Dispatch function, a VOICE DISPATCH LICENSE (KWD-20C-VD) is required.

Serial Connection Restrictions

In a serial connection, the KAS-20SE and KAS-20CE communicate with the repeaters via transceivers that are connected serially to the PCs. Consequently, there are restrictions as follows compared to IP network connection.

Table 1-1 Serial Connection Restrictions

Restrictions	Description
A separate transceiver is required for the KAS-20SE and KAS-20CE respectively	As with IP network connection, the system communicates separately with the KAS-20CE and KAS-20SE in a serial connection therefore separate transceivers must be connected. For standalone operation, it is necessary to connect 2 transceivers to one PC. Note • If there are not enough COM ports on the PC, add more COM ports using a USB to Serial converter cable, etc. • The system can be used without having to connect the transceiver for KAS-20SE to the PC when the KAS-20SE is not communicating (Auto Polling, Lone Worker, receiving of GPS Data, etc.). • The KAS-20CE is capable of receiving GPS Data. However, the KAS-20CE cannot receive GPS Data while it is occupied with the incoming and outgoing Voice Call, etc.
Number of communication system that can be connected: 1	Only 1 communication system can be connected to 1 transceiver at a time so only 1 system can be operated even when the RF SYSTEM LICENSE (KWD-20S-RS) is authenticated.
Microphone connected to the PC cannot be used during a call	As the voice call is made on the transceiver, the microphone connected to the PC cannot be used during a call even when the VOICE PATH LICENSE (KWD-20C-VP) is authenticated. The microphone connected to the transceiver is used during a call. The incoming audio sound is played from the speaker.
Unable to record audio	As the voice call is made on the transceiver, the audio cannot be recorded even when the VOICE RECORD LICENSE (KWD-20S-VR) is authenticated.
Supported PC commands	Transceivers connected serially to the KAS-20SE and KAS-20CE must meet the following requirements. • If the protocol is NXDN Trunking (Type-C) or NXDN Conventional, the g commands are supported. • If the protocol is DMR Conventional or DMR Conventional (via TKR-D series), the x commands are supported.
The transmission status is not displayed on the KAS-20CE and not reflected in the log when the transceiver is being operated directly to transmit	When the base station transceiver is being operated directly to transmit, the PC commands related to the operation are not sent to the KAS-20CE therefore the KAS-20CE cannot display the transmission status or retain the history log.
Unable to disconnect a Voice Call while receiving the call	The Voice Call is received by the base station transceiver therefore the KAS-20CE cannot disconnect the Voice Call in the middle of a call.
Message Trunked (Enhanced) and Individual Call Acknowledge Request functions not supported	The following functions are not supported in a serial connection. • Voice communication using Message Trunked (Enhanced)Trunking Type in NXDN Trunking (Type-C) • Communication of the Individual Call Acknowledge Request function
Patch function not supported	The base station transceiver cannot transmit and receive more than once at the same time in a serial connection therefore the Patch function is not supported.
Emergency display when receiving an Emergency Alarm not supported	When the transceiver connected serially to the KAS-20SE or KAS-20CE receives an Emergency Alarm, the KAS-20CE does not display on the mobile station that an Emergency has occurred. If this transceiver continues to receive an Emergency status message (Emergency, Emergency Man-down, Stationary Detection, Motion Detection, Lone Worker), the KAS-20CE displays on the mobile station that the Emergency has occurred.
A SIP Phone not supported	A SIP Phone is not supported in a serial connection.

1.3 Applicable Communications Systems

Systems (protocols) that are able to communicate with the KAS-20E AVL/ Dispatch system and the devices to connect to each protocol are as follows.

Table 1-2 Compatible Communication Systems (Protocols) (IP Network Connection)

System Protocol	Devices to Connect
NXDN Trunking (Type-C): NEXEDGE 2nd Generation	PC server in which the IP Gateway Software (KPG-1002GW) is installed
NXDN Trunking (Type-C): NEXEDGE 1st Generation	NXR-5x00/ NXR-x00 Repeater
NXDN Conventional	NXR-x10 Repeater + KTI-3, NXR-5x00/ NXR-1x00/ NXR-x00 Repeater
Trunking 2.5	TKR-2500 Repeater, KTI-2500 Node Controller
DMR Tier III Trunking	PC server in which the IP Gateway Software (KPG-1013GW) is installed (KAIROS system)
DMR Conventional	NXR-1x00 Repeater, PC server in which the IP Gateway Software (KPG-1013GW) is installed (KAIROS system)
DMR Conventional (via TKR-D series)	TKR-Dx10 Repeater + KTI-5

Table 1-3 Compatible Communication Systems (Protocols) (Serial Connection)

System Protocol	Devices to Connect
NXDN Trunking (Type-C): NEXEDGE 2nd Generation	NX-5700, NX-5700H, NX-5800, NX-5800H, NX-5900, NX-3720, NX-3720H, NX-3720G, NX-3720HG, NX-3820, NX-3820H, NX-3820G, NX-3820HG, NX-3920G, NX-3921G, NX-700, NX-800
NXDN Trunking (Type-C): NEXEDGE 1st Generation	NX-5700, NX-5700H, NX-5800, NX-5800H, NX-5900, NX-3720, NX-3720H, NX-3720G, NX-3720HG, NX-3820, NX-3820H, NX-3820G, NX-3820HG, NX-3920G, NX-3921G, NX-700, NX-800
NXDN Conventional	NX-5600H, NX-5700, NX-5700H, NX-5800, NX-5800H, NX-5900, NX-3720, NX-3720H, NX-3720G, NX-3720HG, NX-3820, NX-3820H, NX-3820G, NX-3820HG, NX-3920G, NX-3921G, NX-700, NX-740, NX-800, NX-840, NX-1700HNV, NX-1700HN, NX-1700N, NX-1800HNU, NX-1800HN, NX-1800N
DMR Conventional	NX-5700, NX-5800, NX-5900, NX-3720, NX-3720H, NX-3720G, NX-3720HG, NX-3820, NX-3820H, NX-3820G, NX-3820HG, NX-3920G, NX-3921G, TK-D740, TK-D840, NX-1700HDV, NX-1700HD, NX-1700D, NX-1800HDU, NX-1800HD, NX-1800D
DMR Conventional (via TKR-D series)	NX-5700, NX-5800, NX-5900, NX-3720, NX-3720H, NX-3720G, NX-3720HG, NX-3820, NX-3820H, NX-3820G, NX-3820HG, NX-3920G, NX-3921G, TK-D740, TK-D840, NX-1700HDV, NX-1700HD, NX-1700D, NX-1800HDU, NX-1800HD, NX-1800D
FleetSync	NX-5600H, NX-5700, NX-5700H, NX-5800, NX-5800H, NX-5900, NX-3720, NX-3720H, NX-3720G, NX-3720HG, NX-3820, NX-3820H, NX-3820G, NX-3820HG, NX-3920G, NX-3921G, NX-700, NX-740, NX-800, NX-840, TK-D740, TK-D840, TK-5710G, TK-5710HG, TK-5810G, TK-5810HG, TK-7180, TK-7180H, TK-7302V, TK-7302H, TK-7302HV, TK-7360H, TK-8180, TK-8180H, TK-8302V, TK-8302H, TK-8302HV, TK-8360H, NX-1700HNV, NX-1700HN, NX-1700N, NX-1700HDV, NX-1700HD, NX-1700D, NX-1700HAV, NX-1700HA, NX-1700A, NX-1800HNU, NX-1800HN, NX-1800N, NX-1800HDU, NX-1800HD, NX-1800D, NX-1800HAU, NX-1800HA, NX-1800A

Note

- When using the NXR-x10, up to 2 Console IDs for KAS-20SE and KAS-20CE can be registered to 1 Group ID.
- When using the NXR-5x00/ NXR-x00, a firmware version of V 5.07.00 or later is required.
- When using the NXR-x10, a firmware version of V 3.15.00 or later is required.
- When using the TKR-Dx10, a firmware version of V 2.40.00 or later is required.
- KPG-1010DMR needs to be written in order to use the KTI-5. The firmware version of V 1.30.00 or later is needed for the KPG-1010DMR. Upon writing V 1.30.00 to the KTI-5, the V 2.40.00 firmware version will be automatically written to the TKR-Dx10 that is connected to the KTI-5.
- When connecting to a simulcast system in NXDN Conventional, connect to the PC server in which the Simulcast System Software (KPG-1012SY) is installed.
- When connecting to an NXDN Conventional or DMR Conventional (via TKR-D series) system in an IP network, it is necessary to configure one Conventional IP Network as one system in the KAS-20CE. Use the FPU of the repeater that is being communicated with (e.g., KPG-109D) to check the sites registered in the following **Unicast IP Address List**. Configure only 1 site from the sites registered as the system in the KAS-20CE.
  Edit > Conventional IP Network > Network > Unicast IP Address List
- When using the DMR Tier III Trunking repeater in KAIROS, the firmware version of the KAIROS repeater must support the version of the KAS-20 that is 3.00 or later.
- When using the DMR Conventional repeater in KAIROS, the firmware version of the KAIROS repeater must support the version of the KAS-20 that is 3.00 or later.
- When using NX-5x00 as the base station transceiver in a serial connection, the firmware version of the transceiver must be V 2.50.00 or later.
- When using NX-3xx0 as the base station transceiver in a serial connection, the firmware version of the transceiver must be V 1.30.00 or later.
- When using TK-D740 or TK-D840 as the base station transceiver in a serial connection, the firmware version of the transceiver must be V 1.42.00 or later.
- When using TK-D740 and TK-D840 in a serial connection, the **Paging** function cannot be used.
- When using KTI-5, a KTI-5 firmware version of V 1.43.00 or later is required.
- To use the Indoor Location function while using the NXR-1x00, a NXR-1x00 firmware version of V 2.40.00 or later is required.
- To use the Indoor Location function while using the NX-5x00 as the base station and mobile station transceivers, the firmware version of the transceiver must be V 5.30.00 or later.
- To use the Indoor Location function while using the NX-3xx0 as the base station and mobile station transceivers, the firmware version of the transceiver must be V 4.30.00 or later.
- Refer to the following website for details on supported BLE Beacon/ BLE Gateway-compatible device:
  https://manual2.jvckenwood.com/com/help_ref/nx5000_series/compatible_model_list/CNMJSYnnzoitpv.html

1.4 KAS-20SE/ KAS-20CE License Levels

The KAS-20SE/ KAS-20CE has the following license levels. After installing the KAS-20SE/ KAS-20CE, the Dealer license for the KAS-20E needs to be authenticated.

Table 1-4 KAS-20SE/ KAS-20CE License Levels

Application	License Level	Description
KAS-20SE/ KAS-20CE	KAS-20E Dealer	License level for general use.

1.5 About Software Upgrade License

To use the KAS-20SE/ KAS-20CE, it is necessary to authenticate the KAS-20E license for each of the PC installed with the software program. In addition, one of the following Software Upgrade Licenses also needs to be authenticated according to how the KAS-20E AVL/ Dispatch system is used.

Table 1-5 Software Upgrade License

Application	License Key	Description
KAS-20SE (Server)	VOICE RECORD LICENSE (KWD-20S-VR)	License for enabling recording and playback of audio data. This license is not required in a serial connection because audio recording on the KAS-20SE is not supported.
	MULTI-CLIENT LICENSE (KWD-20S-MC)	This license enables access from an external PC and access of up to 10 users. An access from KAS-20CE installed on the same PC as KAS-20SE also counts as one user.
	RF SYSTEM LICENSE (KWD-20S-RS)	License for enabling connection to multiple communication systems at the same time. To add a second or subsequent communication system, it is necessary to authenticate a number of RF SYSTEM LICENSES according to the number of communication systems. Up to 7 additional RF System licenses can be added. This license is not required in a serial connection because multiple communication systems cannot be connected at the same time.
	TRUNKING 2.5 LICENSE (KWD-20S-T25)	License for enabling connection to Trunking 2.5. To connect to multiple Trunking 2.5 systems simultaneously, it is necessary to authenticate a number of TRUNKING 2.5 LICENSE according to the number of these systems. Up to 8 additional Voice Path licenses can be added.
	DMR TIER III TRUNKING LICENSE (KWD-20S-T3)	License for enabling connection to a DMR Tier III Trunking system. To connect to multiple DMR Tier III Trunking systems simultaneously, it is necessary to authenticate a number of DMR TIER III TRUNKING LICENSE according to the number of these systems. Up to 8 additional Voice Path licenses can be added.
	DES LICENSE (KWD-20C-DE)	License for enabling the use of the DES function. If KAS-20CE and KAS-20SE are installed on the same PC, perform authentication of this license only once.

Application	License Key	Description
KAS-20CE (Client)	LOCATION MANAGEMENT LICENSE (KWD-20C-LM)	License for enabling the use of the AVL function.
	INDOOR LOCATION LICENSE (KWD-20C-IL)	License for enabling the use of the Indoor Location function. For more details about the Indoor Location function, refer to Function Reference (FUNC) of the KAS-20SE/ KAS-20CE.
	VOICE DISPATCH LICENSE (KWD-20C-VD)	License for enabling the use of the Dispatch function.
	VOICE PATH LICENSE (KWD-20C-VP)	License for enabling sending and receiving of audio data. To play back multiple audio data simultaneously, it is necessary to authenticate a number of VOICE PATH LICENSES according to the number of audio data. Up to 8 additional Voice Path licenses can be added. This license is not required in a serial connection because audio playback on the KAS-20CE is not supported.
	DES LICENSE (KWD-20C-DE)	License for enabling the use of the DES function. If KAS-20CE and KAS-20SE are installed on the same PC, perform authentication of this license only once.

Note

- When both the KAS-20SE and KAS-20CE are installed on the same PC, the Dealer license for the KAS-20E is required in order to start up the application.
- When the KAS-20SE and KAS-20CE are separately installed on different PCs, the Dealer license for the KAS-20E is required for each PC in order to start up the application.
- If KAS-20SE and KAS-20CE are installed on separate PCs, the DES LICENSE (KWD-20C-DE) must be authenticated on both the PC with the KAS-20SE installed and the PC that is installed with the KAS-20CE that uses the DES function. If the DES function is not used on the KAS-20CE, authentication of the DES LICENSE is not required.

Licenses Required

The Software Upgrade License required varies as follows according to how the KAS-20E AVL/ Dispatch system is used.

● When using as a standalone configuration

Table 1-6 Software Upgrade License Required for Standalone Configuration

Authentication PC	Application	Software Upgrade License
PC	KAS-20SE (Server)	TRUNKING 2.5 LICENSE (when using the Trunking 2.5 system), DMR TIER III TRUNKING LICENSE (when using the DMR Tier III Trunking system)
	KAS-20CE (Client)	LOCATION MANAGEMENT LICENSE or VOICE DISPATCH LICENSE (or both)

● When using as a server-client configuration

Table 1-7 Software Upgrade License Required for Server-Client Configuration

Authentication PC	Application	Software Upgrade License
PC 1 (Server)	KAS-20SE (Server)	MULTI-CLIENT LICENSE, TRUNKING 2.5 LICENSE (when using the DMR Trunking 2.5 system), DMR TIER III TRUNKING LICENSE (when using the DMR Tier III Trunking system)
PC 2 (Client)*1	KAS-20CE (Client)	LOCATION MANAGEMENT LICENSE or VOICE DISPATCH LICENSE (or both)

*1 Up to 10 clients (9 clients only for NXDN Conventional/ DMR Conventional (via TKR-D series) in an IP network connection)

Note

- The licenses in the tables above are the minimal requirements for using the KAS-20E AVL/ Dispatch system in the respective configurations. Authenticate other licenses as and when necessary.
- After installing the KAS-20SE/ KAS-20CE, the Dealer license for the KAS-20E needs to be authenticated in addition to the Software Upgrade License.

2 SETTING UP KAS-20SE/ KAS-20CE

This chapter explains the steps to install the KAS-20SE/ KAS-20CE, set up the SQL server, and log into the KAS-20SE/ KAS-20CE.
The following devices and software are required to install and use the KAS-20SE/ KAS-20CE on a PC.

Table 2-1 System Requirements

Item	KAS-20SE (Server)	KAS-20CE (Client)
CPU	Intel 8th Generation Core i5 CPU or faster	Intel 8th Generation Core i5 CPU or faster
OS*1	Windows 11*7 Windows Server 2016 Windows Server 2019 Windows Server 2022*7 Windows Server 2025*8	Windows 11
Input Device	Keyboard, mouse	Keyboard, mouse
Storage	50 GB or more free hard disk space	500 MB or more free hard disk space
Ethernet	1 port or more	1 port or more
COM Port	1 port or more*2 *3	1 port or more*2
LAN	100 BASE (100 Mbps) or above	100 BASE (100 Mbps) or above
Memory	8 GB or above	8 GB or above
Display	XGA (1024 x 768) or higher*4	FHD (1920 x 1080) or higher*4 23 inches and above recommended
Microsoft .NET Framework	4.8 or newer	4.8 or newer
SQL Server*5	SQL Server 2022 Express SQL Server 2022 SQL Server 2016 SP3 Express*6 SQL Server 2016 SP3*6 SQL Server 2017 Express*6 SQL Server 2017*6 SQL Server 2019 Express*6 SQL Server 2019*6	-

*1 Use a 64-bit OS.
*2 This is required only in serial connection.
*3 This is not required if a transceiver is not used to communicate with the KAS-20SE.
*4 The size settings (DPI setting) of 100 %, 125 % and 150 % for the text and icons on the display are supported.
*5 Confirm the hardware and software requirements for installing SQL Server.
*6 Usable but its operation is not guaranteed.
*7 SQL Server 2016 Express and SQL Server 2016 cannot be installed.
*8 SQL Server 2016 Express, SQL Server 2016, SQL Server 2017 Express, and SQL Server 2017 cannot be installed.

Note

- **Guarantee of operation when using the Remote Desktop feature:**
  The KAS-20SE and KAS-20CE do not guarantee operation from a different PC using remote control application software such as Windows Remote Desktop feature (remote control feature that enables Windows operation via the network).
- **Restrictions in a multi-user environment:**
  When using the KAS-20SE and KAS-20CE in a Windows multi-user environment (feature for using Windows by switching to one of the multiple user accounts), make sure to shut down the KAS-20SE and KAS-20CE before switching the user account. Switching the user account while the KAS-20SE or KAS-20CE is in use may cause the KAS-20SE or KAS-20CE to malfunction.
- **Recommended use of multi-display setup:**
  Multi-display setup is recommended if two or more of the AVL, Indoor Location and Dispatch functions are to be used on the KAS-20CE.

Table 2-2 Estimated Storage Capacity When Using SQL Server Express

Item	KAS-20SE (Server)	KAS-20CE (Client)
Log data storage capacity (Total of Call, Text, Status, GPS, BLE, ALERT and EMERGENCY)	Up to 10 GB	-
Storage capacity for audio recording data*1	Year: 14.83 GB Month: 1.23 GB	-
Storage capacity for map images*2	Up to 200 MB	-

*1 Storage capacity when recording communication every day for 24 hours a day using one unit of KAS-20CE.

*2 Storage capacity when the size of one map is 5 MB (5120 x 5120 pixels) and when the total number of maps that can be saved is 40 (20 Scanned Maps and 20 Floor Maps).

Note

- Internet connection is needed when using an external map service (OpenStreetMap) with the AVL function. KAS-20SE and KAS-20CE have no network adapter configurations for the Internet connection. The Internet connection corresponds to the configuration on the PC. If 2 or more Ethernet ports are required, check with the administrator of the connected network on the connection method.

2.1 Flow for Installation of KAS-20SE/ KAS-20CE

Preparing for Version Upgrade from KAS-20 to KAS-20E

To upgrade to KAS-20E from a system that is installed with KAS-20, complete the following preparations.

1	**Upgrade KAS-20 to the Latest Version.**	Install the latest version of KAS-20. For more details, refer to the Basic Operations of KAS-20.

2	**Upgrade to SQL Server 2022.**	Refer to Upgrading the SQL Server Version to SQL Server 2022 Express on page 35.

Setting up KAS-20SE/ KAS-20CE

Set up the KAS-20SE/ KAS-20CE according to the flow below.

1	**Install the SQL Server and proceed to setup.** *Installation is not required if you have already upgraded to SQL Server 2022. Configure the network settings as needed.	Refer to Setting up the SQL Server on page 20.
2	**Install the KAS-20SE and authenticate the license.**	Refer to KAS-20SE/ KAS-20CE License Levels on page 13, Installing or Uninstalling KAS-20SE on page 39.
3	**Start up the KAS-20SE and complete the initial setup for the database.**	Refer to Starting up the KAS-20SE on page 41.
4	**Configure the KAS-20SE.**	Refer to KAS-20SE Setting Screen on page 44.
5	**Install the KAS-20CE and authenticate the license.**	Refer to Installing or Uninstalling KAS-20CE on page 50.
6	**Start up the KAS-20CE and log into the system.**	Refer to Starting up and Exiting KAS-20CE on page 51.
7	**Configure the KAS-20CE.**	Refer to KAS-20CE Setting Screen on page 54.

Note

- As preparation in advance, configure to use the Console in the system to be connected.
- A separate Unit ID (Console ID) must be configured for the KAS-20SE and KAS-20CE respectively. (Refer to About Console ID on page 7.)

2.2 Setting up the SQL Server

To install the KAS-20SE, you first need to install the SQL server on a PC.

Note

- Administrator authority is required to install the SQL server.
- It takes about 20 to 40 minutes for installation of the SQL server to complete.
- If you are using KAS-20 and SQL Server has already been installed, then there is no need to install SQL Server again. Upgrade the version to SQL Server 2022 accordingly. (Refer to SETTING UP KAS-20SE/ KAS-20CE on page 16, Upgrading the SQL Server Version to SQL Server 2022 Express on page 35.)
- To ensure compatibility with the version of Microsoft products, the images provided may not be the same as what you actually see.

Downloading the SQL Server

With a web browser, download from the download page of each SQL Server Express version the execution file for SQL Server Express installation in accordance with the language used on the OS.

Installing the SQL Server

Install the downloaded SQL Server Express according to the steps below.
In this section, the steps to install SQL Server 2022 Express are described.

1 Right-click on the downloaded file and select “Run as administrator”.

A screen for selecting the type of installation appears.

2 Select [Custom] or [Download Media].

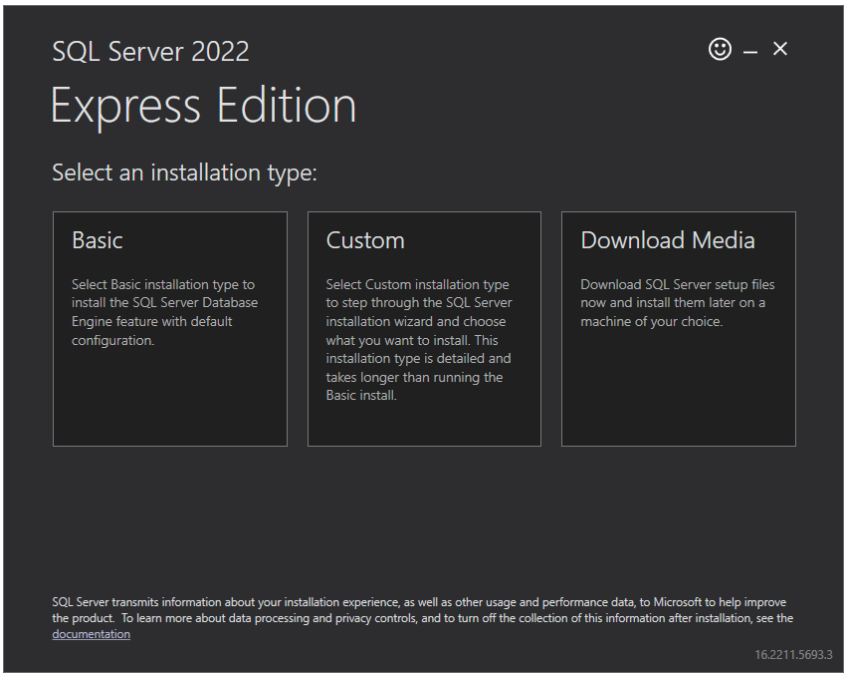

Figure 2-1 Screen for Selecting the Type of Installation

3 **Configure the settings that are displayed on the next screen.**

When [Custom] is selected:

In the following screen, change the [SELECT LANGUAGE] and [MEDIA LOCATION] settings as needed, then click [Install]. **SQL Server Installation Center** Starts up automatically after media download is complete.

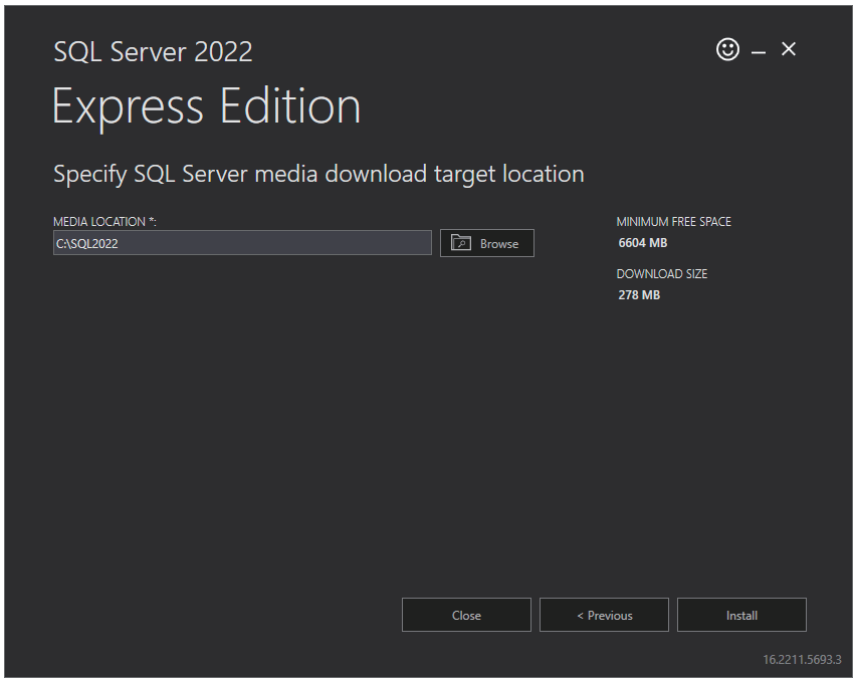

Figure 2-2 Screen when [Custom] is Selected

When [Download Media] is selected:

In the following screen, select [Express Core] for download of the package. Change the [SELECT LANGUAGE] and [SELECT DOWNLOAD LOCATION] settings as needed, then click [Download].
When you run the downloaded file, **SQL Server Installation Center** will launch.

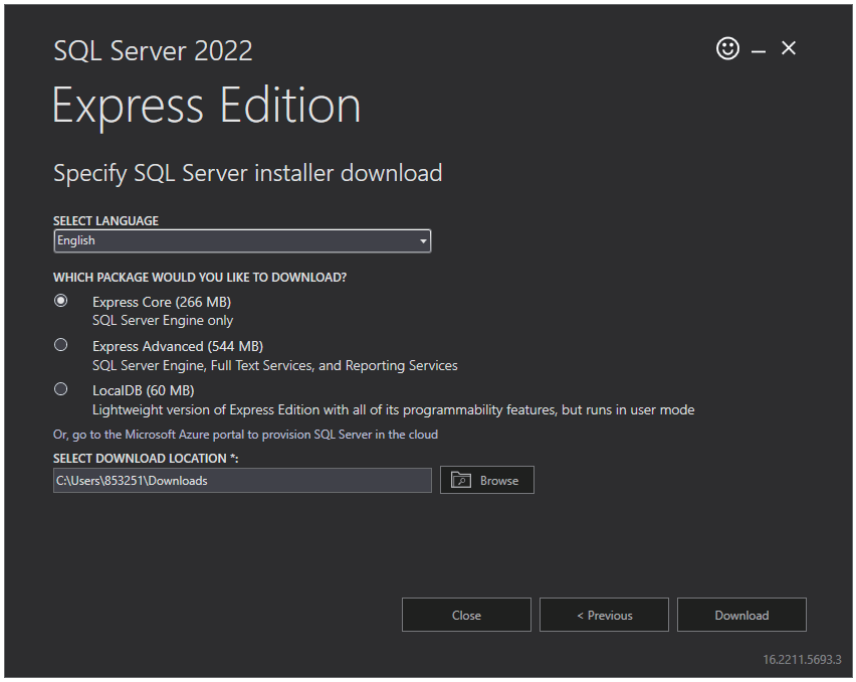

Figure 2-3 Screen when [Download Media] is Selected

4 **Click “New SQL Server standalone installation or add features to an existing installation”.**

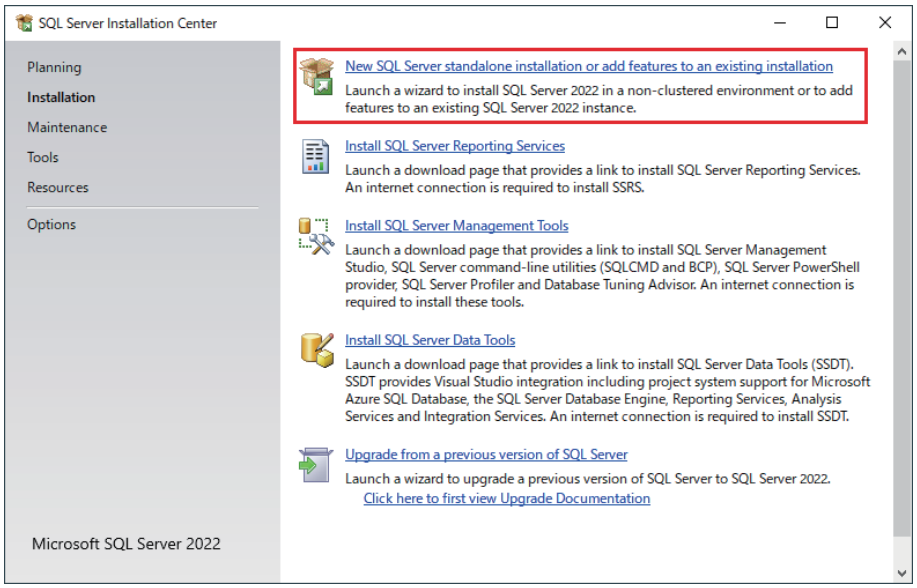

Figure 2-4 SQL Server Installation Center

SQL Server 2022 Setup starts up.
If the “License Terms” screen appears, click the “Next” button and proceed.

5 Select the “I accept the license terms.” checkbox and click the “Next” button.

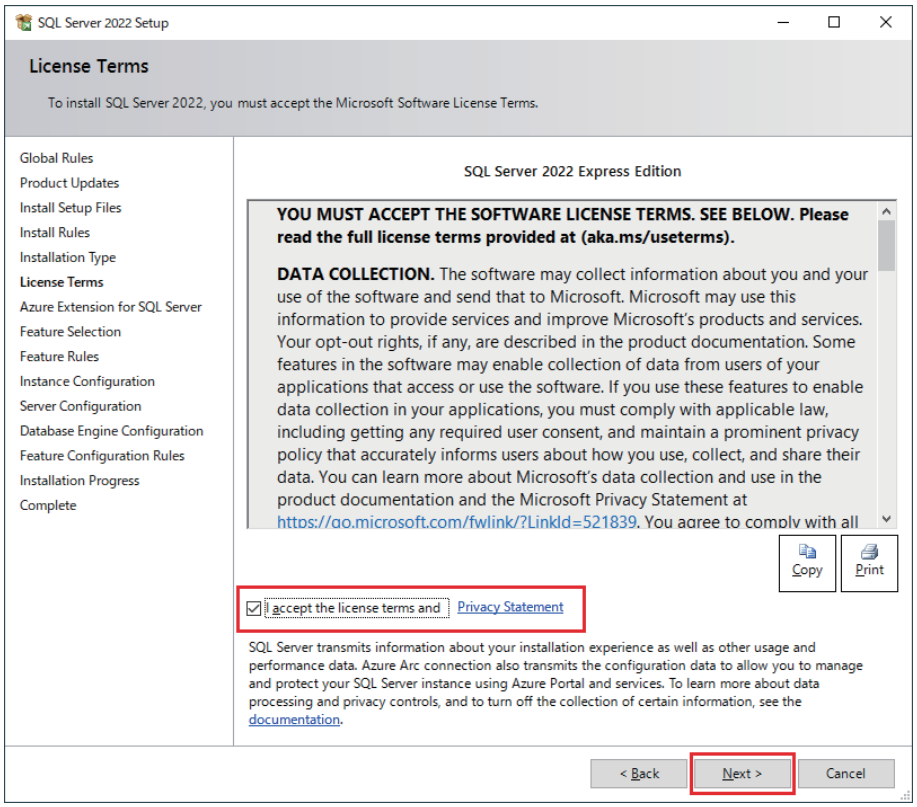

Figure 2-5 SQL Server 2022 Setup

A **Feature Selection** screen appears.

Note

- If the **Azure Extension for SQL Server** screen appears, deselect “Azure Extension for SQL Server” and click the “Next” button.

6 **Confirm that “Database Engine Services” and “SQL Server Replication” are clicked on, and click the “Next” button.**

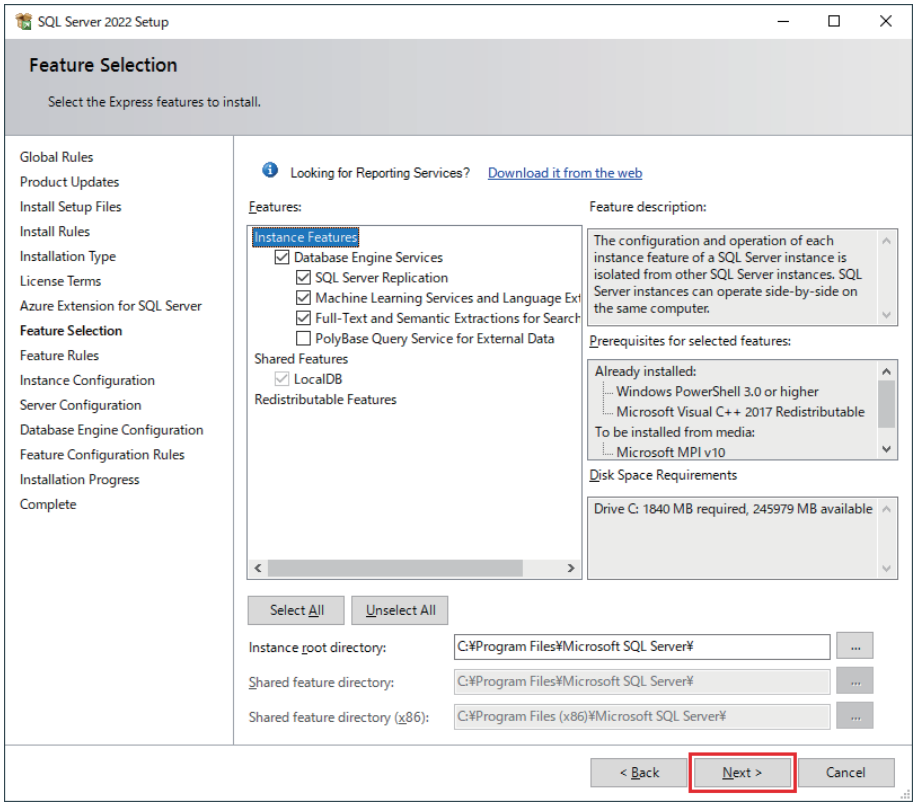

Figure 2-6 Feature Selection

An **Instance Configuration** screen appears.

Note

- If “Machine Learning Services and Language Extension” is displayed on the **Feature Selection** screen, deselecting the checkbox is recommended.

7 Select “Named instance”, enter “KAS20E”, and click the “Next” button.

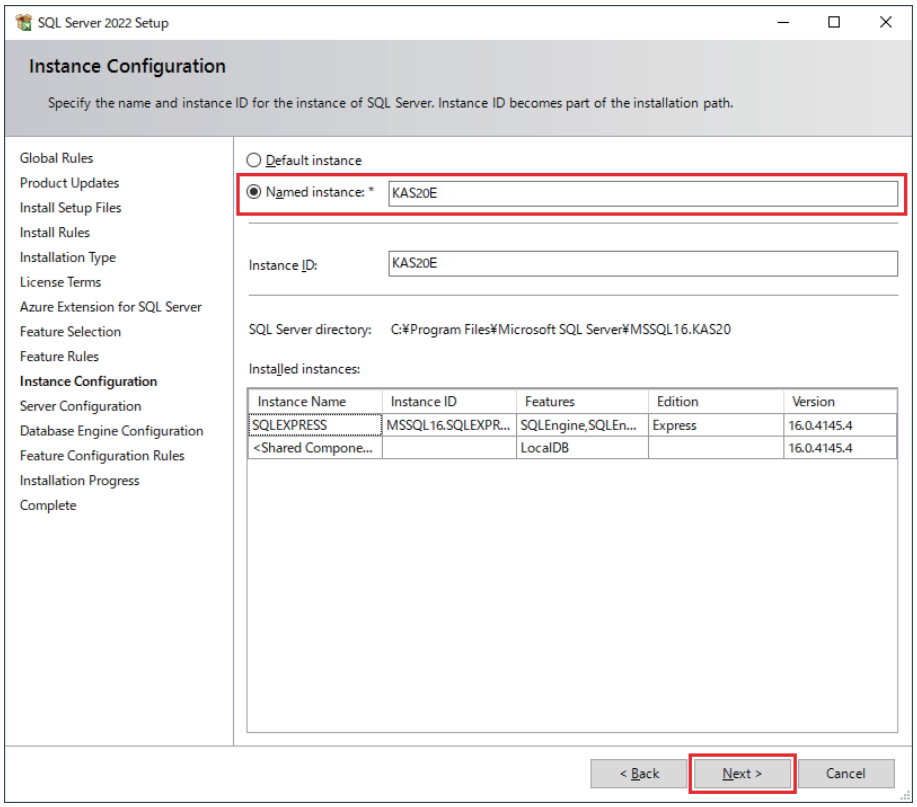

Figure 2-7 Instance Configuration

A **Server Configuration** screen appears.

Note

It is recommended to enter “Named instance”KAS20E“ for ” is recommended to be.

8 **Select “Automatic” in “Startup Type” of “SQL Server Database Engine”, “SQL Server Launchpad” and “SQL Server Browser”, and click the “Next” button.**

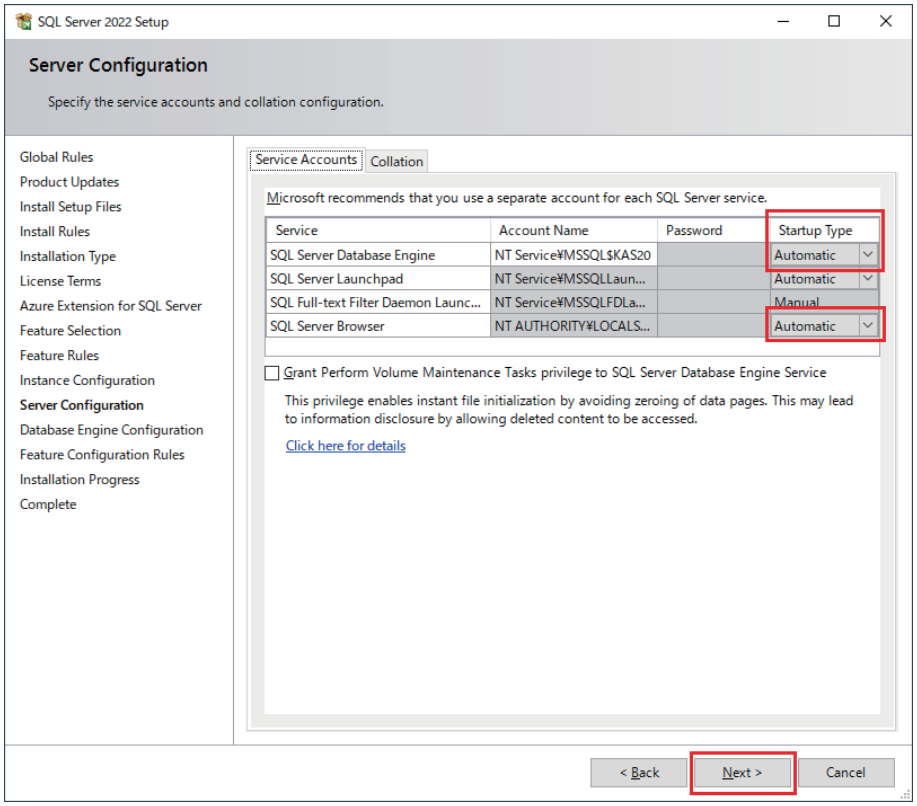

Figure 2-8 Server Configuration

A **Database Engine Configuration** screen appears.

9 **Select “Mixed Mode”, configure a new password for the SQL Server system administrator (sa) account, and click the “Next” button.**

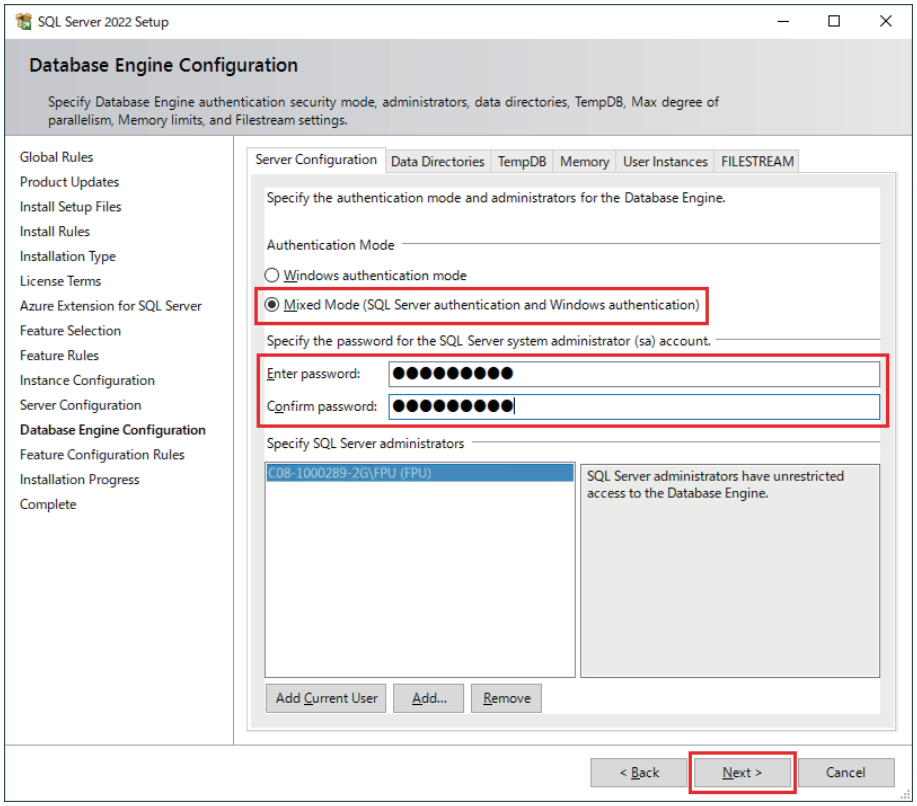

Figure 2-9 Database Engine Configuration

Installation starts. After installation is complete, a **Complete** screen appears.

Note

- If the currently logged in user (user managing the KAS-20SE) is not specified in “Specify SQL Server administrators”, specify the user that is currently logged in. If the currently logged in user is not displayed in “Specify SQL Server administrators”, add the current user and specify the added user.
- The password must satisfy the Windows password policy of the PC on which the KAS-20E is installed.

10 Click the “Close” button.

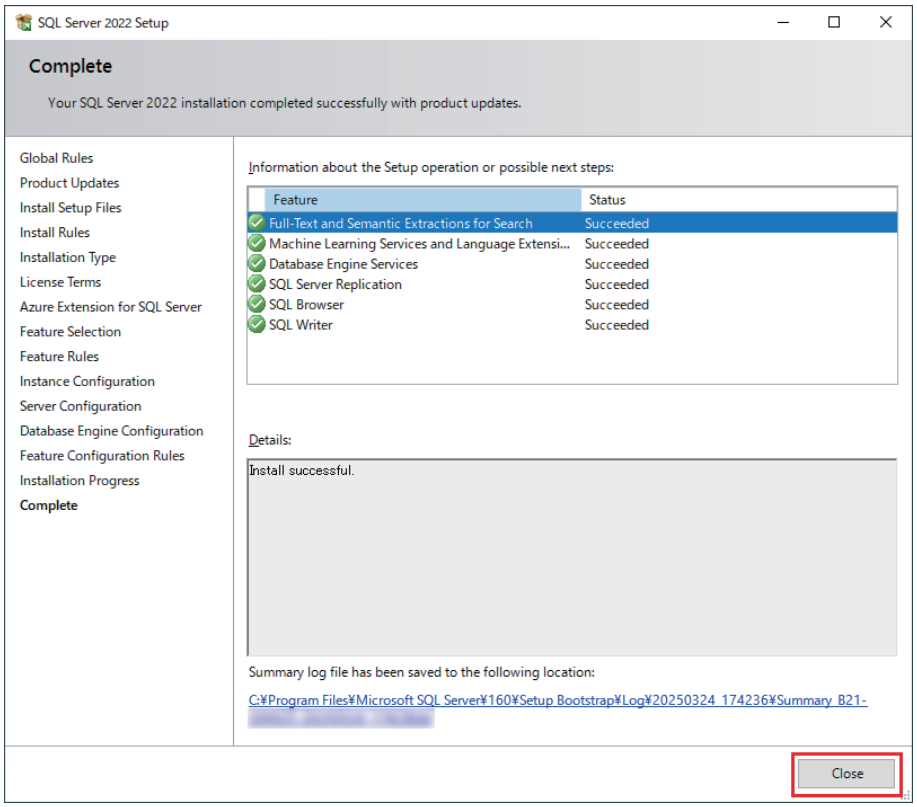

Figure 2-10 Complete

Next, apply the update program.

Applying the SQL Server 2022 Update Program

1 Launch SQL Server Installation Center.

Select “Maintenance” > “Launch Windows Update to search for product updates”.

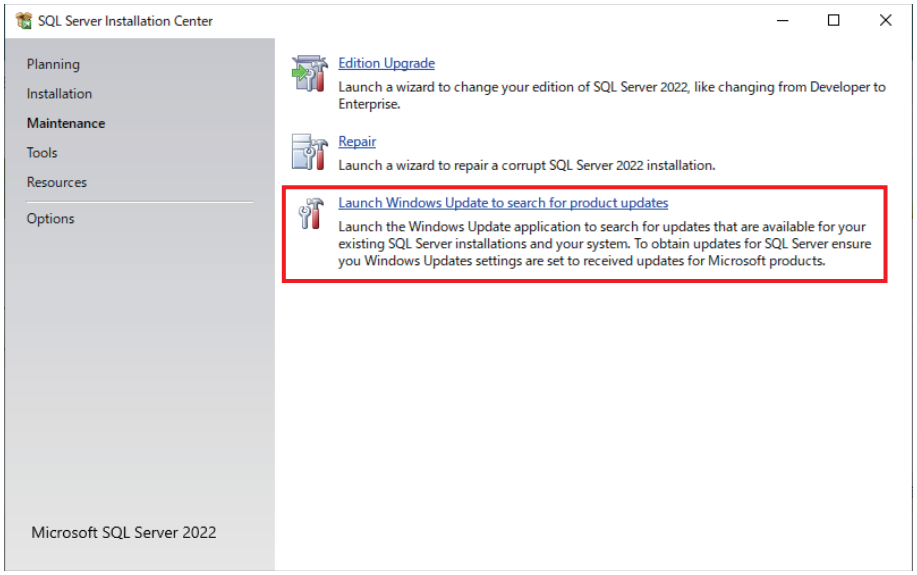

Figure 2-11 SQL Server Installation Center

The Microsoft web page for “Latest updates available for currently supported versions of SQL Server” will open.

2 Download the Latest cumulative update (CUxx for 2022) for SQL Server 2022.

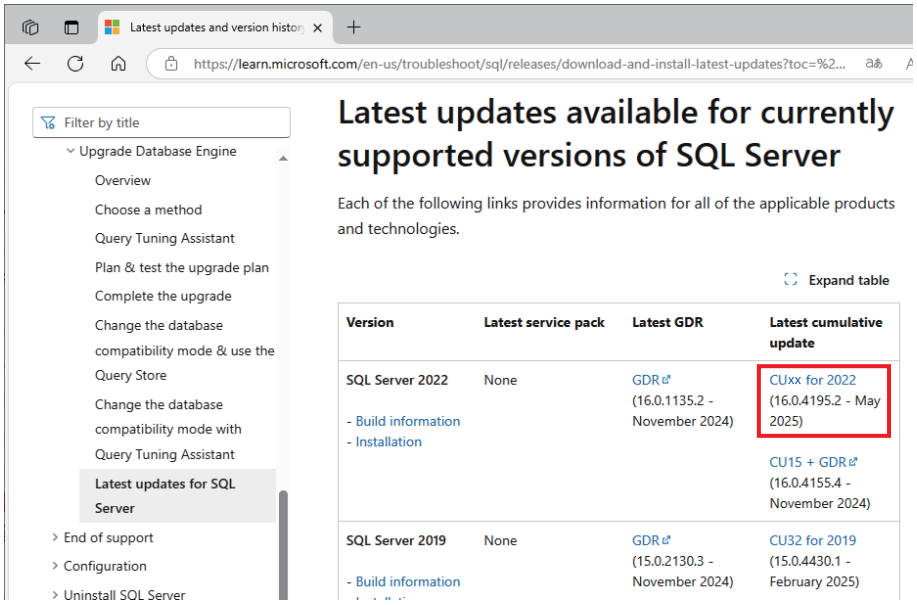

Figure 2-12 “Latest updates available for currently supported versions of SQL Server” Web Page

3 Execute the downloaded update program and follow the on-screen instructions to install it.

Proceed to configure the network with the SQL Server 2022 Express.

Configuring the Network

Configure the SQL Server 2022 Express network according to the steps below.

1 Start up the SQL Server Configuration Manager.

The procedure for starting up the SQL Server Configuration Manager is as follows.
"Start" > "All Apps" > "Microsoft SQL Server 2022" > "SQL Server 2022 Configuration Manager"

Note

- A folder name varies according to the version of SQL Server Express.
- If SQL Server Configuration Manager cannot be started up with the above steps, refer to the URL link below:
  https://learn.microsoft.com/en-us/sql/relational-databases/sql-server-configuration-manager?view=sql-server-ver16

2 Select "Protocols for (instance name)" in "SQL Server Network Configuration".

Instance name is the name entered during the installation.

3 Right-click on "TCP/IP" and select "Properties".

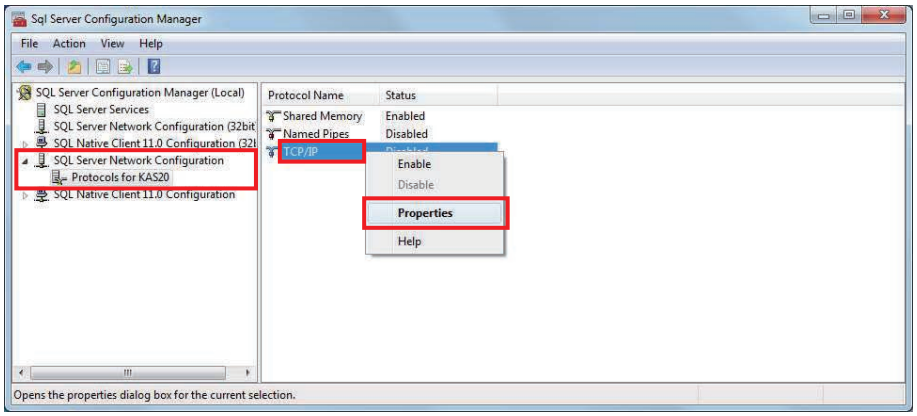

Figure 2-13 SQL Server Network Configuration

A TCP/IP Properties screen appears.

4 **Configure “Enabled” in the Protocol tab to “Yes”.**

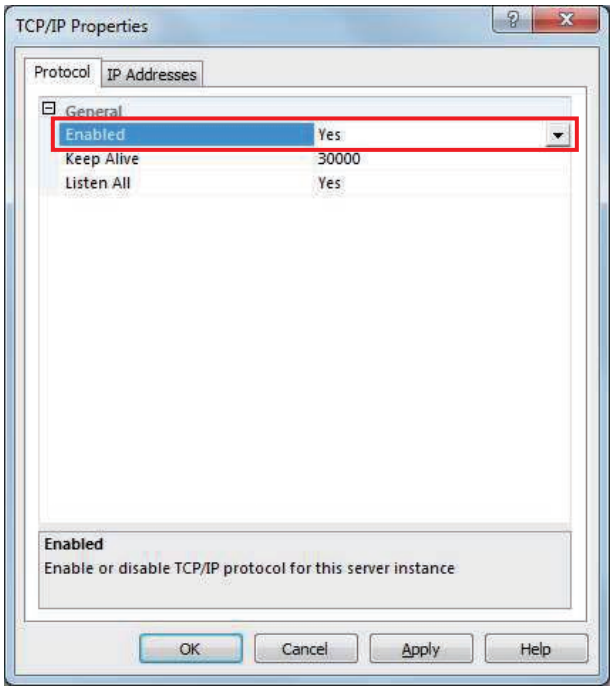

Figure 2-14 Protocol

5 **In the IP Addresses tab, enter “1433” (static port for SQL server) in “TCP Port” under “IPAll”, and leave “TCP Dynamic Ports” blank.**

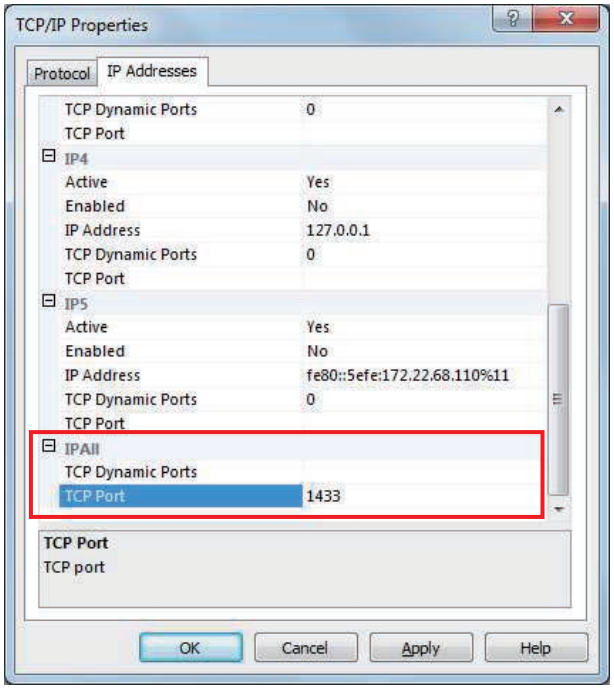

Figure 2-15 IP Addresses

Note

The “Windows Firewall” settings need to be configured in any of the following cases.

- When TCP Port is configured to a value other than “1433”
- When a value is configured in TCP Dynamic Ports (not blank)

Configure the “Windows Firewall” settings according to the steps below.

1. Open the Control Panel of the PC on which KAS-20SE is installed.
2. Select “Windows Firewall” > “Turn Windows Firewall on or off”.
3. Select “Turn on Windows Firewall” of “Private network settings” and “Public network settings”, then click “OK”.
4. Select “Windows Firewall” > “Advanced settings”.
5. Click “Inbound Rules” in the left menu.
6. Click “New Rule”.
7. Select “Port” then click “Next”.
8. Select “TCP”, enter “50321” in “Specific local ports” and click “Next”.
9. Select “Allow the connection” then click “Next”.
10. Select all the checkboxes and click “Next”.
11. Enter a name in “Name” and click “Finish”.

6 **Right-click on “SQL Server (instance name)” in “SQL Server Services” and select “Restart”.**

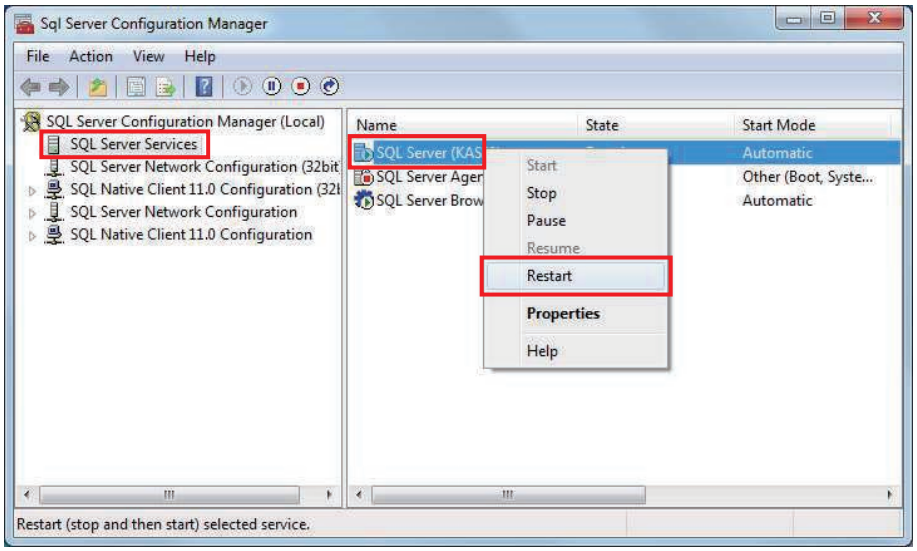

Figure 2-16 SQL Server Services

The SQL server restarts.

Upgrading to Paid Version of SQL Server Express

The available database size for SQL Server Express is limited to 10 GB. To use more than 10 GB, follow the steps below to switch from SQL Server Express to SQL Server (paid version).

In this section, the steps to switch from SQL Server 2022 Express to SQL Server 2022 (paid version) are described.

Note

The settings below are not included in the database file, and thus it is necessary to reconfigure them separately.

- Network Adapter, Console ID and Console Name of KAS-20SE
- Network Adapter, Console ID, Console Name and Over-the-Air Alias of KAS-20CE
- Settings of the **Audio Setup** dialog box for KAS-20CE (Speaker Device and Microphone Device)
- Tone file added by the user

1 **Save the current database file.**

For details on the installation procedure, refer to “Saving a Database File on page 148”.

2 **Install SQL Server 2022 on the destination PC.**

3 **Restore the files saved in step 1 on the destination PC.**

For details on the restoring procedure, refer to “Restoring a Database File on page 149”.

4 **Start up the KAS-20CE, and change the destination server and the database to the destination PC.**

For details on the setting procedure, refer to “Configuring the Destination Server and Database on page 56”.

5 **Check to ensure that the data restored in step 3 are loaded by the KAS-20CE.**

2.3 Upgrading the SQL Server Version to SQL Server 2022 Express

Perform the steps below to upgrade the SQL Server version to SQL Server 2022 Express. Follow the same steps when upgrading from any version of the SQL Server.

Before updating the SQL server, it is recommended that the KAS-20S database file currently being used is saved. (Refer to Saving and Restoring a Database File on page 148.)

Note

- Administrator authority is required to update the SQL server.
- It takes about 20 minutes to 40 minutes for updating of the SQL server to complete.

SQL Server 2022 Express is supported only on a 64-bit OS. If the KAS-20S is being used on a 32-bit OS, the SQL server cannot be updated. If a 32-bit OS is being used, migrate the KAS-20S to the PC of a 64-bit OS as follows.

1 **Save the KAS-20S database file currently being used. (Refer to Saving and Restoring a Database File on page 148.)**

2 **Construct the KAS-20S environment in the PC of a 64-bit OS.**

3 **Authenticate the required licenses for KAS-20S.**

4 **Restore the saved database file to the PC of a 64-bit OS where the KAS-20S is constructed.**

Downloading the SQL Server

With a web browser, download from the download page of the SQL Server version to be installed the execution file for installing the SQL server in accordance with the language used on the OS.

Updating the SQL Server

In this section, the steps for updating to SQL Server 2022 Express are described.

Update the SQL server to SQL Server 2022 Express downloaded above.

1 **Right-click on the downloaded file and select “Run as administrator”.**

SQL Server Installation Center starts up.

2 Click “Upgrade from a previous version of SQL Server”.

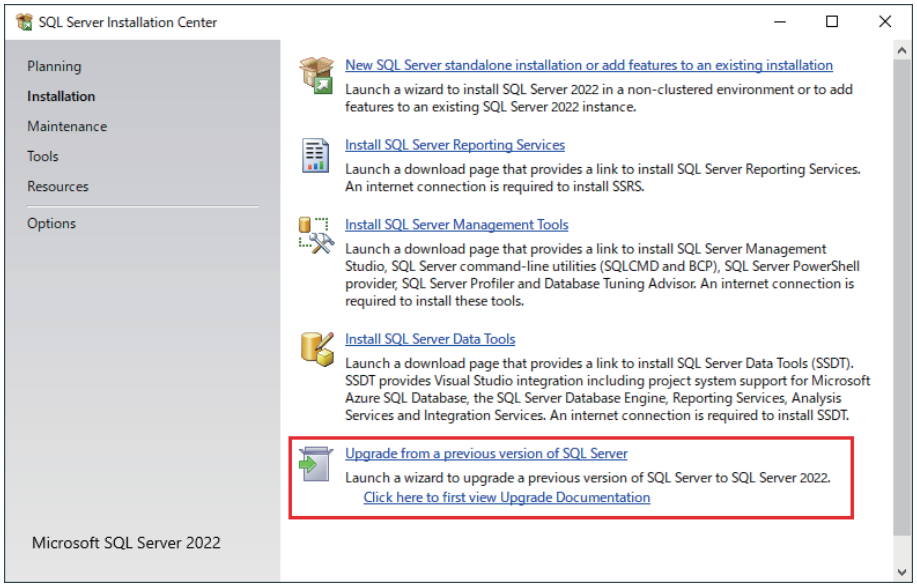

Figure 2-17 SQL Server Installation Center

A **License Terms** screen appears.

3 Select the “I accept the license terms.” checkbox and click the “Next” button.

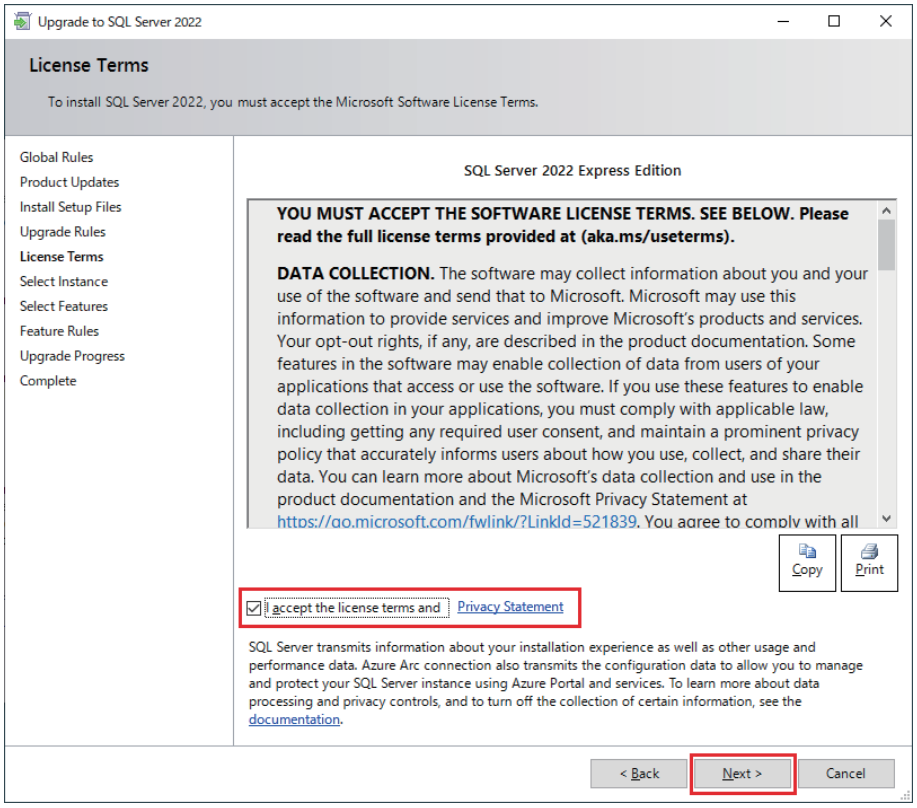

Figure 2-18 License Terms

A **Select Instance** screen appears.

4 Select the instance from “Instance to upgrade” and click the “Next” button.

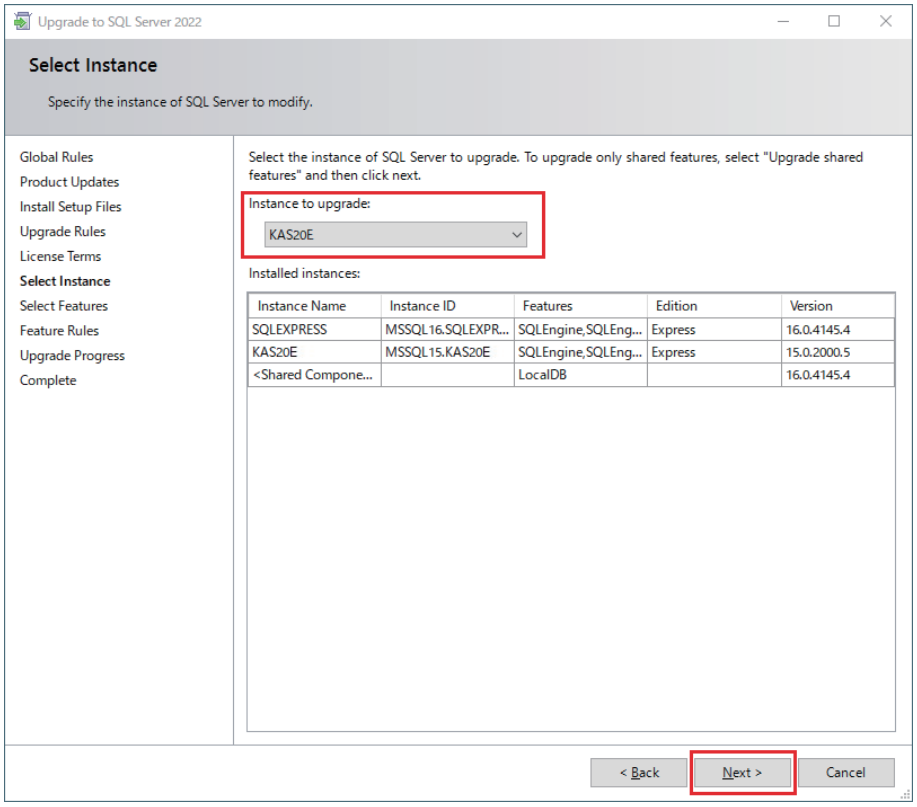

Figure 2-19 Select Instance

Updating starts. After updating is complete, a **Complete** screen appears.

5 Click the “Close” button.

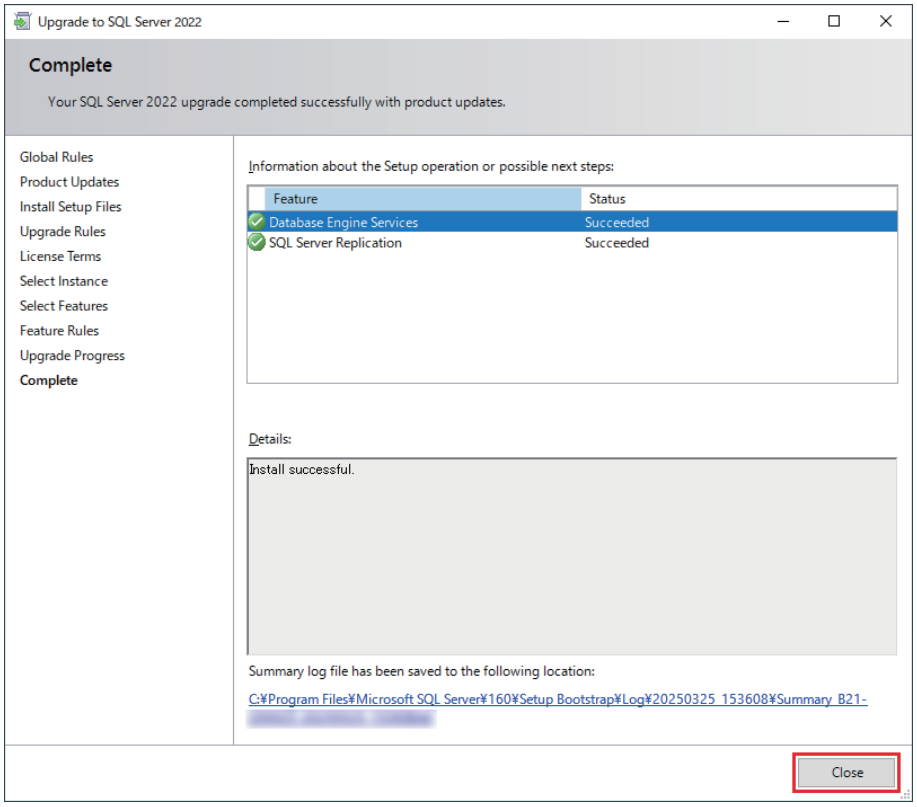

Figure 2-20 Complete

2.4 Installing or Uninstalling KAS-20SE

Follow the steps below to install the KAS-20SE on or uninstall it from a PC.

Installing the KAS-20SE

Note

- Administrator authority is required to install the KAS-20SE.
- KAS-20SE is to be installed by the same user as when installing the SQL server.
- Installing KAS-20SE on a PC (with a 64-bit OS) where the following is already installed will upgrade KAS-20 to KAS-20E.
  - Latest version of KAS-20S/ KAS-20C
  - SQL Server (version that is compatible with KAS-20E System Requirements on page 16)

1 Exit all running programs (including resident programs such as a virus-checking program).

2 Install the SQL server.

- For details on the installation procedure, refer to "Setting up the SQL Server on page 20".
- If SQL Server is already installed, upgrade to SQL Server 2022 or SQL Server 2022 Express as needed. For details on the steps for upgrading, refer to Upgrading the SQL Server Version to SQL Server 2022 Express on page 35.

3 Open the KAS-20SE folder.

4 Double-click "setup.exe" in the KAS-20SE folder.

The setup program starts and the instructions appear during installation. Follow the instructions to install.

5 Double-click "setup.exe" in the KPT-300LMC_Vxxx folder that is bundled with this software. Install the KPT-300LMC (License Management Client), and use it to authenticate the Dealer license for the KAS-20E.

6 Authenticate the Software Upgrade Licenses that are needed. (Refer to About Software Upgrade License on page 13.)

After installation is complete, start up the KAS-20SE and complete the initial setup for the database. (Refer to Starting up the KAS-20SE on page 41, Setting up the KAS-20SE Database on page 42.)

Note

- For details on operating the KPT-300LMC, refer to the KPT-300LMC Basic Operations.
- Upon a version upgrade from KAS-20 to KAS-20E, the license of KAS-20E need to be authenticated. (Refer to About Software Upgrade License on page 13.)

Uninstalling the KAS-20SE

Note

- Administrator authority is required to uninstall the KAS-20SE.
- Ensure to exit the KAS-20SE before uninstalling it.

1 **Click “Uninstall a program” in Control Panel.**

2 **Select “KAS-20SE”.**

3 **Click the “Uninstall” button.**

Follow the instructions on the screen to uninstall the software.

2.5 Starting up the KAS-20SE

Follow the procedure below to start up the KAS-20SE.

KAS-20SE is to be started up by the same user as when installing the SQL server.

During the First Startup

Start up the “KAS-20E Dispatch Server” according to the procedure below.

“Start” > “All Apps” > “KENWOOD” > “KAS-20E Dispatch Server”

Doing so starts up the KAS-20SE, and displays the KAS-20SE database setup screen. (Refer to Setting up the KAS-20SE Database on page 42.)

Second and Subsequent Startups

If database setup has already completed the first time the KAS-20SE is started, logging into the PC automatically starts the KAS-20SE.

When configuring the KAS-20SE, the setting screen can be displayed by following the steps below.

1 Right-click on the “KAS-20SE Dispatch Server Software” icon in the task tray, and select the item to be displayed.

The **Server Login** dialog box appears.

2 Enter User ID and Password, and click the “Log In” button.

Enter the user ID and password that have been configured during the initial startup. (Refer to Setting up the KAS-20SE Database on page 42.)

Alternatively, login is also possible using the user ID and password created on the **User Management** screen for which **Access Level** has been configured as “Admin”.

Figure 2-21 Server Login

The setting screen for the selected item appears. (Refer to OPERATION OF THE KAS-20SE (SERVER) on page 148.)

Note

- If a configuration item is selected from the task tray within 15 minutes after logging in, the setting screen of the selected configuration item is displayed without first displaying the **Server Login** screen.
- It is not possible to start up 2 or more KAS-20SE units with 1 PC.

Setting up the KAS-20SE Database

When starting up the KAS-20SE for the first time after it has been installed, a setup screen for constructing the database of the KAS-20SE/ KAS-20CE in the SQL server appears.

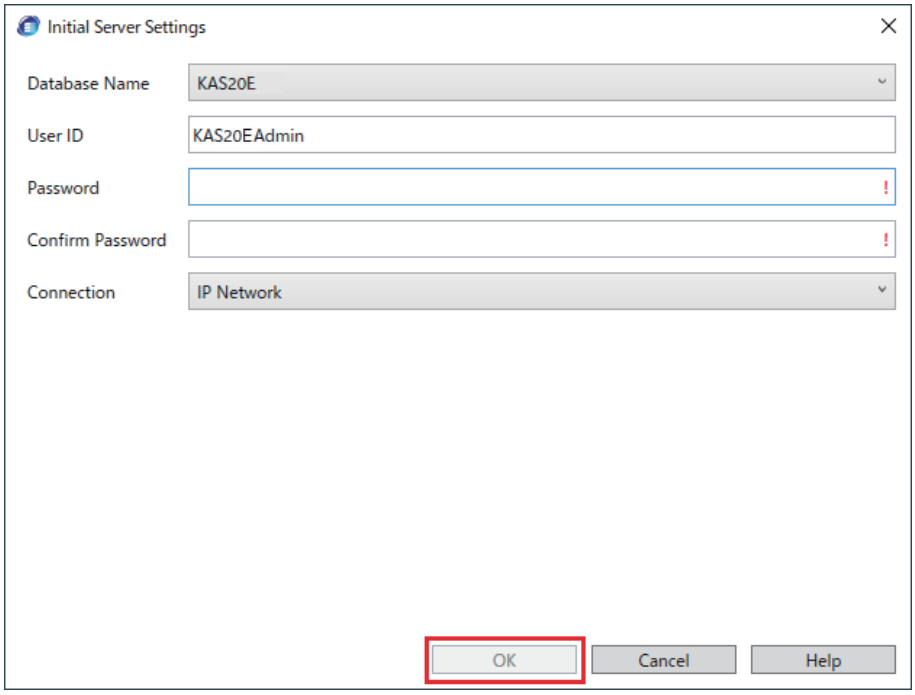

Figure 2-22 Setup Screen

Configure the items below and click “OK”. The KAS-20SE/ KAS-20CE database will be constructed.

Table 2-3 Setting Items on the Setup Screen

Item	Description	Configurable Range	Default
Database Name	Select the server for constructing the KAS-20SE database.	List of available server names in the SQL server	First line in the list
User ID	Configure the ID of the user to be registered as the server administrator.	6 to 32 alphanumeric characters and symbols	KAS20EAdmin
Password	Configure the password of the user to be registered as the server administrator. Note The password must satisfy the Windows password policy of the PC on which the KAS-20E is installed.	6 to 16 alphanumeric characters and symbols	Blank

Item	Description	Configurable Range	Default
Confirm Password	Enter the confirmation password.	6 to 16 alphanumeric characters and symbols	Blank
Connection	Allows you to configure the type of connection to connect to the KAS-20SE/ KAS-20CE system. Note The system configurations of an IP network and serial connection are stored separately in the database. Changing the **Connection** setting does not carry over the system configurations of an IP network to a serial connection, and vice versa.	IP Network, Serial	IP Network

Note

To enable the FILESTREAM function of the SQL Server while constructing the database, a confirmation message to execute with administrative authority will be displayed. Click “OK”.

2.6 KAS-20SE Setting Screen

If database setup has already completed the first time the KAS-20SE is started, a setting screen appears after the KAS-20SE starts up. (Refer to Starting up the KAS-20SE on page 41.)
The setting screen of the KAS-20SE is structured as follows.

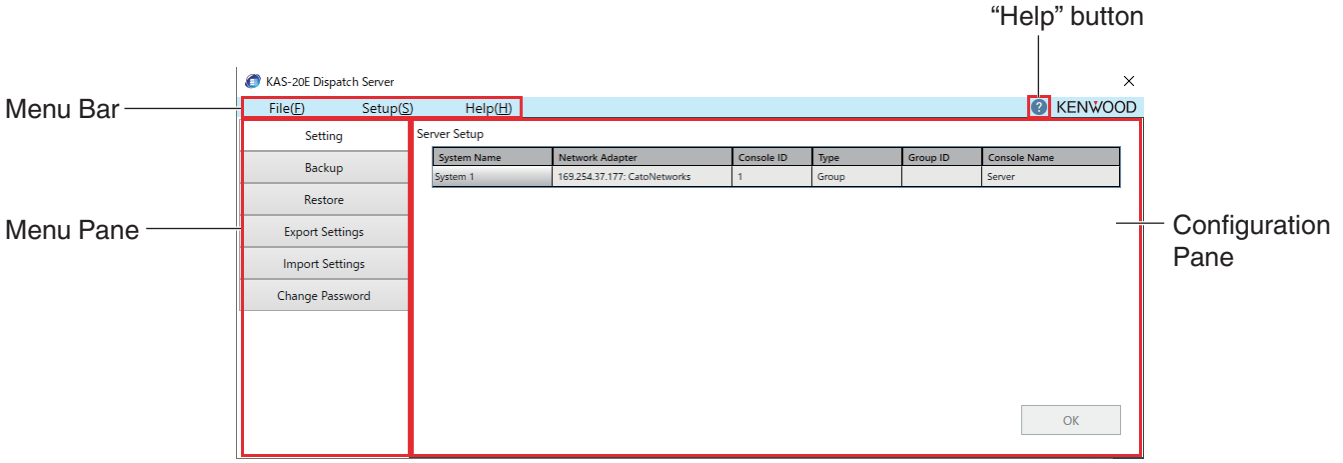

Figure 2-23 KAS-20SE Setting Screen

Table 2-4 KAS-20SE Setting Screen

Item		Description
Menu Bar	File	Select "Exit" to exit the KAS-20SE.
	Setup	Selecting "Language" displays the **Language** dialog box. Selecting "License Selection" displays the **License Selection** dialog box.
	Help	Selecting "Help" opens the Basic Operations PDF file. Selecting "About" displays the **About** dialog box.
Menu Pane	From the **Menu** pane, select one of the menu items below to display on the **Configuration** pane. • Setting • Backup • Restore • Export Settings • Import Settings • Change Password	
Configuration Pane	The **Configuration** pane displays the settings and information of the item selected in the **Menu** pane.	
"Help" Button	Opens the Basic Operations PDF file.	

2.7 Configuring the Communication System to Be Connected to KAS-20SE

Clicking **Menu** in the “Setting” pane displays the **Configuration** screen in the **Server Setup** pane.
Configure the IP network or wireless communication for connecting a communication system with the KAS-20SE in the **Server Setup** screen.

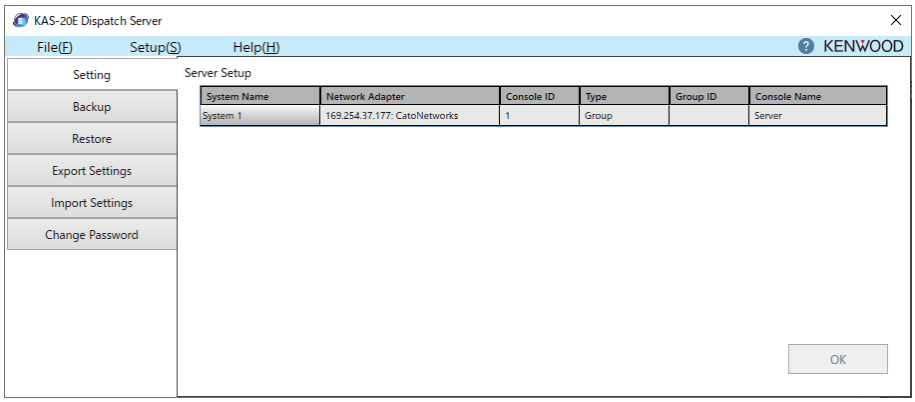

Figure 2-24 Server Setup Screen (Example of IP Network Connection Screen)

Configure the items below and click the “OK” button to apply the settings.

The setting items for IP network connection and serial connection are different. When “IP Network” is selected in **Connection** in the setup screen, the setting items for IP network connection are displayed; selecting “Serial” will display the setting items for serial connection.

Table 2-5 Setting Items of Server Setup Screen (IP Network Connection)

Item	Description	Configurable Range	Default
System Name	**System Name** shows the system name. **System Name** can be changed on the KAS-20CE.	-	System 1 to System 8
Network Adapter	**Network Adapter** allows you to configure the network adapter that is used for connecting with a communication system.	Network adapter that comes installed with the PC	First line in the list

Item	Description	Configurable Range	Default
Console ID	**Console ID** allows you to configure the console ID to be used on the KAS-20SE. For **Console ID** within the same communication system, assign a different ID to KAS-20SE and KAS-20CE respectively. Note In the case of DMR Tier III Trunking, this feature can be configured only if **Fleet Dialing Plan** is disabled.	The configurable range varies according to the protocol of the communication system configured on the KAS-20CE. **NXDN Trunking (Type-C)/ NXDN Conventional:** 1 to 65519 (in steps of 1) **Trunking 2.5/ DMR Tier III Trunking/ DMR Conventional/ DMR Conventional (via TKR-D series):** 1 to 16776415 (in steps of 1) **Not configured:** 1 to 16776415 (in steps of 1) Note For connecting to NXDN Trunking (Type-C): NEXEDGE 1st Generation, configure a value from 1 to 60000.	1
Type	For IP network connections, you can select the type of communication to be received by KAS-20SE. Note All KAS-20CE units will be notified of the information received by KAS-20SE with the configured **Type** and **Group ID**. If the same **Type** and **Group ID** are also configured on KAS-20CE, the KAS-20CE units will only be notified of the information received by KAS-20CE.	The configurable range varies according to the protocol of the communication system configured on the KAS-20CE. **NXDN Trunking (Type-C)/ NXDN Conventional/ DMR Tier III Trunking:** Group, All **Trunking 2.5:** Group **DMR Conventional/ DMR Conventional (via TKR-D series):** Group, All, Unaddress **Not configured:** Group, All, Unaddress	Group

Item	Description	Configurable Range	Default
Group ID	**Group ID** allows you to configure the Group ID to be used on the KAS-20SE. By configuring to the same value as the Base ID of the mobile station to communicate with, GPS/ BLE Report, Emergency status and Lone Worker response status can be received by the KAS-20SE and shared with the KAS-20CE. (Refer to CONFIGURING THE MOBILE STATION FOR USING THE KAS-20E (AVL/ Dispatch) on page 135.) Note This function can be configured only if “Group” is selected in Type.	The configurable range varies according to the protocol of the communication system configured on the KAS-20CE. **NXDN Trunking (Type-C)/ NXDN Conventional:** 1 to 65519 (in steps of 1) **Trunking 2.5/ DMR Tier III Trunking/ DMR Conventional/ DMR Conventional (via TKR-D series):** 1 to 16776415 (in steps of 1) **Not configured:** 1 to 16776415 (in steps of 1) Note For connecting to NXDN Trunking (Type-C): NEXEDGE 1st Generation, configure a value from 1 to 60000.	Blank
Console Name	**Console Name** allows you to configure the name of the console.	Not longer than 16 characters	Server
Console ID (DMR Fleet Dialing Plan)	**Console ID (DMR Fleet Dialing Plan)** allows you to configure the console ID to be used on the KAS-20SE in the Prefix - Fleet - IN format. Note This function can be configured only if DMR Tier III Trunking is enabled in **Fleet Dialing Plan**.	**Prefix:** 328 to 806 (in steps of 1) **Fleet:** 20 to 89 (in steps of 1) **IN:** The configurable range varies according to the setting of **Fleet**. **Fleet 20 to 41:** 200 to 899 (in steps of 1) **Fleet 42 to 89:** 200 to 549 (in steps of 1)	-

Item	Description	Configurable Range	Default
Type (DMR Fleet Dialing Plan)	Type (DMR Fleet Dialing Plan) allows selection of the type of communication to be received by KAS-20SE. Note If the same **Type** and **Group ID** are also configured on KAS-20CE, the KAS-20CE units will only be notified of the information received by KAS-20CE.	Group, All	Blank
Group ID (DMR Fleet Dialing Plan)	**Group ID (DMR Fleet Dialing Plan)** allows you to configure the Group ID to be used on the KAS-20SE in the Prefix - Fleet - GN format. Note For DMR Tier III Trunking, this function can be configured when “Group” is selected in Type (DMR Fleet Dialing Plan).	**Prefix:** 328 to 806 (in steps of 1) **Fleet:** 20 to 89 (in steps of 1) **GN:** 900 to 999 (in steps of 1)	Blank

Note

- The number of communication system names displayed is set to 1 by default. If RF SYSTEM LICENSE (KWD-20S-RS) has been authenticated, the communication system names of the number of authenticated licenses will be displayed accordingly. (Refer to About Software Upgrade License on page 13.)
- If one of the following is configured in the KAS-20CE, when decrypting encrypted data or encrypting data by using the KAS-20SE, the **Group ID** registered in the KAS-20SE is registered in the KAS-20CE and **KAS-20SE Key No.** must be configured. (Refer to Configuring a Mobile Station on page 98.)

  When decrypting encrypted data by using the KAS-20SE:
  - The protocol is NXDN Trunking (Type-C) and **Key ID Scan** is disabled.
  - The protocol is NXDN Conventional and **Key ID Scan** is disabled.

  When encrypting data by using the KAS-20SE:
  - The protocol is NXDN Trunking (Type-C).
  - The protocol is NXDN Conventional.
  - The protocol is DMR Tier III Trunking and “Enhanced” is configured in **Type (Scrambler/ Encryption)**.
  - The protocol is DMR Conventional and “Enhanced” is configured in **Type (Scrambler/ Encryption)**.
  - The protocol is DMR Conventional (via TKR-D series) and “Enhanced” is configured in **Type (Scrambler/ Encryption)**.

Table 2-6 Setting Items of Server Setup Screen (Serial Connection)

Item	Description	Configurable Range	Default
System Name	**System Name** shows the system name. **System Name** can be changed on the KAS-20CE.	-	System 1 to System 8
COM Port	**COM Port** allows you to configure the communication port for connecting the KAS-20SE and the transceiver serially.	None, valid communication ports (only communication ports from 1 to 255 are displayed)	None
Baud Rate	**Baud Rate** allows you to configure the communication speed of the communication port used. Note 38400 bps and 57600 bps are not supported on some transceiver types.	9600 bps, 19200 bps, 38400 bps, 57600 bps	9600 bps
Stop Bit	**Stop Bit** allows you to configure the stop bit of the communication port used.	1, 2	2
Console ID	**Console ID** allows you to configure the console ID to be used on the KAS-20SE. Configure **Console ID** for KAS-20SE and KAS-20CE within the same communication system to different values. Note When the **Protocol** setting for the KAS-20CE is changed from other than FleetSync to FleetSync or vice versa, FleetSync is restored to its default value. For this reason, it is necessary to reconfigure the **Console ID** for the KAS-20SE.	The configurable range varies according to the protocol of the communication system configured on the KAS-20CE. **NXDN Trunking (Type-C)/ NXDN Conventional:** 1 to 65519 (in steps of 1) **DMR Conventional/ DMR Conventional (via TKR-D series):** 1 to 16776415 (in steps of 1) **FleetSync:** Fleet ID: 100 to 349 (in steps of 1) Unit ID: 1000 to 4999 (in steps of 1) **Not configured:** 1 to 16776415 (in steps of 1) Note For connecting to NXDN Trunking (Type-C): NEXEDGE 1st Generation, configure a value from 1 to 60000.	**FleetSync:** Fleet ID: 100 Unit ID: 1000 **Other than FleetSync:** 1
Console Name	**Console Name** allows you to configure the name of the console.	Not longer than 16 characters	Server

2.8 Installing or Uninstalling KAS-20CE

Follow the steps below to install the KAS-20CE on or uninstall it from a PC.

Installing the KAS-20CE

Note

Administrator authority is required to install the KAS-20CE.

1 **Exit all running programs (including resident programs such as a virus-checking program).**

2 **Open the KAS-20CE folder.**

3 **Double-click “setup.exe” in the KAS-20CE folder.**

The setup program starts and the instructions appear during installation. Follow the instructions to install.

4 **Double-click “setup.exe” in the KPT-300LMC_Vxxx folder that is bundled with this software. Install the KPT-300LMC (License Management Client), and use it to authenticate the Dealer license for the KAS-20E.**

5 **Authenticate the Software Upgrade Licenses that are needed. (Refer to About Software Upgrade License on page 13.)**

Be sure to authenticate the Software Upgrade License for either the LOCATION MANAGEMENT LICENSE (KWD-20C-LM), INDOOR LOCATION LICENSE (KWD-20C-IL), or VOICE DISPATCH LICENSE (KWD-20C-VD). (Refer to About Software Upgrade License on page 13.)

Note

For details on operating the KPT-300LMC, refer to the KPT-300LMC Basic Operations.

Uninstalling the KAS-20CE

Note

- Administrator authority is required to uninstall the KAS-20CE.
- Ensure to exit the KAS-20CE before uninstalling it.

1 **Click “Uninstall a program” in Control Panel.**

2 **Select “KAS-20CE”.**

3 **Click the “Uninstall” button.**

Follow the instructions on the screen to uninstall the software.

2.9 Starting up and Exiting KAS-20CE

Follow the procedure below to start up or exit the KAS-20CE.

Starting up the KAS-20CE

1 Start up the "KAS-20E Dispatch Client".

Start up the "KAS-20E Dispatch Client" according to the procedure below.

"Start" > "All Apps" > "KENWOOD" > "KAS-20E Dispatch Client"

Doing so starts up the KAS-20CE, and displays the **Server Login** screen.

2 Enter Server IP, Database Name, User ID and Password, followed by clicking the "Log In" button.

Enter the PC name or IP address of the destination server (KAS-20SE) in **Server IP**. If KAS-20CE is being used on the same PC as KAS-20SE, enter the name of your own PC, "localhost", or "." (period).
For **Database Name**, enter the instance name of the destination server that is configured in step 5 of "Installing the SQL Server on page 25".

For **User ID** and **Password**, enter the **User ID** and **Password** registered in "Setting up the KAS-20SE Database on page 42" or "Registering a User on page 57".

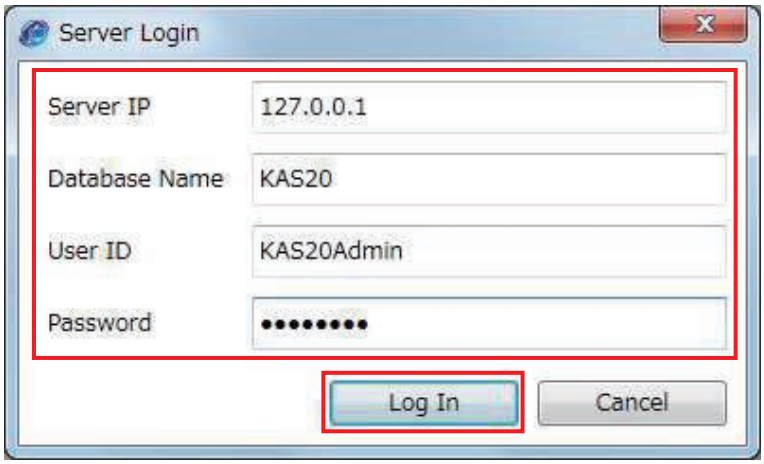

Figure 2-25 Server Login

An operation screen appears. The screen displayed varies according to the Software Upgrade License that has been authenticated. (Refer to About Software Upgrade License on page 13.)

- **When only the LOCATION MANAGEMENT LICENSE (KWD-20C-LM) is authenticated**

  Displays only the AVL Window.
- **When only the INDOOR LOCATION LICENSE (KWD-20C-IL) is authenticated**

  Displays only the Indoor Location Window.
- **When only the VOICE DISPATCH LICENSE (KWD-20C-VD) is authenticated**

  Displays only the Dispatch Window.
- **When the LOCATION MANAGEMENT LICENSE (KWD-20C-LM) and INDOOR LOCATION LICENSE (KWD-20C-IL) are authenticated**

  Two screens (AVL Window and Indoor Location Window) appear.
- **When both the LOCATION MANAGEMENT LICENSE (KWD-20C-LM) and VOICE DISPATCH LICENSE (KWD-20C-VD) are authenticated**

  Two screens (AVL Window and Dispatch Window) appear.
- **When both the INDOOR LOCATION LICENSE (KWD-20C-IL) and VOICE DISPATCH LICENSE (KWD-20C-VD) are authenticated**

  Two screens (Indoor Location Window and Dispatch Window) appear.
- **When the LOCATION MANAGEMENT LICENSE (KWD-20C-LM), INDOOR LOCATION LICENSE (KWD-20C-IL), and VOICE DISPATCH LICENSE (KWD-20C-VD) are authenticated**

  Three screens (AVL Window, Indoor Location Window and Dispatch Window) appear.

Note

It is not possible to start up 2 or more KAS-20CE units with 1 PC.

Exiting the KAS-20CE

Operation to exit the KAS-20CE and the steps to close the respective screens vary according to the Software Upgrade License that has been authenticated.

- **When only the LOCATION MANAGEMENT LICENSE (KWD-20C-LM) is authenticated**

  To exit the KAS-20CE, click the “ ” button, or select **File** from the “Exit” menu.

- **When only the INDOOR LOCATION LICENSE (KWD-20C-IL) is authenticated**

  To exit the KAS-20CE, click the “ ” button, or select **File** from the “Exit” menu.

- **When only the VOICE DISPATCH LICENSE (KWD-20C-VD) is authenticated**

  To exit the KAS-20CE, click the “ ” button, or select **File** from the “Exit” menu.

- **When the LOCATION MANAGEMENT LICENSE (KWD-20C-LM) and INDOOR LOCATION LICENSE (KWD-20C-IL) are authenticated**
  - Clicking the “ ” button on the AVL Window or Indoor Location Window closes the AVL Window or Indoor Location Window.
  - When only the AVL Window or Indoor Location Window is displayed, clicking the “ ” button exits the KAS-20CE.
  - Selecting **File** from the “Exit” menu closes all the screens and exits the KAS-20CE.
- **When both the LOCATION MANAGEMENT LICENSE (KWD-20C-LM) and VOICE DISPATCH LICENSE (KWD-20C-VD) are authenticated**
  - Clicking the “ ” button on the AVL Window or Dispatch Window closes the AVL Window or Dispatch Window.
  - When only the AVL Window or Dispatch Window is displayed, clicking the “ ” button exits the KAS-20CE.
  - Selecting **File** from the “Exit” menu closes all the screens and exits the KAS-20CE.
- **When the INDOOR LOCATION LICENSE (KWD-20C-IL) and VOICE DISPATCH LICENSE (KWD-20C-VD) are authenticated**
  - Clicking the “ ” button on the Indoor Location Window or Dispatch Window closes the Indoor Location Window or Dispatch Window.
  - When only the Indoor Location Window or Dispatch Window is displayed, clicking the “ ” button exits the KAS-20CE.
  - Selecting **File** from the “Exit” menu closes all the screens and exits the KAS-20CE.
- **When the LOCATION MANAGEMENT LICENSE (KWD-20C-LM), INDOOR LOCATION LICENSE (KWD-20C-IL), and VOICE DISPATCH LICENSE (KWD-20C-VD) are authenticated**
  - Clicking the “ ” button on AVL Window, Indoor Location Window, and Dispatch Window closes the AVL Window, Indoor Location Window, and Dispatch Window respectively.
  - When only one screen among AVL Window, Indoor Location Window and Dispatch Window is displayed, clicking the “ ” button exits the KAS-20CE.
  - Selecting **File** from the “Exit” menu closes all the screens and exits the KAS-20CE.

2.10 KAS-20CE Setting Screen

After the KAS-20CE has started up, selecting “Setting” from the **Setup** menu of AVL Window, Indoor Location Window or Dispatch Window displays a setting screen.
The setting screen of the KAS-20CE is structured as follows.

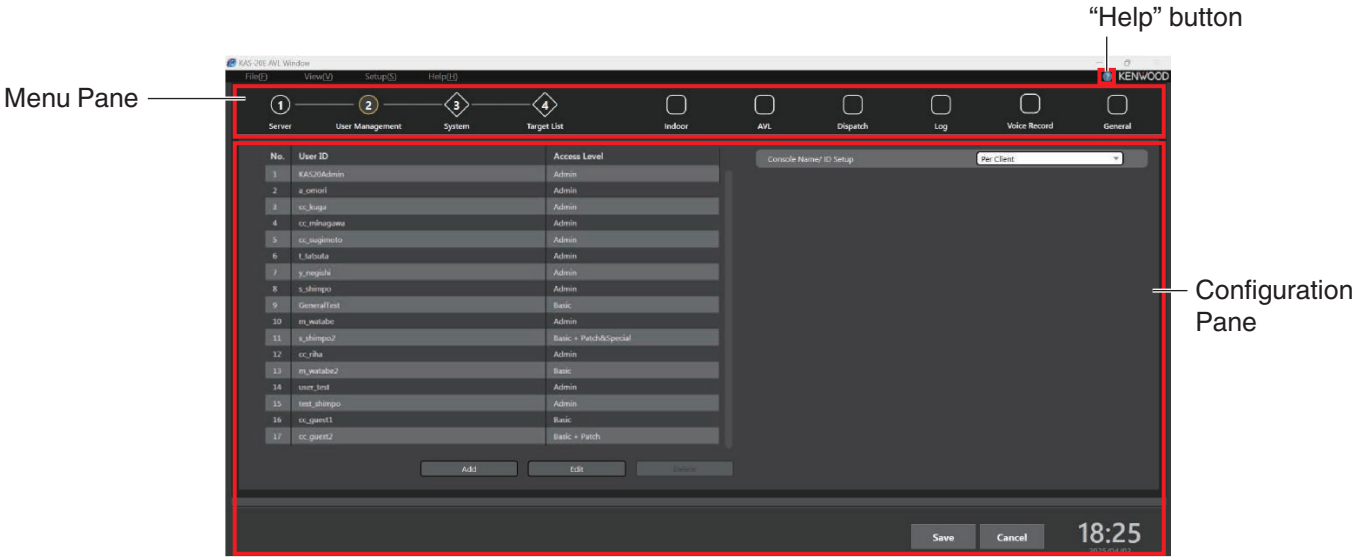

Figure 2-26 KAS-20CE Setting Screen

Table 2-7 KAS-20CE Setting Screen

Item	Description
Menu Pane	From the **Menu** pane, select one of the menu items below to display on the **Configuration** pane. • Server (1) • User Management (2) • System (3) • Target List (4) • AVL • Indoor • Dispatch • Log • Voice Record (configurable only for IP network connection) • General
“Help” Button	Opens the Basic Operations PDF file.
Configuration Pane	The **Configuration** pane displays the setting screen of the item selected in the **Menu** pane.
“Save” button	Saves the settings on the setting screen to the database and closes the setting screen.
“Cancel” button	Closes the setting screen if no changes have been made to the settings. If the settings have been changed, displays a message to confirm that the settings are not saved. Clicking the “OK” button closes the setting screen without saving the settings. Clicking the “Cancel” button returns to the setting screen.

Note

- The AVL Window, Indoor Location Window and Dispatch Window cannot be operated when the setting screen is open.
- Audio signals will still be received when the setting screen is open.
- When clicking the “Save” button to save changes in an IP network connection, all communication and registration with all systems will be disconnected. Registration and communication will resume after the setting screen is closed.
- When clicking the “Save” button to save changes in a serial connection, the communication port will open with the new setting applied after it has been closed.

  When the setting screen is closed using the “Cancel” button, Delete operation for the following items cannot be undone.
  - User Management
  - Scanned Map
  - Floor Map

2.11 Configuring the Destination Server and Database

Clicking “Server” in the **Menu** pane displays the **Server** screen in the **Configuration** pane.
The **Server** screen allows you to configure the destination server and database.

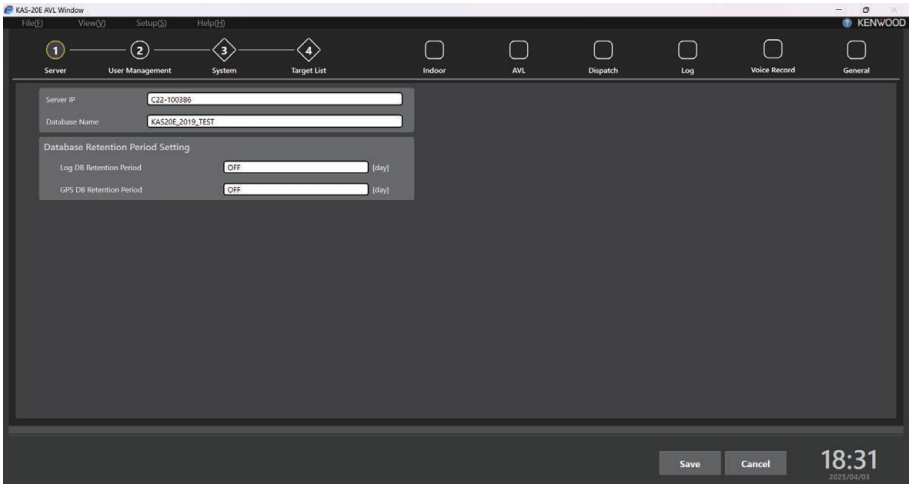

Figure 2-27 Server Screen

Table 2-8 Setting Items of Server Screen

Item	Description	Configurable Range	Default
Server IP	**Server IP** shows the path of the destination server that is entered during login.	-	Value entered during login
Database Name	**Database Name** shows the instance name of the destination server that is entered during login.	-	Value entered during login
Log DB Retention Period	**Log DB Retention Period** allows you to configure the period of time to retain the communication log in the database.	OFF, 1 day to 999 days (in steps of 1 day)	OFF
GPS/ BLE DB Retention Period	**GPS/ BLE DB Retention Period** allows you to configure the period of time to retain the GPS data and BLE Data in the database.	OFF, 1 day to 999 days (in steps of 1 day)	OFF

Note

- When **Log DB Retention Period** or **GPS/ BLE DB Retention Period** is configured to a value other than “OFF”, communication logs or GPS Data that have exceeded the specified expiration date will be deleted every day at 12 a.m. However, deletion will only be executed when the KAS-20SE is running.
- When **Log DB Retention Period** or **GPS/ BLE DB Retention Period** is configured to “OFF”, communication logs and GPS Data will not be deleted.
- Only users that are configured as “Admin” in **Access Level** are allowed to configure the settings on the **Server** screen.

2.12 Managing KAS-20SE/ KAS-20CE Users

Clicking “User Management” in the **Menu** pane displays the **User Management** screen in the **Configuration** pane.
The **User Management** screen allows you to register or delete a KAS-20SE/ KAS-20CE user.
Up to a maximum of 30 users can be registered.

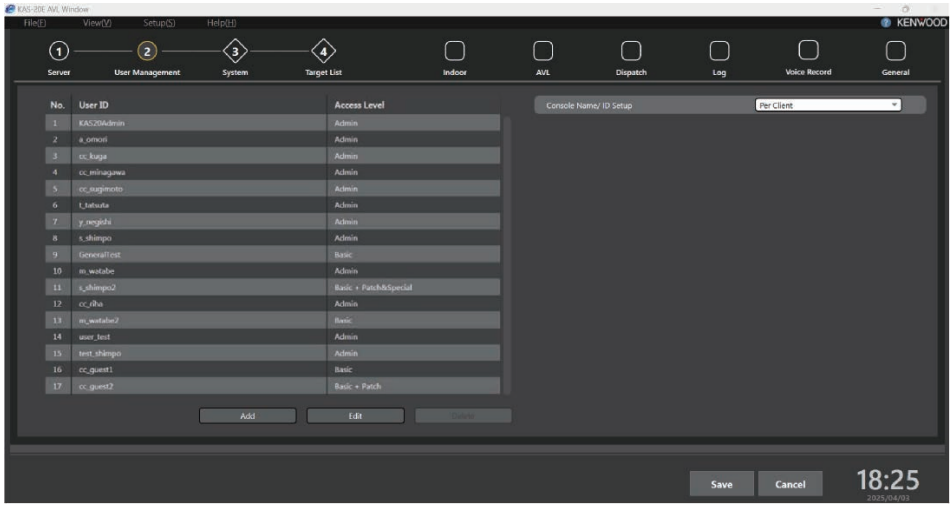

Figure 2-28 User Management Screen

Note

- Only users that are configured as “Admin” in **Access Level** are allowed to configure the settings on the **User Management** screen.
- Changes in the **User Management** screen are saved to the server when the “OK” button on the **User Add** dialog box, or “OK” or “Delete” button on the **User Edit** dialog box is clicked. After that, changes in the **User Management** screen cannot be canceled even when the “Cancel” button on the **Setting** screen is clicked.
- **Console Name/ ID Setup** is displayed only for IP network connection.

Registering a User

A new KAS-20SE/ KAS-20CE user can be registered.

1 Click the “Add” button.

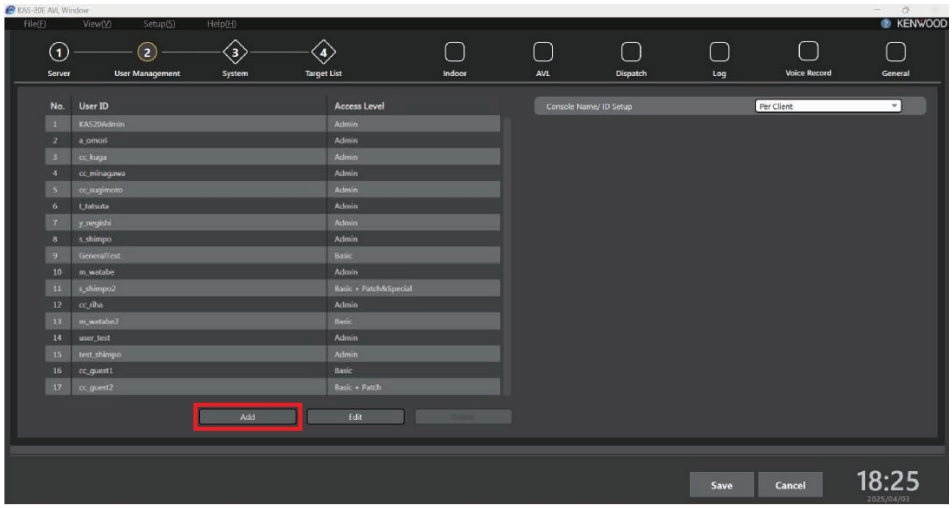

Figure 2-29 Add

The **User Add** dialog box appears.

2 Configure User ID, Access Level and Password.

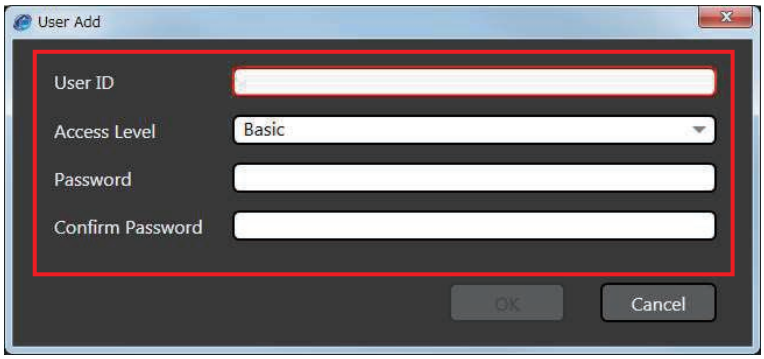

Figure 2-30 User Add

Table 2-9 Setting Items in the User Add Dialog Box

Item	Description	Configurable Range	Default
User ID	**User ID** allows you to configure the ID of the login user. The user ID cannot be changed once it has been registered.	6 to 32 alphanumeric characters and symbols	Blank
Access Level	**Access Level** allows you to configure the operation authority of a user. (Refer to About Access Level on page 62.)	The configurable range varies according to the **Connection** setting of the KAS-20SE. **IP Network:** Admin, Basic, Basic + Patch, Basic + Special, Basic + Patch&Special **Serial:** Admin, Basic, Basic + Special	Basic
Password	**Password** allows you to configure the password of the login user. Note The password must satisfy the Windows password policy of the PC on which the KAS-20E is installed.	6 to 16 alphanumeric characters and symbols	Blank
Confirm Password	**Confirm Password** allows you to configure the password of the login user for confirmation.	6 to 16 alphanumeric characters and symbols	Blank

3 Click the “OK” button.

The newly registered user is added to the list on the User Management screen.

Changing User Information

The registered information of an existing user can be changed.

1 **Select the user whose registered information is to be changed from the list, and click the “Edit” button.**

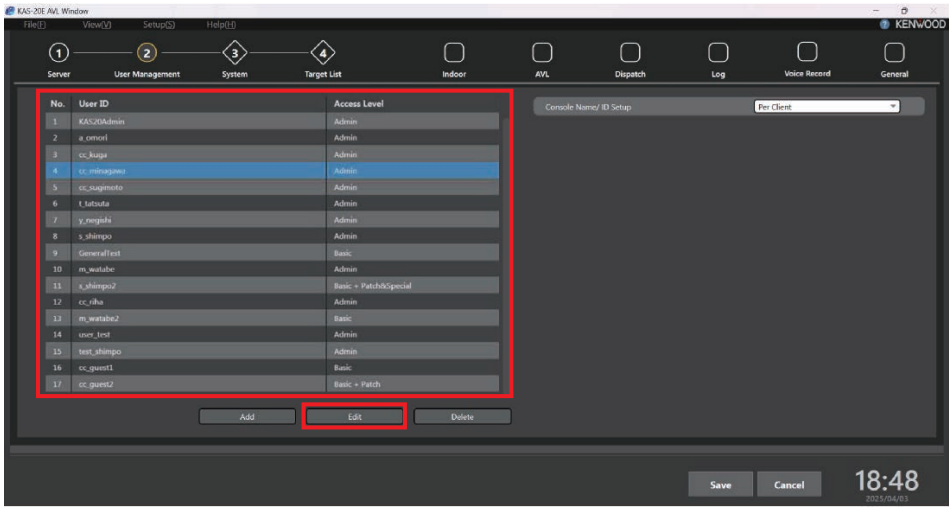

Figure 2-31 Edit

The **User Edit** dialog box appears.

2 **Change the setting of Access Level or Password.**

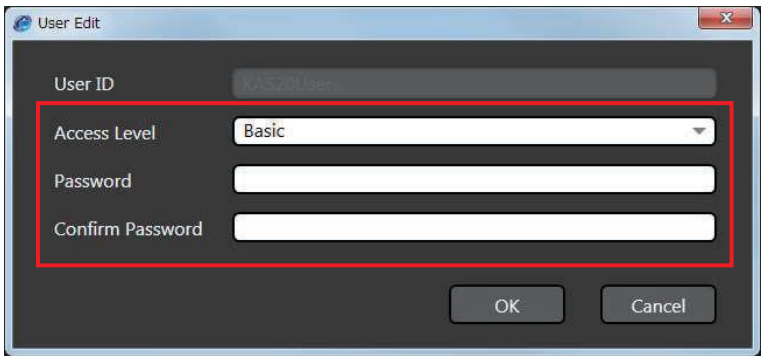

Figure 2-32 User Edit

Table 2-10 Setting Items in the User Edit Dialog Box

Item	Description	Configurable Range	Default
Access Level	**Access Level** allows you to configure the operation authority of a user. (Refer to About Access Level on page 62.)	Admin, Basic, Basic + Patch, Basic + Special, Basic + Patch&Special	-
Password	**Password** allows you to configure the password of the login user. Note The password must satisfy the Windows password policy of the PC on which the KAS-20E is installed.	6 to 16 alphanumeric characters and symbols	-
Confirm Password	**Confirm Password** allows you to configure the password of the login user.	6 to 16 alphanumeric characters and symbols	-

Note

- **User ID** cannot be changed.
- **Access Level** for the logged-in user who is currently performing the operation cannot be changed. **Access Level** cannot be changed for users created during the setup of the KAS-20SE database.

3 Click the “OK” button.

The registered information of the user is changed.

Deleting a User

A registered user can be deleted.

Note

Users that are created during the setup of the KAS-20SE database and the logged-in user who is currently performing the operation cannot be deleted. (Refer to Setting up the KAS-20SE Database on page 42.)

1 Select the user to delete from the list, and click the “Delete” button.

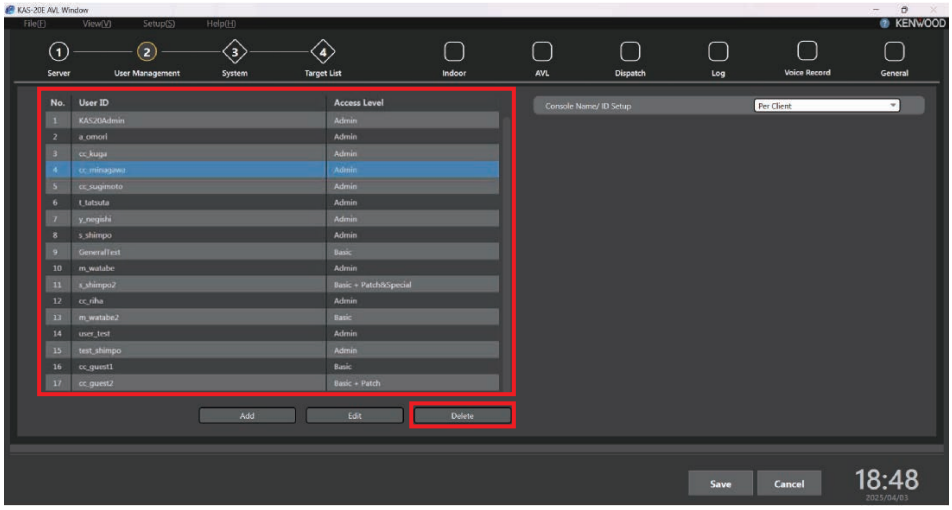

Figure 2-33 Delete

A confirmation message box appears.

2 Click the “OK” button.

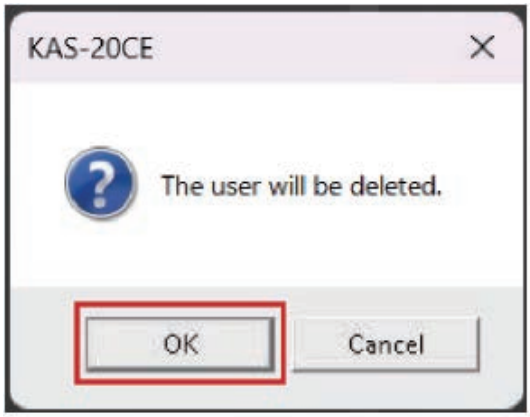

Figure 2-34 Confirmation Message Box

The user is deleted.

About Access Level

A user is assigned with the following operation authority according to the **Access Level** setting.

Table 2-11 Access Level

Access Level	Scope of Authority
Admin	Authorized to perform all types of operation and setting. These include operation on the AVL Window, Indoor Location Window and Dispatch Window as well as changing of settings on the setting screen.
Basic	Operation is possible on the AVL Window, Indoor Location Window and Dispatch Window. However, creating of a Patch and sending of special commands are not allowed.
Basic + Patch	Authorized to create a Patch in addition to the Basic operation authority.
Basic + Special	Authorized to send special commands in addition to the Basic operation authority.
Basic + Patch&Special	Authorized to create a Patch and send special commands in addition to the Basic operation authority.

Note

Special command refers to the Stun, Revive, Kill, Remote Monitor and Radio Check commands that are sent from the KAS-20CE to the mobile station. (Refer to Sending a Special Command on page 216, Sending a Special Command on page 232, Sending a Special Command on page 387, Sending a Special Command on page 402.)

Changing Console ID and Console Name For Each User

By configuring **Console Name/ ID Setup** to “Per Login User”, the Console ID and Console Name can be changed for each user. In this case, it is necessary to configure the Console ID and Console Name for each user in the **IP Network** screen. (Refer to Configuring the IP Network on page 67.)

By configuring **Console Name/ ID Setup** to “Per Client”, the Console ID and Console Name configured in the **IP Network** screen can be used by all users.

Note

This function can be configured only for IP network connection.

2.13 Configuring the Communication System to Connect To

Clicking “System” in the **Menu** pane displays the **System** screen in the **Configuration** pane.
The **System** screen allows you to configure settings for communicating with a mobile station by connecting to a communicating system.

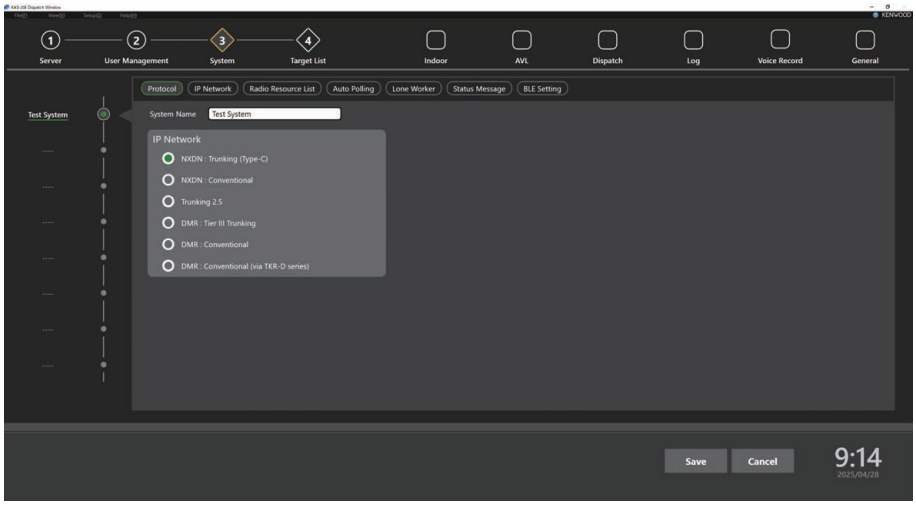

Figure 2-35 System Screen

The **System** screen comprises of the following setting screens.

- Protocol
- IP Network (configurable only for IP network connection)
- Serial (configurable only for serial connection)
- Radio Resource List
- Auto Polling
- Lone Worker
- Status Message
- Emergency Remote Control (configurable only for serial connection)
- BLE Setting (Configurable only when System Protocol is configured to a setting other than FleetSync)

Note

- Only users that are configured as “Admin” in **Access Level** are allowed to configure the settings on the **System** screen. However, all users are allowed to configure the settings for the following functions on the **IP Network** screen. (Refer to Managing KAS-20SE/ KAS-20CE Users on page 57.)
  - Network Adapter
  - Console ID
  - Console Name
  - Over-the-Air Alias

  And all users are allowed to configure the settings for the following functions in the **Serial** screen.
  - COM Port
  - Baud Rate
  - Stop Bit
  - Console Name
  - Console ID
- Before going on to other settings, start by configuring the communication system protocols on the **Protocol** screen. (Refer to Configuring the Protocols on page 65.)
- By configuring the settings on the **System** screen, the KAS-20SE will be able to connect to the corresponding communication system according to the settings in **Setting**. (Refer to Configuring the Communication System to Be Connected to KAS-20SE on page 45.)

Selecting the Communication System to Be Configured

The communication system name is displayed on the left on the **System** screen. If RF SYSTEM LICENSE (KWD-20S-RS) has not been authenticated in an IP network connection, only 1 communication system name is displayed. If RF SYSTEM LICENSE (KWD-20S-RS) has been authenticated, the communication system names of the number of authenticated licenses will be displayed accordingly. (Refer to About Software Upgrade License on page 13.)

Click on a communication system name to change the communication system to be configured.

In a serial connection, only 1 communication system is configured.

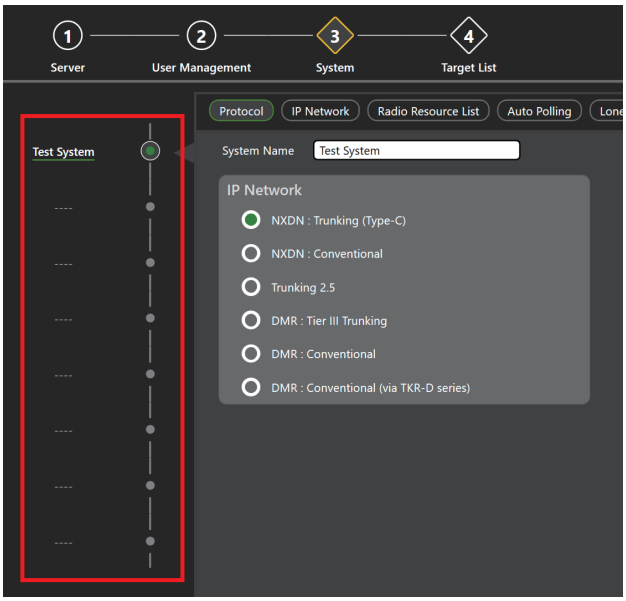

Figure 2-36 Selection of Communication System

Configuring the Protocols

Clicking “Protocol” on the **System** screen displays the **Protocol** screen.
The **Protocol** screen allows you to configure the communication system protocols.

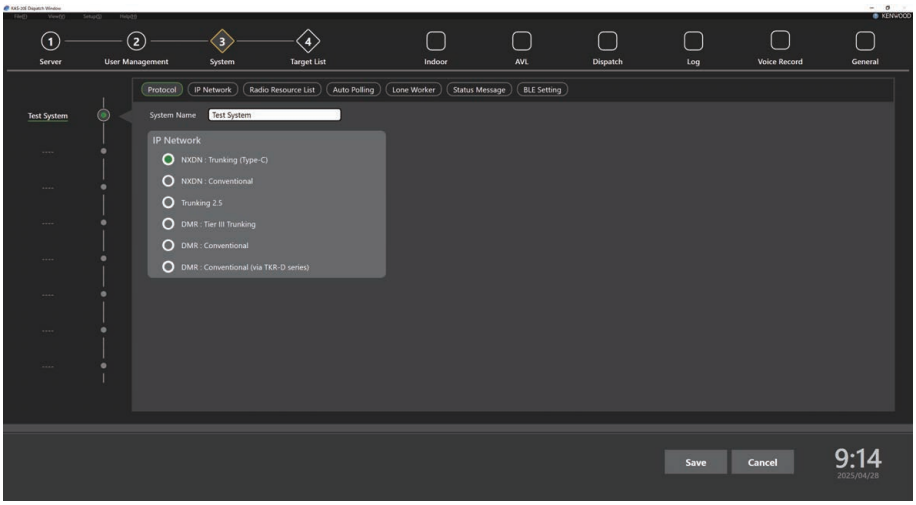

Figure 2-37 Protocol Screen (Example of IP Network Connection Screen)

The setting items for IP network connection and serial connection are different.

Table 2-12 Setting Items of Protocol Screen (IP Network Connection)

Item	Description	Configurable Range	Default
System Name	**System Name** allows you to configure the name of the system.	Not longer than 16 characters	System 1 to System 8
IP Network	**IP Network** allows you to configure the communication system protocols for IP network connection.	NXDN : Trunking (Type-C), NXDN : Conventional, Trunking 2.5, DMR : Tier III Trunking, DMR : Conventional, DMR : Conventional (via TKR-D series)	NXDN : Trunking (Type-C)

Table 2-13 Setting Items of Protocol Screen (Serial Connection)

Item	Description	Configurable Range	Default
System Name	**System Name** allows you to configure the name of the system.	Not longer than 16 characters	System 1
Serial	**Serial** allows you to configure the communication system protocols for serial connection.	NXDN : Trunking (Type-C), NXDN : Conventional, DMR : Conventional, DMR : Conventional (via TKR-D series), FleetSync	NXDN : Trunking (Type-C)

Note

- The setting items available on the **System** screen vary according to the preset protocols. Therefore, configure the communication system protocols on the **Protocol** screen first before going on to the other settings.
- In **Status Message Name**, the default value is configured in the language used in KAS-20CE when the protocol is configured.
- Upon changing the protocol, a warning message box will appear prompting you to delete the setting data if there are changes in the settings on the **System** screen. Clicking the “OK” button changes the protocol and deletes the setting data. Click the “Cancel” button if no changes are to be made to the protocol, and the setting data will not be deleted.
- If DMR TIER III TRUNKING LICENSE (KWD-20S-T3) has not been authenticated, or if the number of **DMR : Tier III Trunking** that have been authenticated is selected for other systems, **DMR : Tier III Trunking** is disabled.
- If TRUNKING 2.5 LICENSE (KWD-20S-T25) has not been authenticated, or if the number of **Trunking 2.5** that have been authenticated is selected for other systems, **Trunking 2.5** is disabled.
- If a DMR Conventional system is operated by using the NXR-1x00 repeater, select **DMR : Conventional**.
- If a DMR Conventional system is operated by using the KAIROS repeater, select **DMR : Conventional**.
- If a DMR Conventional system is operated by using the TKR-Dx10 repeater, select **DMR : Conventional (via TKR-D series)**.

Configuring the IP Network

Clicking “IP Network” on the **System** screen displays the **IP Network** screen.
The **IP Network** screen allows you to configure the IP network of the communication system.
The setting items available vary according to the protocol settings on the **Protocol** screen. (Refer to Configuring an IP Network for Each Protocol on page 82.)

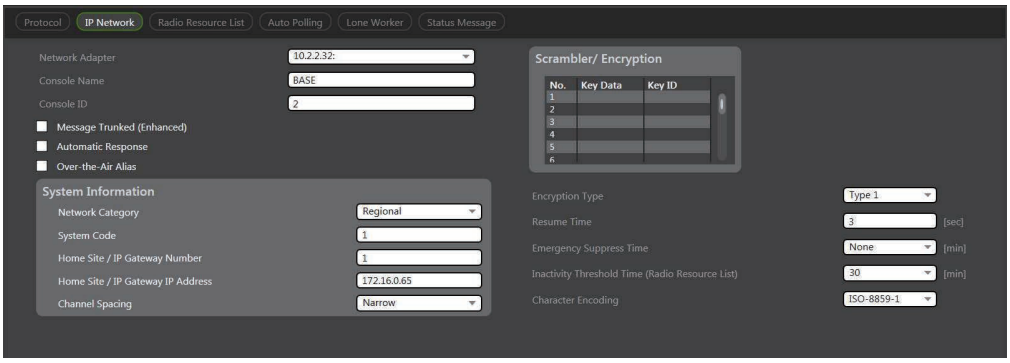

Figure 2-38 IP Network Screen (Example of NXDN Trunking (Type-C) Screen)

Note

- All users including the one for which **Access Level** is configured as “Admin” are allowed to configure the following functions. (Refer to Managing KAS-20SE/ KAS-20CE Users on page 57.)
  - Network Adapter
  - Console ID
  - Console Name
  - Over-the-Air Alias
- Settings in the **IP Network** screen can be configured only for IP network connection.

Table 2-14 Setting Items of IP Network Screen

Item	Description	Configurable Range	Default
Network Adapter	**Network Adapter** allows you to configure the network adapter that is used for connecting with a communication system.	Network adapter that comes installed with the PC	First line in the list
Console Name	**Console Name** allows you to configure the name of the console for the KAS-20CE. The name configured in **Console Name** is used when displaying the log file on the console. When the **Over-the-Air Alias** configuration is enabled, the name configured in **Console Name** is used for the alias information to be sent to the mobile station. Note When **Console Name/ ID Setup** in the **User Management** screen is configured to “Per Login User”, the setting values will be saved to the database as the configurations of the login user. When “Per Client” is configured, the setting values are saved locally on the PC. (Refer to Changing Console ID and Console Name For Each User on page 62.)	Not longer than 16 characters	BASE

Item	Description	Configurable Range	Default
Console ID	**Console ID** allows you to configure the console ID to be used on the KAS-20CE. Note • **Console ID** within the same communication system must be configured to a different values from other KAS-20SE and KAS-20CE. • In the case of Trunking 2.5/ DMR Tier III Trunking, this function can be configured only when **Fleet Dialing Plan** is disabled. When **Fleet Dialing Plan** is enabled, the value that is altered from **Number Prefix**, **Fleet Individual Number** and **Individual Number** is displayed in **Console ID**. • When **Console Name/ ID Setup** in the **User Management** screen is configured to “Per Login User”, the setting values will be saved to the database as the configurations of the login user. When “Per Client” is configured, the setting values are saved locally on the PC. (Refer to Changing Console ID and Console Name For Each User on page 62.)	The configurable range varies according to the protocol of the communication system configured on the KAS-20CE. **NXDN Trunking (Type-C)/ NXDN Conventional:** 1 to 65519 (in steps of 1) **Trunking 2.5/ DMR Tier III Trunking/ DMR Conventional/ DMR Conventional (via TKR-D series):** 1 to 16776415 (in steps of 1) Note For connecting to NXDN Trunking (Type-C): NEXEDGE 1st Generation, configure a value from 1 to 60000.	2
Message Trunked (Enhanced)	**Message Trunked (Enhanced)** allows you to configure whether to initiate a voice call only after the receiver has responded (similar to a phone call) when calling a mobile station. Note This function can be configured only for NXDN Trunking (Type-C).	**Check (Enable):** Initiates a voice call only after the receiver has responded when calling a mobile station. **Uncheck (Disable):** Initiates a voice call once connection with the mobile station is established, regardless of whether the receiver has responded.	Unchecked (Disabled)
Individual Call Acknowledge Request	**Individual Call Acknowledge Request** allows you to configure whether to initiate a voice call only after the receiver has responded (similar to a phone call) when calling a mobile station. Note This function can be configured only for NXDN Conventional/ DMR Conventional/ DMR Conventional (via TKR-D series).	**Check (Enable):** Initiates a voice call only after the receiver has responded when calling a mobile station. **Uncheck (Disable):** Initiates a voice call once connection with the mobile station is established, regardless of whether the receiver has responded.	Unchecked (Disabled)

Item	Description	Configurable Range	Default
Automatic Response	**Automatic Response** allows you to configure whether to initiate a call automatically during an incoming call when **Message Trunked (Enhanced)** or **Individual Call Acknowledge Request** is enabled. Note • This function can be configured only for NXDN Trunking (Type-C). • In NXDN Conventional/ DMR Conventional/ DMR Conventional (via TKR-D series), this setting is not used as the call is initiated automatically.	**Check (Enable):** Initiates a call automatically during an incoming call. **Uncheck (Disable):** Does not initiate a call automatically during an incoming call.	Unchecked (Disabled)
Initiating/ Incoming Reset Time	**Initiating/ Incoming Reset Time** allows you to configure the maximum time interval for the KAS-20CE to wait for the response from a mobile station after making an Individual Call. If the mobile station did not respond after the KAS-20CE receives an Individual Call, the incoming call will be ended upon lapse of the time interval configured in **Initiating/ Incoming Reset Time**. Note • This function can be configured only for NXDN Conventional. • It will function for a fixed duration of 60 sec when **Message Trunked (Enhanced)** is enabled in NXDN Trunking (Type-C). • It will function for a fixed duration of 60 sec when DMR Tier III Trunking is enabled in **FOACSU**. • In DMR Conventional/ DMR Conventional (via TKR-D series), this setting is not used as the call is initiated automatically.	Off, 1 sec to 300 sec (in steps of 1 sec)	30 sec

Item	Description	Configurable Range	Default
Fleet Dialing Plan	**Fleet Dialing Plan** allows you to configure whether to use **Number Prefix**, **Fleet Individual Number/Fleet Group Number** and **Individual Number/Group Number** that are converted from an ID ranging from 1 to 16776415 as the ID input method via DMR Tier III Trunking. Note This function can be configured only for DMR Tier III Trunking.	**Check (Enable):** Uses **Number Prefix**, **Fleet Individual Number/Fleet Group Number** and **Individual Number/ Group Number** that are converted from an ID ranging from 1 to 16776415 as the ID input method via DMR Tier III Trunking. **Uncheck (Disable):** Uses the ID ranging from 1 to 16776415 without converting as the ID input method for DMR Tier III Trunking.	Unchecked (Disabled)
Number Prefix	**Number Prefix** allows you to configure the **Fleet Dialing Plan** number of the console ID used by the KAS-20CE when Prefix is enabled. Note This function can be configured only for DMR Tier III Trunking.	328 to 806 (in steps of 1)	-
Fleet Individual Number	**Fleet Individual Number** allows you to configure the **Fleet Dialing Plan** number of the console ID used by the KAS-20CE when Fleet is enabled. Note This function can be configured only for DMR Tier III Trunking.	20 to 89 (in steps of 1)	-
Individual Number	**Individual Number** allows you to configure the **Fleet Dialing Plan** number of the console ID used by the KAS-20CE when Individual is enabled. Note This function can be configured only for DMR Tier III Trunking.	The configurable range varies according to the setting of **Fleet Individual Number**. **Fleet Individual Number 20 to 41:** 200 to 899 (in steps of 1) **Fleet Individual Number 42 to 89:** 200 to 549 (in steps of 1)	-

Item	Description	Configurable Range	Default
FOACSU	**FOACSU** allows you to configure whether to retain the call state until the receiving mobile station responds when a voice call has been received. Note This function can be configured only for DMR Tier III Trunking.	**Check (Enable):** Retains the call state until the receiving mobile station responds when a voice call has been received (FOACSU). **Uncheck (Disable):** Does not retain the call state when a voice call has been received, and the receiving mobile station automatically responds (OACSU). Note To activate **FOACSU**, **FOACSU** needs to be enabled even in the system.	Unchecked (Disabled)
Suppress Emergency Call	**Suppress Emergency Call** allows you to configure whether the mobile station behaves by OACSU or FOACSU when an Emergency Call is received. Note This function can be configured only if DMR Tier III Trunking is enabled in **FOACSU**.	**Check (Enable):** Even if **FOACSU** is enabled, the mobile station behaves by OACSU when an Emergency Call is received. **Uncheck (Disable):** The mobile station behaves by FOACSU when an Emergency Call is received.	Checked (Enabled)
Over-the-Air Alias	**Over-the-Air Alias** (OAA) allows you to configure whether to append alias information when sending signal to a mobile station. Note • The name configured in **Console Name** is used for the alias information to be sent to the mobile station. • In Trunking 2.5/ DMR Tier III Trunking/ DMR Conventional/ DMR Conventional (via TKR-D series), alias information of up to 13 characters can be sent.	**Check (Enable):** Appends alias information when sending signal to a mobile station. **Uncheck (Disable):** Does not append alias information when sending signal to a mobile station.	Unchecked (Disabled)

Item	Description	Configurable Range	Default
Network Category	**Network Category** allows you to configure the **Network Category** for the wireless system to be connected. **Network Category** represents the size of the network that can be used for the site. No communication can be established unless the **Network Category** configured for the site to be connected matches the Network Category configured for the KAS-20SE/ KAS-20CE. The **Network Category** for the site is provided by a site administrator. Note This function can be configured only for NXDN Trunking (Type-C).	Local, Regional, Global	Regional
System Code	**System Code** allows you to configure the **System Code** for the site to be connected. **System Code** is a unique ID assigned to each system. No communication can be established unless the **System Code** configured for the site to be connected matches the **System Code** configured for the KAS-20SE/ KAS-20CE. The **System Code** for the site is provided by a site administrator. Note This function can be configured only for NXDN Trunking (Type-C).	The configurable range varies according to the setting of **Network Category**. **Local:** 1 to 131070 (in steps of 1) **Regional:** 1 to 16382 (in steps of 1) **Global:** 1 to 1022 (in steps of 1)	1
Home Site/ IP Gateway Number	**Home Site/ IP Gateway Number** allows you to configure the site number of the site to connect. No communication can be established until the site number has been properly configured. The site number for the site is provided by a site administrator. Note This function can be configured only for NXDN Trunking (Type-C).	1 to 240 (in steps of 1) Note For connecting to NXDN Trunking (Type-C): NEXEDGE 1st Generation, configure a value from 1 to 48.	1

Item	Description	Configurable Range	Default
Home Site/ IP Gateway IP Address	**Home Site/ IP Gateway IP Address** allows you to configure the IP address of the target repeater located in the site to connect. For **Home Site/ IP Gateway IP Address**, a system administrator must configure the IP address of the repeater that has the lowest channel number in the home site to which the KAS-20CE is registered. If the system to connect to is NEXEDGE 2nd Generation, the IP address of the IP Gateway needs to be configured. Note This function can be configured only for NXDN Trunking (Type-C).	0.0.0.0 to 223.255.255.255	172.16.0.65
Home Repeater IP Address	**Home Repeater IP Address** allows you to configure the IP address of the target repeater located in the site to connect. Note This function can be configured only for Trunking 2.5/ NXDN Conventional/ DMR Conventional (via TKR-D series).	0.0.0.0 to 223.255.255.255	172.16.0.65
IP Gateway IP Address	**IP Gateway IP Address** allows you to configure the IP address of the target IP Gateway located in the site to connect. Note This function can be configured only for DMR Tier III Trunking/ DMR Conventional.	0.0.0.0 to 223.255.255.255	172.16.0.65
Channel Spacing	**Channel Spacing** allows you to configure the bandwidth of the channel spacing used during transmission. It is possible to receive during receiving regardless of the Channel Spacing setting. Note This function can be configured only for NXDN Trunking (Type-C)/ NXDN Conventional.	Narrow, Very Narrow	Narrow

Item	Description	Configurable Range	Default
RAN Decode	**RAN Decode** allows you to configure whether or not to decode the RAN (Radio Access Number) code. After the KAS-20CE receives a signal and the RAN code it received coincides with that configured on the KAS-20CE, the speaker is unmuted and the audio sound received is played back. Note This function can be configured only for NXDN Conventional.	**Check (Enable):** Decodes the RAN code. **Uncheck (Disable):** Does not decode the RAN code.	Unchecked (Disabled)
RAN Decode Table	**RAN Decode Table** allows you to configure up to a maximum number of 63 RAN codes for standby. Note • This function cannot be configured if **RAN Decode** is disabled. • This function can be configured only for NXDN Conventional.	**No:** 1 to 63 **RAN Decode:** Blank, 1 to 63 (in steps of 1)	**No:** - **RAN Decode:** Blank
Encode	**Encode** allows you to configure whether a Trunking 2.5 request message can be sent by pressing the DMR Tier III Trunking button after an DMR Conventional/ “Interruption”/ Call Interruption ID is selected upon receipt of a voice call from this ID. Note This function can be configured only for Trunking 2.5/ DMR Tier III Trunking/ DMR Conventional.	**Check (Enable):** Pressing the “Interruption” button after an ID is selected upon receipt of a voice call from this ID sends the Call Interruption request message. **Uncheck (Disable):** The “Interruption” button is not displayed even if a voice call from this ID is received.	Unchecked (Disabled)
Call Interruption Wait Time	**Call Interruption Wait Time** allows you to configure the duration from when the transceiver starts transmitting a Call Interruption request message until the duration times out after the transceiver waits for a response from the receiving mobile station. Note This function can be configured only if Trunking 2.5 is enabled in DMR Tier III Trunking/ **Encode**.	3 sec to 10 sec (in steps of 1 sec)	3 sec

Item	Description	Configurable Range	Default
PTT Response while Reception	**PTT Response while Reception** allows you to configure whether a Call Interruption request message is sent automatically by pressing the “PTT” button after the ID of the voice call being received is selected. (Refer to Transmission Operation of Call Interruption Request Message on page 412.) Note This function can be configured only if Trunking 2.5 is enabled in DMR Tier III Trunking/ DMR Conventional/ **Encode**.	**Check (Enable):** Pressing the “PTT” button sends the Call Interruption request message. **Uncheck (Disable):** The Call Interruption request message is not sent even if the “PTT” button is pressed.	Unchecked (Disabled)
Type (Scrambler/ Encryption)	**Type** allows you to configure an encryption method. Note For NXDN Trunking (Type-C)/ NXDN Conventional, **DES** can be configured only when the DES LICENSE (KWD-20C-DE) is authenticated on the KAS-20SE.	**NXDN Trunking (Type-C)/ NXDN Conventional:** Scrambler, DES **DMR Tier III Trunking/ DMR Conventional/ DMR Conventional (via TKR-D series):** Scrambler, Enhanced, DES	Scrambler
Key Data (Scrambler/ Encryption)	**Key Data** allows you to configure the encryption key for encrypting the communication data. Note • When **Type (Scrambler/ Encryption)** is configured to “Scrambler”, settings that duplicate with those of the preset Key Data cannot be configured. • This function cannot be configured when **Type (Scrambler/ Encryption)** is configured to “DES” and Key ID configured to Blank.	**NXDN Trunking (Type-C)/ NXDN Conventional:** **Type = Scrambler:** Blank, 1 to 32767 (in steps of 1) **Type = DES:** Blank, 0000000001 to FFFFFFFFFE (in steps of 1) **DMR Tier III Trunking/ DMR Conventional/ DMR Conventional (via TKR-D series):** **Type = Scrambler:** Blank, 1 to 32767 (in steps of 1) **Type = Enhanced:** Blank, 0000000001 to FFFFFFFFFE (in steps of 1) **Type = DES:** Blank, 0000000001 to FFFFFFFFFE (in steps of 1)	Blank

Item	Description	Configurable Range	Default
Key ID (Scrambler/ Encryption)	**Key ID** allows you to configure the ID of an encryption key. Note • Settings that duplicate with those of the preset Key ID cannot be configured. • When **Type (Scrambler/ Encryption)** is configured to “Scrambler” and **Key ID Scan** is disabled in NXDN Trunking (Type-C)/ NXDN Conventional, **Key ID** cannot be configured. • DMR Tier III Trunking/ DMR Conventional/ When **Type (Scrambler/ Encryption)** is configured to “Scrambler” in DMR Conventional (via TKR-D series), **Key ID** cannot be configured.	**NXDN Trunking (Type-C)/ NXDN Conventional:** **Type = Scrambler:** 0 to 63 (in steps of 1) **DMR Tier III Trunking/ DMR Conventional/ DMR Conventional (via TKR-D series):** **Type = Scrambler:** Blank **DMR Tier III Trunking/ DMR Conventional/ DMR Conventional (via TKR-D series):** **Type = Enhanced:** 1 to 255 (in steps of 1) **NXDN Trunking (Type-C)/ NXDN Conventional:** **Type = DES:** 0 to 63 (in steps of 1) **DMR Tier III Trunking/ DMR Conventional/ DMR Conventional (via TKR-D series):** **Type = DES:** 1 to 255 (in steps of 1)	Blank

Item	Description	Configurable Range	Default
Key ID Scan	**Key ID Scan** allows you to configure whether to search for a Key ID when receiving communication data encrypted with Scrambler. Note • This function can be configured only for NXDN Trunking (Type-C)/ NXDN Conventional. • If this function is enabled, the registered **Key ID**s will be configured to the smallest unique value in order from the beginning. • If this function is disabled, all the **Key ID**s will be configured to “0”.	**Check (Enable):** The KAS-20CE searches for a Key ID (0 to 63) when an encrypted signal is received. In the case of audio data, if the Key ID contained in the encryption key of the received signal matches the Key ID contained in the encryption key configured in the KAS-20CE, the KAS-20CE decrypts the data by using this encryption key. If the data is decrypted normally, the received audio is output from the speaker. If the data is not decrypted normally, the received audio is output from the speaker in the incomplete state. If the Key ID does not match, the KAS-20CE mutes the speaker. When user data such as Short Data Message and Long Data Message is received, the data is also decrypted by the same method. The behavior for data reception occurs if the data is decrypted normally, and the data is discarded if the data is not decrypted normally. **Uncheck (Disable):** In the case of audio data, the KAS-20CE decrypts the data by using the Key Data configured in **Scrambler/ Encryption** of the received voice call without searching for a Key ID when an encrypted signal is received. If the data is decrypted normally, the received audio is output from the speaker. If the data is not decrypted normally, the received audio is output from the speaker in the incomplete state. When user data such as Short Data Message and Long Data Message is received, the data is also decrypted by the same method. The behavior for data reception occurs if the data is decrypted normally, and the data is discarded if the data is not decrypted normally.	Checked (Enabled)

Item	Description	Configurable Range	Default
Encryption Type	**Encryption Type** allows you to configure how an encrypted digital signal is received while Scrambler/ Encryption is disabled. Note If **Type (Scrambler/ Encryption)** is configured to “Enhanced” in DMR Tier III Trunking/ DMR Conventional/ DMR Conventional (via TKR-D series), the **Encryption Type** functions using the “Type 1” setting even when “Type 2” is configured.	**Type 1:** Unmutes the speaker according to the audio control conditions when an encrypted digital signal is received while Scrambler/ Encryption is disabled. In this case, the Key Data is used to decrypt the encrypted signal that has been received. If the received signal is successfully decrypted, the audio signal is correctly output from the speaker. If the received signal cannot be decrypted successfully, the signal is output from the speaker in the encrypted state. **Type 2:** Does not unmute the speaker even when an encrypted digital signal is received while Scrambler/ Encryption is disabled.	Type 1
DMR Message Type	**DMR Message Type** allows you to configure the data format used for Short Data Message to one that is defined by KENWOOD or by the DMR Standard. Note This function can be configured only for DMR Conventional.	KENWOOD-defined Data, DMR Standard	KENWOOD-defined Data

Item	Description	Configurable Range	Default
Resume Time	**Resume Time** allows you to configure the time interval to retain the selection of the mobile station when the KAS-20CE has terminated communication. During the interval while **Resume Time** starts up and counts down from the time configured in **Resume Time**, a dispatcher can receive a call from only the mobile station that is selected on the KAS-20CE and play back the audio sound. The selected mobile station only receives an incoming call but does not play back the audio sound. Also, during countdown from the time configured in **Resume Time**, clicking the "PTT" button allows a dispatcher to initiate a call only to a mobile station that is selected by the KAS-20CE. However, a dispatcher can receive a call from a group having a **Resume Time** during countdown from the time configured in **Priority Monitor ID** regardless of whether the Group ID is selected by the KAS-20CE. Note For details on the **Radio Resource List**, refer to "Managing Mobile Stations with the Radio Resource List on page 225" and "Communication Operation from the Radio Resource List on page 381".	0 sec to 300 sec (in steps of 1 sec)	3 sec
Hold Time	**Hold Time** allows you to configure the elapsed time before a call is disconnected. However, when **Type** is configured to "All" or "Unaddress", call will be disconnected immediately regardless of the time setting in **Hold Time**. Note • This function can be configured only for DMR Conventional/ DMR Conventional (via TKR-D series).	0 sec to 300 sec (in steps of 1 sec)	10 sec

Item	Description	Configurable Range	Default
Emergency Suppress Time	**Emergency Suppress Time** allows you to disable an emergency tone emission upon receipt of the second and subsequent Emergency status messages in the event that Emergency status messages (Emergency, Emergency Man-down, Stationary Detection, Motion Detection, Lone Worker) are received consecutively from the same mobile station. Until the time configured in **Emergency Suppress Time** elapses after receiving an Emergency status message for the first time, an emergency tone is not emitted even if a second or subsequent Emergency status message is received from the same mobile station.	None, 1 min, 2 min, 3 min, 4 min, 5 min, 10 min, 15 min, 30 min, 45 min, 60 min	None
Inactivity Threshold Time (Radio Resource List)	**Inactivity Threshold Time** allows you to configure whether to gray out the text of a mobile station in the **Radio Resource List** in the event that no transmission or reception has occurred between the KAS-20CE and the mobile station for a specific amount of time. Grays out the text of the mobile station in the **Inactivity Threshold Time** when no transmission or reception has occurred between the KAS-20CE and the mobile station during countdown from the time interval configured in **Radio Resource List**. Note For details on the **Radio Resource List**, refer to "Managing Mobile Stations with the Radio Resource List on page 225" and "Communication Operation from the Radio Resource List on page 381".	None, 1 min, 2 min, 3 min, 4 min, 5 min, 10 min, 15 min, 30 min, 45 min, 60 min	30 min
Character Encoding	**Character Encoding** allows you to configure the character codes to be used for sending and receiving. (Refer to Configuring Character Encoding on page 97.)	ISO-8859-1, ISO-8859-15, ISO-8859-5, Big5, GB2312	ISO-8859-1
Open Voice Channel Mode	**Open Voice Channel Mode** allows you to configure whether or not to receive communication in **Open Voice Channel Mode**. To receive communication in **Open Voice Channel Mode**, the sender ID needs to be registered in the **Radio Resource List** and the ID must be configured for the logged-in user in **Target List**. Note This function can be configured only for DMR Conventional/ DMR Conventional (via TKR-D series).	**Check (Enable):** Enables reception of communication in **Open Voice Channel Mode**. **Uncheck (Disable):** Disables reception of communication in **Open Voice Channel Mode**.	Checked (Enabled)

Item	Description	Configurable Range	Default
Auto Polling	**Auto Polling** allows you to configure a Slot to be used for **Auto Polling** transmission. Note This function can be configured only for DMR Conventional/ DMR Conventional (via TKR-D series).	1, 2	1
Lone Worker	**Lone Worker** allows you to configure a Slot to be used for **Lone Worker** transmission. Note This function can be configured only for DMR Conventional/ DMR Conventional (via TKR-D series).	1, 2	1
Geofence	**Geofence** allows you to configure a Slot to be used for **Geofence** transmission. Note This function can be configured only for DMR Conventional/ DMR Conventional (via TKR-D series).	1, 2	1
Initial Transmission Delay Time	**Initial Transmission Delay Time** allows you to configure the length of time before the data frame starts to modulate after the repeater sent the data to the mobile station. Note This function can be configured only for NXDN Conventional.	0 ms to 25000 ms (in steps of 1 ms)	0 ms
Transmit Delay Time	**Transmit Delay Time** allows you to configure the length of time for sending the delay frame when sending data from the repeater to the mobile station. Note This function can be configured only for NXDN Conventional.	0 ms to 6000 ms (in steps of 1 ms)	400 ms

Note

Initial Transmission Delay Time is activated after the time configured in **Transmit Delay Time** has elapsed. As such, the time until the data is actually sent is the length of time configured in **Initial Transmission Delay Time** plus the length of time configured in **Transmit Delay Time**.

Configuring an IP Network for Each Protocol

NXDN Trunking (Type-C): NEXEDGE 2nd Generation Settings

In the case of NXDN Trunking (Type-C): NEXEDGE 2nd Generation, configure the KAS-20E while paying careful attention to the following items.

Table 2-15 NXDN Trunking (Type-C): NEXEDGE 2nd Generation Setting Items

Item	Description
Network Adapter	Configure the network adapter used for establishing connection with the communication system.
Console ID	Configure according to the setting of **UID** below using System Configuration Utility (SCU). • Edit > Subscriber Configuration > Fleet List > Console List > UID
Message Trunked (Enhanced)	Configure according to the setting of **Trunking Type** below using System Configuration Utility (SCU). • Edit > System Configuration > General > Common Trunking Type > Trunking Type Configure according to the setting of **Trunking Type** below when **Fleet** is configured one by one. • Edit > Subscriber Configuration > Fleet List > General (Edit) > Trunking Type
Network Category	Configure according to the setting of **Network Category** below using System Configuration Utility (SCU). • Edit > Information > System Information > Network Category
System Code	Configure according to the setting of **System Code** below using System Configuration Utility (SCU). • Edit > Information > System Information > System Code
Home Site/ IP Gateway Number	Configure according to the setting of **IP Gateway Number** below using System Configuration Utility (SCU). • Edit > System List > IP Gateway List > General (Edit) > IP Gateway Number
Home Site/ IP Gateway IP Address	Configure according to the setting of **IP Address** below using System Configuration Utility (SCU). • Edit > System List > IP Gateway List > General (Edit) > IP Address
Channel Spacing	Configure according to the setting of **Channel Spacing (NXDN)** below using System Configuration Utility (SCU). • Edit > System Configuration > Channel Table > Frequency Allocation > Channel Spacing (NXDN)
Scrambler/ Encryption	Configure according to the setting of **Encryption** below using the FPU of the mobile station that is being communicated with (e.g., KPG-111D). • Edit > Encryption
Character Encoding	Configure according to the character code setting of the mobile station that is being communicated with. (Refer to Configuring Character Encoding on page 97.)

Note

When using Patch Group in the **Dispatch Window**, configure the following **Talkpath** of the repeater that is being communicated with to “ON” using the System Configuration Utility (SCU).

- Edit > Subscriber Configuration > Device List > Talkpath

NXDN Trunking (Type-C): NEXEDGE 1st Generation Settings

In the case of NXDN Trunking (Type-C): NEXEDGE 1st Generation, configure the KAS-20E while paying careful attention to the following items.

Table 2-16 NXDN Trunking (Type-C): NEXEDGE 1st Generation Setting Items

Item	Description
Network Adapter	Configure the network adapter used for establishing connection with the communication system.
Console ID	Configure according to the setting of **UID** below using the KPG-110SM. • Edit > Console Information > Console Edit > UID
Message Trunked (Enhanced)	Configure according to the setting of **Trunking Type** below using the KPG-110SM. • Edit > System Configuration > Timers > Trunking Type
Network Category	Configure according to the setting of **Network Category** below using the KPG-110SM. • Edit > System Configuration > General > Network Category
System Code	Configure according to the setting of **System Code** below using the KPG-110SM. • Edit > System Configuration > General > System Code
Home Site/ IP Gateway Number	Configure according to the setting of **Home Site** below using the KPG-110SM. • Configure according to the Home Site setting of the Fleet for which the Console ID is configured.
Home Site/ IP Gateway IP Address	Configure according to the setting of **IP Address** below using the KPG-110SM. • Configure according to the **IP Address** setting of the repeater with the smallest Home Site number in the Fleet for which Console ID is configured.
Channel Spacing	Configure according to the setting of **Channel Edit** below using the FPU of the repeater that is being communicated with (e.g., KPG-109D). • Edit > Channel Information > Channel Edit
Scrambler/ Encryption	Configure according to the setting of **Encryption** below using the FPU of the mobile station that is being communicated with (e.g., KPG-111D). • Edit > Encryption
Character Encoding	Configure according to the character code setting of the mobile station that is being communicated with. (Refer to Configuring Character Encoding on page 97.)

Note

When using Patch Group in the **Dispatch Window**, configure the following **Talkpath** of the repeater that is being communicated with to “Check” using KPG-110SM.

- Edit > Console Information > Console Edit > Talkpath

NXDN Conventional Settings

In the case of NXDN Conventional, configure the KAS-20E while paying careful attention to the following items.

Table 2-17 NXDN Conventional Setting Items

Item	Description
Network Adapter	Configure the network adapter used for establishing connection with the communication system.
Console ID	Configure according to the setting of **IP Console ID List** below using the FPU of the repeater that is being communicated with (e.g., KPG-109D). • Edit > Conventional IP Network > IP Console > IP Console ID List
Individual Call Acknowledge Request	Configure according to the setting of **Individual Call Acknowledge Request** below using the FPU of the mobile station that is being communicated with (e.g., KPG-111D). • Edit > NXDN > NXDN 1 > Conventional > Individual Call Acknowledge Request
Home Repeater IP Address	Configure according to the setting of **IP Address** below using the FPU of the repeater that is being communicated with (e.g., KPG-109D). • Edit > Conventional IP Network > Network > IP Address
Channel Spacing	Configure according to the setting of **Channel Edit** below using the FPU of the repeater that is being communicated with (e.g., KPG-109D). • Edit > Channel Information > Channel Edit
RAN Decode Table	Enable this item when using a RAN code on the mobile station that is being communicated with. Configure according to the RAN code setting used on the mobile station that is being communicated with.
Scrambler/ Encryption	Configure according to the setting of **Encryption** below using the FPU of the mobile station that is being communicated with (e.g., KPG-111D). • Edit > Encryption
Character Encoding	Configure according to the character code setting of the mobile station that is being communicated with. (Refer to Configuring Character Encoding on page 97.)

Trunking 2.5 Settings

In the case of Trunking 2.5, configure the KAS-20E while paying careful attention to the following items.

Table 2-18 Setting Items of Trunking 2.5

Item	Description
Network Adapter	Configure the network adapter used for establishing connection with the communication system.
Console ID	Configure according to the settings below using the setting tool (WebUI) of the repeater that is being communicated with (TKR-2500 or KTI-2500). • Setting > Console > UID List
Home Repeater IP Address	Configure according to the IP Address setting of the repeater that is being communicated with (TKR-2500 or KTI-2500).
Suppress Emergency Call	Configure according to the setting of **Suppress Emergency Call** below by using the FPU of the mobile station that is being communicated with (e.g., KPG-D1). • Transceiver Settings > Personal > Personal Features > DMR-based Trunking > General > FOACSU > Suppress Emergency Call
Character Encoding	Configure according to the character code setting of the mobile station that is being communicated with. (Refer to Configuring Character Encoding on page 97.)

DMR Tier III Trunking Settings

In the case of DMR Tier III Trunking, configure the KAS-20E while paying careful attention to the following items.

Table 2-19 Setting Items of DMR Tier III Trunking

Item	Description
Network Adapter	Configure the network adapter used for establishing connection with the communication system.
Console ID	Configure according to the setting of **UID** below using System Configuration Utility (SCU). • Edit > Subscriber Configuration > Fleet List > Console List > UID
Fleet Dialing Plan	Configure according to the setting of **Fleet Dialing Plan** below by using the FPU of the mobile station that is being communicated with (e.g., KPG-D1). • Model > Product Information > DMR > Fleet Dialing Plan
IP Gateway IP Address	Configure according to the setting of **IP Address** below using System Configuration Utility (SCU). • Edit > System List > IP Gateway List > General (Edit) > IP Address
FOACSU	Configure according to the setting of **FOACSU** below using the system that is being communicated with (e.g., KA-NMS) or the FPU of the mobile station that is being communicated with (e.g., KPG-D1). KA-NMS: • Settings > System > Audio/Data Call > Audio_Call_Setup_Type KPG-D1: • Transceiver Settings > Personal > Personal Features > DMR-based Trunking > General > FOACSU > FOACSU
Suppress Emergency Call	Configure according to the setting of **Suppress Emergency Call** below by using the FPU of the mobile station that is being communicated with (e.g., KPG-D1). • Transceiver Settings > Personal > Personal Features > DMR-based Trunking > General > FOACSU > Suppress Emergency Call
Scrambler/ Encryption	Configure according to the setting of **Multi-key List** below by using the FPU of the mobile station that is being communicated with (e.g., KPG-D1). • Transceiver Settings > Encryption > Multi-key List
Character Encoding	Configure according to the character code setting of the mobile station that is being communicated with. (Refer to Configuring Character Encoding on page 97.)

DMR Conventional Settings

In the case of DMR Conventional, configure the KAS-20E while paying careful attention to the following items.

Table 2-20 DMR Conventional Setting Items

Item	Description
Network Adapter	Configure the network adapter used for establishing connection with the communication system.
Console ID	Configure according to the setting of **UID** below using System Configuration Utility (SCU). • Edit > Subscriber Configuration > Fleet List > Console List > UID
Individual Call Acknowledge Request	Configure according to the setting of **Individual Call Acknowledge Request** below by using the FPU of the mobile station that is being communicated with (e.g., KPG-D1). • Transceiver Settings > Personal > Personal Features > DMR Conventional > DMR > Individual Call Acknowledge Request > Individual Call Acknowledge Request
IP Gateway IP Address	Configure according to the setting of **IP Address** below using System Configuration Utility (SCU). • Edit > System List > IP Gateway List > General (Edit) > IP Address
Scrambler/ Encryption	Configure according to the setting of **Multi-key List** below by using the FPU of the mobile station that is being communicated with (e.g., KPG-D1). • Transceiver Settings > Encryption > Multi-key List
DMR Message Type	Configure according to the setting of **DMR Message Type** below by using the FPU of the mobile station that is being communicated with (e.g., KPG-D1). • Transceiver Settings > Personal > Personal Features > DMR Conventional > DMR > DMR Message Type
Hold Time	Configure according to the setting of **Auto Reset Timer** below by using the FPU of the mobile station that is being communicated with (e.g., KPG-D1). • Transceiver Settings > DMR > DMR Information > General > Auto Reset > Voice > Auto Reset Timer
Character Encoding	Configure according to the character code setting of the mobile station that is being communicated with. (Refer to Configuring Character Encoding on page 97.)

DMR Conventional (via TKR-D series) Settings

In the case of DMR Conventional (via TKR-D series), configure the KAS-20E while paying careful attention to the following items.

Table 2-21 DMR Conventional (via TKR-D series) Setting Items

Item	Description
Network Adapter	Configure the network adapter used for establishing connection with the communication system.
Console ID	Configure according to the setting of **IP Console ID List** below using the FPU of the repeater that is being communicated with (e.g., KPG-174D). • Edit > Conventional IP Network > IP Console > IP Console ID List
Individual Call Acknowledge Request	Configure according to the setting of **Individual Call Acknowledge Request** below using the FPU of the mobile station that is being communicated with (e.g., KPG-166D). • Edit > Zone Information > Channel Edit > Page 2 > Individual Call Acknowledge Request > Individual Call Acknowledge Request
Home Repeater IP Address	Configure according to the setting of **IP Address** below using the FPU of the repeater that is being communicated with (e.g., KPG-174D). • Edit > Conventional IP Network > Network > IP Address
Scrambler/ Encryption	Configure according to the setting of **Scrambler** below using the FPU of the mobile station that is being communicated with (e.g., KPG-166D). • Edit > Scrambler
Hold Time	Configure according to the setting of **Auto Reset Timer** below using the FPU of the mobile station that is being communicated with (e.g., KPG-166D). • Edit > DMR > Conventional 2 > Auto Reset > Auto Reset Timer
Character Encoding	Configure according to the character code setting of the mobile station that is being communicated with. (Refer to Configuring Character Encoding on page 97.)

Configuring Settings Related to Serial Connection

Clicking “Serial” on the **System** screen displays the **Serial** screen.

The **Serial** screen allows you to configure the communication port of the communication system.

The setting items available vary according to the protocol settings in the **Protocol** screen. (Refer to Configuring the Serial Settings for Each Protocol on page 94.)

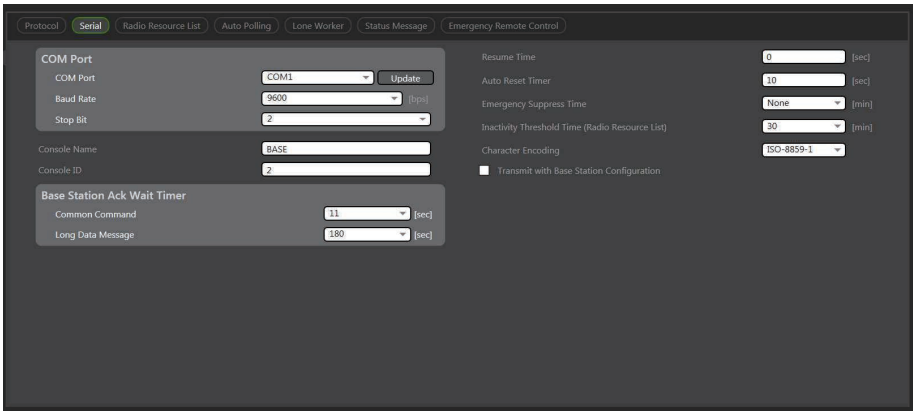

Figure 2-39 Serial Screen (Example of NXDN Trunking (Type-C) Screen)

Note

- All users including the one for which **Access Level** is configured as “Admin” are allowed to configure the following functions. (Refer to Managing KAS-20SE/ KAS-20CE Users on page 57.)
  - COM Port
  - Baud Rate
  - Stop Bit
  - Console Name
  - Console ID
- Settings in the **Serial** screen can be configured only for serial connection.

Table 2-22 Setting Items of Serial Screen

Item	Description	Configurable Range	Default
COM Port	**COM Port** allows you to configure the communication port for connecting the KAS-20CE and the transceiver serially. Note In the case of a standalone configuration, it is necessary to select a different communication port from the communication port configured for KAS-20SE. (Refer to Configuring the Communication System to Be Connected to KAS-20SE on page 45.)	None, valid communication ports (only communication ports from 1 to 255 are displayed)	The communication port displayed at the top of the dropdown list (None is displayed if there is no communication port)
“Update” Button	Updates the **COM Port** dropdown list to the current communication port condition.	-	-

Item	Description	Configurable Range	Default
Baud Rate	**Baud Rate** allows you to configure the communication speed of the communication port used. Note 38400 bps and 57600 bps are not supported on some transceiver types.	9600 bps, 19200 bps, 38400 bps, 57600 bps	9600 bps
Stop Bit	**Stop Bit** allows you to configure the stop bit of the communication port used.	1, 2	2
Console Name	**Console Name** allows you to configure the name of the console.	Not longer than 16 characters	BASE
Console ID	**Console ID** allows you to configure the console ID to be used on the KAS-20CE. For **Console ID** within the same communication system, assign a different ID to KAS-20SE and KAS-20CE respectively. Note When the **Protocol** setting for the KAS-20CE is changed from other than FleetSync to FleetSync or vice versa, FleetSync is restored to its default value. For this reason, it is necessary to reconfigure the **Console ID** for the KAS-20SE.	The configurable range varies according to the protocol of the communication system configured on the KAS-20CE. **NXDN Trunking (Type-C)/ NXDN Conventional:** 1 to 65519 (in steps of 1) **DMR Conventional/ DMR Conventional (via TKR-D series):** 1 to 16776415 (in steps of 1) **FleetSync:** Fleet ID: 100 to 349 (in steps of 1) Unit ID: 1000 to 4999 (in steps of 1) Note For connecting to NXDN Trunking (Type-C): NEXEDGE 1st Generation, configure a value from 1 to 60000.	**FleetSync:** Fleet ID: 100 Unit ID: 1001 **Other than FleetSync:** 2

Item	Description	Configurable Range	Default
Common Command	**Common Command** allows you to configure the maximum time interval for the KAS-20SE/ KAS-20CE to wait for the response from a mobile station transceiver after sending a command other than a Long Data Message.	4 sec to 120 sec (in steps of 1 sec)	11 sec
Long Data Message	**Long Data Message** allows you to configure the maximum time interval for the KAS-20SE/ KAS-20CE to wait for the response from the base station transceiver after sending a Long Data Message. Note This function cannot be configured on the DMR Conventional (via TKR-D series).	120 sec to 240 sec (in steps of 1 sec)	180 sec
Encode	**Encode** allows you to configure whether a Call Interruption request message can be sent by pressing the “Interruption” button after a DMR Conventional ID is selected upon receipt of a voice call from this ID. Note This function can be configured only for DMR Conventional.	**Check (Enable):** Pressing the “Interruption” button after an ID is selected upon receipt of a voice call from this ID sends the Call Interruption request message. **Uncheck (Disable):** The “Interruption” button is not displayed even if a voice call from this ID is received.	Unchecked (Disabled)
Resume Time	**Resume Time** allows you to configure the time interval to retain the selection of the mobile station (or group) in the Dispatch Tile selected on the KAS-20CE when the KAS-20CE has terminated communication.	0 sec to 300 sec (in steps of 1 sec)	0 sec

Item	Description	Configurable Range	Default
Auto Reset Timer	**Auto Reset Timer** allows you to configure the time interval to retain the display of the sender ID display bar when the KAS-20CE has terminated communication. When **Individual Call Acknowledge Request** is enabled and transmission is executed before the time interval configured in **Auto Reset Timer** has elapsed, the transmission will start without confirming the response. Note • To use this function, it is necessary to configure according to the setting of **Auto Reset Timer** of the base station transceiver that is connected serially. • In DMR Conventional/ DMR Conventional (via TKR-D series), for a mobile station with “All” configured in **Type**, the sender ID display bar disappears just after the audio sound ends regardless of the configuration in **Auto Reset Timer**.	0 sec to 300 sec (in steps of 1 sec)	10 sec
Emergency Suppress Time	**Emergency Suppress Time** allows you to disable an emergency tone emission upon receipt of the second and subsequent Emergency status messages in the event that Emergency status messages (Emergency, Emergency Man-down, Stationary Detection, Motion Detection, Lone Worker) are received consecutively from the same mobile station. Until the time configured in **Emergency Suppress Time** elapses after receiving an Emergency status message for the first time, an emergency tone is not emitted even if a second or subsequent Emergency status message is received from the same mobile station.	None, 1 min, 2 min, 3 min, 4 min, 5 min, 10 min, 15 min, 30 min, 45 min, 60 min	None

Item	Description	Configurable Range	Default
Inactivity Threshold Time	**Inactivity Threshold Time** allows you to configure whether to gray out the text of a mobile station in the **Radio Resource List** in the event that no transmission or reception has occurred between the KAS-20CE and the mobile station for a specific amount of time. Grays out the text of the mobile station in the **Inactivity Threshold Time** when no transmission or reception has occurred between the KAS-20CE and the mobile station during countdown from the time interval configured in **Radio Resource List**. Note For details on the **Radio Resource List**, refer to "Managing Mobile Stations with the Radio Resource List on page 225" and "Communication Operation from the Radio Resource List on page 381".	None, 1 min, 2 min, 3 min, 4 min, 5 min, 10 min, 15 min, 30 min, 45 min, 60 min	30 min
Character Encoding	**Character Encoding** allows you to configure the character codes to be used for sending and receiving. (Refer to Configuring Character Encoding on page 97.)	ISO-8859-1, ISO-8859-15, ISO-8859-5, Big5, GB2312	ISO-8859-1
Transmit with Base Station Configuration	**Transmit with Base Station Configuration** allows you to configure whether a Voice Call can be transmitted using the destination setting of the base station transceiver that is connected serially. (Refer to Initiating Voice Call Using the Destination Setting of the Transceiver on page 406.)	**Check (Enable):** The ID information and **Base Station PTT** of the base station transceiver that is connected serially are displayed in the **Radio Resource List** of the Dispatch Window. **Uncheck (Disable):** The ID information and **Base Station PTT** of the base station transceiver that is connected serially are not displayed in the **Radio Resource List** of the Dispatch Window. If the **Base Station PTT** Dispatch Tile is placed in the Dispatch pane, it will be deleted.	Unchecked (Disabled)

Configuring the Serial Settings for Each Protocol

Transceiver Settings for Connecting to NXDN Trunking (Type-C) and NXDN Conventional

In the case of NXDN Trunking (Type-C) and NXDN Conventional, configure the KAS-20E while paying careful attention to the following items.

Table 2-23 NXDN Trunking (Type-C) and NXDN Conventional Setting Items

Item	Description
COM Port	Select the COM port connected to the base station transceiver.
Baud Rate	Configure according to the setting of **Baud Rate** below using the FPU of the base station transceiver (e.g., KPG-111D). • Edit > Optional Features > Optional Features 1 > Common Page 3 > COM port > Baud Rate Note Specify a **Baud Rate** of 9600 bps or higher.
Stop Bit	Configure according to the setting of **Stop Bit** below using the FPU of the base station transceiver (e.g., KPG-111D). • Edit > Optional Features > Optional Features 1 > Common Page 3 > COM port > Stop Bit
Console ID	Configure according to the setting of **Unit ID (Own)** below using the FPU of the base station transceiver (e.g., KPG-111D). • Edit > NXDN > NXDN 1 > General 1 > Unit ID (Own)
Auto Reset Timer	Configure according to the setting of **Auto Reset Timer** below using the FPU of the base station transceiver (e.g., KPG-111D). • Edit > NXDN > NXDN 1 > General 2 > Auto Reset > Auto Reset Timer Note If **Auto Reset Timer** of the transceiver is configured to “Off”, it is recommended to configure the **Auto Reset Timer** of the KAS-20E to the maximum value.
Character Encoding	Configure according to the character code setting of the mobile station that is being communicated with. (Refer to Configuring Character Encoding on page 97.)

Transceiver Settings for Connecting to DMR Conventional and DMR Conventional (via TKR-D series)

In the case of DMR Conventional and DMR Conventional (via TKR-D series), configure the KAS-20E while paying careful attention to the following items.

Table 2-24 DMR Conventional and DMR Conventional (via TKR-D series) Setting Items

Item	Description
COM Port	Select the COM port connected to the base station transceiver.
Baud Rate	Configure according to the setting of **Baud Rate** below using the FPU of the base station transceiver (e.g., KPG-D3). • Radio Configuration > Global Options > External Device > General > Serial Interface > Baud Rate Note Specify a **Baud Rate** of 9600 bps or higher.
Stop Bit	Configure according to the setting of **Stop Bit** below using the FPU of the base station transceiver (e.g., KPG-D3). • Radio Configuration > Global Options > External Device > General > Serial Interface > Stop Bit
Console ID	Configure according to the setting of **ID** below using the FPU of the base station transceiver (e.g., KPG-D3). • ID Management > Target List > Global ID > DMR (Conventional) > ID > ID
Encode	Configure according to the setting of **Encode (Call Interruption)** below using the FPU of the base station transceiver (e.g., KPG-D3). • Radio Configuration > System Properties > Systems > DMR Conventional > Personalities > Table > Personality Table > DMR > Encode (Call Interruption) Note This function can be configured only for DMR Conventional.
Auto Reset Timer	Configure according to the setting of **Auto Reset Timer** below using the FPU of the base station transceiver (e.g., KPG-D3). • Radio Configuration > Protocol Options > DMR > General > RX Options > Auto Reset > Voice > Auto Reset Timer Note If **Auto Reset Timer** of the transceiver is configured to “Off”, it is recommended to configure the **Auto Reset Timer** of the KAS-20E to the maximum value.
Character Encoding	Configure according to the character code setting of the mobile station that is being communicated with. (Refer to Configuring Character Encoding on page 97.)

Transceiver Settings for Connecting to FleetSync

In the case of FleetSync, configure the KAS-20E while paying careful attention to the following items.

Table 2-25 FleetSync Setting Items

Item	Description
COM Port	Select the COM port connected to the base station transceiver.
Baud Rate	Configure according to the setting of **Baud Rate** below using the FPU of the base station transceiver (e.g., KPG-111D). • Edit > Optional Features > Optional Features 1 > Common Page 3 > COM port > Baud Rate Note Specify a **Baud Rate** of 9600 bps or higher.
Stop Bit	Configure according to the setting of **Stop Bit** below using the FPU of the base station transceiver (e.g., KPG-111D). • Edit > Optional Features > Optional Features 1 > Common Page 3 > COM port > Stop Bit
Console ID (Fleet - ID)	Configure according to the setting of **Fleet (Own)** and **ID (Own)** below using the FPU of the base station transceiver (e.g., KPG-111D). • Edit > FleetSync > General 1 > Fleet (Own) • Edit > FleetSync > General 1 > ID (Own)
Auto Reset Timer	Configure according to the setting of **Auto Reset Timer** below using the FPU of the base station transceiver (e.g., KPG-111D). • Edit > FleetSync > General 2 > Auto Reset > Auto Reset Timer Note If **Auto Reset Timer** of the transceiver is configured to “Off”, it is recommended to configure the **Auto Reset Timer** of the KAS-20E to the maximum value.
Character Encoding	Configure according to the character code setting of the mobile station that is being communicated with. (Refer to Configuring Character Encoding on page 97.)

Configuring Character Encoding

Character Encoding allows you to configure the character codes to be used for sending and receiving.

● When communicating with an NX-5x00 series or NX-3xx0 series (other than C Type) mobile station

Configure **Voice and Display Language** in the table below on the KAS-20E according to the language configured in **Character Encoding** below using the FPU of the mobile station that is being communicated with (e.g., KPG-D1).

Transceiver Settings > Optional Features > Optional Features 1 > Voice and Display Language

Table 2-26 Configuration of Character Encoding When Communicating with an NX-5x00 series or NX-3xx0 Series (other than C Type) Mobile Station

Voice and Display Language of Mobile Station	Character Encoding
English/ Spanish/ Spanish (Latin America)/ German/ Dutch/ Italian/ Portuguese (Brazil)	ISO-8859-1
Russian	ISO-8859-5
French	ISO-8859-15
Traditional Chinese	Big5

● When communicating with an NX-3xx0 series (C Type) mobile station

Configure **Voice and Display Language** in the table below on the KAS-20E according to the language configured in **Character Encoding** below using the FPU of the mobile station that is being communicated with (e.g., KPG-D3).

Radio Configuration > Global Options > Basics > Display/Language > Voice and Display Language

Table 2-27 Configuration of Character Encoding When Communicating with an NX-3xx0 Series (C Type) Mobile Station

Voice and Display Language of Mobile Station	Character Encoding
Spanish/ Spanish (Latin America)/ German/ Dutch/ Italian/ Portuguese (Brazil)	ISO-8859-1
Russian	ISO-8859-5
French	ISO-8859-15
English/ Simplified Chinese	GB2312

● When communicating with a mobile station of a series other than NX-5x00 series or NX-3xx0 series

Configure **Character Encoding** in the table below on the KAS-20E according to the model and destination type of the mobile station to be communicated with.

Table 2-28 Configuration of Character Encoding When Communicating with a Mobile Station of a Series Other Than NX-5x00 Series or NX-3xx0 Series

Destination Type of Mobile Station	Character Encoding
NX-x00T	Big5
C type	GB2312
Models Other than NX-x00T or C Type	ISO-8859-1

Configuring a Mobile Station

Clicking **System** on the “Radio Resource List” screen displays the **Radio Resource List** screen.
The **Radio Resource List** screen allows you to reset or change the settings of a mobile station or group for each system.
The **Radio Resource List** screen shows a list of mobile stations or groups registered in the KAS-20SE/ KAS-20CE. Up to 1500 mobile stations or groups can be registered in the KAS-20SE/ KAS-20CE for all the systems in total.
The setting items available vary according to the protocol settings in the **Protocol** screen. (Refer to Configuring the Protocols on page 65.)

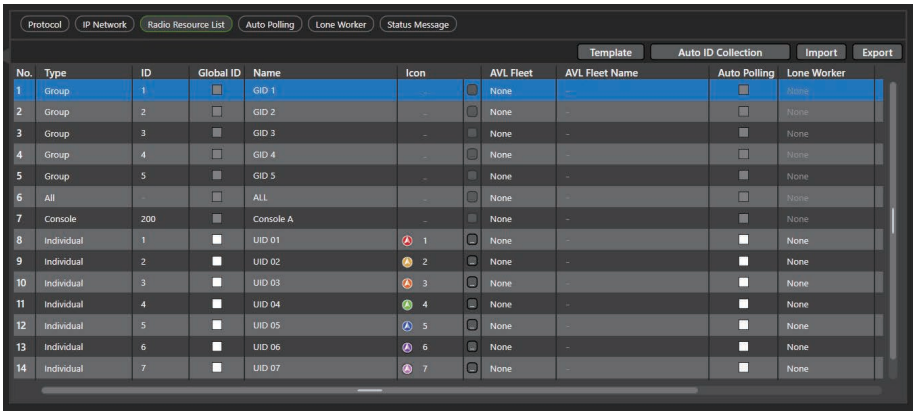

Figure 2-40 Radio Resource List Screen (Example of NXDN Trunking (Type-C) Screen)

Note

- Right-click on No. on the **Radio Resource List** screen displays a Context Menu, which allows you to copy data in the lines that are selected, paste the copied data, or delete data in the selected lines.
- Besides configuring directly on the **Radio Resource List**, other alternative ways include the following.
  - Automatic registration (Refer to Registering Mobile Stations Automatically on page 108.)
  - Template input (Refer to Configuring Using Templates on page 110.)
  - Reading from a file (Refer to Importing Radio Resource List Data on page 112.)
- The ID for a telephone does not need to be registered in NXDN Trunking (Type-C).
- The ID for a SIP Phone does not need to be registered in NXDN Conventional/ DMR Tier III Trunking/ DMR Conventional.

Table 2-29 Setting Items of Radio Resource List Screen

Item	Description	Configurable Range	Default
Type	**Type** allows you to configure the call type when initiating a call between the KAS-20CE and a mobile station. The KAS-20CE will communicate with a mobile station based on the communication mode configured in **Type**. Note • "All" can be selected only if the protocol of the communication system is other than Trunking 2.5/ FleetSync. • "Unaddress" can be selected only if the protocol of the communication system is DMR Conventional/ DMR Conventional (via TKR-D series). • "Broadcast", "Fleet" or "Supervisor" can be selected only if the protocol of the communication system is FleetSync. However, "Broadcast" cannot be selected for Type in the **Template** dialog box.	**All:** The KAS-20CE communicates with a mobile station using All Call. All Call allows the KAS-20CE to initiate a call to all mobile stations within the communication system without the need to specify the target IDs. The mobile station automatically recognizes the incoming call as an All Call. **Group:** The KAS-20CE communicates with a mobile station using Group Call. Group Call allows the KAS-20CE to initiate a call to multiple mobile stations in a specific group. If the mobile stations receive a Selective Call and the received ID matches the ID registered in the Group ID List of the mobile stations, the mobile stations will recognize the incoming call as a Group Call. **Individual:** The KAS-20CE communicates with a mobile station using Individual Call. Individual Call allows the KAS-20CE to initiate a call to a specific mobile station. If the mobile stations receive a Selective Call and the received ID matches the ID registered in the Unit ID List of the mobile stations, the mobile stations will recognize the incoming call as an Individual Call. **Console:** Same as Individual Call. The only difference is that the KAS-20CE is initiating a call to an IP console in this case. **Unaddress:** It allows for bidirectional communication beyond the usual group when people who belong to different groups or organizations gather at the same location such as during an emergency. **Broadcast:** The KAS-20CE communicates with a mobile station using Broadcast Call. Broadcast Call allows the KAS-20CE to initiate a call to all mobile stations within the communication system without the need to specify the target IDs. The mobile station automatically recognizes the incoming call as a Broadcast Call. **Fleet:** Use to initiate a call to the KAS-20CE and mobile stations with the same ID as the specified Fleet ID. The transmission behavior is the same as "Group". **Supervisor:** Use to initiate a call to the KAS-20CE and mobile stations with the same ID as the specified Unit ID. The transmission behavior is the same as "Group".	Individual

Item	Description	Configurable Range	Default
Prefix	**Prefix** allows you to configure both the Prefix number of the mobile station and the Prefix number of the group ID that are used by the DMR digital system when **Fleet Dialing Plan** is enabled. Note • **Prefix** refers to **Number Prefix**. • This function can be configured only if DMR Tier III Trunking is enabled in **Fleet Dialing Plan**. • If anything other than Individual, Console, and Group is configured in **Type**, this function cannot be configured.	328 to 806 (in steps of 1)	The smallest value that is not a repetition of an ID that is already registered
Fleet	**Fleet** allows you to configure both the Fleet number of the mobile station and the Fleet number of the group ID that are used by the DMR digital system when **Fleet Dialing Plan** is enabled. Note • **Fleet** refers to **Fleet Individual Number/Fleet Group Number**. • This function can be configured only if DMR Tier III Trunking is enabled in **Fleet Dialing Plan**. • If anything other than Individual, Console, and Group is configured in **Type**, this function cannot be configured.	20 to 89 (in steps of 1)	The smallest value that is not a repetition of an ID that is already registered
IN/GN	**IN/GN** allows you to configure both the Individual number or Group number of the mobile station and the Individual or Group number of the group ID that are used by the DMR digital system when **Fleet Dialing Plan** is enabled. Note • **IN/GN** refers to **Individual Number/ Group Number**. • This function can be configured only if DMR Tier III Trunking is enabled in **Fleet Dialing Plan**. • If anything other than Individual, Console, and Group is configured in **Type**, this function cannot be configured.	The configurable range varies according to the settings of **Type** and **Fleet**. **Type = Individual, Console:** **Fleet 20 to 41:** 200 to 899 (in steps of 1) **Fleet 42 to 89:** 200 to 549 (in steps of 1) **Type = Group:** 900 to 999 (in steps of 1)	The smallest value that is not a repetition of an ID that is already registered

Item	Description	Configurable Range	Default
ID	**ID** allows you to configure a mobile station ID and group ID for use in the system. Note • This function can be configured only if “Individual”, “Group”, “Console”, “Fleet” or “Supervisor” is selected in **Type**. • DMR Conventional/ For DMR Conventional/DMR Conventional (via TKR-D series), if you select the same setting value in **Type** that is selected in the preconfigured **ID**, the same **ID** cannot be configured, Also, the same **ID** or **Slot** cannot be configured for **ID** where “Individual” is selected and for **ID** where “Console” is selected in **Type**. • In the case of FleetSync, the same **ID** or **Slot** cannot be configured for **ID** where “Individual” is selected, **ID** where “Group” is selected, and **ID** where “Console” is selected in **Type**. • When **Type** has changed and the **ID** is repeated, correct the **ID** value of the changed **Type** to the smallest value. • In the case of DMR Tier III Trunking, this function can be configured only when **Fleet Dialing Plan** is disabled. When **Fleet Dialing Plan** is enabled, the value that is altered from **Prefix**, **Fleet** and **IN/GN** is displayed in **ID**. • The following setting limitations may apply depending on the setting of **Type**. However, the **Template** ID cannot be configured in ID in the “Broadcast” dialog box. **Type = Fleet**: Unit ID is configured to the default value and cannot be changed. **Type = Supervisor**: Fleet ID is configured to the default value and cannot be changed. **Type = Broadcast**: Fleet ID and Unit ID are configured to the default values and cannot be changed. **Type = Individual**, **Group**, **Console**: The same **ID** cannot be configured for the **ID** of the selected “Individual”, the **ID** of the “Group” and the **ID** of the selected “Console” in **Type**.	The configurable range varies according to the protocol of the communication system configured on the KAS-20CE. **NXDN Trunking (Type-C)/ NXDN Conventional:** 1 to 65519 (in steps of 1) **Trunking 2.5/ DMR Tier III Trunking/ DMR Conventional/ DMR Conventional (via TKR-D series):** 1 to 16776415 (in steps of 1) **FleetSync**: **Type = Individual**, **Group**, **Console**: Fleet ID: 100 to 349 (in steps of 1) Unit ID: 1000 to 4999 (in steps of 1) **Type = Fleet**: Fleet ID: 100 to 349 (in steps of 1) Unit ID: ALL **Type = Supervisor**: Fleet ID: ALL Unit ID: 1000 to 4999 (in steps of 1) **Type = Broadcast**: Fleet ID: ALL Unit ID: ALL Note For connecting to NXDN Trunking (Type-C): NEXEDGE 1st Generation, configure a value from 1 to 60000.	**Other than FleetSync**: The smallest value that is not a repetition of an ID that is already registered **FleetSync**: **Type = Individual**, **Group**, **Console**: Fleet ID: Smallest value Unit ID: The smallest value that is not a repetition of an ID that is already registered **Type = Fleet**: Fleet ID: The smallest value that is not a repetition of an ID that is already registered Unit ID: ALL **Type = Supervisor**: Fleet ID: ALL Unit ID: The smallest value that is not a repetition of an ID that is already registered **Type = Broadcast**: Fleet ID: ALL Unit ID: ALL

Item	Description	Configurable Range	Default
Slot	Allows you to configure the Slot to be used for a call. Note • This function can be configured for DMR Conventional/ DMR Conventional (via TKR-D series). • This function cannot be configured when **Type** is configured to Individual. • **ID** and **Slot** cannot be configured to a setting that duplicates with that of a preset **ID**.	Both, 1, 2	Both
Global ID	**Global ID** allows you to configure the specified mobile station ID as a unique ID for use between the NXDN (NXDN Trunking (Type-C), NXDN Conventional) systems, between the DMR Conventional and DMR Conventional (via TKR-D series) systems, or between the Trunking 2.5 and DMR Tier III Trunking systems. When **Global ID** is enabled and the same ID is not found in the **Radio Resource List** on other communication systems, the ID is added to the corresponding list. The same settings except for **AVL Fleet** and **AVL Fleet Name** will be applied. If the ID already exists in the **Radio Resource List** of another communication system, a message prompting whether to overwrite the data will appear. For IDs with **Global ID** enabled, all settings except for **AVL Fleet** and **AVL Fleet Name** will be altered at the same time. Note • If changes have been made to an ID with **Global ID** enabled, **Global ID** will be disabled. • This function can be configured only if “Individual” is selected in **Type**. • This function can be configured only for IP network connection.	**Check (Enable):** Enables **Global ID**. **Uncheck (Disable):** Disables **Global ID**.	Unchecked (Disabled)

Item	Description	Configurable Range	Default
RAN Encode	**RAN Encode** allows you to configure the RAN codes that are encoded during transmission by a mobile station. The KAS-20CE can only initiate a call when the RAN code received from the group matches with the code that is configured in the KAS-20CE. Note • The standby RAN code for KAS-20CE can be configured in **RAN Decode Table** on the IP Network screen. (Refer to Configuring the IP Network on page 67.) • This function can be configured only for NXDN Conventional in an IP network connection.	None, 1 to 63 (in steps of 1)	None
Name	**Name** allows you to configure the name of a mobile station or group. In this manual, the configuration in **Name** is used for “Mobile Station Name”. A unique name can be assigned to all mobile stations regardless of the type of mobile station. Use of a meaningful and simple name for each mobile station facilitates easy identification of the mobile stations during operation.	Not longer than 16 characters	Blank
Icon	**Icon** allows you to assign an icon to a mobile station. Upon receipt of a position report from a mobile station, the icon assigned to the mobile station appears in the **Radio Resource List** and on the map. Select an icon from the dropdown list to the left of the **Icon** column. Note • This function can be configured only if “Individual” is selected in **Type**. • When **Auto Assignment** is enabled, an icon cannot be assigned using **Icon** in the **Template** dialog box.	20 types of icons	The first icon on the list

Item	Description	Configurable Range	Default
"..." button	Allows you to assign an original icon to a mobile station. 1. Click the "..." button. A dialog box for selecting an icon file (extension: .ico or .png) appears. 2. Select an icon file and click the "Open" button. The selected icon file is imported into the KAS-20CE, and the image appears on the left side of the Icon column. Note • An icon file with an image size of 32 x 32 pixels can be imported into the KAS-20CE. • This operation is enabled only when "Individual" is selected in **Type**.	-	-
AVL Fleet	**AVL Fleet** allows you to configure the AVL Fleet numbers that can be used in the KAS-20CE. **AVL Fleet** is a group of IDs that are used by the KAS-20CE. A different AVL Window can be displayed at a time on the AVL Fleet. Note • AVL Fleet numbers that have already been configured on other communication systems cannot be used. • When an AVL Fleet number is changed, the **AVL Fleet Name** will also change automatically according to AVL Fleet number. However, when **Fleet Dialing Plan** is enabled in DMR Tier III Trunking, AVL Fleet will not change automatically even if an **AVL Fleet Name** number is changed. • When **Fleet Dialing Plan** is enabled in DMR Tier III Trunking, an **AVL Fleet** number is automatically configured in AVL Fleet. A user can change the value of **AVL Fleet**. • This function cannot be configured for FleetSync. The Fleet ID of ID is configured as **AVL Fleet**. • If anything other than "Individual" is selected from **Type**, "None" is configured, and this function cannot be configured.	None, 1 to 250 (in steps of 1)	When DMR Tier III Trunking is enabled in **Fleet Dialing Plan**: If the registered mobile station that has the same **Prefix** value and the **Fleet** value exists: The same AVL Fleet number as that of the mobile station If the registered mobile station that has the same **Prefix** value and the **Fleet** value does not exist: The smallest value that is not a repetition of an AVL Fleet number that is already registered Other than the above: None

Item	Description	Configurable Range	Default
AVL Fleet Name	**AVL Fleet Name** allows you to configure a name that corresponds to the AVL Fleet number. Note • When an AVL Fleet number is changed, the AVL Fleet name that corresponds to the AVL Fleet number will change automatically. However, when **Fleet Dialing Plan** is enabled in DMR Tier III Trunking, AVL Fleet will not change automatically even if an **AVL Fleet Name** number is changed. • When an AVL Fleet name is changed, all **AVL Fleet Name** that are configured with the same AVL Fleet number will change automatically to the same name. • This function cannot be configured for FleetSync. If “Fleet” is selected in Type, **AVL Fleet Name** is configured as the Name of ID.	Not longer than 16 characters	When DMR Tier III Trunking is enabled in **Fleet Dialing Plan**: Fleet n-m (n: value of **Prefix**, m: value of **Fleet**) Other than the above: Fleet n (n: value of **AVL Fleet**)
Auto Polling	**Auto Polling** allows you to configure whether to enable **Auto Polling** for mobile stations with **Type** configured to “Individual”. **Auto Polling** is a function that sends out a request for the position report from KAS-20SE to a mobile station. Note • This function can be configured only if “Individual” is selected in **Type**. • This function cannot be configured in the case of Trunking 2.5.	**Check (Enable):** Enables **Auto Polling**. **Uncheck (Disable):** Disables **Auto Polling**.	Unchecked (Disabled)
Lone Worker	**Lone Worker** allows you to configure the interval for sending a **Lone Worker** request status from the KAS-20SE to either “Category 1” or “Category 2”. When the time interval configured for **Lone Worker** or “Category 1” elapses after a “Category 2” request status has been sent from the KAS-20SE to a mobile station, a **Lone Worker** request status will be resent from the KAS-20SE. “Category 1” and “Category 2” correspond to **Lone Worker Request Time for Category 1** and **Lone Worker Request Time for Category 2** respectively on the **Lone Worker** screen. (Refer to Configuring the Lone Worker Function on page 118.) Note • This function can be configured only if “Individual” is selected in **Type**.	None, Category 1, Category 2	None

Item	Description	Configurable Range	Default
Speed Limit	**Speed Limit** allows you to configure the threshold value for triggering a Speeding warning for mobile stations with **Type** configured to “Individual”. If a mobile station moves at a speed that exceeds the limit configured in **Speed Limit**, a Speeding warning will be triggered. Note • If the speed of a mobile station exceeds the speed configured in **Invalid Speed Setting** of the **AVL** screen, the speed is deemed to be an abnormal value, and “Speeding N/A” is displayed. (Refer to Configuring the Functions to Be Used on AVL Window on page 157.) • This function can be configured only if “Individual” is selected in **Type**.	The display order varies according to the settings for **Unit** on the **AVL** screen. **Miles:** None, 10 mph to 130 mph (in steps of 10 mph), 10 km/h to 200 km/h (in steps of 10 km/h) **Kilometers:** None, 10 km/h to 200 km/h (in steps of 10 km/h), 10 mph to 130 mph (in steps of 10 mph)	None
KAS-20SE Key No.	**KAS-20SE Key No.** allows you to configure **No.** (**IP Network** displayed in **Scrambler/ Encryption** of the **No.** screen) which is used to decrypt encrypted data or encrypt data by using the KAS-20SE. Note • This function can be configured only for IP network connection. • This function cannot be configured if “All” or “Unaddress” is configured in **Type**. • If the DES LICENSE (KWD-20C-DE) is not authenticated on the KAS-20SE, **No.** with DES will not be displayed.	None, 1 to 32 (in steps of 1)	None
Memo	**Memo** allows you to enter notes as a memo.	Not longer than 16 characters	Blank

Note

- Even if the same value as the Console ID of the logged-in KAS-20CE is registered in the Radio Resource List, the value will not be displayed in the Radio Resource List of the AVL Window, Indoor Location Window or Dispatch Window.
- If the DES LICENSE (KWD-20C-DE) is not authenticated on the KAS-20SE, encryption and decryption of DES will not be performed.
- If one of the following is configured in the KAS-20CE, when decrypting encrypted data or encrypting data by using the KAS-20SE, the **Group ID** registered in the KAS-20SE is registered in the KAS-20CE and **KAS-20SE Key No.** must be configured.

  When decrypting encrypted data by using the KAS-20SE:
  - The protocol is NXDN Trunking (Type-C) and **Key ID Scan** is disabled.
  - The protocol is NXDN Conventional and **Key ID Scan** is disabled.

  When encrypting data by using the KAS-20SE:
  - The protocol is NXDN Trunking (Type-C).
  - The protocol is NXDN Conventional.
  - The protocol is DMR Tier III Trunking and “Enhanced” is configured in **Type (Scrambler/ Encryption)**.
  - The protocol is DMR Tier III Trunking and **Type (Scrambler/ Encryption)** is configured in “DES”.
  - The protocol is DMR Conventional and “Enhanced” is configured in **Type (Scrambler/ Encryption)**.
  - The protocol is DMR Conventional and **Type (Scrambler/ Encryption)** is configured in “DES”.
  - The protocol is DMR Conventional (via TKR-D series) and “Enhanced” is configured in **Type (Scrambler/ Encryption)**.
  - The protocol is DMR Conventional (via TKR-D series) and **Type (Scrambler/ Encryption)** is configured in “DES”.

Registering Mobile Stations Automatically

When a voice call, message or status is received, the mobile station can be registered automatically to the **Radio Resource List**.

Note

- In an IP network connection, the ID of a mobile station for which **Type** is configured to “Group”, “All” or “Unaddress” cannot be registered automatically.
- In a serial connection, “Individual” is registered as the sender ID regardless of the setting of the ID **Type** of the receiver.
- The communications to be registered are Voice Call, Text Message, Status Message, GPS Data and BLE Data communications.

1 Click the “Auto ID Collection” button.

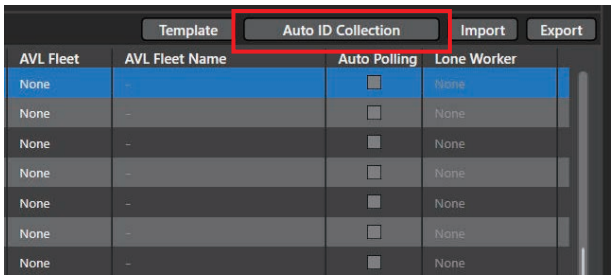

Figure 2-41 Radio Resource List > Auto ID Collection

The **Auto ID Collection** dialog box appears.

2 Click the “Start” button.

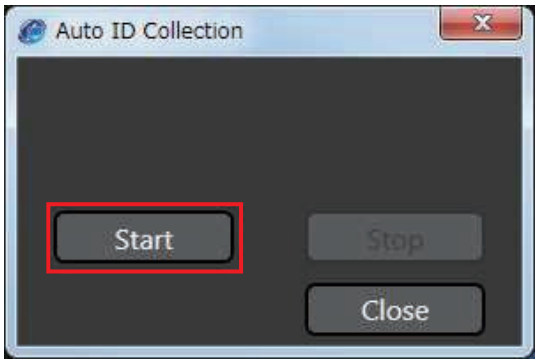

Figure 2-42 Auto ID Collection

Auto registration starts.
When the KAS-20CE that is connected to a communication system receives an ID that is not registered in the **Radio Resource List**, the ID is registered automatically.

The progress bar appears during auto registration.

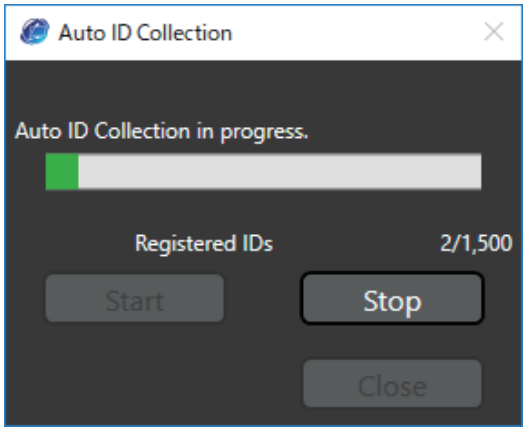

Figure 2-43 Auto ID Collection Dialog Box

For **Registered IDs**, the following numbers will be displayed.

Value on the left: the number combining the number of IDs already registered in **Radio Resource List** and the number of IDs automatically registered in Auto ID Collection

Value on the right: the maximum number of IDs that can be registered in **Radio Resource List**

3 Click the “Stop” button.

Exits auto registration.

Note

- All settings except for **Type** and **ID** are configured with the default values.
- If **Fleet Dialing Plan** is enabled in DMR Tier III Trunking, **Prefix**, **Fleet** and **IN/GN** will be configured.
- When the number of registered mobile stations reaches the upper limit during auto registration, an error message box appears and the KAS-20CE exits the auto registration mode.
- When the IP network is not configured in an IP network connection, or when the settings are inadequate, an error message box appears and automatic registration does not start.
- When a communication port is not configured in a serial connection, or when the settings are inadequate, or when a communication port cannot be opened, an error message box appears and automatic registration does not start.
- When a communication assigned with an **Over-the-Air Alias** (OAA) is received, the name of the OAA is configured to the **Name** of the received **ID**. However, as communication is required for several seconds to acquire the OAA, it is necessary to perform communication until the name of OAA is configured for **Name** to use the OAA. **Name** can be configured with OAA only for the ID that is automatically registered by clicking the “Start” button. The **Name** of an ID that is already registered upon clicking of the “Start” button will not be changed. When a communication is received in which a different OAA is configured for the same ID, the Name will be overwritten with the OAA received later.

Configuring Using Templates

Mobile stations can be registered in the **Radio Resource List** using templates.
Multiple IDs can be registered at one time if they are configured with the same settings.

1 Click the “Template” button.

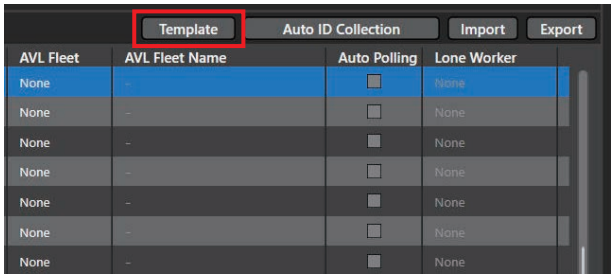

Figure 2-44 Radio Resource List > Template

The **Template** dialog box appears.

2 Enter the number of IDs to be created in Quantity.

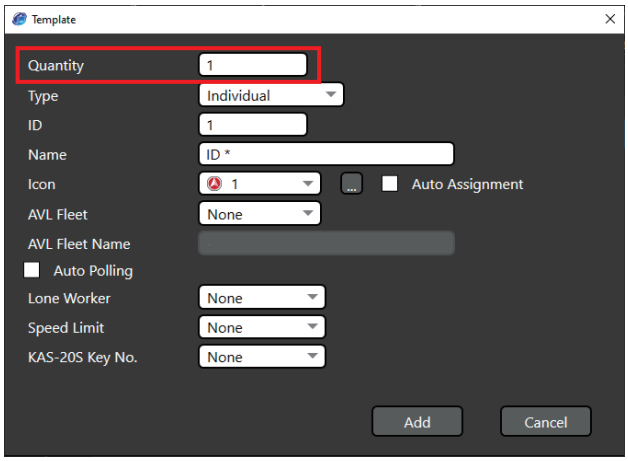

Figure 2-45 Template (Quantity)

Note

- A maximum of 200 IDs can be created at a time.
- If the number of remaining lines that can be added to the **Radio Resource List** falls below 200, the maximum number of lines that can be registered will be the remaining number of lines. When the value entered exceeds this maximum limit, it will be corrected to the maximum limit.

3 Configure the respective functions and click the “Add” button.

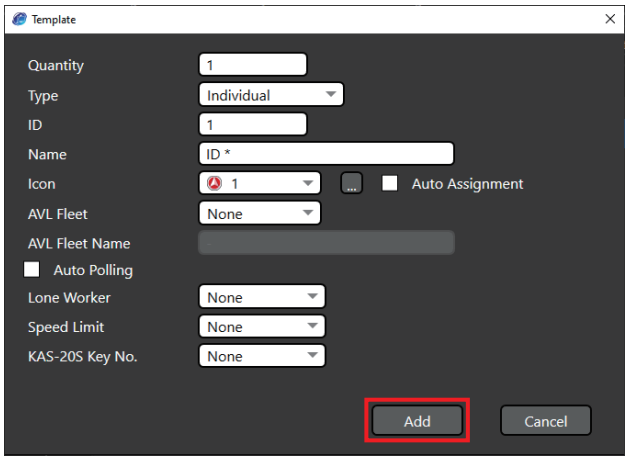

Figure 2-46 Template (Example of NXDN Trunking (Type-C) Screen)

ID creation starts. IDs are created in increments of 1 according to the number specified in **Quantity**.
After an ID has been created, it will be added to the **Radio Resource List**.

Assigning an icon automatically

If **Auto Assignment** is enabled, an icon can be automatically assigned to a mobile station.

Icons prepared in KAS-20CE are assigned to mobile stations one by one in order from the top icon in the **Icon** dropdown list. Once the last icon in the dropdown list has been assigned, the next mobile station will be assigned an icon starting from the top icon again.

Note

- If the protocol of the communication system is FleetSync, the Unit ID is created by adding one by one for the number specified in **Quantity** only. However, if “Fleet” is configured in **Type**, the Fleet ID is added one by one.
- **RAN Encode** can be configured only for NXDN Conventional.
- IDs that have already been registered cannot be added.
- IDs that contain items configured to different settings cannot be created at the same time.
- If “*” is entered in **Name**, it will be replaced with the input value of ID. Enter the same number of “*” as the number of digits to be replaced.
- If **Fleet Dialing Plan** is enabled in DMR Tier III Trunking, **Number Prefix**, **Fleet Individual Number/Fleet Group Number**, and **Individual Number/Group Number** appear, and these settings can be configured.
- If the communication system protocol is DMR Conventional/ DMR Conventional (via TKR-D series) and **Add Slot1 & Slot2** is enabled, you can configure both Slot“1” and “2” using the same **ID**.
- For more details on the individual items, refer to “Setting Items of Radio Resource List Screen on page 99”.

Exporting Radio Resource List Data

Mobile station data that are registered in the **Radio Resource List** can be saved as a TSV file for each communication system.

1 **Click the “Export” button.**

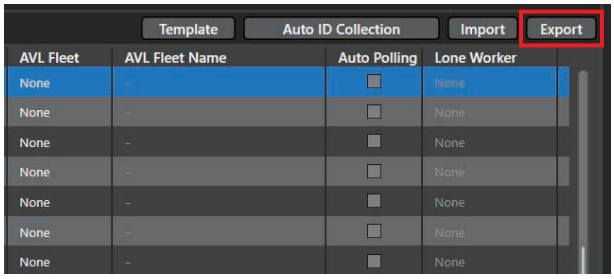

Figure 2-47 Radio Resource List > Export

The **Save As** dialog box appears.

2 **Specify a file name and a folder in which to save the data, and then click the “Save” button.**

Mobile station data registered in the **Radio Resource List** is saved as a TSV file (extension: .tsv) in the specified folder.

Importing Radio Resource List Data

A TSV file that is saved can be imported into the **Radio Resource List** using the Export function.

Upon executing import, all information that is registered in **Radio Resource List** is deleted and overwritten with the imported data.

1 **Click the “Import” button.**

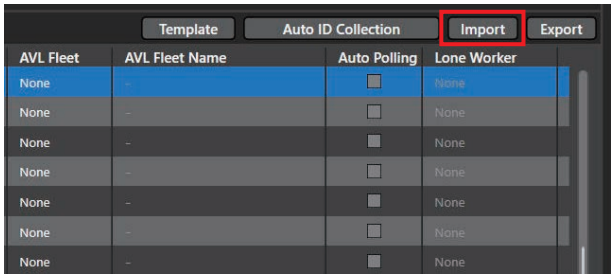

Figure 2-48 Radio Resource List > Import

The **Open** dialog box appears.

2 **Specify the file to import, and click the “Open” button.**

The TSV file (extension: .tsv) that is selected is imported into the **Radio Resource List**.

Note

File formats to use for import and export of Radio Resource List:

TSV file is a format for listing multiple units of data, each of which is made up of multiple items. Tab characters are used to separate the text of each item. The saved TSV file can be edited using Excel or other spreadsheet software.

Each of the following items is saved as a row of information in the TSV file. Texts without a line break are considered as part of 1 unit of data, and multiple units of data can be consolidated into one file. The specified input value will be regarded as a value in the KAS-20CE.

If a value outside the input range is specified, the value is corrected to the default value. If the number of items in a row is incorrect, the information of that row will not be imported.

Table 2-30 File Formats Used for Import and Export of Radio Resource List

Header/Item Name	Input Value	Value on KAS-20CE
Type	The configurable range varies according to the protocol of the communication system configured on the KAS-20CE. **NXDN Trunking (Type-C)/ NXDN Conventional/ DMR Tier III Trunking:** 1 to 4 (in steps of 1) **Trunking 2.5:** 1, 2, 4 (in steps of 1) **DMR Conventional/ DMR Conventional (via TKR-D series):** 1 to 5 (in steps of 1) **FleetSync:** 1, 2, 4, 6 to 8 (in steps of 1)	1: Individual 2: Group 3: All 4: Console 5: Unaddress 6: Fleet 7: Supervisor 8: Broadcast
Prefix	**Type = Individual, Group, Console:** 328 to 806 (in steps of 1) **Type = All:** Blank Note This function can be configured only for DMR Tier III Trunking.	Blank: All
Fleet	**Type = Individual, Group, Console:** 20 to 89 (in steps of 1) **Type = All:** Blank Note This function can be configured only for DMR Tier III Trunking.	Blank: All
IN/GN	The configurable range varies according to the settings of **Type** and **Fleet**. **Type = Individual, Console:** **Fleet** 20 to 41: 200 to 899 (in steps of 1) **Fleet** 42 to 89: 200 to 549 (in steps of 1) **Type = Group:** 900 to 999 (in steps of 1) **Type = All:** Blank Note This function can be configured only for DMR Tier III Trunking.	Blank: All

Header/Item Name	Input Value	Value on KAS-20CE
ID *1	The configurable range varies according to the protocol of the communication system configured on the KAS-20CE. **NXDN Trunking (Type-C)/ NXDN Conventional:** 0 to 65519 (in steps of 1) **Trunking 2.5/ DMR Tier III Trunking:** 1 to 16776415 (in steps of 1), 16777215 **DMR Conventional/ DMR Conventional (via TKR-D series):** 1 to 16776415 (in steps of 1), 16777199, 16777215 Note For connecting to NXDN Trunking (Type-C): NEXEDGE 1st Generation, configure a value from 1 to 60000.	**NXDN Trunking (Type-C)/ NXDN Conventional:** 0: ALL **Trunking 2.5/ DMR Tier III Trunking:** 16777215: ALL **DMR Conventional/ DMR Conventional (via TKR-D series):** 16777199: Unaddress 16777215: ALL
Fleet ID *2	**FleetSync**: **Type = Individual**, **Fleet**, **Group**, **Console**: 100 to 349 (in steps of 1) **Type = Supervisor**, **Broadcast**: 000	000: ALL
Unit ID *2	**FleetSync**: **Type = Individual**, **Group**, **Supervisor**, **Console**: 1000 to 4999 (in steps of 1) **Type = Fleet**, **Broadcast**: 0000	0000: ALL
Slot	Both, 1, 2	-
RAN Encode	0	None
	1 to 63	-
Name	1 to 16 characters	-
Icon *3	**Type = Individual:** 1 to 20 **Type = Group, All, Console, Unaddress, Fleet, Supervisor, Broadcast:** Blank	-
AVL Fleet *1	0	None
	1 to 250	-
AVL Fleet Name *1	1 to 16 characters	-
Auto Polling	True	Checked (Enabled)
	False	Unchecked (Disabled)
Lone Worker	0	None
	1	Category 1
	2	Category 2
Speed Limit	0	None
	10 k to 200 k (in steps of 10 k)	10 km/h to 200 km/h
	10 m to 130 m (in steps of 10 m)	10 mph to 130 mph
KAS-20SE Key No.	0	None
	1 to 32	-
Memo	Blank, 1 to 16 characters	-

*1 Not supported if the protocol of the communication system is FleetSync.
*2 Supported only if the protocol of the communication system is FleetSync.
*3 If an original icon is assigned to a mobile station, the original icon number is configured as 1, and then the data is exported.

Configuring the Auto Polling Function

Clicking “Auto Polling” on the **System** screen displays the **Auto Polling** screen.
The **Auto Polling** screen allows you to configure the various Auto Polling functions for each system.

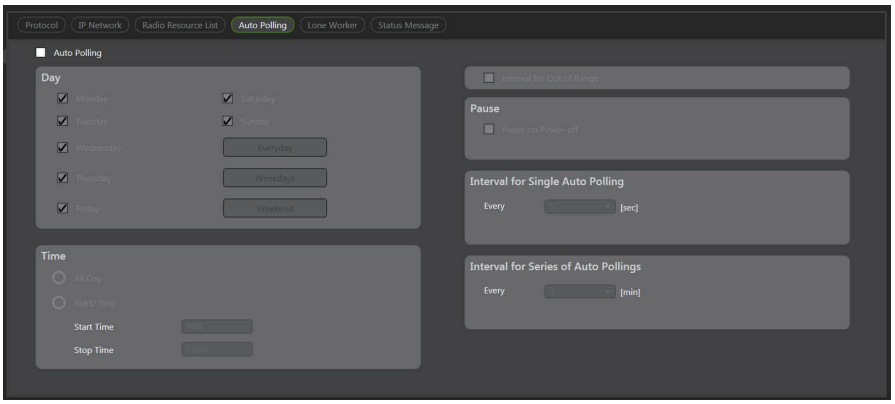

Figure 2-49 Auto Polling Screen

Table 2-31 Setting Items of Auto Polling Screen

Item	Description	Configurable Range	Default
Auto Polling	**Auto Polling** allows you to configure whether or not to enable the respective functions of the **Auto Polling**. Note • When **Auto Polling** is enabled, the KAS-20SE sends out GPS Data and BLE Data request messages to the mobile stations periodically. • This function cannot be configured in the case of Trunking 2.5.	**Check (Enable):** Enables the setting of the **Auto Polling** functions. The different functions on the **Auto Polling** screen can be configured. **Uncheck (Disable):** Disables the setting of the **Auto Polling** functions. The different functions on the **Auto Polling** screen cannot be configured.	Unchecked (Disabled)

Item	Description	Configurable Range	Default
Day	**Day** allows you to configure the day of week for enabling **Auto Polling**. To select the day(s) to enable **Auto Polling**, select or deselect the checkboxes corresponding to each of the days from **Monday** to **Sunday**. “Everyday” button: Clicking the “Everyday” button selects all the checkboxes corresponding to the days of the week. **Auto Polling** is enabled everyday in this case. “Weekdays” button: Clicking the “Weekdays” button selects the checkboxes from **Monday** to **Friday**. **Auto Polling** is enabled from Monday to Friday in this case. “Weekend” button: Clicking the “Weekend” button selects the checkboxes for **Saturday** and **Sunday**. **Auto Polling** is enabled on Saturday and Sunday in this case. Note This function can be configured only when **Auto Polling** is enabled.	**Check (Enable):** Enables **Auto Polling**. **Uncheck (Disable):** Disables **Auto Polling**.	**Monday** to **Friday**: Checked (Enabled) **Saturday** and **Sunday**: Unchecked (Disabled)
Time	**Time** allows you to configure whether to enable **Auto Polling** all day or for a particular period of time.	**All Day:** Enables **Auto Polling** all day. **Start/ Stop:** Enables **Auto Polling** only during the interval specified in **Start Time** and **Stop Time**. **Start Time/ Stop Time:** 0:00 to 23:59	All Day **Start Time:** 9:00 **Stop Time:** 18:00
Interval for Out of Range	**Interval for Out of Range** allows you to configure whether to resend a GPS Data request message after an interval that is 10 times longer than the standard time interval when an **Auto Polling** response is not received for 5 consecutive times from the mobile station.	**Check (Enable):** Enables **Interval for Out of Range**. **Uncheck (Disable):** Disables **Auto Polling**.	Unchecked (Disabled)

Item	Description	Configurable Range	Default
Pause on Power-off	**Pause on Power-off** allows you to configure whether to stop **Status Message** for a mobile station when the status configured in **Power-off Status** in the **Auto Polling** screen is received from the mobile station. (Refer to Configuring the Status Message on page 122.) If **Auto Polling** is stopped, the process will resume when the KAS-20SE or KAS-20CE receives communication from the mobile station again. However, **Power-off Status** will not resume during receipt of GPS Data that contains **Auto Polling**.	**Check (Enable):** Enables **Pause on Power-off**. **Uncheck (Disable):** Disables **Pause on Power-off**.	Unchecked (Disabled)
Interval for Single Auto Polling	**Interval for Single Auto Polling** allows you to configure the **Auto Polling** interval for each mobile station. **(Example)** If **Auto Polling** is used between 3 mobile stations and the KAS-20SE, **Auto Polling** for the second mobile station starts when the time interval configured in **Interval for Single Auto Polling** elapses after **Auto Polling** for the first mobile station has started. After **Auto Polling** for the second mobile station has started, **Interval for Single Auto Polling** for the third mobile station starts when the time interval configured in **Auto Polling** elapses.	5 sec to 20 sec (in steps of 1 sec)	10 sec
Interval for Series of Auto Pollings	**Interval for Series of Auto Pollings** allows you to configure the **Auto Polling** interval. **(Example)** If **Auto Polling** is used between 3 mobile stations and the KAS-20SE, **Interval for Single Auto Polling** for each of the mobile stations will run according to the time interval configured in **Auto Polling**. After **Auto Polling** for the last mobile station has started, **Interval for Series of Auto Pollings** for the first mobile station starts again when the time interval configured in **Auto Polling** elapses.	1 min, 2 min, 3 min, 4 min, 5 min, 10 min, 15 min, 30 min, 45 min, 60 min, 90 min, 120 min, 180 min	15 min

Configuring the Lone Worker Function

Clicking **System** on the “Lone Worker” screen displays the **Lone Worker** screen.
The **Lone Worker** screen allows you to configure the status number and the different types of timers used by **Lone Worker**.
Lone Worker is a function to check whether the user of a mobile station is in an emergency state due to an accident or other reasons.
If a **Lone Worker** response status is not received from a mobile station for a certain period of time after a **Lone Worker** request status has been sent from the KAS-20SE, the user of the mobile station is deemed to be in an emergency state.

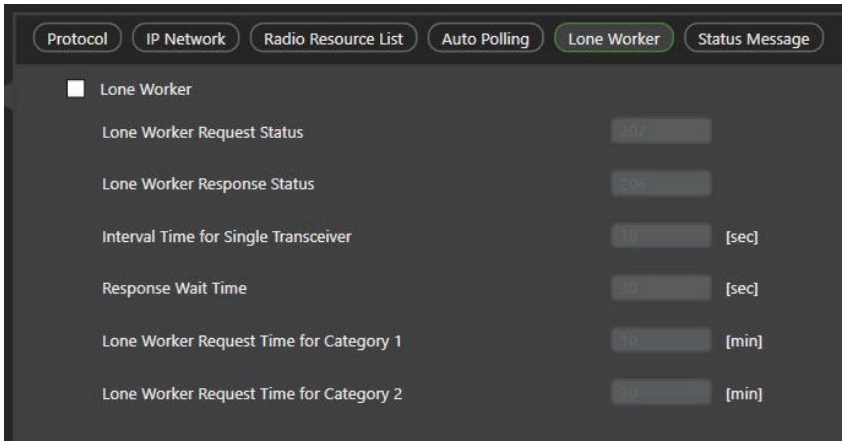

Figure 2-50 Lone Worker Screen

Table 2-32 Setting Items of Lone Worker Screen

Item	Description	Configurable Range	Default
Lone Worker	**Lone Worker** allows you to configure whether or not to enable the respective functions of the **Lone Worker**.	**Check (Enable):** Enables the setting of the **Lone Worker** functions. The different functions on the **Lone Worker** screen can be configured. **Uncheck (Disable):** Disables the setting of the **Lone Worker** functions. The different functions on the **Lone Worker** screen cannot be configured.	Unchecked (Disabled)

Item	Description	Configurable Range	Default
Lone Worker Request Status	**Lone Worker Request Status** allows you to configure the **Lone Worker** request status that is sent out periodically from the KAS-20SE to the mobile station. A **Lone Worker Request Status** is automatically sent according to the setting of each timer. Note It cannot be configured to the same status as **Status Message**, **Lone Worker Response Status** and **Power-off Status**. The previous setting is restored if a status that has already been configured is entered.	The configurable range varies according to the protocol of the communication system configured on the KAS-20CE. **NXDN Trunking (Type-C)/ NXDN Conventional:** 1 to 207 (in steps of 1) **Trunking 2.5/ DMR Tier III Trunking:** 0 to 99 (in steps of 1) **DMR Conventional/ DMR Conventional (via TKR-D series):** 0 to 1023 (in steps of 1) **FleetSync:** 10 to 79 (in steps of 1)	**NXDN Trunking (Type-C)/ NXDN Conventional:** 207 **Trunking 2.5/ DMR Tier III Trunking:** 99 **DMR Conventional/ DMR Conventional (via TKR-D series):** 1023 **FleetSync:** 79
Lone Worker Response Status	**Lone Worker Response Status** allows you to configure the status to be sent from a mobile station as a response to a **Lone Worker** request status. Note • It cannot be configured to the same status as **Status Message**, **Lone Worker Request Status** and **Power-off Status**. The previous setting is restored if a status that has already been configured is entered. • In **Activity** of **Log**, “Lone Worker Response Status” is displayed in **Status Message Name**.	The configurable range varies according to the protocol of the communication system configured on the KAS-20CE. **NXDN Trunking (Type-C)/ NXDN Conventional:** 1 to 207 (in steps of 1) **Trunking 2.5/ DMR Tier III Trunking:** 0 to 99 (in steps of 1) **DMR Conventional/ DMR Conventional (via TKR-D series):** 0 to 1023 (in steps of 1) **FleetSync:** 10 to 79 (in steps of 1)	**NXDN Trunking (Type-C)/ NXDN Conventional:** 206 **Trunking 2.5/ DMR Tier III Trunking:** 98 **DMR Conventional/ DMR Conventional (via TKR-D series):** 1022 **FleetSync:** 78

Item	Description	Configurable Range	Default
Interval Time for Single Transceiver	**Interval Time for Single Transceiver** allows you to configure the interval for sending a **Lone Worker** request status from the KAS-20SE. **Interval Time for Single Transceiver** is the time interval between statuses sent to the multiple transceivers that make use of **Lone Worker**. For instance, **Lone Worker** is used by Transceiver A and Transceiver B. First, the KAS-20SE sends a **Lone Worker** request status to Transceiver A. When the time configured in **Interval Time for Single Transceiver** elapses, the KAS-20SE sends a **Lone Worker** request status to Transceiver B.	5 sec to 20 sec (in steps of 1 sec)	10 sec
Response Wait Time	**Response Wait Time** allows you to configure the length of waiting time for a **Lone Worker** response status to be received from a mobile station. If a **Lone Worker** response status is not received from a mobile station during the time interval configured in **Response Wait Time** after a **Lone Worker** request status has been sent from the KAS-20SE, the user of the mobile station is deemed to be in an emergency state.	10 sec to 600 sec (in steps of 1 sec)	30 sec

Item	Description	Configurable Range	Default
Lone Worker Request Time for Category 1	**Lone Worker Request Time for Category 1** allows you to configure the interval for sending a **Lone Worker** request status from the KAS-20SE. The KAS-20SE is able to send a **Lone Worker Request Time for Category 1** request status to a mobile station periodically at the interval configured in **Lone Worker**. Note **Lone Worker Request Time for Category 1** corresponds to “Category 1” under **Lone Worker** on the **Radio Resource List** screen. (Refer to Configuring a Mobile Station on page 98.)	1 min to 60 min (in steps of 1 min)	10 min
Lone Worker Request Time for Category 2	**Lone Worker Request Time for Category 2** allows you to configure the interval for sending a **Lone Worker** request status from the KAS-20SE. The KAS-20SE is able to send a **Lone Worker Request Time for Category 2** request status to a mobile station periodically at the interval configured in **Lone Worker**. Note **Lone Worker Request Time for Category 2** corresponds to “Category 2” under **Lone Worker** on the **Radio Resource List** screen. (Refer to Configuring a Mobile Station on page 98.)	1 min to 60 min (in steps of 1 min)	30 min

Configuring the Status Message

Clicking **System** on the “Status Message” screen displays the **Status Message** screen.
The **Status Message** screen allows you to configure the status message to be sent or received between the KAS-20CE and the mobile station. A name and icon can be assigned to each of the status messages.
The setting items available vary according to the protocol settings in the **Protocol** screen. (Refer to Configuring the Protocols on page 65.)

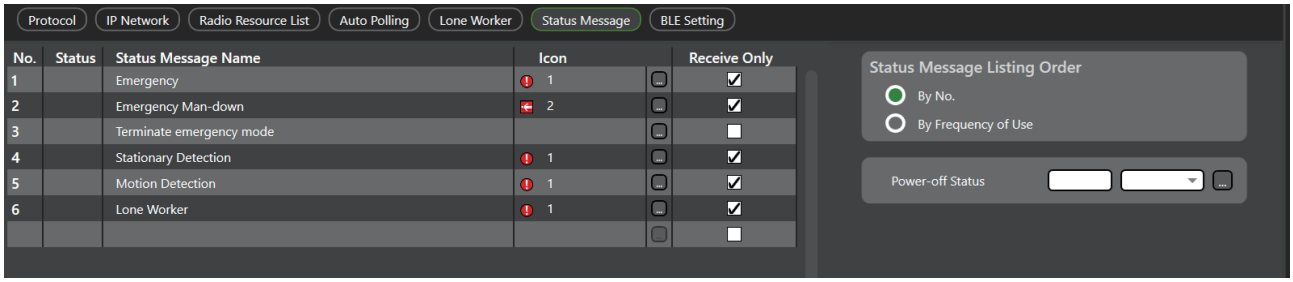

Figure 2-51 Status Message Screen (Example of DMR Conventional (via TKR-D series) Screen)

Table 2-33 Setting Items of Status Message Screen

Item	Description	Configurable Range	Default
Status	**Status** allows you to configure a status number for the status messages. Note • The same status number cannot be configured redundantly. • It cannot be configured to the same status as **Lone Worker Request Status**, **Lone Worker Response Status** and **Power-off Status**. The previous setting is restored if a status that has already been configured is entered. • In the case of NXDN Trunking (Type-C)/ NXDN Conventional, “---” is displayed for lines 1 to 6, and they cannot be configured. • In the case of a protocol other than FleetSync, lines 1 to 6 cannot be deleted. • In the case of FleetSync, line 1 to 20 has been input with the number 80 to 99, and they cannot be edited or deleted.	The configurable range varies according to the protocol of the communication system configured on the KAS-20CE. **NXDN Trunking (Type-C)/ NXDN Conventional:** 1 to 207 **Trunking 2.5/ DMR Tier III Trunking:** 0 to 99 **DMR Conventional/ DMR Conventional (via TKR-D series):** 0 to 1023 **FleetSync:** 10 to 79	-

Item	Description	Configurable Range	Default
Status Message Name	**Status Message Name** allows you to configure a name for the status messages. Assigning a name to each status message helps to ease understanding of the status message content that is sent or received between the KAS-20CE and a mobile station. Note • In the case of a protocol other than FleetSync, lines 1 to 6 cannot be edited or deleted. • In the case of FleetSync, lines 1 to 20 cannot be edited or deleted.	Not longer than 25 characters	**NXDN Trunking (Type-C)/ NXDN Conventional/ Trunking 2.5/ DMR Tier III Trunking/ DMR Conventional/ DMR Conventional (via TKR-D series):** **Line 1:** Emergency **Line 2:** Emergency Man-down **Line 3:** Terminate emergency mode **Line 4:** Stationary Detection **Line 5:** Motion Detection **Line 6:** Lone Worker **Line 7 and subsequent lines:** Blank **FleetSync:** **Line 1:** Normal operation **Lines 2 to 7:** (Not Used) **Line 8:** Kill **Line 9:** Terminate emergency mode **Line 10:** Activate Horn Alert **Line 11:** Stun (TX inhibit) **Line 12:** Stun (TX/RX inhibit) **Line 13:** Revive **Line 14:** TX disabled **Line 15:** TX/RX disabled **Line 16:** Lone Worker **Line 17:** Motion Detection **Line 18:** Stationary Detection **Line 19:** Emergency Man-down **Line 20:** Emergency **Line 21 and subsequent lines:** Blank

Item	Description	Configurable Range	Default
Icon (Status)	**Icon** allows you to assign an icon to each status message. Upon receipt of a status message from a mobile station, the assigned icon appears in the **Radio Resource List** and on the map. Select an icon from the dropdown list to the left of the **Icon** column.	The configurable range varies according to the protocol of the communication system configured on the KAS-20CE. **NXDN Trunking (Type-C)/ NXDN Conventional/ Trunking 2.5/ DMR Tier III Trunking/ DMR Conventional/ DMR Conventional (via TKR-D series):** **Lines 1 to 6:** "Emergency" icon, "Emergency Man-down" icon or file specification **Line 7 and subsequent lines:** 50 types of icons or file specification **FleetSync:** **Line 9 and lines 16 to 20:** "Emergency" icon, "Emergency Man-down" icon or file specification **Lines other than line 9 and lines 16 to 20:** 50 types of icons or file specification	**NXDN Trunking (Type-C)/ NXDN Conventional/ Trunking 2.5/ DMR Tier III Trunking/ DMR Conventional/ DMR Conventional (via TKR-D series):** **Line 1:** Emergency icon **Line 2:** Emergency Man-down icon **Line 3:** Blank **Lines 4 to 6:** Emergency icon **Line 7 and subsequent lines:** Blank **FleetSync:** **Lines 16 to 18 and line 20:** Emergency icon **Line 19:** Emergency Man-down icon **Lines other than lines 16 to 20:** Blank
"..." button	Allows you to assign an original icon to each of the status messages. 1. Click the "..." button. A dialog box for selecting an icon file (extension: .ico or .png) appears. 2. Select an icon file and click the "Open" button. The selected icon file is imported into the KAS-20CE, and the image appears on the left side of the **Icon** column. Note An icon file with an image size of 32 x 32 pixels can be imported into the KAS-20CE.	-	-

Item	Description	Configurable Range	Default
Receive Only	Allows you to configure whether **Status** is to be used exclusively for reception. Note This setting cannot be changed in the case of status messages that are configured by default.	**Check (Enable):** Places **Status** in the receive-only mode. **Uncheck (Disable):** Status that enables both transmission and reception.	Unchecked (Disabled)
Status Message Listing Order	**Status Message Listing Order** allows you to configure whether to sort the status messages according to the list number or the frequency of use in descending order when selecting a status message to send out on the AVL Window or Dispatch Window.	**By No.:** Sorts the status messages in the order of the list number. **By Frequency of Use:** Sorts the status messages in the descending order of the frequency of use.	By No.
Power-off Status	**Power-off Status** allows you to configure the status for stopping Auto Polling of a mobile station. (Refer to Configuring the Auto Polling Function on page 115.) **Power-off Status** is also used to hide the icon of the mobile station on the map of the AVL Window. (Refer to Mobile Station Icon on page 162.) Note • It cannot be configured to the same status as **Status Message**, **Lone Worker Request Status** and **Lone Worker Response Status**. The previous setting is restored if a status that has already been configured is entered. • When **Power-off Status** is used in the KAS-20SE or KAS-20CE, configure the following **Status Hold** of the mobile station that is being communicated with to "Selected + Transmit" using the FPU (e.g., KPG-D1) of that mobile station. **Transceiver Settings** > **NXDN** > **NXDN Information** > **General** > **Status Hold** • In **Activity** of **Log**, "Power-off Status" is displayed in **Status Message Name**.	The configurable range varies according to the protocol of the communication system configured on the KAS-20CE. **NXDN Trunking (Type-C)/ NXDN Conventional:** 1 to 207 (in steps of 1) **Trunking 2.5/ DMR Tier III Trunking:** 0 to 99 (in steps of 1) **DMR Conventional/ DMR Conventional (via TKR-D series):** 0 to 1023 (in steps of 1) **FleetSync:** 10 to 79 (in steps of 1)	Blank

Item	Description	Configurable Range	Default
Icon (Power-off Status)	**Icon** allows you to assign an icon to a Power-off status message. Upon receipt of a Power-off status message from a mobile station, the assigned icon appears in the **Radio Resource List** and on the map. Select an icon from the dropdown list to the left of the **Icon** column.	50 types of icons or file specification	Blank
"..." Button	Allows you to assign an original icon to a Power-off status messages. 1. Click the "..." button. A dialog box for selecting an icon file (extension: .ico or .png) appears. 2. Select an icon file and click the "Open" button. The selected icon file is imported into the KAS-20CE, and the image appears on the left side of the **Icon** column. Note An icon file with an image size of 32 x 32 pixels can be imported into the KAS-20CE.	-	-

Configuring Settings for Controlling the External Device Connected to the Base Station Transceiver

Clicking “Emergency Remote Control” on the **System** screen displays the **Emergency Remote Control** screen.

Emergency Remote Control allows you to configure the settings for controlling the external device connected to the KAS-20CE transceiver when an emergency occurs.

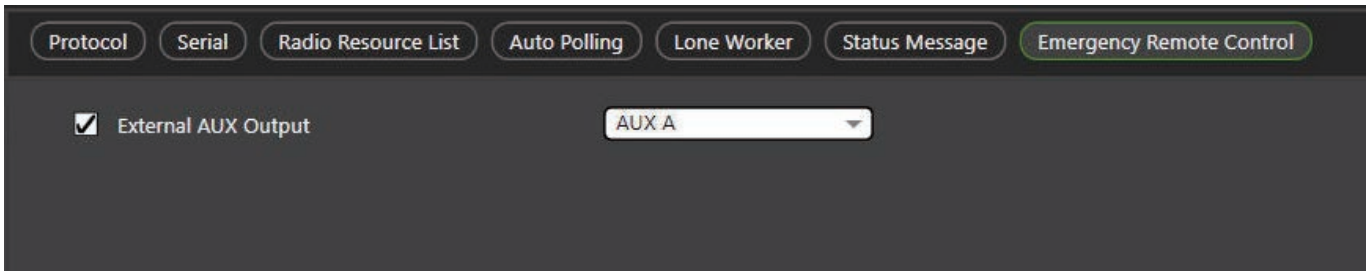

Figure 2-52 Emergency Remote Control Screen

Note

- Only users that are configured as “Admin” in **Access Level** are allowed to configure the settings in the **Emergency Remote Control** screen. (Refer to Managing KAS-20SE/ KAS-20CE Users on page 57.)
- Settings in the **Emergency Remote Control** screen can be configured only for serial connection.

Table 2-34 Setting Items of Emergency Remote Control Screen

Item	Description	Configurable Range	Default
External AUX Output	**External AUX Output** allows you to configure whether to send commands to the KAS-20CE transceiver to control the external device connected to it when an emergency occurs. Selecting the checkbox enables the dropdown list and allows you to configure which AUX output port of the KAS-20CE transceiver to control.	**Check (Enable):** Sends commands to the KAS-20CE transceiver to control the external device connected to it when an emergency occurs. When the KAS-20CE is started up or when the **Setting** screen is closed, the AUX output port is disabled after obtaining the status of the AUX output port of the transceiver while the communication port is opened. If the communication port is opened except when KAS-20CE is starting up, the AUX output port is enabled if an emergency log is not acknowledged (“Acknowledge”). The AUX output port is disabled if it is enabled while the KAS-20CE is shutting down. **Uncheck (Disable):** Does not send commands to the KAS-20CE transceiver to control the external device connected to it when an emergency occurs. **Dropdown list:** AUX A, AUX B, AUX A & AUX B	**Checkbox:** Unchecked (Disabled) **Dropdown list:** AUX A

Configuring BLE Setting

Clicking **System** on the “BLE Setting” screen displays the **BLE Setting** screen.
The **BLE Setting** screen allows you to configure the BLE Data to be sent or received between the KAS-20CE and the mobile station.

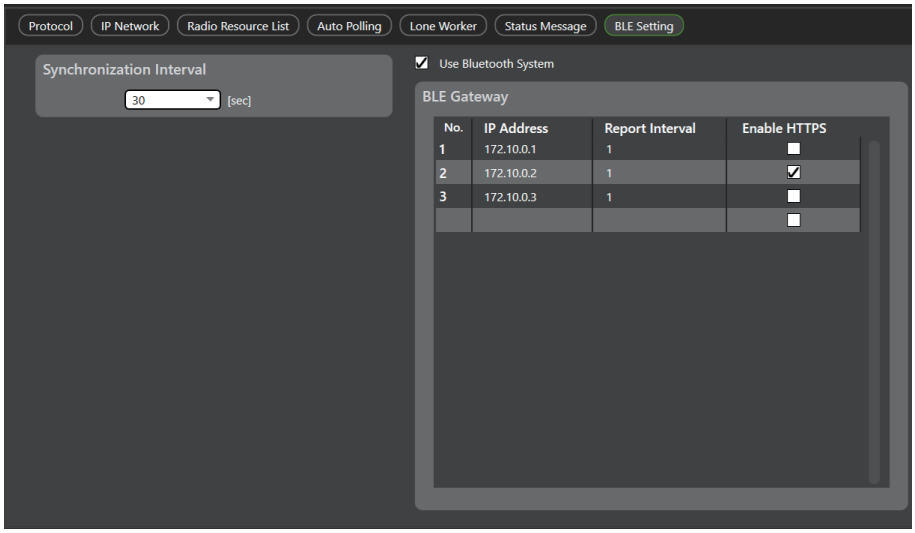

Figure 2-53 BLE Setting Screen (During IP Network Connection)

Table 2-35 BLE Setting Screen

Item	Description	Configurable Range	Default
Synchronization Interval	Allows you to configure the interval at which synchronization information (time) is sent to mobile stations. Note Information is not transmitted when this is configured to **None**.	None, 5 to 60 mins (step 1)	None
Use Bluetooth System	For configuring whether to use Bluetooth System. When this is configured to Check, BLE Data will be acquired from the preconfigured BLE Gateway. Note • When Save is executed on the Setting screen, the acquisition of BLE Data under the previous settings will stop, and BLE data acquisition will begin under the new settings. • When this is configured to Uncheck, you will not be able to configure the **Network Adapter** and **BLE Gateway** lists.	Check (Enable), Uncheck (Disable)	Unchecked (Disabled)
Network Adapter (KAS-20SE)	For selecting the network adapter to use for BLE Gateway connection in a Serial connection. Note • This function cannot be configured for IP Network connections and when **Use Bluetooth System** is configured to Uncheck.	Network Adapter on PC	First line in the list

Item	Description	Configurable Range	Default
IP Address	Allows you to configure the IP Address of BLE Gateway.	0.0.0.0 to 223.255.255.255	0.0.0.0
Report Interval	Allows you to configure the Interval of Report from BLE Gateway.	1 to 30 sec. (step 1 sec.)	1 sec
Enable HTTPS	Allows you to enable/disable the HTTPS of BLE Gateway.	Check (Enable), Uncheck (Disable)	Unchecked (Disabled)

Note

- **BLE Gateway** can be configured when **Use Bluetooth System** is configured to Check.
- You can register up to 100 BLE Gateway in total across all the System.

2.14 Configuring the Mobile Station for Each User

Clicking **Menu** in the “Target List” pane displays the **Configuration** screen in the **Target List** pane.
The **Target List** screen allows you to specify the mobile station to be monitored by the KAS-20CE user or the group to execute scan for each system.

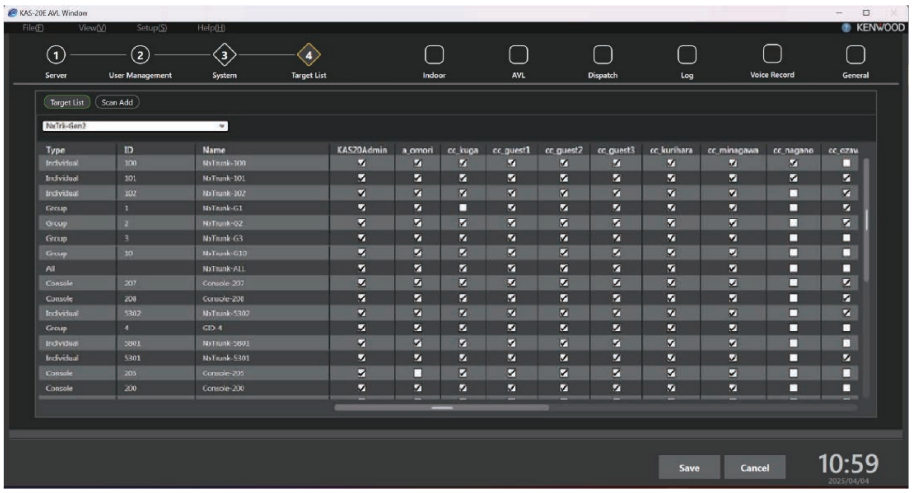

Figure 2-54 Target List Screen

The **Target List** screen comprises of the following setting screens.

- Target List
- Scan Add

Note

Only users that are configured as “Admin” in **Access Level** are allowed to configure the settings on the **Target List** screen. (Refer to Managing KAS-20SE/ KAS-20CE Users on page 57.)

Configuring the Mobile Station to Be Monitored

Clicking “Target List” on the **Target List** screen displays the **Target List** screen.

The **Target List** screen allows you to specify the mobile stations to be monitored by a KAS-20SE/ KAS-20CE user for each system. Users can monitor only the mobile stations or groups they have specified on the AVL Window, Indoor Location Window or Dispatch Window.

A list of the mobile stations or groups that are registered for each system on the **Radio Resource List** screen appears on the **Target List** screen. (Refer to Configuring a Mobile Station on page 98.)

All user names registered on the **User Management** screen are also displayed. (Refer to Managing KAS-20SE/ KAS-20CE Users on page 57.)

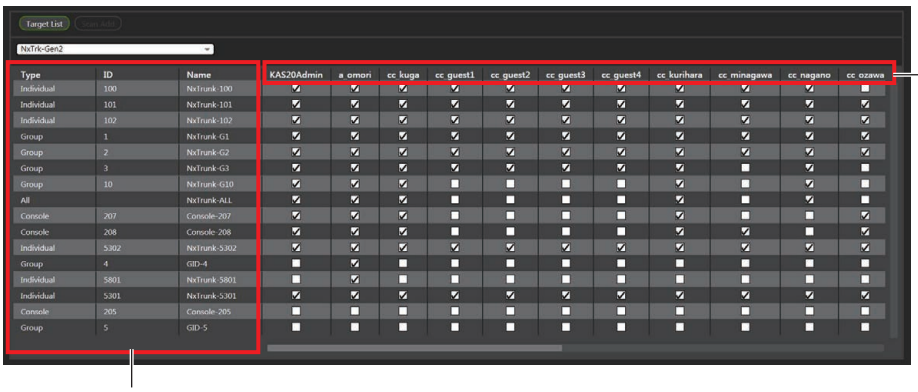

Figure 2-55 Target List Screen

Note

- When a mobile station or group is registered in the **Radio Resource List** screen, the checkbox with the same ID in the **Target List** screen is selected. (Refer to Configuring a Mobile Station on page 98.)
- If DMR Tier III Trunking is enabled in **Fleet Dialing Plan**, **ID (Fleet Dialing Plan)** is displayed in a list of mobile stations. In **ID (Fleet Dialing Plan)**, a value configured in the Prefix - Fleet - IN/GN format is displayed.

1 Select the system to configure.

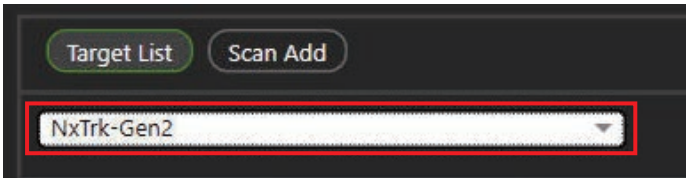

Figure 2-56 System Selection

2 Select the checkbox of the mobile stations to monitor for each user.

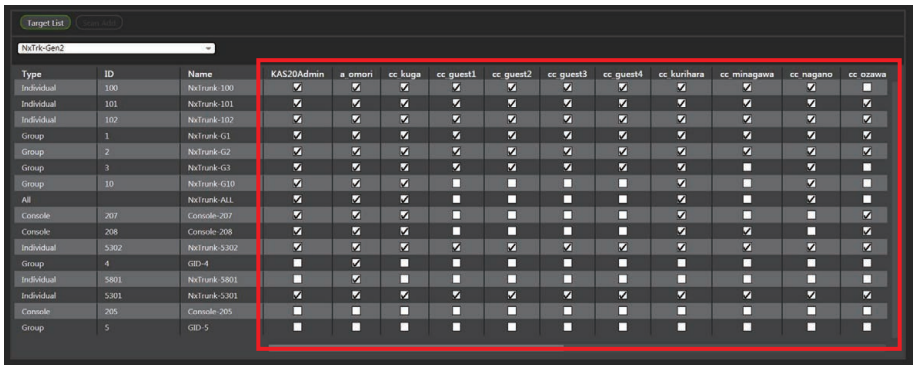

Figure 2-57 Specifying Mobile Stations to Monitor

Note

Right-clicking on the user column of the **Target List** screen displays a Context Menu and allows the following operations.

- **Check All in Selected Row:**
  Turns on all the checkboxes in the selected rows.
- **Check All in Selected Column:**
  Turns on all the checkboxes in the selected user columns.
- **Uncheck All in Selected Row:**
  Turns off all the checkboxes in the selected rows.
- **Uncheck All in Selected Column:**
  Turns off all the checkboxes in the selected user columns.

Configuring the Group for Executing Registration When Logging into KAS-20CE

Clicking “Scan Add” on the **Target List** screen displays the **Scan Add** screen.

The **Scan Add** screen allows you to specify the group to execute Group Registration for each system upon logging into the KAS-20CE.

A list of groups, All Call IDs and Unaddress IDs that are specified on the **Target List** screen as the targets for monitoring are displayed on the **Scan Add** screen.

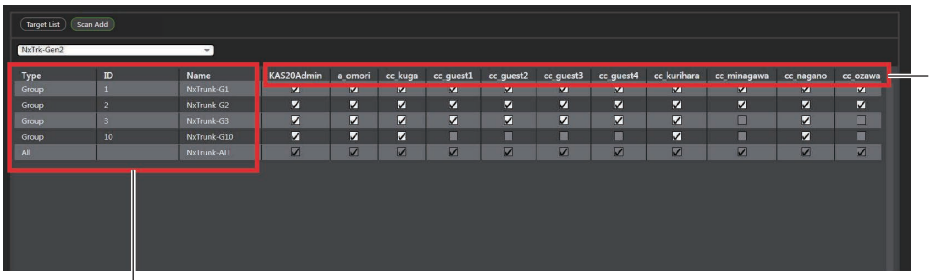

Figure 2-58 Scan Add Screen

Note

- Settings in the **Scan Add** screen can be configured only for IP network connection.
- When a mobile station or group is registered in the **Radio Resource List** screen, the checkboxes of the registered group, the All Call ID and Unaddress ID are selected. (Refer to Configuring a Mobile Station on page 98.)
- All Call IDs refers to IDs for which **Type** is configured to “All” on the **Radio Resource List** screen. (Refer to Configuring a Mobile Station on page 98.)
- Unaddress IDs refers to IDs for which **Type** is configured to “Unaddress” on the **Radio Resource List** screen. (Refer to Configuring a Mobile Station on page 98.)
- The checkboxes for All Call ID and Unaddress ID are always in the selected state and the setting cannot be altered by users.
- Group Registration is also executed when changes have been made to the communication system or the **Scan Add** settings.
- If Trunking 2.5 is enabled in DMR Tier III Trunking/ **Fleet Dialing Plan**, **ID (Fleet Dialing Plan)** is displayed in the ID list. In **ID (Fleet Dialing Plan)**, a value configured in the Prefix - Fleet - GN format is displayed.

1 Select the system to configure.

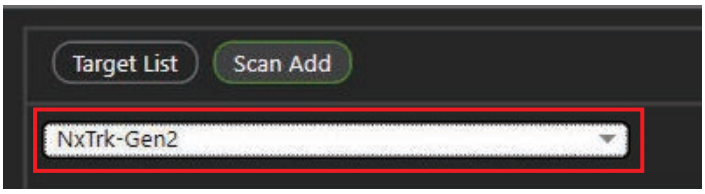

Figure 2-59 System Selection

2 **For each user, select the checkbox of the groups for which you want to execute Group Registration.**

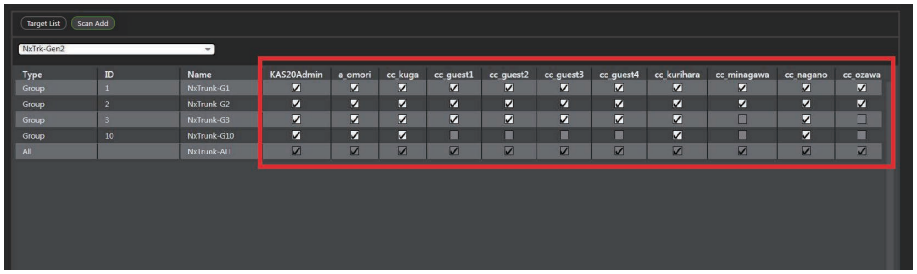

Figure 2-60 Specifying Group Registration Targets

Note

- Right-clicking on the user column of the **Scan Add** screen displays a Context Menu and allows the following operations.
  - **Check All in Selected Row:**
    Turns on all the checkboxes in the selected rows.
  - **Check All in Selected Column:**
    Turns on all the checkboxes in the selected user columns.
  - **Uncheck All in Selected Row:**
    Turns off all the checkboxes in the selected rows.
  - **Uncheck All in Selected Column:**
    Turns off all the checkboxes in the selected user columns.
- Up to 99 checkboxes can be selected per system for each user.
- In the case of Trunking 2.5/ DMR Tier III Trunking, up to 99 All and Group ID checkboxes can be selected per system for each user.
- In the case of DMR Conventional/ DMR Conventional (via TKR-D series), up to 99 All and Group ID checkboxes or 98 Unaddress, All and Group ID checkboxes can be selected per system for each user.
- If the connected repeater is the NXR-710/ NXR-810, Group Registration can be executed for up to 19 groups. If the protocol of the communication system is NXDN Conventional, a warning message appears when the 19th checkbox is selected.
- Groups with the checkbox selected on the **Scan Add** screen are marked with a “Scan Add” icon at the beginning of the **Radio Resource List** in the Dispatch Window.

3 CONFIGURING THE MOBILE STATION FOR USING THE KAS-20E (AVL/ Dispatch)

This section explains the procedure for configuring the mobile station to make use of the AVL and Dispatch functions on the KAS-20E.

3.1 Configuring the Console ID and Group ID of KAS-20E in the Mobile Station

Note

It is recommended that the “Group ID” be configured for each Base ID Type of the mobile station. If “Unit ID” is configured, an incoming Voice Call that is sent concurrently with an Emergency status from the terminal cannot be received.

NXDN Trunking (Type-C): NEXEDGE 2nd Generation and NXDN Trunking (Type-C): NEXEDGE 1st Generation Settings

For NXDN Trunking (Type-C): NEXEDGE 2nd Generation and NXDN Trunking (Type-C): NEXEDGE 1st Generation, configure the items below.

Configure the following using the FPU of the mobile station that is being communicated with. (Example: When KPG-111D is used)

1 **Configure “Group ID” in Base ID Type under Edit > NXDN > NXDN 1 > General 1.**

2 **Configure Edit for the KAS-20SE in NXDN under NXDN 1 > General 1 > Base ID > Group ID.**

3 **Configure “Group ID” in Base ID Type (GPS) under Edit > NXDN > NXDN 2 > GPS.**

4 **Configure Edit for the KAS-20SE in NXDN under NXDN 2 > GPS > Base ID (GPS) > Group ID.**

5 **Configure “Group ID” in Emergency NXDN ID Type under Edit > Emergency Information > Emergency 2 > Emergency ID (NXDN Trunking).**

6 **Configure Edit for the KAS-20SE in Emergency Information under Emergency 2 > Emergency ID (NXDN Trunking) > Emergency NXDN ID > Group ID.**

7 **Configure the following in ID under Edit > NXDN > NXDN 2 > Unit ID List.**

In the case of IP network connection, configure the **Console ID** of KAS-20SE and KAS-20CE.
In the case of serial connection, configure the **Unit ID** of the base stations of the KAS-20SE and KAS-20CE.

8 **Configure Edit for the KAS-20SE in NXDN under NXDN 2 > Group ID List > ID > Group ID.**

NXDN Conventional Settings

For NXDN Conventional, configure the items below.

Configure the following using the FPU of the mobile station that is being communicated with. (Example: When KPG-111D is used)

1 **Configure "Group ID" in Base ID Type under Edit > NXDN > NXDN 1 > General 1.**

2 **Configure Edit for the KAS-20SE in NXDN under NXDN 1 > General 1 > Base ID > Group ID.**

3 **Configure "Group ID" in Base ID Type (GPS) under Edit > NXDN > NXDN 2 > GPS.**

4 **Configure Edit for the KAS-20SE in NXDN under NXDN 2 > GPS > Base ID (GPS) > Group ID.**

5 **Configure "NXDN" in Emergency ID under Edit > Emergency Information > Emergency 2 > Emergency ID (NXDN Conventional).**

6 **Configure "Group ID" in Emergency NXDN ID Type under Edit > Emergency Information > Emergency 2 > Emergency ID (NXDN Conventional).**

7 **Configure Edit for the KAS-20SE in Emergency Information under Emergency 2 > Emergency ID (NXDN Conventional) > Emergency NXDN ID > Group ID.**

8 **Configure the following in ID under Edit > NXDN > NXDN 2 > Unit ID List.**

In the case of IP network connection, configure the **Console ID** of KAS-20SE and KAS-20CE.
In the case of serial connection, configure the **Unit ID** of the base stations of the KAS-20SE and KAS-20CE.

9 **Configure Edit for the KAS-20SE in NXDN under NXDN 2 > Group ID List > ID > Group ID.**

Trunking 2.5 and DMR Tier III Trunking Settings

For Trunking 2.5 and DMR Tier III Trunking, configure the items below.

Configure the following using the FPU of the mobile station that is being communicated with. (Example: When KPG-D1 is used)

1 **Configure "Group ID" in Base ID Type under Transceiver Settings > Personal > Personal Features > DMR-based Trunking > General.**

2 **Configure Transceiver Settings for the KAS-20SE in Personal under Personal Features > DMR-based Trunking > General > Base ID > Group ID.**

3 **Configure "Group ID" in GPS Base ID Type under Transceiver Settings > Personal > Personal Features > DMR-based Trunking > GPS.**

4 **Configure Transceiver Settings for the KAS-20SE in Personal under Personal Features > DMR-based Trunking > GPS > GPS Base ID > Group ID.**

5 **Configure "Group ID" in Emergency DMR ID Type under Transceiver Settings > Personal > Personal Features > DMR-based Trunking > Emergency > Emergency ID (DMR-based Trunking).**

6 **Configure Transceiver Settings for the KAS-20SE in Personal under Personal Features > DMR-based Trunking > Emergency > Emergency ID (DMR-based Trunking) > Emergency DMR ID > Group ID.**

7 **Configure Transceiver Settings for the KAS-20SE and KAS-20CE in DMR under Individual ID List > ID > ID > Console ID.**

8 **Configure Transceiver Settings for the KAS-20SE in Zone/Channel under Zone/Channel Information > DMR-based Trunking > Group ID > Group ID.**

DMR Conventional and DMR Conventional (via TKR-D series) Settings

For DMR Conventional and DMR Conventional (via TKR-D series), configure the items below.

Configure the following using the FPU of the mobile station that is being communicated with. (Example: When KPG-166D is used)

1 **Configure "Group ID" in Base ID Type under Edit > DMR > Conventional 1.**

2 **Configure Edit for the KAS-20SE in DMR under Conventional 1 > Base ID > Group ID.**

3 **Configure "Group ID" in Base ID Type (GPS) under Edit > DMR > GPS.**

4 **Configure Edit for the KAS-20SE in DMR under GPS > Base ID (GPS) > Group ID.**

5 **Configure "DMR" in Emergency ID under Edit > Emergency Information > Emergency 2 > Emergency ID (DMR Conventional).**

6 **Configure "Group ID" in Emergency DMR ID Type under Edit > Emergency Information > Emergency 2 > Emergency ID (DMR Conventional).**

7 **Configure Edit for the KAS-20SE in Emergency Information under Emergency 2 > Emergency ID (DMR Conventional) > Emergency DMR ID > Group ID.**

8 **Configure the following in ID under Edit > DMR > Unit ID List.**

In the case of IP network connection, configure the **Console ID** of KAS-20SE and KAS-20CE.
In the case of serial connection, configure the **Unit ID** of the base stations of the KAS-20SE and KAS-20CE.

9 **Configure Edit for the KAS-20SE in DMR under Group ID List > ID > Group ID.**

FleetSync Settings

For FleetSync, configure the items below.

Configure the following using the FPU of the mobile station that is being communicated with. (Example: When KPG-111D is used)

1 **Configure Edit for the KAS-20SE in FleetSync under Target > Target Fleet > Fleet.**

2 **Configure Edit for the KAS-20SE in FleetSync under Target > Target ID > ID.**

3 **Configure Edit for the KAS-20SE in FleetSync under GPS > Base Fleet > Fleet.**

4 **Configure Edit for the KAS-20SE in FleetSync under GPS > Base ID > ID.**

5 **Configure "FleetSync/MDC-1200" in Emergency ID under Edit > Emergency Information > Emergency 2.**

6 **Configure Edit for the KAS-20SE in Emergency Information under Emergency 2 > Emergency ID (Analog) > Emergency Call Fleet > Fleet.**

7 **Configure Edit for the KAS-20SE in Emergency Information under Emergency 2 > Emergency ID (Analog) > Emergency Call ID > ID.**

8 **Configure Edit for the base stations connected to the KAS-20SE and KAS-20CE in FleetSync under ID List > ID List > ID > Unit ID.**

3.2 Configuring GPS Report of the Mobile Station Automatically When Auto Polling Is Disabled

Configure the sending of GPS Data from the mobile station to the KAS-20SE when **Auto Polling** on the KAS-20E is disabled.

NXDN Trunking (Type-C): NEXEDGE 2nd Generation Settings

For NXDN Trunking (Type-C): NEXEDGE 2nd Generation, configure the items below.

Configure the following using the FPU of the mobile station that is being communicated with. (Example: When KPG-111D is used)

1 **Configure "GPS" in COM port under Edit > Optional Features > Optional Features 1 > Common Page 3.**

2 **Configure "Auto" in GPS Report Mode under Edit > Optional Features > Optional Features 2 > GPS.**

3 **Configure the transmission interval in GPS Report Interval Time under Edit > Optional Features > Optional Features 2 > GPS.**

Configure the system settings using System Configuration Utility (SCU).

1 **Configure the following in GPS Report Channel under Edit > System Configuration > General.**

- **GPS Report Channel**
- **GPS Transmission Capacity Mode**

2 **Configure the following in GPS Report Channel Parameters under Edit > System List > Site List > General (Edit).**

- **Maximum Report Channel Number**
- **Transmission Occupancy Rate [%]**
- **Rollover Interval Timer [h]**
- **Maximum Available Channel Number**

3 **Configure the following in Channel Information under Edit > System List > Site List > Channel List > General (Edit).**

- **GPS Report Channel**

Configure the service settings for each fleet using System Configuration Utility (SCU).

1 **Configure the following in General under Edit > Subscriber Configuration > Fleet List > General (Edit).**

- **GPS Report Format**
- **GPS Report Interval [s]**

When using **GPS Report Channel**, configure in such a way that the total number of terminals from which KAS-20SE receives the GPS Data does not exceed 100 terminals per second.

Trunking 2.5 and DMR Tier III Trunking Settings

For Trunking 2.5 and DMR Tier III Trunking, configure the items below.

Configure the following using the FPU of the mobile station that is being communicated with. (Example: When KPG-D1 is used)

1 **Configure "GPS" in COM port under Transceiver Settings > Optional Features > Optional Features 1 > Serial Interface.**

2 **Configure "Auto" in GPS Report Mode under Transceiver Settings > Personal > Personal Features > DMR-based Trunking > GPS > GPS Report Mode.**

3 **Configure the transmission interval in GPS Report Interval Time under Transceiver Settings > Personal > Personal Features > DMR-based Trunking > GPS > GPS Report Mode.**

DMR Tier III Trunking Settings

For DMR Tier III Trunking, configure the items below.

When the GPS polling function is used by using the KAIROS repeater, configure the items below.

Configure the following settings by using the System Configuration Utility (SCU) of the IP Gateway that is being communicated with.

1 **Configure Edit for the KAS-20SE in Console under GPS Polling > UID > Console ID.**

Configure the following by using the KAIROS Network Management System (KA-NMS) of the repeater that is being communicated with.

1 **Configure “TSCCAS” in Control Channel Type under Settings > System > Network.**

2 **Configure “BS” in Control Channel Source under Settings > System > Network.**

3 **Configure “USBD CCAS” in Polling_NMEA under Settings > System > T3 System.**

4 **Configure the transmission interval in Timeout positioning request polling under Settings > System > T3 System > Polling_NMEA.**

Note

For DMR Tier III Trunking, configure for either when GPS Report of the mobile station that is being communicated with is automatically configured or when the GPS polling function is used by using the KAIROS repeater.

NXDN Trunking (Type-C): NEXEDGE 1st Generation, NXDN Conventional, DMR Conventional, and DMR Conventional (via TKR-D series) Settings

For NXDN Trunking (Type-C): NEXEDGE 1st Generation, NXDN Conventional, DMR Conventional, and DMR Conventional (via TKR-D series), configure the items below.

Configure the following using the FPU of the mobile station that is being communicated with.

(Example: When KPG-111D is used for NXDN Trunking (Type-C): NEXEDGE 1st Generation and NXDN Conventional, and KPG-166D for DMR Conventional, DMR Conventional (via TKR-D series))

1 **Configure “GPS” in COM port under Edit > Optional Features > Optional Features 1 > Common Page 3.**

2 **Configure “Auto” in GPS Report Mode under Edit > Optional Features > Optional Features 2 > GPS.**

3 **Configure the transmission interval in GPS Report Interval Time under Edit > Optional Features > Optional Features 2 > GPS.**

4 CONFIGURING THE MOBILE STATION FOR USING THE KAS-20E (Indoor Location)

This section explains the procedure for configuring the mobile station to make use of the Indoor Location function on the KAS-20E.

4.1 Configuring the Console ID and Group ID of KAS-20E in the Mobile Station

Note

It is recommended that the “Group ID” be configured for each Base ID Type of the mobile station. If “Unit ID” is configured, an incoming Voice Call that is sent concurrently with an Emergency status from the terminal cannot be received.

NXDN Trunking (Type-C): NEXEDGE 2nd Generation and NXDN Trunking (Type-C): NEXEDGE 1st Generation Settings

For NXDN Trunking (Type-C): NEXEDGE 2nd Generation and NXDN Trunking (Type-C): NEXEDGE 1st Generation, configure the items below.

Configure the following using the FPU of the mobile station that is being communicated with. (Example: In the case of KPG-D3)

1 **Configure “Group ID” in Base ID Type under Radio Configuration > System Properties > Systems > NXDN Trunking > Other Options > Data Communications.**

2 **Configure Group ID for the KAS-20SE in Base ID under Radio Configuration > System Properties > Systems > NXDN Trunking > Other Options > Data Communications.**

3 **Configure “Group ID” in ID Type under Radio Configuration > System Properties > Systems > NXDN Trunking > GPS/BLE > Base Station.**

4 **Configure Group ID for the KAS-20SE in ID under Radio Configuration > System Properties > Systems > NXDN Trunking > GPS/BLE > Base Station.**

5 **Configure “Group ID” in ID Type under Radio Configuration > System Properties > Systems > NXDN Trunking > Other Options > Emergency.**

6 **Configure Group ID for the KAS-20SE in NXDN ID under Radio Configuration > System Properties > Systems > NXDN Trunking > Other Options > Emergency.**

7 **Configure the following in ID under Radio Configuration > System Properties > ID/Status List > ID/Status List > NXDN Individual ID List.**

In the case of IP network connection, configure the **Console ID** of KAS-20SE and KAS-20CE.
In the case of serial connection, configure the **Unit ID** of the base stations of the KAS-20SE and KAS-20CE.

8 **Configure Group ID for the KAS-20E in ID under Radio Configuration > System Properties > ID/Status List > ID/Status List > NXDN Group ID List.**

NXDN Conventional Settings

For NXDN Conventional, configure the items below.

Configure the following using the FPU of the mobile station that is being communicated with. (Example: In the case of KPG-D3)

1 **Configure "Group ID" in Base ID Type under Radio Configuration > System Properties > Systems > NXDN Conventional > NXDN > Data Communications.**

2 **Configure Group ID for the KAS-20SE in Base ID under Radio Configuration > System Properties > Systems > NXDN Conventional > NXDN > Data Communications.**

3 **Configure the setting of one of the following ID Type to "Group ID".**

- Radio Configuration > System Properties > Systems > NXDN Conventional > GPS/BLE > MDC-1200 > Base Station
- Radio Configuration > System Properties > Systems > NXDN Conventional > GPS/BLE > FleetSync > NXDN > Base Station

4 **Configure the setting of one of the following ID to the "Group ID" for the KAS-20SE.**

- Radio Configuration > System Properties > Systems > NXDN Conventional > GPS/BLE > MDC-1200 > Base Station
- Radio Configuration > System Properties > Systems > NXDN Conventional > GPS/BLE > FleetSync > NXDN > Base Station

5 **Configure "Group ID" in ID Type under Radio Configuration > System Properties >Systems > NXDN Conventional > NXDN > Emergency.**

6 **Configure Group ID for the KAS-20SE in NXDN ID under Radio Configuration > System Properties > Systems > NXDN Conventional > NXDN > Emergency.**

7 **Configure the following in ID under Radio Configuration > System Properties > ID/Status List > ID/Status List > NXDN Individual ID List.**

In the case of IP network connection, configure the **Console ID** of KAS-20SE and KAS-20CE.
In the case of serial connection, configure the **Unit ID** of the base stations of the KAS-20SE and KAS-20CE.

8 **Configure Group ID for the KAS-20SE in ID under Radio Configuration > System Properties > ID/Status List > ID/Status List > NXDN Group ID List.**

DMR Conventional Settings

For DMR Conventional, configure the items below.

Configure the following using the FPU of the mobile station that is being communicated with. (Example: In the case of KPG-D3)

1 **Configure "Group ID" in Base ID Type under Radio Configuration > System Properties > Systems > DMR Conventional > DMR > Data Communications.**

2 **Configure Group ID for the KAS-20SE in Base ID under Radio Configuration > System Properties > Systems > DMR Conventional > DMR > Data Communications.**

3 **Configure the setting of one of the following ID Type to "Group ID".**

- Radio Configuration > System Properties > Systems > NXDN Conventional > GPS/BLE > MDC-1200 > Base Station
- Radio Configuration > System Properties > Systems > NXDN Conventional > GPS/BLE > FleetSync > NXDN > Base Station

4 **Configure the setting of one of the following ID to the "Group ID" for the KAS-20SE.**

- Radio Configuration > System Properties > Systems > NXDN Conventional > GPS/BLE > MDC-1200 > Base Station
- Radio Configuration > System Properties > Systems > NXDN Conventional > GPS/BLE > FleetSync > NXDN > Base Station

5 **Configure "Group ID" in ID Type under Radio Configuration > System Properties > Systems > DMR Conventional > DMR > Emergency > Emergency ID.**

6 **Configure Group ID for the KAS-20SE in Group ID under Radio Configuration > System Properties > Systems > DMR Conventional > DMR > Emergency > Emergency ID.**

7 **Configure the following in ID under Radio Configuration > System Properties > ID/Status List > ID/Status List > DMR Individual ID List.**

In the case of IP network connection, configure the **Console ID** of KAS-20SE and KAS-20CE.
In the case of serial connection, configure the **Unit ID** of the base stations of the KAS-20SE and KAS-20CE.

8 **Configure Group ID for the KAS-20SE in ID under Radio Configuration > System Properties > ID/Status List > ID/Status List > DMR Group ID List.**

4.2 Configuring Auto Polling of the Mobile Station Automatically When GPS/ BLE Report Is Disabled

This section explains the procedure for configuring the settings for sending GPS/ BLE Data from the mobile station to the KAS-20SE when **Auto Polling** on the KAS-20E is disabled.

NXDN Trunking (Type-C): NEXEDGE 2nd Generation Settings

For NXDN Trunking (Type-C): NEXEDGE 2nd Generation, configure the items below.

Configure the following using the FPU of the mobile station that is being communicated with. (Example: In the case of KPG-D3)

1 **Configure "Data + Location Data Output" in COM port under Radio Configuration > Global Options under External Device > General > Serial Interface.**

2 **Configure "Auto" in GPS/BLE Report Mode under Radio Configuration > System Properties > Systems > NXDN Trunking > GPS/BLE.**

3 **Configure the transmission interval in GPS/BLE Report Interval Time under Radio Configuration > System Properties > Systems > NXDN Trunking > GPS/BLE > Auto.**

4 **Configure the offset time in GPS/BLE Time Mark under Radio Configuration > System Properties > Systems > NXDN Trunking > GPS/BLE > Auto.**

Configure the system settings using System Configuration Utility (SCU).

1 **Configure the following in GPS Report Channel Parameters under Edit > System List > Site List > General (Edit).**

- **Maximum Report Channel Number**
- **Transmission Occupancy Rate [%]**
- **Rollover Interval Timer [h]**
- **Maximum Available Channel Number**

Configure the service settings for each fleet using System Configuration Utility (SCU).

1 **Configure the following in General under Edit > Subscriber Configuration > Fleet List > General (Edit).**

- **GPS Report Format**
- **GPS Report Interval [s]**

When using **GPS Report Channel**, configure in such a way that the total number of terminals from which KAS-20SE receives the GPS/ BLE Data does not exceed 100 terminals per second.

NXDN Trunking (Type-C): NEXEDGE 1st Generation, NXDN Conventional, and DMR Conventional Settings

For NXDN Trunking (Type-C): NEXEDGE 1st Generation, NXDN Conventional, and DMR Conventional, configure the items below.

Configure the following using the FPU of the mobile station that is being communicated with.

(Example: In the case of KPG-D3)

1 **Configure "Data + Location Data Output" in COM port under Radio Configuration > Global Options > External Device > General > Serial Interface.**

2 **Configure the setting of GPS/BLE Report Mode below to "Auto".**

- Radio Configuration > System Properties > Systems > NXDN Trunking > GPS/BLE
- Radio Configuration > System Properties > Systems > NXDN Conventional > GPS/BLE > MDC-1200
- Radio Configuration > System Properties > Systems > NXDN Conventional > GPS/BLE > FleetSync > Common
- Radio Configuration > System Properties > Systems > DMR Conventional > GPS/BLE > MDC-1200
- Radio Configuration > System Properties > Systems > DMR Conventional > GPS/BLE > FleetSync > Common

3 **Configure the transmission interval in GPS/BLE Report Interval Time below.**

- Radio Configuration > System Properties > Systems > NXDN Trunking > GPS/BLE > Auto
- Radio Configuration > System Properties > Systems > NXDN Conventional > GPS/BLE > MDC-1200 > Auto
- Radio Configuration > System Properties > Systems > NXDN Conventional > GPS/BLE > FleetSync > Common > Auto
- Radio Configuration > System Properties > Systems > DMR Conventional > GPS/BLE > MDC-1200 > Auto
- Radio Configuration > System Properties > Systems > DMR Conventional > GPS/BLE > FleetSync > Common > Auto

4 **Configure the offset time in GPS/BLE Time Mark under Radio Configuration > System Properties > Systems > NXDN Trunking > GPS/BLE > Auto.**

This chapter explains the procedure for operating the KAS-20SE (Server).

5.1 Saving and Restoring a Database File

The KAS-20SE/ KAS-20CE database can be saved into a file. This saved database file can be loaded and restored in the SQL server.

Saving a Database File

Clicking **Menu** in the “Backup” pane displays the Backup screen in the **Configuration** pane.
The Backup screen allows you to save the KAS-20SE/ KAS-20CE database as a file in a specified folder.

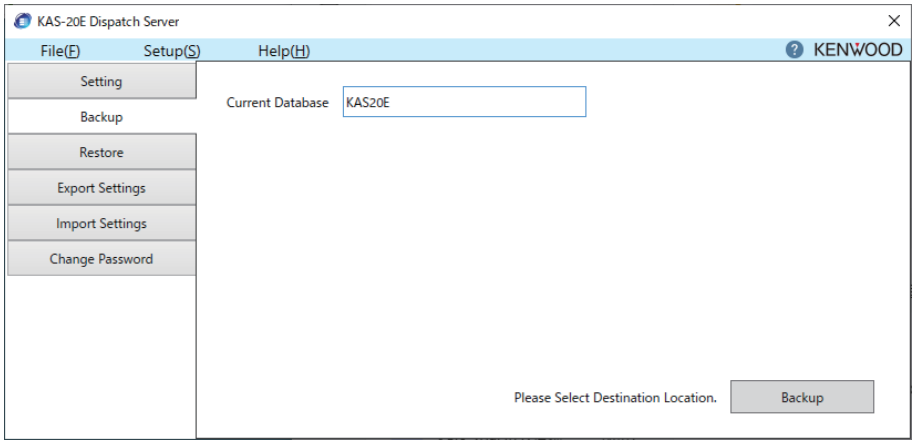

Figure 5-1 Backup Screen

Note

Current Database shows the instance name of the KAS-20SE server.

1 **Click the “Backup” button.**

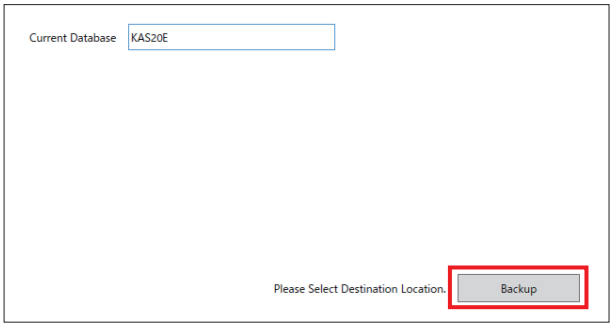

Figure 5-2 Backup

A confirmation message box appears.

2 **Click the “OK” button.**

A dialog box for specifying the destination folder to save the database file appears.

3 **Select the folder to save the database file (extension: .bak), and click the “Save” button.**

The database file is saved to the specified folder.

Note

The following data is not included in the saved database file.

- Files configured by user (Tone files)
- **Setting** and **Language** configurations for the KAS-20SE
- Items saved in each PC at the setting screen of the KAS-20CE
- **Language** and **Audio Setup** configurations for the KAS-20CE

Restoring a Database File

Clicking **Menu** in the “Restore” pane displays the Restore screen in the **Configuration** pane.
The Restore screen allows you to restore the saved KAS-20SE/ KAS-20CE database file by loading it in the SQL server.
Upon restoring the database file, the SQL server will behave as the default database of the KAS-20SE/ KAS-20CE.

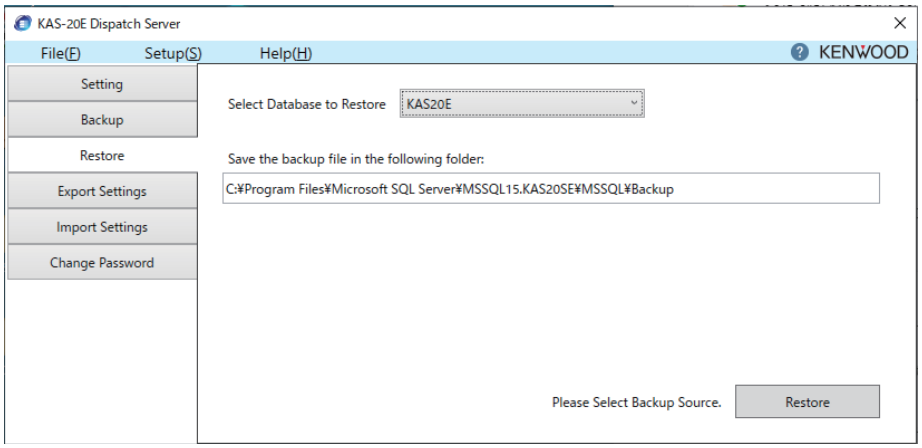

Figure 5-3 Restore Screen

Note

- **Select Database to Restore** shows the instance name of the KAS-20SE server.
- Before restoring, specify the saved database file in **Save the backup file in the following folder:**.

1 **Click the “Restore” button.**

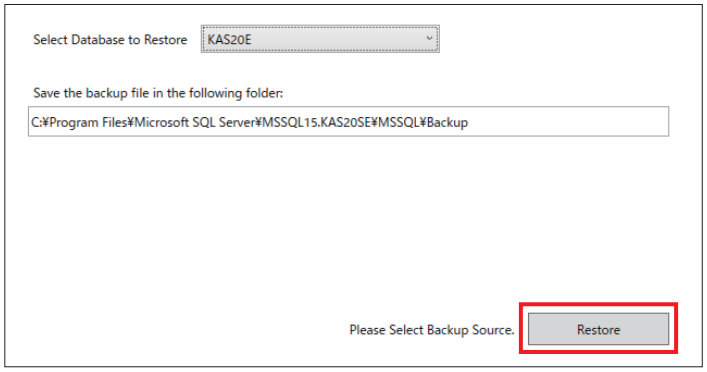

Figure 5-4 Restore

A dialog box for specifying the database file appears.

2 **Select the database file to restore (extension: .bak), and click the “Open” button.**

The specified database file is restored.

5.2 Exporting KAS-20SE/ KAS-20CE Setting Data

Clicking “Export Settings” in the **Menu** pane displays the Export Settings screen in the **Configuration** pane.
The Export Settings screen allows you to create a Setting file (extension: .setting) containing a summary of the setting data for the KAS-20SE/ KAS-20CE, and save it in a specified folder.

1 **Enter a password in Password for Setting File to protect the Setting file.**

A maximum of 16 alphanumeric characters and symbols can be entered for the password.

2 **Enter the same password as Password for Setting File in Confirm Password.**

3 **Click the “Export” button.**

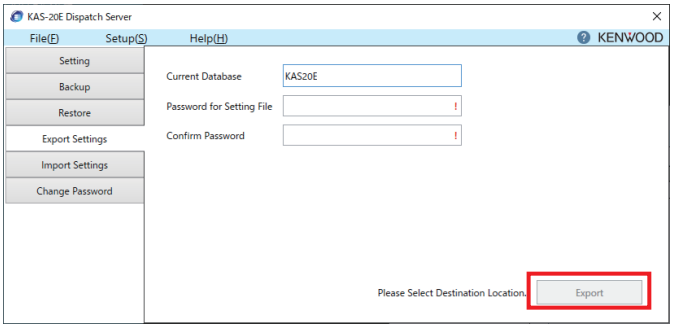

Figure 5-5 Export

A confirmation message box appears.

4 **Click the “OK” button.**

The **Save As** dialog box appears.

5 **Select the folder to save the Setting file (extension: .setting), and click the “Save” button.**

The Setting file is saved to the specified folder.

Note

The following data will not be exported. They need to be moved manually to the export folder. When importing the Setting file, all user passwords need to be entered at one go.

- Files configured by user (Tone files)
- **Setting** and **Language** configurations for the KAS-20SE
- Items saved in each PC at the setting screen of the KAS-20CE
- **Language** and **Audio Setup** configurations for the KAS-20CE
- User password
- Log data
- Recorded voice data

5.3 Importing KAS-20SE/ KAS-20CE Setting Data

Clicking “Import Settings” in the **Menu** pane displays the Import Settings screen in the **Configuration** pane.
The Import Settings screen allows you to import the exported Setting file (extension: .setting) to the KAS-20SE/ KAS-20CE.

1 **Enter a new password in New Password.**

A maximum of 16 alphanumeric characters and symbols can be entered for the password.
All user passwords will be changed to the password configured in **New Password**.

2 **Enter the same password as New Password in Confirm Password.**

3 **Click the “Browse...” button.**

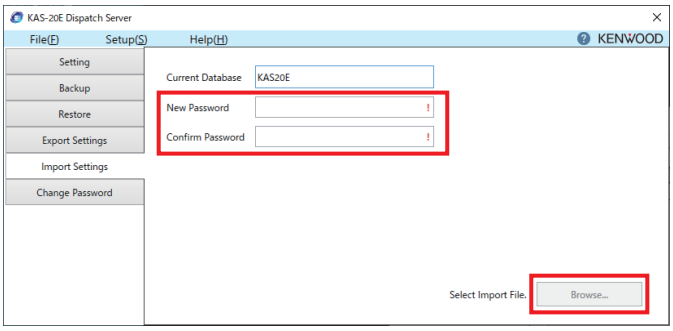

Figure 5-6 Browse...

A confirmation message box appears.

4 **Click the “OK” button.**

The **Open** dialog box appears.

5 **Specify the Setting file (extension: .setting) to import, and click the “Open” button.**

A screen to enter the password for the Setting file appears.

6 **Enter the password, and click the “OK” button.**

When the correct password is entered, the selected Setting file is imported to the KAS-20SE/ KAS-20CE. The existing settings in the KAS-20SE/ KAS-20CE will be overwritten.

Note

- When password authentication fails for 3 consecutive times, the password entry screen will close and the display will return to the Import Settings screen.
- Only Setting files exported from the same KAS-20SE version can be imported.

5.4 Changing the Password

Clicking **Menu** in the “Change Password” pane displays the Reset password screen in the **Configuration** pane.
The password of the KAS-20CE user can be changed on the Reset password screen.

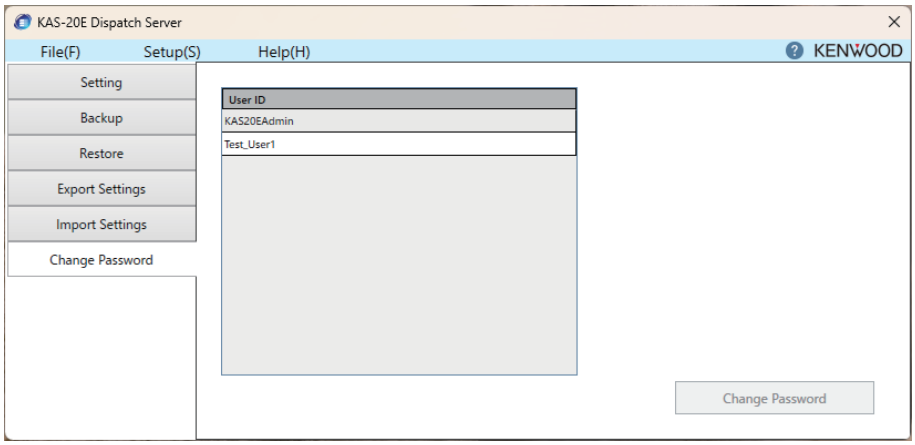

Figure 5-7 Reset Password Screen

1 **Select the user whose password is to be changed from the list, and click the “Change Password” button.**

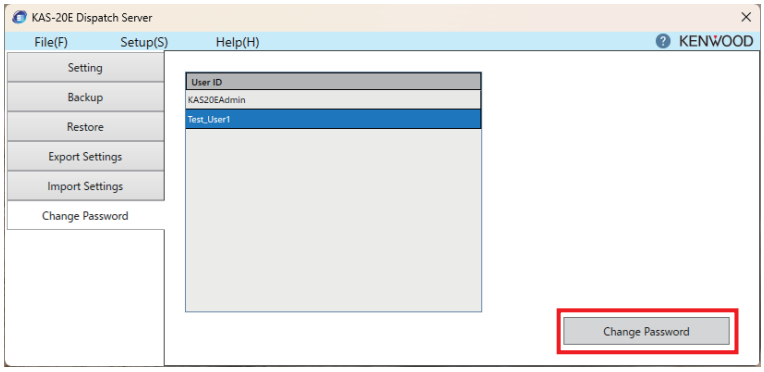

Figure 5-8 Reset Password Screen

The **Change Password** dialog box appears.

2 **Enter a new password in Password.**

A maximum of 16 alphanumeric characters and symbols can be entered for the password.

Note

The password must satisfy the Windows password policy of the PC on which the KAS-20E is installed.

3 **Enter the same password as Password in Confirm Password, and click the "OK" button.**

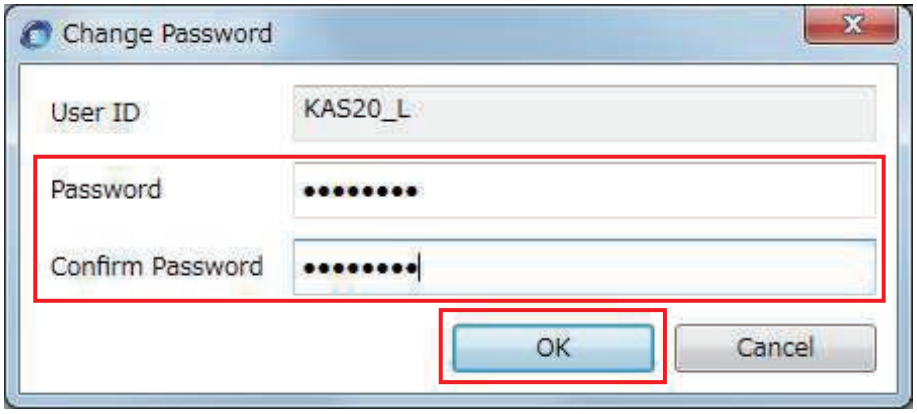

Figure 5-9 Change Password

The password is changed.

5.5 Checking the KAS-20SE License Type

Selecting **Setup** from the “License Selection” menu displays the **License Selection** dialog box.
The **License Selection** dialog box allows you to check the KAS-20SE license type.

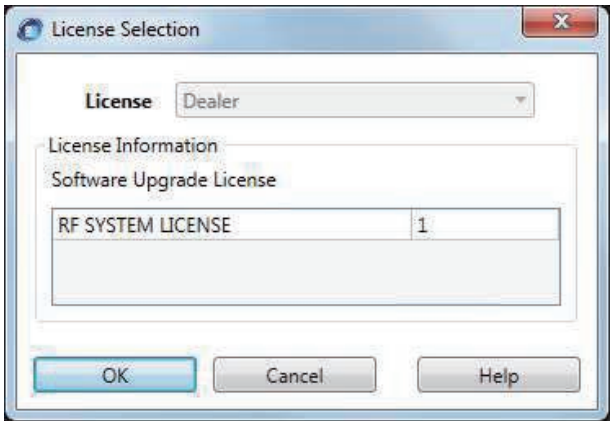

Figure 5-10 License Selection

Table 5-1 Setting Items of License Selection Screen

Item	Description	Configurable Range	Default
License	**License** shows the currently authenticated license label.	-	-
Software Upgrade License	**Software Upgrade License** shows the name of the currently authenticated Software Upgrade License and the number of licenses.	-	-

5.6 Configuring the Language Used in KAS-20SE

Selecting **Setup** from the “Language” menu displays the **Language** dialog box.
Language dialog box allows you to configure the language to use on the KAS-20SE.

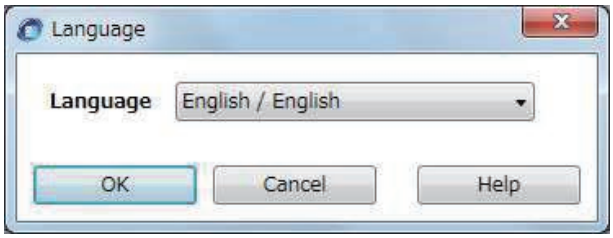

Figure 5-11 Language

Select a language from **Language**, and click the “OK” button to apply the setting.

Table 5-2 Setting Items of Language Screen

Item	Description	Configurable Range	Default
Language	**Language** allows you to configure the language to use on the KAS-20SE.	English, Spanish, French, German, Italian, Dutch, Portuguese, Chinese (Simplified), Chinese (Traditional), and files with the extension of “*.lng” that are added to the installation folder (\Language)	Language selected during installation

5.7 Viewing the Information of KAS-20SE

Selecting **Help** from the “About” menu displays the **About** dialog box.
The **About** dialog box allows you to view information such as the KAS-20SE version.

Figure 5-12 About

This chapter explains the procedure for operating the KAS-20CE (Client).

6.1 Configuring the Functions to Be Used on AVL Window

Clicking **Menu** in the “AVL” pane displays the **Configuration** screen in the **AVL** pane.
The **AVL** screen allows you to configure functions used on the AVL Window, such as the interval for acquiring GPS Data and BLE Data, and map display. (Refer to MANAGING THE OPERATION STATUS ON THE AVL WINDOW on page 201.)

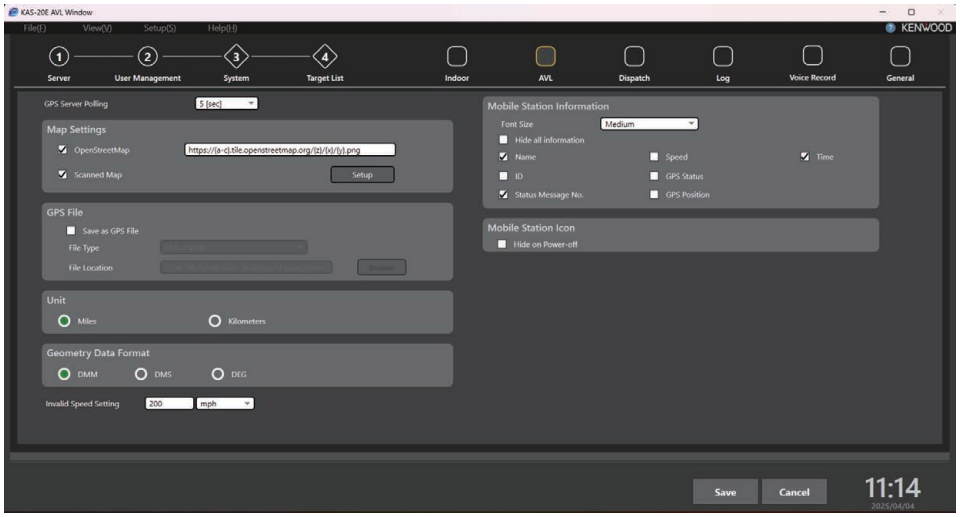

Figure 6-1 AVL Screen

Note

Only users that are configured as “Admin” in **Access Level** are allowed to configure the following functions: (Refer to Managing KAS-20SE/ KAS-20CE Users on page 57.)

- “Setup” button
- Invalid Speed Setting

Table 6-1 Setting Items of AVL Screen

Item	Description	Configurable Range	Default
GPS/ BLE Server Polling	**GPS/ BLE Server Polling** allows you to configure the interval for KAS-20CE to acquire GPS Data and BLE Data from the server.	None, 5 sec to 60 sec (in steps of 1 sec), 5 min, 10 min	5 sec
OpenStreetMap	**OpenStreetMap** allows you to configure whether to make use of OpenStreetMap as the map display on the AVL Window.	**Check (Enable):** Uses OpenStreetMap. **Uncheck (Disable):** Does not use OpenStreetMap.	Unchecked (Disabled)

Item	Description	Configurable Range	Default
OpenStreetMap Path	**OpenStreetMap Path** allows you to configure the URL [*1] of the OpenStreetMap. [*1] The following URL example can be configured as-is. https://{a-c}.tile.openstreetmap.org/{z}/{x}/{y}.png Note **OpenStreetMap Path** can be configured only when **OpenStreetMap** is enabled.	-	Blank
Scanned Map	**Scanned Map** allows you to configure whether to make use of Scanned Map as the map display on the AVL Window.	**Check (Enable):** Uses Scanned Map. **Uncheck (Disable):** Does not use Scanned Map.	Unchecked (Disabled)
“Setup” button	Clicking the “Setup” button displays a screen for adding and configuring a Scanned Map. (Refer to Configuring Scanned Map on page 163.)	-	-
Save as GPS File	**Save as GPS File** allows you to configure whether to save the latest positional information displayed on the map of the AVL Window into a file.	**Check (Enable):** Saves the latest positional information displayed on the map of the AVL Window into a file. **Uncheck (Disable):** Does not save the latest positional information displayed on the map of the AVL Window into a file.	Unchecked (Disabled)
File Type	**File Type** allows you to configure the format of the file that contains the positional information saved using the **Save as GPS File** function. Note **File Type** can be configured only when **Save as GPS File** is enabled.	KML, GeoJSON	KML

Item	Description	Configurable Range	Default
File Location	**File Location** allows you to configure the destination for storing the file that contains the positional information saved using the **Save as GPS File** function. Clicking the “Browse” button allows you to select a destination for saving the file. Note **File Location** can be configured only when **Save as GPS File** is enabled.	-	My Documents \Kenwood \KAS-20CE
Unit	**Unit** allows you to configure the unit used for displaying the distance and speed on the KAS-20CE.	Miles, Kilometers	Miles
Geometry Data Format	**Geometry Data Format** allows you to configure the display format of the positional information used by the map on the AVL Window as well as the input format of the coordinates when configuring the Scanned Map.	**DMM:** Degrees and decimal minutes **DMS:** Degrees, minutes and seconds **DEG:** Decimal notation	DMM
Invalid Speed Setting	**Invalid Speed Setting** allows you to configure a threshold value as well as its unit of measurement for automatically detecting abnormal speed values that are displayed in **GPS** of the **Log** pane on the AVL Window. However, abnormal speed may be reported in some cases due to reasons such as reception error of the GPS receiver unit. It would not be desirable to display speed values that can never be obtained. For this reason, **Invalid Speed Setting** allows you to configure a threshold value according to the intended use to detect inappropriate values. When the value configured in **Invalid Speed Setting** is exceeded, a “Speeding N/A” message appears in the log. Note “Speeding N/A” is displayed only when **Speed Limit** of the **Radio Resource List** screen is configured. (Refer to Configuring the Communication System to Connect To on page 63.)	**Value:** 1 to 999 (in steps of 1) **Unit:** km/h, mph	**Value:** 200 **Unit:** mph

Mobile Station Information

Mobile Station Information allows you to configure whether to display additional information on the map screen together with the icon of the mobile station.

Table 6-2 Setting Items of AVL Screen (Mobile Station Information)

Item	Description	Configurable Range	Default
Font Size	**Font Size** allows you to configure the font size of the information displayed on the map of the AVL Window.	Large, Medium, Small	Medium
Hide all information	**Hide all information** allows you to configure whether to hide all information displayed on the map of the AVL Window.	**Check (Enable):** Does not display the information on the map of the AVL Window. **Uncheck (Disable):** Displays the information on the map of the AVL Window.	Unchecked (Disabled)
Name	**Name** allows you to configure whether to display the mobile station name in the information displayed on the map of the AVL Window.	**Check (Enable):** Displays the mobile station name in the information on the map of the AVL Window. **Uncheck (Disable):** Does not display the mobile station name in the information on the map of the AVL Window.	Checked (Enabled)
ID	**ID** allows you to configure whether to display the mobile station ID in the information displayed on the map of the AVL Window. Note When **Fleet Dialing Plan** is enabled in DMR Tier III Trunking, a value configured in the Prefix - Fleet - IN format is displayed.	**Check (Enable):** Displays the mobile station ID in the information on the map of the AVL Window. **Uncheck (Disable):** Does not display the mobile station ID in the information on the map of the AVL Window.	Unchecked (Disabled)
Status Message No.	**Status Message No.** allows you to configure whether to display the status number in the information displayed on the map of the AVL Window. Note • In the NEXEDGE Digital System, when the KAS-20CE receives the Emergency, Emergency Man-down or Terminate emergency mode status from a mobile station, the status number is displayed as "---". • When KAS-20CE receives a status message from a mobile station, the displays for **Status Message No.**, **Speed**, **GPS Status** and **Time** will be refreshed. However, as the status message does not contain information on the GPS Data, speed data and GPS status, the displays for **Speed** and **GPS Status** become "---" and the position of the mobile station icon will not be refreshed.	**Check (Enable):** Displays the status number in the information on the map of the AVL Window. **Uncheck (Disable):** Does not display the status number in the information on the map of the AVL Window.	Checked (Enabled)

Item	Description	Configurable Range	Default
Speed	**Speed** allows you to configure whether to display the speed value in the information displayed on the map of the AVL Window. Note • The speed unit displayed can be configured in **Unit** on the **AVL** screen. • When KAS-20CE receives a status message from a mobile station, the displays for **Status Message No.**, **Speed**, **GPS Status** and **Time** will be refreshed. However, as the status message does not contain information on the GPS Data, speed data and GPS status, the displays for **Speed** and **GPS Status** become "---" and the position of the mobile station icon will not be refreshed.	**Check (Enable):** Displays the speed value in the information on the map of the AVL Window. **Uncheck (Disable):** Does not display the speed value in the information on the map of the AVL Window.	Unchecked (Disabled)
GPS Status	**GPS Status** allows you to configure whether to display the GPS status in the information displayed on the map of the AVL Window. Note • "V" indicates that GPS positioning is in progress while "I" indicates that GPS positioning is disabled. • When KAS-20CE receives a status message from a mobile station, the displays for **Status Message No.**, **Speed**, **GPS Status** and **Time** will be refreshed. However, as the status message does not contain information on the GPS Data, speed data and GPS status, the displays for **Speed** and **GPS Status** become "---" and the position of the mobile station icon will not be refreshed.	**Check (Enable):** Displays the GPS status in the information on the map of the AVL Window. **Uncheck (Disable):** Does not display the GPS status in the information on the map of the AVL Window.	Unchecked (Disabled)
GPS Position	**GPS Position** allows you to configure whether to display the latitude and longitude of the GPS Data in the information displayed on the map of the AVL Window.	**Check (Enable):** Displays the latitude and longitude of the GPS Data in the information on the map of the AVL Window. **Uncheck (Disable):** Does not display the latitude and longitude of the GPS Data in the information on the map of the AVL Window.	Unchecked (Disabled)
Time	**Time** allows you to configure whether to display the time when the GPS Data, BLE Data or status message was last received from the mobile station in the information displayed on the map of the AVL Window.	**Check (Enable):** Displays the time in the information on the map of the AVL Window. **Uncheck (Disable):** Does not display the time in the information on the map of the AVL Window.	Checked (Enabled)

Mobile Station Icon

Mobile Station Icon allows you to configure the operations to hide the icon of the mobile station displayed on the map.

Table 6-3 Configurable Range of Mobile Station Icon and Default Value

Item	Description	Configurable Range	Default
Hide on Power-off	**Hide on Power-off** allows you to configure whether to hide the icon of a mobile station displayed on the map when the status configured in **Power-off Status** in the **Status Message** screen is received from the mobile station. (Refer to Configuring the Status Message on page 122.) The icon of the mobile station that is hidden upon receipt of the **Power-off Status** is redisplayed when GPS Data is received from that mobile station. However, when the same **Power-off Status** as **GPS Status** is received, the icon on the map will not be redisplayed. Note Even if this function is enabled, the icon of the target mobile station displayed on the map will not be hidden if **Power-off Status** is not configured.	**Check (Enable):** When **Power-off Status** is received from the mobile station, the icon of the target mobile station displayed on the map will be hidden. **Uncheck (Disable):** Even when **Power-off Status** is received from the mobile station, the icon of the target mobile station displayed on the map will not be hidden.	Unchecked (Disabled)

Configuring Scanned Map

Clicking the “Setup” button on the **AVL** screen displays a **Scanned Map Options** dialog box.
The **Scanned Map Options** dialog box allows you to register up to a maximum of 20 map images and configure the geographical coordinates (latitude and longitude) of the registered maps.

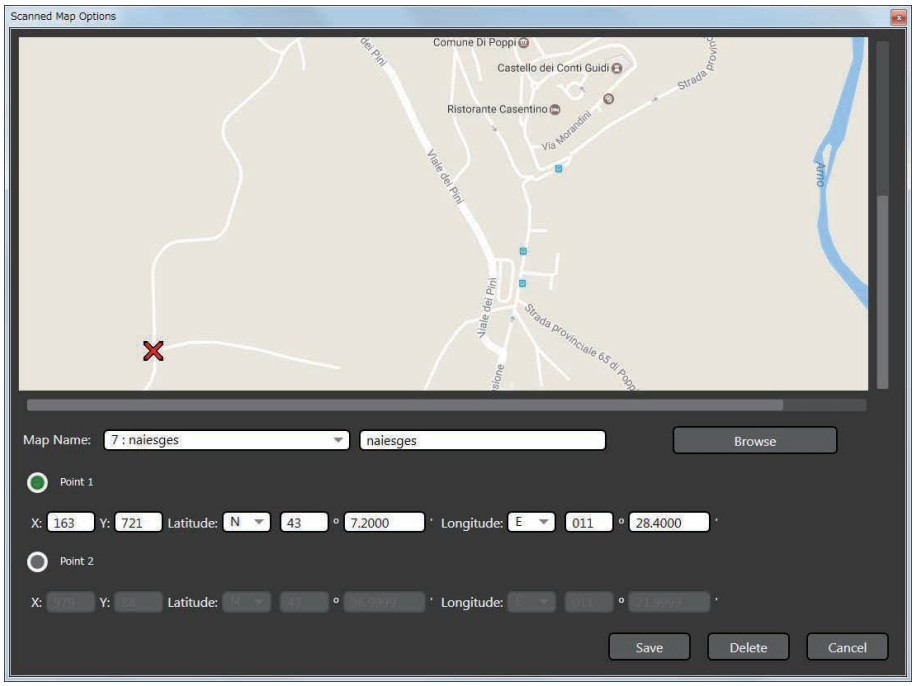

Figure 6-2 Scanned Map Options

Note

- Only users that are configured as “Admin” in **Access Level** are allowed to configure the settings on the Scanned Map screen. (Refer to Managing KAS-20SE/ KAS-20CE Users on page 57.)
- Changes in the **Scanned Map Options** dialog box are saved to the server when the “Save” or “Delete” button on the dialog box is clicked.
  After that, changes in the **Scanned Map Options** dialog box cannot be canceled even when the “Cancel” button on the **Setting** screen is clicked.

1 **Select the number for registering a map from Map Name, enter the map name and click the “Browse” button.**

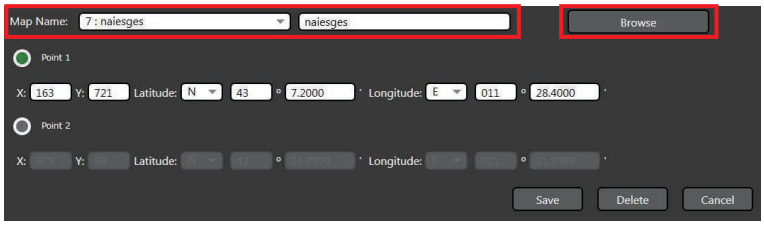

Figure 6-3 Map Selection

Table 6-4 Configurable Range of Map Name and Default Value

Item	Description	Configurable Range	Default
Map Name	**Map Name** allows you to create a name for a map or change the name. And a registered map can be selected from the dropdown list. If the name of a map is not registered, only the map number is displayed. After entering the map name into the edit box, clicking the “Store” button applies the entered name to the map number selected in the dropdown list.	**Dropdown list:** 1 to 20 **Edit box:** Not longer than 16 characters	**Dropdown list:** 1 **Edit box:** Blank

The **Open** dialog box appears.

2 **Select the map file to register and click the “Open” button.**

The selected map appears in the **Scanned Map Options** dialog box.

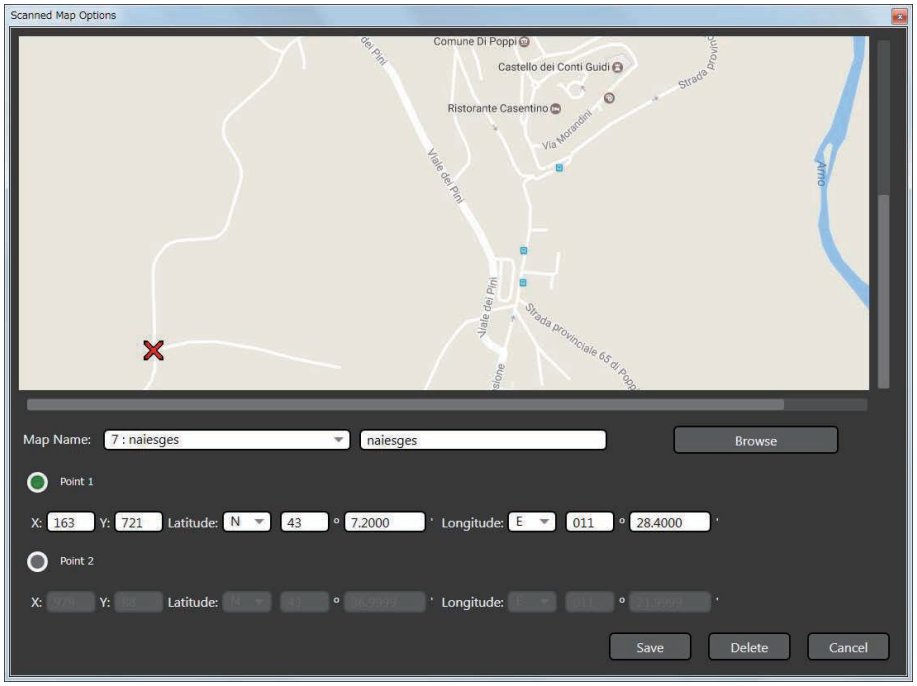

Figure 6-4 Scanned Map Options

Note

- Map images that are not oriented to the north when they are registered will be automatically rotated to the north-up orientation when they are displayed on the AVL Window.
- The maximum size of an image that can be loaded is (horizontal) 5120 x (vertical) 5120 pixels. The maximum data size is 5 MB.
- Images of the following formats can be loaded.

  jpg, jpeg, jpe, jfif, png, gif, bmp

3 **Determine the positions for Point 1 and Point 2 of Latitude / Longitude on the map, and assign each of them with a set of geographical coordinates (latitude and longitude).**

It is important that a set of accurate geographical coordinates (latitude and longitude) is assigned to **Point 1** and **Point 2** respectively.

Assigning Geographical Coordinates to Point 1

1. Select **Point 1** and click on the map somewhere near its bottom left corner.
   A red color "X" appears at the location that was clicked.
2. Enter the X- and Y-coordinates respectively into the **X** and **Y** edit boxes, followed by moving the red "X" to the correct position.
3. Specify the current geographical coordinates (latitude and longitude) of the position of the red "X" which was moved.

Assigning Geographical Coordinates to Point 2

1. Select **Point 2** and click on the map somewhere near its top right corner.
   A blue color "X" appears at the location that was clicked.
2. Enter the X- and Y-coordinates respectively into the **X** and **Y** edit boxes, followed by moving the blue "X" to the correct position.
3. Specify the current geographical coordinates (latitude and longitude) of the position of the blue "X" which was moved.

Note

- Configuration is not allowed if any of **X**, **Y**, **Latitude** or **Longitude** is configured to the same value for **Point 1** and **Point 2**.

Table 6-5 Configurable Range of Latitude / Longitude and Default Values

Item	Configurable Range	Default
X	0 to width of map image	0
Y	0 to height of map image	0
Latitude	N or S	N
	0 to 90	0
	0.0000 to 59.9999 (Becomes 0.0000 at 90°)	0.0000
Longitude	E or W	E
	0 to 180	0
	0.0000 to 59.9999 (Becomes 0.0000 at 180°)	0.0000

4 **Click the "Save" button.**

The settings are saved and the selected map is registered in the KAS-20SE. The registered map can be displayed on the AVL Window. (Refer to MANAGING THE OPERATION STATUS ON THE AVL WINDOW on page 201.)

To Delete a Map Image

Select the map image to delete from the **Map Name** dropdown list, and click the "Delete" button to delete the selected map image and its geographical coordinates setting.

6.2 Configuring the Functions to Be Used on Indoor Location Window

Clicking “Indoor” in the menu pane displays the Indoor Location Window in the settings pane.
The Indoor Location Window allows you to configure functions used on the Indoor Location Window, such as settings for map display.

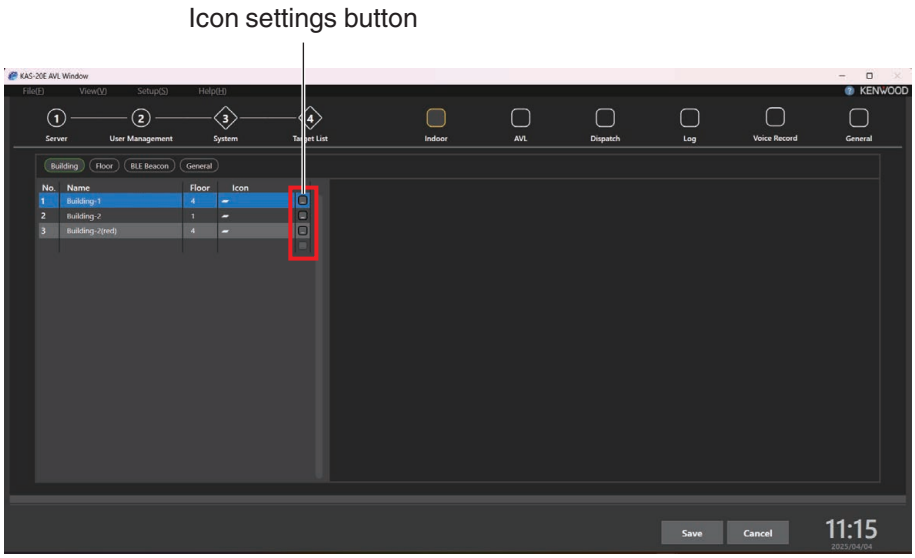

Figure 6-5 Indoor (Building Tab)

Note

Only users that are configured as Access Level in “Admin” are allowed to configure the following functions: (Refer to Managing KAS-20SE/ KAS-20CE Users on page 57.)

- Floor Map

Building Tab

Allows you to configure the name of each Building. Displays Building in the AVL Window and Indoor Location Window.

Table 6-6 Setting Items of Indoor Location Window (Building Tab)

Item	Description	Configurable Range	Default
Name	Allows you to configure the Building name. Assigning a clear and easy-to-understand name to each Building allows you to identify the Building more easily during operation.	Text string containing 1 to 16 characters	Blank
Floor	Allows you to configure the maximum number of Floor to be registered for each Building. This defines the number of Floor that can be configured in the Floor tab. Note Up to a maximum of 20 Floor can be registered in total for all the Building.	1 to 20	1
Icon	Allows you to assign an Icon to each **Floor** of a **Building**. The assigned Icon will appear in the Floor List of the **Map** tab. You can either make a selection from the preset Icon in the KAS-20CE, or import original Icon files into KAS-20CE and assign them. To select from the preset Icon in the KAS-20CE, configure them from the Icon settings button.	50 types of preset icons or by specifying a file	Blank

Floor Tab

You can add Floor to a Building, configure Floor names, and assign **Floor Map**. If **Floor** settings are configured, the Floor name and Floor Map will be displayed in the Indoor Location Window.

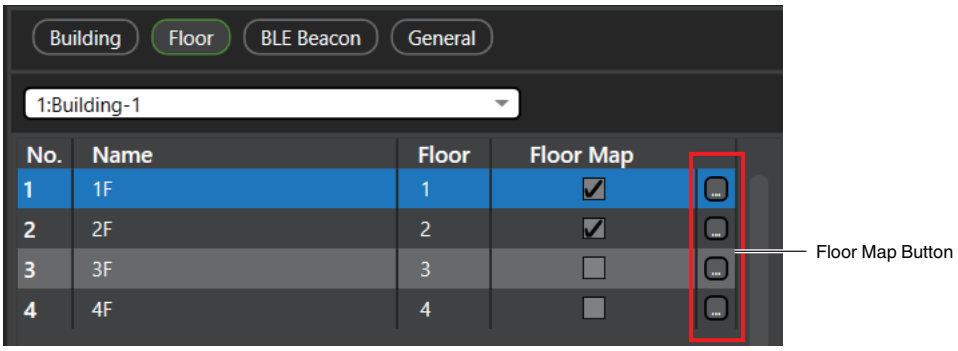

Figure 6-6 Indoor Location Window (Floor Tab)

Table 6-7 Setting Items of Indoor Location Window (Floor Tab)

Item	Description	Configurable Range	Default
Building	You can select a registered Building from the dropdown list. When a Building name is not configured, only the No. of the Building will be displayed.	1 to the number of configured Building	1
Name	Allows you to configure the Floor name. Assigning a clear and easy-to-understand name to each Floor allows you to identify the Floor more easily during operation.	Text string containing 1 to 16 characters	Blank
Floor	Allows you to configure the number of floors. Note When a Floor is added in the **Building** tab, the newly added Floor is assigned the smallest available non-duplicate value.	0 to 20	Numbers are assigned sequentially starting from 0

Item	Description	Configurable Range	Default
Floor Map	When a Map is assigned to a Floor using the Floor Map Button, a check mark will be displayed.	Check (Enable), Uncheck (Disable)	Unchecked (Disabled)
Floor Map Button	Assigns a Map to a Floor. Clicking the button displays a **Floor Map Options** dialog box. (Refer to Configuring Floor Map on page 173.)	-	-
Display in AVL Window	When a Building is displayed on the Indoor Map (Building) in the AVL Window, you can select which Floor Map to display on the Map of the AVL Window. (Refer to Displaying/Hiding Indoor Map on page 252.) Note If the selected Floor No. does not have any Floor Map data assigned, the Floor Map of the Floor with the smallest No. among these with Floor Map data will be displayed on the Map of the AVL Window.	Floor No.1 to Floor No.20	Floor No.1

BLE Beacon Tab

You can add BLE Beacon to a Building, configure a BLE Beacon name, assign an Icon or specify a Position. If BLE Beacon settings are configured, the BLE Beacon name, Icon and Position will be displayed in the log and Indoor Location Window.

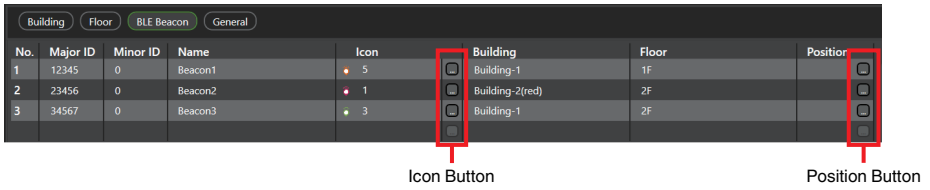

Figure 6-7 Indoor Location Window (BLE Beacon Tab)

Table 6-8 Setting Items of Indoor Location Window (BLE Beacon Tab)

Item	Description	Configurable Range	Default
Major ID	Allows you to configure the Major ID of BLE Beacon to be used by Indoor Location.	0 to 65535 (in steps of 1)	0
Minor ID	Allows you to configure the Minor ID of BLE Beacon to be used by Indoor Location.	0 to 65535 (in steps of 1)	The smallest non-duplicate value with the same Major ID configured in the BLE Beacon
Name	Allows you to configure the Building name. Assigning a clear and easy-to-understand name to each Building allows you to identify the Building more easily during operation.	Text string containing 1 to 16 characters	Blank
Icon	Assigns a, Icon to each BLE Beacon. The may display will only show the assigned Icon.	5 types of preset icons or by specifying a file	Blank
Icon Button	Imports Icon files. Clicking the button displays a Icon file selection dialog box.	-	-
Position Button	Assigns a Beacon Position to a BLE Beacon. Clicking the button displays a **BLE Beacon Position** dialog box. When the **BLE Beacon Position** dialog box is closed, the display for Building and Floor of all displayed BLE Beacon will be updated. (Refer to Configuring BLE Beacon Position on page 177.)	-	-

General Tab

Mobile Station Information (BLE Beacon) allows you to configure whether to display detailed information on the Indoor Location screen together with the Icon of the BLE Beacon. **BLE Beacon Icon/ Mobile Station Icon** allows you to hide the display of the BLE Beacon Icon and Mobile Station Icon that are displayed on the Indoor Location screen.

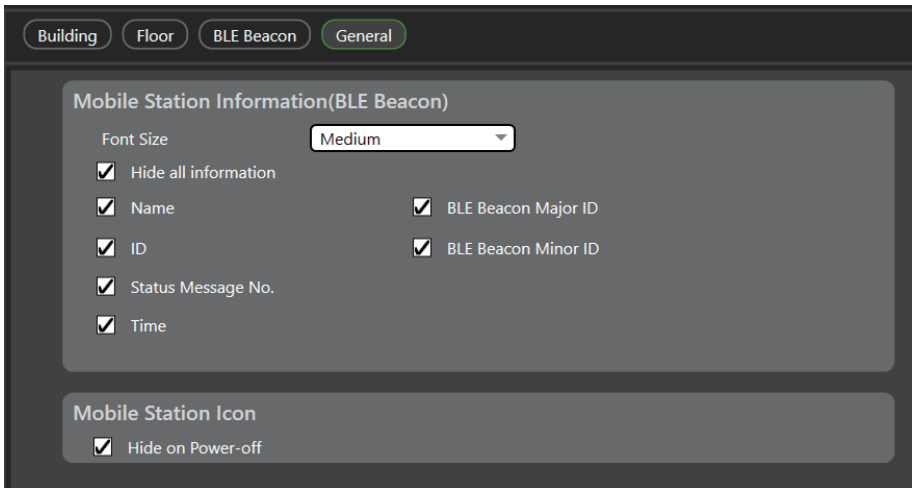

Figure 6-8 Indoor Location Window (General Tab)

Table 6-9 Setting Items of Indoor Location Window (General Tab)

Item	Description	Configurable Range	Default
Font Size	Displays detailed information and allows you to configure the font size of the information displayed.	Large, Medium, Small	Medium
Hide all information	Allows you to hide all detailed information regardless of the other **Mobile Station Information** settings.	Check (Enable), Uncheck (Disable)	Unchecked (Disabled)
Name	Allows you to configure whether to display Name in the detailed information.	Check (Enable), Uncheck (Disable)	Check (Enable):
ID	Allows you to configure whether to display ID in the detailed information.	Check (Enable), Uncheck (Disable)	Unchecked (Disabled)

Item	Description	Configurable Range	Default
Status Message No.	Allows you to configure whether to display Status Message No. in the detailed information.	Check (Enable), Uncheck (Disable)	Check (Enable):
Time	Allows you to configure whether to display Time and the time when BLE Data was last received from the mobile station in the detailed information.	Check (Enable), Uncheck (Disable)	Check (Enable):
BLE Beacon Major ID	Allows you to configure whether to display **BLE Beacon Major ID** in the detailed information.	Check (Enable), Uncheck (Disable)	Uncheck (Disable)
BLE Beacon Minor ID	Allows you to configure whether to display **BLE Beacon Minor ID** in the detailed information.	Check (Enable), Uncheck (Disable)	Uncheck (Disable)
Hide on Power-off	When a Status that is configured to **Power-off Status** is received from a mobile station, the icon display of the mobile station on the Floor screen will be hidden. The icon will reappear when GPS Data or BLE Data is received. Note • The **Power-off Status** uses the Status number configured in **Status Message**. If a Status number is not configured, it will behave in the same way as when **Uncheck (Disable)** is selected. • When GPS Data for the **Power-off Status** is received, the icon will not reappear on the Floor.	Check (Enable), Uncheck (Disable)	Check (Enable):

Configuring Floor Map

Clicking the **Floor** button on the Indoor Location Window (**Floor** tab) displays a **Floor Map Options** dialog box.
The **Floor Map Options** dialog box allows you to add or delete Floor Map.

Figure 6-9 Floor Map Options (DMM)

1 **Select a Floor in Floor Map and click the "Browse" button.**

Figure 6-10 Floor Map Selection Screen

Table 6-10 Configurable Range of Floor Map and Default Value

Item	Description	Configurable Range	Default
Floor Map	Floor Map Allows you to assign a Map to a Floor. And a registered map can be selected from the dropdown list. If the name of the Floor is not registered, only the Floor number will be displayed.	1 to 20	The **No.** of the Floor corresponding to the Floor Map Button you have clicked.

The **Open** dialog box appears.

2 Select the Floor image to register and click the “Open” button.

The selected Floor image appears in the **Floor Map Options** dialog box.

Figure 6-11 Floor Map Options (DMM)

Note

- If a Floor image is not oriented to the north when it is registered, the display of the image registered in Floor Map will be automatically rotated to the north-up orientation.
- The maximum size of an image that can be loaded is (horizontal) 5120 x (vertical) 5120 pixels. The maximum data size is 5 MB.
- Images of the following formats can be loaded.

  jpg, jpeg, jpe, jfif, png, gif, bmp
- If the Floor image is changed, it will be necessary to reconfigure the coordinates of the BLE Beacon icons to retain the coordinates of the configured BLE Beacon icons on the image.

3 **Determine the positions for Point 1 and Point 2 of Latitude / Longitude on the map, and assign each of them with a set of geographical coordinates (latitude and longitude).**

It is important that a set of accurate geographical coordinates (latitude and longitude) is assigned to **Point 1** and **Point 2** respectively.

Assigning Geographical Coordinates to Point 1

1. Select **Point 1** and click on the map somewhere near its bottom left corner.
   A red color "X" appears at the location that was clicked.
2. Enter the X- and Y-coordinates respectively into the **X** and **Y** edit boxes, followed by moving the red "X" to the correct position.
3. Specify the current geographical coordinates (latitude and longitude) of the position of the red "X" which was moved.

Assigning Geographical Coordinates to Point 2

1. Select **Point 2** and click on the map somewhere near its top right corner.
   A blue color "X" appears at the location that was clicked.
2. Enter the X- and Y-coordinates respectively into the **X** and **Y** edit boxes, followed by moving the blue "X" to the correct position.
3. Specify the current geographical coordinates (latitude and longitude) of the position of the blue "X" which was moved.

Note

- Configuration is not allowed if any of **X**, **Y**, **Latitude** or **Longitude** is configured to the same value for **Point 1** and **Point 2**.

Table 6-11 Configurable Range of Latitude / Longitude and Default Values

Item	Configurable Range	Default
X	0 to width of map image	0
Y	0 to height of map image	0
Latitude	N or S	N
	When **Geometry Data Format** is **DMM** or **DMS**: 0 to 90 When **Geometry Data Format** is **DEG**: 0.000000 to 90.000000	When **Geometry Data Format** is **DMM** or **DMS**: 0 When **Geometry Data Format** is **DEG**: 0.000000
	When **Geometry Data Format** is **DMM**: 0.0000 to 59.9999 (Becomes 0.0000 at 90°) When **Geometry Data Format** is **DMS**: 0 to 59 Note This setting cannot be configured when **Geometry Data Format** is configured to **DEG** in **AVL**.	When **Geometry Data Format** is **DMM**: 0.0000 When **Geometry Data Format** is **DMS**: 00

Item	Configurable Range	Default
Longitude	E or W	E
	When **Geometry Data Format** is **DMM** or **DMS**: 0 to 180 When **Geometry Data Format** is **DEG**: 0.000000 to 180.000000	When **Geometry Data Format** is **DMM** or **DMS**: 0 When **Geometry Data Format** is **DEG**: 0.000000
	When **Geometry Data Format** is **DMM**: 0.0000 to 59.9999 (Becomes 0.0000 at 180°) When **Geometry Data Format** is **DMS**: 0 to 59 Note This setting cannot be configured when **Geometry Data Format** is configured to **DEG** in **AVL**.	When **Geometry Data Format** is **DMM**: 0.0000 When **Geometry Data Format** is **DMS**: 00

4 **Click the “Save” button.**

The settings are saved and the selected Floor image is registered in the KAS-20SE. The registered Floor image can be displayed on the Indoor Location Window. (Refer to MANAGING INDOOR LOCATION WINDOW IN BLE BEACON on page 289.)

To Delete a Floor Image

Select the Floor image to delete from the **Floor Map** dropdown list, and click the “Delete” button to delete the selected Floor image and its geographical coordinates setting.

Configuring BLE Beacon Position

Clicking the **Beacon** button on the Indoor Location Window (**Beacon** tab) displays a **BLE Beacon Position** dialog box. In the **BLE Beacon Position** dialog box, you can configure the Point by selecting the **No.** (BLE Beacon) to configure, followed by clicking the Floor image.

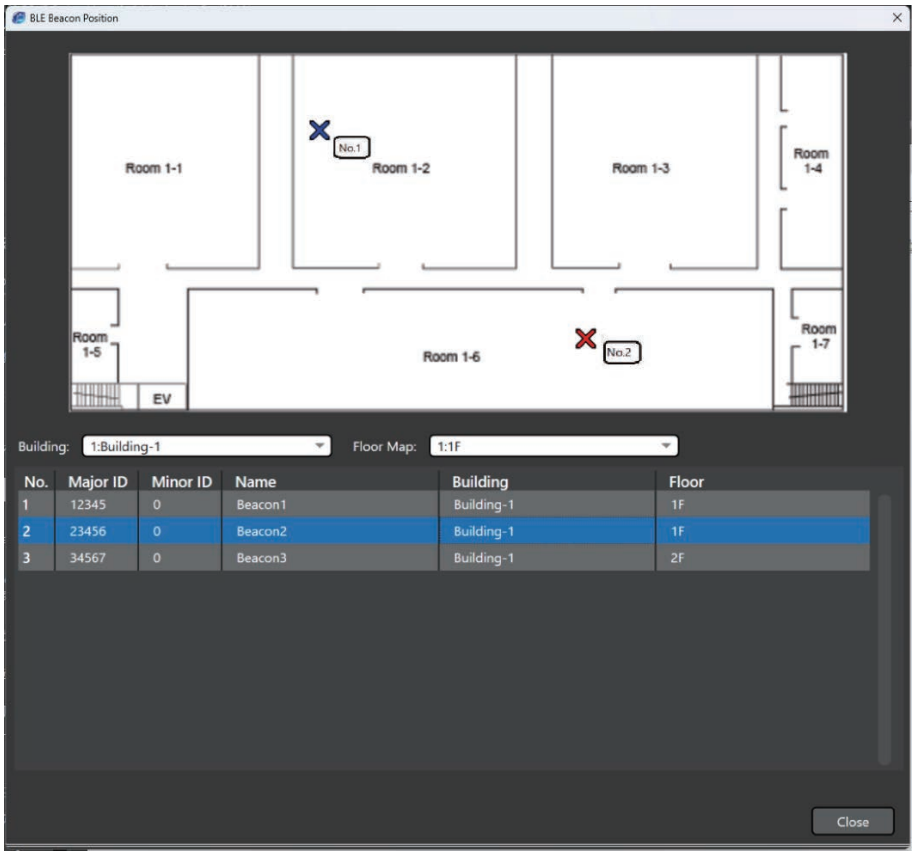

Figure 6-12 BLE Beacon Position Screen

1 Select the No. (BLE Beacon) to configure.

The Floor image of the selected **No.** appears.

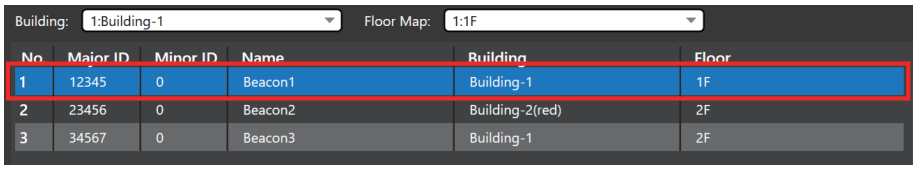

Figure 6-13 Building/ Floor Map Selection Screen

Table 6-12 Configurable Range of BLE Beacon Position and Default Values

Item	Description	Configurable Range	Default
Building	**Building** allows you to select a registered Building from the dropdown list. If the name of the Building is not registered, only the No. of the Building will be displayed.	1 to 20	The **No.** of the Building that has been configured in **BLE Beacon** and corresponds to the Position Button you have clicked.
Floor Map	**Floor Map** allows you to select a registered Floor from the dropdown list. If the name of the Floor is not registered, only the **No.** of the Floor will be displayed.	1 to 20	The **No.** of the Building that has been configured in **BLE Beacon** and corresponds to the Position Button you have clicked.

2 Click the area on the Floor image where you want to configure the BLE Beacon.

The Point for the BLE Beacon corresponding to the selected **No.** will be configured, and a red icon will be displayed. **No.** appears in the configured position of BLE Beacon.

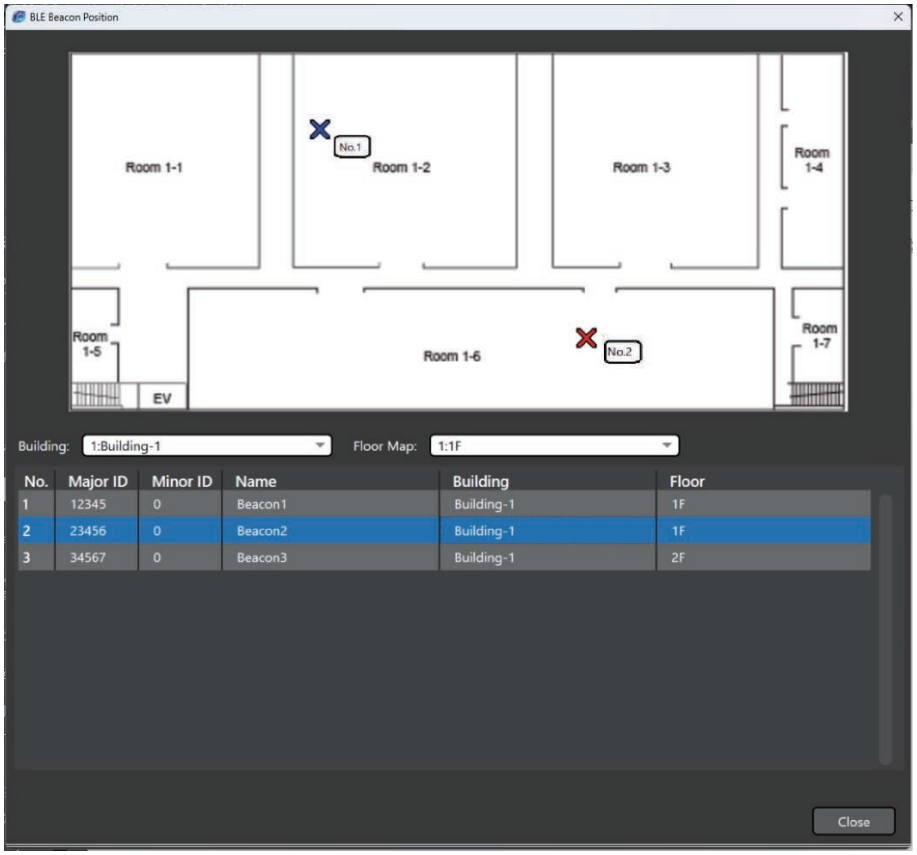

Figure 6-14 BLE Beacon Position Screen

Note

A blue icon will appear on the Floor image for BLE Beacon that are not selected.

6.3 Configuring the Functions to Be Used on Dispatch Window

Clicking “Dispatch” in the **Menu** pane displays the **Dispatch** screen in the **Configuration** pane.
The **Dispatch** screen allows you to configure the different functions used on the Dispatch Window, such as registering a text message and specifying the method for sending text messages. (Refer to COMMUNICATING WITH A MOBILE STATION VIA DISPATCH WINDOW on page 366.)

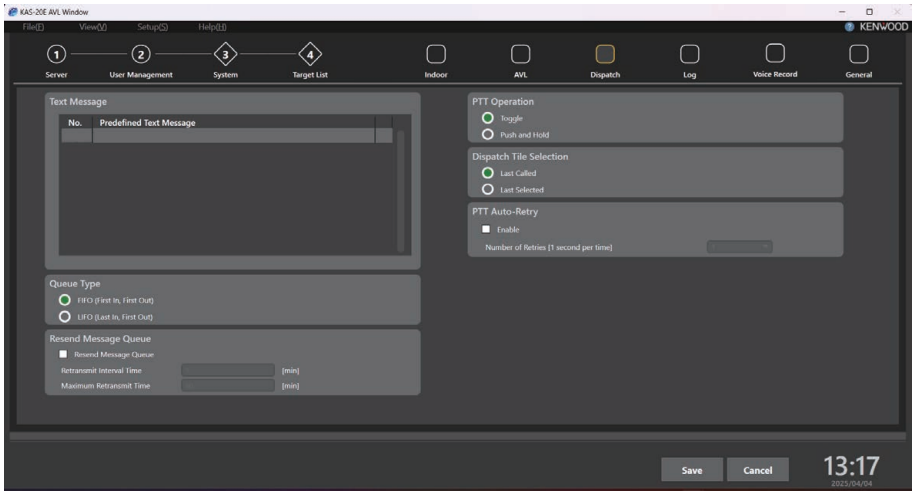

Figure 6-15 Dispatch Screen

Note

Only users that are configured as “Admin” in **Access Level** are allowed to configure the following functions: (Refer to Managing KAS-20SE/ KAS-20CE Users on page 57.)

- Text Message
- Queue Type
- Resend Message Queue
- PTT Auto-Retry

Table 6-13 Setting Items of Dispatch Screen

Item	Description	Configurable Range	Default
Text Message	**Text Message** allows you to enhance the efficiency of text message sending by defining and saving in advance text messages that are frequently used in a list.	Up to 20 text messages	-
Predefined Text Message	**Predefined Text Message** allows you to configure up to a maximum of 20 predefined text messages.	1 byte to 4096 bytes	Blank

Item	Description	Configurable Range	Default
Queue Type	**Queue Type** allows you to configure the method for sending text messages.	**FIFO (First In, First Out):** Sends out text messages in a sequence starting from the first data block that has been input to the last data block. **LIFO (Last In, First Out):** Sends out text messages in a sequence starting from the last data block that has been input to the first data block.	FIFO (First In, First Out)
Resend Message Queue	**Resend Message Queue** allows you to configure whether to resend the message when a mobile station fails to receive a status message, Short Data Message or Long Data Message.	**Check (Enable):** The KAS-20CE resends the message according to the interval configured in Short Data Message when a mobile station fails to receive a status message, Long Data Message or **Retransmit Interval Time**. **Uncheck (Disable):** The KAS-20CE does not resend the message even when a mobile station fails to receive a status message, Short Data Message or Long Data Message.	Unchecked (Disabled)
Retransmit Interval Time	**Retransmit Interval Time** allows you to configure the interval for resending a status message, Short Data Message or Long Data Message. A mobile station may sometimes fail to receive a status message, Short Data Message or Long Data Message sent out by the KAS-20CE. In this case, the KAS-20CE can resend the message according to the interval configured in **Retransmit Interval Time**. Note This function can be configured only if **Resend Message Queue** is enabled.	5 min to 60 min (in steps of 1 min)	5 min
Maximum Retransmit Time	**Maximum Retransmit Time** allows you to configure the length of time before message resending in **Resend Message Queue** ends. Ends resending of messages in **Maximum Retransmit Time** after the time interval configured in **Resend Message Queue** has elapsed, or when the KAS-20CE sends out messages to a mobile station with a different ID. Note This function can be configured only if **Resend Message Queue** is enabled.	6 min to 300 min (in steps of 1 min)	60 min

Item	Description	Configurable Range	Default
PTT Operation	**PTT Operation** allows you to configure the operations of the “PTT” button on the Dispatch Window and the function key assigned with the “PTT” function. (Refer to Configuring the Function Keys on page 191.)	**Toggle:** Starts transmission when the “PTT” button on the Dispatch Window or the function key is pressed. Stops transmission when it is pressed again. **Push and Hold:** Transmits while the “PTT” button on the Dispatch Window or the function key is pressed and held down. Stops transmission when it is released.	Toggle
Dispatch Tile Selection	**Dispatch Tile Selection** allows you to configure whether to keep the Dispatch Tile and the **Radio Resource List** of the ID that received the audio data first in their selected states when there is no transmission and reception and when **Resume Time** is not counting down.	**Last Called:** Keeps the Dispatch Tile and the **Radio Resource List** of the ID that received the audio data first in their selected states when there is no transmission and reception and when **Resume Time** is not counting down. **Last Selected:** Does not keep the Dispatch Tile and the **Radio Resource List** of the ID that received the audio data first in their selected states when there is no transmission and reception and when **Resume Time** is not counting down.	Last Called
PTT Auto-Retry	**PTT Auto-Retry** is a function to put PTT transmission on hold. In an IP network connection, when an error response is returned from the repeater after transmitting a Voice Call, retransmission is carried out at 1-second intervals without terminating the operation. If there is no response from the repeater after retransmitting for the number of times configured in **Number of Retries [1 second per time]**, timeout error occurs and retransmission will end. Note • Other transmission operations are disabled during retransmission. • If the transmission is stopped by the user during retransmission, a busy error occurs and retransmission will end.	-	-
Enable	**Enable** allows you to configure whether to use the PTT Auto-Retry function.	**Check (Enable):** Uses the PTT Auto-Retry function. **Uncheck (Disable):** Does not use the PTT Auto-Retry function.	Unchecked (Disabled)
Number of Retries [1 second per time]	**Number of Retries [1 second per time]** allows you to configure the number of retransmissions for the PTT Auto-Retry function.	1, 2, 3, 4, 5	1

6.4 Configuring Settings Related to Log Data Acquisition

Clicking “Log” in the **Menu** pane displays the **Log** screen in the **Configuration** pane.

The **Log** screen allows you to configure the information of the communication log that is displayed in the AVL Window pane on the Dispatch Window and **Log**. The range of past communication logs to acquire when logging into the KAS-20CE each time can be configured. (Refer to Checking the Communication Log on page 221.)

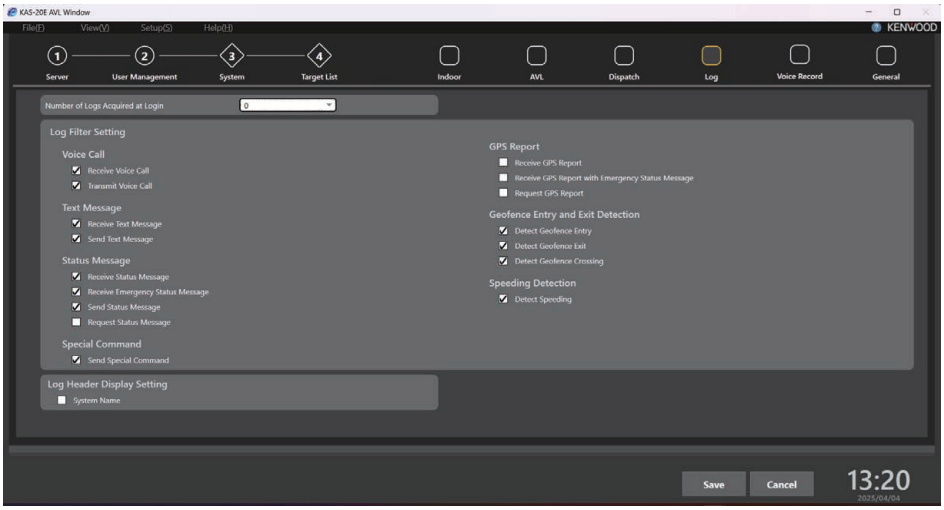

Figure 6-16 Log Screen

Note

The settings on the **Log** screen allow you to configure whether to display the communication log in the **Log** pane of the AVL Window and Dispatch Window. All communication logs are saved in the database regardless of the settings on the **Log** screen.

Table 6-14 Setting Items of Log Screen

Item	Description	Configurable Range	Default
Number of Logs Acquired at Login	**Number of Logs Acquired at Login** allows you to configure the number of past communication logs to acquire when logging into the KAS-20CE. The number configured in **Number of Logs Acquired at Login** is the total number of all communication logs including voice calls, text messages, status messages, alerts and emergencies. Note • For GPS Data and BLE Data, only the latest data is acquired. • Communication log is not acquired for items that are configured as hidden on the **Log** screen.	0, 100, 200, 300, 400, 500, 600, 700, 800, 900, 1000	0
Receive Voice Call	**Receive Voice Call** allows you to configure whether to display the communication log of incoming voice calls in the **Log** pane on the AVL Window and Dispatch Window.	**Check (Enable):** Displays the communication log of incoming voice calls in the **Log** pane on the AVL Window and Dispatch Window. **Uncheck (Disable):** Does not display the communication log of incoming voice calls in the **Log** pane on the AVL Window and Dispatch Window.	Checked (Enabled)

Item	Description	Configurable Range	Default
Transmit Voice Call	**Transmit Voice Call** allows you to configure whether to display the communication log of outgoing voice calls in the **Log** pane on the AVL Window and Dispatch Window.	**Check (Enable):** Displays the communication log of outgoing voice calls in the **Log** pane on the AVL Window and Dispatch Window. **Uncheck (Disable):** Does not display the communication log of outgoing voice calls in the **Log** pane on the AVL Window and Dispatch Window.	Checked (Enabled)
Receive Text Message	**Receive Text Message** allows you to configure whether to display the communication log of incoming text messages in the **Log** pane on the AVL Window and Dispatch Window.	**Check (Enable):** Displays the communication log of incoming text messages in the **Log** pane on the AVL Window and Dispatch Window. **Uncheck (Disable):** Does not display the communication log of incoming text messages in the **Log** pane on the AVL Window and Dispatch Window.	Checked (Enabled)
Send Text Message	**Send Text Message** allows you to configure whether to display the communication log of outgoing text messages in the **Log** pane on the AVL Window and Dispatch Window.	**Check (Enable):** Displays the communication log of outgoing text messages in the **Log** pane on the AVL Window and Dispatch Window. **Uncheck (Disable):** Does not display the communication log of outgoing text messages in the **Log** pane on the AVL Window and Dispatch Window.	Checked (Enabled)
Receive Status Message	**Receive Status Message** allows you to configure whether to display the communication log of incoming status messages in the **Log** pane on the AVL Window and Dispatch Window.	**Check (Enable):** Displays the communication log of incoming status messages in the **Log** pane on the AVL Window and Dispatch Window. **Uncheck (Disable):** Does not display the communication log of incoming status messages in the **Log** pane on the AVL Window and Dispatch Window.	Checked (Enabled)
Receive Emergency Status Message	**Receive Emergency Status Message** allows you to configure whether to display the communication log of incoming Emergency/ Emergency Man-down status messages in the **Log** pane on the AVL Window and Dispatch Window.	**Check (Enable):** Displays the communication log of incoming Emergency/ Emergency Man-down status messages in the **Log** pane on the AVL Window and Dispatch Window. **Uncheck (Disable):** Does not display the communication log of incoming Emergency/ Emergency Man-down status messages in the **Log** pane on the AVL Window and Dispatch Window.	Checked (Enabled)

Item	Description	Configurable Range	Default
Send Status Message	**Send Status Message** allows you to configure whether to display the communication log of outgoing status messages in the **Log** pane on the AVL Window and Dispatch Window.	**Check (Enable):** Displays the communication log of outgoing status messages in the **Log** pane on the AVL Window and Dispatch Window. **Uncheck (Disable):** Does not display the communication log of outgoing status messages in the **Log** pane on the AVL Window and Dispatch Window.	Checked (Enabled)
Request Status Message	**Request Status Message** allows you to configure whether to display the communication log of outgoing transmission requests for status messages in the **Log** pane on the AVL Window and Dispatch Window.	**Check (Enable):** Displays the communication log of outgoing transmission requests for status messages in the **Log** pane on the AVL Window and Dispatch Window. **Uncheck (Disable):** Does not display the communication log of outgoing transmission requests of status messages in the **Log** pane on the AVL Window and Dispatch Window.	Unchecked (Disabled)
Send Special Command	**Send Special Command** allows you to configure whether to display the communication log of outgoing special commands in the **Log** pane on the AVL Window and Dispatch Window.	**Check (Enable):** Displays the communication log of outgoing special commands in the **Log** pane on the AVL Window and Dispatch Window. **Uncheck (Disable):** Does not display the communication log of outgoing special commands in the **Log** pane on the AVL Window and Dispatch Window.	Checked (Enabled)
Receive GPS/ BLE Report	**Receive GPS/ BLE Report** allows you to configure whether to display the communication log of received positional information in the AVL Window pane on the Dispatch Window and **Log**.	**Check (Enable):** Displays the communication log of received positional information in the **Log** pane on the AVL Window and Dispatch Window. **Uncheck (Disable):** Does not display the communication log of received positional information in the **Log** pane on the AVL Window and Dispatch Window.	Unchecked (Disabled)
Receive GPS/ BLE Report with Emergency Status Message	**Receive GPS/ BLE Report with Emergency Status Message** allows you to configure whether to display the communication log of received positional information (Emergency) in the AVL Window pane on the Dispatch Window and **Log**. Note In the case of Trunking 2.5/ DMR Tier III Trunking/ DMR Conventional/ DMR Conventional (via TKR-D series), there is no log for Receive GPS Report with Emergency Status Message as there is no emergency information in the communication log of the positional information.	**Check (Enable):** Displays the communication log of received positional information (Emergency) in the **Log** pane on the AVL Window and Dispatch Window. **Uncheck (Disable):** Does not display the communication log of received positional information (Emergency) in the **Log** pane on the AVL Window and Dispatch Window.	Unchecked (Disabled)

Item	Description	Configurable Range	Default
Request GPS/ BLE Report	**Request GPS/ BLE Report** allows you to configure whether to display the communication log of the requests for the positional information sent to the mobile stations in the AVL Window pane on the Dispatch Window and **Log**. Note The communication log of the requests for the positional information by the Auto Polling function is not displayed in the **Log** pane.	**Check (Enable):** Displays the communication log of the outgoing requests for the positional information in the **Log** pane on the AVL Window and Dispatch Window. **Uncheck (Disable):** Does not display the communication log of the outgoing requests for the positional information in the **Log** pane on the AVL Window and Dispatch Window.	Unchecked (Disabled)
Detect Geofence Entry	**Detect Geofence Entry** allows you to configure whether to display the occurrence log of Geofence alerts in the **Log** pane on the AVL Window and Dispatch Window when a mobile station enters the target Geofence alert area.	**Check (Enable):** Displays the occurrence log of Geofence alerts in the **Log** pane on the AVL Window and Dispatch Window when a mobile station enters the target Geofence alert area. **Uncheck (Disable):** Does not display the occurrence log of Geofence alerts in the **Log** pane on the AVL Window and Dispatch Window when a mobile station enters the target Geofence alert area.	Checked (Enabled)
Detect Geofence Exit	**Detect Geofence Exit** allows you to configure whether to display the occurrence log of Geofence alerts in the **Log** pane on the AVL Window and Dispatch Window when a mobile station exits the target Geofence alert area.	**Check (Enable):** Displays the occurrence log of Geofence alerts in the **Log** pane on the AVL Window and Dispatch Window when a mobile station exits the target Geofence alert area. **Uncheck (Disable):** Does not display the occurrence log of Geofence alerts in the **Log** pane on the AVL Window and Dispatch Window when a mobile station exits the target Geofence alert area.	Checked (Enabled)
Detect Geofence Crossing	**Detect Geofence Crossing** allows you to configure whether to display the occurrence log of Geofence alerts in the **Log** pane on the AVL Window and Dispatch Window when a mobile station passes through the target Geofence alert area.	**Check (Enable):** Displays the occurrence log of Geofence alerts in the **Log** pane on the AVL Window and Dispatch Window when a mobile station passes through the target Geofence alert area. **Uncheck (Disable):** Does not display the occurrence log of Geofence alerts in the **Log** pane on the AVL Window and Dispatch Window when a mobile station passes through the target Geofence alert area.	Checked (Enabled)

Item	Description	Configurable Range	Default
Detect Speeding	**Detect Speeding** allows you to configure whether to display the occurrence log of Speeding warnings in the **Log** pane on the AVL Window and Dispatch Window.	**Check (Enable):** Displays the occurrence log of Speeding warnings in the **Log** pane on the AVL Window and Dispatch Window. **Uncheck (Disable):** Does not display the occurrence log of Speeding warnings in the **Log** pane on the AVL Window and Dispatch Window.	Checked (Enabled)
System Name	**System Name** allows you to configure whether or not to display the system name in the **Log** pane.	**Check (Enable):** Displays the system name in the **Log** pane. **Uncheck (Disable):** Does not display the system name in the **Log** pane.	Unchecked (Disabled)

6.5 Configuring Settings Related to Audio Recording

Clicking “Voice Record” in the **Menu** pane displays the **Voice Record** screen in the **Configuration** pane.
The **Voice Record** screen allows you to configure settings related to saving of audio files. (Refer to Playing Back a Recorded Voice Call on page 439.)

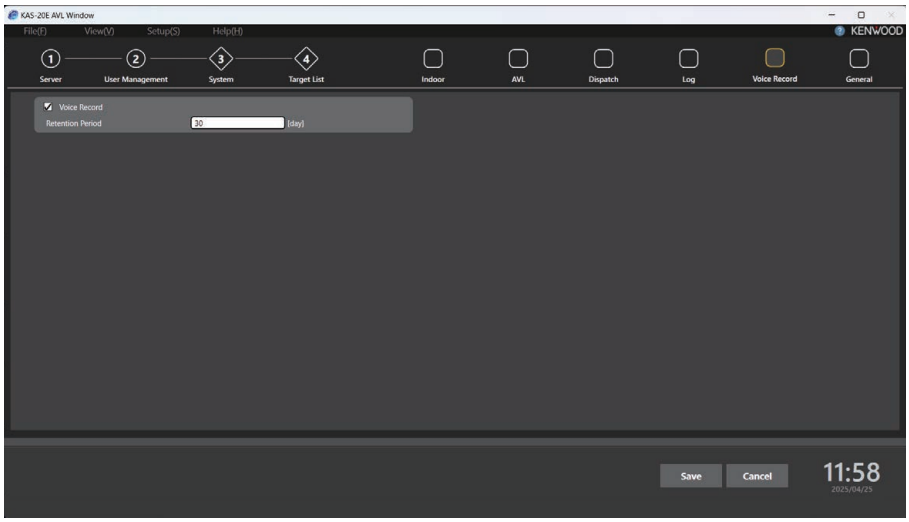

Figure 6-17 Voice Record Screen

Note

- The settings on the **Voice Record** screen can be configured only when VOICE RECORD LICENSE (KWD-20S-VR) is authenticated. (Refer to About Software Upgrade License on page 13.)
- A warning message appears in the **Log** pane on the AVL Window and Dispatch Window when the remaining database space on the PC falls below 10 %.
- When there is no space in the database on the PC, voice calls will not be saved.
- Settings in the **Voice Record** screen can be configured only for IP network connection.

Table 6-15 Setting Items of Voice Record Screen

Item	Description	Configurable Range	Default
Voice Record	**Voice Record** allows you to configure whether or not to enable the voice recording function.	**Check (Enable):** Enables the voice recording function. **Uncheck (Disable):** Disables the voice recording function.	Checked (Enabled)
Retention Period	**Retention Period** allows you to configure a time limit beyond which the saved audio recording file will be automatically deleted. Note This function can be configured only if **Voice Record** is enabled.	OFF, 1 day to 999 days (in steps of 1 day)	30 days

6.6 Other Settings

Clicking “General” in the **Menu** pane displays the **General** screen in the **Configuration** pane.
The following settings can be configured on the **General** screen.

- Button name (Refer to Configuring the Custom Buttons on page 189.)
- Function keys (Refer to Configuring the Function Keys on page 191.)
- Background color (Refer to Configuring the Background and Theme Colors on page 196.)
- Tone types (Refer to Configuring the Different Tones on page 197.)

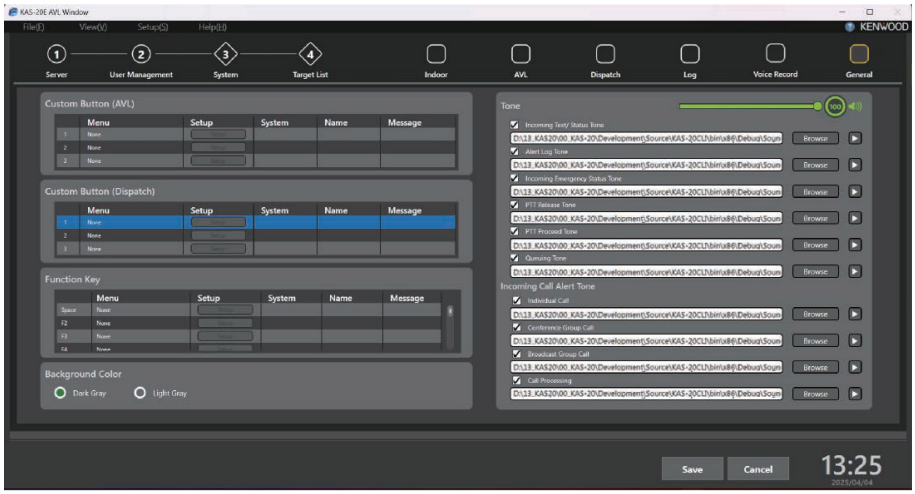

Figure 6-18 General Screen (Example of IP Network Connection Screen)

Configuring the Custom Buttons

Custom Button (AVL/ Indoor Location) and **Custom Button (Dispatch)** allow you to configure up to 3 custom buttons each for display on the AVL Window, Indoor Location Window and Dispatch Window.

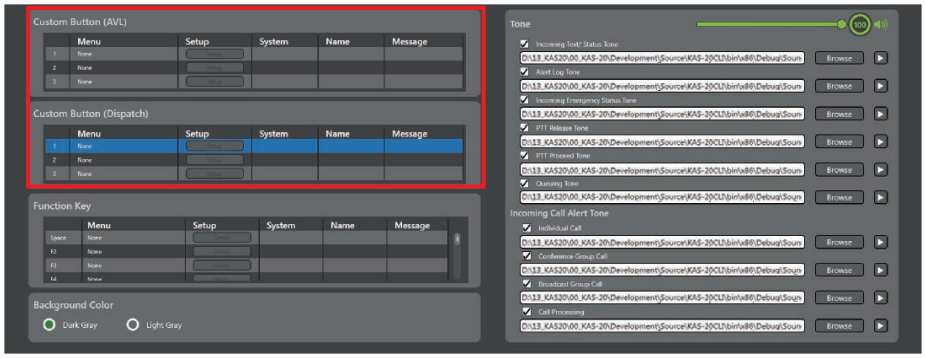

Figure 6-19 Custom Button (AVL/ Indoor Location)/ Custom Button (Dispatch)

Table 6-16 Setting Items of Custom Button (AVL/ Indoor Location)/ Custom Button (Dispatch)

Item	Description	Configurable Range	Default
Menu	**Menu** allows you to assign functions to the custom buttons. Note • "Voice Call" can only be configured in **Menu** of **Custom Button (Dispatch)**. • "Show Mobile Station" can only be configured in **Menu** of **Custom Button (AVL/ Indoor Location)**.	**None:** No action. **Voice Call:** Initiates a voice call to the mobile station configured on the **Setup** setting screen. **Text Message:** Sends out a text message to the mobile station configured on the **Setup** screen. **Status Message:** Sends out a status message to the mobile station configured on the **Setup** screen. **Show Mobile Station:** Displays the mobile station icon configured on the **Setup** setting screen on the map of the AVL Window. **Emergency Volume Down:** Lowers the playback volume of the tone that is emitted when an emergency alert occurs. This function operates only while a tone is being emitted during the occurrence of an emergency alert. Restores the original volume level when an emergency alert reoccurs.	None

Item	Description	Configurable Range	Default
“Setup” button	Clicking the “Setup” button displays a setting dialog box according to the function selected in **Menu**. (Refer to Detailed Settings on the Function for Assigning the Custom Button and Function Keys on page 193.) Note When “Emergency Volume Down” is selected in **Menu**, the “Setup” button is grayed out and operation is disabled.	-	-
System	**System** displays information of the system to be operated by the custom button as configured on the **Setup** setting screen.	-	-
Name	**Name** displays the ID of the mobile station to be operated by the custom button as configured on the **Setup** setting screen.	-	-
Message	When “Text Message” is selected in **Menu**, content of the text message to be sent will appear in **Message**. When “Status Message” is selected in **Menu**, the status number to be sent will appear in **Message**.	-	-

Configuring the Function Keys

Function Key allows you to register the functions of the respective custom buttons to the function keys from **[F2]** to **[F12]** and the **[Space]** key on the keyboard of the PC.

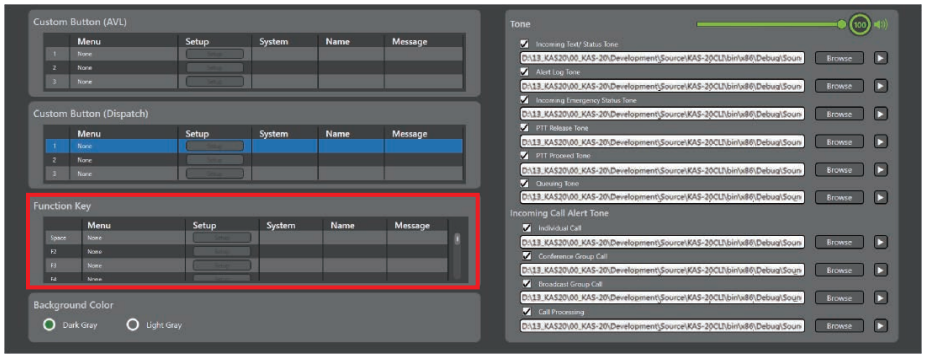

Figure 6-20 Function Key

Table 6-17 Setting Items for the Function Keys

Item	Description	Configurable Range	Default
Menu	**Menu** allows you to assign functions to the function keys. Note Only “None” or “PTT” can be assigned to the **[Space]** key.	**None:** No action. **PTT:** Initiates a voice call to the mobile station selected on the Dispatch Window. **Voice Call:** Initiates a voice call to the mobile station configured on the **Setup** setting screen. **Text Message:** Sends out a text message to the mobile station configured on the **Setup** screen. **Status Message:** Sends out a status message to the mobile station configured on the **Setup** screen. **Show Mobile Station:** Displays the mobile station icon configured on the **Setup** setting screen in the center of the map of the AVL Window. **Emergency Volume Down:** Lowers the playback volume of the tone that is emitted when an emergency alert occurs. This function operates only while a tone is being emitted during the occurrence of an emergency alert. Restores the original volume level when an emergency alert reoccurs.	None

Item	Description	Configurable Range	Default
“Setup” button	Clicking the “Setup” button displays a setting dialog box according to the function selected in **Menu**. (Refer to Detailed Settings on the Function for Assigning the Custom Button and Function Keys on page 193.) Note When “Emergency Volume Down” is selected in **Menu**, the “Setup” button is grayed out and operation is disabled.	-	-
System	**System** displays information of the system to be operated by the function keys as configured on the **Setup** setting screen.	-	-
Name	**Name** displays the ID of the mobile station and group to be operated by the function keys as configured on the **Setup** setting screen.	-	-
Message	When “Text Message” is selected in **Menu**, content of the text message to be sent will appear in **Message**. When “Status Message” is selected in **Menu**, the status number to be sent will appear in **Message**.	-	-

Detailed Settings on the Function for Assigning the Custom Button and Function Keys

After selecting a function in **Menu** of **Custom Button (AVL/ Indoor Location)**, **Custom Button (Dispatch)**, or **Function Key**, followed by clicking the “Setup” button, a setting dialog box corresponding to the selected function will appear.

Table 6-18 Setting Dialog Box Displayed

Function Selected in Menu	Setting Dialog Box Displayed
Voice Call	**Voice Call** dialog box
Text Message	**Text Message** dialog box
Status Message	**Status Message** dialog box
Show Mobile Station	**Show Mobile Station** dialog box

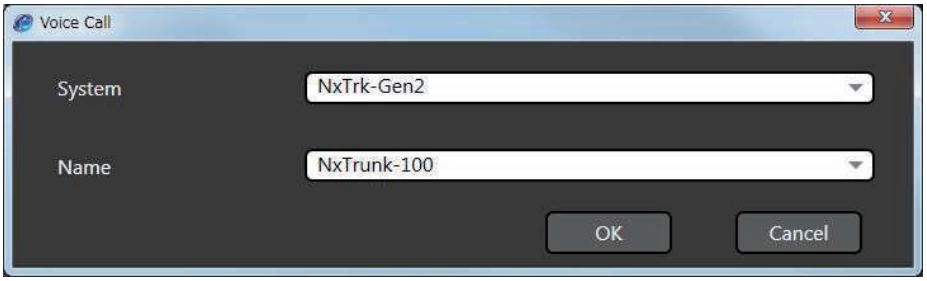

Figure 6-21 Example of Setting Dialog Box Display (Voice Call)

Common Settings

Each of the dialog boxes allows you to configure the mobile station or group that is to be operated by a custom button or function key and the system that the mobile station or group belongs to.

Table 6-19 Common Setting Items

Item	Description	Configurable Range	Default
System	**System** allows you to configure the system to which the mobile station to be operated by a custom button or function key belongs.	All systems in which mobile stations that are specified as monitoring targets on the **Target List** screen are registered. (Refer to Configuring the Mobile Station to Be Monitored on page 131.)	First line in the list
Name	**Name** allows you to configure the ID of the mobile station to be operated by a custom button or function key.	ID name of the mobile stations that are registered to the system selected in **System**.	First line in the list

Text Message Settings

The **Text Message** dialog box allows you to configure the text message to be sent out in addition to the system to be operated by a custom button or function key and the ID of the mobile station.

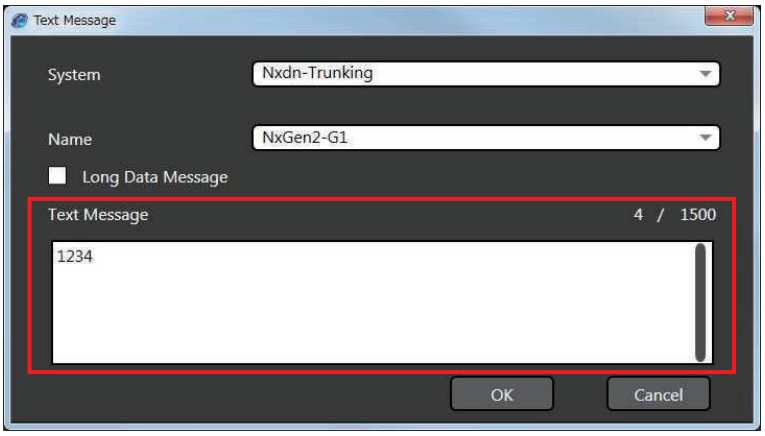

Figure 6-22 Text Message

Table 6-20 Setting Items in the Text Message Dialog Box

Item	Description	Configurable Range	Default
Long Data Message	**Long Data Message** allows you to configure whether to send a text message using Long Data Message. Note This function cannot be configured in Trunking 2.5/ DMR Conventional (via TKR-D series).	**Check (Enable):** Sends out a text message as Long Data Message. **Uncheck (Disable):** Does not send out a text message as Long Data Message.	Unchecked (Disabled)

Item	Description	Configurable Range	Default
Text Message	**Text Message** allows you to configure the text message to be sent out.	The configurable range varies according to the protocol of the communication system configured on the KAS-20CE. **NXDN Trunking (Type-C)/ NXDN Conventional:** **Long Data Message = Check (Enable):** 1 byte to 4096 bytes **Long Data Message = Uncheck (Disable):** 1 byte to 1500 bytes **Trunking 2.5:** 1 byte to 44 bytes **DMR Tier III Trunking/ DMR Conventional:** **Long Data Message = Check (Enable):** 1 byte to 4096 bytes **Long Data Message = Uncheck (Disable):** **Type = Individual or Console:** 1 byte to 978 bytes **Type = Group or All:** 1 byte to 730 bytes **DMR Conventional (via TKR-D series):** **Type = Individual or Console:** IP network connection: 1 byte to 986 bytes Serial connection: 1 byte to 978 bytes **Type = Group or All:** IP network connection: 1 byte to 738 bytes Serial connection: 1 byte to 730 bytes **FleetSync:** **Long Data Message = Check (Enable):** 1 byte to 4096 bytes **Long Data Message = Uncheck (Disable):** 1 byte to 720 bytes Note Depending on the base station transceiver type, up to 1024 bytes of characters can be sent and received for FleetSync.	Blank

Status Message Settings

The **Status Message** dialog box allows you to configure the status message to be sent out in addition to the system to be operated by a custom button or function key and the ID of the mobile station.

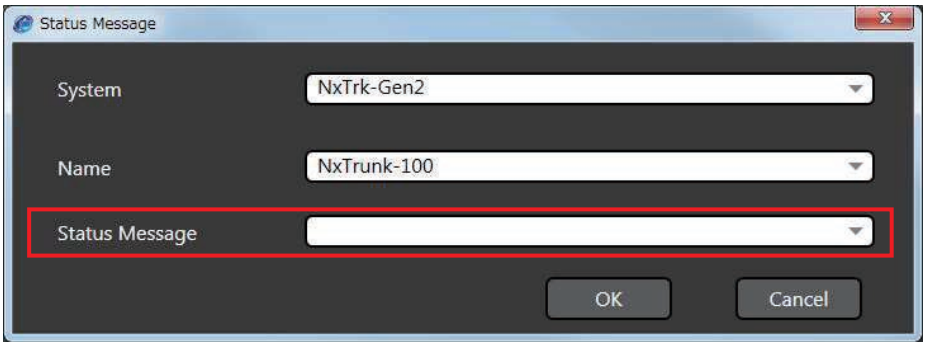

Figure 6-23 Status Message

Table 6-21 Setting Items in the Status Message Dialog Box

Item	Description	Configurable Range	Default
Status Message	**Status Message** allows you to configure the status message to send.	Status configured on the **Status Message** screen. (Refer to Configuring the Status Message on page 122.)	Blank

Configuring the Background and Theme Colors

Background Color allows you to configure the overall background and theme color of the KAS-20CE.

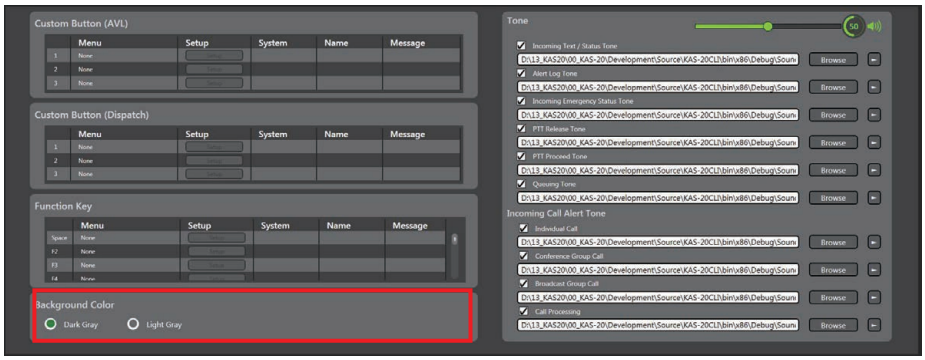

Figure 6-24 Background Color

Table 6-22 Setting Items of Background Color

Item	Description	Configurable Range	Default
Background Color	**Background Color** allows you to configure the overall background color of the KAS-20CE to either **Dark Gray**, **Medium Gray** or **Light Gray**.	Dark Gray, Medium Gray, Light Gray	Dark Gray

Configuring the Different Tones

Tone and **Incoming Call Alert Tone** allow you to configure the tone that is emitted such as when a call is received or when a warning has occurred.

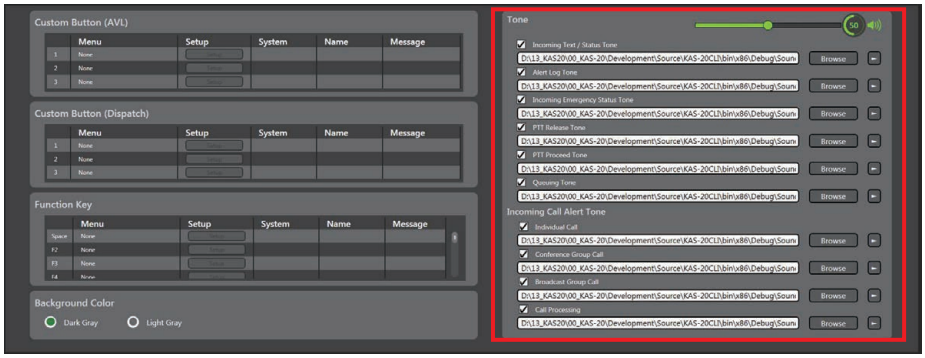

Figure 6-25 Tone/ Incoming Call Alert Tone

Common Settings and Operations

When the settings in **Tone** and **Incoming Call Alert Tone** are enabled, the tone to emit can be configured by specifying a wav file.
Clicking the “Browse” button displays the **Open** dialog box and enables the selection of a wav file. And clicking the “►” (Play) button plays the selected wav file.

Common Setting Items

Table 6-23 Common Setting Items

Item	Description	Configurable Range	Default
Tone Volume	**Tone Volume** allows you to configure the volume level of the tone. Slide the volume bar to the right to increase the value. Slide to the left to decrease.	0 to 100	100

Tone Setting Items

Tone allows you to configure whether to emit the following tones, and the wav file to send.

Table 6-24 Tone Setting Items

Item	Description	Configurable Range	Default
Incoming Text/ Status Tone	**Incoming Text/ Status Tone** allows you to configure whether to emit a tone when the KAS-20CE receives a text message or status message.	**Check (Enable):** Emits a tone when the KAS-20CE receives a text message or status message (including a Paging Call status message). **Uncheck (Disable):** Does not emit a tone when the KAS-20CE receives a text message or status message (including a Paging Call status message).	**Checkbox:** Checked (Enabled) **Selected wav file:** Ring.wav
Alert Log Tone	**Alert Log Tone** allows you to configure whether to emit a tone when a Geofence alert or **Speeding** warning is detected.	**Check (Enable):** Emits a tone when a Geofence alert or Speeding warning is detected. **Uncheck (Disable):** Does not emit a tone when a Geofence alert or Speeding warning is detected.	**Checkbox:** Checked (Enabled) **Selected wav file:** Attack.wav
Incoming Emergency Status Tone	**Incoming Emergency Status Tone** allows you to configure whether to emit a tone when the KAS-20CE receives an Emergency, Emergency Man-down, Stationary Detection, Motion Detection, or Lone Worker status message, or when a Lone Worker response status cannot be received as a response to a Lone Worker request status.	**Check (Enable):** Emits a tone when the KAS-20CE receives an Emergency, Emergency Man-down, Stationary Detection, Motion Detection, or Lone Worker status message, or when a Lone Worker response status cannot be received as a response to a Lone Worker request status. **Uncheck (Disable):** Does not emit a tone even when the KAS-20CE receives an Emergency, Emergency Man-down, Stationary Detection, Motion Detection, or Lone Worker status message, or even when a Lone Worker response status cannot be received as a response to a Lone Worker request status.	**Checkbox:** Checked (Enabled) **Selected wav file:** Siren.wav

Item	Description	Configurable Range	Default
PTT Release Tone	**PTT Release Tone** allows you to configure whether to send a **PTT Release Tone** after ending a voice call. **PTT Release Tone** is a function that sends a **PTT Release Tone** to notify the receiver that communication has ended by clicking the “PTT” button after ending a voice call. Note This function can be configured only for IP network connection.	**Check (Enable):** Sends a **PTT Release Tone** by clicking the “PTT” button after ending a voice call. **Uncheck (Disable):** Does not send a **PTT Release Tone** even when the “PTT” button is clicked after ending a voice call.	**Checkbox:** Checked (Enabled) **Selected wav file:** PttReleaseTone.wav
PTT Proceed Tone	**PTT Proceed Tone** allows you to configure whether to emit a **PTT Proceed Tone** when it is possible to initiate a voice call. Emits the tone selected in **PTT Proceed Tone** when a voice call can be initiated after clicking the “PTT” button. The dispatcher is notified of the timing that communication starts through the tone. Note This function can be configured only for IP network connection.	**Check (Enable):** Emits the **PTT Proceed Tone** when a voice call can be initiated after clicking the “PTT” button. **Uncheck (Disable):** Does not emit the **PTT Proceed Tone** even when a voice call can be initiated after clicking the “PTT” button.	**Checkbox:** Checked (Enabled) **Selected wav file:** ProceedTone.wav
Queuing Tone	**Queuing Tone** allows you to configure whether to emit a **Queuing Tone** when the repeater is in the queue and the KAS-20CE is waiting to initiate a voice call. Note This function can be configured only for IP network connection.	**Check (Enable):** Emits a Queuing Tone when the KAS-20CE is waiting to initiate a voice call. **Uncheck (Disable):** Does not emit a Queuing Tone even when the KAS-20CE is waiting to initiate a voice call.	**Checkbox:** Checked (Enabled) **Selected wav file:** QueueTone.wav

Incoming Call Alert Tone Setting Items

Incoming Call Alert Tone allows you to configure whether to emit the following tones, and the wav file to send.

Note

Incoming Call Alert Tone can be configured only for IP network connection.

Table 6-25 Incoming Call Alert Tone Setting Items

Item	Description	Configurable Range	Default
Individual Call	**Individual Call** allows you to configure whether to emit a tone when the KAS-20CE receives an Individual Call. Note Emits the tone repeatedly during an incoming call when **Message Trunked (Enhanced)**, **Individual Call Acknowledge Request**, or **FOACSU** is enabled. Clicking the " " or " " button stops the tone sound.	**Check (Enable):** Emits a tone when the KAS-20CE receives an Individual Call. **Uncheck (Disable):** Does not emit a tone even when the KAS-20CE receives an Individual Call.	**Checkbox:** Checked (Enabled) **Selected wav file:** IndividualCall.wav
Conference Group Call	**Conference Group Call** allows you to configure whether to emit a tone when the KAS-20CE receives a Conference Group Call.	**Check (Enable):** Emits a tone when the KAS-20CE receives a Conference Group Call. **Uncheck (Disable):** Does not emit a tone even when the KAS-20CE receives a Conference Group Call.	**Checkbox:** Checked (Enabled) **Selected wav file:** GroupCall.wav
Broadcast Group Call	**Broadcast Group Call** allows you to configure whether to emit a tone when the KAS-20CE receives a Broadcast Group Call.	**Check (Enable):** Emits a tone when the KAS-20CE receives a Broadcast Group Call. **Uncheck (Disable):** Does not emit a tone even when the KAS-20CE receives a Broadcast Group Call.	**Checkbox:** Checked (Enabled) **Selected wav file:** CallAlertTone.wav
Call Processing	**Call Processing** allows you to configure whether the KAS-20CE emits a tone until the mobile station has responded after the KAS-20CE sends a voice call that requires a response action. Note Voice calls that require a response action are voice calls that are initiated when **Message Trunked (Enhanced)** (NXDN Trunking (Type-C)), **Individual Call Acknowledge Request** (NXDN Conventional), or **FOACSU** is enabled.	**Check (Enable):** Emits a tone from the KAS-20CE until the mobile station has responded after the KAS-20CE sends a voice call that requires a response action. **Uncheck (Disable):** Does not emit a tone from the KAS-20CE even when the KAS-20CE sends a voice call that requires a response action.	**Checkbox:** Checked (Enabled) **Selected wav file:** CallProcessing.wav

7 MANAGING THE OPERATION STATUS ON THE AVL WINDOW

This chapter explains the procedure for operating and configuring settings on the AVL Window.

7.1 AVL Window

The AVL Window is structured as follows.

Figure 7-1 AVL Window

Menu Bar (AVL Window)

The menu bar comes with menu titles for operating the AVL Window. Clicking the menu title opens the pulldown menu, and the menu commands contained in the menu appear.

Figure 7-2 AVL Menu Bar

File

Table 7-1 File

Item	Description
Logout	Logs out of the currently logged-in KAS-20CE.
Exit	Exits the KAS-20CE.

View

Table 7-2 View

Item	Description
Indoor Location Window	If this item is selected while Indoor Location Window is not displayed, the Indoor Location Window appears. (Refer to MANAGING INDOOR LOCATION WINDOW IN BLE BEACON on page 289.)
Dispatch Window	If this item is selected while Dispatch Window is not displayed, the Dispatch Window appears. (Refer to COMMUNICATING WITH A MOBILE STATION VIA DISPATCH WINDOW on page 366.)
Lone Worker	A **Lone Worker** operation screen appears. (Refer to Starting/ Stopping Lone Worker on page 428.)
Clear All Mobile Icons	Clears the positional information of the mobile station and its icon on the map in the AVL Window and Indoor Location Window.
Hide All Mobile Icons	Displays/hides the Icon of mobile stations that are displayed on the AVL Window and Indoor Location Window.
Master Volume	Displays or hides **Master Volume** on the control bar. (Refer to Control Bar on page 209.)
Wide Area Map	Displays or hides the wide area screen. (Refer to Displaying/Hiding the Wide Area Screen on page 211.)
Preset Map	Displays or hides the “Preset Map” button on the control bar. (Refer to Control Bar on page 209.)
Clock	Displays or hides the clock on the control bar. (Refer to Control Bar on page 209.)

Setup

Table 7-3 Setup

Item	Description
Setting	Displays a setting screen for the KAS-20CE.
Audio Setup	Displays the **Audio Setup** dialog box. The **Audio Setup** dialog box allows you to select the device for audio sound playback and input. (Refer to Selecting an Audio Output/Input Device on page 286.)
Language	Displays the **Language** dialog box. **Language** dialog box allows you to configure the language to use on the KAS-20CE. (Refer to Configuring the Language Used in KAS-20CE on page 287.)
License Selection	Displays the **License Selection** dialog box. The **License Selection** dialog box allows you to check the KAS-20CE license type. (Refer to Checking the KAS-20SE License Type on page 155.)

Help

Table 7-4 Help

Item	Description
Help	Opens the Basic Operations PDF file.
About	Displays the **About** dialog box. The **About** dialog box allows you to view information such as the KAS-20CE version. (Refer to Viewing the Information of KAS-20CE on page 288.)

List Pane

The **List** pane displays information that is needed for managing mobile stations on the AVL Window, such as the mobile stations registered in a communication system and information related to map displays.
The **List** pane is made up of 3 tabs, namely **Unit**, **Fleet** and **Layer**. Different operations and settings can be performed in each of the tabs.

Common Operations

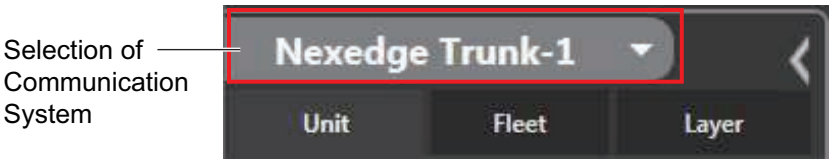

Figure 7-3 Common Operations

Table 7-5 Common Operations

Item	Description
Selection of Communication System	Allows you to select the communication system to manage on the AVL Window. Settings related to the selected communication system will be displayed in the respective tabs.

Note

Clicking the "‹" button collapses the **List** pane to the left and hides the display. Clicking the "›" button expands the collapsed **List** pane to the right and shows the display.

Unit Tab

The **Unit** tab displays the ID of the mobile stations registered in a communication system, and allows you to select whether to display the mobile stations on the map or hide them. Selecting a mobile station and right-clicking on it displays a menu that allows you to perform communication-related operations such as sending messages. (Refer to Managing Mobile Stations with the Radio Resource List on page 225.)

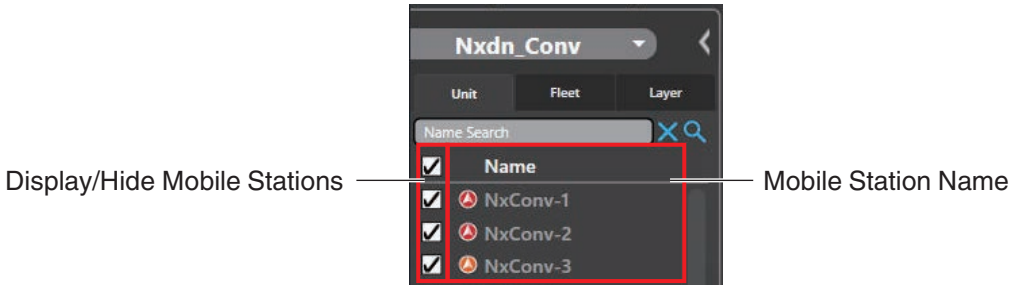

Figure 7-4 Unit Tab

Table 7-6 Unit Tab

Item	Description
Name Search	Entering and searching for a mobile station name displays the corresponding mobile station name from Radio Resource List. Up to a maximum of 16 characters can be entered. Note Entry becomes available by clicking the **Name Search** edit box, the "🔍" button, or the "✕" button.
Mobile Station Name Title	Selecting the **Mobile Station Name Title** checkbox selects all the **Mobile Station Name** checkboxes in **Radio Resource List**. Deselecting the **Mobile Station Name Title** checkbox deselects all the **Mobile Station Name** checkboxes in **Radio Resource List**. Note • The **Mobile Station Name Title** checkbox is deselected when even a single **Mobile Station Name** checkbox is deselected. • If a search is executed by **Name Search**, the **Mobile Station Name Title** checkbox is deselected and the function cannot be configured.
Display/Hide Mobile Stations	Selecting the checkbox displays the icon of the corresponding mobile station on the map. Deselecting the checkbox clears the icon of the corresponding mobile station that is displayed on the map.
Mobile Station Name	Displays the mobile station name and icon. Among the mobile stations registered on the **Radio Resource List** screen, only those for which **Type** is configured to "Individual" are displayed. (Refer to Configuring a Mobile Station on page 98.) Note The **Console ID** of a mobile station will not be displayed when its ID is the same as the **Mobile Station Name** of the KAS-20CE that is currently logged in.

Fleet Tab

The **Fleet** tab displays the group of the mobile stations, and allows you to select whether to display the mobile stations that belong to a group on the map or hide them. (Refer to Managing Mobile Stations by Group on page 245.)

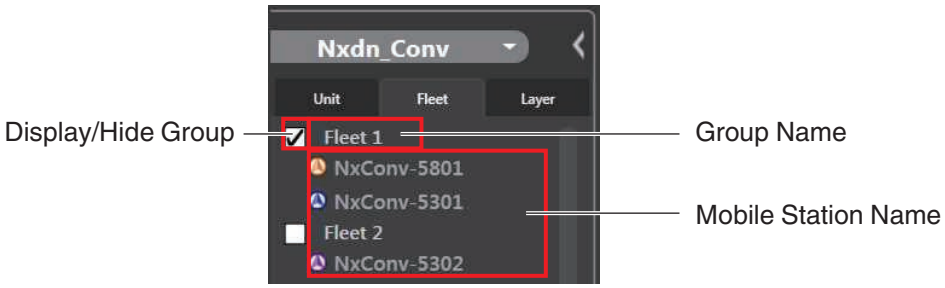

Figure 7-5 Fleet Tab

Table 7-7 Fleet Tab

Item	Description
Display/Hide Group	When the checkbox is selected, the icons of the mobile stations that belong to the selected group are displayed on the map. When the checkbox is deselected, the icons of the mobile stations that belong to the selected group are removed from the map.
Group Name	Displays the group name.
Mobile Station Name	Displays the name and icon of mobile stations that belong to a group. Among the mobile stations registered on the **Radio Resource List** screen, only those for which **Type** is configured to “Individual” are displayed. (Refer to Configuring a Mobile Station on page 98.) Note The **Console ID** of a mobile station will not be displayed when its ID is the same as the **Mobile Station Name** of the KAS-20CE that is currently logged in.

Layer Tab

The **Layer** tab allows you to select the information to display on the map. (Refer to Switching Information Displayed on the Map on page 246.)

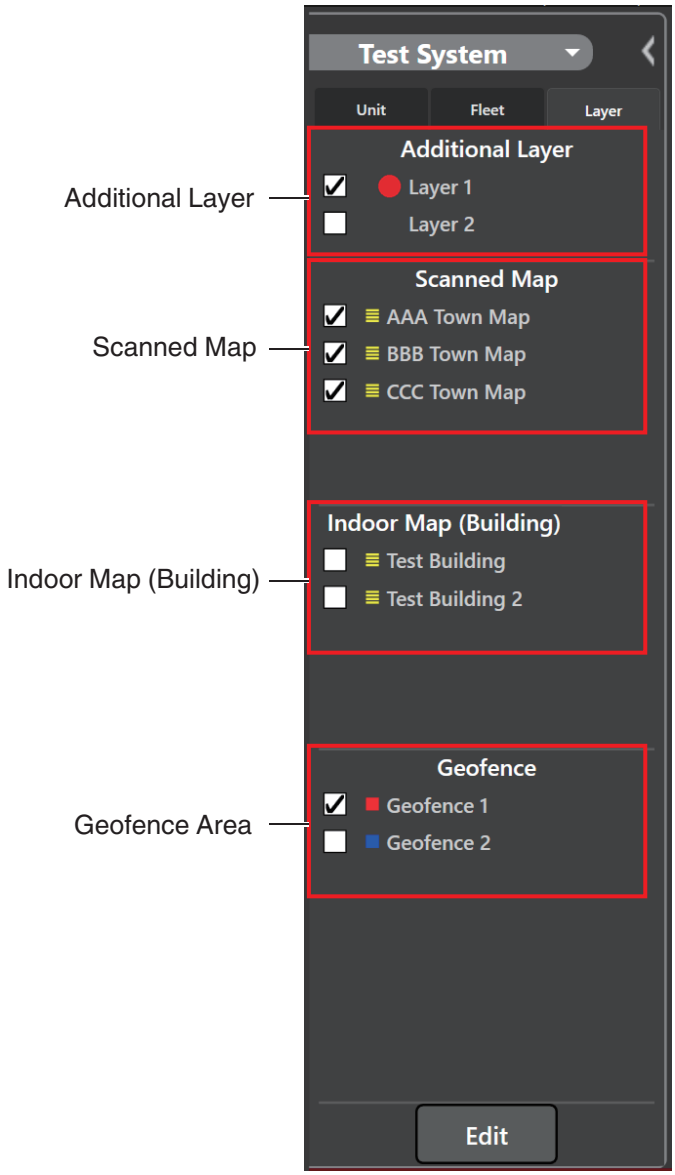

Figure 7-6 Layer Tab

Table 7-8 Layer Tab

Item	Description
Additional Layer	The positional information file can be used to display or hide the registered layers. (Refer to Displaying/Hiding Layers on page 246.) Positional information files created by the user can be used to display layers on the map. (Refer to Registering Layers for Display on the Map on page 247.)
Scanned Map	The Scanned Map can be displayed or hidden. (Refer to Displaying/Hiding the Scanned Maps on page 251.)
Indoor Map (Building)	Displays a list of the Building for the registered Indoor Map. You can choose to show/hide the display on the Map. (Refer to Displaying/Hiding Indoor Map on page 252.) If OpenStreetMap and Scanned Map have been configured, the information will appear on each of these Map. (Refer to Displaying/Hiding the Scanned Maps on page 251.)
Geofence Area	Allows you to display or hide the Geofence area. (Refer to Displaying/Hiding the Geofence Areas on page 253.)

Map Pane

A map screen is displayed in the **Map** pane. The dispatcher is able to display icons of the mobile stations on the map and manage the operation status of the mobile stations. (Refer to Operating the Map on page 210.)

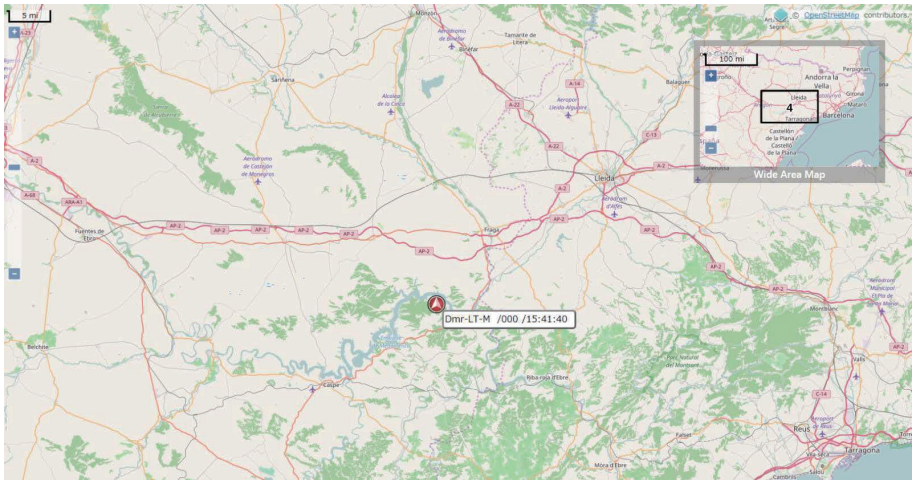

Figure 7-7 Map Pane

Note

OpenStreetMap and Scanned Map can be displayed in the **Map** pane. The Scanned Map can be displayed or hidden in the **Layer** tab of the **List** pane. (Refer to Displaying/Hiding the Scanned Maps on page 251.)

Log Pane

The **Log** pane displays the communication logs and logs related to the different types of notifications. (Refer to Checking the Communication Log on page 221.)

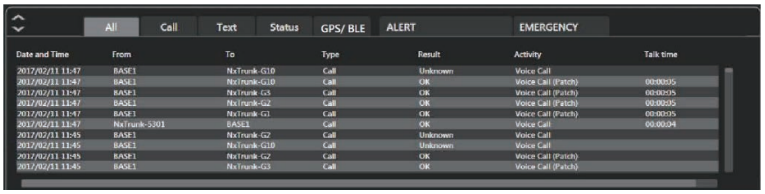

Figure 7-8 Log Pane

Note

Clicking the "^" button expands the **Log** pane upward and shows the display. Clicking the "v" button collapses the **Log** pane downward and hides the display.

System Status Pane

The **System Status** pane displays the connection status with the communication system. (Refer to Checking the System Status on page 262.)

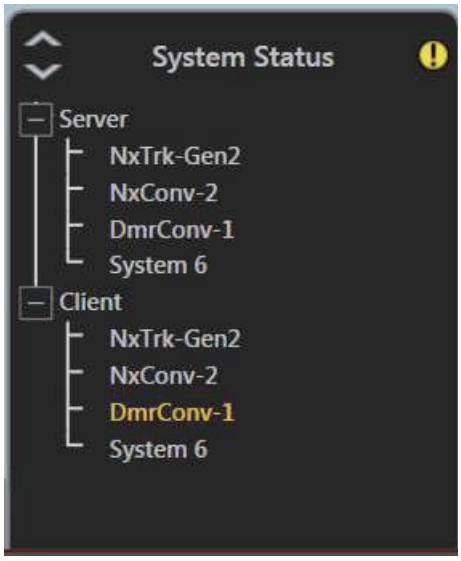

Figure 7-9 System Status Pane

Note

Clicking the "^" button expands the **System Status** pane upward and shows the display. Clicking the "v" button collapses the **System Status** pane downward and hides the display.

Control Bar

The control bar allows you to perform operations such as volume adjustment and map display.

Figure 7-10 Control Bar

Table 7-9 Control Bar

Item	Description
Preset Map	Moves the map display to the position corresponding to the geographical coordinates configured on the map. (Refer to Registering the Displayed Map Position on page 212.) Note **Preset Map** is displayed only when “Preset Map” in **View** of the menu bar is clicked on.
Master Volume	The playback volume of the tone that is emitted when an alert or emergency occurs can be configured. The value of the maximum volume for the application that is configured on the OS is the maximum value of **Master Volume**. Note **Master Volume** is displayed only when “Master Volume” in **View** of the menu bar is clicked on.
Custom Button	Displays the custom buttons configured on the setting screen of the KAS-20CE. Clicking a custom button executes the function that is assigned to the button. Note • Custom buttons are displayed only when they are configured on the **General** screen. (Refer to Configuring the Custom Buttons on page 189.) • The custom buttons are the same as those in the Indoor Location Window.
Clock	Displays the current time. Note Displayed only when “Clock” in **View** of the menu bar is clicked on.

7.2 Operating the Map

The AVL Window allows you to manage mobile stations on an OpenStreetMap-based map. An OpenStreetMap-based map is displayed in the **Map** pane. The current position of the respective mobile stations can be displayed by showing the icons that correspond to the mobile stations on the OpenStreetMap-based map. The dispatcher is able to view the position report and tracking status of mobile stations on an OpenStreetMap-based map. The dispatcher is also able to scroll up or down and enlarge or reduce the size of the map.

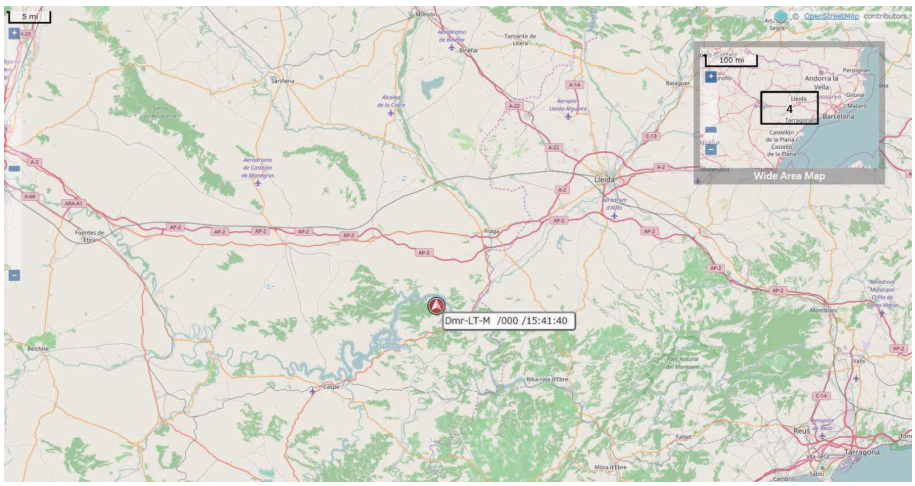

Figure 7-11 OpenStreetMap

Table 7-10 Operations and Display on OpenStreetMap

Operation/ Display	Description
Move	Dragging the map moves the area to display.
Enlarge/ Reduce	Clicking the “+” (Enlarge) or “-” (Reduce) button enlarges or reduces the area of the map display respectively.
Rescaled Display	Displays a rescaled size of the map. The size can be enlarged or reduced between the range from 20 m to 2000 km. Note The unit of measurement can be configured in **Unit** on the **AVL** screen. (Refer to Configuring the Functions to Be Used on AVL Window on page 157.)
Latitude/ Longitude Display	Displays the latitude and longitude of the current cursor position on the map. The display format can be changed on the setting screen of the KAS-20CE. (Refer to Configuring the Functions to Be Used on AVL Window on page 157.)

Note

If the map cannot be displayed because of Internet failure, try to display the map again after closing and restarting the KAS-20CE.

Displaying/Hiding the Wide Area Screen

Wide area screen is a wide-area OpenStreetMap-based map. It can be displayed at the top right corner of the OpenStreetMap.

Figure 7-12 Wide Area Screen

To display a wide area screen, click on “Wide Area Map” in **View** of the menu bar. Clicking off “Wide Area Map” hides the wide area screen.

Table 7-11 Operation on the Wide Area Screen

Operation	Description
Move	Dragging the map on the wide area screen moves the OpenStreetMap-based map at the same time.
Enlarge/ Reduce	Clicking the “+” (Enlarge) or “-” (Reduce) button on the wide area screen enlarges or reduces the display area of the screen respectively.

Note

If the displayed location of the map is registered in **Preset Map**, the registered area appears on the wide area screen. (Refer to Registering the Displayed Map Position on page 212.)

Registering the Displayed Map Position

The displayed location on the map can be registered to the buttons on the **Preset Map** of the control bar. Clicking one of the buttons from 1 to 4 in the **Preset Map** switches the map display to the location registered in the respective buttons.

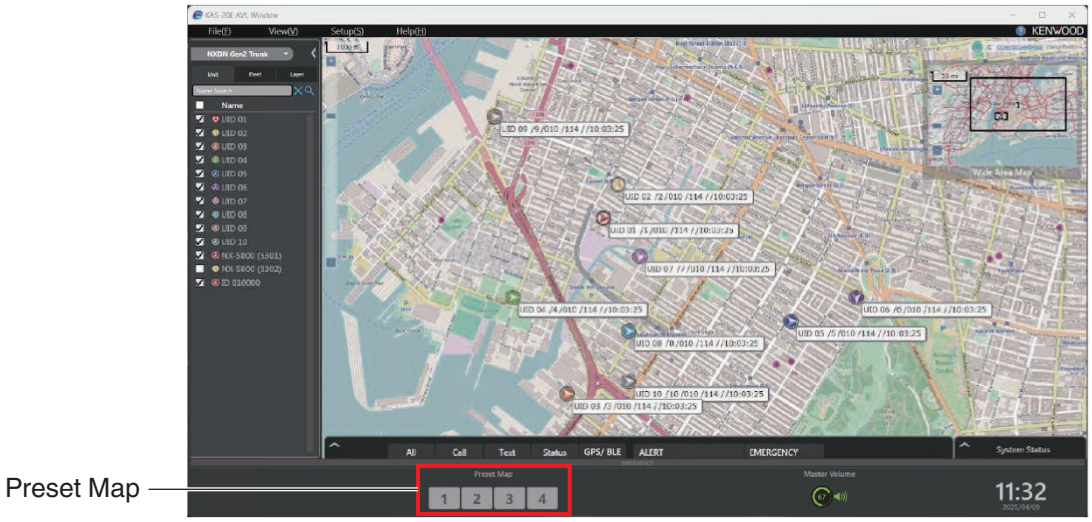

Figure 7-13 Preset Map

1 **Move the map to the location to register.**

2 **Right-click on a point that has no icon on the map.**

The menu appears.

3 **In Register as Preset Map, select one of the options between “Preset 1” and “Preset 4”.**

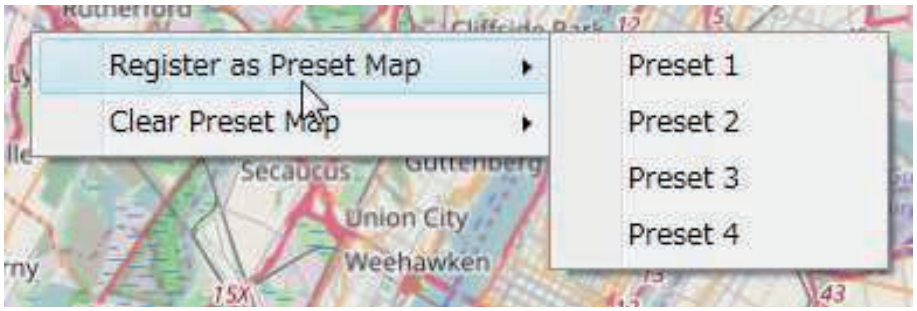

Figure 7-14 Register as Preset Map

The specified location is registered to the corresponding button of the **Preset Map**.

Note

- “Preset 1” to “Preset 4” correspond to buttons 1 to 4 of the **Preset Map** respectively.
- **Preset Map** is displayed only when the “Preset Map” in **View** of the menu bar is clicked on.
- The area registered in **Preset Map** also appears on the wide area screen. (Refer to Displaying/Hiding the Wide Area Screen on page 211.)
- To delete a registered **Preset Map**, select the **Preset Map** to delete using the **Clear Preset Map** option in the right-click menu.

7.3 Managing Mobile Stations by Operating Icons on the Map

Selecting the checkbox of the corresponding mobile station in the **Unit** tab of the **List** pane displays the registered icon on the map based on the positional information of the mobile station at the receiving end.

When BLE Data is received, the icon image of the mobile station is displayed at the coordinates of the nearest BLE Beacon.

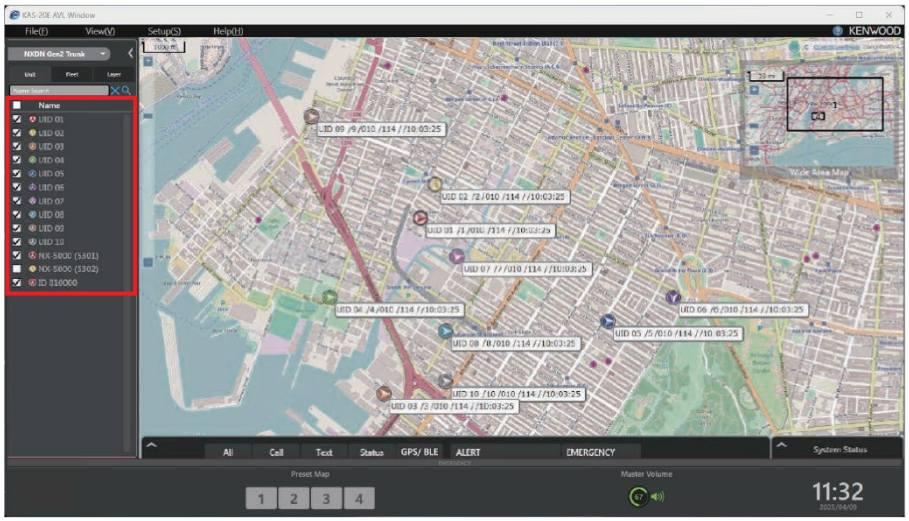

Figure 7-15 Icon Display

Selecting the icon of a mobile station on the map moves the selected icon to the center of the map and displays an icon menu. The icon menu allows you to send messages to or view the communication log with the selected mobile station.

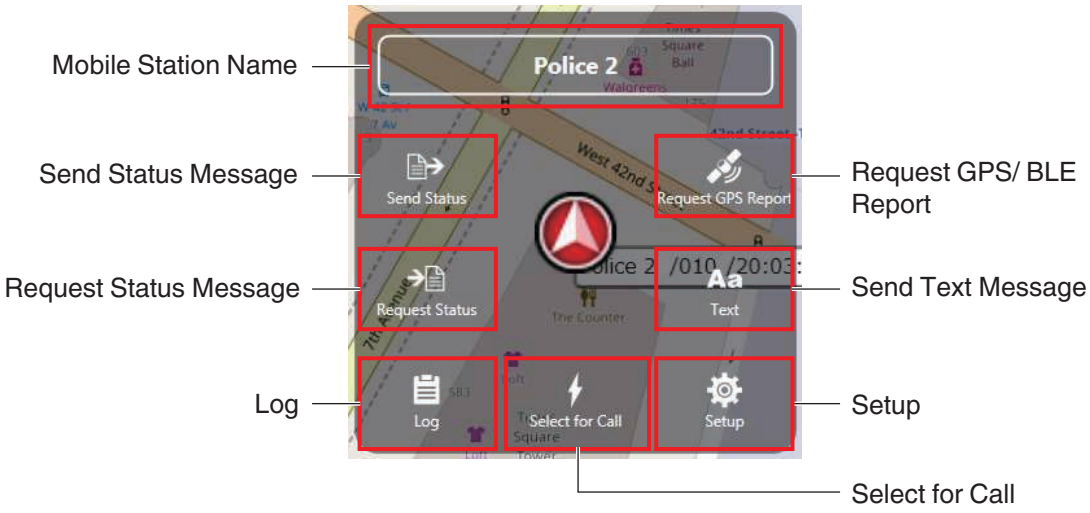

Figure 7-16 Icon Menu

Table 7-12 Icon Menu

Item	Description
Mobile Station Name	Displays the mobile station name.
Send Status Message	Allows you to send out a status message or special command. (Refer to Sending a Status Message on page 215.)
Send Text Message	Allows you to send out a text message. (Refer to Sending a Text Message on page 218.)
Request GPS/ BLE Report	Allows you to send out GPS Data and BLE Data request messages. Note This item cannot be selected in the case of Trunking 2.5.
Request Status Message	Allows you to send out a status message request message. Note This item cannot be selected in the case of Trunking 2.5.
Log	Allows you to view the logs. (Refer to Checking the Communication Log on page 221.)
Select for Call	Selects the corresponding mobile station on the Dispatch Window when the Dispatch Window is displayed.
Setup	Allows you to configure the encryption setting during transmission. Allows you to configure the slot to be used during transmission. Allows you to toggle the display of **Mobile Station Information** on the **AVL** screen.

Note

- The icon for the mobile station can be configured on the setting screen of the KAS-20CE. (Refer to Configuring a Mobile Station on page 98.)
- The KAS-20CE acquires the latest positional information from the server according to the update interval configured on the KAS-20CE setting screen and updates the location of the mobile station accordingly. (Refer to Configuring the Functions to Be Used on AVL Window on page 157.)
- The KAS-20CE continues to track the selected mobile station and display the icon menu at the center of the map until another menu operation is performed or a point outside the icon menu is clicked.
- When **Hide on Power-off** is enabled, the icon of the mobile station is hidden when the status configured in **Power-off Status** is received. (Refer to Mobile Station Icon on page 162, Configuring the Status Message on page 122.)
- The mobile station icon that is displayed when BLE Data is received always faces north.

Sending a Status Message

Clicking the status message icon in the icon menu displays a status message transmission screen, which enables the sending of a status message or special command.

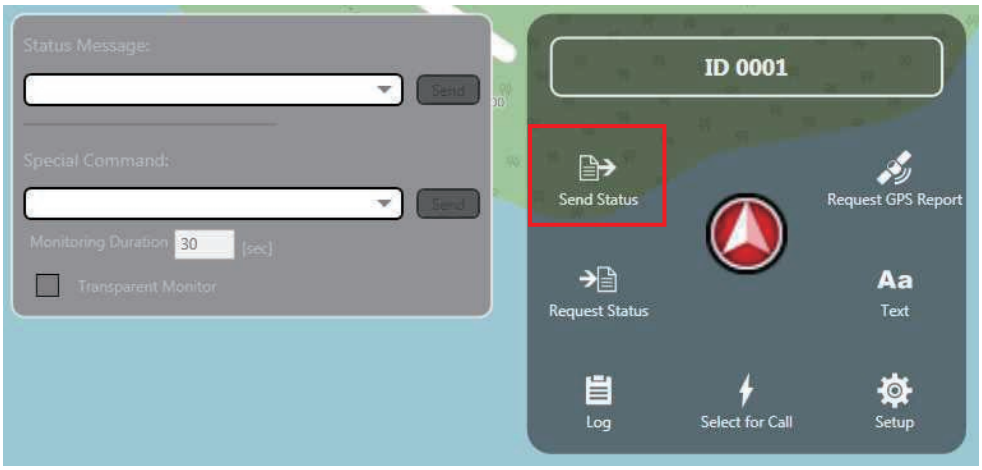

Figure 7-17 Send Status Message

Sending a Status Message

Select the status message to send from **Status Message**, followed by clicking the “Send” button to send the selected message.

Table 7-13 Sending a Status Message

Item	Description	Configurable Range	Default
Status Message	**Status Message** allows you to select the status message to send. Note A “Terminate emergency mode” status message can be sent to exit the Emergency Mode of a mobile station. When a “Terminate emergency mode” status message is selected, clicking the “Send” button displays a message box for confirming whether to send the status message. Clicking the “OK” button sends out the status message.	Status message configured on the **Status Message** screen. (Refer to Configuring the Status Message on page 122.) Note Status messages cannot be selected if the Receive Only is set to Check on the **Status Message** screen.	Blank
“Send” button	Sends out a status message.	-	-

Sending a Special Command

Select the special command to send from **Special Command**, followed by clicking the “Send” button to send the selected command.

Note

Special commands can only be sent by users who are assigned with the “Admin”, “Basic + Special” or “Basic + Patch&Special” operation authority. (Refer to Registering a User on page 57.)

Table 7-14 Sending a Special Command

Item	Description	Configurable Range	Default
Special Command	**Special Command** allows you to select the special command to send. Note • When “Stun”, “Revive”, “Remote Monitor”, “Activate Horn Alert”, “Stun (TX inhibit)” or “Stun (TX/RX inhibit)” is selected, clicking the “Send” button displays a message box for confirming whether to send the special command. Clicking the “OK” button sends out the special command. • When “Kill” is selected, clicking the “Send” button displays a message box for confirming whether to send the Kill special command. Clicking the “OK” button sends out the Kill special command.	The configurable range varies according to the protocol of the communication system configured on the KAS-20CE. (Refer to Details on Special Command on page 234.) **NXDN Trunking (Type-C)/ NXDN Conventional:** Stun, Revive, Kill, Remote Monitor **Trunking 2.5:** Stun, Revive, Radio Check **DMR Tier III Trunking/ DMR Conventional:** Stun, Revive, Kill, Radio Check **DMR Conventional (via TKR-D series):** Stun, Revive, Kill **FleetSync:** **Type = Individual:** Activate Horn Alert, Stun (TX inhibit), Stun (TX/RX inhibit), Revive, Kill, Remote Monitor **Type = Fleet, Group, Supervisor:** Activate Horn Alert	Blank
Monitoring Duration	**Monitoring Duration** allows you to configure the time interval to maintain the transceiver in the transmitting state when using the Remote Monitor command. Note • This function can be configured only for NXDN Trunking (Type-C)/ NXDN Conventional/ FleetSync. • This function can be configured only if “Remote Monitor” is selected in **Special Command**.	1 sec to 255 sec	30 sec

Item	Description	Configurable Range	Default
Transparent Monitor	**Transparent Monitor** allows you to configure whether to display a message on the transceiver display and light up the transmission LED while the transceiver is configured to the transmitting state using the Remote Monitor command. Note • This function can be configured only for NXDN Trunking (Type-C)/ NXDN Conventional/ FleetSync. • This function can be configured only if “Remote Monitor” is selected in **Special Command**.	**Check (Enable):** Displays a message on the transceiver display and lights up the transmission LED while the transceiver is configured to the transmitting state using the Remote Monitor command. **Uncheck (Disable):** Does not display a message on the transceiver display and or light up the transmission LED while the transceiver is configured to the transmitting state using the Remote Monitor command.	Unchecked (Disabled)
“Send” button	Sends out a special command.	-	-

Sending a Text Message

Clicking the text message icon in the icon menu displays a text message transmission screen, which enables the sending of a text message.

Figure 7-18 Send Text Message

Select the text message to send using one of the methods below, followed by clicking the “Send Short Data” or “Send Long Data” button to send out the selected text message.

- Enter the text message to send in **Text Message**.
- Select a text message from previously sent messages in **Text History**.
- Select a predefined text message in **Predefined**.

Note

- When the maximum number of input characters for **Text Message** is exceeded, the “Send Short Data” and “Send Long Data” buttons are deactivated and text messages cannot be sent.
- The text messages of Long Data Message are not displayed on the screen of the mobile station.

Table 7-15 Sending a Text Message

Item	Description	Configurable Range	Default
Text Message	**Text Message** allows you to enter the text message to send. Note The number of characters of the Short Data Message that can be sent varies according to the protocol of the communication system configured on the KAS-20CE and the configuration of **Type** of the destination. (Refer to Number of characters of the Short Data Message that can be sent on page 220.)	The configurable range varies according to the protocol of the communication system configured on the KAS-20CE. **NXDN Trunking (Type-C)/ NXDN Conventional/ DMR Tier III Trunking/ DMR Conventional:** 1 byte to 4096 bytes **Trunking 2.5:** 1 byte to 44 bytes **DMR Conventional (via TKR-D series):** **Type = Individual or Console:** IP network connection: 1 byte to 986 bytes Serial connection: 1 byte to 978 bytes **Type = Group or All:** IP network connection: 1 byte to 738 bytes Serial connection: 1 byte to 730 bytes **FleetSync:** 1 byte to 4096 bytes Note Depending on the base station transceiver type, up to 1024 bytes of characters can be sent and received for FleetSync.	Blank
“Clear Text” button	Clears the text entered in **Text Message**.	-	-
Text History	**Text History** allows you to select up to 10 text messages that were sent previously. The selected text messages are displayed in **Text Message**.	10 text messages that were sent previously	Blank
Predefined	**Predefined** allows you to select a text message that is predefined in the KAS-20CE. The selected text messages are displayed in **Text Message**. Note The text message displayed in **Predefined** can be configured in **Predefined Text Message** on the **Dispatch** screen. (Refer to Configuring the Functions to Be Used on Dispatch Window on page 179.)	Text messages that are predefined in the KAS-20CE	Blank

Item	Description	Configurable Range	Default
“Send Short Data” button	Sends out a text message as a Short Data Message. (Refer to Number of characters of the Short Data Message that can be sent on page 220.)	-	-
“Send Long Data” button	Sends out a text message as a Long Data Message. Note • The text messages of Long Data Message are not displayed on the screen of the mobile station. • This button is not displayed only for Trunking 2.5 and DMR Conventional (via TKR-D series).	-	-

Number of characters of the Short Data Message that can be sent

The number of characters of the Short Data Message that can be sent varies as follows according to the protocol of the communication system configured on the KAS-20CE and the configuration of **Type** of the destination.

Table 7-16 Number of Characters of the Short Data Message That Can Be Sent

System Protocol	Type	Number of Characters That Can Be Sent	Maximum Number of Divided Transmissions
NXDN Trunking (Type-C)/ NXDN Conventional (IP Network connection, Serial connection)	-	100 bytes	15
DMR Tier III Trunking (IP Network connection)	Individual, Console	978 bytes	1
	Group, All	730 bytes	1
Trunking 2.5 (IP Network connection)	-	44 bytes	1
DMR Conventional (IP Network connection, Serial connection)	Individual, Console	978 bytes	1
	Group, All	730 bytes	1
DMR Conventional (via TKR-D series) (IP Network connection)	Individual, Console	986 bytes	1
	Group, All	738 bytes	1
DMR Conventional (via TKR-D series) (Serial connection)	Individual, Console	978 bytes	1
	Group, All	730 bytes	1
FleetSync (Serial connection)	-	48 bytes	15

When more characters than the number of characters that can sent are entered, the entered Short Data Message is divided and sent over multiple transmissions. When the number of entered characters is more than the number of characters acquired by multiplying the number of characters that can be sent by the maximum number of divided transmissions, the “Send Short Data” button is disabled.

Checking the Communication Log

Clicking the “Log” icon in the icon menu displays a Log screen, which enables the viewing of the communication log of the selected mobile station.

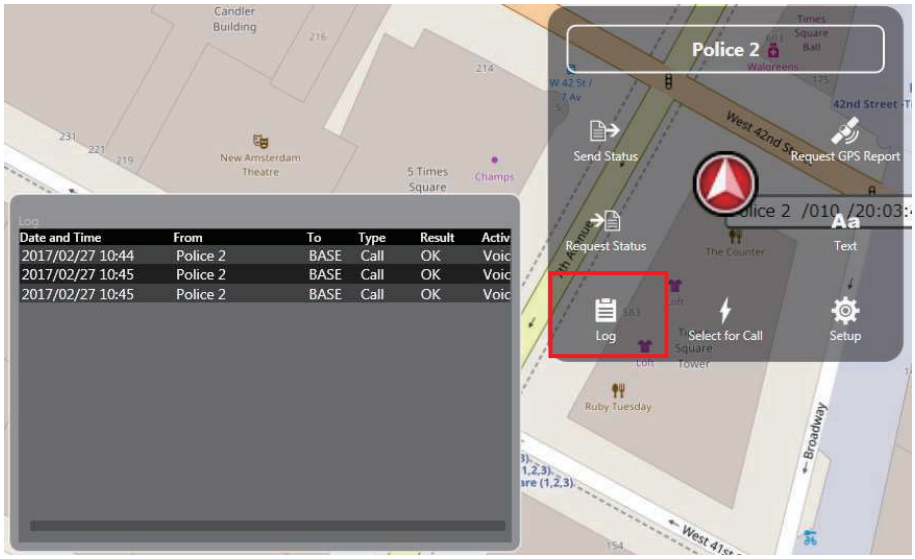

Figure 7-19 Log

Table 7-17 Log Screen

Item	Description
Date and Time	**Date and Time** displays the date and time the log data was saved.
System	**System** shows the system name. When **System Name** is enabled, a System column is displayed. (Refer to Configuring Settings Related to Log Data Acquisition on page 182.)
From	**From** displays the name or number of the mobile station at the sending end. If Trunking 2.5 is enabled in DMR Tier III Trunking/ **Fleet Dialing Plan**, and if a voice call is received from a non-administered mobile station (when the mobile station is not registered in **Radio Resource List** or when the mobile station is registered in **Radio Resource List** but **Target List** is disabled), a value configured in the Prefix - Fleet - IN format is displayed.
To	**To** displays the name or number of the mobile station at the receiving end.
Type	**Type** displays the type of communication.
Result	**Result** displays the transmission results.
Activity	**Activity** displays descriptions of the activity.
Talk Time	**Talk Time** displays the calling time of a voice call.

Encryption Setting During Transmission

Clicking the “Setup” icon in the icon menu displays a setting screen, which enables the configuration of an encryption key for use during transmission.

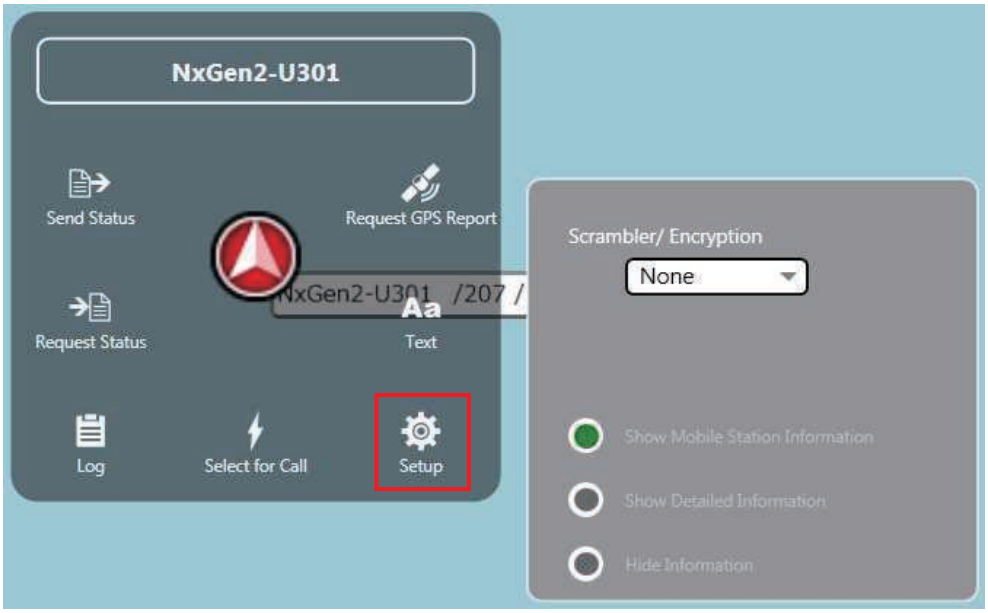

Figure 7-20 Setup (Scrambler/ Encryption)

Table 7-18 Encryption Key Setting

Item	Description	Configurable Range	Default
Scrambler/ Encryption	**Scrambler/ Encryption** allows you to configure the number of the encryption key for use during transmission. Note • An encryption key number for which Key Data has been configured in **Scrambler/ Encryption** in the **IP Network** screen can be configured. (Refer to Configuring the IP Network on page 67.) • This function can be configured only for IP network connection. • Changes made during communication will not affect the settings during the communication (including Talkback). The changes will reflected from the start of the next communication.	None, 1 to 32	None

Configuring the Slot Used for Transmission

Clicking the “Setup” icon in the icon menu displays a setting screen, which enables configuration of the slot to be used during transmission.

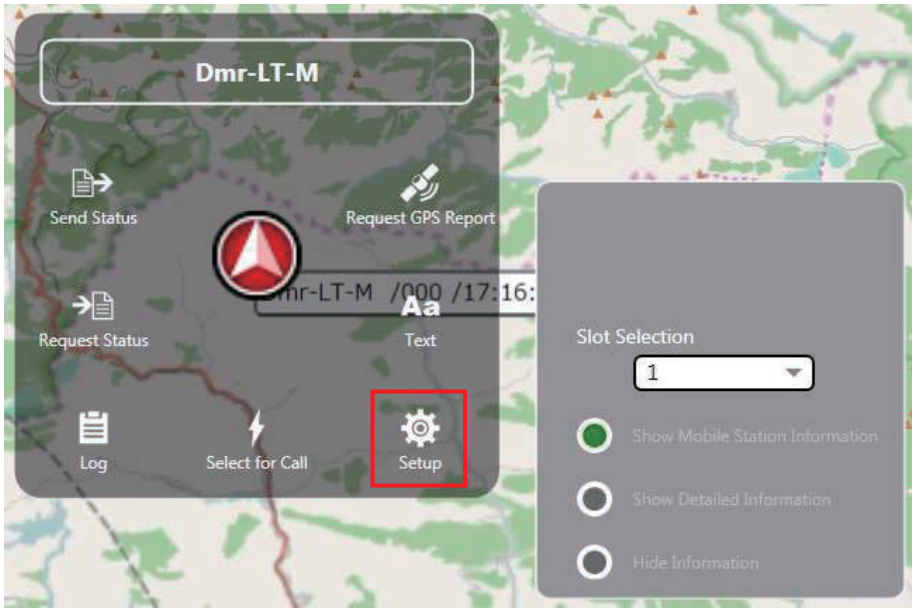

Figure 7-21 Setup (Slot Selection)

Table 7-19 Slot Settings

Item	Description	Configurable Range	Default
Slot Selection	**Slot Selection** allows you to configure the slot to be used during transmission. Note • This function can be configured only for DMR Conventional/ DMR Conventional (via TKR-D series) in an IP network connection. • If the System Protocol is DMR Conventional or DMR Conventional (via TKR-D series), and **Slot** in **Radio Resource List** is configured to a setting other than **Both**, the **Slot** setting of **Radio Resource List** will be displayed and this feature cannot be configured. • Changes made during communication will not affect the settings during the communication (including Talkback). The changes will reflected from the start of the next communication.	1, 2	1

Display of Mobile Station Information

The information of a mobile station, according to the settings of **Mobile Station Information** on the **AVL** screen, is displayed near the icon of the mobile station that is displayed on the map. (Refer to Configuring the Functions to Be Used on AVL Window on page 157.)

The diagram below is an example when **Name**, **ID**, **Status Message No.**, **Speed**, **GPS Status** and **Time** are enabled in **Mobile Station Information**.

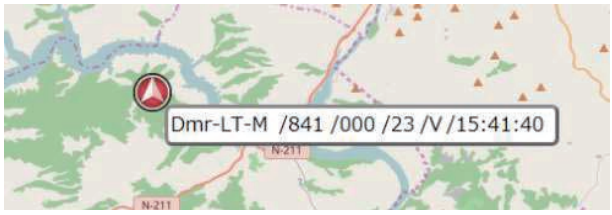

Figure 7-22 Mobile Station Information Display

Clicking the “Setup” icon in the icon menu displays the selection options for **Show/Hide Information**. The **Mobile Station Information** display can be toggled.

Table 7-20 Show/Hide Information

Item	Description	Configurable Range	Default
Show/Hide Information	**Show/Hide Information** allows you to select the mode of display for the **Mobile Station Information**.	**Show Mobile Station Information:** Displays information of a mobile station. **Show Detailed Information:** Displays more detailed information of a mobile station. **Hide Information:** Does not display information of a mobile station.	Show Mobile Station Information

Note

- When the information displayed for a mobile station overlaps with the icons of other mobile stations, the information will become semi-transparent. Clicking on the icons of other mobile stations under the information display of a mobile station will shift the icon of the clicked mobile station to the center of the screen, and an icon menu will be displayed.
- When the information displayed for a mobile station overlaps with the information display of other mobile stations, clicking the information display of a mobile station behind it brings the clicked information display to the front.

Icon Selection Operation

When selecting an icon that is overlapped with other icons on the map, a selection screen shown below and an icon menu containing the selected mobile stations are displayed.

During execution of Track Mobile Station, the selected icon is displayed at the beginning of the icon menus.

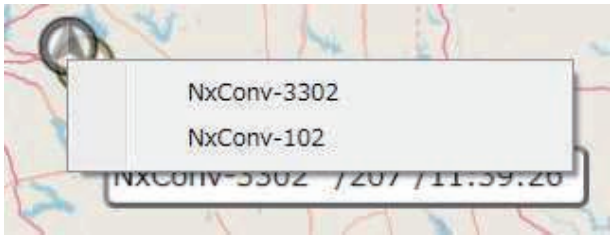

Figure 7-23 Icon Selection

7.4 Managing Mobile Stations with the Radio Resource List

The displaying or hiding of mobile stations on the map can be selected in the **Unit** tab of the **List** pane.
Selecting the checkbox of the corresponding mobile station displays the registered icon on the map based on the positional information of the mobile station at the receiving end. Deselecting the checkbox removes the display of the mobile station icons from the map.

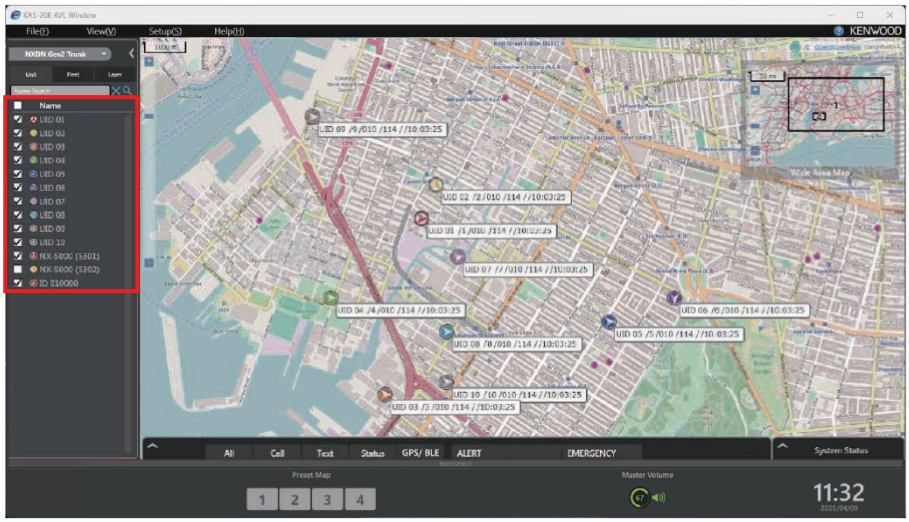

Figure 7-24 Mobile Station Selection

Selecting a mobile station and right-clicking on it displays a menu that allows you to perform communication-related operations such as sending messages.

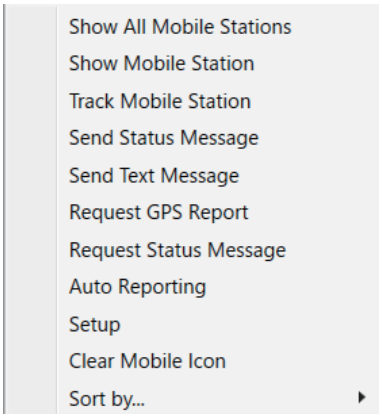

Figure 7-25 Right-click Menu

Note

Placing the pointer over the name of a mobile station in the **List** pane while its icon is displayed on the map will display the current latitude and longitude of the mobile station on the tooltip. The units of the latitude and longitude displayed can be configured in **Geometry Data Format** of the AVL screen. (Refer to Configuring the Functions to Be Used on AVL Window on page 157.)

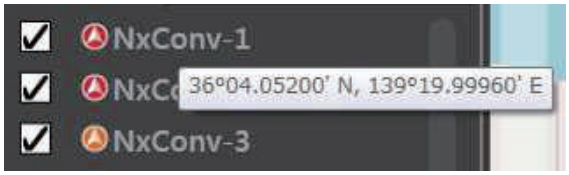

Figure 7-26 Latitude/ Longitude Display

Table 7-21 Right-click Menu

Item	Description
Show All Mobile Stations	Displays all mobile stations on the map in 1 screen by moving the map automatically. (Refer to Displaying All Mobile Stations on page 227.)
Show Mobile Station	Displays the selected mobile station at the center of the map. (Refer to Displaying Mobile Station at the Center of the Map on page 228.) Note If the selected mobile station is located within the Indoor Map, the Floor Map where the mobile station is found will be displayed, and the selected mobile station will be shown at the center of the map.
Track Mobile Station/ Stop Tracking Mobile Station	Selecting “Track Mobile Station” maintains the selected mobile station at the center of the map at all times by moving the map automatically. To stop the tracking, select “Stop Tracking Mobile Station” to stop the tracking of the selected mobile station. (Refer to Displaying Mobile Station at the Center of the Map at All Times on page 229.) Note If the selected mobile station is located within the Indoor Map, the system displays the Floor Map where the mobile station is found and automatically moves the map to keep the mobile station centered at all times.
Send Status Message	Displays the **Send Status Message** dialog box and enables sending of status messages and special commands to the selected mobile station. (Refer to Sending a Status Message on page 230.)
Send Text Message	Displays the **Send Text Message** dialog box and enables sending of text messages to the selected mobile station. (Refer to Sending a Text Message on page 235.)
Request GPS/ BLE Report	Allows you to send out GPS Data and BLE Data request messages to the selected mobile station. Note This item cannot be selected in the case of Trunking 2.5.
Request Status Message	Allows you to send out a status message request message to the selected mobile station. Note This item cannot be selected in the case of Trunking 2.5.
Remote Regrouping	Displays the **Remote Regrouping** dialog box and enables sending of a Remote Regrouping command to the selected mobile station. (Refer to Sending a Remote Regrouping Command on page 238.) Note This function can be configured only for NXDN Trunking (Type-C).
Auto Reporting	Displays the **Auto Reporting** dialog box and enables configuring of parameters related to the automatic transmission of GPS Data/ BLE Data to the selected mobile station. (Refer to Enabling the Automatic Transmission of Position Reports on page 239.) Note This function cannot be configured in Trunking 2.5/ DMR Tier III Trunking.
Setup	Displays the **Setup** dialog box and enables the following settings to be configured for the selected mobile station. Allows you to configure the encryption setting during transmission. Allows you to configure the slot to be used during transmission. Allows you to toggle the display of **Mobile Station Information** on the **AVL** screen.
Clear Mobile Icon	Clears the display of the selected mobile station as well as the Icon on the map. Also, if the selected mobile station exists on the **Indoor Location** screen, the number displayed on the BLE Beacon Icon will be updated.
Sort by...	Sorts the display of the **List** and **Unit** tabs in the **Fleet** pane in the selected method. (Refer to Sorting the Display of List Pane on page 244.)

Displaying All Mobile Stations

Selecting “Show All Mobile Stations” from the right-click menu displays all mobile stations on the map in 1 screen by moving the map automatically.

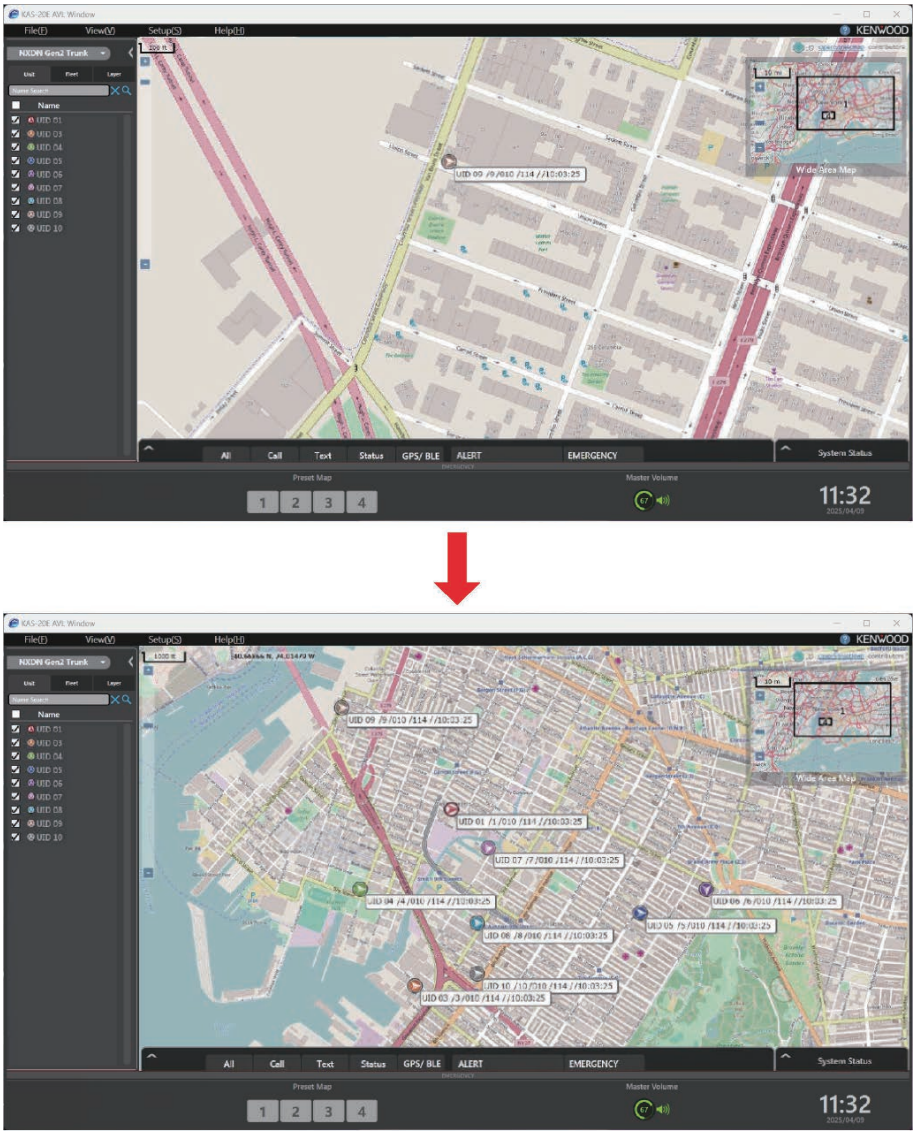

Figure 7-27 Show All Mobile Stations

Displaying Mobile Station at the Center of the Map

Selecting “Show Mobile Station” from the right-click menu moves the map to position the selected mobile station at the center.

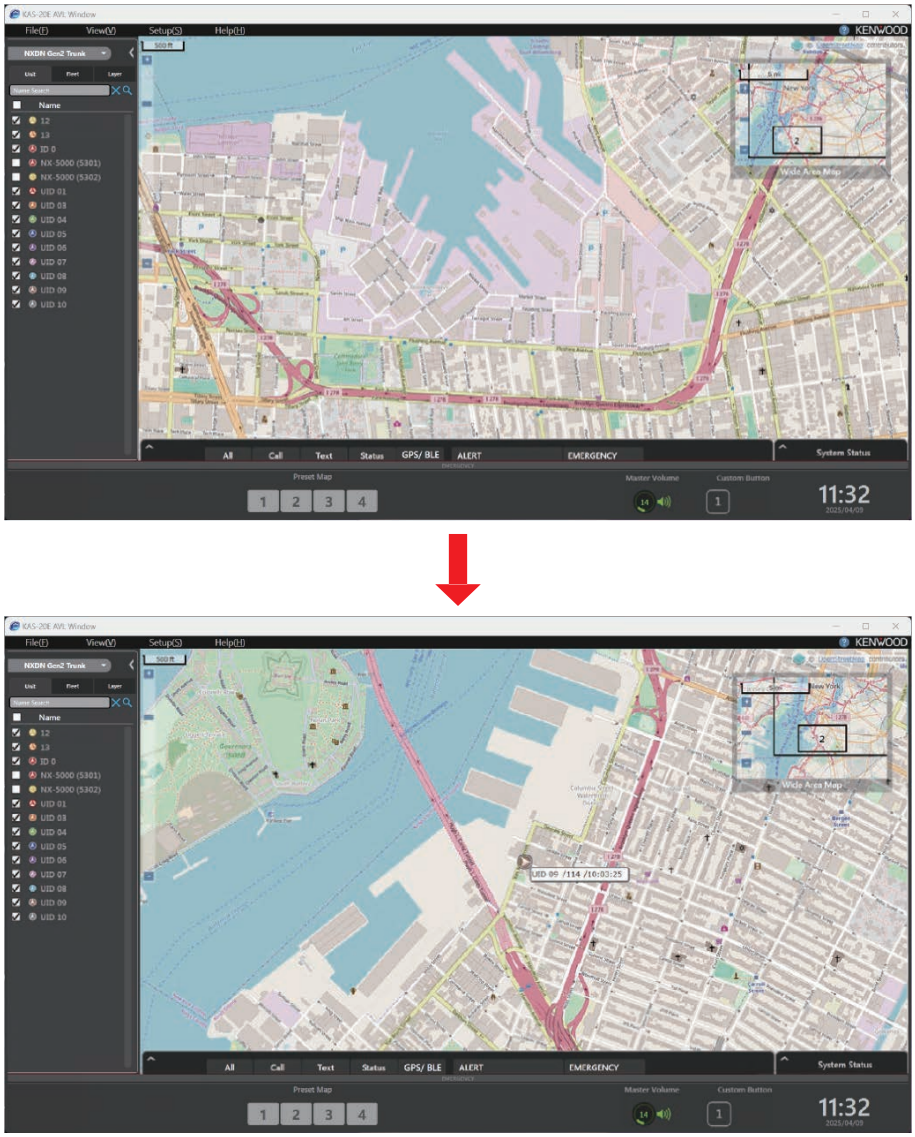

Figure 7-28 Show Mobile Station

Displaying Mobile Station at the Center of the Map at All Times

Selecting “Track Mobile Station” from the right-click menu moves the map automatically to position the selected mobile station at the center at all times.

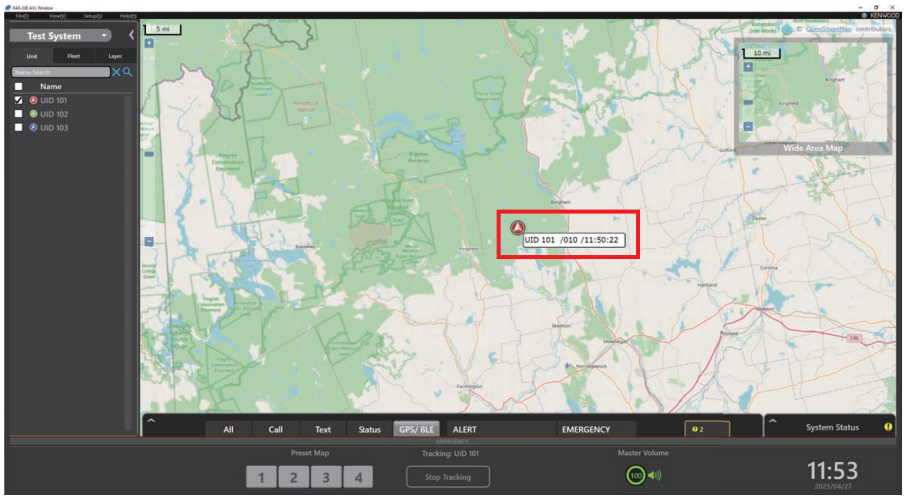

Figure 7-29 Track Mobile Station

Selecting “Stop Tracking Mobile Station” from the right-click menu or clicking the “Stop Tracking” button on the control bar stops the tracking of the selected mobile station.

Note

- When the selected mobile station is being tracked, “Track:(Name)” is displayed under the latitude and longitude display on the screen.
- While the selected mobile station is being tracked, the icon of the selected mobile station is displayed in the foreground.

Sending a Status Message

Selecting “Send Status Message” or “Send Special Command” from the right-click menu displays the **Send Status Message** dialog box and enables sending of status messages and special commands to the selected mobile station.

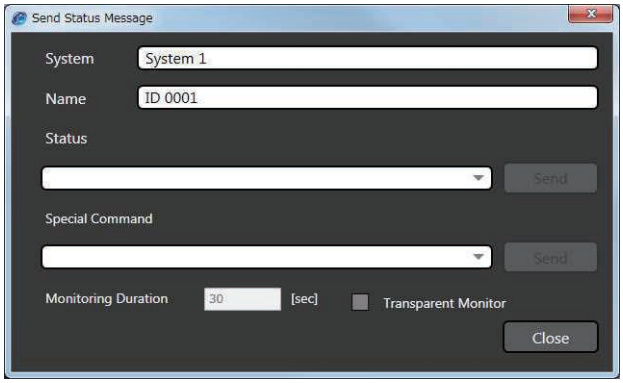

Figure 7-30 Send Status Message

Table 7-22 Common Items

Item	Description
System	**System** displays the name of the communication system selected on the AVL Window.
Name	**Name** displays the name of the selected mobile station.

Sending a Status Message

Select the status message to send from **Status**, followed by clicking the “Send” button to send the selected message.

Table 7-23 Sending a Status Message

Item	Description	Configurable Range	Default
Status	**Status** allows you to select the status message to send. Note A “Terminate emergency mode” status message can be sent to exit the Emergency Mode of a mobile station. When a “Terminate emergency mode” or “Normal operation” status message is selected, clicking the “Send” button displays a message box for confirming whether to send the status message. Clicking the “OK” button sends out the status message.	The configurable range varies according to the protocol of the communication system configured on the KAS-20CE. **NXDN Trunking (Type-C)/ NXDN Conventional/ Trunking 2.5/ DMR Tier III Trunking/ DMR Conventional/ DMR Conventional (via TKR-D series):** Status message configured in the **Status Message** screen. (including Terminate emergency mode) (Refer to Configuring the Status Message on page 122.) **FleetSync:** Status message configured in the **Status Message** screen. (including Normal operation and Terminate emergency mode.) Note Status messages cannot be selected if the Receive Only is set to Check on the **Status Message** screen.	Blank
“Send” button	Sends out a status message.	-	-

Sending a Special Command

Select the special command to send from **Special Command**, followed by clicking the “Send” button to send the selected command.

Note

- Special commands can only be sent by users who are assigned with the “Admin”, “Basic + Special” or “Basic + Patch&Special” operation authority. (Refer to Registering a User on page 57.)
- When the protocol of the communication system is other than FleetSync, special commands can be sent when **Type** is configured to “Individual”.
- When the protocol of the communication system is FleetSync, special commands cannot be sent when **Type** of the selected mobile station is configured to “Broadcast” or “Console”.

Table 7-24 Sending a Special Command

Item	Description	Configurable Range	Default
Special Command	**Special Command** allows you to select the special command to send. Note • When “Stun”, “Revive”, “Remote Monitor”, “Activate Horn Alert”, “Stun (TX inhibit)” or “Stun (TX/RX inhibit)” is selected, clicking the “Send” button displays a message box for confirming whether to send the special command. Clicking the “OK” button sends out the special command. • When “Kill” is selected, clicking the “Send” button displays a message box for confirming whether to send the Kill special command. Clicking the “OK” button sends out the Kill special command.	The configurable range varies according to the protocol of the communication system configured on the KAS-20CE. (Refer to Details on Special Command on page 234.) **NXDN Trunking (Type-C)/ NXDN Conventional:** Stun, Revive, Kill, Remote Monitor **Trunking 2.5:** Stun, Revive, Radio Check **DMR Tier III Trunking/ DMR Conventional:** Stun, Revive, Kill, Radio Check **DMR Conventional (via TKR-D series):** Stun, Revive, Kill **FleetSync:** **Type = Individual:** Activate Horn Alert, Stun (TX inhibit), Stun (TX/RX inhibit), Revive, Kill, Remote Monitor **Type = Fleet, Group, Supervisor:** Activate Horn Alert	Blank

Item	Description	Configurable Range	Default
Monitoring Duration	**Monitoring Duration** allows you to configure the time interval to maintain the transceiver in the transmitting state when using the Remote Monitor command. Note • This function can be configured only for NXDN Trunking (Type-C)/ NXDN Conventional/ FleetSync. • This function can be configured only if “Remote Monitor” is selected in **Special Command**.	1 sec to 255 sec	30 sec
Transparent Monitor	**Transparent Monitor** allows you to configure whether to display a message on the transceiver display and light up the transmission LED while the transceiver is configured to the transmitting state using the Remote Monitor command. Note • This function can be configured only for NXDN Trunking (Type-C)/ NXDN Conventional/ FleetSync. • This function can be configured only if “Remote Monitor” is selected in **Special Command**.	**Check (Enable):** Displays a message on the transceiver display and lights up the transmission LED while the transceiver is configured to the transmitting state using the Remote Monitor command. **Uncheck (Disable):** Does not display a message on the transceiver display and or light up the transmission LED while the transceiver is configured to the transmitting state using the Remote Monitor command.	Unchecked (Disabled)
“Send” button	Sends out a special command.	-	-
“Close” button	Closes the **Send Status Message** dialog box.	-	-

Details on Special Command

The details of each special command are as follows.

Table 7-25 Special Command (NXDN/ DMR)

Special Command	Description
Stun	Disables the use of transceiver temporarily.
Revive	Restores the use of a transceiver that has been disabled temporarily using Stun.
Kill	Disables the use of transceiver. The use of transceiver is disabled until an FPU data is written again.
Remote Monitor	Maintains the transceiver in the transmitting state for a specific time interval, during which the sound around the transceiver is audible.
Radio Check (Trunking 2.5/ DMR Tier III Trunking/ DMR Conventional only)	By making the individually specified transceiver receive the Radio Check message, confirms whether the transceiver has been registered in the system. Note • For Trunking 2.5/ DMR Tier III Trunking/ DMR Conventional (IP network connection), a Radio Check Message is sent. • For DMR Conventional (serial connection), a Request Status Message is sent.

Table 7-26 Special Command (FleetSync)

Special Command	Description
Activate Horn Alert	Activates the Horn Alert.
Stun (TX inhibit)	Disables the transmission of transceiver temporarily.
Stun (TX/RX inhibit)	Disables the transmission and reception of transceiver temporarily.
Revive	Restores the use of a transceiver that has been disabled temporarily using Stun.
Kill	Disables the use of transceiver. The use of transceiver is disabled until an FPU data is written again.
Remote Monitor	Maintains the transceiver in the transmitting state for a specific time interval, during which the sound around the transceiver is audible.

Sending a Text Message

Selecting “Send Text Message” from the right-click menu displays the **Send Text Message** dialog box and enables sending of text messages to the selected mobile station.

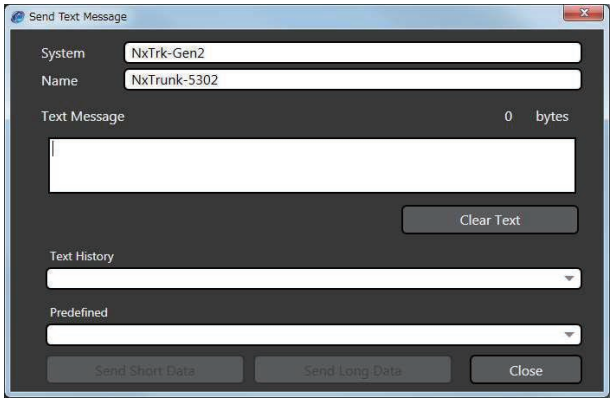

Figure 7-31 Send Text Message

Select the text message to send using one of the methods below, followed by clicking the “Send Short Data” or “Send Long Data” button to send out the selected text message.

- Enter the text message to send in **Text Message**.
- Select a text message from previously sent messages in **Text History**.
- Select a predefined text message in **Predefined**.

Note

- When the maximum number of input characters for **Text Message** is exceeded, the “Send Short Data” and “Send Long Data” buttons are deactivated and text messages cannot be sent.
- The text messages of Long Data Message are not displayed on the screen of the mobile station.

Table 7-27 Sending a Text Message

Item	Description	Configurable Range	Default
System	**System** displays the name of the communication system selected on the AVL Window.	-	-
Name	**Name** displays the name of the selected mobile station.	-	-
Text Message	**Text Message** allows you to enter the text message to send. Note The number of characters of the Short Data Message that can be sent varies according to the protocol of the communication system configured on the KAS-20CE and the configuration of **Type** of the destination. (Refer to Number of characters of the Short Data Message that can be sent on page 220.)	The configurable range varies according to the protocol of the communication system configured on the KAS-20CE. **NXDN Trunking (Type-C)/ NXDN Conventional/ DMR Tier III Trunking/ DMR Conventional:** 1 byte to 4096 bytes **Trunking 2.5:** 1 byte to 44 bytes **DMR Conventional (via TKR-D series):** **Type = Individual or Console:** IP network connection: 1 byte to 986 bytes Serial connection: 1 byte to 978 bytes **Type = Group or All:** IP network connection: 1 byte to 738 bytes Serial connection: 1 byte to 730 bytes **FleetSync:** 1 byte to 4096 bytes Note Depending on the base station transceiver type, up to 1024 bytes of characters can be sent and received for FleetSync.	Blank

Item	Description	Configurable Range	Default
“Clear Text” button	Clears the text entered in **Text Message**.	-	-
Text History	**Text History** allows you to select up to 10 text messages that were sent previously. The selected text messages are displayed in **Text Message**.	10 text messages that were sent previously	Blank
Predefined	**Predefined** allows you to select a text message that is predefined in the KAS-20CE. The selected text messages are displayed in **Text Message**. Note The text message displayed in **Predefined** can be configured in **Predefined Text Message** on the **Dispatch** screen. (Refer to Configuring the Functions to Be Used on Dispatch Window on page 179.)	Text messages that are predefined in the KAS-20CE	Blank
“Send Short Data” button	Sends out a text message as a Short Data Message. (Refer to Number of characters of the Short Data Message that can be sent on page 220.)	-	-
“Send Long Data” button	Sends out a text message as a Long Data Message. Note • The text messages of Long Data Message are not displayed on the screen of the mobile station. • This button is not displayed only for Trunking 2.5/ DMR Conventional (via TKR-D series).	-	-

Sending a Remote Regrouping Command

Selecting “Remote Regrouping” from the right-click menu displays the **Remote Regrouping** dialog box and enables sending of Remote Regrouping commands to the selected mobile station.

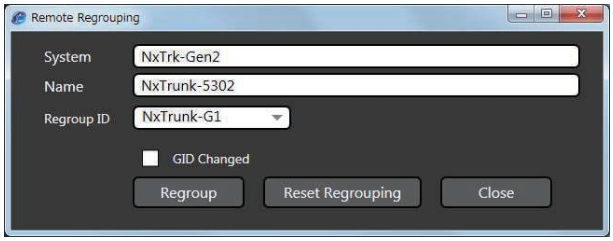

Figure 7-32 Remote Regrouping

Remote Regrouping is a function for adding a group ID to a mobile station. Using this function allows a call to be established with a mobile station such as by enabling the mobile station to temporarily join a group or by gathering mobile stations of different parties to form a new temporary group.
Using the Reset command of Remote Regrouping allows you to clear the group ID that is added to a mobile station.

Table 7-28 Sending a Remote Regrouping Command

Item	Description	Configurable Range	Default
System	**System** displays the name of the communication system selected on the AVL Window.	-	-
Name	**Name** displays the name of the selected mobile station.	-	-
Regroup ID	**Regroup ID** allows you to configure the group ID to be added to the mobile station using the Remote Regrouping command. The group ID configured in **Regroup ID** is stored in the Remote Regrouping command and sent to the mobile station.	Group ID registered in the KAS-20CE	Blank
GID Changed	**GID Changed** allows you to configure whether to enable a mobile station to select a group ID other than those added using the Remote Regrouping command. The **GID Changed** setting is applied to the mobile station after a Remote Regrouping command has been sent. If a Remote Regrouping command is sent without enabling **GID Changed**, the mobile station will not be able to select a group ID other than those added using the Remote Regrouping command.	**Check (Enable):** Enables the mobile station to select a group ID other than those added using the Remote Regrouping command. **Uncheck (Disable):** Disables the mobile station from selecting a group ID other than those added using the Remote Regrouping command.	Unchecked (Disabled)
“Regroup” button	A Remote Regrouping command is sent.	-	-
“Reset Regrouping” button	Sends out a command to reset Remote Regrouping.	-	-

Note

A Remote Regrouping command can be sent only for NXDN Trunking (Type-C).

Adding a Group ID to a Mobile Station

Select the group ID to add from **Regroup ID**, followed by clicking the “Regroup” button to send a Remote Regrouping command to the selected mobile station.
After the mobile station receives the Remote Regrouping command, the group ID that is stored in the command is added to the mobile station.

Resetting a Group ID Added to a Mobile Station

Clicking the “Reset Regrouping” button sends a command for resetting Remote Regrouping to the selected mobile station.
After the mobile station receives the Remote Regrouping reset command, the group ID that is added using the command is removed from the mobile station.

Enabling the Automatic Transmission of Position Reports

Selecting “Auto Reporting” from the right-click menu displays the **Auto Reporting** dialog box and enables the configuring of parameters related to automatic transmission of the position report (GPS Data, BLE Data) to the selected mobile station.

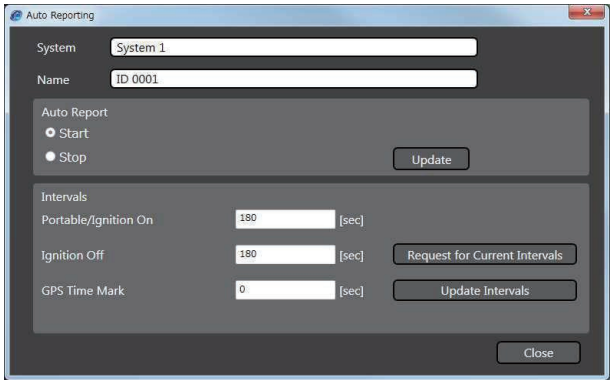

Figure 7-33 Auto Reporting

Table 7-29 GPS Data Automatic Transmission Settings

Item	Description	Configurable Range	Default
System	**System** displays the name of the communication system selected on the AVL Window.	-	-
Name	**Name** displays the name of the selected mobile station.	-	-

Item	Description	Configurable Range	Default
Auto Report	**Auto Report** allows you to select whether to start or stop automatic transmission of position reports from the mobile station.	**Start:** Starts automatic transmission of position reports (GPS Data) from the mobile station. **Stop:** Stops automatic transmission of position reports (GPS Data) from the mobile station.	Start
“Update” button	Sends a command to the selected mobile station to start or stop automatic transmission of position reports from the mobile station.	-	-
Portable/ Ignition On	**Portable/ Ignition On** allows you to configure the time interval for sending out the position reports automatically. The setting in **Portable/ Ignition On** is applied when the power of the mobile station (portable) or ignition of the mobile station (mobile) is turned on.	1 sec to 3600 sec	180 sec
Ignition Off	**Ignition Off** allows you to configure the time interval for sending out the position reports automatically. The setting in **Ignition Off** is applied when ignition of the mobile station (mobile) is turned off.	1 sec to 3600 sec	180 sec
GPS/ BLE Time Mark	**GPS/ BLE Time Mark** allows you to configure the offset time until a position report is automatically sent out based on the UTC (Universal Coordinated Time). By configuring this item to a different time for the respective mobile stations, the mobile stations can send out position reports at different timings. Doing so helps to prevent data collision from occurring.	0 sec to 3599 sec	0 sec
“Request for Current Intervals” button	Setting values related to the automatic transmission of position reports can be requested from the mobile station and applied to the respective **Intervals** settings.	-	-
“Update Intervals” button	The respective **Update Intervals** setting values can be sent and applied to a mobile station.	-	-

Starting/ Stopping the Automatic Transmission of Position Reports

Starts or stops the automatic transmission of position reports from the selected mobile station.

1 **Click the Start or Stop radio button in Auto Report.**

Select **Start** to start automatic transmission of the position report, and select **Stop** to stop automatic transmission.

2 **Click the "Update" button.**

A Start or Stop command is sent to the selected mobile station.
Once a command is sent out successfully, a confirmation message box appears.

3 **Click the "OK" button.**

Requesting Setting Values Related to the Automatic Transmission of Position Reports from the Mobile Station

Setting values related to the automatic transmission of position reports can be requested from the mobile station and applied to the respective **Intervals** settings.

1 **Click the "Request for Current Intervals" button.**

Upon receiving the setting values from the mobile station, these are applied to **Portable/ Ignition On**, **Ignition Off** and **GPS Time Mark**, and a confirmation message box appears.

2 **Click the "OK" button.**

Sending Setting Values Related to the Automatic Transmission of Position Reports to the Mobile Station

The respective **Intervals** setting values can be sent and applied to a mobile station.

1 **Enter value for Portable/ Ignition On, Ignition Off and GPS Time Mark.**

2 **Click the "Update Intervals" button.**

Once the setting data is sent out successfully to a mobile station, a confirmation message box appears.

3 **Click the "OK" button.**

Configuring Settings Used During Transmission

Selecting “Setup” from the right-click menu displays the **Setup** dialog box and enables configuration of settings to be used during transmission to the selected mobile station.

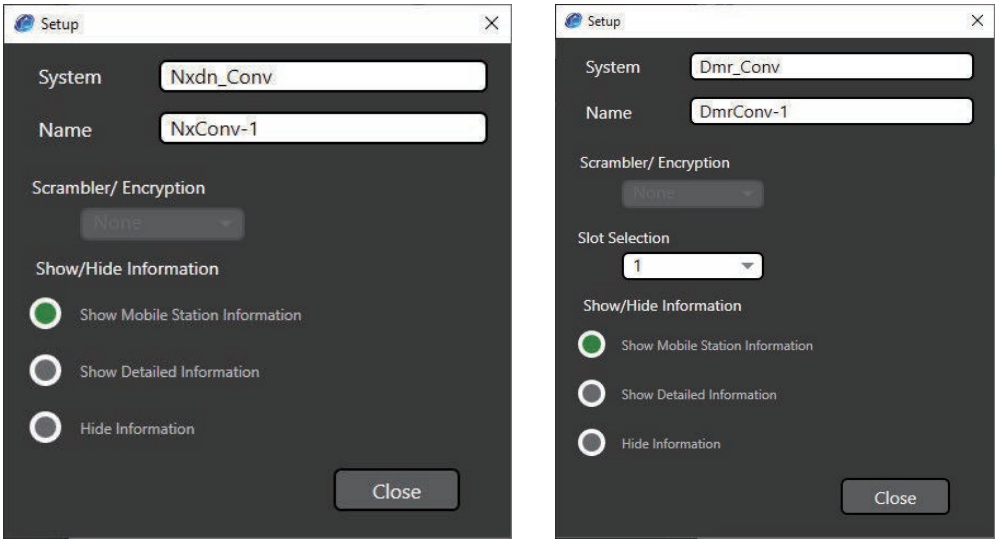

Figure 7-34 Setup

Table 7-30 Setting Items in the Setup Dialog Box

Item	Description	Configurable Range	Default
System	**System** displays the name of the communication system selected on the AVL Window.	-	-
Name	**Name** displays the name of the selected mobile station.	-	-
Scrambler/ Encryption	**Scrambler/ Encryption** allows you to configure the number of the encryption key for use during transmission. Note • An encryption key number for which Key Data has been configured in **Scrambler/ Encryption** in the **IP Network** screen can be configured. (Refer to Configuring the IP Network on page 67.) • This function can be configured only for IP network connection. • Changes made during communication will not affect the settings during the communication (including Talkback). The changes will reflected from the start of the next communication.	None, 1 to 32	None

Item	Description	Configurable Range	Default
Slot Selection	**Slot Selection** allows you to configure the slot to be used during transmission. Note • This function can be configured only for DMR Conventional/ DMR Conventional (via TKR-D series) in an IP network connection. • Changes made during communication will not affect the settings during the communication (including Talkback). The changes will reflected from the start of the next communication. • If 1 or 2 is configured in **Slot** of the **Radio Resource List**, the values 1 and 2 will be displayed respectively and they cannot be configured.	1, 2	1
Show/Hide Information	**Show/Hide Information** allows you to select the mode of display for the **Mobile Station Information**.	**Show Mobile Station Information:** Displays information of a mobile station. **Show Detailed Information:** Displays more detailed information of a mobile station. **Hide Information:** Does not display information of a mobile station.	Show Mobile Station Information

Removing Icons from the Map

Selecting “Clear Mobile Icon” from the right-click menu displays a confirmation message. Pressing “OK” clears the selected positional information as well as the icon on the map.

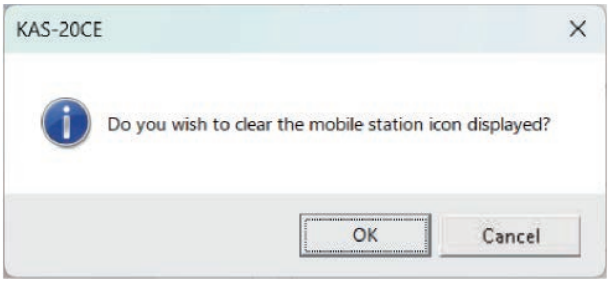

Figure 7-35 Confirmation during Deletion of Positional Information

Note

- **Clear Mobile Icon** Cannot be selected when the Track Mobile Station operation is running.
- Replay Log Cannot be selected when the **Clear Mobile Icon** operation is running.
- If the selected mobile station exists on the **Indoor Location** screen, the number displayed on the BLE Beacon Icon will be updated.

Sorting the Display of List Pane

Selecting “Sort by...” from the right-click menu displays the menu to select the sorting method for the display of the **List** pane. The sorted result is reflected in both the **Unit** and **Fleet** tabs.

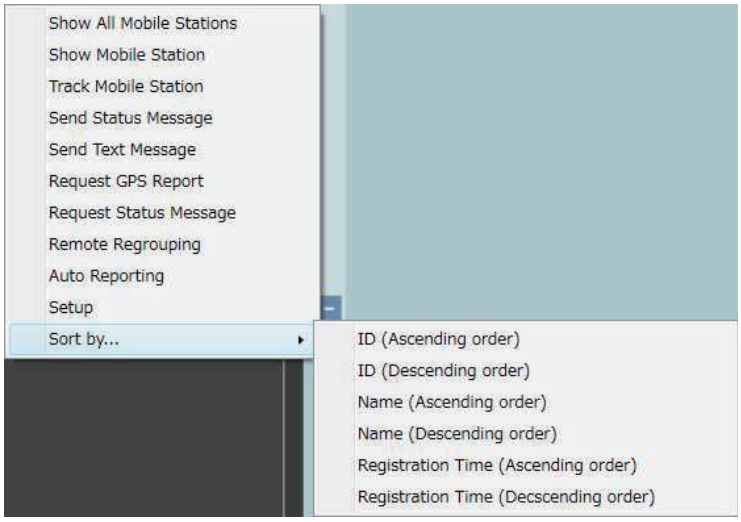

Figure 7-36 Selection Menu of Sorting Method

Table 7-31 Selection Menu of Sorting Method

Item	Description
ID (Ascending order)	Sorts ID in ascending order.
ID (Descending order)	Sorts ID in descending order.
Name (Ascending order)	Sorts Name in ascending order.
Name (Descending order)	Sorts Name in descending order.
Registration Time (Ascending order)	Sorts the registration in the **Radio Resource List** of the **System** screen in chronological order.
Registration Time (Descending order)	Sorts the registration in the **Radio Resource List** of the **System** screen in reverse chronological order.

Note

- ID in the Fleet can be sorted for each Fleet in the **Fleet** tab.
- The sorted content is maintained even when the communication system is switched.
- If the protocol of the communication system is FleetSync, the ID is sorted as a 7-digit number in the ascending or descending order with the first 3 digits indicating the Fleet ID and the last 4 digits indicating the Unit ID. And “ALL” is considered as “0”.

7.5 Managing Mobile Stations by Group

The **Fleet** tab of the **List** pane allows you to select whether to display mobile stations belonging to a group on the map or hide them.
When the Group checkbox is selected, the icons of the mobile stations that belong to the selected group are displayed on the map. When the checkbox is deselected, the icons of the mobile stations that belong to the selected group are removed from the map.

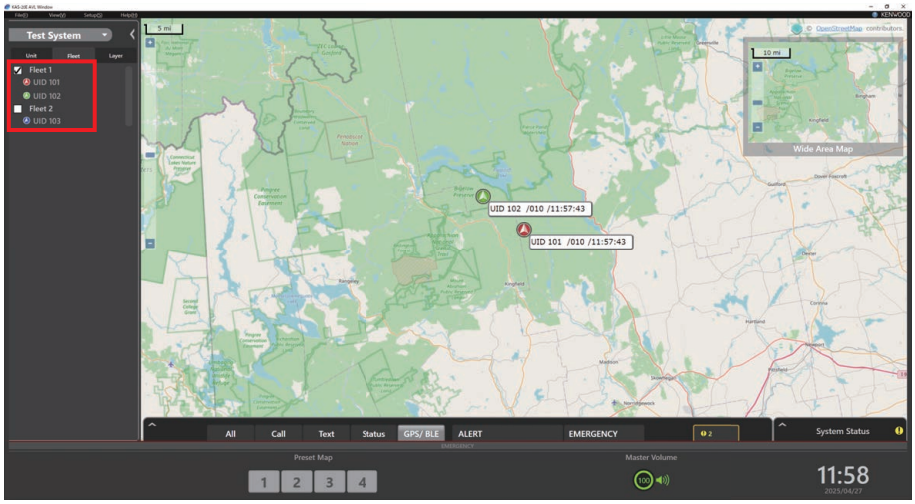

Figure 7-37 Group Selection

7.6 Switching Information Displayed on the Map

The **Layer** tab of the **List** pane allows you to select the information to display on the map.

Displaying/Hiding Layers

Positional information files created by the user can be used to display layers on the map. (Refer to Registering Layers for Display on the Map on page 247.)
Selecting the Layer checkbox displays the selected layers on the map. Deselecting the checkbox hides the layers from the map.

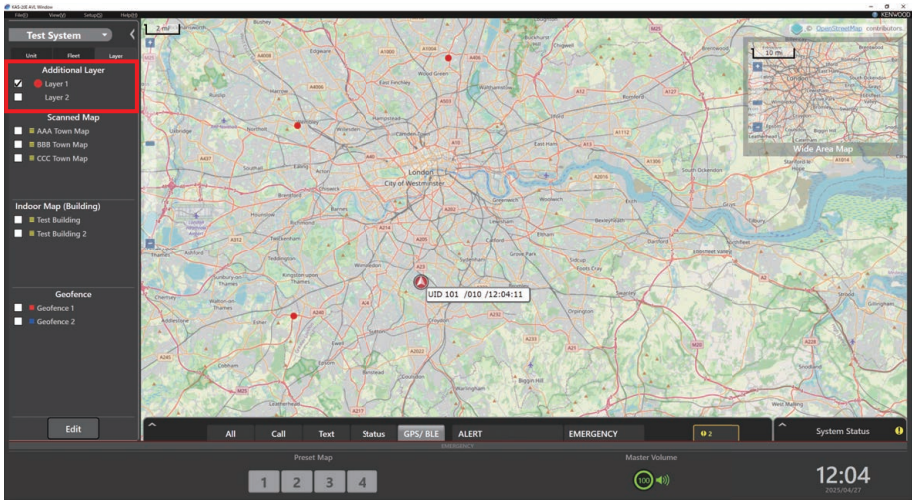

Figure 7-38 Layer Selection

Displaying a Layer at the Center of the Map

Selecting the layer checkbox and selecting “Center Layer” from the right-click menu moves the map to position the selected layer at the center of the map.

Registering Layers for Display on the Map

The layer file that contains the positional information as well as the icon file can be loaded to the KAS-20CE, and up to a maximum of 10 icons or areas can be registered for displaying in fixed positions on the map.

Note

- Only users with the “Admin” operation authority are allowed to register the icons. (Refer to Registering a User on page 57.)
- To register an icon file, use the layer file for point data.
- To register an area, use the layer file for polygon data.
- **Indoor Map (Building)** Is not displayed if KWD-20C-IL (INDOOR LOCATION LICENSE) is not authenticated.

Registering a Layer

1 **Click the “Edit” button in the Layer tab.**

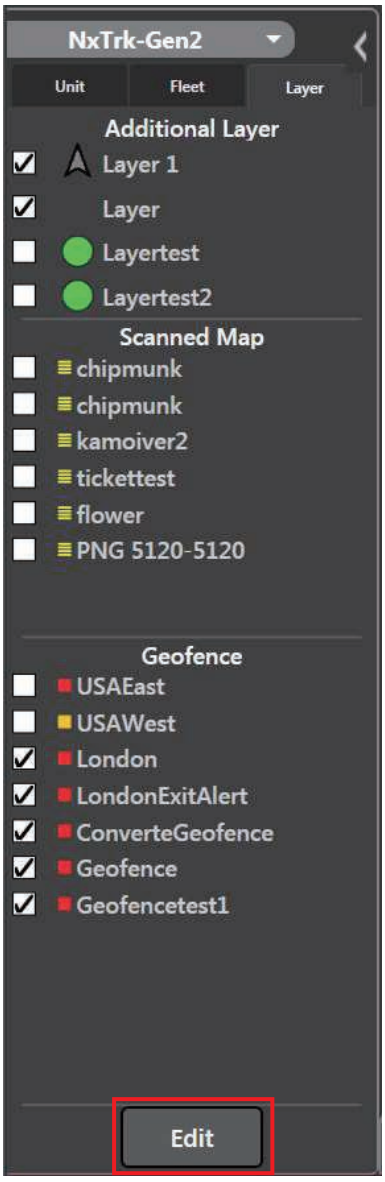

Figure 7-39 Edit

The **Layer** tab becomes editable.

2 **Click the “Add” button and select a layer file to add.**

The selectable files are GeoJSON files (extension: geojson) and KML files (extension: .kml).

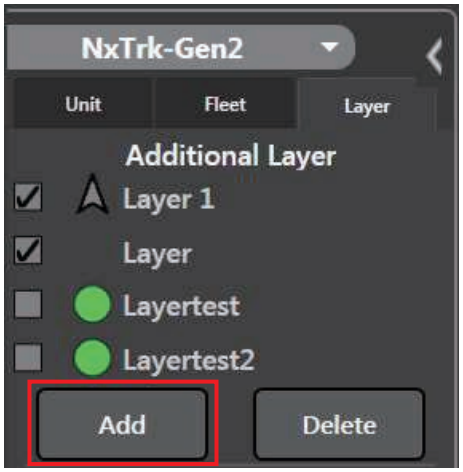

Figure 7-40 Add

Upon selecting a layer file for point data, a dialog box for selecting an icon appears.
Upon selecting a layer file for polygon data, a **Layer Add** dialog box appears.

Note

Files containing more than 1000 layer information cannot be read.

3 **Select an icon file (extension: .ico or .png).**

An icon file with an image size of 32 x 32 pixels can be registered.
Upon selecting an icon file, a **Layer Add** dialog box appears.

4 **Enter the name of the layer to register and click the “OK” button.**

Up to a maximum of 16 characters can be entered.

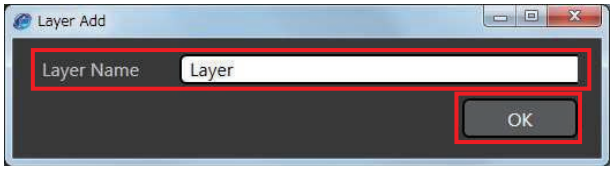

Figure 7-41 Layer Add

The layer is registered.

5 **Click the “Close” button.**

Exits the editable state.

Deleting a Layer

1 **Click the “Edit” button in the Layer tab.**

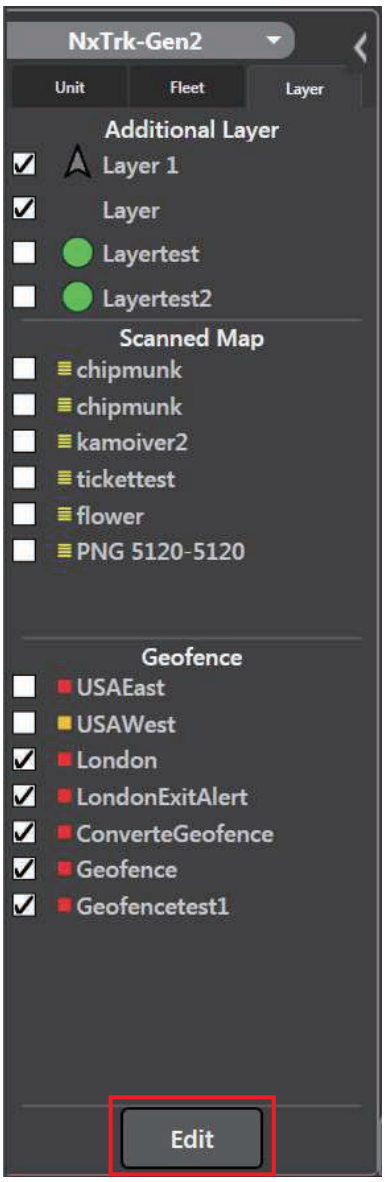

Figure 7-42 Edit

The **Layer** tab becomes editable.

2 **Select the layer to delete and click the “Delete” button.**

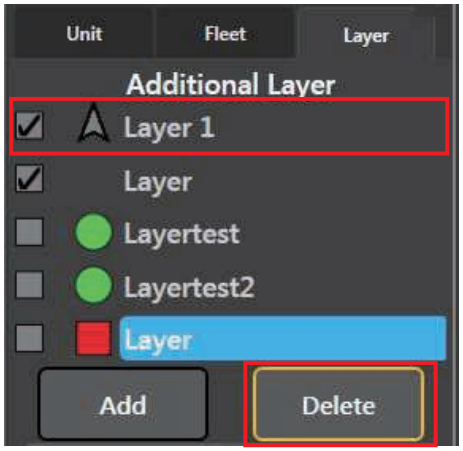

Figure 7-43 Delete

The selected layer is deleted.

3 **Click the “Close” button.**

Exits the editable state.

Displaying/Hiding the Scanned Maps

The Scanned Map can be displayed or hidden.
Selecting the Scanned Map checkbox displays the selected Scanned Map on the map. Deselecting the checkbox removes the Scanned Map from the map.

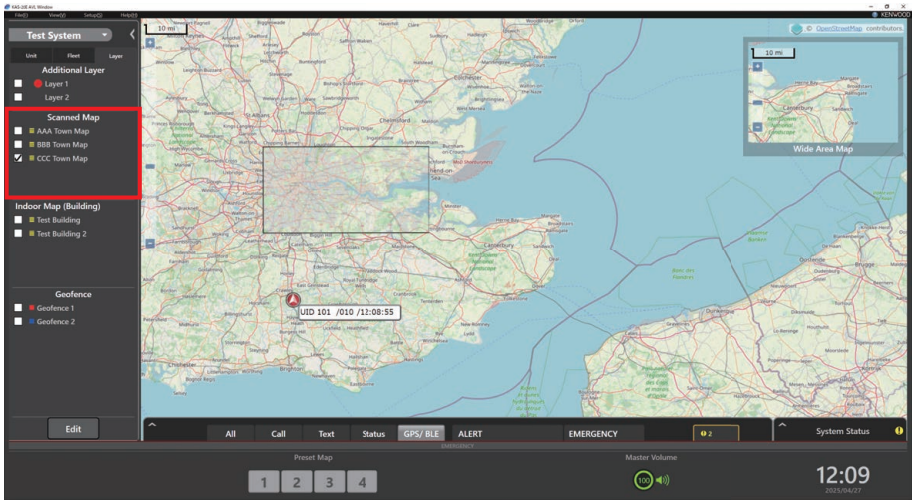

Figure 7-44 Selection of Scanned Map

Note

- Multiple Scanned Maps can be displayed at the same time. When multiple Scanned Maps overlap with one another, the Scanned Map that is displayed in the **Layer** tab appears on top.
- The memory of the application may not be sufficient when trying to display multiple large-sized map images at the same time. In this case, a message appears when the Scanned Map checkbox is selected, and the display is restored to the condition prior to the selection.
- Up to a maximum of 10 Scanned Maps can be registered on the setting screen of the KAS-20CE. (Refer to Configuring Scanned Map on page 163.)

Displaying the Scanned Map at the Center of the Map

Selecting the Scanned Map checkbox and selecting “Center Scanned Map” from the right-click menu moves the map to position the selected Scanned Map at the center of the map.

Displaying/Hiding Indoor Map

The **Indoor Map** can be displayed or hidden.
Selecting the **Indoor Map** checkbox displays the selected **Indoor Map** on the map. Deselecting the checkbox hides the **Indoor Map** from the map.

Figure 7-45 Displaying Floor Map 1 and 2

Note

- The Floor Map selected in the **Display in AVL Window** section of the **Setting** screen is displayed on the map. If there are overlapping Floor Map, the Floor Map that is higher up in the list display will appear in the foreground.
- If there are overlapping Scanned Map and Floor Map images, the Floor Map image will appear in the foreground.
- If there is insufficient application memory to display the Floor Map, a message will be shown when the **Indoor Map** checkbox is selected, and the display will revert to the state before the checkbox was checked.
- An Indoor Map that is registered in Indoor Map is displayed with north facing upwards.

Displaying Floor Map of Indoor Map (Building) at the Center of the Map

Right-clicking on Building Name in **Indoor Map (Building)** and selecting “Center Indoor Map” moves the map so that the Floor Map of the selected Building in **Display in AVL Window** on the **Setting** screen is displayed at the center of the map without changing the map’s scale.

Displaying Indoor Location Window

Right-clicking on Building Name in the **Indoor Map (Building)** and selecting “Select for Indoor Location Window” displays the Indoor Location Window.

Note

- This function is not available if INDOOR LOCATION LICENSE (KWD-20C-IL) is not authenticated.
- This function is not available when the Building checkbox of the currently selected **Indoor Map (Building)** is not selected.

Displaying/Hiding the Geofence Areas

The Geofence area created by the user can be displayed or hidden. (Refer to Creating a Geofence Area on page 254.) Selecting the Geofence Area checkbox displays the selected Geofence area on the map. Deselecting the checkbox removes the Geofence area from the map.

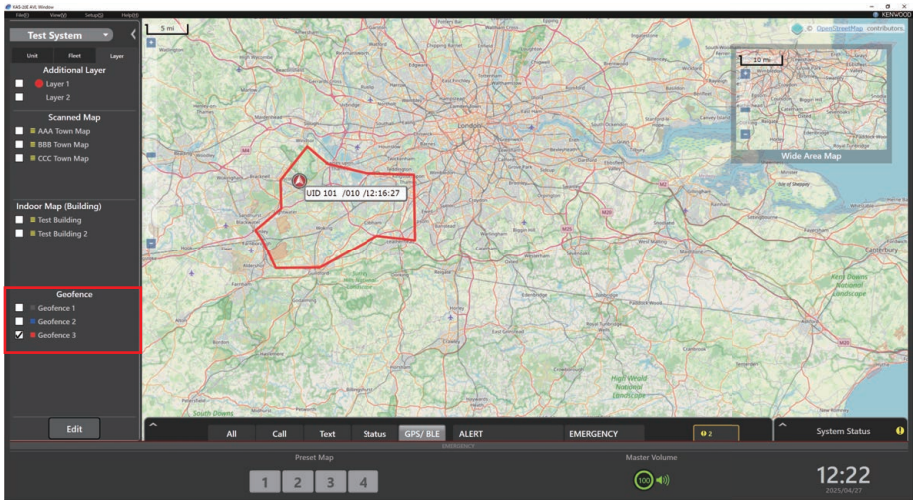

Figure 7-46 Geofence Area Selection

Displaying Geofence Area at the Center of the Map

Selecting the Geofence area checkbox and selecting “Center Geofence” from the right-click menu moves the map to position the selected Geofence area at the center of the map.

Creating a Geofence Area

Geofence is a function that allows the KAS-20CE to automatically detect and record entry into or exit from a predefined geographical range by a mobile station equipped with a GPS or BLE function.
The drawing tool in the **Layer** tab allows you to create a Geofence area on the OpenStreetMap.

Note

Only users that are configured as “Admin” in **Access Level** are allowed to create a Geofence area. (Refer to Registering a User on page 57.)

Creating a Geofence Area

1 **Click the “Edit” button in the Layer tab.**

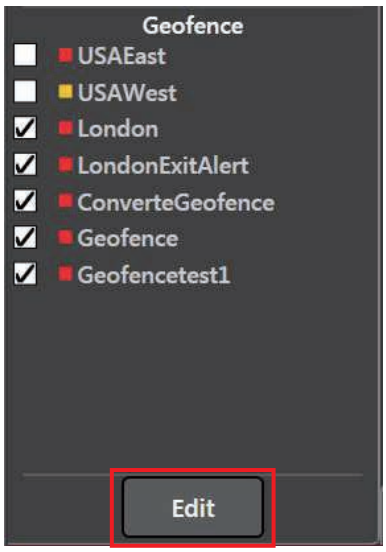

Figure 7-47 Edit

The **Layer** tab becomes editable.

2 **Click the “Add” button.**

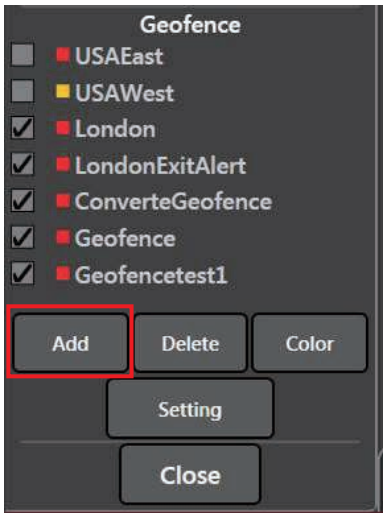

Figure 7-48 Add

The drawing tools are displayed.

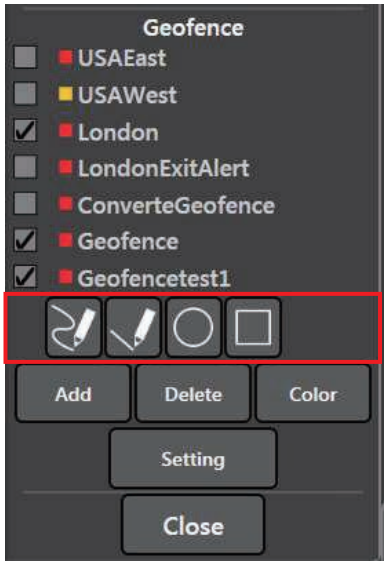

Figure 7-49 Tools

3 Draw the Geofence area on the map using the drawing tools.

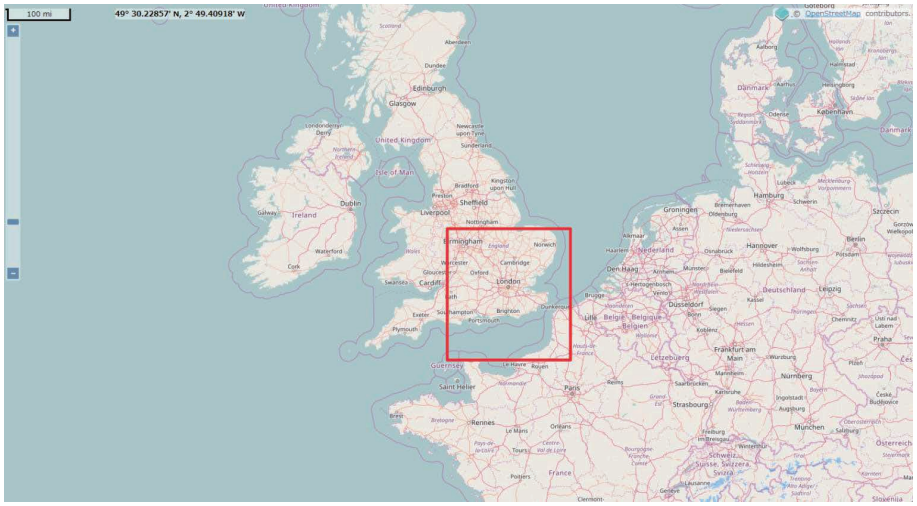

Figure 7-50 Drawing a Geofence Area

Note

For more details on the drawing tools, refer to “Drawing Tools and Color Tools on page 261”.

4 **After drawing of a Geofence area is complete, click the “Setting” button.**

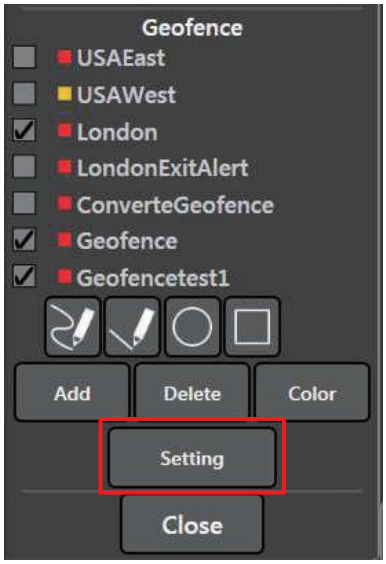

Figure 7-51 Setting

Displays the **Geofence Settings** dialog box.

5 **Configure a mobile station that uses the Geofence area that has been created.**

Select the checkbox of the corresponding Geofence area to use for each mobile station.

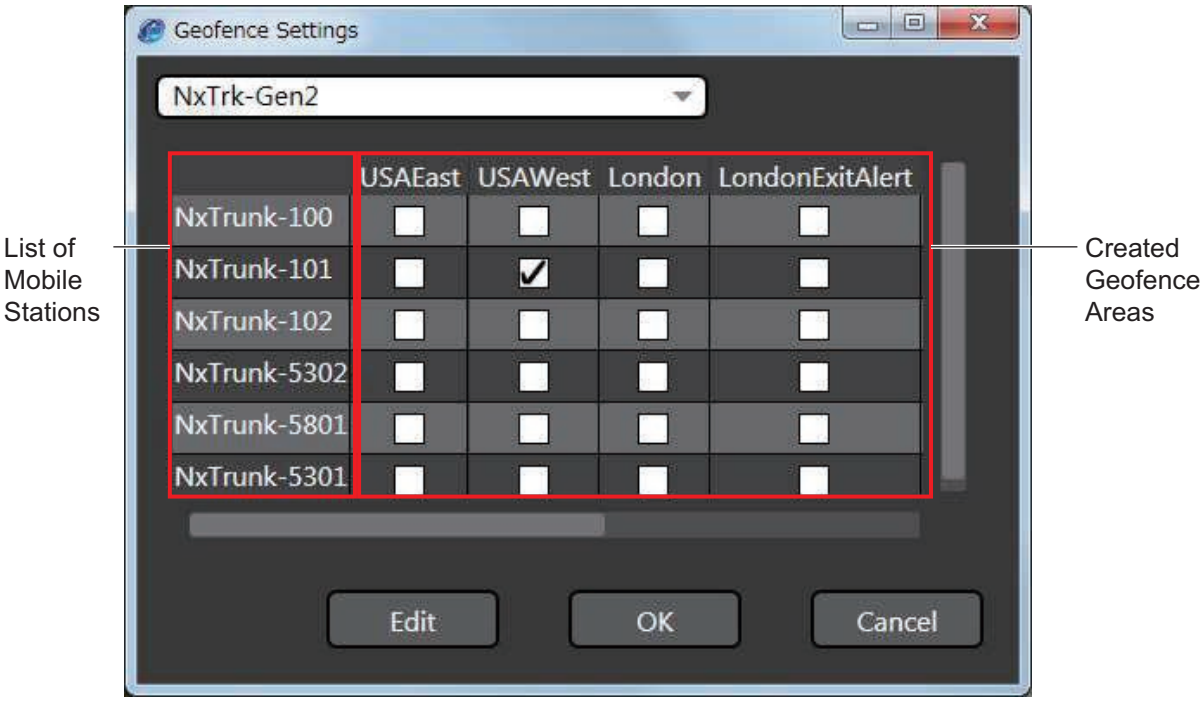

Figure 7-52 Geofence Settings

6 Select one of the Geofence areas and click the “Edit” button.

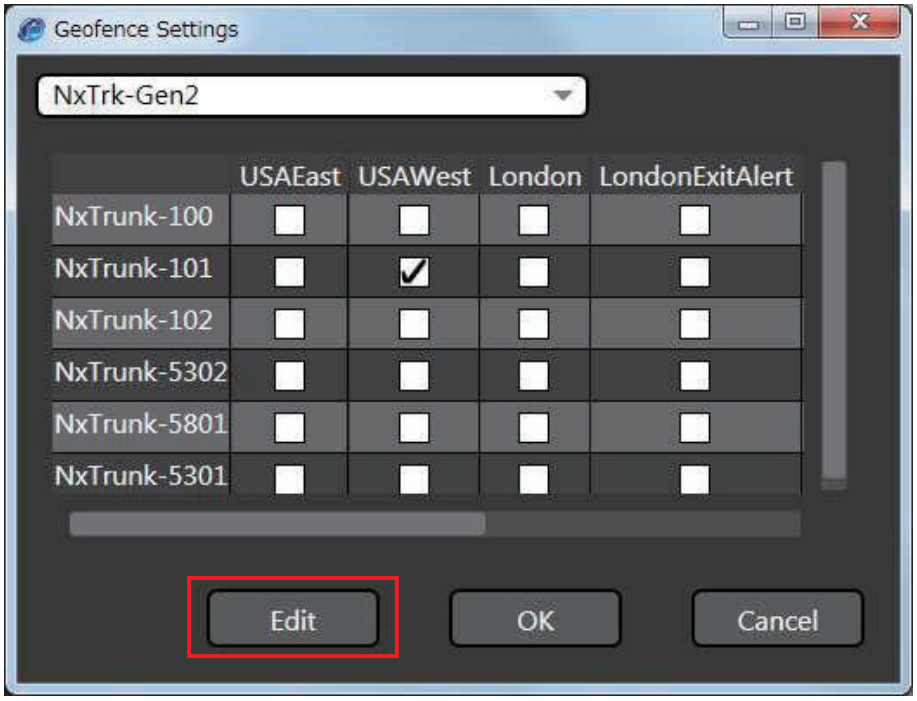

Figure 7-53 Geofence Settings

Displays the **Geofence Edit** dialog box.

7 Configure the behavior of the Geofence area.

Configure the behavior when a mobile station enters or exits the Geofence area.

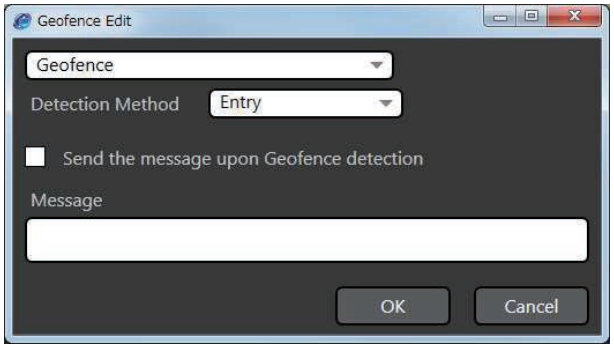

Figure 7-54 Geofence Edit

Table 7-32 Geofence Area Behavior Setting

Item	Description	Configurable Range	Default
Geofence	**Geofence** allows you to select a Geofence area to edit.	Created Geofence Areas	Geofence area selected in the **Geofence Settings** dialog box
Detection Method	**Detection Method** allows you to configure whether to trigger a Geofence alert when a mobile station enters or exits a Geofence area.	**Entry:** Triggers a Geofence alert when a mobile station enters a Geofence area. **Exit:** Triggers a Geofence alert when a mobile station exits a Geofence area. **Crossing:** Triggers a Geofence alert when a mobile station passes through a Geofence area. A Geofence alert (pass through) is deemed to be triggered when GPS Data or BLE Data within the Geofence area is received after the GPS Data or BLE Data of a mobile station located outside a Geofence area is received, followed by the receipt of GPS Data or BLE Data outside the Geofence area.	Entry

Item	Description	Configurable Range	Default
Send the message upon Geofence detection	**Send the message upon Geofence detection** allows you to configure whether to send a text message to the mobile station when it has triggered a Geofence alert. A text message can be sent to warn the mobile station that has triggered the Geofence alert. Selecting the checkbox enables sending of an edit message. The message to be sent out can also be edited. Note When the communication port of the KAS-20SE is configured to “None” in a serial connection, the message will not be sent.	**Check (Enable):** Sends a text message to a mobile station when it has triggered a Geofence alert. **Uncheck (Disable):** Does not send any text message even when a Geofence alert has been triggered. **Edit box:** The configurable range varies according to the protocol of the communication system configured on the KAS-20CE. **NXDN Trunking (Type-C)/ NXDN Conventional:** 1 byte to 100 bytes **Trunking 2.5:** 1 byte to 44 bytes **DMR Tier III Trunking/ DMR Conventional:** 1 byte to 978 bytes **DMR Conventional (via TKR-D series):** IP network connection: 1 byte to 986 bytes Serial connection: 1 byte to 978 bytes **FleetSync:** 1 byte to 48 bytes	**Checkbox:** Unchecked (Disabled) **Edit box:** Blank

8 **After configuring the behavior of a Geofence area, click the “OK” button.**

The display returns to the **Geofence Settings** dialog box.

9 **Click the “OK” button, then click the “Close” button.**

Exits the editable state.

Deleting a Geofence Area

1 **Click the “Edit” button in the Layer tab.**

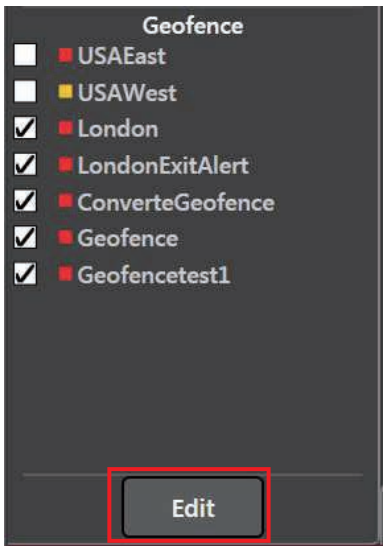

Figure 7-55 Edit

The **Layer** tab becomes editable.

2 **Select the Geofence area to delete and click the “Delete” button.**

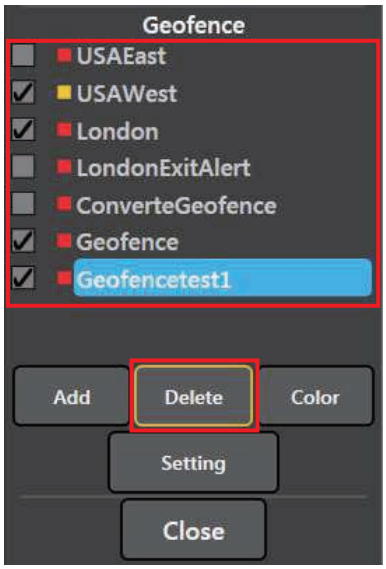

Figure 7-56 Delete

The selected Geofence area is deleted.

3 **Click the “Close” button.**

Exits the editable state.

Drawing Tools and Color Tools

Below are ways to operate the drawing tools and color tools.

Table 7-33 Drawing Tools and Color Tools

Item	Description
Pen Tool	Click the “Pen Tool” button to select the Pen tool. The button display changes to a pressed state to show that it has been selected. Click and hold the mouse button down, and drag the mouse to draw a line along the path that the cursor moves through. A Geofence area can be created by continuing the drag operation until it is connected to the starting point, or by double-clicking the mouse to automatically connect the current point with the starting point.
Line Tool	Click the “Line Tool” button to select the Line tool. The button display changes to a pressed state to show that it has been selected. Move the cursor to a position on the map, and click on the map. A marker (●) appears at the point where the mouse is clicked. Move the cursor to another position on the map, and click on the map. The current point is connected to the marker that was created earlier with a line. Continue this operation to define a Geofence area. A Geofence area can be created by continuing the drag operation until it is connected to the starting point, or by double-clicking the mouse to automatically connect the current point with the starting point.
Circle Tool	Click the “Circle Tool” button to select the Circle tool. The button display changes to a pressed state to show that it has been selected. Move the cursor to the desired position to make as the center of the Geofence area, and click on the map. A circle is created with the point that is clicked on as the center. Move the cursor to another position on the map, and click on the map. A circular Geofence area is created with the starting point as the center.
Box Tool	Click the “Box Tool” button to select the Box tool. The button display changes to a pressed state to show that it has been selected. Move the cursor to a position on the map, and click on the map. Click, hold and drag the mouse. Doing so connects the starting point and the point where the cursor was dragged to with a square.
Color Tool	Double-clicking the “Color” button changes the color of the Geofence area.

7.7 Checking the System Status

The **System Status** pane allows you to check the connection with the communication system.

Checking the Connection

The **System Status** pane displays the connection status of the KAS-20SE (Server) as well as the status of the KAS-20CE (Client) for each of the configured communication systems. Additionally, the connection status of the Bluetooth System is displayed for each System, showing the number of BLE Gateway connections.
When a Console ID configured for the KAS-20SE (Server) or KAS-20CE (Client) is not connected to a communication system, the name of the communication system appears in color.

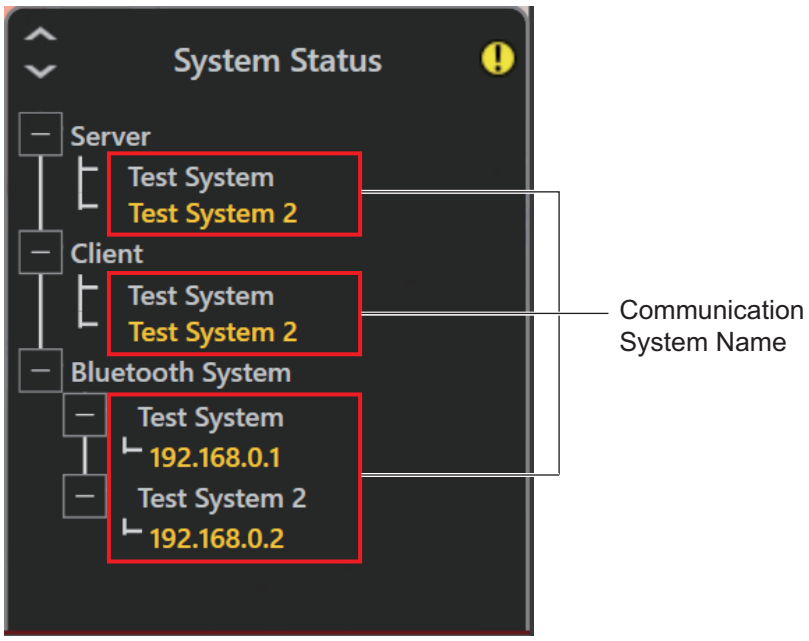

Figure 7-57 System Status Pane

Note

Bluetooth System is displayed on when INDOOR LOCATION LICENSE (KWD-20C-IL) is authenticated.

Executing a Registration

The registration process can be executed again when registration with a communication system has ceased to be valid.

Note

Registration can be executed only for IP network connection.

1 **Select the communication system for which registration has ceased to be valid and right-click on it.**

The menu appears.

2 **Select “Registration”.**

The registration process is executed.

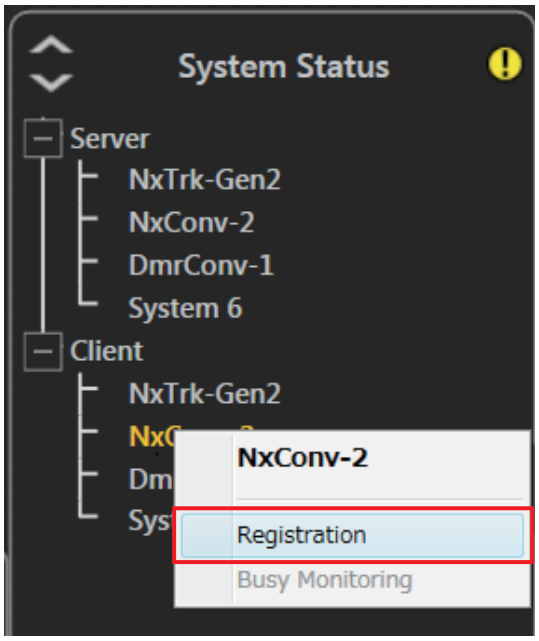

Figure 7-58 Registration

Once registration has completed successfully, the communication system name changes to the normal display.

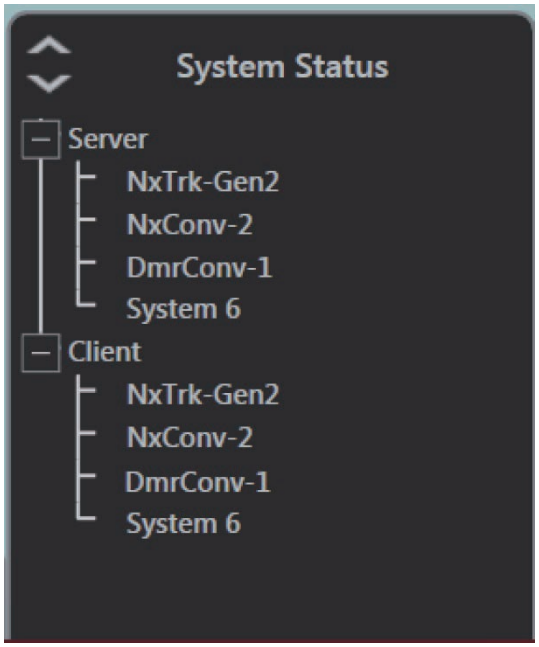

Figure 7-59 Registration (Result)

Checking the Connection with the Base Station Transceiver

If the connection with the base station transceiver is disconnected, check the connection to the base station transceiver.

Note

The checking of connection can be executed only for serial connection.

1 **Select the communication system for which connection with the base station transceiver has been disconnected and right-click on it.**

The menu appears.

2 **Select “Check Connection”.**

The checking of connection is executed.

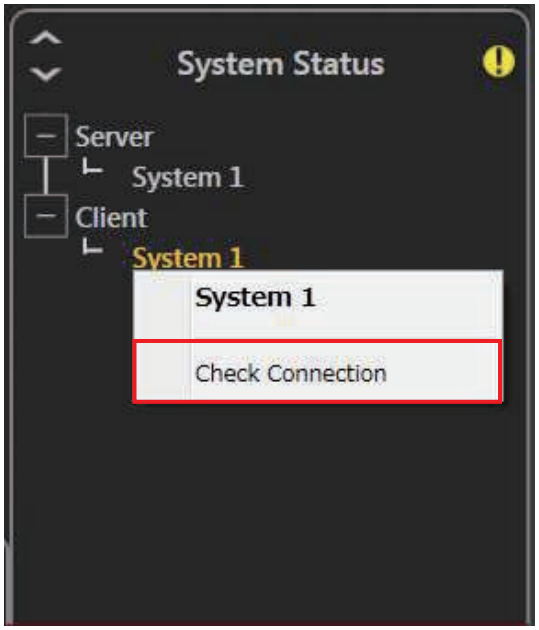

Figure 7-60 Check Connection

Once the checking of connection has completed successfully, the communication system name changes to the normal display.

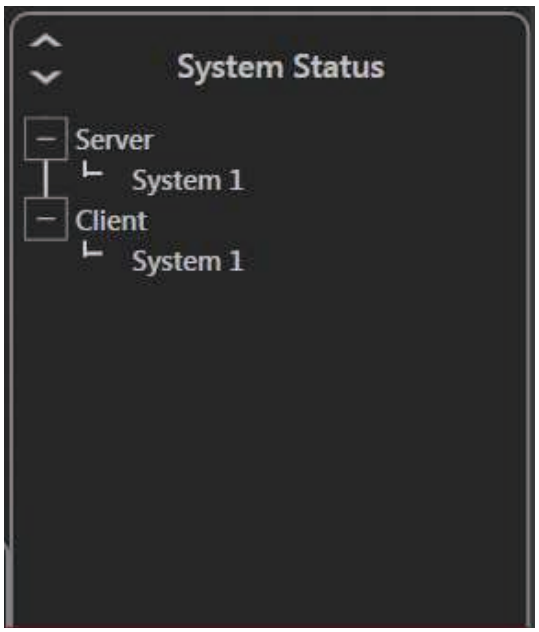

Figure 7-61 Check Connection (Result)

Reacquiring BLE Data via BLE Gateway

A retransmission will be performed to acquire BLE Data from the BLE Gateway.

1 **Select BLE Gateway, then right-click.**

The menu appears.

2 **Select “Retry”.**

The BLE Data acquisition request for the selected BLE Gateway is stopped, and a request to acquire BLE Data is resent.

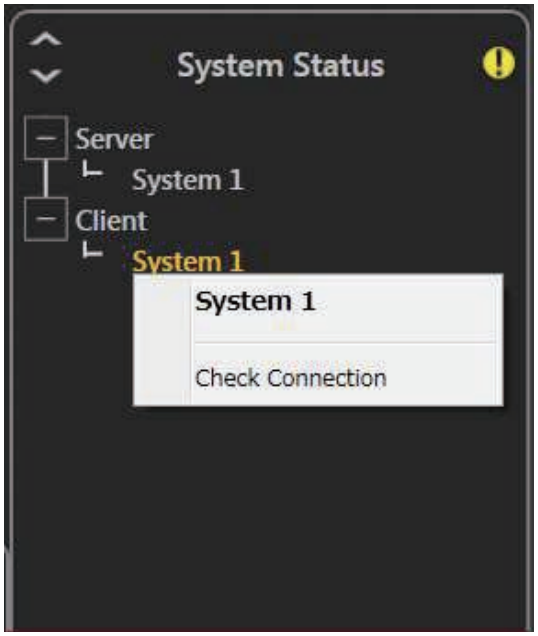

Figure 7-62 Retry

When the BLE Data acquisition request is successfully sent, BLE Gateway will return to its normal display.

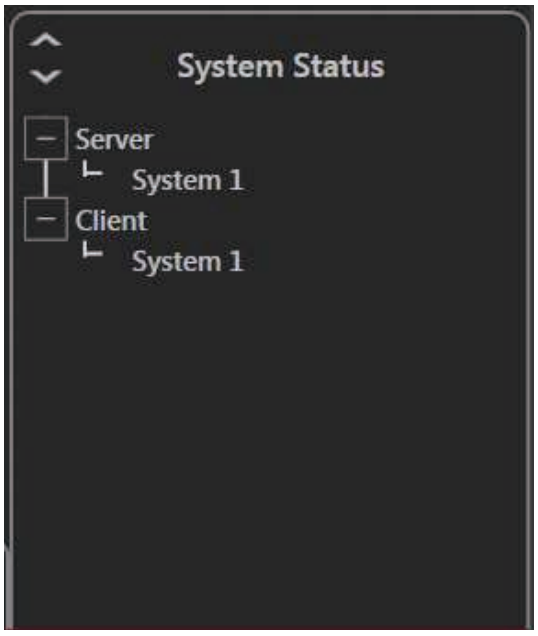

Figure 7-63 Retry (Result)

Checking the Busy State

The state of the communication system (whether it is busy or not) can be checked.

Note

The busy state can be checked only when the protocol of the communication system is NXDN Conventional, DMR Conventional, or DMR Conventional (via TKR-D series) in an IP network connection.

1 **Select a communication system to check the busy state and right-click on it.**

The menu appears.

2 **Select “Busy Monitoring”.**

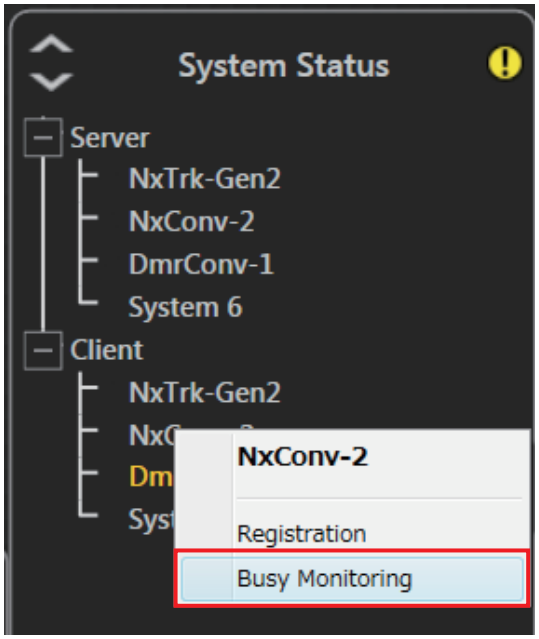

Figure 7-64 Busy Monitoring

If the communication system is not in a busy state, " " appears beside the system name for 5 seconds.

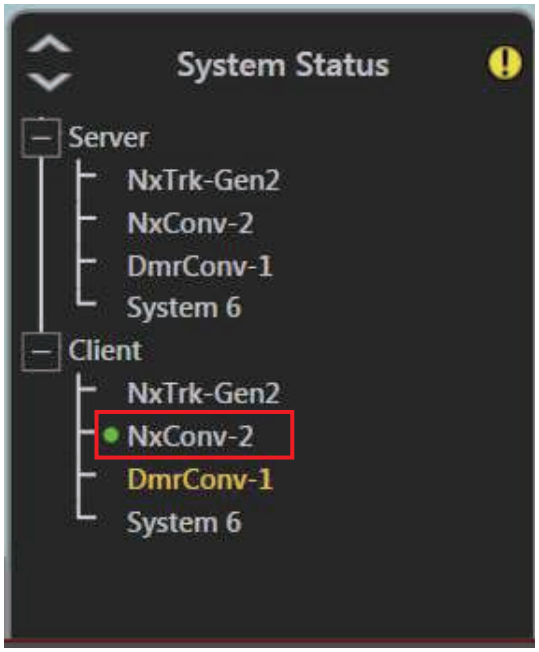

Figure 7-65 Busy Monitoring (Result: OK)

If the communication system is in a busy state, " " appears beside the system name for 5 seconds.

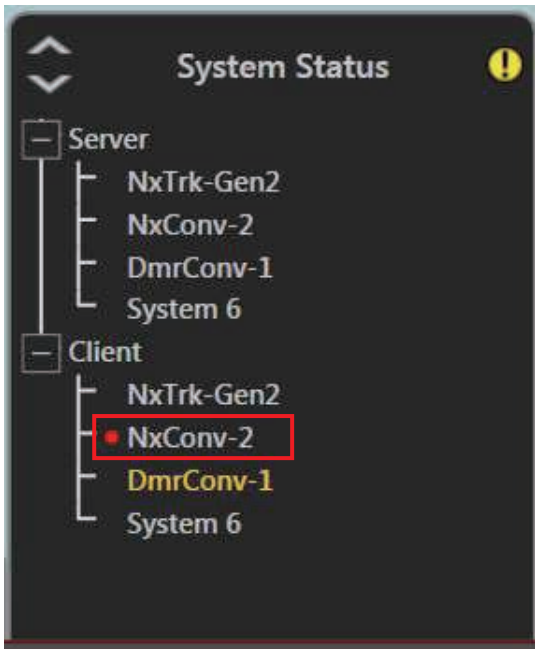

Figure 7-66 Busy Monitoring (Result: NG)

7.8 Checking the Communication Log

The **Log** pane allows you to view the communication logs and logs related to the different types of notifications.

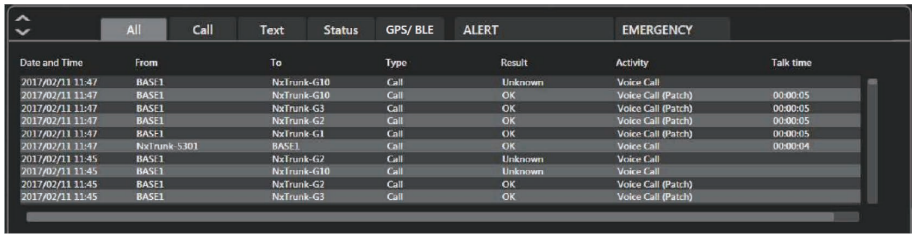

Figure 7-67 Log Pane

The **Log** pane is made up of the following tabs.

Table 7-34 Log Pane

Tab	Description
All	Displays all logs regardless of the content of communication.
Call	Displays the logs of voice calls. A log is displayed when a voice call starts, and the time elapsed (ending time) is added to the log display when the call ends.
Text	Displays the content of text messages that have been sent and received.
Status	Displays the status messages, status message request messages, Call Interruption request messages, and Special Command that are sent or received. • For status messages that are registered on the **Status Message** screen, the registered information is displayed. (Refer to Configuring the Status Message on page 122.) • The status messages for status numbers --- (Emergency), --- (Emergency Man-down), --- (Stationary Detection), --- (Motion Detection), and --- (Lone Worker) are not displayed for all communication systems. • Status messages that are contained inside the GPS Data are also not displayed.
GPS/ BLE	Displays the GPS Data and BLE Data (positional information) as well as the GPS Data and BLE Data request messages.
ALERT	Displays a Geofence alert when the Geofence settings have been violated. (Refer to Alert Display for Geofence on page 281.) Displays a Speeding warning when the value configured for **Speed Limit** on the **Radio Resource List** screen is exceeded. (Refer to Configuring a Mobile Station on page 98.)
EMERGENCY	Displays the emergency notifications. • The status messages for status numbers --- (Emergency), --- (Emergency Man-down), --- (Stationary Detection), --- (Motion Detection), and --- (Lone Worker) are displayed.
Filtered	Displays the filtered communication log history. (Refer to Displaying the Communication Log History on page 434.) • Displays the search results from the **Log Filter and Export** dialog box. • This tab is displayed only when the filter settings are configured in the **Log Filter and Export** dialog box.
Application Error	A tab appears when a problem occurs on the KAS-20CE and the content of the error is displayed in the tab. The number of errors is displayed in the tab. Records of the errors are retained until the KAS-20CE is closed.

The following information is displayed in each tab.

Table 7-35 Contents of the Display

Item	Description
Date and Time	**Date and Time** displays the date and time the log data was saved.
System	**System** shows the system name. When **System Name** is enabled, a System column is displayed. (Refer to Configuring Settings Related to Log Data Acquisition on page 182.)
From	**From** displays the name or number of the mobile station at the sending end. When a voice call is received from a telephone in NXDN Trunking (Type-C), “Telephone” is displayed. When a voice call is received from a SIP Phone in NXDN Conventional, “Telephone” is displayed. When a voice call is received from a SIP Phone in DMR Tier III Trunking/ DMR Conventional, “Telephone(PSTN)” or “Telephone(PABX)” is displayed. If DMR Tier III Trunking is enabled in **Fleet Dialing Plan**, and if a voice call is received from a non-administered mobile station (when the mobile station is not registered in **Radio Resource List** or when the mobile station is registered in **Radio Resource List** but **Target List** is disabled), a value configured in the Prefix - Fleet - IN format is displayed.
To	**To** displays the name or number of the mobile station at the receiving end. Note This item is not displayed in the **ALERT** or **EMERGENCY** tab.
Type	**Type** displays the type of communication. The information displayed is as follows. **Call:** Voice Call **Text:** Text Message **Status:** Status Message, Special Command **GPS:** GPS Data **BLE:** BLE Data **ALERT:** Speed Limit, Geofence **EMERGENCY:** Emergency **Request:** Request Status Message, Request GPS Report, Call Interruption

Item	Description
Result	**Result** displays the results of transmission from the KAS-20CE. The information displayed is as follows. **IP network connection:** **OK or (Blank):** Sent successfully, received successfully, no error **Not Connected:** Repeater is not connected **Parameter Error:** Configuration error **Not Found:** The transceiver is not registered. **Busy:** The console or addressee terminal is in the busy state. **Empty:** The audio data received does not exist. **State Error:** An action that cannot be executed in the current state has been executed. **Not Exist:** The addressee ID does not exist or the power is turned off. **Decline:** The request has been denied by the addressee terminal. **Rejected:** Request denied **Port Error:** The RTP port cannot be used. **No Resource:** Insufficient system resources **Incorrect Data Error:** Incorrect incoming data **Internal Error:** An internal system error has occurred. Check the parameters, network and other settings. **System Busy:** Repeater is in a busy state **Timeout:** Timeout has occurred **Denial:** Rejected by Message Trunked (Enhanced), Individual Call Acknowledge Request, or FOACSU. **Fail:** Call Interruption failed **Cancel:** Call Interruption is canceled Note • For DMR Conventional (via TKR-D series), Short Data Message appears in **Result** when the message has been sent from the KAS-20CE during **OK** or status message transmission. • For Trunking 2.5/ DMR Tier III Trunking, **Result** appears in **System Busy** when the request is denied by the addressee terminal. • For Trunking 2.5/ DMR Tier III Trunking, **Result** appears in **Timeout** when the addressee ID does not exist or the power is turned off. **Serial connection:** **OK:** Sent successfully, received successfully, no error **COM Port Error:** Communication port is not opened. **Fail:** PC command configuration error, Received unsupported command, No response from the addressee (timeout has occurred on the base station transceiver), Call Interruption failed **Base Station Busy:** The base station transceiver is in the busy state **Busy:** The console or addressee terminal is in the busy state **Not Connected:** The base station transceiver is not connected **Timeout:** Timeout has occurred on the KAS-20E **Base Station Stun:** The base station transceiver is in the stun state **Time-out Timer:** Time-out Timer is functioning during transmission. **Low Battery:** The battery is in the low battery state during transmission.

Item	Description
Activity	**Activity** displays descriptions of the activity. The information displayed is as follows. **Voice Call:** Voice Call, Voice Call (Patch), Voice Call (Rejected) **Text Message:** (messages that have been sent and received) **Status Message:** (Status Message No.) ((Status Message Name)) **Special Command:** Special Command ((Command)) **GPS:** (Status Message No.) (GPS information) **BLE:** (BLE Beacon Major ID) (BLE Beacon Minor ID) (Measured Power) (RSSI) **Geofence:** Entry to Geofence“(Geofence Name)”, Exit from Geofence“(Geofence Name)”, Crossing Geofence“(Geofence Name)” **Speed Limit:** Speeding (Speed) > (Speed Limit) **Request GPS/ BLE Report:** Request GPS/ BLE Report **Request Status Message:** Request Status Message **Call Interruption:** Request Call Interruption Note • The following are the details of GPS information: “status number + latitude (north latitude or south latitude) + longitude (east longitude or west longitude) + speed (unit: knot) + elevation angle + GPS positioning status (A: positioning state, V: non-positioning state)+positioning date and time” • In a serial connection, when a command to start audio reception is sent from the base station transceiver to the KAS-20E, and the transmission is successful without sending a command to end the audio reception because the command is lost or a Call Interruption is received by the base station transceiver, or when another reception occurs, Activity(Start Only)“ is displayed at the end of the ” description and the audio reception ends. And if a command to end the audio reception is sent from the base station transceiver to the KAS-20E without first receiving the command to start the audio reception, Activity(End Only)“ is displayed at the end of the ” description. The talk time will not be displayed in these cases.
Talk Time	**Talk Time** displays the calling time of a voice call.

Note

When GPS Report with Voice is sent from the transceiver to the Group ID configured for the KAS-20SE, the display order of the communication logs displayed on the **All** tab whose **Type** are Call and GPS may be switched.

Selecting a communication log and right-clicking on it displays a menu, which enables operations such as playing back the route traveled by a mobile station or deleting a log.

Table 7-36 Right-click Menu

Item	Description
Select for Call	Places the ID of the sender of the selected communication log in the selected state in the Dispatch Window.
Show All Mobile Stations	Displays all mobile stations on the map in 1 screen by moving the map automatically. (Refer to Displaying All Mobile Stations on page 227.)
Show Mobile Station	Displays the selected mobile station at the center of the map. (Refer to Displaying Mobile Station at the Center of the Map on page 228.)
Track Mobile Station/ Stop Tracking Mobile Station	Selecting “Track Mobile Station” maintains the selected mobile station at the center of the map at all times by moving the map automatically. To stop the tracking, select “Stop Tracking Mobile Station” to stop the tracking of the selected mobile station. (Refer to Displaying Mobile Station at the Center of the Map at All Times on page 229.)
Request Status Message	Allows you to send out a status message request message to the selected mobile station. Note This item cannot be selected in the case of Trunking 2.5.
Request GPS/ BLE Report	Allows you to send out GPS Data and BLE Data request messages to the selected mobile station. Note This item cannot be selected in the case of Trunking 2.5.
Replay Log	Allows you to play back the route traveled by a mobile station. (Refer to Playing Back the Path Traveled by the Mobile Station on page 273.)
Filter and Export	Allows you to display the history of a communication log. (Refer to Displaying the Communication Log History on page 434.)
Acknowledge	Allows you to stop the playback of the tone.
Clear Emergency	Allows you to cancel the emergency of the selected communication log. (Refer to Canceling an Emergency on page 285.)
Clear Alert	Allows you to cancel the alert of the selected communication log. (Refer to Canceling an Alert on page 280.)
Play	This item cannot be selected.
MP3 Export	This item cannot be selected.
Copy	Allows you to copy the Activity of the selected communication log.
Clear All Logs	Allows you to delete all the displayed logs.

Playing Back the Path Traveled by the Mobile Station

The route traveled by a mobile station can be played back or the route can be drawn on a map based on the communication log history and database information.

Playing Back the Route Traveled

1 **Select a communication log in the Log pane and right-click on it.**

The menu appears.

2 **Select “Replay Log”.**

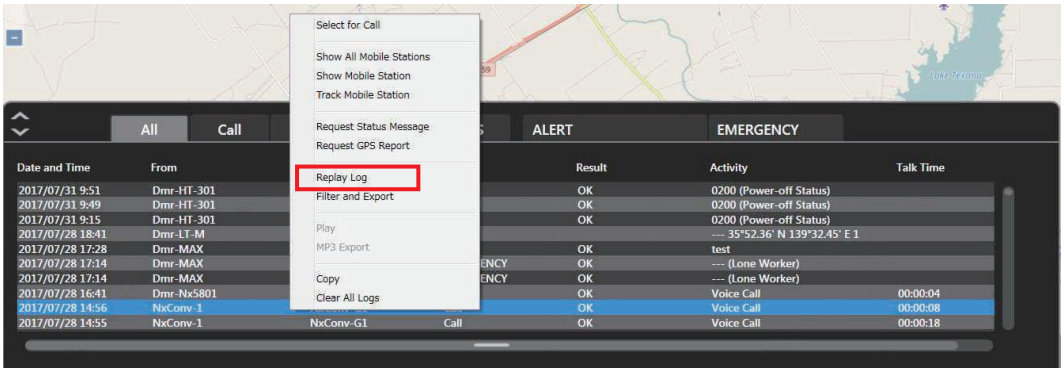

Figure 7-68 Replay Log

Displays the **Replay Log** dialog box.

3 **Configure Display Type, Date and Time and Mobile Station respectively.**

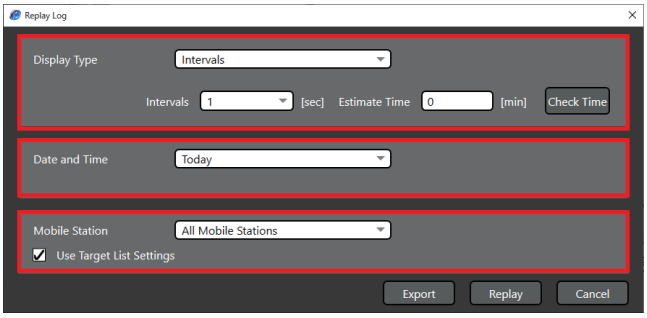

Figure 7-69 Replay Log

Table 7-37 Replay Log Settings

Item	Description	Configurable Range	Default
Display Type	**Display Type** allows you to configure whether to play back the route of a mobile station by refreshing the map screen at a specific time interval, or to play back by drawing the route taken by the mobile station.	**Intervals:** Plays back the route traveled by a mobile station by refreshing the map screen at a specific time interval. **Trail:** Displays the routes traveled by a mobile station collectively by drawing the routes.	Intervals
Intervals	**Intervals** allows you to configure the time interval for refreshing the map screen. Note This function can be configured only if “Intervals” is selected in **Display Type**.	0.5 sec, 1 sec to 10 sec (in steps of 1 sec)	1 sec
Estimate Time	**Estimate Time** allows you to display the estimated time needed to play back the route traveled by a mobile station. Clicking the “Check Time” button automatically calculates the time needed and displays it in **Estimate Time**.	-	-
Date and Time	**Date and Time** allows you to specify the date and time for playing back the route of a mobile station.	**Today:** Plays back the route of a mobile station at the current date. **All Days:** Plays back the route of a mobile station throughout the entire period. **Start/ Stop Date and Time:** Plays back the route of a mobile station over a specific time frame. Selecting **Start/ Stop Date and Time** displays **Start Date/ Start Time** and **Stop Date/ Stop Time**, which allow the date and time range to be specified.	Today

Item	Description	Configurable Range	Default
Mobile Station	**Mobile Station** allows you to specify the mobile station range for playing back the route of a mobile station. Note • Only **Mobile Station Name** and **Mobile Station ID** can be configured when **Display Type** is configured to “Trail”. • When a value other than “Fleet ID” is selected, **System Name** is displayed and the system name can be specified.	**All Mobile Stations:** Plays back the route of all mobile stations. **System:** Plays back the routes traveled by all mobile stations that belong to the specified system. When “System” is selected, **System Name** is displayed and the system name can be specified. **Fleet ID:** Plays back the routes of only mobile stations with the specified Fleet ID. Selecting “Fleet ID” displays the **Fleet ID** (edit box), which allows you to specify the Fleet ID of the mobile station for which the route traveled is to be played. **Mobile Station Name:** Plays back the route of only one mobile station. Selecting “Mobile Station Name” displays **Name**, which allows you to specify the name of the mobile station for which the route traveled is to be played. **Mobile Station ID:** Plays back the routes of only mobile stations with the specified ID. Selecting “Mobile Station ID” displays **ID**, which allows you to specify the ID of the mobile station for which the route traveled is to be played. If **Fleet Dialing Plan** is enabled in DMR Tier III Trunking, **Number Prefix**, **Fleet Individual Number**, and **Individual Number** appear, and these settings can be configured. **Keyword:** Selecting “Keyword” displays the **Keyword** (edit box), which allows you to directly enter keywords contained in the name of the mobile station for which the route traveled is to be played. The route of all mobile stations that contain the specified keyword will be played back.	**Display Type = Intervals:** All Mobile Stations **Display Type = Trail:** Mobile Station Name

Item	Description	Configurable Range	Default
Use Target List Settings	**Use Target List Settings** allows you to configure whether to limit to the mobile stations assigned as targets to be monitored by the logged-in user when specifying the range of mobile stations for which the route traveled is to be played.	**Check (Enable):** Limits the range of mobile stations to those assigned as targets to be monitored by the logged-in user. **Uncheck (Disable):** Does not limit the range of mobile stations.	Checked (Enabled)

4 Click the “Replay” button.

The route of a mobile station is played back according to the specified settings.

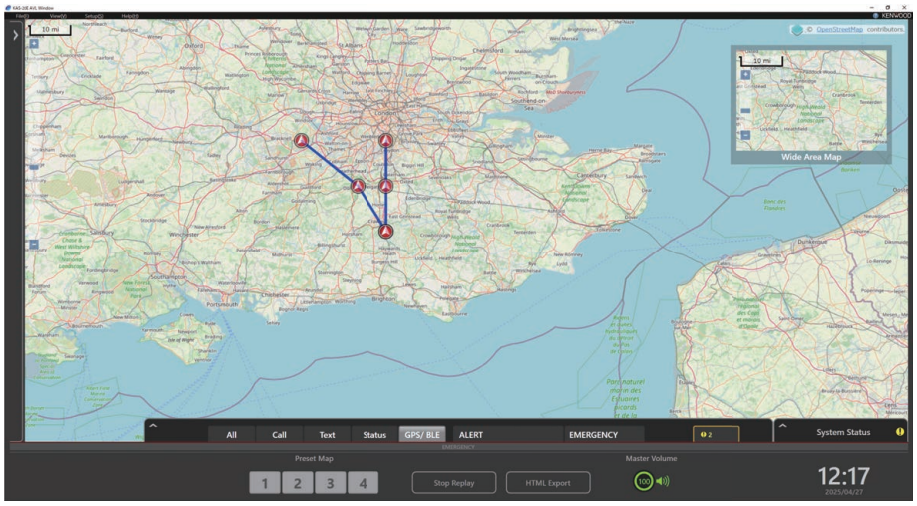

Figure 7-70 Replay

Note

- When “Trail” is selected in **Display Type**, the path of the mobile station is indicated with a line.
- When there are more than 5000 logs in the specified range, replay cannot be performed. In this case, reconfigure the search conditions and perform the operations again.

Stopping Playback of the Route Traveled

During playback of the route traveled by a mobile station, clicking the “Stop Replay” button stops the playback.

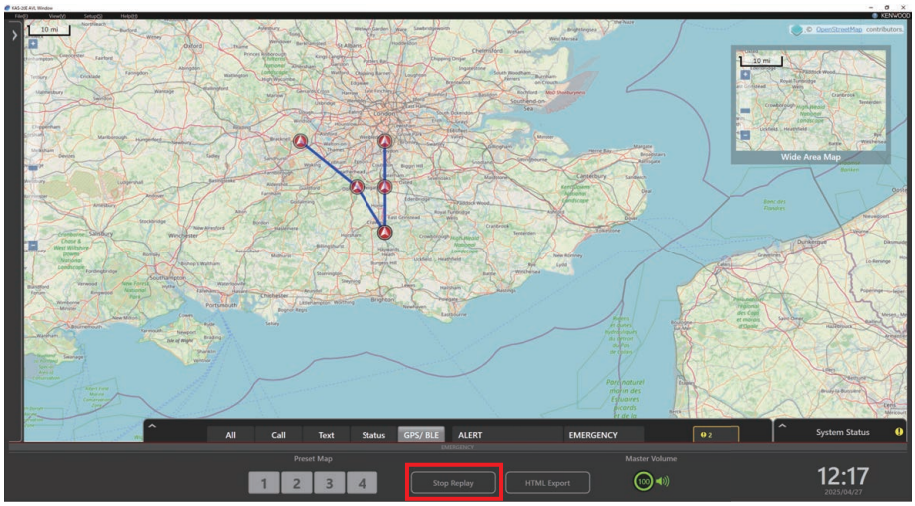

Figure 7-71 Stop Replay

Outputting Playback Result to an HTML File

When the route of a mobile station is played back with **Display Type** configured to “Trail”, a “HTML Export” button appears. Clicking the “HTML Export” button allows you to output the playback route displayed on the map in the HTML format.

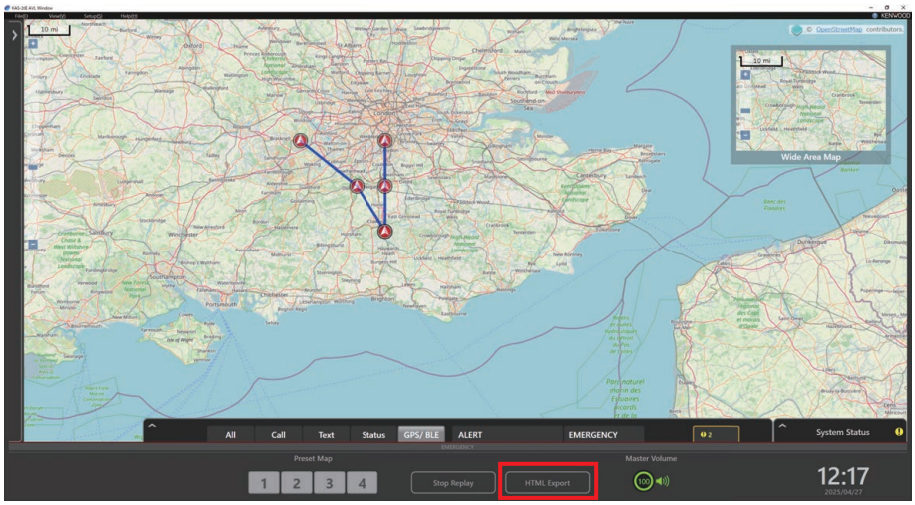

Figure 7-72 HTML Export

7.9 Display and Operation during an Alert

When an alert occurs at a mobile station, the icon display of the mobile station changes to “ ”.

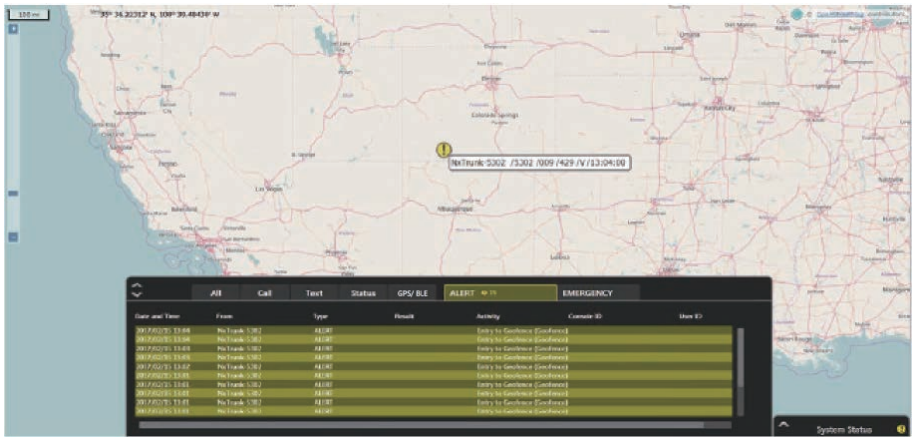

Figure 7-73 ALERT

The notified alerts are listed in the **ALERT** tab of the **Log** pane. Lines corresponding to alert notifications that have not been processed are highlighted.

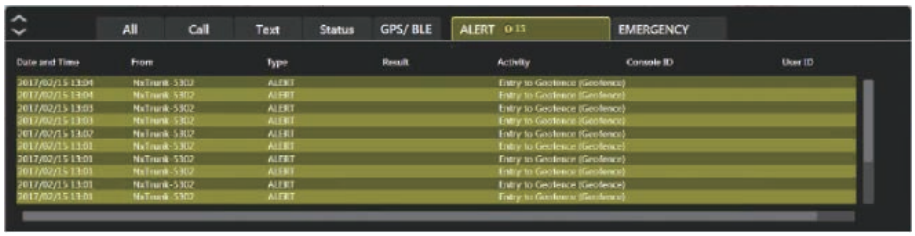

Figure 7-74 ALERT Log

Note

- The number of alert occurrences is displayed in the **ALERT** tab.
- When **Hide on Power-off** is enabled, the icon of the mobile station is hidden when the status configured in **Power-off Status** is received. In this case, the icon is hidden while the mobile station is in alert status. (Refer to Mobile Station Icon on page 162, Configuring the Status Message on page 122.)
- Detects whether Speed Limit is exceeded only when GPS Data is received.

Canceling an Alert

An alert that has occurred can be canceled.

1 **Select an alert log in the ALERT tab of the Log pane and right-click on it.**

The menu appears.

2 **Select “Clear Alert”.**

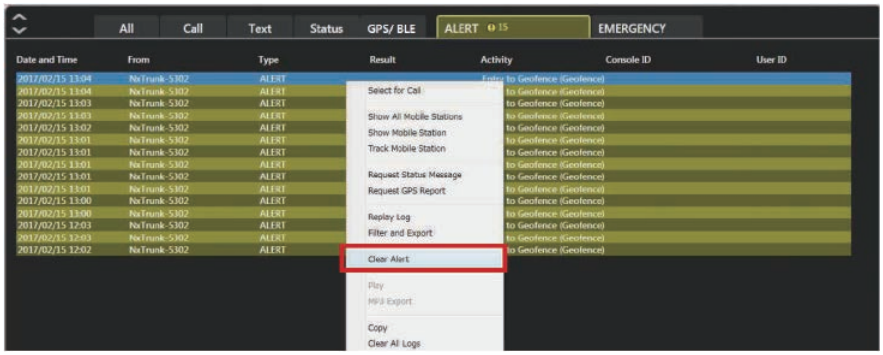

Figure 7-75 Clear Alert

The selected alert log switches to the normal log display. And the icon on the map switches back from the alert mark to the original icon.

Note

When an alert has been canceled, the change is also applied to the **Log** pane of the AVL Window and Dispatch Window.

Alert Display for Geofence

Geofence is a function that allows the KAS-20CE to automatically detect and record entry into or exit from a predefined geographical range by a mobile station equipped with a GPS or BLE function. (Refer to Creating a Geofence Area on page 254.)
A Geofence alert is triggered when a mobile station enters or exits a predefined Geofence area.

When BLE Data is received, the vehicle icon in the AVL Window will be displayed at the coordinates of the BLE Beacon, and the **Geofence** in the AVL Window will be determined based on the coordinates of the BLE Beacon.

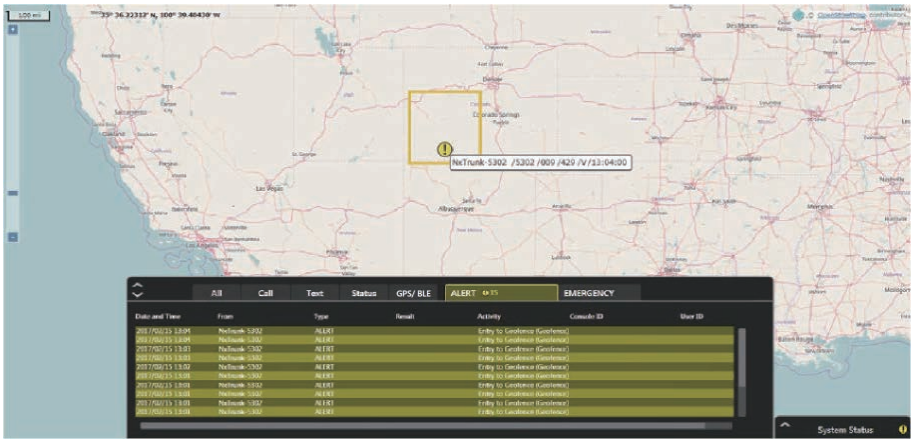

Figure 7-76 Geofence Alert

For details on how to cancel a Geofence alert, refer to “Canceling an Alert on page 280”.

7.10 Display and Operation during an Emergency

When an emergency occurs at a mobile station, the icon of the mobile station changes to an “Emergency” icon, and an emergency tone is emitted. The emergency bar at the bottom of the AVL Window lights up in red.

If **External AUX Output** is enabled in a serial connection, the external device connected to the KAS-20CE transceiver will be turned on. (Refer to Configuring Settings for Controlling the External Device Connected to the Base Station Transceiver on page 127.)

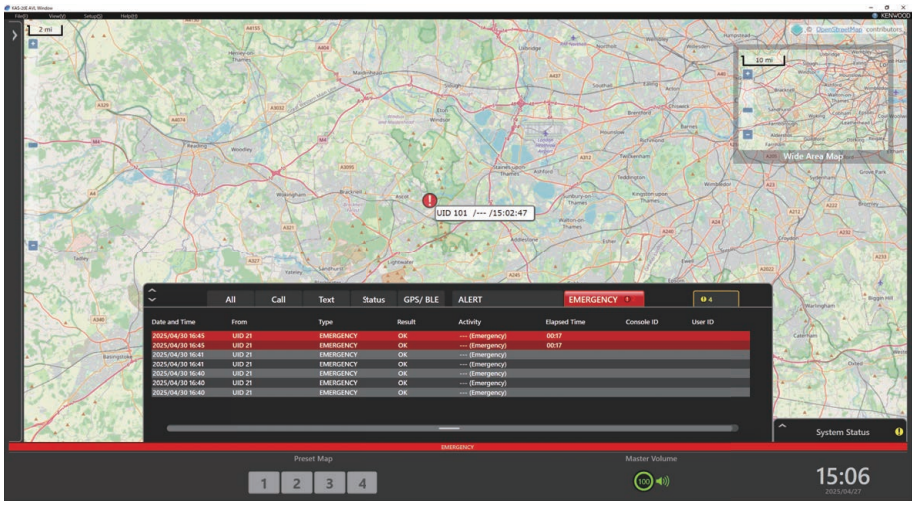

Figure 7-77 Emergency

The **EMERGENCY** tab of the **Log** pane is highlighted in red, and the notified emergencies are listed. Lines corresponding to emergency notifications that have not been processed are highlighted.

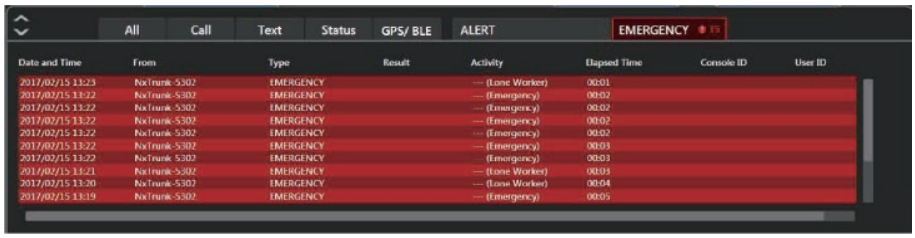

Figure 7-78 Emergency Log

Note

- When an emergency occurs at a mobile station that is not displayed on the map, an icon representing the direction of the location of the mobile station is displayed on the map in any of the 8 directions (up, down, left, right and diagonal directions).
- The “Emergency” icon can be configured in **Icon** on the **Status Message** screen. (Refer to Configuring the Status Message on page 122.)
- The number of emergency occurrences is displayed in the **EMERGENCY** tab.

Initiating a Call to the Mobile Station where an Emergency Has Occurred

A call to the mobile station where an emergency has occurred can be initiated.

1 **Select an emergency log in the EMERGENCY tab of the Log pane and right-click on it.**

The menu appears.

2 **Select “Select for Call”.**

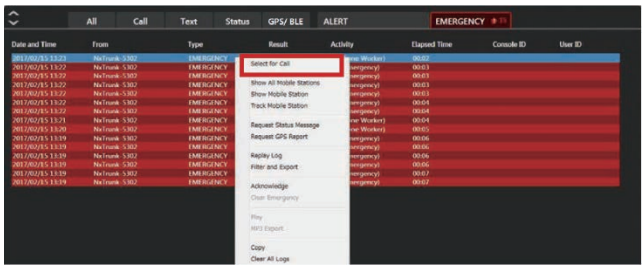

Figure 7-79 Select for Call

The sender ID of the selected emergency log is selected in the Dispatch Window.

3 **Click the “PTT” button in the Dispatch Window.**

Doing so initiates a call to the mobile station of the selected emergency log.

Note

This operation is enabled only when the VOICE PATH LICENSE (KWD-20C-VP) is authenticated. (Refer to About Software Upgrade License on page 13.)

Display Showing Emergency Log Check in Progress

When checking an emergency that has occurred, the display mode can be switched to one that shows that emergency log check is in progress and the checking personnel (Console ID, User ID) can be displayed in the log.

Also, when the display shows that emergency log check is in progress, the emergency tone that is emitted during an emergency stops.

1 **Select an emergency log in the EMERGENCY tab of the Log pane and right-click on it.**

The menu appears.

2 **Select “Acknowledge”.**

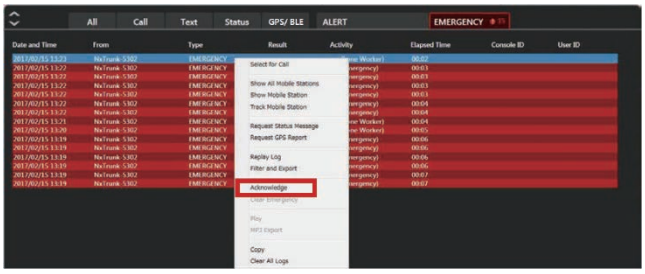

Figure 7-80 Acknowledge

The background color of the emergency log changes, and the Console ID for the KAS-20CE is displayed in the Console ID field of the emergency log, while the User ID of the logged-in user appears in the User ID field.

Note

- Even when the same emergency log is received while the tone is stopped, emergency tone will not be emitted until the emergency has been canceled.
- If **External AUX Output** is enabled in a serial connection, the external device connected to the KAS-20CE transceiver will be turned off. Until the time interval configured in **Emergency Suppress Time** elapses, the external device will not turned on even when an emergency log is received again. (Refer to Configuring Settings for Controlling the External Device Connected to the Base Station Transceiver on page 127.)
- Upon switching to the display that shows emergency log check is in progress, the display is also applied to the **Log** pane on the Indoor Location Window and Dispatch Window.
- When operating the KAS-20E AVL/ Dispatch system with multiple clients, the display is also applied to the **Log** pane of other KAS-20CE units, and the emergency tone stops.

Canceling an Emergency

An emergency that has occurred can be canceled.

1 **Select an emergency log in the EMERGENCY tab of the Log pane and right-click on it.**

The menu appears.

2 **Select “Clear Emergency”.**

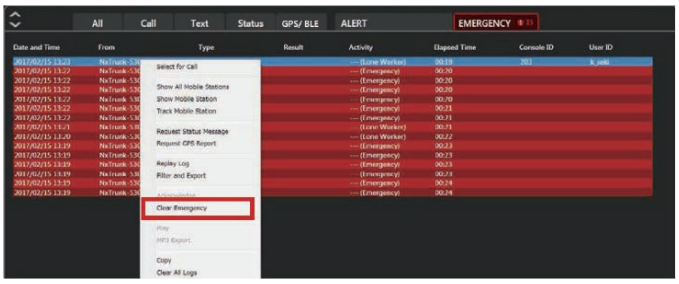

Figure 7-81 Clear Emergency

The selected emergency log switches to the normal log display. When all the emergencies have been canceled, the light of the emergency bar goes off.

Note

- When an emergency has been canceled, the change is also applied to the **Log** pane on the Indoor Location Window and Dispatch Window.
- When operating the KAS-20E AVL/ Dispatch system with multiple clients, the change is also applied to the **Log** pane of other KAS-20CE units.

7.11 Exporting Information on the Current Location

When **Save as GPS File** is enabled on the **AVL** screen, the latest positional information displayed on the map of the AVL Window will be saved automatically to a file. (Refer to Configuring the Functions to Be Used on AVL Window on page 157.)

Note

The old positional information is always overwritten by new ones in the configuration file.

7.12 Selecting an Audio Output/Input Device

Selecting “Audio Setup” from **Setup** of the menu bar displays the **Audio Setup** dialog box.
The **Audio Setup** dialog box allows you to select the device for audio sound playback and input.

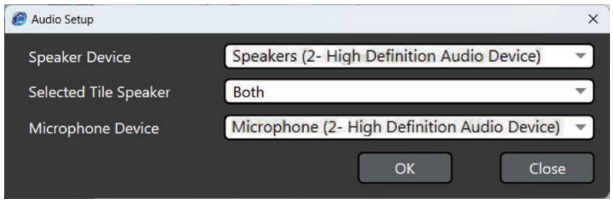

Figure 7-82 Audio Setup

Table 7-38 Audio Setup Settings

Item	Description	Configurable Range	Default
Speaker Device	**Speaker Device** allows you to select a speaker for playing back the received audio signals. Note The information of the speaker device installed on the PC can be viewed in Device Manager of the Windows system.	Speaker device installed on the PC	Speaker device that the PC is currently using
Selected Tile Speaker	Select the left or right speaker to play the audio signal of the selected tile.	**Both:** Plays the audio signal from both the left and right speakers regardless of the selected tile. **Left Audio or Right Audio:** Plays the audio signal for the selected tile from the speaker in the specified direction, and plays the audio signal for all other tiles from the speaker in the opposite direction.	Both
Microphone Device	**Microphone Device** allows you to select a microphone for audio signal input. Note • The information of the microphone device installed on the PC can be viewed in Device Manager of the Windows system. • This function can be configured only when the VOICE PATH LICENSE (KWD-20C-VP) is authenticated. (Refer to About Software Upgrade License on page 13.) • This function can be configured only for IP network connection.	Microphone device installed on the PC	Microphone device that the PC is currently using

7.13 Configuring the Language Used in KAS-20CE

Selecting “Language” from **Setup** of the menu bar displays the **Language** dialog box.
Language dialog box allows you to configure the language to use on the KAS-20CE.

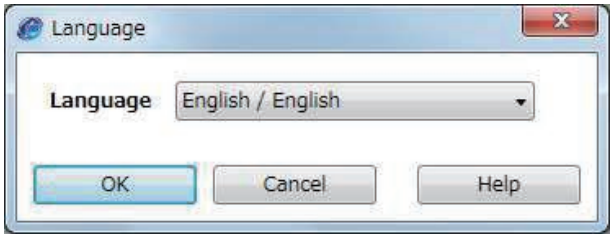

Figure 7-83 Language

Table 7-39 Language Settings

Item	Description	Configurable Range	Default
Language	**Language** allows you to configure the language to use on the KAS-20CE.	English, Spanish, French, German, Italian, Dutch, Portuguese, Chinese (Simplified), Chinese (Traditional), and files with the extension of “*.lng” that are added to the installation folder (\Language)	Language selected during installation

7.14 Checking the KAS-20CE License Type

Selecting **Setup** from “License Selection” of the menu bar displays the **License Selection** dialog box.
The **License Selection** dialog box allows you to check the KAS-20CE license type.

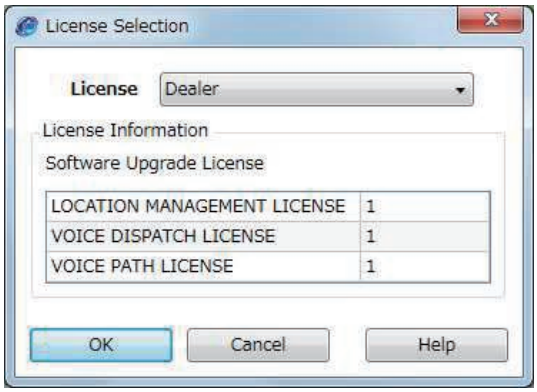

Figure 7-84 License Selection

Table 7-40 Setting Items of License Selection

Item	Description	Configurable Range	Default
License	**License** shows the currently authenticated license label.	-	-
Software Upgrade License	**Software Upgrade License** shows the name of the currently authenticated Software Upgrade License and the number of licenses.	-	-

7.15 Viewing the Information of KAS-20CE

Selecting **Help** from “About” of the menu bar displays the **About** dialog box.
The **About** dialog box allows you to view information such as the KAS-20CE version.

Figure 7-85 About

This chapter explains the procedure for operating and configuring settings on the Indoor Location Window.

8.1 Indoor Location Window

The Indoor Location Window is structured as follows.

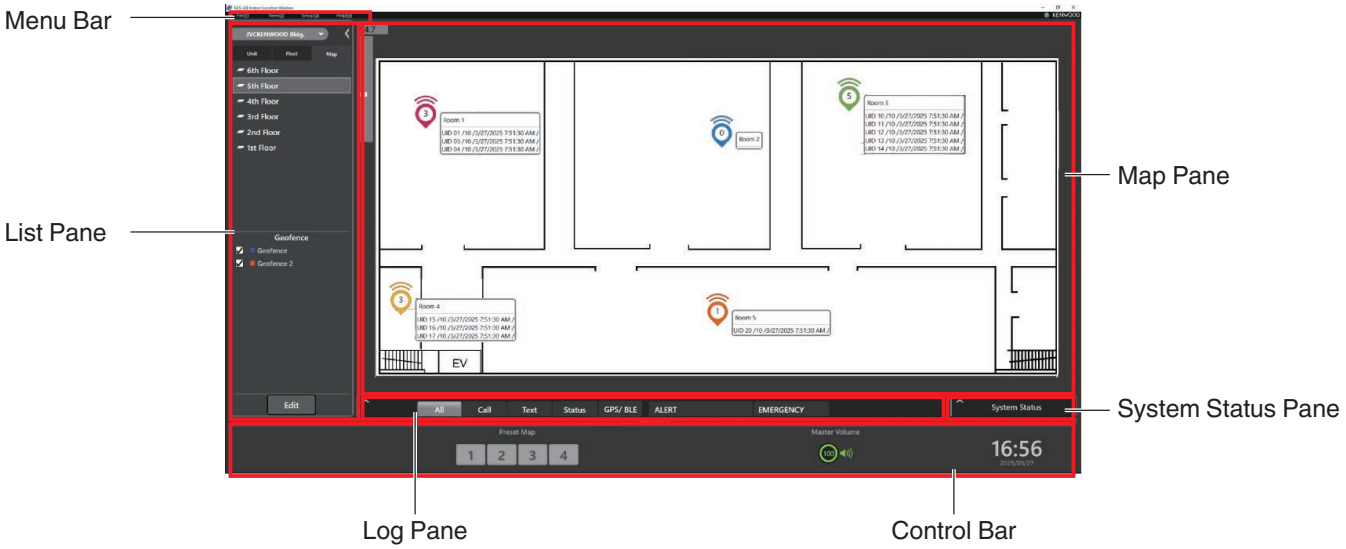

Figure 8-1 Indoor Location Window

Menu Bar (Indoor Location Window)

The menu bar comes with menu titles for operating the Indoor Location Window. Clicking the menu title opens the pulldown menu, and the menu commands contained in the menu appear.

Figure 8-2 Indoor Location Menu Bar

File

Table 8-1 File

Item	Description
Logout	Logs out of the currently logged-in KAS-20CE.
Exit	Exits the KAS-20CE.

View

Table 8-2 View

Item	Description
AVL Window	If this item is selected while AVL Window is not displayed, the AVL Window appears. (Refer to MANAGING THE OPERATION STATUS ON THE AVL WINDOW on page 201.)
Dispatch Window	If this item is selected while Dispatch Window is not displayed, the Dispatch Window appears. (Refer to COMMUNICATING WITH A MOBILE STATION VIA DISPATCH WINDOW on page 366.)
Lone Worker	A **Lone Worker** operation screen appears. (Refer to Starting/ Stopping Lone Worker on page 428.)
Clear All Mobile Icons	Clears the positional information of the mobile station and its icon on the map in the AVL Window and Indoor Location Window.
Hide All Mobile Icons	Displays/hides the Icon of mobile stations that are displayed on the AVL Window and Indoor Location Window.
Master Volume	Displays or hides **Master Volume** on the control bar. (Refer to Control Bar on page 209.)
Preset Map	Displays or hides the “Preset Map” button on the control bar. (Refer to Control Bar on page 209.)
Clock	Displays or hides the clock on the control bar. (Refer to Control Bar on page 209.)

Setup

Table 8-3 Setup

Item	Description
Setting	Displays a setting screen for the KAS-20CE.
Audio Setup	Displays the **Audio Setup** dialog box. The **Audio Setup** dialog box allows you to select the device for audio sound playback and input. (Refer to Selecting an Audio Output/Input Device on page 286.)
Language	Displays the **Language** dialog box. **Language** dialog box allows you to configure the language to use on the KAS-20CE. (Refer to Configuring the Language Used in KAS-20CE on page 287.)
License Selection	Displays the **License Selection** dialog box. The **License Selection** dialog box allows you to check the KAS-20CE license type. (Refer to Checking the KAS-20SE License Type on page 155.)

Help

Table 8-4 Help

Item	Description
Help	Opens the Basic Operations PDF file (this manual).
About	Displays the **About** dialog box. The **About** dialog box allows you to view information such as the KAS-20CE version. (Refer to Viewing the Information of KAS-20CE on page 288.)

List Pane

The **List** pane displays the Radio Resource List that are operable and the currently selected System icons in the Indoor Location Window.
The **List** pane is made up of 3 tabs, namely **Unit**, **Fleet** and **Layer**. Different operations and settings can be performed in each of the tabs.

Common Operations

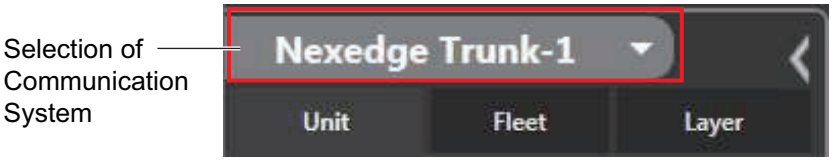

Figure 8-3 Common Operations

Table 8-5 Common Operations

Item	Description
Selection of Communication System	Allows you to select the communication system to manage on the Indoor Location Window. Settings related to the selected communication system will be displayed in the respective tabs.

Note

Clicking the "◀" button collapses the **List** pane to the left and hides the display. Clicking the "▶" button expands the collapsed **List** pane to the right and shows the display.

Unit Tab

The **Unit** tab displays the ID of the mobile stations registered in a communication system, and allows you to select whether to display the mobile stations on the map or hide them. Selecting a mobile station and right-clicking on it displays a menu that allows you to perform communication-related operations such as sending messages. (Refer to Managing Mobile Stations with the Radio Resource List on page 225.)

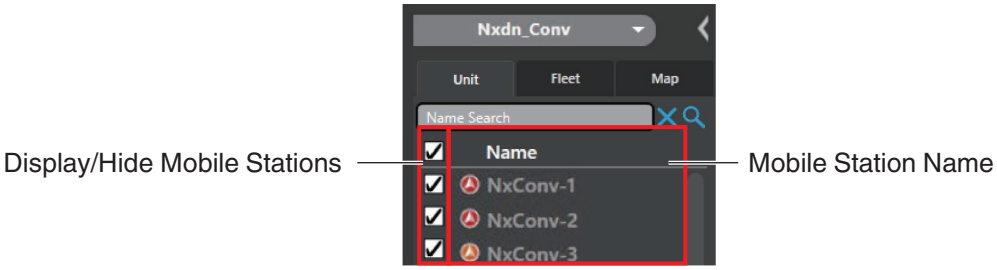

Figure 8-4 Unit Tab

Table 8-6 Unit Tab

Item	Description
Name Search	Entering and searching for a mobile station name displays the corresponding mobile station name from Radio Resource List. Up to a maximum of 16 characters can be entered. Note Entry becomes available by clicking the **Name Search** edit box, the " " button, or the " " button.
Mobile Station Name Title	Selecting the **Mobile Station Name Title** checkbox selects all the **Mobile Station Name** checkboxes in **Radio Resource List**. Deselecting the **Mobile Station Name Title** checkbox deselects all the **Mobile Station Name** checkboxes in **Radio Resource List**. Note • The **Mobile Station Name Title** checkbox is deselected when even a single **Mobile Station Name** checkbox is deselected. • If a search is executed by **Name Search**, the **Mobile Station Name Title** checkbox is deselected and the function cannot be configured.
Display/Hide Mobile Stations	Selecting the checkbox displays the icon of the corresponding mobile station on the map. Deselecting the checkbox clears the icon of the corresponding mobile station that is displayed on the map.
Mobile Station Name	Displays the mobile station name and icon. Among the mobile stations registered on the **Radio Resource List** screen, only those for which **Type** is configured to "Individual" are displayed. (Refer to Configuring a Mobile Station on page 98.) Note The **Console ID** of a mobile station will not be displayed when its ID is the same as the **Mobile Station Name** of the KAS-20CE that is currently logged in.

Note

For System with FleetSync as the System Protocol, positional information will not be displayed on the map.

Fleet Tab

The **Fleet** tab displays the group of the mobile stations, and allows you to select whether to display the mobile stations that belong to a group on the map or hide them. (Refer to Managing Mobile Stations by Group on page 245.)

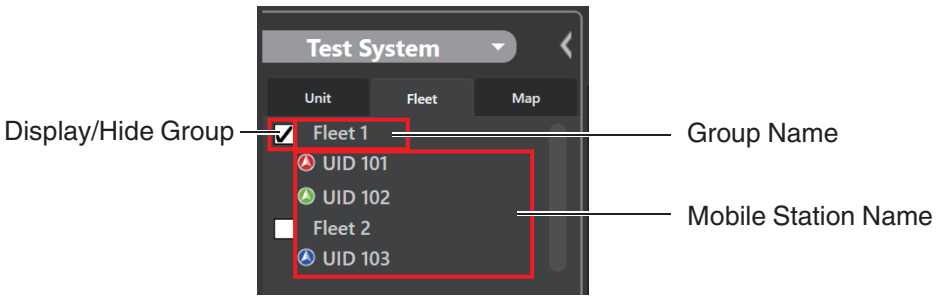

Figure 8-5 Fleet Tab

Table 8-7 Fleet Tab

Item	Description
Display/Hide Group	When the checkbox is selected, the icons of the mobile stations that belong to the selected group are displayed on the map. When the checkbox is deselected, the icons of the mobile stations that belong to the selected group are removed from the map.
Group Name	Displays the group name.
Mobile Station Name	Displays the name and icon of mobile stations that belong to a group. Among the mobile stations registered on the **Radio Resource List** screen, only those for which **Type** is configured to “Individual” are displayed. (Refer to Configuring a Mobile Station on page 98.) Note The **Console ID** of a mobile station will not be displayed when its ID is the same as the **Mobile Station Name** of the KAS-20CE that is currently logged in.

Note

For System with FleetSync as the System Protocol, positional information will not be displayed on the map.

Map Tab

The Map tab displays the registered Building and the Floor list.

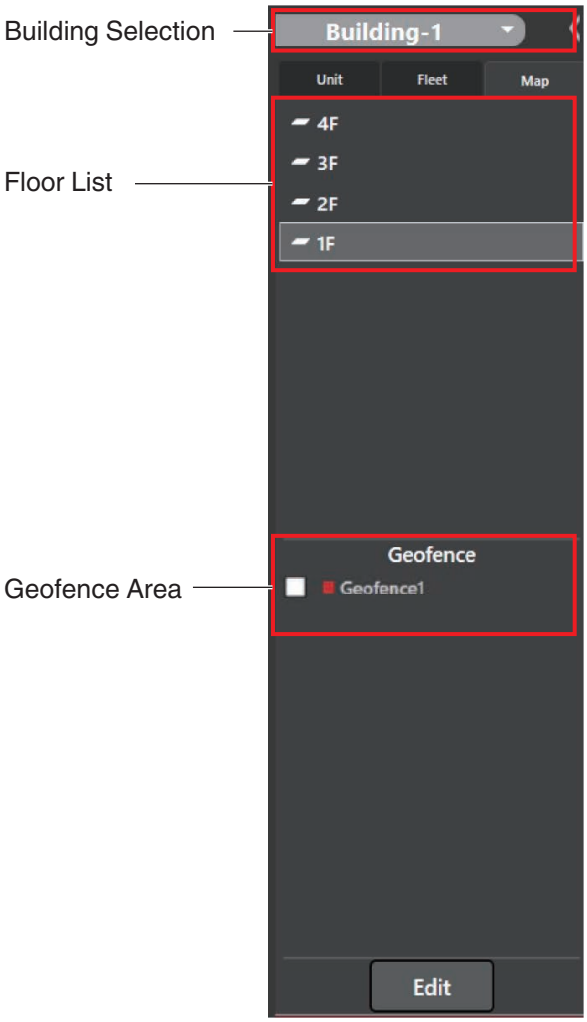

Figure 8-6 Map Tab

Table 8-8 Map Tab

Item	Description
Building Selection	For selecting the preconfigured Building. (Refer to Configuring the Functions to Be Used on Indoor Location Window on page 167.)
Floor List	Displays the Floor List registered in the Building that is selected in Building Selection. (Refer to Configuring the Functions to Be Used on Indoor Location Window on page 167.)
Geofence Area	Allows you to display or hide the Geofence area. (Refer to Displaying/Hiding the Geofence Areas on page 253.)

Map Pane

The **Map** pane displays the Floor Map. The dispatcher is able to display the number of mobile stations nearest to the BLE Beacon on the map, and allows you to manage the location of the mobile stations.
(Refer to Operating Floor Map on page 298.)

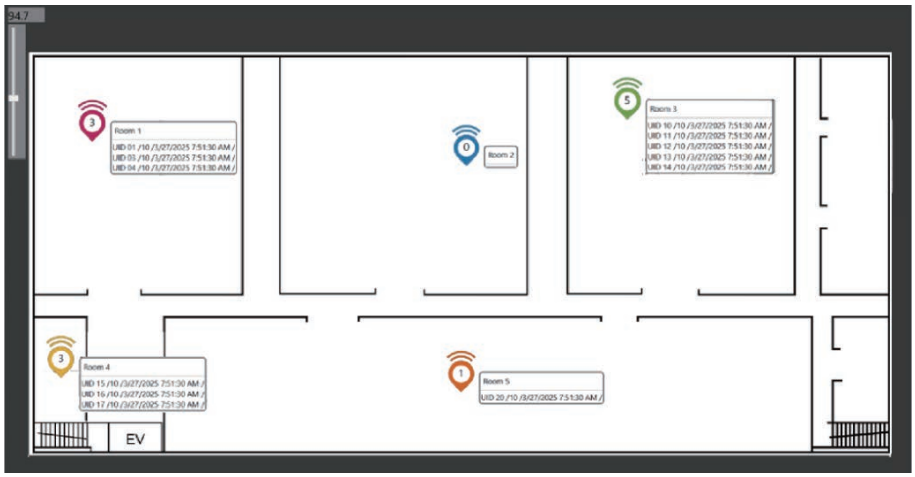

Figure 8-7 Map Pane (Indoor Location)

Log Pane

The **Log** pane displays the communication logs and logs related to the different types of notifications. (Refer to Checking the Communication Log on page 221.)

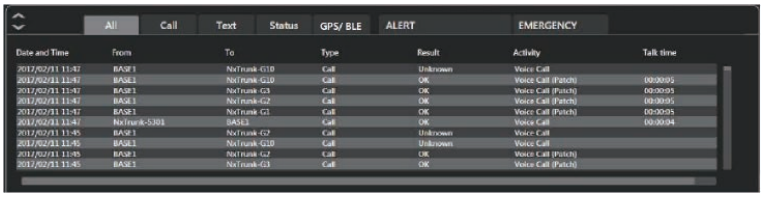

Figure 8-8 Log Pane

Note

Clicking the "^" button expands the **Log** pane upward and shows the display. Clicking the "v" button collapses the **Log** pane downward and hides the display.

System Status Pane

The **System Status** pane displays the connection status with the communication system. (Refer to Checking the System Status on page 262.)

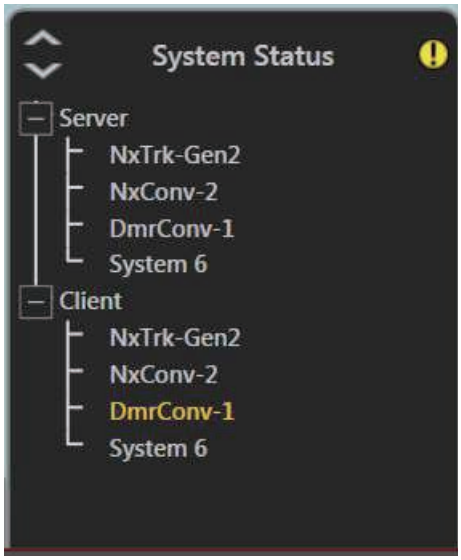

Figure 8-9 System Status Pane

Note

Clicking the "^" button expands the **System Status** pane upward and shows the display. Clicking the "v" button collapses the **System Status** pane downward and hides the display.

Control Bar

The control bar allows you to perform operations such as volume adjustment and map display.

Figure 8-10 Control Bar

Table 8-9 Control Bar

Item	Description
Preset Map	Moves the map display to the position corresponding to the geographical coordinates configured on the map. (Refer to Registering the Display Position of Floor Map on page 299.) Note **Preset Map** is displayed only when “Preset Map” in **View** of the menu bar is clicked on.
Master Volume	The playback volume of the tone that is emitted when an alert or emergency occurs can be configured. The value of the maximum volume for the application that is configured on the OS is the maximum value of **Master Volume**. Note **Master Volume** is displayed only when “Master Volume” in **View** of the menu bar is clicked on.
Custom Button	Displays the custom buttons configured on the setting screen of the KAS-20CE. Clicking a custom button executes the function that is assigned to the button. Note • Custom buttons are displayed only when they are configured on the **General** screen. (Refer to Configuring the Custom Buttons on page 189.) • The custom buttons are the same as those in the AVL Window.
Clock	Displays the current time. Note Displayed only when “Clock” in **View** of the menu bar is clicked on.

8.2 Operating Floor Map

In the Indoor Location Window, BLE Beacon Icon are displayed on the Floor Map based on the positional information (BLE Data) of the mobile station. In addition, mobile stations can be managed using the positional information (BLE Data).

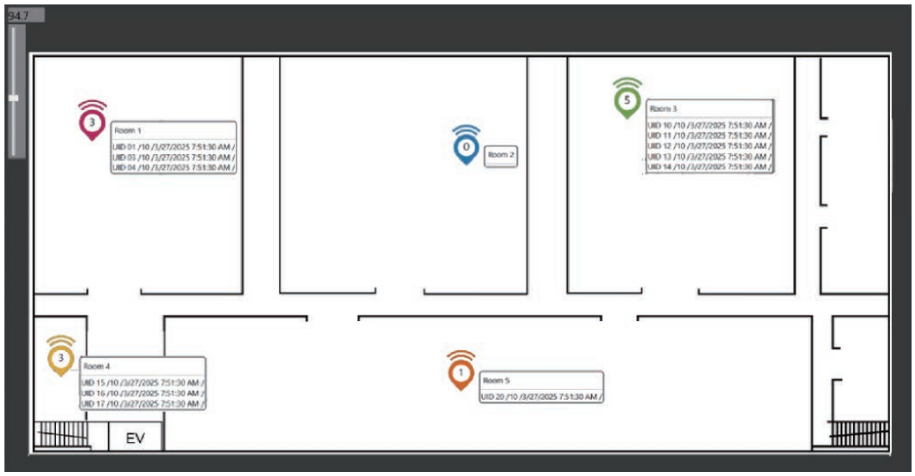

Figure 8-11 Floor Map

Table 8-10 Operations and Display on Floor Map

Operation/ Display	Description
Move	Dragging the map moves the area to display.
Enlarge/ Reduce	Clicking the “+” (Enlarge) or “-” (Reduce) button enlarges or reduces the area of the map display respectively.
Rescaled Display	Displays a rescaled size of the map. The size can be enlarged or reduced between the range from 10 m to 2000 km. Note The unit of measurement can be configured in **Unit** on the **AVL** screen. (Refer to Configuring the Functions to Be Used on AVL Window on page 157.)

Note

If the map cannot be displayed because of Internet failure, try to display the map again after closing and restarting the KAS-20CE.

Registering the Display Position of Floor Map

The display location on the Floor Map can be registered to each of the **Preset Map** buttons in the control bar. Clicking one of the buttons from 1 to 4 in the **Preset Map** switches the display location on the Floor Map to the location registered in the respective buttons.

Figure 8-12 Preset Map (Floor Map)

1 **Move the Floor Map to the location to register.**

2 **Right-click on a point that has no icon on the Floor Map.**

The menu appears.

3 **In Register as Preset Map, select one of the options between “Preset 1” and “Preset 4”.**

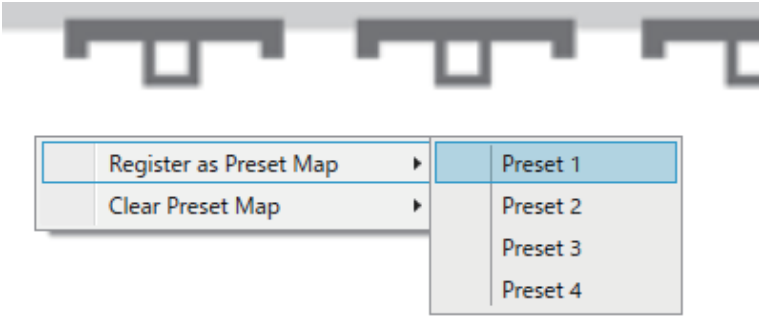

Figure 8-13 Register as Preset Map (Floor Map)

The specified location is registered to the corresponding button of the **Preset Map**.

Note

- “Preset 1” to “Preset 4” correspond to buttons 1 to 4 of the **Preset Map** respectively.
- **Preset Map** is displayed only when the “Preset Map” in **View** of the menu bar is clicked on.
- To delete a registered **Preset Map**, select the **Preset Map** to delete using the **Clear Preset Map** option in the right-click menu.

8.3 Managing BLE Beacon by Operating BLE Beacon Icon on Floor Map

Registering BLE Beacon to Floor Map in the **Setting** screen displays the registered BLE Beacon Icon image on the Floor Map in Indoor Location Window.

Figure 8-14 BLE Beacon Icon Display

When you select a BLE Beacon Icon on the Floor Map, the selected BLE Beacon Icon is centered on the map, and the BLE Beacon Icon menu appears. From the BLE Beacon Icon menu, you can send messages to or view the communication log with the selected BLE Beacon.

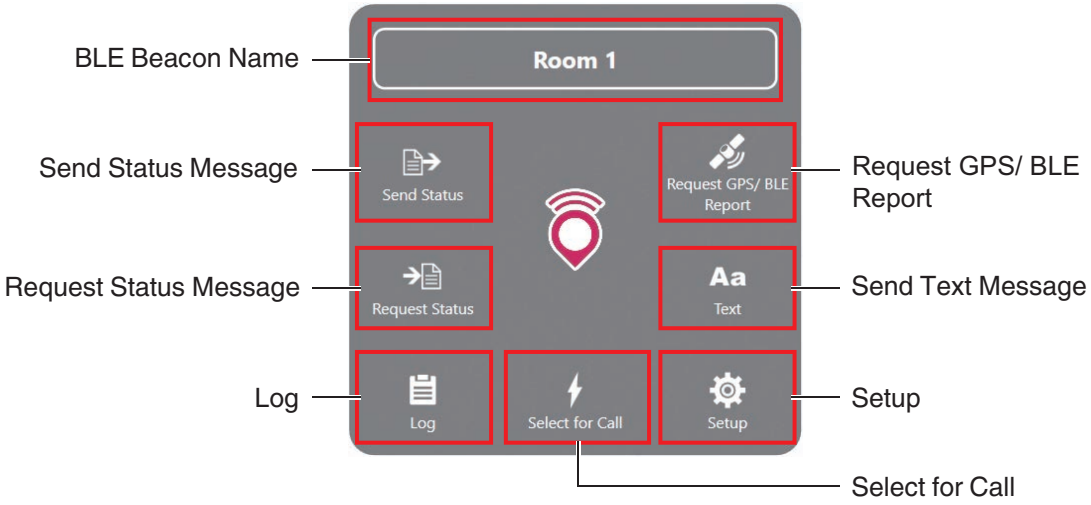

Figure 8-15 BLE Beacon Icon Menu

Table 8-11 BLE Beacon Icon Menu

Item	Description
BLE Beacon Name	Displays the mobile station name.
Send Status Message	Allows you to send out a status message or special command. (Refer to Sending a Status Message (BLE Beacon Icon) on page 302.)
Send Text Message	Allows you to send out a text message. (Refer to Sending a Text Message (BLE Beacon Icon) on page 305.)
Request GPS/ BLE Report	Allows you to send out GPS Data and BLE Data request messages. Note This item cannot be selected in the case of Trunking 2.5.
Request Status Message	Allows you to send out a status message request message. Note This item cannot be selected in the case of Trunking 2.5.
Log	Allows you to view the logs. (Refer to Checking the Communication Log on page 221.)
Select for Call	Selects the corresponding mobile station on the Dispatch Window when the Dispatch Window is displayed.
Setup	Allows you to send synchronization information to the destination configured in Setting and configure the information to display for the Mobile Station Information (BLE Beacon). (Refer to General Tab on page 171.)

Note

- The BLE Beacon Icon can be configured on the setting screen of the KAS-20CE. (Refer to Configuring Floor Map on page 173.)
- The KAS-20CE acquires the latest positional information from the server according to the update interval configured on the KAS-20CE setting screen and updates the location of the mobile station accordingly. (Refer to Configuring the Functions to Be Used on Indoor Location Window on page 167.)
- The selected BLE Beacon will be tracked until an operation is performed from the menu or an area outside the menu is clicked. During this time, the BLE Beacon Icon menu will remain displayed at the center of the map.
- When **Hide on Power-off** is enabled, the BLE Beacon Icon is hidden when the status configured in **Power-off Status** is received. (Refer to General Tab on page 171, Configuring the Status Message on page 122.)
- Selecting a Mobile Station Icon on the map displays an icon menu. (Refer to Managing Mobile Stations by Operating Icons on the Map on page 213.)

Sending a Status Message (BLE Beacon Icon)

Clicking the status message icon in the BLE Beacon Icon menu displays a status message transmission screen, which enables status messages or special commands to be transmitted.

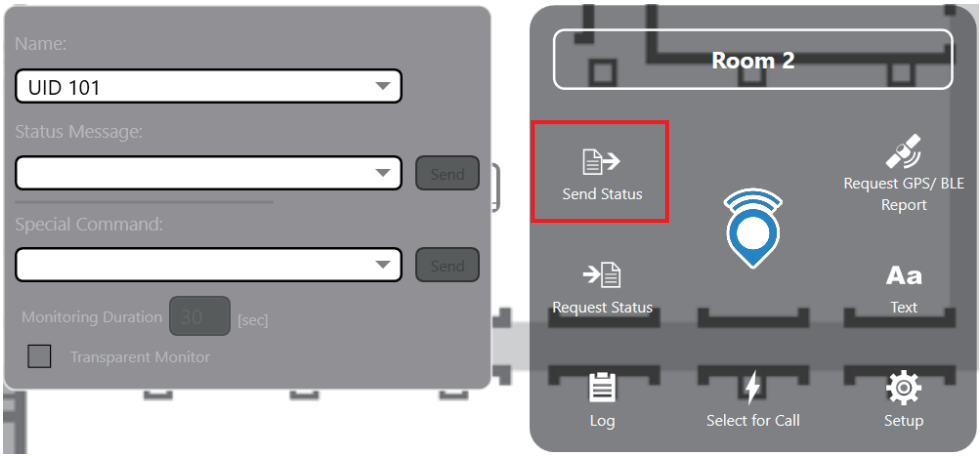

Figure 8-16 Send Status Message (BLE Beacon Icon)

Sending a Status Message (BLE Beacon Icon)

Select the status message to send from **Status Message**, followed by clicking the “Send” button to send the selected message.

Table 8-12 Sending of status messages (BLE Beacon Icon)

Item	Description	Configurable Range	Default
Name	Allows you to select the Unit name of the mobile station linked to the clicked BLE Beacon Icon.	-	-
Status Message	**Status Message** allows you to select the status message to send. Note A “Terminate emergency mode” status message can be sent to exit the Emergency Mode of a mobile station. When a “Terminate emergency mode” status message is selected, clicking the “Send” button displays a message box for confirming whether to send the status message. Clicking the “OK” button sends out the status message.	Status message configured on the **Status Message** screen. (Refer to Configuring the Status Message on page 122.) Note Status messages cannot be selected if the Receive Only is set to Check on the **Status Message** screen.	Blank
“Send” button	Sends out a status message.	-	-

Sending a Special Command (BLE Beacon Icon)

Select the special command to send from **Special Command**, followed by clicking the “Send” button to send the selected command.

Note

Special commands can only be sent by users who are assigned with the “Admin”, “Basic + Special” or “Basic + Patch&Special” operation authority. (Refer to Registering a User on page 57.)

Table 8-13 Sending a Special Command (BLE Beacon Icon)

Item	Description	Configurable Range	Default
Special Command	**Special Command** allows you to select the special command to send. Note • When “Stun”, “Revive”, “Remote Monitor”, “Activate Horn Alert”, “Stun (TX inhibit)” or “Stun (TX/RX inhibit)” is selected, clicking the “Send” button displays a message box for confirming whether to send the special command. Clicking the “OK” button sends out the special command. • When “Kill” is selected, clicking the “Send” button displays a message box for confirming whether to send the Kill special command. Clicking the “OK” button sends out the Kill special command.	The configurable range varies according to the protocol of the communication system configured on the KAS-20CE. (Refer to Details on Special Command on page 234.) **NXDN Trunking (Type-C)/ NXDN Conventional:** Stun, Revive, Kill, Remote Monitor **Trunking 2.5:** Stun, Revive, Radio Check **DMR Tier III Trunking/ DMR Conventional:** Stun, Revive, Kill, Radio Check **DMR Conventional (via TKR-D series):** Stun, Revive, Kill **FleetSync:** **Type = Individual:** Activate Horn Alert, Stun (TX inhibit), Stun (TX/RX inhibit), Revive, Kill, Remote Monitor **Type = Fleet, Group, Supervisor:** Activate Horn Alert	Blank
Monitoring Duration	**Monitoring Duration** allows you to configure the time interval to maintain the transceiver in the transmitting state when using the Remote Monitor command. Note • This function can be configured only for NXDN Trunking (Type-C)/ NXDN Conventional/ FleetSync. • This function can be configured only if “Remote Monitor” is selected in **Special Command**.	1 sec to 255 sec	30 sec

Item	Description	Configurable Range	Default
Transparent Monitor	**Transparent Monitor** allows you to configure whether to display a message on the transceiver display and light up the transmission LED while the transceiver is configured to the transmitting state using the Remote Monitor command. Note • This function can be configured only for NXDN Trunking (Type-C)/ NXDN Conventional/ FleetSync. • This function can be configured only if “Remote Monitor” is selected in **Special Command**.	**Check (Enable):** Displays a message on the transceiver display and lights up the transmission LED while the transceiver is configured to the transmitting state using the Remote Monitor command. **Uncheck (Disable):** Does not display a message on the transceiver display and or light up the transmission LED while the transceiver is configured to the transmitting state using the Remote Monitor command.	Unchecked (Disabled)
“Send” button	Sends out a special command.	-	-

Sending a Text Message (BLE Beacon Icon)

Clicking the text message icon in the BLE Beacon Icon menu displays a text message transmission screen, which enables text messages to be transmitted.

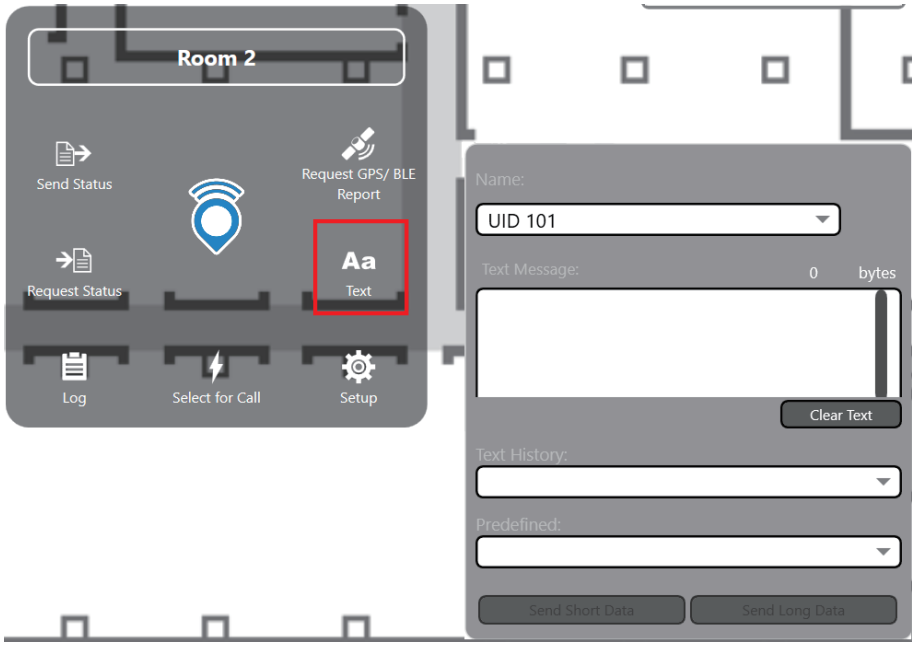

Figure 8-17 Send Text Message (BLE Beacon Icon)

Select the text message to send using one of the methods below, followed by clicking the “Send Short Data” or “Send Long Data” button to send out the selected text message.

- Enter the text message to send in **Text Message**.
- Select a text message from previously sent messages in **Text History**.
- Select a predefined text message in **Predefined**.

Note

- When the maximum number of input characters for **Text Message** is exceeded, the “Send Short Data” and “Send Long Data” buttons are deactivated and text messages cannot be sent.
- The text messages of Long Data Message are not displayed on the screen of the mobile station.

Table 8-14 Sending of text messages (BLE Beacon Icon)

Item	Description	Configurable Range	Default
Name	Allows you to select the Unit name of the mobile station linked to the clicked BLE Beacon Icon (Building).	-	-
Text Message	**Text Message** allows you to enter the text message to send. Note The number of characters of the Short Data Message that can be sent varies according to the protocol of the communication system configured on the KAS-20CE and the configuration of **Type** of the destination. (Refer to Number of characters of the Short Data Message that can be sent on page 220.)	The configurable range varies according to the protocol of the communication system configured on the KAS-20CE. **NXDN Trunking (Type-C)/ NXDN Conventional/ DMR Tier III Trunking/ DMR Conventional:** 1 byte to 4096 bytes **Trunking 2.5:** 1 byte to 44 bytes **DMR Conventional (via TKR-D series):** **Type = Individual or Console:** IP network connection: 1 byte to 986 bytes Serial connection: 1 byte to 978 bytes **Type = Group or All:** IP network connection: 1 byte to 738 bytes Serial connection: 1 byte to 730 bytes **FleetSync:** 1 byte to 4096 bytes Note Depending on the base station transceiver type, up to 1024 bytes of characters can be sent and received for FleetSync.	Blank

Item	Description	Configurable Range	Default
“Clear Text” button	Clears the text entered in **Text Message**.	-	-
Text History	**Text History** allows you to select up to 10 text messages that were sent previously. The selected text messages are displayed in **Text Message**.	10 text messages that were sent previously	Blank
Predefined	**Predefined** allows you to select a text message that is predefined in the KAS-20CE. The selected text messages are displayed in **Text Message**. Note The text message displayed in **Predefined** can be configured in **Predefined Text Message** on the **Dispatch** screen. (Refer to Configuring the Functions to Be Used on Dispatch Window on page 179.)	Text messages that are predefined in the KAS-20CE	Blank
“Send Short Data” button	Sends out a text message as a Short Data Message. (Refer to Number of characters of the Short Data Message that can be sent on page 220.)	-	-
“Send Long Data” button	Sends out a text message as a Long Data Message. Note • The text messages of Long Data Message are not displayed on the screen of the mobile station. • This button is not displayed only for Trunking 2.5 and DMR Conventional (via TKR-D series).	-	-

Checking the Communication Log (BLE Beacon Icon)

Clicking the “Log” icon in the BLE Beacon Icon menu displays a Log screen, which enables viewing of the communication log of the mobile station to be linked to the BLE Beacon Icon.

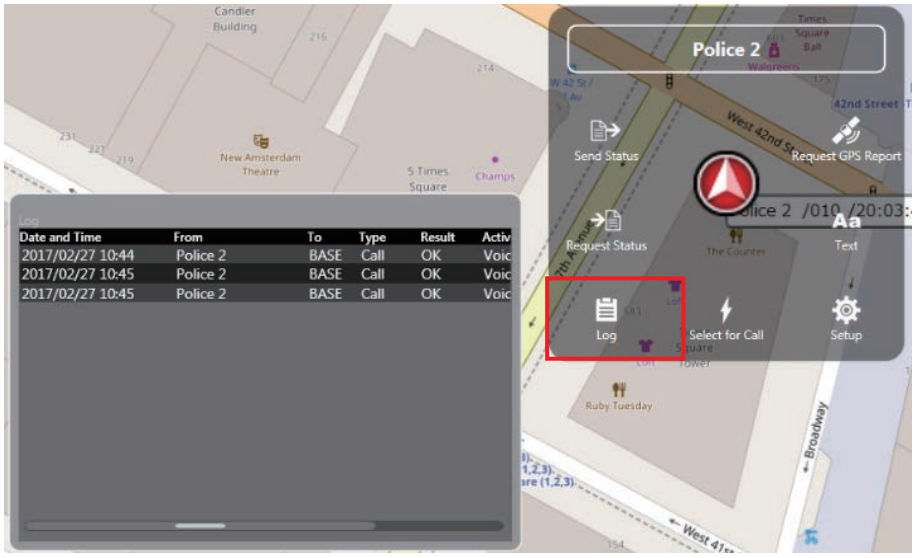

Figure 8-18 Log (BLE Beacon Icon)

Table 8-15 Log Screen (BLE Beacon Icon)

Item	Description
Date and Time	**Date and Time** displays the date and time the log data was saved.
System	**System** shows the system name. When **System Name** is enabled, a System column is displayed. (Refer to Configuring Settings Related to Log Data Acquisition on page 182.)
From	**From** displays the name or number of the mobile station at the sending end. If DMR Tier III Trunking is enabled in **Fleet Dialing Plan**, and if a voice call is received from a non-administered mobile station (when the mobile station is not registered in **Radio Resource List** or when the mobile station is registered in **Radio Resource List** but **Target List** is disabled), a value configured in the Prefix - Fleet - IN format is displayed.
To	**To** displays the name or number of the mobile station at the receiving end.
Type	**Type** displays the type of communication.
Result	**Result** displays the transmission results.
Activity	**Activity** displays descriptions of the activity.
Talk Time	**Talk Time** displays the calling time of a voice call.

Sending Synchronization Information (BLE Beacon Icon)

Clicking the “Setup” icon in the BLE Beacon Icon menu displays a setting screen, which enables synchronization information to be sent to the destination configured in **Setting**. (Refer to Configuring the Destination Server and Database on page 56.)

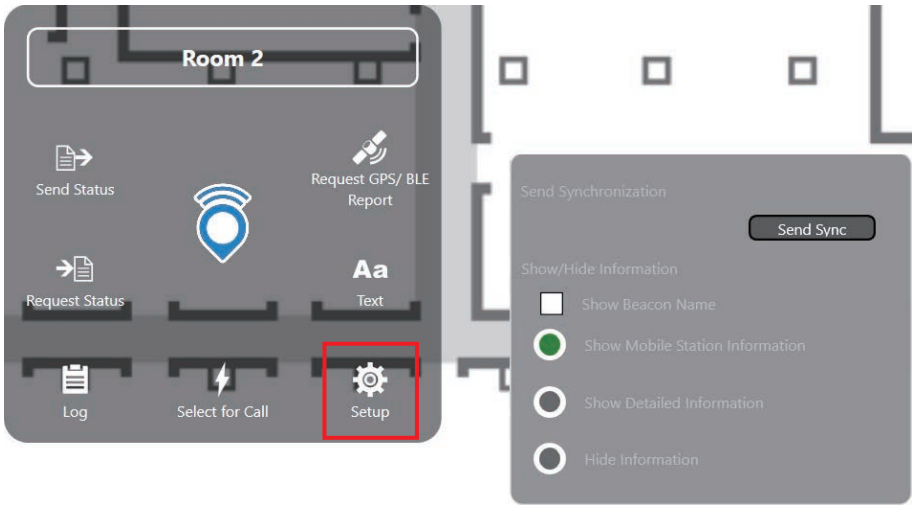

Figure 8-19 Setup (BLE Beacon Icon)

Table 8-16 Setup (BLE Beacon Icon)

Item	Description	Configurable Range	Default
“Send Sync” Button	Sends out synchronization information to All ID. In the case of DMR Conventional or DMR Conventional (via TKR-D series) in an IP Network connection, synchronization information is transmitted on both Slot 1 and Slot 2. In the case of DMR Conventional or DMR Conventional (via TKR-D series) in a Serial connection, the Slot used to transmit synchronization information is based on the base station transceiver.	-	-

Display of Mobile Station Information (BLE Beacon Icon)

Detailed information is displayed near the BLE Beacon Icon on the map based on the **Mobile Station Information (BLE Beacon)** settings in the **Indoor Location Window**. (Refer to Configuring the Functions to Be Used on Indoor Location Window on page 167.)
The diagram below is an example when **Mobile Station Information (BLE Beacon)**, **Name**, **ID**, **Status Message No.**, **Time** and **Major ID** are enabled in **Minor ID**.

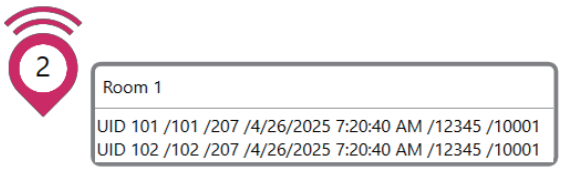

Figure 8-20 BLE Beacon Icon Information Display

Clicking the “Setup” icon in the BLE Beacon Icon menu displays the selection options for **Show/Hide Information** and allows you to toggle the **Mobile Station Information (BLE Beacon)** display.

Table 8-17 Show/Hide Information (BLE Beacon Icon)

Item	Description	Configurable Range	Default
Show Building Name	Displays Building Name that is configured in **Building** of the **Indoor Location Window**.	Check (Enable), Uncheck (Disable)	Check (Enable)
Show/Hide Information	**Show/Hide Information** allows you to select the mode of display for the **Mobile Station Information (BLE Beacon)**.	**Show Mobile Station Information:** Displays the information of the BLE Beacon. **Show Detailed Information:** Displays more detailed information of the BLE Beacon. **Hide Information:** Hides the information of the BLE Beacon.	Show Mobile Station Information

Note

- When icons are overlapping on the map, you can click on the overlapping Icon to select the Icon to operate.
  The Icon are displayed in the order of registration in **Radio Resource List** (descending order) and the order of registration in **Building** (descending order).

Icon Selection Operation (BLE Beacon Icon)

When selecting an icon that is overlapped with other icons on the map, a selection screen (as shown below) and a BLE Beacon Icon menu for the selected mobile station are displayed.

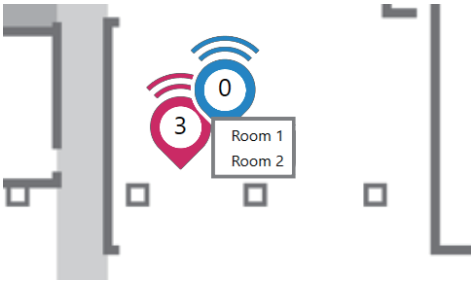

Figure 8-21 Selection of BLE Beacon Icon

8.4 Managing Mobile Stations Using the Mobile Stations List

You can display or hide the mobile station on the nearest BLE Beacon in the **List** tab of the **Unit** pane.
Selecting the checkbox of the corresponding mobile station displays the positional information of the BLE Beacon at the receiving end as well as information of the mobile station in the nearest BLE Beacon. Deselecting the checkbox removes information of the corresponding mobile station from the BLE Beacon.

Figure 8-22 Selection of BLE Beacon

Selecting a mobile station and right-clicking on it displays a menu that allows you to perform communication-related operations such as sending messages.

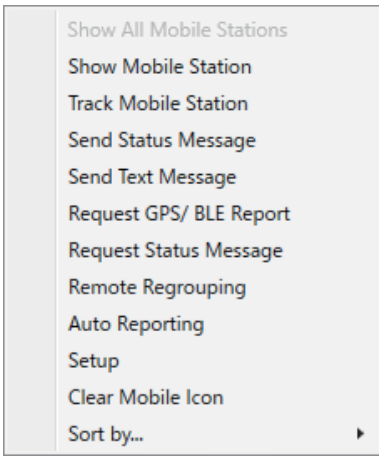

Figure 8-23 Right-click Menu

Table 8-18 Right-click Menu

Item	Description
Show All Mobile Stations	This function is not available when the Indoor Location Window is displayed.
Show Mobile Station	Displays the Floor Map of the Building where the selected mobile station is located. (Refer to Displaying the Floor Map of the Building where the Mobile Station is Located on page 314.) Note If the selected mobile station is located within the Indoor Map, the Floor Map where the mobile station is found will be displayed, and the selected mobile station will be shown at the center of the map.
Track Mobile Station/ Stop Tracking Mobile Station	When “Track Mobile Station” is selected, the map will automatically switch to the Floor Map where the mobile station is located whenever the station moves. To stop the tracking, select “Stop Tracking Mobile Station” to stop the tracking of the selected mobile station. (Refer to Switching Automatically to the Floor Map where the Selected Mobile Station is Located on page 315.) Note If the selected mobile station is located within the Indoor Map, the system displays the Floor Map where the mobile station is found and automatically moves the map to keep the mobile station centered at all times.
Send Status Message	Displays the **Send Status Message** dialog box and enables sending of status messages and special commands to the selected mobile station. (Refer to Sending a Status Message (BLE Beacon) on page 316.)
Send Text Message	Displays the **Send Text Message** dialog box and enables sending of text messages to the selected mobile station. (Refer to Sending a Text Message (BLE Beacon) on page 321.)
Request GPS/ BLE Report	Allows you to send out GPS Data and BLE Data request messages to the selected mobile station. Note This item cannot be selected in the case of Trunking 2.5.
Request Status Message	Allows you to send out a status message request message to the selected mobile station. Note This item cannot be selected in the case of Trunking 2.5.
Remote Regrouping	Displays the **Remote Regrouping** dialog box and enables sending of a Remote Regrouping command to the selected mobile station. (Refer to Sending a Remote Regrouping Command on page 238.) Note This function can be configured only for NXDN Trunking (Type-C).
Auto Reporting	Displays the **Auto Reporting** dialog box and enables configuring of parameters related to the automatic transmission of GPS Data or BLE Data to the selected mobile station. (Refer to Enabling the Automatic Transmission of Position Reports (BLE Beacon) on page 325.) Note This function cannot be configured in Trunking 2.5/ DMR Tier III Trunking.
Setup	Allows you to send synchronization information to the destination configured in Setting and configure the information to display for the Mobile Station Information (BLE Beacon). (Refer to General Tab on page 171.)
Clear Mobile Icon	Clears the position information of the selected mobile station and decreases the number displayed on BLE Beacon Icon on the Indoor Location screen. If the selected mobile station appears on the AVL screen, the Icon on the map will be cleared. Position information of mobile stations that are currently hidden will also be cleared. Even if you unhide a mobile station after the position information is cleared, the number on the BLE Beacon Icon will not increase, and no Icon will appear on the map of the AVL screen since the position information is missing.
Sort by...	Sorts the display of the **Unit** and **Fleet** tabs in the **List** pane in the selected method. (Refer to Sorting the Display of List Pane on page 244.)

Displaying the Floor Map of the Building where the Mobile Station is Located

Selecting “Show Mobile Station” from the right-click menu displays the Floor Map of the Building where the selected mobile station is located.

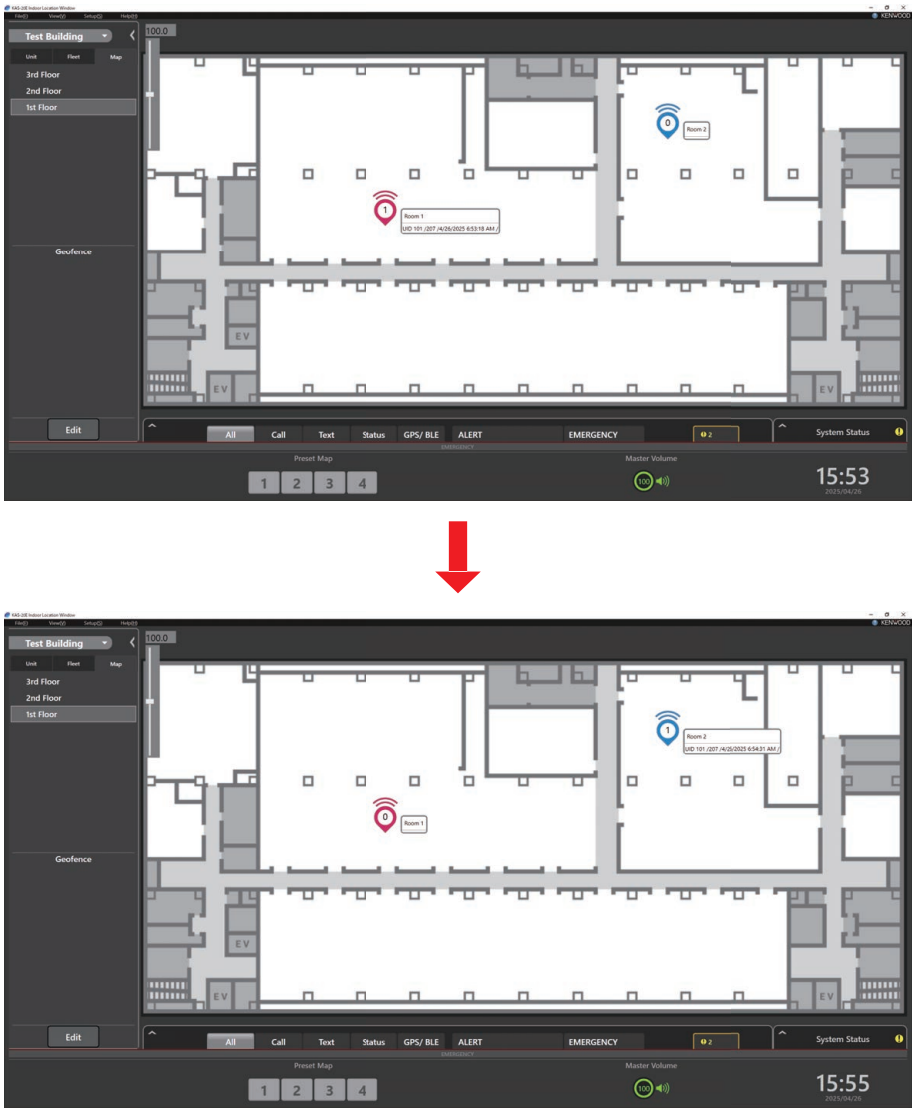

Figure 8-24 Show Mobile Station (BLE Beacon)

Switching Automatically to the Floor Map where the Selected Mobile Station is Located

Selecting “Track Mobile Station” from the right-click menu automatically switches the map to the Floor Map where the BLE Beacon is located whenever the selected mobile station moves.

Figure 8-25 Track Mobile Station (BLE Beacon)

Selecting “Stop Tracking Mobile Station” from the right-click menu or clicking the “Stop Tracking” button on the control bar stops the tracking of the selected mobile station.

Sending a Status Message (BLE Beacon)

Selecting “Send Status Message” from the right-click menu displays the **Send Status Message** dialog box and enables sending of status messages and special commands to the selected mobile station.

Table 8-19 Sending a Special Command

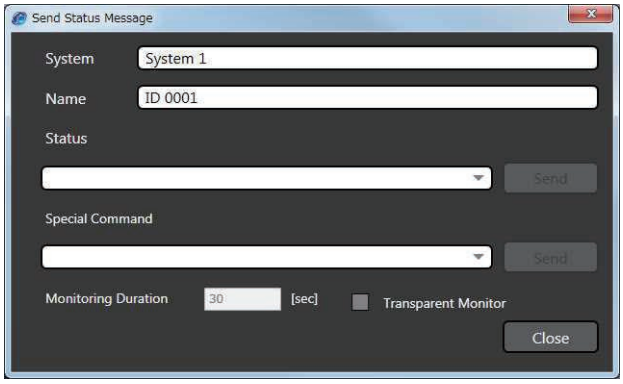

Figure 8-26 Send Status Message (BLE Beacon)

Table 8-20 Common Items (BLE Beacon)

Item	Description
System	**System** displays the name of the communication system selected in the **List** pane.
Name	**Name** displays the name of the selected mobile station.

Sending a Status Message

Select the status message to send from **Status**, followed by clicking the “Send” button to send the selected message.

Table 8-21 Sending a Status Message

Item	Description	Configurable Range	Default
Status	**Status** allows you to select the status message to send. Note A “Terminate emergency mode” status message can be sent to exit the Emergency Mode of a mobile station. When a “Terminate emergency mode” or “Normal operation” status message is selected, clicking the “Send” button displays a message box for confirming whether to send the status message. Clicking the “OK” button sends out the status message.	The configurable range varies according to the protocol of the communication system configured on the KAS-20CE. **NXDN Trunking (Type-C)/ NXDN Conventional/ Trunking 2.5/ DMR Tier III Trunking/ DMR Conventional/ DMR Conventional (via TKR-D series):** Status message configured in the **Status Message** screen. (including Terminate emergency mode) (Refer to Configuring the Status Message on page 122.) **FleetSync:** Status message configured in the **Status Message** screen. (including Normal operation and Terminate emergency mode.) Note Status messages cannot be selected if the Receive Only is set to Check on the **Status Message** screen.	Blank
“Send” button	Sends out a status message.	-	-

Sending a Special Command

Select the special command to send from **Special Command**, followed by clicking the “Send” button to send the selected command.

Note

- Special commands can only be sent by users who are assigned with the “Admin”, “Basic + Special” or “Basic + Patch&Special” operation authority. (Refer to Registering a User on page 57.)
- When the protocol of the communication system is other than FleetSync, special commands can be sent when **Type** is configured to “Individual”.
- When the protocol of the communication system is FleetSync, special commands cannot be sent when **Type** of the selected mobile station is configured to “Broadcast” or “Console”.

Table 8-22 Sending a Special Command

Item	Description	Configurable Range	Default
Special Command	**Special Command** allows you to select the special command to send. Note • When “Stun”, “Revive”, “Remote Monitor”, “Activate Horn Alert”, “Stun (TX inhibit)” or “Stun (TX/RX inhibit)” is selected, clicking the “Send” button displays a message box for confirming whether to send the special command. Clicking the “OK” button sends out the special command. • When “Kill” is selected, clicking the “Send” button displays a message box for confirming whether to send the Kill special command. Clicking the “OK” button sends out the Kill special command.	The configurable range varies according to the protocol of the communication system configured on the KAS-20CE. (Refer to Details on Special Command on page 234.) **NXDN Trunking (Type-C)/ NXDN Conventional:** Stun, Revive, Kill, Remote Monitor **Trunking 2.5:** Stun, Revive, Radio Check **DMR Tier III Trunking/ DMR Conventional:** Stun, Revive, Kill, Radio Check **DMR Conventional (via TKR-D series):** Stun, Revive, Kill **FleetSync:** **Type = Individual:** Activate Horn Alert, Stun (TX inhibit), Stun (TX/RX inhibit), Revive, Kill, Remote Monitor **Type = Fleet, Group, Supervisor:** Activate Horn Alert	Blank

Item	Description	Configurable Range	Default
Monitoring Duration	**Monitoring Duration** allows you to configure the time interval to maintain the transceiver in the transmitting state when using the Remote Monitor command. Note • This function can be configured only for NXDN Trunking (Type-C)/ NXDN Conventional/ FleetSync. • This function can be configured only if “Remote Monitor” is selected in **Special Command**.	1 sec to 255 sec	30 sec
Transparent Monitor	**Transparent Monitor** allows you to configure whether to display a message on the transceiver display and light up the transmission LED while the transceiver is configured to the transmitting state using the Remote Monitor command. Note • This function can be configured only for NXDN Trunking (Type-C)/ NXDN Conventional/ FleetSync. • This function can be configured only if “Remote Monitor” is selected in **Special Command**.	**Check (Enable):** Displays a message on the transceiver display and lights up the transmission LED while the transceiver is configured to the transmitting state using the Remote Monitor command. **Uncheck (Disable):** Does not display a message on the transceiver display and or light up the transmission LED while the transceiver is configured to the transmitting state using the Remote Monitor command.	Unchecked (Disabled)
“Send” button	Sends out a special command.	-	-
“Close” button	Closes the **Send Status Message** dialog box.	-	-

Details on Special Command

The details of each special command are as follows.

Table 8-23 Special Command (NXDN/ DMR)

Special Command	Description
Stun	Disables the use of transceiver temporarily.
Revive	Restores the use of a transceiver that has been disabled temporarily using Stun.
Kill	Disables the use of transceiver. The use of transceiver is disabled until an FPU data is written again.
Remote Monitor	Maintains the transceiver in the transmitting state for a specific time interval, during which the sound around the transceiver is audible.
Radio Check (Trunking 2.5/ DMR Tier III Trunking/ DMR Conventional only)	By making the individually specified transceiver receive the Radio Check message, confirms whether the transceiver has been registered in the system. Note • For Trunking 2.5/ DMR Tier III Trunking/ DMR Conventional (IP network connection), a Radio Check Message is sent. • For DMR Conventional (serial connection), a Request Status Message is sent.

Table 8-24 Special Command (FleetSync)

Special Command	Description
Activate Horn Alert	Activates the Horn Alert.
Stun (TX inhibit)	Disables the transmission of transceiver temporarily.
Stun (TX/RX inhibit)	Disables the transmission and reception of transceiver temporarily.
Revive	Restores the use of a transceiver that has been disabled temporarily using Stun.
Kill	Disables the use of transceiver. The use of transceiver is disabled until an FPU data is written again.
Remote Monitor	Maintains the transceiver in the transmitting state for a specific time interval, during which the sound around the transceiver is audible.

Sending a Text Message (BLE Beacon)

Selecting “Send Text Message” from the right-click menu displays the **Send Text Message** dialog box and enables sending of text messages to the selected mobile station.

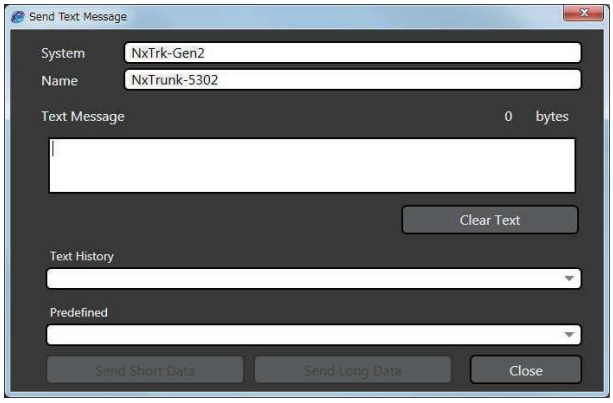

Figure 8-27 Send Text Message

Select the text message to send using one of the methods below, followed by clicking the “Send Short Data” or “Send Long Data” button to send out the selected text message.

- Enter the text message to send in **Text Message**.
- Select a text message from previously sent messages in **Text History**.
- Select a predefined text message in **Predefined**.

Note

- When the maximum number of input characters for **Text Message** is exceeded, the “Send Short Data” and “Send Long Data” buttons are deactivated and text messages cannot be sent.
- The text messages of Long Data Message are not displayed on the screen of the mobile station.

Table 8-25 Sending a Text Message

Item	Description	Configurable Range	Default
System	**System** displays the name of the communication system selected in the **List** pane.	-	-
Name	**Name** displays the name of the selected mobile station.	-	-
Text Message	**Text Message** allows you to enter the text message to send. Note The number of characters of the Short Data Message that can be sent varies according to the protocol of the communication system configured on the KAS-20CE and the configuration of **Type** of the destination. (Refer to Number of characters of the Short Data Message that can be sent on page 220.)	The configurable range varies according to the protocol of the communication system configured on the KAS-20CE. **NXDN Trunking (Type-C)/ NXDN Conventional/ DMR Tier III Trunking/ DMR Conventional:** 1 byte to 4096 bytes **Trunking 2.5:** 1 byte to 44 bytes **DMR Conventional (via TKR-D series):** **Type = Individual or Console:** IP network connection: 1 byte to 986 bytes Serial connection: 1 byte to 978 bytes **Type = Group or All:** IP network connection: 1 byte to 738 bytes Serial connection: 1 byte to 730 bytes **FleetSync:** 1 byte to 4096 bytes Note Depending on the base station transceiver type, up to 1024 bytes of characters can be sent and received for FleetSync.	Blank

Item	Description	Configurable Range	Default
“Clear Text” button	Clears the text entered in **Text Message**.	-	-
Text History	**Text History** allows you to select up to 10 text messages that were sent previously. The selected text messages are displayed in **Text Message**.	10 text messages that were sent previously	Blank
Predefined	**Predefined** allows you to select a text message that is predefined in the KAS-20CE. The selected text messages are displayed in **Text Message**. Note The text message displayed in **Predefined** can be configured in **Predefined Text Message** on the **Dispatch** screen. (Refer to Configuring the Functions to Be Used on Dispatch Window on page 179.)	Text messages that are predefined in the KAS-20CE	Blank
“Send Short Data” button	Sends out a text message as a Short Data Message. (Refer to Number of characters of the Short Data Message that can be sent on page 220.)	-	-
“Send Long Data” button	Sends out a text message as a Long Data Message. Note • The text messages of Long Data Message are not displayed on the screen of the mobile station. • This button is not displayed only for Trunking 2.5/ DMR Conventional (via TKR-D series).	-	-

Sending a Remote Regrouping Command

Selecting “Remote Regrouping” from the right-click menu displays the **Remote Regrouping** dialog box and enables sending of Remote Regrouping commands to the selected mobile station.

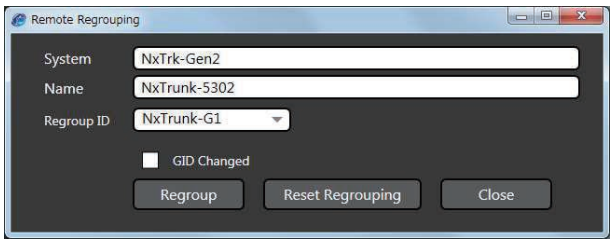

Figure 8-28 Remote Regrouping

Remote Regrouping is a function for adding a group ID to a mobile station. Using this function allows a call to be established with a mobile station such as by enabling the mobile station to temporarily join a group or by gathering mobile stations of different parties to form a new temporary group.
Using the Reset command of Remote Regrouping allows you to clear the group ID that is added to a mobile station.

Table 8-26 Sending a Remote Regrouping Command

Item	Description	Configurable Range	Default
System	**System** displays the name of the communication system selected in the **List** pane.	-	-
Name	**Name** displays the name of the selected mobile station.	-	-
Regroup ID	**Regroup ID** allows you to configure the group ID to be added to the mobile station using the Remote Regrouping command. The group ID configured in **Regroup ID** is stored in the Remote Regrouping command and sent to the mobile station.	Group ID registered in the KAS-20CE	Blank
GID Changed	**GID Changed** allows you to configure whether to enable a mobile station to select a group ID other than those added using the Remote Regrouping command. The **GID Changed** setting is applied to the mobile station after a Remote Regrouping command has been sent. If a Remote Regrouping command is sent without enabling **GID Changed**, the mobile station will not be able to select a group ID other than those added using the Remote Regrouping command.	**Check (Enable):** Enables the mobile station to select a group ID other than those added using the Remote Regrouping command. **Uncheck (Disable):** Disables the mobile station from selecting a group ID other than those added using the Remote Regrouping command.	Unchecked (Disabled)
“Regroup” button	A Remote Regrouping command is sent.	-	-
“Reset Regrouping” button	Sends out a command to reset Remote Regrouping.	-	-

Note

A Remote Regrouping command can be sent only for NXDN Trunking (Type-C).

Adding a Group ID to a Mobile Station

Select the group ID to add from **Regroup ID**, followed by clicking the “Regroup” button to send a Remote Regrouping command to the selected mobile station.
After the mobile station receives the Remote Regrouping command, the group ID that is stored in the command is added to the mobile station.

Resetting a Group ID Added to a Mobile Station

Clicking the “Reset Regrouping” button sends a command for resetting Remote Regrouping to the selected mobile station.
After the mobile station receives the Remote Regrouping reset command, the group ID that is added using the command is removed from the mobile station.

Enabling the Automatic Transmission of Position Reports (BLE Beacon)

Selecting “Auto Reporting” from the right-click menu displays the **Auto Reporting** dialog box and enables the configuring of parameters related to automatic transmission of the position report (GPS Data, BLE Data) to the selected mobile station.

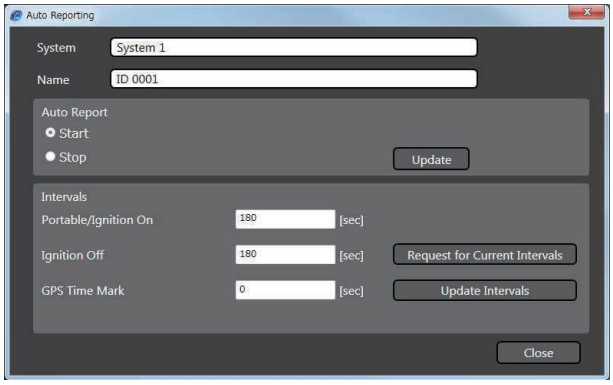

Figure 8-29 Auto Reporting (BLE Beacon)

Table 8-27 GPS Data/ BLE Data Automatic Transmission Settings

Item	Description	Configurable Range	Default
System	**System** displays the name of the communication system selected in the **List** pane.	-	-
Name	**Name** displays the name of the selected mobile station.	-	-

Item	Description	Configurable Range	Default
Auto Report	**Auto Report** allows you to select whether to start or stop automatic transmission of position reports from the mobile station.	**Start:** Starts automatic transmission of position reports (GPS Data, BLE Data) from the mobile station. **Stop:** Stops automatic transmission of position reports (GPS Data, BLE Data) from the mobile station.	Start
“Update” button	Sends a command to the selected mobile station to start or stop automatic transmission of position reports from the mobile station.	-	-
Portable/ Ignition On	**Portable/ Ignition On** allows you to configure the time interval for sending out the position reports automatically. The setting in **Portable/ Ignition On** is applied when the power of the mobile station (portable) or ignition of the mobile station (mobile) is turned on.	1 sec to 3600 sec	180 sec
Ignition Off	**Ignition Off** allows you to configure the time interval for sending out the position reports automatically. The setting in **Ignition Off** is applied when ignition of the mobile station (mobile) is turned off.	1 sec to 3600 sec	180 sec
GPS/ BLE Time Mark	**GPS/ BLE Time Mark** allows you to configure the offset time until a position report is automatically sent out based on the UTC (Universal Coordinated Time). By configuring this item to a different time for the respective mobile stations, the mobile stations can send out position reports at different timings. Doing so helps to prevent data collision from occurring.	0 sec to 3599 sec	0 sec
“Request for Current Intervals” button	Setting values related to the automatic transmission of position reports can be requested from the mobile station and applied to the respective **Intervals** settings.	-	-
“Update Intervals” button	The respective **Update Intervals** setting values can be sent and applied to a mobile station.	-	-

Starting/ Stopping the Automatic Transmission of Position Reports

Starts or stops the automatic transmission of position reports from the selected mobile station.

1 **Click the Start or Stop radio button in Auto Report.**

Select **Start** to start automatic transmission of the position report, and select **Stop** to stop automatic transmission.

2 **Click the "Update" button.**

A Start or Stop command is sent to the selected mobile station.
Once a command is sent out successfully, a confirmation message box appears.

3 **Click the "OK" button.**

Requesting Setting Values Related to the Automatic Transmission of Position Reports from the Mobile Station

Setting values related to the automatic transmission of position reports can be requested from the mobile station and applied to the respective **Intervals** settings.

1 **Click the "Request for Current Intervals" button.**

Upon receiving the setting values from the mobile station, these are applied to **Portable/ Ignition On**, **Ignition Off** and **GPS/ BLE Time Mark**, and a confirmation message box appears.

2 **Click the "OK" button.**

Sending Setting Values Related to the Automatic Transmission of Position Reports to the Mobile Station

The respective **Intervals** setting values can be sent and applied to a mobile station.

1 **Enter value for Portable/ Ignition On, Ignition Off and GPS Time Mark.**

2 **Click the "Update Intervals" button.**

Once the setting data is sent out successfully to a mobile station, a confirmation message box appears.

3 **Click the "OK" button.**

Configuring Settings Used During Transmission

Selecting “Setup” from the right-click menu displays the **Setup** dialog box and enables configuration of settings to be used during transmission to the selected mobile station.

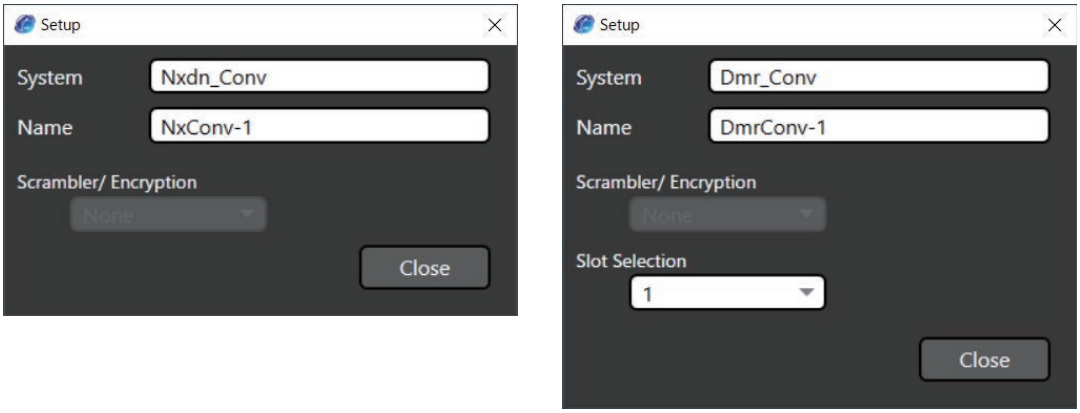

Figure 8-30 Setup (BLE Beacon)

Table 8-28 Setting Items in the Setup Dialog Box (BLE Beacon)

Item	Description	Configurable Range	Default
System	**System** displays the name of the communication system selected in the **List** pane.	-	-
Name	**Name** displays the name of the selected mobile station.	-	-
Scrambler/ Encryption	**Scrambler/ Encryption** allows you to configure the number of the encryption key for use during transmission. Note • An encryption key number for which Key Data has been configured in **Scrambler/ Encryption** in the **IP Network** screen can be configured. (Refer to Configuring the IP Network on page 67.) • This function can be configured only for IP network connection. • Changes made during communication will not affect the settings during the communication (including Talkback). The changes will reflected from the start of the next communication.	None, 1 to 32	None

Item	Description	Configurable Range	Default
Slot Selection	**Slot Selection** allows you to configure the slot to be used during transmission. Note • This function can be configured only for DMR Conventional/ DMR Conventional (via TKR-D series) in an IP network connection. • Changes made during communication will not affect the settings during the communication (including Talkback). The changes will reflected from the start of the next communication. • If 1 or 2 is configured in **Slot** of the **Radio Resource List**, the values 1 and 2 will be displayed respectively and they cannot be configured.	1, 2	1

Sorting the Display of List Pane

Selecting “Sort by...” from the right-click menu displays the menu to select the sorting method for the display of the **List** pane. The sorted result is reflected in both the **Unit** and **Fleet** tabs.

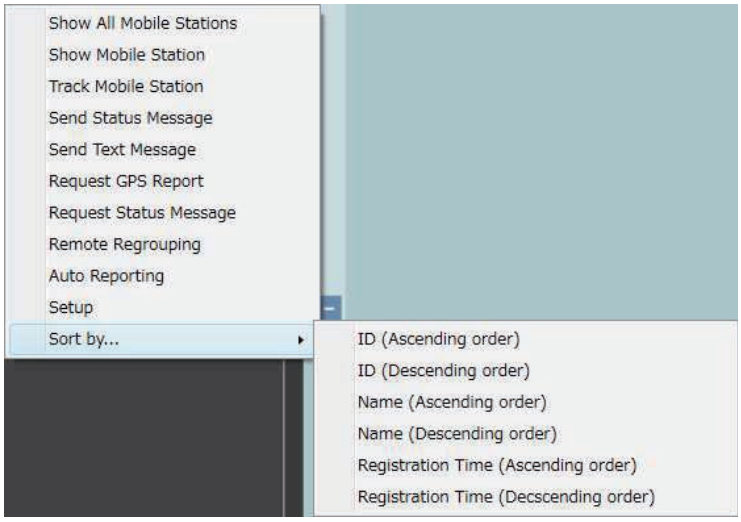

Figure 8-31 Selection Menu of Sorting Method

Table 8-29 Selection Menu of Sorting Method

Item	Description
ID (Ascending order)	Sorts ID in ascending order.
ID (Descending order)	Sorts ID in descending order.
Name (Ascending order)	Sorts Name in ascending order.
Name (Descending order)	Sorts Name in descending order.
Registration Time (Ascending order)	Sorts the registration in the **Radio Resource List** of the **System** screen in chronological order.
Registration Time (Descending order)	Sorts the registration in the **Radio Resource List** of the **System** screen in reverse chronological order.

Note

- ID in the Fleet can be sorted for each Fleet in the **Fleet** tab.
- The sorted content is maintained even when the communication system is switched.
- If the protocol of the communication system is FleetSync, the ID is sorted as a 7-digit number in the ascending or descending order with the first 3 digits indicating the Fleet ID and the last 4 digits indicating the Unit ID. And “ALL” is considered as “0”.

8.5 Managing Mobile Stations by Group

You can display or hide the mobile stations belonging to a group on the nearest BLE Beacon in the **Fleet** tab of the **List** pane.
When the Group checkbox is selected, the mobile stations belonging to the selected group are displayed on the nearest BLE Beacon. When the checkbox is deselected, information of the mobile stations belonging to the selected group are removed from the nearest BLE Beacon.

Figure 8-32 Group Selection

8.6 Switching Information Displayed on Floor Map

Switching Display of the Registered Building and Floor

The **Map** tab of the **List** pane allows you to select the information to display in the Map pane.

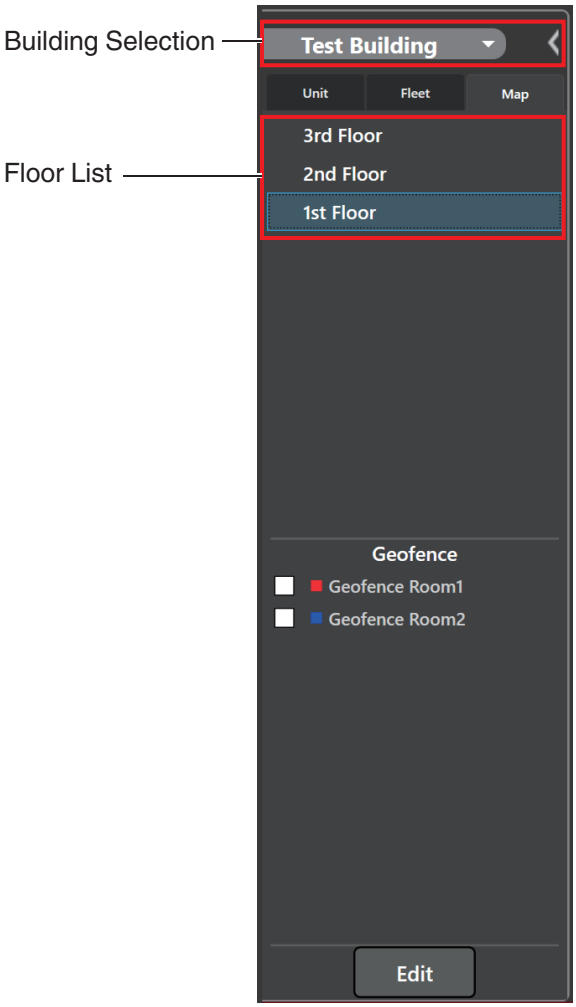

Figure 8-33 Map Tab

Table 8-30 Map Tab

Item	Description	Configurable Range	Default
Building Selection	Allows you to make a selection from the preconfigured Building.	-	-
Floor List	Displays a list of Floor that are registered to Building selected in Building Selection.	Floor that is registered to the selected Building	Floor of No.1

Displaying/Hiding the Geofence Areas

The Geofence area created by the user can be displayed or hidden. (Refer to Creating a Geofence Area on page 254.) Selecting the Geofence Area checkbox displays the selected Geofence area on the map. Deselecting the checkbox removes the Geofence area from the map.

Figure 8-34 Geofence Area Selection

Creating a Geofence Area

Geofence is a function that allows the KAS-20CE to automatically detect and record entry into or exit from a predefined geographical range by a mobile station equipped with a GPS or BLE function.
The drawing tool in the **Layer** tab allows you to create a Geofence area on the OpenStreetMap.

Note

Only users that are configured as “Admin” in **Access Level** are allowed to create a Geofence area. (Refer to Registering a User on page 57.)

Creating a Geofence Area

1 **Click the “Edit” button in the Layer tab.**

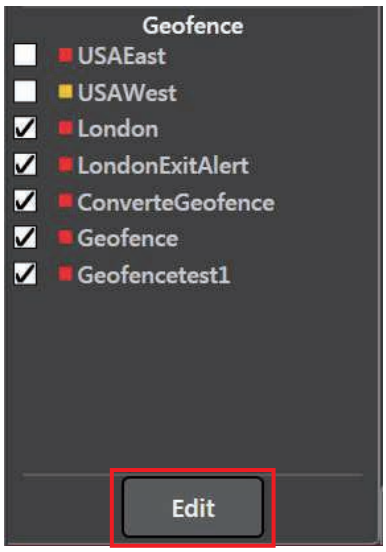

Figure 8-35 Edit

The **Layer** tab becomes editable.

2 **Click the “Add” button.**

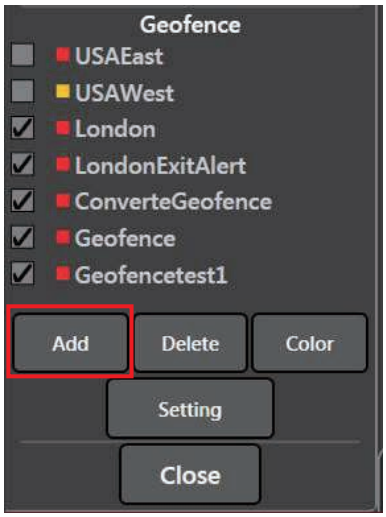

Figure 8-36 Add

The drawing tools are displayed.

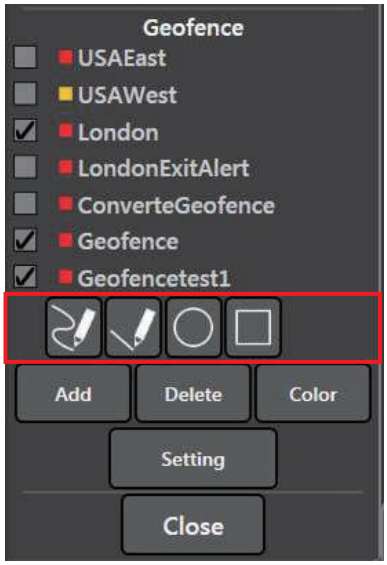

Figure 8-37 Tools

3 Draw the Geofence area on the map using the drawing tools.

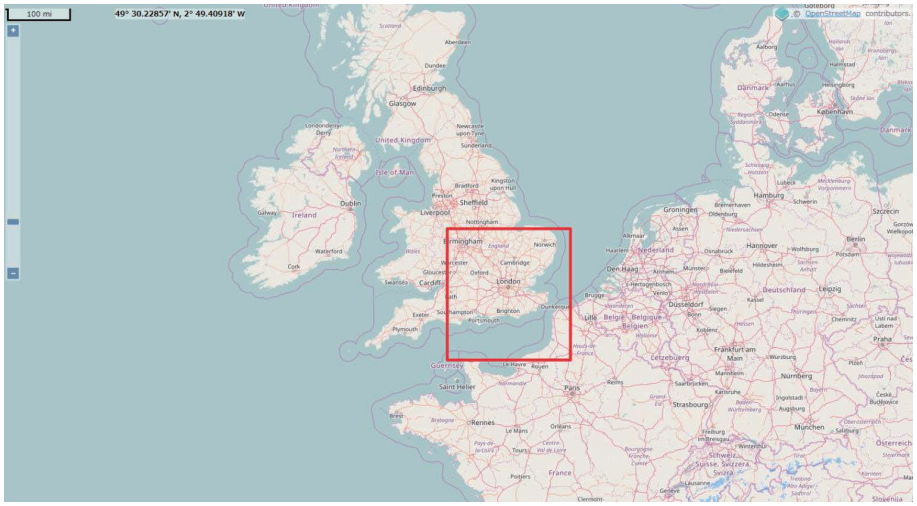

Figure 8-38 Drawing a Geofence Area

Note

For more details on the drawing tools, refer to “Drawing Tools and Color Tools on page 261”.

4 **After drawing of a Geofence area is complete, click the “Setting” button.**

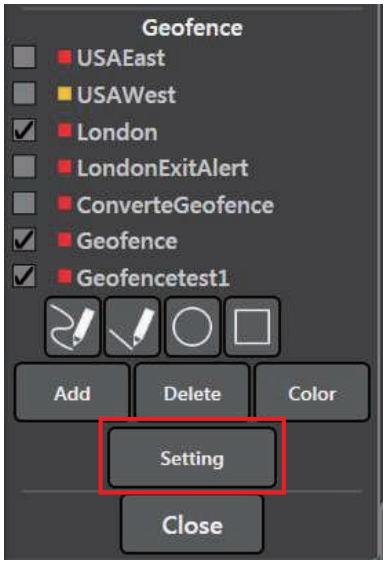

Figure 8-39 Setting

Displays the **Geofence Settings** dialog box.

5 **Configure a mobile station that uses the Geofence area that has been created.**

Select the checkbox of the corresponding Geofence area to use for each mobile station.

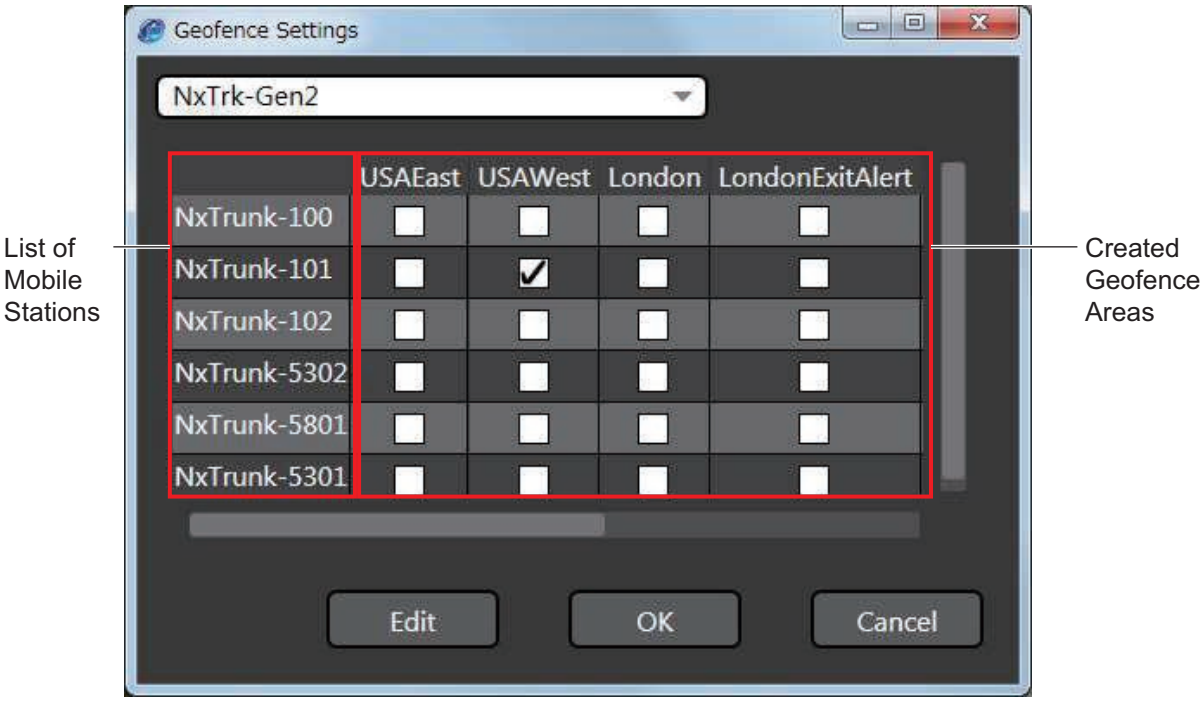

Figure 8-40 Geofence Settings

6 Select one of the Geofence areas and click the “Edit” button.

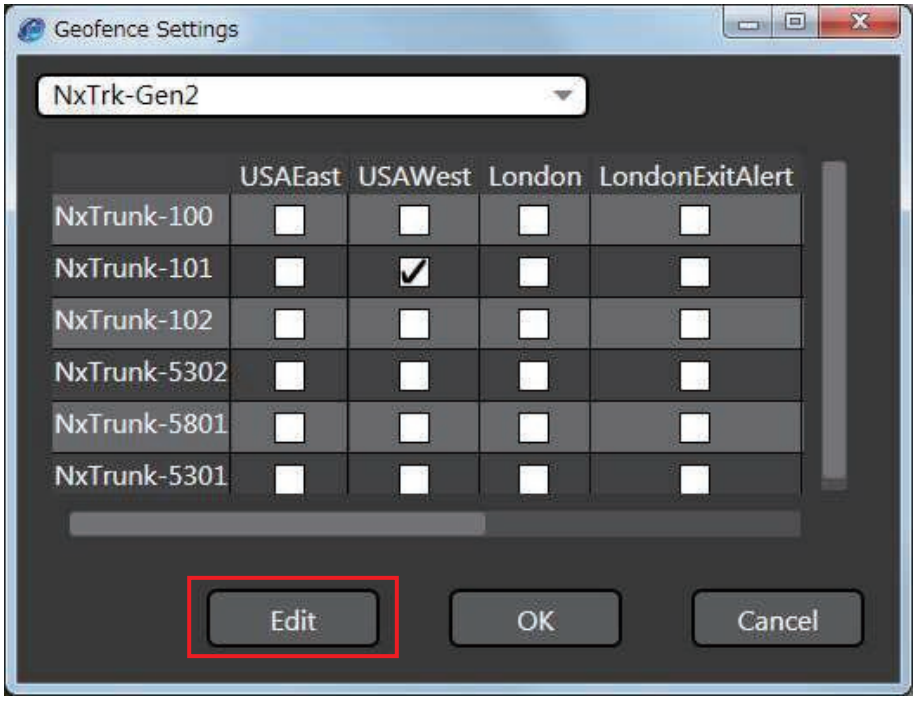

Figure 8-41 Geofence Settings

Displays the **Geofence Edit** dialog box.

7 Configure the behavior of the Geofence area.

Configure the behavior when a mobile station enters or exits the Geofence area.

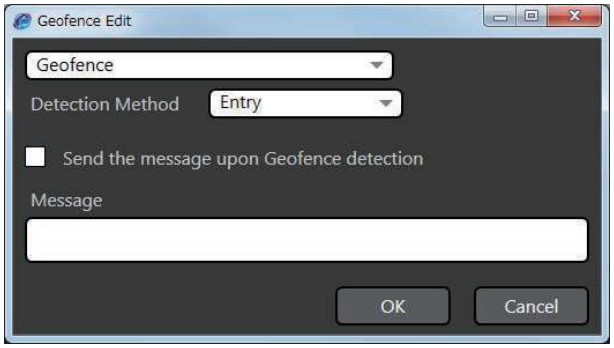

Figure 8-42 Geofence Edit

Table 8-31 Geofence Area Behavior Setting

Item	Description	Configurable Range	Default
Geofence	**Geofence** allows you to select a Geofence area to edit.	Created Geofence Areas	Geofence area selected in the **Geofence Settings** dialog box
Detection Method	**Detection Method** allows you to configure whether to trigger a Geofence alert when a mobile station enters or exits a Geofence area.	**Entry:** Triggers a Geofence alert when a mobile station enters a Geofence area. **Exit:** Triggers a Geofence alert when a mobile station exits a Geofence area. **Crossing:** Triggers a Geofence alert when a mobile station passes through a Geofence area. A Geofence alert (pass through) is deemed to be triggered when GPS Data or BLE Data within the Geofence area is received after the GPS Data or BLE Data of a mobile station located outside a Geofence area is received, followed by the receipt of GPS Data or BLE Data outside the Geofence area.	Entry

Item	Description	Configurable Range	Default
Send the message upon Geofence detection	**Send the message upon Geofence detection** allows you to configure whether to send a text message to the mobile station when it has triggered a Geofence alert. A text message can be sent to warn the mobile station that has triggered the Geofence alert. Selecting the checkbox enables sending of an edit message. The message to be sent out can also be edited. Note When the communication port of the KAS-20SE is configured to “None” in a serial connection, the message will not be sent.	**Check (Enable):** Sends a text message to a mobile station when it has triggered a Geofence alert. **Uncheck (Disable):** Does not send any text message even when a Geofence alert has been triggered. **Edit box:** The configurable range varies according to the protocol of the communication system configured on the KAS-20CE. **NXDN Trunking (Type-C)/ NXDN Conventional:** 1 byte to 100 bytes **Trunking 2.5:** 1 byte to 44 bytes **DMR Tier III Trunking/ DMR Conventional:** 1 byte to 978 bytes **DMR Conventional (via TKR-D series):** IP network connection: 1 byte to 986 bytes Serial connection: 1 byte to 978 bytes **FleetSync:** 1 byte to 48 bytes	**Checkbox:** Unchecked (Disabled) **Edit box:** Blank

8 **After configuring the behavior of a Geofence area, click the “OK” button.**

The display returns to the **Geofence Settings** dialog box.

9 **Click the “OK” button, then click the “Close” button.**

Exits the editable state.

Deleting a Geofence Area

1 **Click the “Edit” button in the Layer tab.**

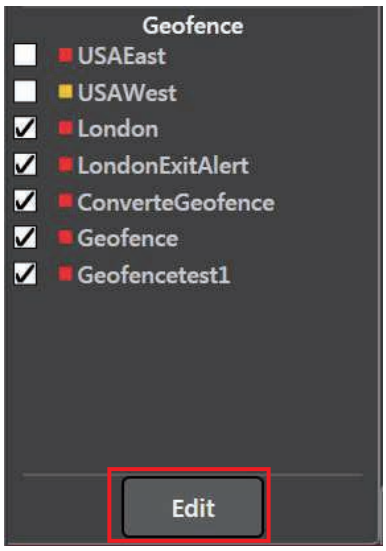

Figure 8-43 Edit

The **Layer** tab becomes editable.

2 **Select the Geofence area to delete and click the “Delete” button.**

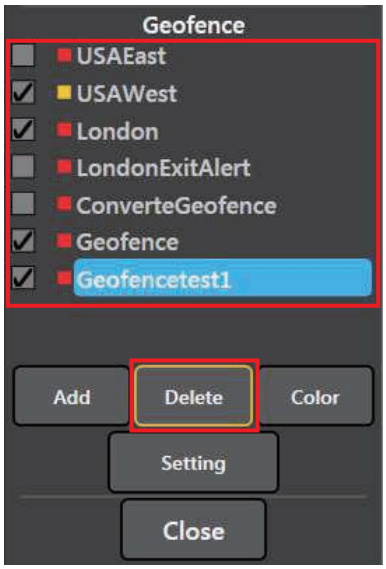

Figure 8-44 Delete

The selected Geofence area is deleted.

3 **Click the “Close” button.**

Exits the editable state.

Drawing Tools and Color Tools

Below are ways to operate the drawing tools and color tools.

Table 8-32 Drawing Tools and Color Tools

Item	Description
Pen Tool	Click the “Pen Tool” button to select the Pen tool. The button display changes to a pressed state to show that it has been selected. Click and hold the mouse button down, and drag the mouse to draw a line along the path that the cursor moves through. A Geofence area can be created by continuing the drag operation until it is connected to the starting point, or by double-clicking the mouse to automatically connect the current point with the starting point.
Line Tool	Click the “Line Tool” button to select the Line tool. The button display changes to a pressed state to show that it has been selected. Move the cursor to a position on the map, and click on the map. A marker (●) appears at the point where the mouse is clicked. Move the cursor to another position on the map, and click on the map. The current point is connected to the marker that was created earlier with a line. Continue this operation to define a Geofence area. A Geofence area can be created by continuing the drag operation until it is connected to the starting point, or by double-clicking the mouse to automatically connect the current point with the starting point.
Circle Tool	Click the “Circle Tool” button to select the Circle tool. The button display changes to a pressed state to show that it has been selected. Move the cursor to the desired position to make as the center of the Geofence area, and click on the map. A circle is created with the point that is clicked on as the center. Move the cursor to another position on the map, and click on the map. A circular Geofence area is created with the starting point as the center.
Box Tool	Click the “Box Tool” button to select the Box tool. The button display changes to a pressed state to show that it has been selected. Move the cursor to a position on the map, and click on the map. Click, hold and drag the mouse. Doing so connects the starting point and the point where the cursor was dragged to with a square.
Color Tool	Double-clicking the “Color” button changes the color of the Geofence area.

8.7 Checking the System Status

The **System Status** pane allows you to check the connection with the communication system.

Checking the Connection

The **System Status** pane displays the connection status of the KAS-20SE (Server) as well as the status of the KAS-20CE (Client) for each of the configured communication systems. Additionally, the connection status of the Bluetooth System is displayed for each System, showing the number of BLE Gateway connections.

When a Console ID configured for the KAS-20SE (Server) or KAS-20CE (Client) is not connected to a communication system, the name of the communication system appears in color.

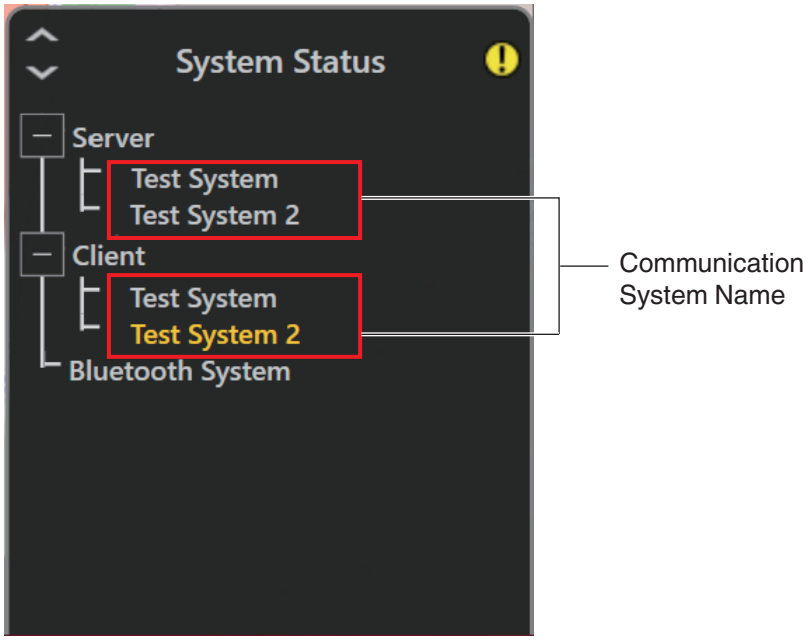

Figure 8-45 System Status Pane

Note

Bluetooth System is displayed on when INDOOR LOCATION LICENSE (KWD-20C-IL) is authenticated.

Executing a Registration

The registration process can be executed again when registration with a communication system has ceased to be valid.

Note

Registration can be executed only for IP network connection.

1 **Select the communication system for which registration has ceased to be valid and right-click on it.**

The menu appears.

2 Select “Registration”.

The registration process is executed.

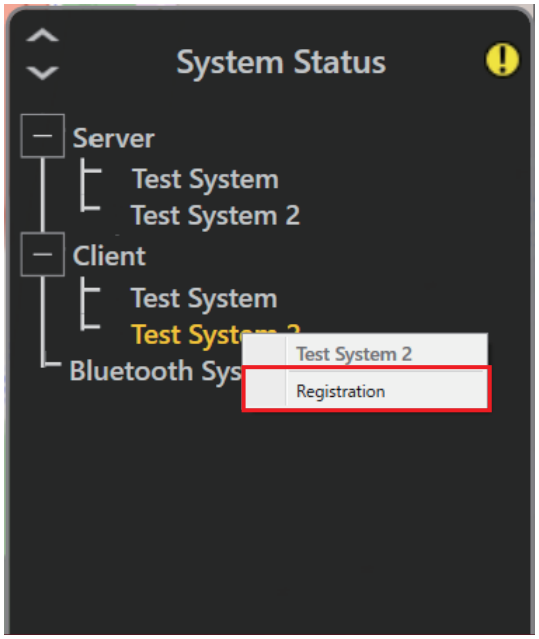

Figure 8-46 Registration

Once registration has completed successfully, the communication system name changes to the normal display.

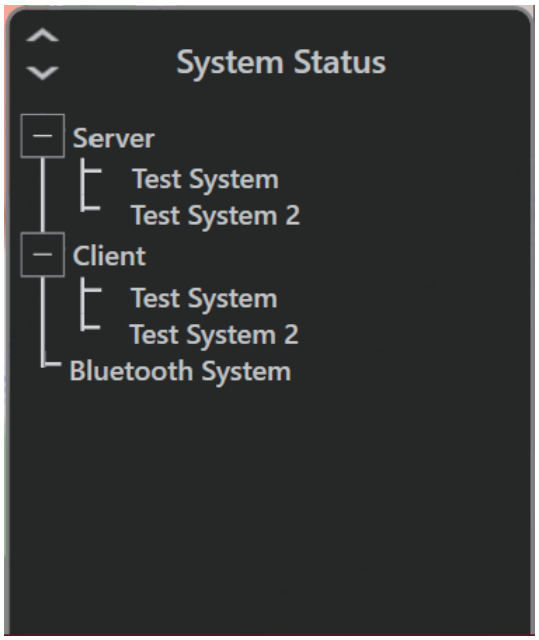

Figure 8-47 Registration (Result)

Checking the Connection with the Base Station Transceiver

If the connection with the base station transceiver is disconnected, check the connection to the base station transceiver.

Note

The checking of connection can be executed only for serial connection.

1 **Select the communication system for which connection with the base station transceiver has been disconnected and right-click on it.**

The menu appears.

2 **Select “Check Connection”.**

The checking of connection is executed.

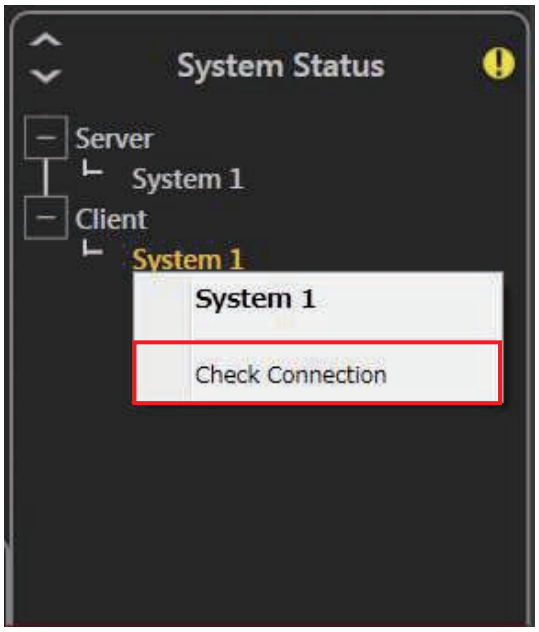

Figure 8-48 Check Connection

Once the checking of connection has completed successfully, the communication system name changes to the normal display.

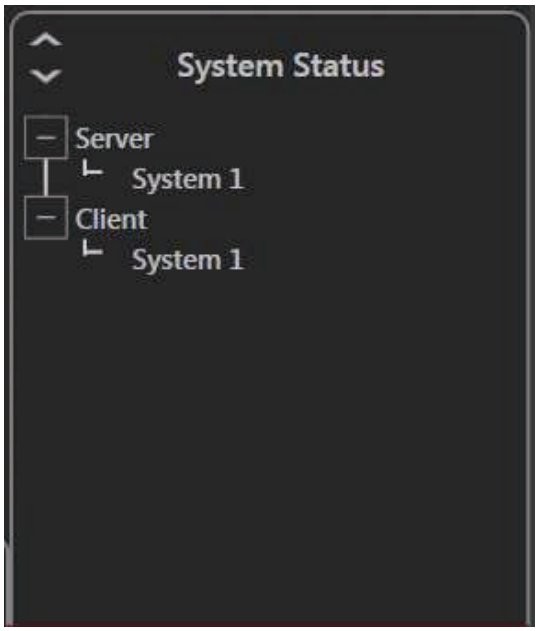

Figure 8-49 Check Connection (Result)

Reacquiring BLE Data via BLE Gateway

A retransmission will be performed to acquire BLE Data from the BLE Gateway.

1 **Select BLE Gateway, then right-click.**

The menu appears.

2 **Select “Retry”.**

The BLE Data acquisition request for the selected BLE Gateway is stopped, and a request to acquire BLE Data is resent.

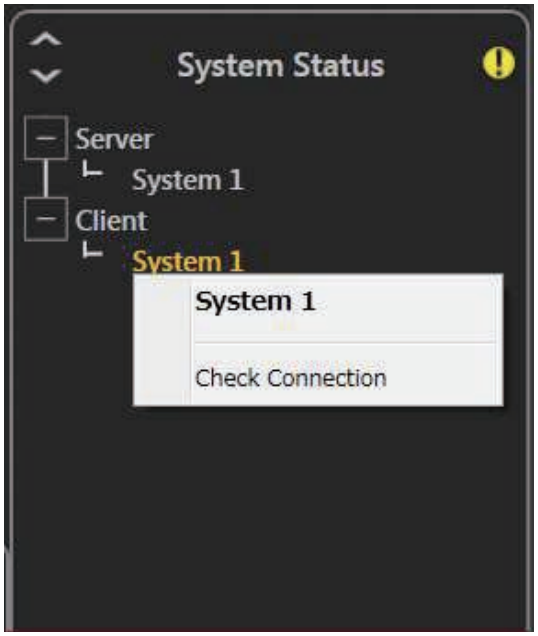

Figure 8-50 Retry

When the BLE Data acquisition request is successfully sent, BLE Gateway will return to its normal display.

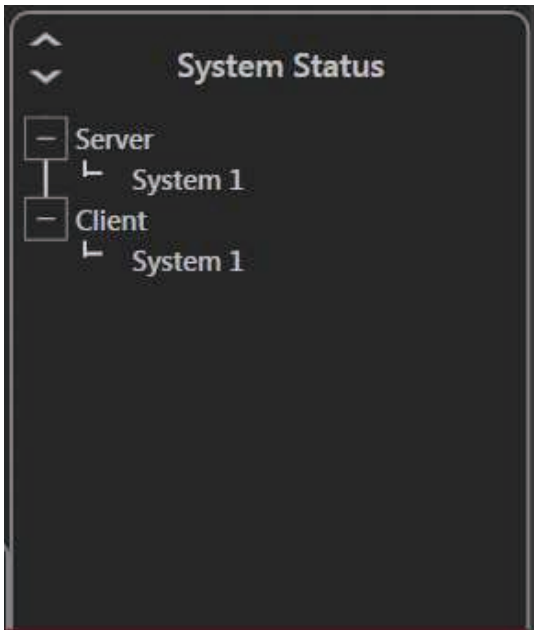

Figure 8-51 Retry (Result)

Checking the Busy State

The state of the communication system (whether it is busy or not) can be checked.

Note

The busy state can be checked only when the protocol of the communication system is NXDN Conventional, DMR Conventional, or DMR Conventional (via TKR-D series) in an IP network connection.

1 **Select a communication system to check the busy state and right-click on it.**

The menu appears.

2 **Select “Busy Monitoring”.**

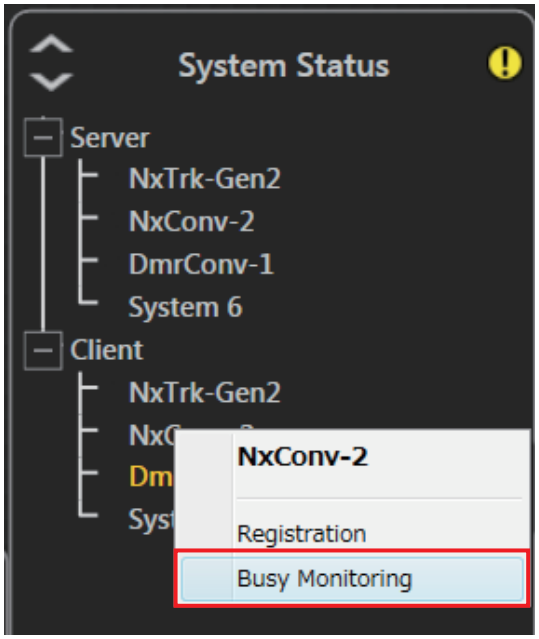

Figure 8-52 Busy Monitoring

If the communication system is not in a busy state, “ ” appears beside the system name for 5 seconds.

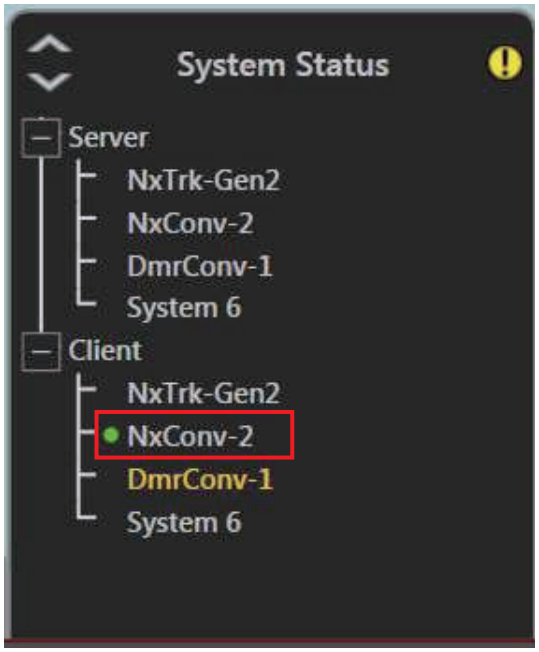

Figure 8-53 Busy Monitoring (Result: OK)

If the communication system is in a busy state, “ ” appears beside the system name for 5 seconds.

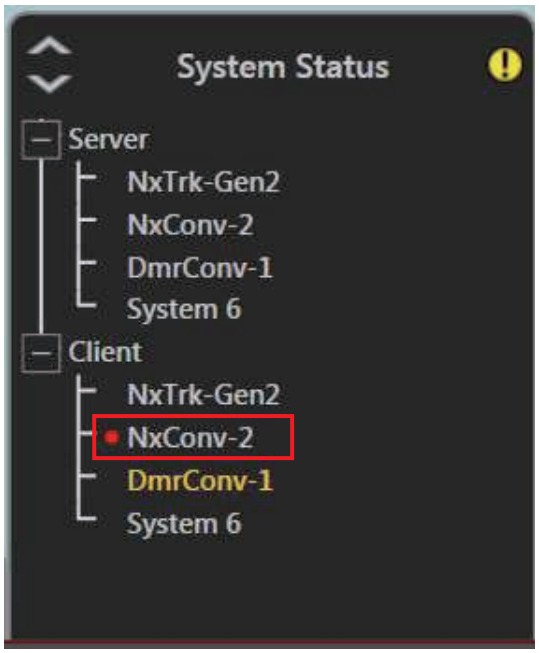

Figure 8-54 Busy Monitoring (Result: NG)

8.8 Checking the Communication Log

The **Log** pane allows you to view the communication logs and logs related to the different types of notifications.

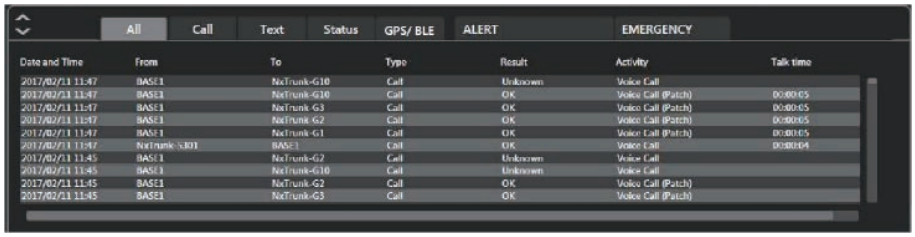

Figure 8-55 Log Pane

The **Log** pane is made up of the following tabs.

Table 8-33 Log Pane

Tab	Description
All	Displays all logs regardless of the content of communication.
Call	Displays the logs of voice calls. A log is displayed when a voice call starts, and the time elapsed (ending time) is added to the log display when the call ends.
Text	Displays the content of text messages that have been sent and received.
Status	Displays the status messages, status message request messages, Call Interruption request messages, and Special Command that are sent or received. • For status messages that are registered on the **Status Message** screen, the registered information is displayed. (Refer to Configuring the Status Message on page 122.) • The status messages for status numbers --- (Emergency), --- (Emergency Man-down), --- (Stationary Detection), --- (Motion Detection), and --- (Lone Worker) are not displayed for all communication systems. • Status messages that are contained inside the GPS Data are also not displayed.
GPS/ BLE	Displays the GPS Data and BLE Data (positional information) as well as the GPS Data and BLE Data request messages.
ALERT	Displays a Geofence alert when the Geofence settings have been violated. (Refer to Alert Display for Geofence on page 281.) Displays a Speeding warning when the value configured for **Speed Limit** on the **Radio Resource List** screen is exceeded. (Refer to Configuring a Mobile Station on page 98.)
EMERGENCY	Displays the emergency notifications. • The status messages for status numbers --- (Emergency), --- (Emergency Man-down), --- (Stationary Detection), --- (Motion Detection), and --- (Lone Worker) are displayed.
Filtered	Displays the filtered communication log history. (Refer to Displaying the Communication Log History on page 434.) • Displays the search results from the **Log Filter and Export** dialog box. • This tab is displayed only when the filter settings are configured in the **Log Filter and Export** dialog box.
Application Error	A tab appears when a problem occurs on the KAS-20CE and the content of the error is displayed in the tab. The number of errors is displayed in the tab. Records of the errors are retained until the KAS-20CE is closed.

The following information is displayed in each tab.

Table 8-34 Contents of the Display

Item	Description
Date and Time	**Date and Time** displays the date and time the log data was saved.
System	**System** shows the system name. When **System Name** is enabled, a System column is displayed. (Refer to Configuring Settings Related to Log Data Acquisition on page 182.)
From	**From** displays the name or number of the mobile station at the sending end. When a voice call is received from a telephone in NXDN Trunking (Type-C), “Telephone” is displayed. When a voice call is received from a SIP Phone in NXDN Conventional, “Telephone” is displayed. When a voice call is received from a SIP Phone in DMR Tier III Trunking/ DMR Conventional, “Telephone(PSTN)” or “Telephone(PABX)” is displayed. If DMR Tier III Trunking is enabled in **Fleet Dialing Plan**, and if a voice call is received from a non-administered mobile station (when the mobile station is not registered in **Radio Resource List** or when the mobile station is registered in **Radio Resource List** but **Target List** is disabled), a value configured in the Prefix - Fleet - IN format is displayed.
To	**To** displays the name or number of the mobile station at the receiving end. Note This item is not displayed in the **ALERT** or **EMERGENCY** tab.
Type	**Type** displays the type of communication. The information displayed is as follows. **Call:** Voice Call **Text:** Text Message **Status:** Status Message, Special Command **GPS:** GPS Data **BLE:** BLE Data **ALERT:** Speed Limit, Geofence **EMERGENCY:** Emergency **Request:** Request Status Message, Request GPS Report, Call Interruption

Item	Description
Result	**Result** displays the results of transmission from the KAS-20CE. The information displayed is as follows. **IP network connection:** **OK or (Blank):** Sent successfully, received successfully, no error **Not Connected:** Repeater is not connected **Parameter Error:** Configuration error **Not Found:** The transceiver is not registered. **Busy:** The console or addressee terminal is in the busy state. **Empty:** The audio data received does not exist. **State Error:** An action that cannot be executed in the current state has been executed. **Not Exist:** The addressee ID does not exist or the power is turned off. **Decline:** The request has been denied by the addressee terminal. **Rejected:** Request denied **Port Error:** The RTP port cannot be used. **No Resource:** Insufficient system resources **Incorrect Data Error:** Incorrect incoming data **Internal Error:** An internal system error has occurred. Check the parameters, network and other settings. **System Busy:** Repeater is in a busy state **Timeout:** Timeout has occurred **Denial:** Rejected by Message Trunked (Enhanced), Individual Call Acknowledge Request, or FOACSU. **Fail:** Call Interruption failed **Cancel:** Call Interruption is canceled Note • For DMR Conventional (via TKR-D series), Short Data Message appears in **Result** when the message has been sent from the KAS-20CE during **OK** or status message transmission. • For Trunking 2.5/ DMR Tier III Trunking, **Result** appears in **System Busy** when the request is denied by the addressee terminal. • For Trunking 2.5/ DMR Tier III Trunking, **Result** appears in **Timeout** when the addressee ID does not exist or the power is turned off. **Serial connection:** **OK:** Sent successfully, received successfully, no error **COM Port Error:** Communication port is not opened. **Fail:** PC command configuration error, Received unsupported command, No response from the addressee (timeout has occurred on the base station transceiver), Call Interruption failed **Base Station Busy:** The base station transceiver is in the busy state **Busy:** The console or addressee terminal is in the busy state **Not Connected:** The base station transceiver is not connected **Timeout:** Timeout has occurred on the KAS-20E **Base Station Stun:** The base station transceiver is in the stun state **Time-out Timer:** Time-out Timer is functioning during transmission. **Low Battery:** The battery is in the low battery state during transmission.

Item	Description
Activity	**Activity** displays descriptions of the activity. The information displayed is as follows. **Voice Call:** Voice Call, Voice Call (Patch), Voice Call (Rejected) **Text Message:** (messages that have been sent and received) **Status Message:** (Status Message No.) ((Status Message Name)) **Special Command:** Special Command ((Command)) **GPS:** (Status Message No.) (GPS information) **BLE:** (BLE Beacon Major ID) (BLE Beacon Minor ID) (Measured Power) (RSSI) **Geofence:** Entry to Geofence“(Geofence Name)”, Exit from Geofence“(Geofence Name)”, Crossing Geofence“(Geofence Name)” **Speed Limit:** Speeding (Speed) > (Speed Limit) **Request GPS/ BLE Report:** Request GPS/ BLE Report **Request Status Message:** Request Status Message **Call Interruption:** Request Call Interruption Note • The following are the details of GPS information: “status number + latitude (north latitude or south latitude) + longitude (east longitude or west longitude) + speed (unit: knot) + elevation angle + GPS positioning status (A: positioning state, V: non-positioning state)+positioning date and time” • In a serial connection, when a command to start audio reception is sent from the base station transceiver to the KAS-20E, and the transmission is successful without sending a command to end the audio reception because the command is lost or a Call Interruption is received by the base station transceiver, or when another reception occurs, Activity(Start Only)“ is displayed at the end of the ” description and the audio reception ends. And if a command to end the audio reception is sent from the base station transceiver to the KAS-20E without first receiving the command to start the audio reception, Activity(End Only)“ is displayed at the end of the ” description. The talk time will not be displayed in these cases.
Talk Time	**Talk Time** displays the calling time of a voice call.

Note

When GPS Report with Voice is sent from the transceiver to the Group ID configured for the KAS-20SE, the display order of the communication logs displayed on the **All** tab whose **Type** are Call and GPS may be switched.

Selecting a communication log and right-clicking on it displays a menu, which enables operations such as playing back the route traveled by a mobile station or deleting a log.

Table 8-35 Right-click Menu

Item	Description
Select for Call	Places the ID of the sender of the selected communication log in the selected state in the Dispatch Window.
Show All Mobile Stations	Displays all mobile stations on the map in 1 screen by moving the map automatically. (Refer to Displaying All Mobile Stations on page 227.)
Show Mobile Station	Displays the selected mobile station at the center of the map. (Refer to Displaying Mobile Station at the Center of the Map on page 228.)
Track Mobile Station/ Stop Tracking Mobile Station	Selecting “Track Mobile Station” maintains the selected mobile station at the center of the map at all times by moving the map automatically. To stop the tracking, select “Stop Tracking Mobile Station” to stop the tracking of the selected mobile station. (Refer to Displaying Mobile Station at the Center of the Map at All Times on page 229.)
Request Status Message	Allows you to send out a status message request message to the selected mobile station. Note This item cannot be selected in the case of Trunking 2.5.
Request GPS/ BLE Report	Allows you to send out GPS Data and BLE Data request messages to the selected mobile station. Note This item cannot be selected in the case of Trunking 2.5.
Replay Log	Allows you to play back the route traveled by a mobile station. (Refer to Playing Back the Path Traveled by the Mobile Station on page 273.)
Filter and Export	Allows you to display the history of a communication log. (Refer to Displaying the Communication Log History on page 434.)
Acknowledge	Allows you to stop the playback of the tone.
Clear Emergency	Allows you to cancel the emergency of the selected communication log. (Refer to Canceling an Emergency on page 285.)
Clear Alert	Allows you to cancel the alert of the selected communication log. (Refer to Canceling an Alert on page 280.)
Copy	Allows you to copy the Activity of the selected communication log.
Clear All Logs	Allows you to delete all the displayed logs.

Playing Back the Path Traveled by the Mobile Station

The route traveled by a mobile station can be played back or the route can be drawn on a map based on the communication log history and database information.

Playing Back the Route Traveled

1 **Select a communication log in the Log pane and right-click on it.**

The menu appears.

2 **Select “Replay Log”.**

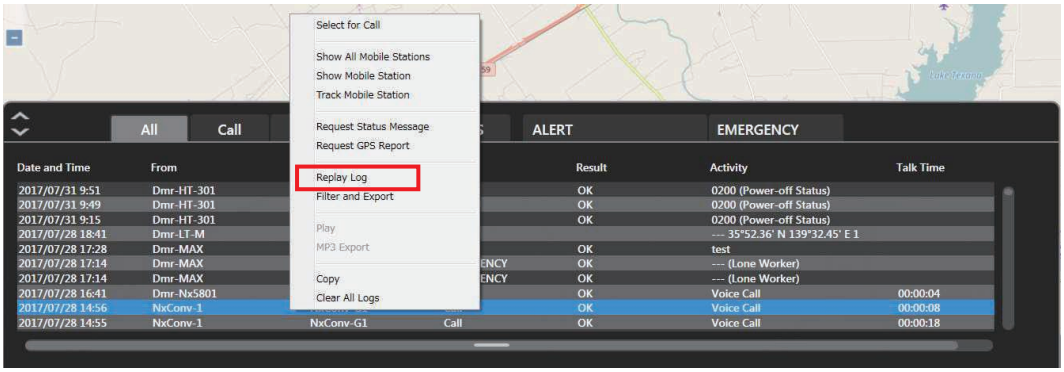

Figure 8-56 Replay Log

Displays the **Replay Log** dialog box.

3 **Configure Display Type, Date and Time and Mobile Station respectively.**

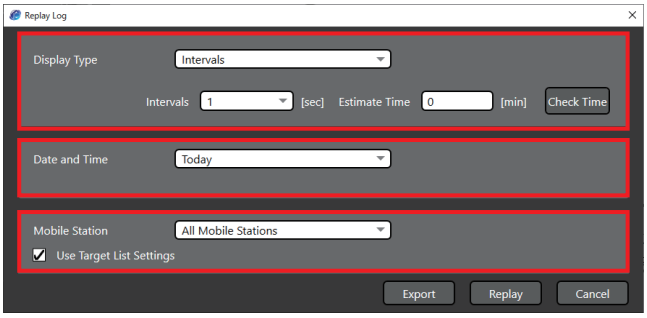

Figure 8-57 Replay Log

Table 8-36 Replay Log Settings

Item	Description	Configurable Range	Default
Display Type	**Display Type** allows you to configure whether to play back the route of a mobile station by refreshing the map screen at a specific time interval, or to play back by drawing the route taken by the mobile station. Note This is fixed in **Intervals** in the case of the Indoor Location Window.	**Intervals:** Plays back the route traveled by a mobile station by refreshing the map screen at a specific time interval.	Intervals
Intervals	**Intervals** allows you to configure the time interval for refreshing the map screen. Note This function can be configured only if “Intervals” is selected in **Display Type**.	0.5 sec, 1 sec to 10 sec (in steps of 1 sec)	1 sec
Estimate Time	**Estimate Time** allows you to display the estimated time needed to play back the route traveled by a mobile station. Clicking the “Check Time” button automatically calculates the time needed and displays it in **Estimate Time**.	-	-
Date and Time	**Date and Time** allows you to specify the date and time for playing back the route of a mobile station.	**Today:** Plays back the route of a mobile station at the current date. **All Days:** Plays back the route of a mobile station throughout the entire period. **Start/ Stop Date and Time:** Plays back the route of a mobile station over a specific time frame. Selecting **Start/ Stop Date and Time** displays **Start Date/ Start Time** and **Stop Date/ Stop Time**, which allow the date and time range to be specified.	Today

Item	Description	Configurable Range	Default
Mobile Station	**Mobile Station** allows you to specify the mobile station range for playing back the route of a mobile station. Note • Only **Mobile Station Name** and **Mobile Station ID** can be configured when **Display Type** is configured to “Trail”. • When a value other than “Fleet ID” is selected, **System Name** is displayed and the system name can be specified.	**All Mobile Stations:** Plays back the route of all mobile stations. **System:** Plays back the routes traveled by all mobile stations that belong to the specified system. When “System” is selected, **System Name** is displayed and the system name can be specified. **Fleet ID:** Plays back the routes of only mobile stations with the specified Fleet ID. Selecting “Fleet ID” displays the **Fleet ID** (edit box), which allows you to specify the Fleet ID of the mobile station for which the route traveled is to be played. **Mobile Station Name:** Plays back the route of only one mobile station. Selecting “Mobile Station Name” displays **Name**, which allows you to specify the name of the mobile station for which the route traveled is to be played. **Mobile Station ID:** Plays back the routes of only mobile stations with the specified ID. Selecting “Mobile Station ID” displays **ID**, which allows you to specify the ID of the mobile station for which the route traveled is to be played. If **Fleet Dialing Plan** is enabled in DMR Tier III Trunking, **Number Prefix**, **Fleet Individual Number**, and **Individual Number** appear, and these settings can be configured. **Keyword:** Selecting “Keyword” displays the **Keyword** (edit box), which allows you to directly enter keywords contained in the name of the mobile station for which the route traveled is to be played. The route of all mobile stations that contain the specified keyword will be played back.	**Display Type = Intervals:** All Mobile Stations **Display Type = Trail:** Mobile Station Name

Item	Description	Configurable Range	Default
Use Target List Settings	**Use Target List Settings** allows you to configure whether to limit to the mobile stations assigned as targets to be monitored by the logged-in user when specifying the range of mobile stations for which the route traveled is to be played.	**Check (Enable):** Limits the range of mobile stations to those assigned as targets to be monitored by the logged-in user. **Uncheck (Disable):** Does not limit the range of mobile stations.	Checked (Enabled)

4 Click the “Replay” button.

The route of a mobile station is played back according to the specified settings.

Figure 8-58 Replay

Note

- When there are more than 5000 logs in the specified range, replay cannot be performed. In this case, reconfigure the search conditions and perform the operations again.

Stopping Playback of the Route Traveled

During playback of the route traveled by a mobile station, clicking the “Stop Replay” button stops the playback.

Figure 8-59 Stop Replay

8.9 Display and Operation during an Alert

When the Indoor Location Window is displayed while an ALERT is triggered, "⚠" is displayed beside the BLE Beacon Icon.

Figure 8-60 ALERT

The notified alerts are listed in the **ALERT** tab of the **Log** pane. Lines corresponding to alert notifications that have not been processed are highlighted.

Figure 8-61 ALERT Log

Note

- The number of alert occurrences is displayed in the **ALERT** tab.
- When **Hide on Power-off** is enabled, the icon of the mobile station is hidden when the status configured in **Power-off Status** is received. In this case, the icon is hidden while the mobile station is in alert status. (Refer to Mobile Station Icon on page 162, Configuring the Status Message on page 122.)
- Does not detect whether Speed Limit is exceeded when BLE Data is received.

Canceling an Alert

An alert that has occurred can be canceled.

1 **Select an alert log in the ALERT tab of the Log pane and right-click on it.**

The menu appears.

2 **Select “Clear Alert”.**

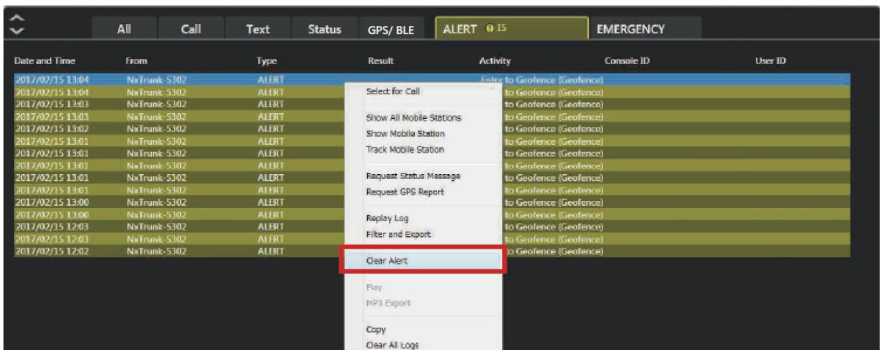

Figure 8-62 Clear Alert

The selected alert log switches to the normal log display. And the icon on the map switches back from the alert mark to the original icon.

Note

When an alert has been canceled, the change is also applied to the **Log** pane of the AVL Window and Dispatch Window.

Alert Display for Geofence

Geofence is a function that allows the KAS-20CE to automatically detect and record entry into or exit from a predefined geographical range by a mobile station equipped with a GPS or BLE function. (Refer to Creating a Geofence Area on page 254.)
A Geofence alert is triggered when a mobile station enters or exits a predefined Geofence area.

When GPS Data is received, the mobile station is not displayed in the Indoor Location Window, and therefore Geofence entry/exit is determined based on the assumption that it is outside the Geofence of the Indoor Location Window.

Figure 8-63 Geofence Alert

For details on how to cancel a Geofence alert, refer to “Canceling an Alert on page 280”.

8.10 Display and Operation during an Emergency

When the Indoor Location Window is displayed while an Emergency is triggered, the Icon configured in **Emergency** is displayed beside the BLE Beacon Icon on the map. The emergency bar at the bottom of the Indoor Location Window lights up in red.

If **External AUX Output** is enabled in a serial connection, the external device connected to the KAS-20CE transceiver will be turned on. (Refer to Configuring Settings for Controlling the External Device Connected to the Base Station Transceiver on page 127.)

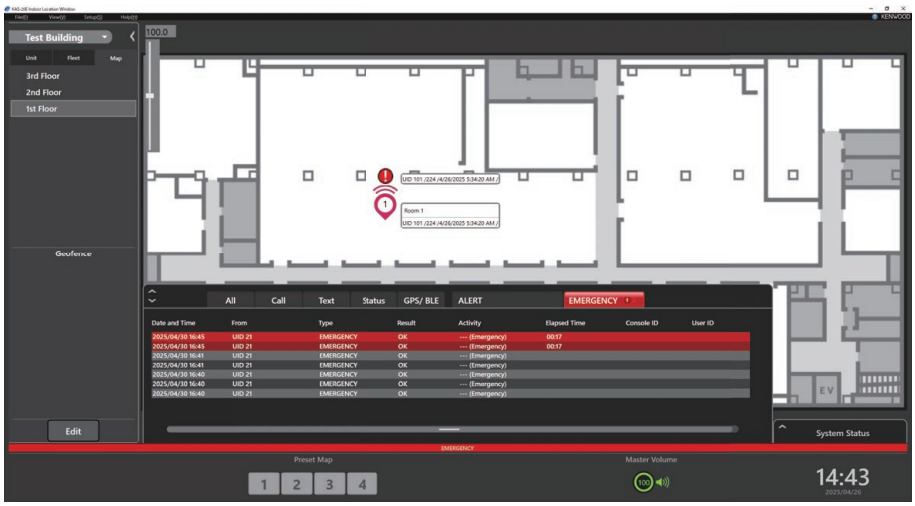

Figure 8-64 Emergency

The **EMERGENCY** tab of the **Log** pane is highlighted in red, and the notified emergencies are listed. Lines corresponding to emergency notifications that have not been processed are highlighted.

Figure 8-65 Emergency Log

Note

- If multiple Emergency occur for a single BLE Beacon, they are grouped and displayed as a single Emergency Icon.
- The “Emergency” icon can be configured in **Icon** on the **Status Message** screen. (Refer to Configuring the Status Message on page 122.)
- The number of emergency occurrences is displayed in the **EMERGENCY** tab.

Initiating a Call to the BLE Beacon where an Emergency Has Occurred

A call to the BLE Beacon where an emergency has occurred can be initiated.

1 **Select an emergency log in the EMERGENCY tab of the Log pane and right-click on it.**

The menu appears.

2 **Select “Select for Call”.**

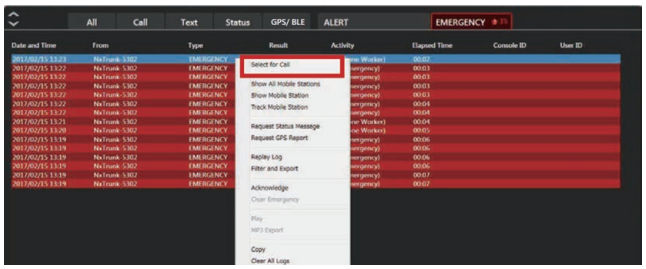

Figure 8-66 Select for Call

The sender ID of the selected emergency log is selected in the Dispatch Window.

3 **Click the “PTT” button in the Dispatch Window.**

Doing so initiates a call to the mobile station of the selected emergency log.

Note

This operation is enabled only when the VOICE PATH LICENSE (KWD-20C-VP) is authenticated. (Refer to About Software Upgrade License on page 13.)

Display Showing Emergency Log Check in Progress

When checking an emergency that has occurred, the display mode can be switched to one that shows that emergency log check is in progress and the checking personnel (Console ID, User ID) can be displayed in the log.

Also, when the display shows that emergency log check is in progress, the emergency tone that is emitted during an emergency stops.

1 **Select an emergency log in the EMERGENCY tab of the Log pane and right-click on it.**

The menu appears.

2 **Select “Acknowledge”.**

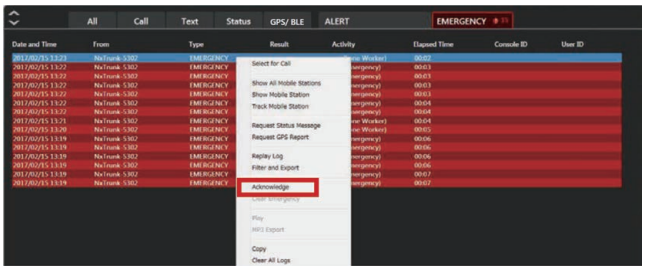

Figure 8-67 Acknowledge

The background color of the emergency log changes, and the Console ID for the KAS-20CE is displayed in the Console ID field of the emergency log, while the User ID of the logged-in user appears in the User ID field.

Note

- Even when the same emergency log is received while the tone is stopped, emergency tone will not be emitted until the emergency has been canceled.
- If **External AUX Output** is enabled in a serial connection, the external device connected to the KAS-20CE transceiver will be turned off. Until the time interval configured in **Emergency Suppress Time** elapses, the external device will not turned on even when an emergency log is received again. (Refer to Configuring Settings for Controlling the External Device Connected to the Base Station Transceiver on page 127.)
- Upon switching to the display that shows emergency log check is in progress, the display is also applied to the **Log** pane on the AVL Window and Dispatch Window.
- When operating the KAS-20E AVL/ Dispatch system with multiple clients, the display is also applied to the **Log** pane of other KAS-20CE units, and the emergency tone stops.

Canceling an Emergency

An emergency that has occurred can be canceled.

1 **Select an emergency log in the EMERGENCY tab of the Log pane and right-click on it.**

The menu appears.

2 **Select “Clear Emergency”.**

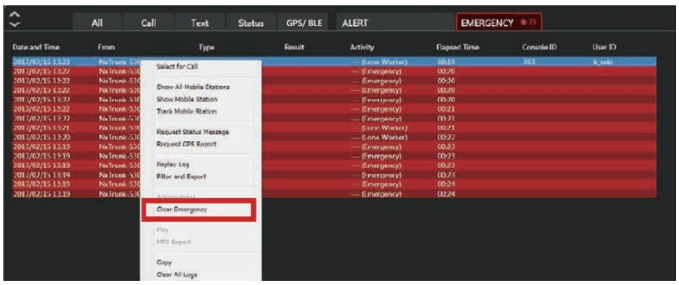

Figure 8-68 Clear Emergency

The selected emergency log switches to the normal log display. When all the emergencies have been canceled, the light of the emergency bar goes off.

Note

- When an emergency has been canceled, the change is also applied to the **Log** pane on the AVL Window and Dispatch Window.
- When operating the KAS-20E AVL/ Dispatch system with multiple clients, the change is also applied to the **Log** pane of other KAS-20CE units.

This chapter explains the procedure for operating and configuring settings on the Dispatch Window.

9.1 Dispatch Window

The Dispatch Window is structured as follows.

Figure 9-1 Dispatch Window

Menu Bar (Dispatch Window)

The menu bar comes with menu titles for operating the Dispatch Window. Clicking the menu title opens the pulldown menu, and the menu commands contained in the menu appear.

Figure 9-2 Dispatch Menu Bar

File

Table 9-1 File

Item	Description
Logout	Logs out of the currently logged-in KAS-20CE.
Exit	Exits the KAS-20CE.

View

Table 9-2 View

Item	Description
AVL Window	If this item is selected while AVL Window is not displayed, the AVL Window appears. (Refer to MANAGING THE OPERATION STATUS ON THE AVL WINDOW on page 201.)
Indoor Location Window	If this item is selected while Indoor Location Window is not displayed, the Indoor Location Window appears. (Refer to MANAGING INDOOR LOCATION WINDOW IN BLE BEACON on page 289.)
Lone Worker	A Lone Worker operation screen appears. (Refer to Starting/ Stopping Lone Worker on page 428.)
Master Volume	Displays or hides **Master Volume** on the control bar. (Refer to Control Bar on page 372.)
Mic Input Level	Displays or hides Mic Level on the control bar. Note This menu is not displayed in a serial connection.
Layout Locked	Displays or hides **Layout Locked** on the control bar. (Refer to Locking/Unlocking the Dispatch Pane on page 378.) Note This menu cannot be selected when the “Layout Unlocked” button is in the unlocked state.
Clock	Displays or hides the clock on the control bar. (Refer to Control Bar on page 372.)

Setup

Table 9-3 Setup

Item	Description
Setting	Displays a setting screen for the KAS-20CE.
Audio Setup	Displays the **Audio Setup** dialog box. The **Audio Setup** dialog box allows you to select the device for audio sound playback and input. (Refer to Selecting an Audio Output/Input Device on page 286.)
Language	Displays the **Language** dialog box. **Language** dialog box allows you to configure the language to use on the KAS-20CE. (Refer to Configuring the Language Used in KAS-20CE on page 287.)
License Selection	Displays the **License Selection** dialog box. The **License Selection** dialog box allows you to check the KAS-20CE license type. (Refer to Checking the KAS-20SE License Type on page 155.)

Help

Table 9-4 Help

Item	Description
Help	Opens the Basic Operations PDF file (this manual).
About	Displays the **About** dialog box. The **About** dialog box allows you to view information such as the KAS-20CE version. (Refer to Viewing the Information of KAS-20CE on page 288.)

Radio Resource List Pane

Radio Resource List pane displays the mobile stations that are assigned to the logged-in user and allows for operations related to communication with the respective mobile stations. (Refer to Communication Operation from the Radio Resource List on page 381.)

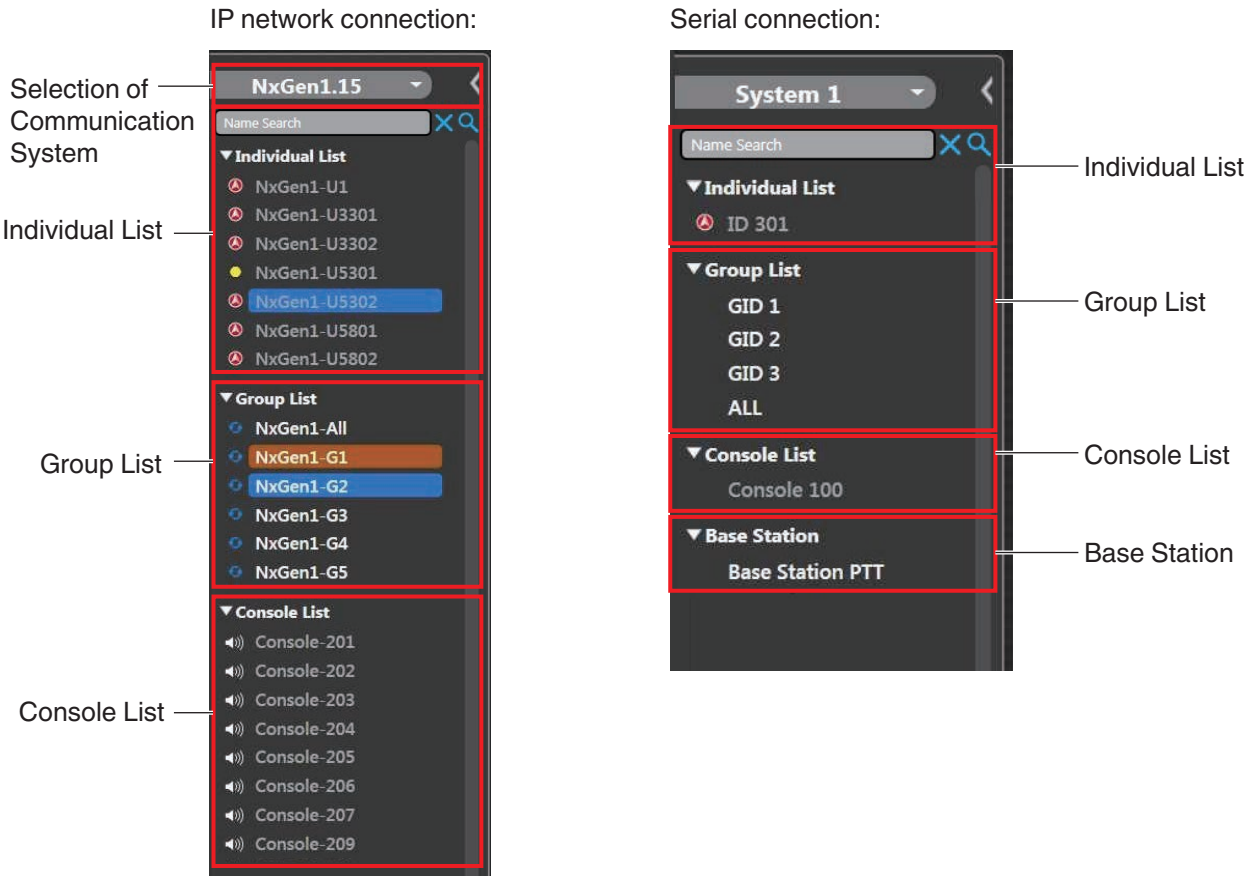

Figure 9-3 Radio Resource List Pane

A list of the mobile stations according to the classification configured in **Type** on the **Radio Resource List** screen is displayed. (Refer to Configuring a Mobile Station on page 98.)

Table 9-5 Radio Resource List Pane

Item	Description
Name Search	Entering and searching for a mobile station name displays the corresponding mobile station name from Radio Resource List. Up to a maximum of 16 characters can be entered. Note Entry becomes available by clicking the **Name Search** edit box, the “” button, or the “” button.
Selection of Communication System	Allows you to select the communication system to manage on the Dispatch Window. Settings related to the selected communication system will be displayed in the respective tabs. Note The communication system can be selected only for IP network connection.
Individual List	Displays a list of mobile stations for which **Type** is configured to “Individual”.
Group List	Displays a list of mobile stations for which **Type** is configured to “Group”, “All”, “Unaddress” or “Broadcast”.
Fleet List	Displays a list of mobile stations for which **Type** is configured to “Fleet”.
Supervisor List	Displays a list of mobile stations for which **Type** is configured to “Supervisor”.
Console List	Displays a list of mobile stations for which **Type** is configured to “Console”.
Base Station	**Base Station PTT** appears. A Voice Call can be transmitted using the destination setting of the base station transceiver that is connected serially. (Refer to Initiating Voice Call Using the Destination Setting of the Transceiver on page 406.) Note This item is displayed only when **Transmit with Base Station Configuration** is enabled. (Refer to Configuring Settings Related to Serial Connection on page 89.)

Note

Clicking the “” button collapses the **Radio Resource List** pane to the left and hides the display. Clicking the “” button expands the collapsed **Radio Resource List** pane to the right and shows the display.

Dispatch Pane

A Dispatch Tile or Patch Group can be placed in the **Dispatch** pane. (Refer to Layout and Operation of Dispatch Tile on page 373.)
Dispatch Tile is a box for storing icons for the different operations such as voice calls and message transmission. (Refer to Communication Operation from the Dispatch Tile on page 396.)
Patch Group is a group that consolidates mobile stations where voice calls are forwarded to in a box. (Refer to Forwarding a Voice Call on page 414.)

Figure 9-4 Dispatch Pane

Log Pane

The **Log** pane displays the communication logs and logs related to the different types of notifications. A filter can be applied when displaying the log history. (Refer to Checking the Communication Log on page 268.)

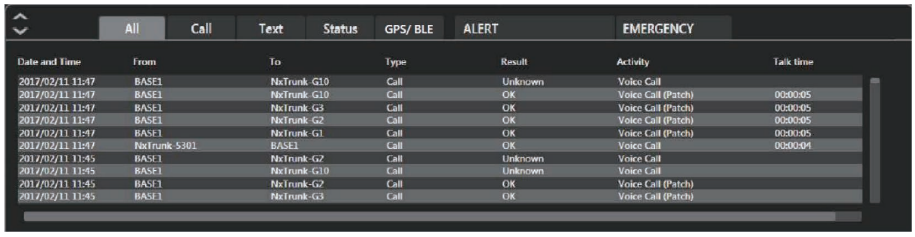

Figure 9-5 Log Pane

Note

Clicking the "▲" button expands the **Log** pane upward and shows the display. Clicking the "▼" button collapses the **Log** pane downward and hides the display.

System Status Pane

The **System Status** pane displays the connection status with the communication system. (Refer to Checking the System Status on page 262.)

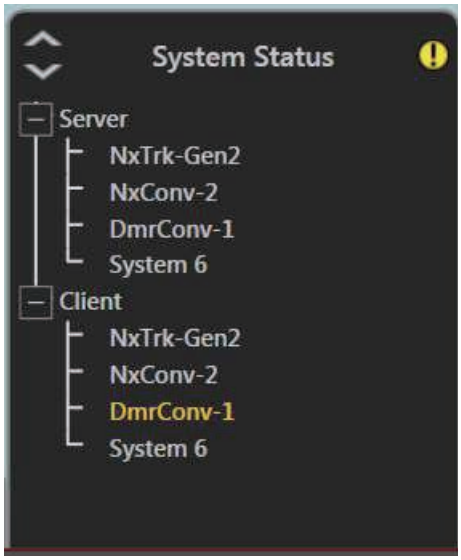

Figure 9-6 System Status Pane

Note

Clicking the " " button expands the **System Status** pane upward and shows the display. Clicking the " " button collapses the **System Status** pane downward and hides the display.

Control Bar

The control bar allows you to perform operations such as volume adjustment and map display.

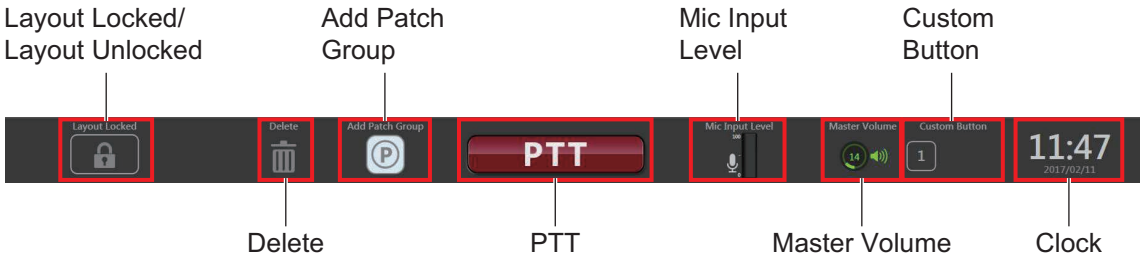

Figure 9-7 Control Bar

Table 9-6 Control Bar

Item	Description
"Layout Locked"/ "Layout Unlocked" button	The Dispatch pane can be locked or unlocked. (Refer to Locking/Unlocking the Dispatch Pane on page 378.)
Delete	Deletes a Dispatch Tile or Patch Group. (Refer to Deleting a Dispatch Tile on page 379, Deleting a Patch Group on page 421.)
Add Patch Group	Adds a Patch Group. (Refer to Creating a Patch Group on page 415.) Note This item is displayed only for IP network connection.
"PTT" button	Allows you to execute a transmission when a mobile station in the **Radio Resource List** pane or Dispatch Tile is selected. When **PTT Operation** is configured to "Toggle", clicking the "PTT" button will start the transmission and clicking it again will stop the transmission. When **PTT Operation** is configured to "Push and Hold", transmission will be carried out while the "PTT" button is clicked and it will stop when the button is released from the clicked state.
Mic Input Level	Displays the audio input level for the microphone. The bar moves up and down according to the intensity of the input. Note This item is displayed only for IP network connection.
Master Volume	The playback volume of the tone that is emitted when an alert or emergency occurs can be configured. The value of the maximum volume for the application that is configured on the OS is the maximum value of **Master Volume**.
Custom Button	Displays the custom buttons configured on the setting screen of the KAS-20CE. Clicking a custom button executes the function that is assigned to the button. Note Custom buttons are displayed only when they are configured on the **General** screen. (Refer to Configuring the Custom Buttons on page 189.)
Clock	Displays the current time.

9.2 Layout and Operation of Dispatch Tile

A mobile station that is displayed in the **Radio Resource List** pane can be placed as a Dispatch Tile in the **Dispatch** pane. Operations such as repositioning the Dispatch Tile that was placed, and changing its size or color can be performed.

Figure 9-8 Dispatch Tile

Note

One Dispatch Tile is displayed in the default setting on the initial screen. The default Dispatch Tile cannot be deleted.

Adding a Dispatch Tile

New Dispatch Tile can be added to the **Dispatch** pane.

1 Click the “Layout Locked” button.

The Dispatch pane switches to the “Layout Unlocked” state. (Refer to Locking/Unlocking the Dispatch Pane on page 378.)

2 **Select the mobile station to add from the Radio Resource List pane, and drag and drop it in the Dispatch pane to add the selected mobile station.**

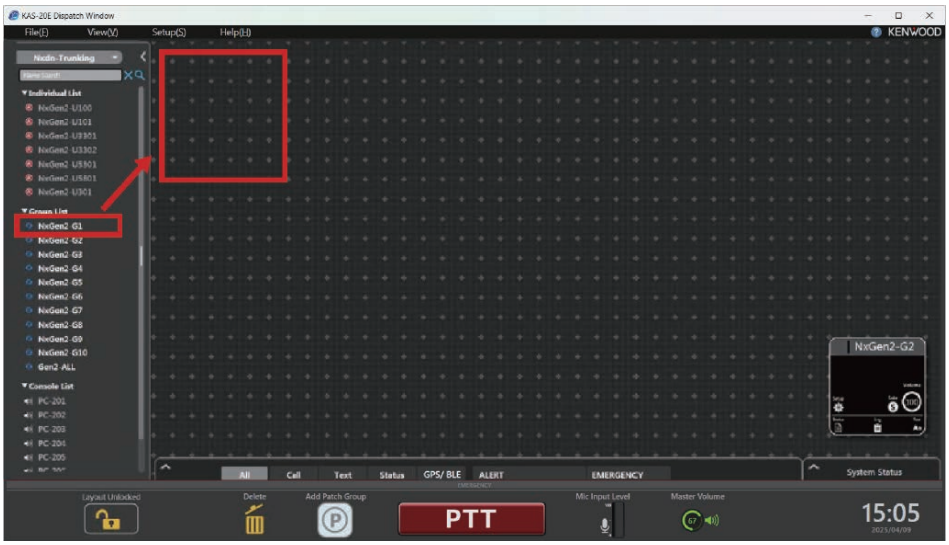

Figure 9-9 Before Dispatch Tile is Created

A Dispatch Tile for the selected mobile station is created in the **Dispatch** pane.

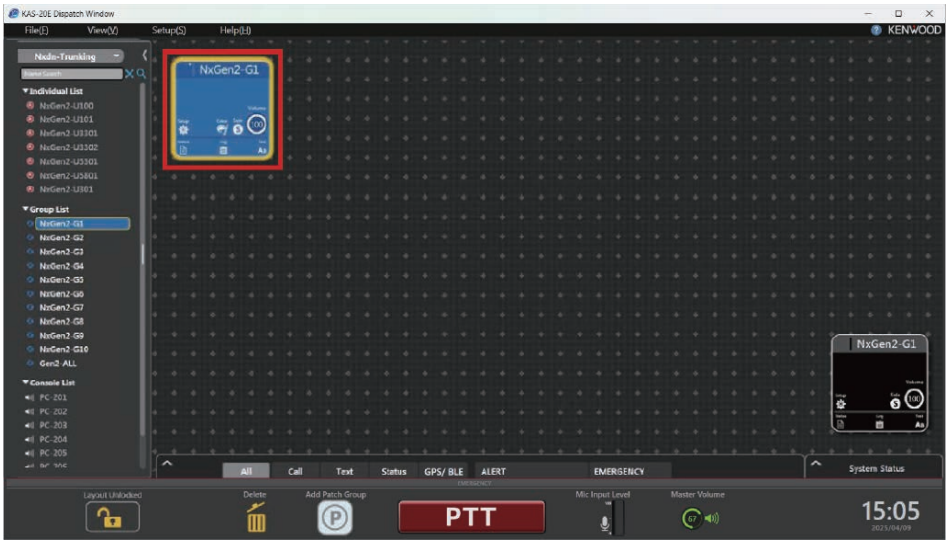

Figure 9-10 After Dispatch Tile is Created

3 **Click the “Layout Unlocked” button.**

The Dispatch pane switches to the “Layout Locked” state and the changes are confirmed. (Refer to Locking/Unlocking the Dispatch Pane on page 378.)

Note

- Only one Dispatch Tile can be created for each mobile station.
- When creating a new Dispatch Tile, it cannot overlap with another existing Dispatch Tile in the Dispatch pane.
- While the mobile station to be placed is receiving, the Dispatch Tile cannot be created even by dragging and dropping.

Moving to a Different Position

A Dispatch Tile in the **Dispatch** pane can be repositioned.

1 Click the “Layout Locked” button.

The Dispatch pane switches to the “Layout Unlocked” state. (Refer to Locking/Unlocking the Dispatch Pane on page 378.)

2 Select and drag the mobile station for which the position is to be changed.

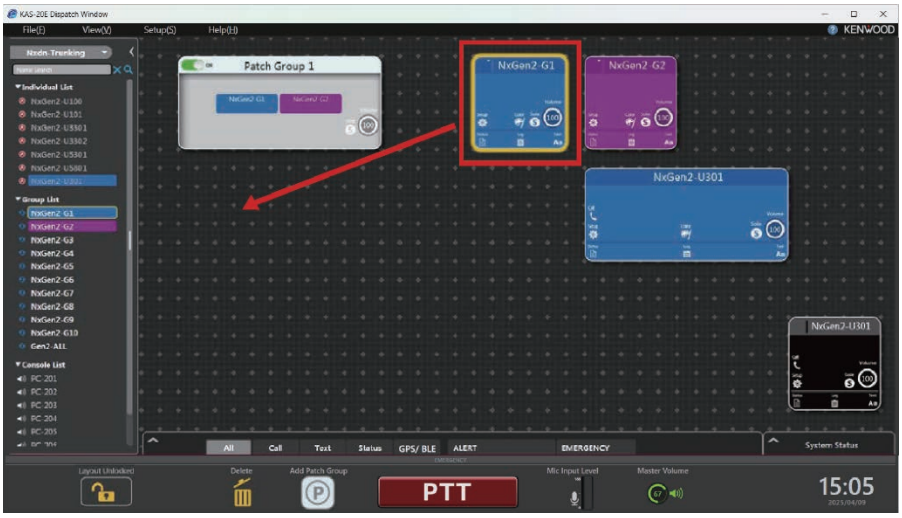

Figure 9-11 Dispatch Tile before Repositioning

The selected Dispatch Tile is moved to the new position.

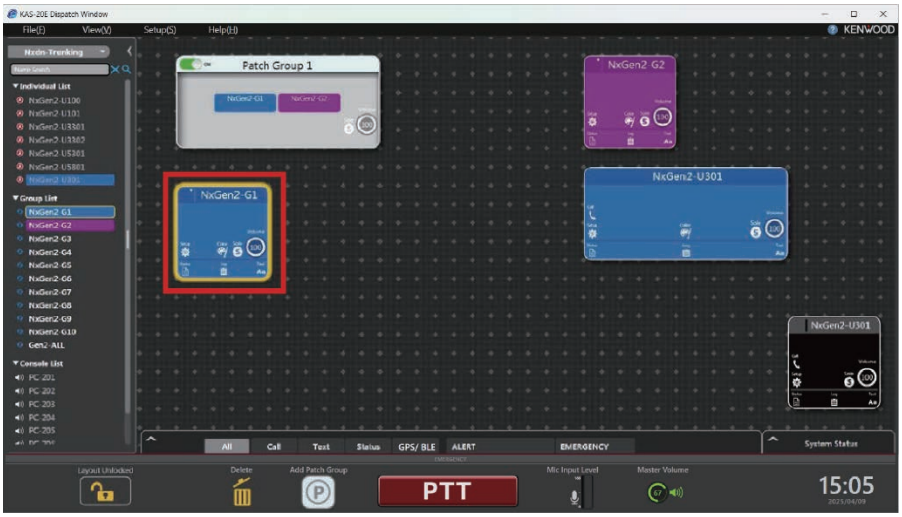

Figure 9-12 Dispatch Tile after Repositioning

Note

The Dispatch Tile can be moved to the empty space after collapsing the **Radio Resource List** pane. However, when the **Radio Resource List** pane is expanded, the moved Dispatch Tile will be hidden behind the **Radio Resource List** pane.

3 Click the “Layout Unlocked” button.

The Dispatch pane switches to the “Layout Locked” state and the changes are confirmed. (Refer to Locking/Unlocking the Dispatch Pane on page 378.)

Changing the Size

The size of a Dispatch Tile in the **Dispatch** pane can be changed.

1 **Click the “Layout Locked” button.**

The Dispatch pane switches to the “Layout Unlocked” state. (Refer to Locking/Unlocking the Dispatch Pane on page 378.)

2 **With the cursor placed at any of the four corners of the Dispatch Tile, click and drag in any of the four directions to change the size.**

Figure 9-13 Dispatch Tile before Size Change

The size of the selected Dispatch Tile is changed.

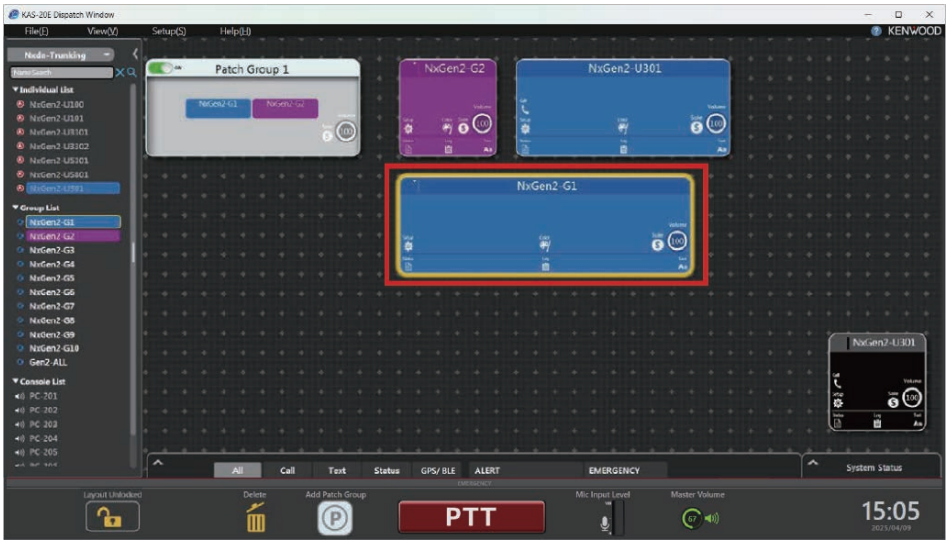

Figure 9-14 Dispatch Tile after Size Change

3 **Click the “Layout Unlocked” button.**

The Dispatch pane switches to the “Layout Locked” state and the changes are confirmed. (Refer to Locking/Unlocking the Dispatch Pane on page 378.)

Changing the Color

The color of a Dispatch Tile in the **Dispatch** pane can be changed.

1 **Click the “Layout Locked” button.**

The Dispatch pane switches to the “Layout Unlocked” state. (Refer to Locking/Unlocking the Dispatch Pane on page 378.)

2 **Click the “Color” button of the Dispatch Tile for which the color is to be changed, followed by selecting a color.**

A total of 18 colors is available for selection.

Figure 9-15 Dispatch Tile before Color Change

The color of the selected Dispatch Tile is changed.

Figure 9-16 Dispatch Tile after Color Change

3 **Click the “Layout Unlocked” button.**

The Dispatch pane switches to the “Layout Locked” state and the changes are confirmed. (Refer to Locking/Unlocking the Dispatch Pane on page 378.)

Note

When the color of the Dispatch Tile is changed, the background of the corresponding mobile station that is displayed in the **Radio Resource List** pane also changes to the same color. If the corresponding mobile station is registered in a Patch Group, the background of the mobile station name also changes to the same color.

Locking/Unlocking the Dispatch Pane

Locking the Dispatch Pane

When the Dispatch pane is in the “Layout Unlocked” state, clicking the “Layout Unlocked” button locks the layout of the **Dispatch** pane and disables operations such as repositioning and size change. The “Layout Unlocked” button becomes a “Layout Locked” button.

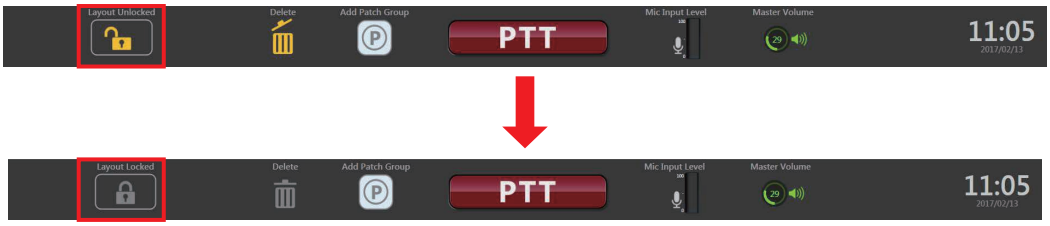

Figure 9-17 Layout Locked

Unlocking a Locked Dispatch Pane

When the Dispatch pane is in the “Layout Locked” state, clicking the “Layout Locked” button unlocks the layout of the **Dispatch** pane and enables operations such as repositioning and size change. The “Layout Locked” button becomes a “Layout Unlocked” button.

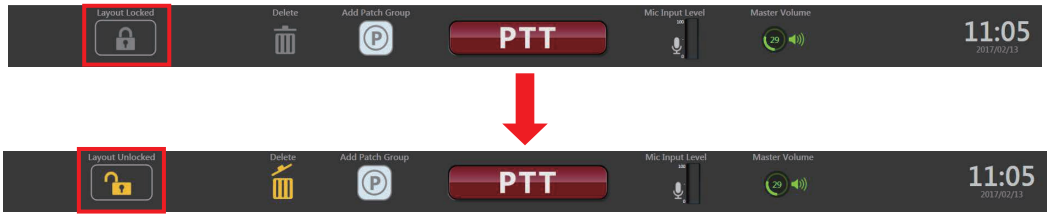

Figure 9-18 Layout Unlocked

Deleting a Dispatch Tile

A Dispatch Tile in the **Dispatch** pane can be deleted.

1 Click the “Layout Locked” button.

The Dispatch pane switches to the “Layout Unlocked” state. (Refer to Locking/Unlocking the Dispatch Pane on page 378.)

2 Select the Dispatch Tile to delete, and drag and drop it in the “Delete” icon.

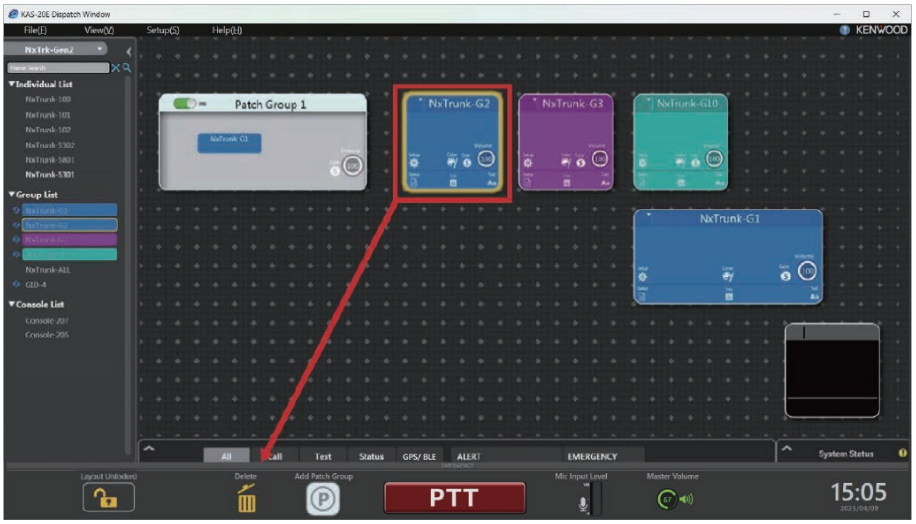

Figure 9-19 Delete

A confirmation message box appears.

Note

The default Dispatch Tile cannot be deleted.

3 Click the “OK” button.

The selected Dispatch Tile is deleted.

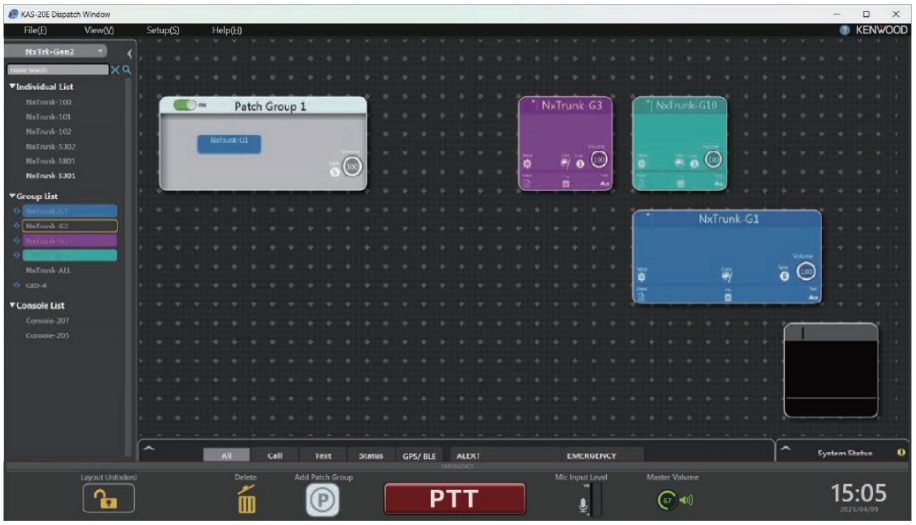

Figure 9-20 Deletion of Dispatch Tile

4 Click the “Layout Unlocked” button.

The Dispatch pane switches to the “Layout Locked” state and the changes are confirmed. (Refer to Locking/Unlocking the Dispatch Pane on page 378.)

Note

If a Dispatch Tile is deleted while receiving is in progress, communication will be disconnected.

9.3 Communication Operation from the Radio Resource List

A voice call can be initiated by selecting a mobile station from the **Radio Resource List** pane. Right-clicking on a mobile station displays a menu that allows you to send out messages to the mobile station.

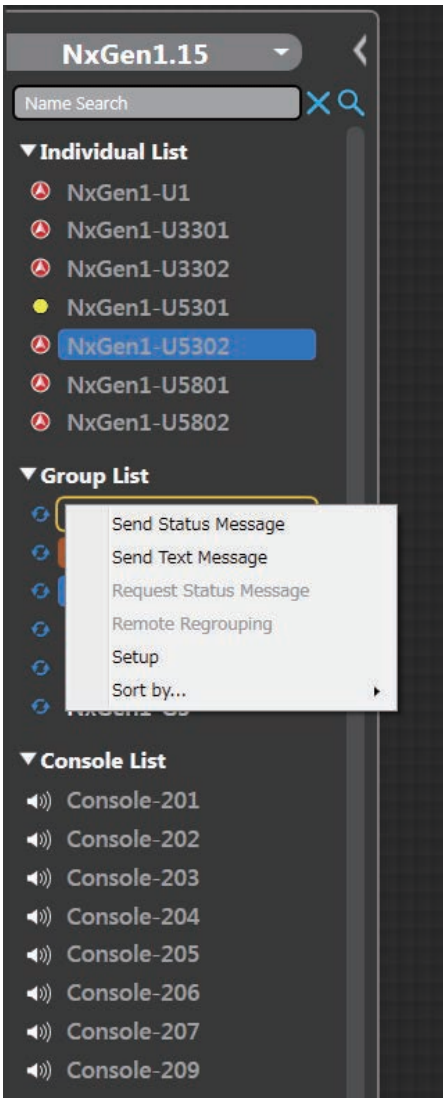

Figure 9-21 Right-click Menu

Note

- If **Transmit with Base Station Configuration** is enabled in a serial connection, **Base Station** is displayed at the end of the Radio Resource List. **Base Station PTT** appears in the Base Station list. (Refer to Configuring Settings Related to Serial Connection on page 89.)
- The right-click menu cannot be used for **Base Station PTT**.
- The Console ID of the KAS-20CE that is currently logged in is not displayed.

Table 9-7 Right-click Menu

Item	Description
Send Status Message	Displays the **Send Status Message** dialog box and enables sending of status messages and special commands to the selected mobile station. (Refer to Sending a Status Message on page 385.)
Send Text Message	Displays the **Send Text Message** dialog box and enables sending of text messages to the selected mobile station. (Refer to Sending a Text Message on page 390.)
Request Status Message	Allows you to send out a status message request message to the selected mobile station. Note This item cannot be selected in the case of Trunking 2.5.
Remote Regrouping	Displays the **Remote Regrouping** dialog box and enables sending of a Remote Regrouping command to the selected mobile station. (Refer to Sending a Remote Regrouping Command on page 393.)
Setup	Displays the **Setup** dialog box and enables the following settings to be configured for the selected mobile station. Allows you to configure the encryption setting during transmission. Allows you to configure the slot to be used during transmission.
Sort by...	Sorts the display of the **Radio Resource List** in the selected method. (Refer to Sorting the Display of Radio Resource List on page 395.)

Radio Resource List Pane Display

Display on the **Radio Resource List** pane changes according to the communication status and settings.

Table 9-8 Radio Resource List Pane Display

Status	Indication
When there is no communication (Individual/ Console)	The text is grayed out when there is no communication after the time interval configured in **Inactivity Threshold Time** has elapsed.
When there is no group registration (All/ Group)	The text color is grayed out when there is no group registration in an IP network connection.
When there is communication (Individual/ Console)	When there is communication, the text appears in white color until the time interval configured in **Inactivity Threshold Time** has elapsed. Note The text color changes to black when **Background Color** is configured to **Light Gray** or **Medium Gray**.
When there is group registration (All/ Group)	The text appears in white color when there is group registration in an IP network connection. Note The text color changes to black when **Background Color** is configured to **Light Gray** or **Medium Gray**.
Connected serially (All/ Group/ Fleet/ Supervisor/ Broadcast/ Base Station PTT)	The text appears in white color regardless of the state of communication in a serial connection.
Registered in the Dispatch Tile	The color specified in the Dispatch Tile changes to the same color as the background color.
Selected	The name is enclosed in a frame.
Scan Add is enabled (All/ Group)	The " " icon appears when **Scan Add** is enabled in an IP network connection.
No status icon (Individual)	If the status icon of the mobile station is not configured in the **Status Message** screen, the status icon configured in the **Radio Resource List** screen is displayed.
Status icon is displayed (Individual)	If the status icon of the mobile station is configured in the **Status Message** screen, the configured status icon is displayed.
Playing back incoming audio (Console) *1	The icon below appears when the audio received from the console is played in an IP network connection. Normal reception operation is carried out. Clicking the icon mutes the incoming audio. This icon is not displayed in a serial connection.
Muting incoming audio (Console) *1	The icon below appears when the incoming audio, except for Individual Calls between the consoles, is muted in an IP network connection. With the exception of receiving Individual Call, reception starts when audio playback is stopped. Clicking the icon plays the incoming audio. This icon is not displayed in a serial connection.

*1 The settings for playing and muting the incoming audio are saved for each user.

Initiating a Voice Call

When a Dispatch Tile Is Registered

Select the Dispatch Tile of the mobile station receiving the voice call, or select the mobile station receiving the voice call from the **Radio Resource List** pane and click the “PTT” button to initiate a voice call.

When a Dispatch Tile Is Not Registered

Selecting a mobile station from the **Radio Resource List** pane displays the information of the selected mobile station in the default Dispatch Tile. Clicking the “PTT” button in this state initiates a voice call.

Figure 9-22 Voice Call

When **PTT Operation** is configured to “Toggle”, click the “PTT” button again to end the voice call.
When **PTT Operation** is configured to “Push and Hold”, release the button from the clicked state to end the voice call.

Sending a Status Message

Selecting “Send Status Message” from the right-click menu displays the **Send Status Message** dialog box and enables sending of status messages and special commands to the selected mobile station.

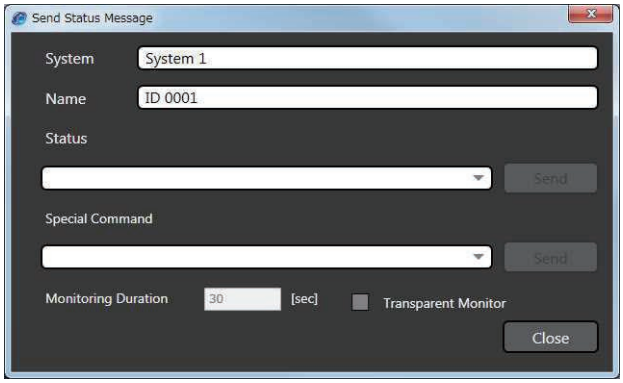

Figure 9-23 Send Status Message

Table 9-9 Common Items

Item	Description
System	**System** displays the name of the communication system selected on the Dispatch Window.
Name	**Name** displays the name of the selected mobile station.

Sending a Status Message

Select the status message to send from **Status**, followed by clicking the “Send” button to send the selected message.

Table 9-10 Sending a Status Message

Item	Description	Configurable Range	Default
Status	**Status** allows you to select the status message to send. Note A “Terminate emergency mode” status message can be sent to exit the Emergency Mode of a mobile station. When a “Terminate emergency mode” or “Normal operation” status message is selected, clicking the “Send” button displays a message box for confirming whether to send the status message. Clicking the “OK” button sends out the status message.	The configurable range varies according to the protocol of the communication system configured on the KAS-20CE. **NXDN Trunking (Type-C)/ NXDN Conventional/ Trunking 2.5/ DMR Tier III Trunking/ DMR Conventional/ DMR Conventional (via TKR-D series):** Status message configured in the **Status Message** screen. (including Terminate emergency mode) (Refer to Configuring the Status Message on page 122.) **FleetSync:** Status message configured in the **Status Message** screen. (including Normal operation and Terminate emergency mode.) Note Status messages cannot be selected if the Receive Only is set to Check on the **Status Message** screen.	Blank
“Send” button	Sends out a status message.	-	-

Sending a Special Command

Select the special command to send from **Special Command**, followed by clicking the “Send” button to send the selected command.

Note

- Special commands can only be sent by users who are assigned with the “Admin”, “Basic + Special” or “Basic + Patch&Special” operation authority. (Refer to Registering a User on page 57.)
- When the protocol of the communication system is other than FleetSync, special commands can be sent when **Type** is configured to “Individual”.
- When the protocol of the communication system is FleetSync, special commands cannot be sent when **Type** of the selected mobile station is configured to “Broadcast” or “Console”.

Table 9-11 Sending a Special Command

Item	Description	Configurable Range	Default
Special Command	**Special Command** allows you to select the special command to send. Note • When “Stun”, “Revive”, “Remote Monitor”, “Activate Horn Alert”, “Stun (TX inhibit)” or “Stun (TX/RX inhibit)” is selected, clicking the “Send” button displays a message box for confirming whether to send the special command. Clicking the “OK” button sends out the special command. • When “Kill” is selected, clicking the “Send” button displays a message box for confirming whether to send the Kill special command. Clicking the “OK” button sends out the Kill special command.	The configurable range varies according to the protocol of the communication system configured on the KAS-20CE. (Refer to Details on Special Command on page 389.) **NXDN Trunking (Type-C)/ NXDN Conventional:** Stun, Revive, Kill, Remote Monitor **Trunking 2.5:** Stun, Revive, Radio Check **DMR Tier III Trunking/ DMR Conventional:** Stun, Revive, Kill, Radio Check **DMR Conventional (via TKR-D series):** Stun, Revive, Kill **FleetSync:** **Type = Individual:** Activate Horn Alert, Stun (TX inhibit), Stun (TX/RX inhibit), Revive, Kill, Remote Monitor **Type = Fleet, Group, Supervisor:** Activate Horn Alert	Blank

Item	Description	Configurable Range	Default
Monitoring Duration	**Monitoring Duration** allows you to configure the time interval to maintain the transceiver in the transmitting state when using the Remote Monitor command. Note • This function can be configured only for NXDN Trunking (Type-C)/ NXDN Conventional/ FleetSync. • This function can be configured only if “Remote Monitor” is selected in **Special Command**. • This function can be configured only if “Individual” is selected in **Type** of ID.	1 sec to 255 sec	30 sec
Transparent Monitor	**Transparent Monitor** allows you to configure whether to display a message on the transceiver display and light up the transmission LED while the transceiver is configured to the transmitting state using the Remote Monitor command. Note • This function can be configured only for NXDN Trunking (Type-C)/ NXDN Conventional/ FleetSync. • This function can be configured only if “Remote Monitor” is selected in **Special Command**. • This function can be configured only if “Individual” is selected in **Type** of ID.	**Check (Enable):** Displays a message on the transceiver display and lights up the transmission LED while the transceiver is configured to the transmitting state using the Remote Monitor command. **Uncheck (Disable):** Does not display a message on the transceiver display and or light up the transmission LED while the transceiver is configured to the transmitting state using the Remote Monitor command.	Unchecked (Disabled)
“Send” button	Sends out a special command.	-	-
“Close” button	Closes the **Send Status Message** dialog box.	-	-

Details on Special Command

The details of each special command are as follows.

Table 9-12 Special Command (NXDN/ DMR)

Special Command	Description
Stun	Disables the use of transceiver temporarily.
Revive	Restores the use of a transceiver that has been disabled temporarily using Stun.
Kill	Disables the use of transceiver. The use of transceiver is disabled until an FPU data is written again.
Remote Monitor	Maintains the transceiver in the transmitting state for a specific time interval, during which the sound around the transceiver is audible.
Radio Check (Trunking 2.5/ DMR Tier III Trunking/ DMR Conventional only)	By making the individually specified transceiver receive the Radio Check message, confirms whether the transceiver has been registered in the system. Note • For Trunking 2.5/ DMR Tier III Trunking/ DMR Conventional (IP network connection), a Radio Check Message is sent. • For DMR Conventional (serial connection), a Request Status Message is sent.

Table 9-13 Special Command (FleetSync)

Special Command	Description
Activate Horn Alert	Activates the Horn Alert.
Stun (TX inhibit)	Disables the transmission of transceiver temporarily.
Stun (TX/RX inhibit)	Disables the transmission and reception of transceiver temporarily.
Revive	Restores the use of a transceiver that has been disabled temporarily using Stun.
Kill	Disables the use of transceiver. The use of transceiver is disabled until an FPU data is written again.
Remote Monitor	Maintains the transceiver in the transmitting state for a specific time interval, during which the sound around the transceiver is audible.

Sending a Text Message

Selecting “Send Text Message” from the right-click menu displays the **Send Text Message** dialog box and enables sending of text messages to the selected mobile station.

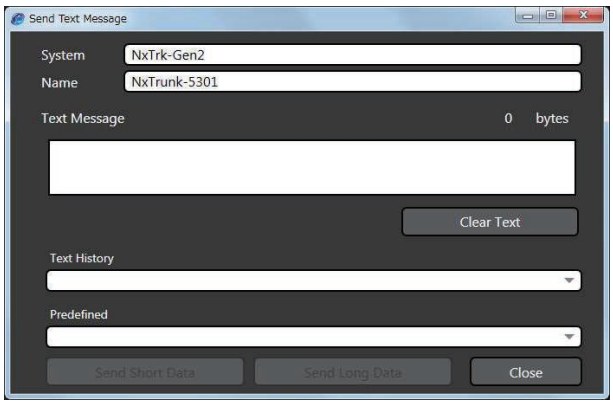

Figure 9-24 Send Text Message

Select the text message to send using one of the methods below, followed by clicking the “Send Short Data” or “Send Long Data” button to send out the selected text message.

- Enter the text message to send in **Text Message**.
- Select a text message from previously sent messages in **Text History**.
- Select a predefined text message in **Predefined**.

Note

- When the maximum number of input characters for **Text Message** is exceeded, the “Send Short Data” and “Send Long Data” buttons are deactivated and text messages cannot be sent.
- The text messages of Long Data Message are not displayed on the screen of the mobile station.

Table 9-14 Sending a Text Message

Item	Description	Configurable Range	Default
System	**System** displays the name of the communication system selected on the Dispatch Window.	-	-
Name	**Name** displays the name of the selected mobile station.	-	-

Item	Description	Configurable Range	Default
Text Message	**Text Message** allows you to enter the text message to send. Note The number of characters of the Short Data Message that can be sent varies according to the protocol of the communication system configured on the KAS-20CE and the configuration of **Type** of the destination. (Refer to Number of characters of the Short Data Message that can be sent on page 220.)	The configurable range varies according to the protocol of the communication system configured on the KAS-20CE. **NXDN Trunking (Type-C)/ NXDN Conventional/ DMR Tier III Trunking/ DMR Conventional:** 1 byte to 4096 bytes **Trunking 2.5:** 1 byte to 44 bytes **DMR Conventional (via TKR-D series):** **Type = Individual or Console:** IP network connection: 1 byte to 986 bytes Serial connection: 1 byte to 978 bytes **Type = Group or All:** IP network connection: 1 byte to 738 bytes Serial connection: 1 byte to 730 bytes **FleetSync:** 1 byte to 4096 bytes Note Depending on the base station transceiver type, up to 1024 bytes of characters can be sent and received for FleetSync.	Blank
“Clear Text” button	Clears the text entered in **Text Message**.	-	-
Text History	**Text History** allows you to select up to 10 text messages that were sent previously. The selected text messages are displayed in **Text Message**.	10 text messages that were sent previously	Blank

Item	Description	Configurable Range	Default
Predefined	**Predefined** allows you to select a text message that is predefined in the KAS-20CE. The selected text messages are displayed in **Text Message**. Note The text message displayed in **Predefined** can be configured in **Predefined Text Message** on the **Dispatch** screen. (Refer to Configuring the Functions to Be Used on Dispatch Window on page 179.)	Text messages that are predefined in the KAS-20CE	Blank
“Send Short Data” button	Sends out a text message as a Short Data Message. (Refer to Number of characters of the Short Data Message that can be sent on page 220.)	-	-
“Send Long Data” button	Sends out a text message as a Long Data Message. Note • The text messages of Long Data Message are not displayed on the screen of the mobile station. • This button is not displayed only for DMR Conventional (via TKR-D series).	-	-

Sending a Remote Regrouping Command

Selecting “Remote Regrouping” from the right-click menu displays the **Remote Regrouping** dialog box and enables sending of Remote Regrouping commands to the selected mobile station.

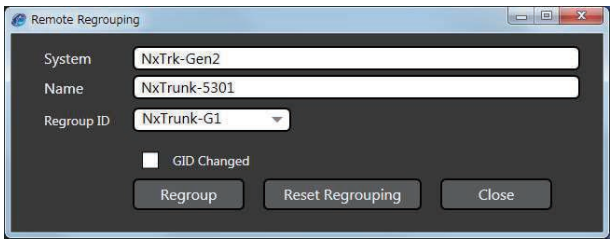

Figure 9-25 Remote Regrouping

Remote Regrouping is a function for adding a group ID to a mobile station. Using this function allows a call to be established with a mobile station such as by enabling the mobile station to temporarily join a group or by gathering mobile stations of different parties to form a new temporary group.
Using the Reset command of Remote Regrouping allows you to clear the group ID that is added to a mobile station.

Table 9-15 Sending a Remote Regrouping Command

Item	Description	Configurable Range	Default
System	**System** displays the name of the communication system selected on the Dispatch Window.	-	-
Name	**Name** displays the name of the selected mobile station.	-	-
Regroup ID	**Regroup ID** allows you to configure the group ID to be added to the mobile station using the Remote Regrouping command. The group ID configured in **Regroup ID** is stored in the Remote Regrouping command and sent to the mobile station.	Group ID registered in the KAS-20CE Note This is left blank if a group ID is not registered. When **Regroup ID** is left blank, the “Regroup” and “Reset Regrouping” buttons are deactivated and cannot be operated.	First line in the list
GID Changed	**GID Changed** allows you to configure whether to enable a mobile station to select a group ID other than those added using the Remote Regrouping command. The **GID Changed** setting is applied to the mobile station after a Remote Regrouping command has been sent. If a Remote Regrouping command is sent without enabling **GID Changed**, the mobile station will not be able to select a group ID other than those added using the Remote Regrouping command.	**Check (Enable):** Enables the mobile station to select a group ID other than those added using the Remote Regrouping command. **Uncheck (Disable):** Disables the mobile station from selecting a group ID other than those added using the Remote Regrouping command.	Unchecked (Disabled)

Item	Description	Configurable Range	Default
“Regroup” button	A Remote Regrouping command is sent.	-	-
“Reset Regrouping” button	Sends out a command to reset Remote Regrouping.	-	-

Note

A Remote Regrouping command can be sent only for NXDN Trunking (Type-C).

Adding a Group ID to a Mobile Station

Select the group ID to add from **Regroup ID**, followed by clicking the “Regroup” button to send a Remote Regrouping command to the selected mobile station.
After the mobile station receives the Remote Regrouping command, the group ID that is stored in the command is added to the mobile station.

Resetting a Group ID Added to a Mobile Station

Clicking the “Reset Regrouping” button sends a command for resetting Remote Regrouping to the selected mobile station.
After the mobile station receives the Remote Regrouping reset command, the group ID that is added using the command is removed from the mobile station.

Sorting the Display of Radio Resource List

Selecting “Sort by...” from the right-click menu displays the menu to select the sorting method for the display of the **Radio Resource List**. The sorted result is reflected in the **Individual List**, **Group List**, and **Console List**.

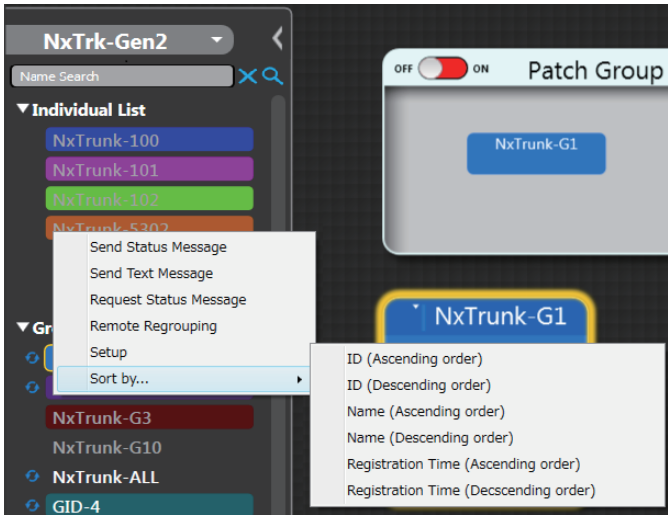

Figure 9-26 Selection Menu of Sorting Method

Table 9-16 Selection Menu of Sorting Method

Item	Description
ID (Ascending order)	Sorts ID in ascending order.
ID (Descending order)	Sorts ID in descending order.
Name (Ascending order)	Sorts Name in ascending order.
Name (Descending order)	Sorts Name in descending order.
Registration Time (Ascending order)	Sorts the registration in the **Radio Resource List** of the **System** screen in chronological order.
Registration Time (Descending order)	Sorts the registration in the **Radio Resource List** of the **System** screen in reverse chronological order.

Note

- IDs in the list are sorted for each list.
- The sorted content is maintained even when the communication system is switched.
- If the protocol of the communication system is FleetSync, the ID is sorted as a 7-digit number in the ascending or descending order with the first 3 digits indicating the Fleet ID and the last 4 digits indicating the Unit ID. And “ALL” is considered as “0”.

9.4 Communication Operation from the Dispatch Tile

Icons for operations such as message transmission and setting are stored in a Dispatch Tile.
The icons can be used to perform communication-related operations or configure settings.

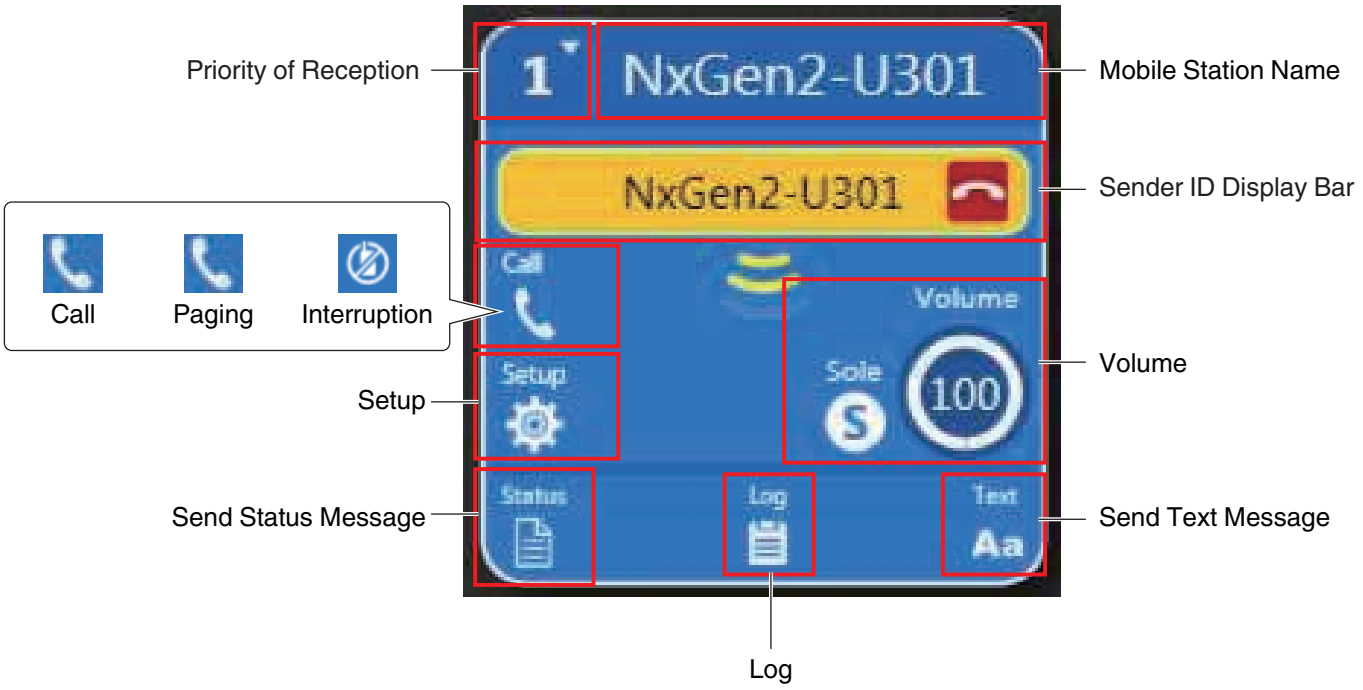

Figure 9-27 Dispatch Tile

Note

When the repeater enters the Queue state and the KAS-20CE is waiting to initiate a voice call, “QUEUE” is displayed on the sender ID display bar.

Table 9-17 Dispatch Tile

Item	Description
Mobile Station Name	Displays the mobile station name.
Sender ID Display Bar	Upon receiving an incoming voice call, the name or alias information of the mobile station at the sending end is displayed. (Refer to Voice Call on page 436.)
Priority of Reception	Displays the priority of reception. The setting for the priority of reception can be changed. (Refer to Configuring the Order of Receiving Priority on page 398.) Note This item is not displayed in a serial connection.
Volume	Displays the volume level. The volume can be configured. (Refer to Configuring the Volume of the Received Audio on page 399.) Note This item is not displayed in a serial connection.
Send Status Message	Allows you to send out a status message or special command. (Refer to Sending a Status Message on page 402.) Note This item is not displayed when **Radio Resource List** is configured to **Base Station PTT** in a serial connection.
Send Text Message	Allows you to send out a text message. (Refer to Sending a Text Message on page 404.) Note This item is not displayed when **Radio Resource List** is configured to **Base Station PTT** in a serial connection.
Log	Allows you to view the logs. (Refer to Checking the Communication Log on page 407.)
Setup	Allows you to configure the encryption setting during transmission. (Refer to Encryption Setting During Transmission on page 408.) Allows you to configure the type of group call. (Refer to Configuring the Type of Group Call on page 409.) Allows you to configure the priority of audio transmission. (Refer to Configuring the Priority of Audio Transmission on page 411.) Note This item is not displayed when **Radio Resource List** is configured to **Base Station PTT** in a serial connection.
Call	Allows you to initiate the call after receiving audio data from the mobile station receiving the call. (Refer to Initiating a Voice Call on page 400.) Note The “Call” button is not displayed in a serial connection.

Paging	Allows you to send a Paging Call status message to the mobile station receiving the call.
	Note
	• Some transceivers do not support **Paging** in a serial connection.
	• This item is displayed only for DMR Conventional/ DMR Conventional (via TKR-D series). However, it is not displayed in the following cases.
	  • **Individual Call Acknowledge Request** is enabled.
	  • **Base Station PTT** is selected for **Radio Resource List** in a serial connection.

Interruption	Allows you to send a Call Interruption request message. (Refer to Transmission Operation of Call Interruption Request Message on page 412.) Note The Trunking 2.5 button is displayed only if DMR Tier III Trunking is enabled in DMR Conventional/ **Encode**/ “Interruption” and while a voice call is received.

Configuring the Order of Receiving Priority

The order of receiving priority on the KAS-20CE can be configured for each of the Dispatch Tiles in an IP network connection. Upon receiving a call from a mobile station with a higher priority during reception, the KAS-20CE switches automatically to receive the call with a higher level of priority.
The order of priority is shown at the top left corner of the Dispatch Tile. Clicking the priority number displays a priority setting screen.

Figure 9-28 Order of Receiving Priority

Table 9-18 Order of Receiving Priority

Item	Description	Configurable Range	Default
Order of Receiving Priority	The order of receiving priority can be configured between the range from 1 to 10. The smaller the number, the higher the priority. Note • The same number cannot be configured to multiple Dispatch Tiles. • When - is selected, no number appears at the top left corner of the Dispatch Tile.	-, 1 to 10	-

Note

The order of receiving priority cannot be configured in a serial connection.

Configuring the Volume of the Received Audio

The volume of the incoming call can be configured for each Dispatch Tile.

Adjusting the Volume Level

Clicking the “Volume” icon in the Dispatch Tile displays a volume control bar for adjusting the volume level.

Figure 9-29 Volume Control

Playing Back Audio Sound Received Only in a Specific Dispatch Tile

Clicking the “Sole” icon in the Dispatch Tile enables playback of the audio sound only for the corresponding Dispatch Tile. Audio sound in the other Dispatch Tiles is muted.

Figure 9-30 Single Playback

Note

- Single playback can only be executed in one Dispatch Tile at a time. For example, if the “Sole” button of Dispatch Tile B is clicked while single playback is ongoing in Dispatch Tile A, single playback in Dispatch Tile A ends and playback in Dispatch Tile B starts.
- When a voice call is received from the console with its incoming audio muted in the **Radio Resource List**, the “Volume” icon is displayed as muted and the audio sound is not played back.
- The volume level cannot be configured in a serial connection.

Initiating a Voice Call

A voice call can be initiated by selecting the Dispatch Tile corresponding to the mobile station to call and clicking the “PTT” button.

Figure 9-31 Voice Call

When **PTT Operation** is configured to “Toggle”, click the “PTT” button again to end the voice call.
When **PTT Operation** is configured to “Push and Hold”, release the button from the clicked state to end the voice call.

Note

- If a mobile station not registered in the Dispatch Tile is selected in the **Radio Resource List** pane, information of the selected mobile station will appear in the default Dispatch Tile, and a voice call can be initiated with the same procedure described above.
- A voice call can be initiated with the same steps as above even when **Message Trunked (Enhanced)** (NXDN Trunking (Type-C)), **Individual Call Acknowledge Request** (NXDN Conventional/ DMR Conventional/ DMR Conventional (via TKR-D series)), or **FOACSU** (DMR Tier III Trunking) is enabled.
- When **Message Trunked (Enhanced)** (NXDN Trunking (Type-C)), **Individual Call Acknowledge Request** (NXDN Conventional/ DMR Conventional/ DMR Conventional (via TKR-D series)), or **FOACSU** (DMR Tier III Trunking) is enabled, the Dispatch Tile icon is displayed in the “Call”. Clicking the “Call” icon also allows you to initiate a voice call. In this case, audio data can be received from the mobile station receiving the call without having to send out audio data from KAS-20E when the voice call is initiated.
- The KAS-20E does not support **Message Trunked (Enhanced)** (NXDN Trunking (Type-C)) or **Individual Call Acknowledge Request** (NXDN Conventional/ DMR Conventional/ DMR Conventional (via TKR-D series)) in a serial connection. Disable **Message Trunked (Enhanced)** (NXDN Trunking (Type-C)) or **Individual Call Acknowledge Request** (NXDN Conventional/ DMR Conventional/ DMR Conventional (via TKR-D series)) of the base station transceiver. If any of these functions is enabled, the KAS-20E behaves as follows:
  - For NXDN Trunking (Type-C), a voice call is not initiated even if the “PTT” button is clicked.
  - For NXDN Conventional, DMR Conventional, or DMR Conventional (via TKR-D series), a voice call is initiated with any of these functions disabled if the “PTT” button is clicked.
- The “ ” button appears when a voice call begins in an IP network connection. Clicking the “ ” button allows you to end the voice call.
- All other voice calls will be muted while a voice call initiated by the “PTT” button is ongoing. The following operations are also disabled.
  - Sending of text messages
  - Sending of status messages
  - Changes in the order of receiving priority
  - Changes in the encryption settings
  - Layout Unlocked
  - Addition or deletion of a mobile station registered in Patch Group
- In a serial connection, if a PC command for new transmission and reception is sent from the base station transceiver when the transmission information is displayed, the new transmission and reception information will be displayed after the current transmission display has ended.
- In a serial connection, a sender ID display bar is displayed in the Dispatch Tile before the time interval configured in **Auto Reset Timer** elapses after transmission has ended. A reply can be made by selecting the Dispatch Tile and pressing the “PTT” button while the sender ID display bar is displayed. (Refer to Configuring Settings Related to Serial Connection on page 89.)
- Because a Broadcast Call is a voice call that cannot respond, if the Dispatch Tile that is receiving a Broadcast Call is selected, a voice call cannot be started from the KAS-20CE until the sender ID display bar disappears even if the “PTT” button is clicked. “Receive Only” is displayed on the sender ID display bar.
- If **FOACSU** (DMR Tier III Trunking) is disabled, “QUEUE” is displayed on the sender ID display bar when the addressee ID does not exist or the power is turned off.
- A call cannot be initiated from KAS-20E to a SIP Phone.

Sending a Status Message

Clicking the status message icon in the Dispatch Tile displays a status message transmission screen, which enables the sending of a status message or special command.

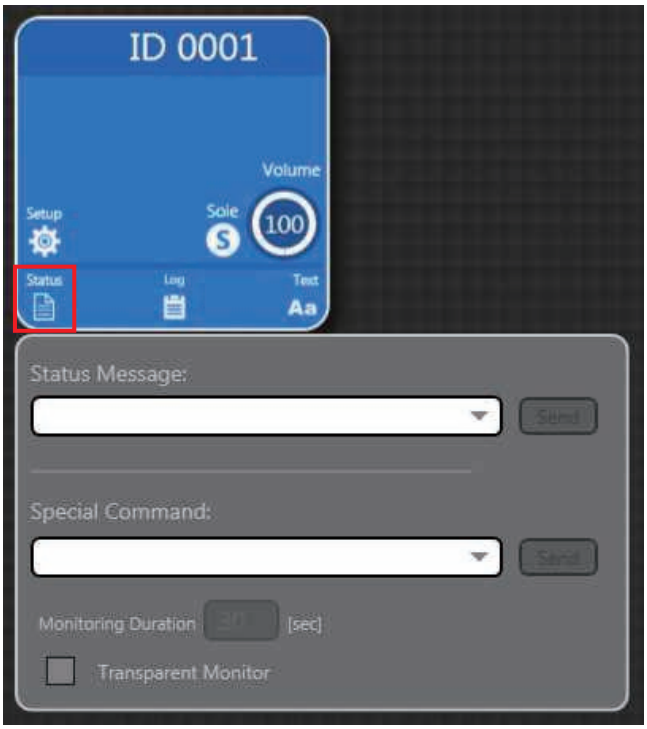

Figure 9-32 Send Status Message

Sending a Status Message

Select the status message to send from **Status Message**, followed by clicking the “Send” button to send the selected message.

Table 9-19 Sending a Status Message

Item	Description	Configurable Range	Default
Status Message	**Status Message** allows you to select the status message to send.	Status message configured on the **Status Message** screen. (Refer to Configuring the Status Message on page 122.) Note Status messages cannot be selected if the Receive Only is set to Check on the **Status Message** screen.	Blank
“Send” button	Sends out a status message.	-	-

Sending a Special Command

Select the special command to send from **Special Command**, followed by clicking the “Send” button to send the selected command.

Note

Special commands can only be sent by users who are assigned with the “Admin”, “Basic + Special” or “Basic + Patch&Special” operation authority. (Refer to Registering a User on page 57.)

Table 9-20 Sending a Special Command

Item	Description	Configurable Range	Default
Special Command	**Special Command** allows you to select the special command to send.	The configurable range varies according to the protocol of the communication system configured on the KAS-20CE. (Refer to Details on Special Command on page 389.) **NXDN Trunking (Type-C)/ NXDN Conventional:** Stun, Revive, Kill, Remote Monitor **Trunking 2.5:** Stun, Revive, Radio Check **DMR Tier III Trunking/ DMR Conventional:** Stun, Revive, Kill, Radio Check **DMR Conventional (via TKR-D series):** Stun, Revive, Kill **FleetSync:** **Type = Individual:** Activate Horn Alert, Stun (TX inhibit), Stun (TX/RX inhibit), Revive, Kill, Remote Monitor **Type = Fleet, Group, Supervisor:** Activate Horn Alert	Blank
Monitoring Duration	**Monitoring Duration** allows you to configure the time interval to maintain the transceiver in the transmitting state when using the Remote Monitor command. Note • This function can be configured only for NXDN Trunking (Type-C)/ NXDN Conventional/ FleetSync. • This function can be configured only if “Remote Monitor” is selected in **Special Command**.	1 sec to 255 sec	30 sec
Transparent Monitor	**Transparent Monitor** allows you to configure whether to display a message on the transceiver display and light up the transmission LED while the transceiver is configured to the transmitting state using the Remote Monitor command. Note • This function can be configured only for NXDN Trunking (Type-C)/ NXDN Conventional/ FleetSync. • This function can be configured only if “Remote Monitor” is selected in **Special Command**.	**Check (Enable):** Displays a message on the transceiver display and lights up the transmission LED while the transceiver is configured to the transmitting state using the Remote Monitor command. **Uncheck (Disable):** Does not display a message on the transceiver display and or light up the transmission LED while the transceiver is configured to the transmitting state using the Remote Monitor command.	Unchecked (Disabled)
“Send” button	Sends out a special command.	-	-

Sending a Text Message

Clicking the text message icon in the Dispatch Tile displays a text message transmission screen, which enables the sending of a text message.

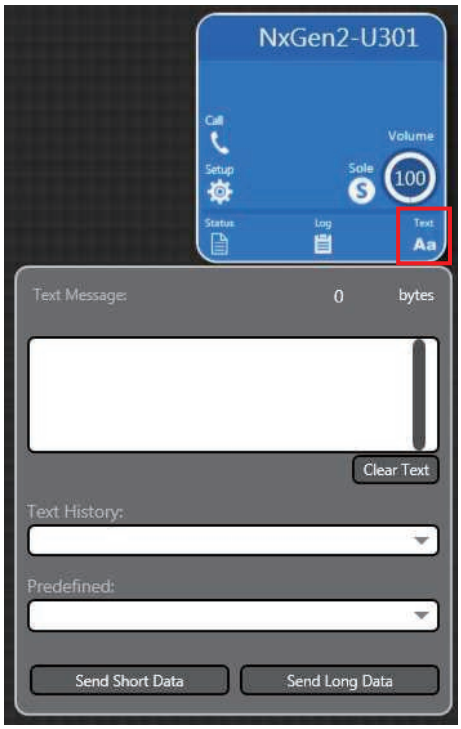

Figure 9-33 Send Text Message

Select the text message to send using one of the methods below, followed by clicking the “Send” button to send the selected text message.

- Enter the text message to send in **Text Message**.
- Select a text message from previously sent messages in **Text History**.
- Select a predefined text message in **Predefined**.

Note

- When the maximum number of input characters for **Text Message** is exceeded, the “Send Short Data” and “Send Long Data” buttons are deactivated and text messages cannot be sent.
- The text messages of Long Data Message are not displayed on the screen of the mobile station.

Table 9-21 Sending a Text Message

Item	Description	Configurable Range	Default
Text Message	**Text Message** allows you to enter the text message to send. Note The number of characters of the Short Data Message that can be sent varies according to the protocol of the communication system configured on the KAS-20CE and the configuration of **Type** of the destination. (Refer to Number of characters of the Short Data Message that can be sent on page 220.)	The configurable range varies according to the protocol of the communication system configured on the KAS-20CE. **NXDN Trunking (Type-C)/ NXDN Conventional/ DMR Tier III Trunking/ DMR Conventional:** 1 byte to 4096 bytes **Trunking 2.5:** 1 byte to 44 bytes **DMR Conventional (via TKR-D series):** **Type = Individual or Console:** IP network connection: 1 byte to 986 bytes Serial connection: 1 byte to 978 bytes **Type = Group or All:** IP network connection: 1 byte to 738 bytes Serial connection: 1 byte to 730 bytes **FleetSync:** 1 byte to 4096 bytes Note Depending on the base station transceiver type, up to 1024 bytes of characters can be sent and received for FleetSync.	Blank
“Clear Text” button	Clears the text entered in **Text Message**.	-	-
Text History	**Text History** allows you to select up to 10 text messages that were sent previously. The selected text messages are displayed in **Text Message**.	10 text messages that were sent previously	Blank
Predefined	**Predefined** allows you to select a text message that is predefined in the KAS-20CE. The selected text messages are displayed in **Text Message**. Note The text message displayed in **Predefined** can be configured in **Predefined Text Message** on the **Dispatch** screen. (Refer to Configuring the Functions to Be Used on Dispatch Window on page 179.)	Text messages that are predefined in the KAS-20CE	Blank

Item	Description	Configurable Range	Default
“Send Short Data” button	Sends out a text message as a Short Data Message. (Refer to Number of characters of the Short Data Message that can be sent on page 220.)	-	-
“Send Long Data” button	Sends out a text message as a Long Data Message. Note • The text messages of Long Data Message are not displayed on the screen of the mobile station. • This button is not displayed only for DMR Conventional (via TKR-D series).	-	-

Initiating Voice Call Using the Destination Setting of the Transceiver

A Voice Call can be transmitted using the destination setting of the base station transceiver that is connected serially in a serial connection.

The KAS-20CE uses the destination setting of the base station transceiver that is connected serially when transmitting a voice call using one of following operations.

- Selecting **Base Station PTT** in the **Radio Resource List**
- Selecting the default Dispatch Tile with **Base Station PTT** selected in the **Radio Resource List**
- Selecting the **Base Station PTT** Dispatch Tile (Refer to Adding a Dispatch Tile on page 373.)

Note

- To use this function, it is necessary to enable the **Transmit with Base Station Configuration**. (Refer to Configuring Settings Related to Serial Connection on page 89.)
- This function cannot be used in an IP network connection.
- The contents displayed in the Dispatch Tile when **Base Station PTT** is placed as the Dispatch Tile, or the contents displayed in the default Dispatch Tile with **Base Station PTT** selected in the **Radio Resource List** are as follows:
  - The name is displayed as “Base Station PTT”.
  - The sender ID display bar is left blank.
  - Priority Monitor, Volume, Send Status Message, Send Text Message, Setup, Call/Paging, and Call Interruption are not displayed.
  - **To** in the transmission log is left blank and “(Transmit with Base Station Configuration)” is added at the end of **Activity**.

Checking the Communication Log

Clicking the “Log” icon in the Dispatch Tile displays a Log screen, which enables viewing of the communication log of the selected mobile station.

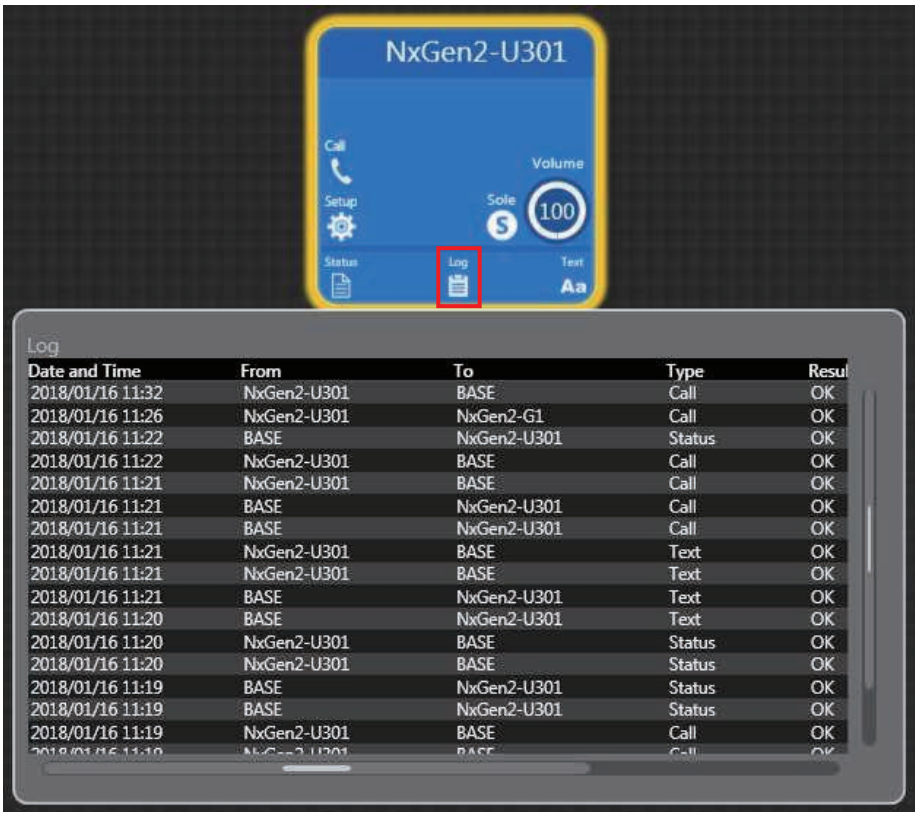

Figure 9-34 Log

Table 9-22 Log Screen

Item	Description
Date and Time	**Date and Time** displays the date and time the log data was saved.
System	**System** shows the system name. When **System Name** is enabled, a System column is displayed. (Refer to Configuring Settings Related to Log Data Acquisition on page 182.)
From	**From** displays the name or number of the mobile station at the sending end. When a voice call is received from a telephone in NXDN Trunking (Type-C), “Telephone” is displayed. When a voice call is received from a SIP Phone in NXDN Conventional, “Telephone” is displayed. When a voice call is received from a SIP Phone in DMR Tier III Trunking/ DMR Conventional, “Telephone(PSTN)” or “Telephone(PABX)” is displayed. If DMR Tier III Trunking is enabled in **Fleet Dialing Plan**, and if a voice call is received from a non-administered mobile station (when the mobile station is not registered in **Radio Resource List** or when the mobile station is registered in **Radio Resource List** but **Target List** is disabled), a value configured in the Prefix - Fleet - IN format is displayed.
To	**To** displays the name or number of the mobile station at the receiving end.
Type	**Type** displays the type of communication.
Result	**Result** displays the transmission results.
Activity	**Activity** displays descriptions of the activity.
Talk Time	**Talk Time** displays the calling time of a voice call.

Encryption Setting During Transmission

Clicking the setting icon in the Dispatch Tile displays a setting screen, which enables the configuration of an encryption key for use during transmission.

Figure 9-35 Setup (Scrambler/ Encryption)

Table 9-23 Encryption Key Setting

Item	Description	Configurable Range	Default
Scrambler/ Encryption	**Scrambler/ Encryption** allows you to configure the number of the encryption key for use during transmission. Note • An encryption key number for which Key Data has been configured in the **Scrambler/ Encryption** of the **IP Network** screen can be configured. (Refer to Configuring the IP Network on page 67.) • This function can be configured only for IP network connection. • Changes made during communication will not affect the settings during the communication (including Talkback). The changes will reflected from the start of the next communication.	None, 1 to 32	None

Configuring the Type of Group Call

Clicking the setting icon in a Dispatch Tile of the Group ID type displays a setting screen, which enables the configuration of the types of group calls.

Figure 9-36 Setup (Group Call Type)

Table 9-24 Group Call Type Setting

Item	Description	Configurable Range	Default
Group Call Type	**Group Call Type** allows you to specify whether to make a group call as a Conference Call or a Broadcast Call.	**Conference:** Makes a group call to mobile stations with the same Conference Call ID. Mobile stations that have received a Conference Call are able to respond to the call. **Broadcast:** Makes a group call to mobile stations with the same Broadcast Call ID. Mobile stations that have received a Broadcast Call are not able to respond to the call.	Conference

Note

- If the protocol is NXDN Trunking (Type-C), this function can be configured only for Dispatch Tiles of the “Group” or “All” ID **Type**.
- If the protocol is Trunking 2.5/ DMR Tier III Trunking/ DMR Conventional/ DMR Conventional (via TKR-D series), this function can be configured only for Dispatch Tiles of the **Type** ID “Group”.
- If the protocol is NXDN Conventional or FleetSync, this function cannot be configured. The system will operate in the same way as when “Conference” is configured.
- Changes made during communication will not affect the settings during the communication (including Talkback). The changes will reflected from the start of the next communication.

Configuring the Slot and Open Voice Channel Mode Used for Transmission

When protocol is configured to DMR Conventional/ DMR Conventional (via TKR-D series), clicking the setting icon in the Dispatch Tile displays a setting screen, which enables configuration of the slot and Open Voice Channel Mode to be used during transmission.

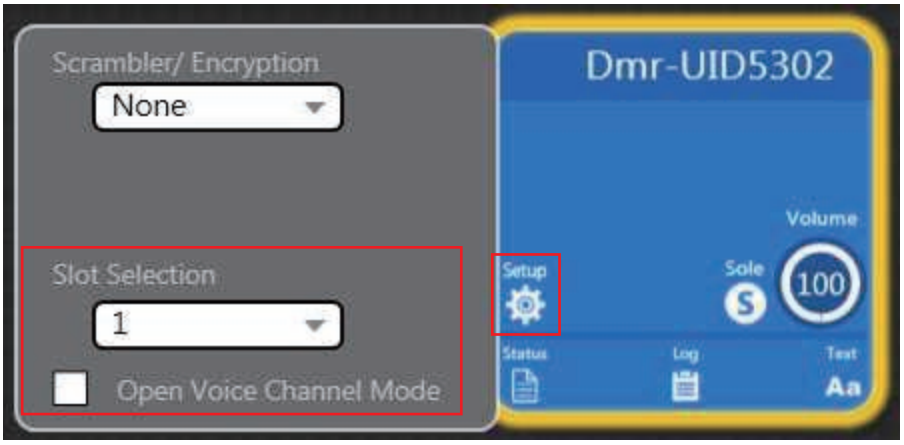

Figure 9-37 Setup (Slot Selection, Open Voice Channel Mode)

Table 9-25 Slot Selection and Open Voice Channel Mode Settings

Item	Description	Configurable Range	Default
Slot Selection	**Slot Selection** allows you to configure the slot to be used during transmission. Note • This function can be configured only for DMR Conventional/ DMR Conventional (via TKR-D series) in an IP network connection. • Changes made during communication will not affect the settings during the communication (including Talkback). The changes will reflected from the start of the next communication.	1, 2	1
Open Voice Channel Mode	**Open Voice Channel Mode** allows you to configure whether to transmit audio in **Open Voice Channel Mode**. Upon the first transmission with **Open Voice Channel Mode** enabled, **Open Voice Channel Mode** is automatically disabled. Note • This function can be configured only for DMR Conventional/ DMR Conventional (via TKR-D series) in an IP network connection. • This function cannot be configured if “Unaddress” is configured in **Type**. • Changes made during communication will not affect the settings during the communication (including Talkback). The changes will reflected from the start of the next communication.	**Check (Enable):** Transmits in **Open Voice Channel Mode**. **Uncheck (Disable):** Does not transmit in **Open Voice Channel Mode**.	Unchecked (Disable)

Configuring the Priority of Audio Transmission

When protocol is configured to DMR Tier III Trunking, clicking the setting icon in the Dispatch Tile displays a setting screen, and the priority of audio transmission can be configured.

Figure 9-38 Setup (Priority Call)

Table 9-26 Priority Call Settings

Item	Description	Configurable Range	Default
Priority Call	**Priority Call** allows you to configure the priority of audio transmission. Upon the first transmission with “High Priority” selected in **Priority Call**, the setting will be changed to “Normal”. Note • This function can be configured only for DMR Tier III Trunking. • Changes made during communication will not affect the settings during the communication (including Talkback). The changes will reflected from the start of the next communication.	**Normal:** The priority of audio transmission is normal. **High Priority:** The priority of audio transmission is higher.	Normal

Transmission Operation of Call Interruption Request Message

Call Interruption is the function to suspend voice calls from mobile stations other than the sender by sending and receiving a Trunking 2.5 request message in DMR Tier III Trunking/ DMR Conventional/ Call Interruption. The mobile station which receives a Call Interruption request message on the channel of a voice call terminates the voice call.

By using this function, the call with a lower priority is terminated and the call with a higher priority can be initiated even with no traffic channel available.

If **Encode** is enabled, the ID button is displayed in the position of the Dispatch Tile button during audio reception in “Call” of the “Interruption” by the KAS-20CE.

In an IP network connection, a Call Interruption request message is sent if the following operations are made for the ID that is being received.

- Pressing the “Interruption” button of the Dispatch Tile.
- Operating the “PTT” button with **PTT Response while Reception** enabled.

In a serial connection, a Call Interruption request message is sent if the following operations are made for the ID that is being received.

- Pressing the “Interruption” button of the Dispatch Tile with **Encode (Call Interruption)** enabled on the transceiver.
- Pressing the **In-call Busy Channel Lockout** button of the KAS-20E while “Interrupt CALL” is configured in “PTT” on the transceiver.
- Sending data other than audio from the KAS-20E, such as **Interrupt Message Call**, while Short Data Message is enabled on the transceiver.

Note

- When an Trunking 2.5 or DMR Tier III Trunking is being received in All Call/ Broadcast Call, ID cannot be executed for the Call Interruption.
- When one of the following audio is being received in DMR Conventional, Call Interruption cannot be executed for the ID:
  - Emergency Call
  - Audio encrypted by Enhanced Encryption
  - Audio with **Over-the-Air Alias** enabled on the transceiver
  - Audio with “One-shot” or “Interval” configured in **Report (GPS Report with Voice)** on the transceiver
  - Audio with **Decode (Call Interruption)** disabled on the transceiver

  In a serial connection, Call Interruption fails even if the “Interruption” button is pressed upon receipt of audio for which Call Interruption cannot be executed.
- If KAS-20E is receiving a DMR Conventional in Broadcast Call, **PTT Response while Reception** cannot be executed even if the “PTT” button is pressed, regardless of the configuration in Call Interruption.
- In an IP network connection, ID cannot be executed when the KAS-20E is not receiving, while the KAS-20E transmits in the Dispatch Tile other than that of the ID being received, or when the Dispatch Tile of the Patch Group being received is registered in the Call Interruption and the Patch behavior is started.
- In a serial connection, Call Interruption cannot be executed when the transceiver is not receiving.
- Call Interruption cannot be executed while audio data is being received from a SIP Phone.

Display during the Transmission of a Call Interruption Request Message

During the transmission of a Call Interruption request message, “Interrupt” is displayed on the sender ID display bar.

Display When the Transmission of a Call Interruption Request Message Is Successful

If the transmission of a Call Interruption request message is successful, “Complete” is displayed on the sender ID display bar for 3 sec.

Note

“Complete” is not always displayed for 3 sec because the time displayed on the sender ID display bar after audio reception ends may be shorter depending on the calling time or the system configuration.

Display When the Transmission of a Call Interruption Request Message Failed

If the transmission of a Call Interruption request message failed, for Trunking 2.5/ DMR Tier III Trunking, “Fail” is displayed on the sender ID display bar for 3 sec. The transmission is also failure if there is no response before the time configured in Call Interruption elapses after the transmission of a **Call Interruption Wait Time** request message is initiated.

For DMR Conventional, “Fail” is displayed on the sender ID display bar for 3 sec if the reception does not stop within 4 sec after Call Interruption was operated.

9.5 Forwarding a Voice Call

A voice call received by the KAS-20CE can be forwarded to a mobile station that is registered in Patch Group in an IP network connection.

When a voice call is received from a mobile station registered in a Patch Group, the received call is forwarded to all other mobile stations registered in the Patch Group.

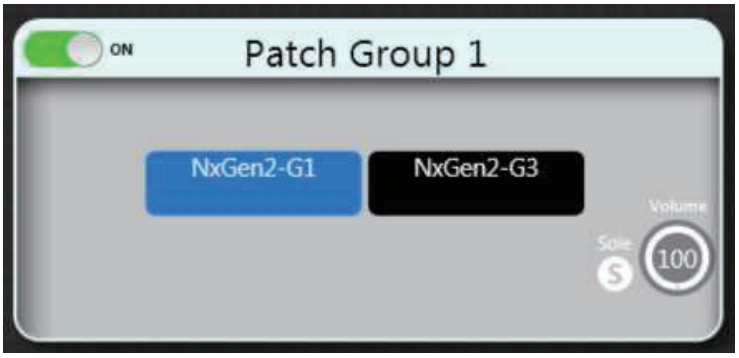

Figure 9-39 Patch Group

Note

- A voice call cannot be forwarded in a serial connection.
- The sender ID that is sent to the mobile stations receiving the forwarded call is indicated as the Console ID of the KAS-20CE.
- The KAS-20CE is also able to communicate with the mobile stations registered in Patch Group.
- Only mobile stations of the Group ID type and mobile stations that are clicked on in the Scan Add screen of the KAS-20CE setting screen can be registered in the Patch Group. However, for NXDN Conventional, DMR Conventional, or DMR Conventional (via TKR-D series) communication systems, only 1 Group ID of the same system within the same Patch Group can be registered.
- The same ID cannot be configured for multiple Patch Groups.
- Do not configure the same ID combinations in the Patch Group for multiple KAS-20CE. The call will be forwarded to the same ID at the same time, and the forwarding may not work properly.
- When registering the Group ID of a different system, it is recommended to configure the following values of each protocol to the same value.
  - For NXDN Trunking (Type-C): NEXEDGE 2nd Generation:
    The following **Hold Timer** of the System Configuration Utility (SCU) of the repeater that is being communicated with.
    Edit > System Configuration > Default Timers
  - For NXDN Trunking (Type-C): NEXEDGE 1st Generation:
    The following **Hold Timer** of the FPU of the repeater that is being communicated with (e.g., KPG-110SM).
    Edit > System Configuration > Timers
  - For NXDN Conventional:
    The following **Repeater Hold Time** of the FPU of the repeater that is being communicated with (e.g., KPG-109D).
    Edit > Optional Features > Common Page 1 > Repeater/External/Network/Console PTT > Repeater Hold Time
  - For Trunking 2.5, DMR Tier III Trunking:
    The following KAIROS of the KA-NMS Network Management System (**Channel P_Protect Timeout**) of the repeater that is being communicated with.
    Settings > System > Audio/Data Call > Channel P_Protect > Channel P_Protect Timeout
  - For DMR Conventional, DMR Conventional (via TKR-D series):
    The value of the following **Resume Time** of the KAS-20CE is adding 3 [s] to the value of **Hold Timer** or **Repeater Hold Time** of other protocols.
    Setup > Setting > System > IP Network > Resume Time
- The Group Type of the forwarded voice call depends on the Group Type of the received voice call.
- If a mobile station that is registered in the Patch Group receives a Broadcast Call, the call is forwarded only to a mobile station of a communication system where a Broadcast Call can be made (NXDN Trunking, Trunking 2.5, DMR Tier III Trunking, DMR Conventional, or DMR Conventional (via TKR-D series)).
- If the Patch Group that is receiving a Broadcast Call is selected, a voice call cannot be started from the KAS-20CE until the sender ID display bar disappears even if the “PTT” button is clicked.
- When the repeater enters the Queue state and the KAS-20CE is waiting to initiate a voice call, “QUEUE” is displayed on the sender ID display bar. The **Queuing Tone** is emitted repeatedly while the KAS-20CE is waiting to initiate a voice call.
- If a voice call from a SIP Phone is received with the group ID registered in Patch Group, the Patch behavior does not occur.

Creating a Patch Group

A Patch Group can be created in the Dispatch pane and mobile stations can be registered in the Patch Group.

Note

Mobile stations can be registered in the Patch Group only for IP network connection.

1 Click the “Layout Locked” button.

The Dispatch pane switches to the “Layout Unlocked” state. (Refer to Locking/Unlocking the Dispatch Pane on page 378.)

2 Click the “Add Patch Group” button.

Figure 9-40 Add Patch Group

A Patch Group is created in the **Dispatch** pane.

Figure 9-41 After Patch Group is Created

Note

- If there is no space on the Dispatch pane for creating a Patch Group, clicking the “Add Patch Group” button displays an error message.
- A maximum of 3 Patch Groups can be created.

3 **Select the mobile station to register from the Radio Resource List pane, and drag and drop it in the Patch Group.**

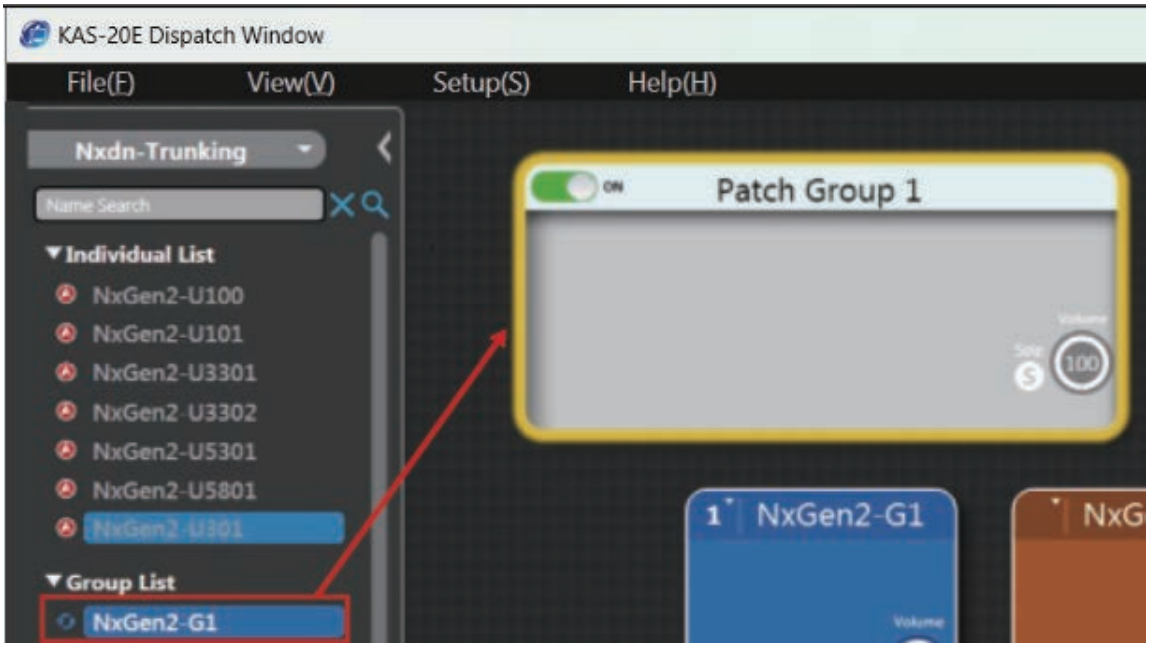

Figure 9-42 Before Mobile Station is Registered

The selected mobile station is registered in the Patch Group.

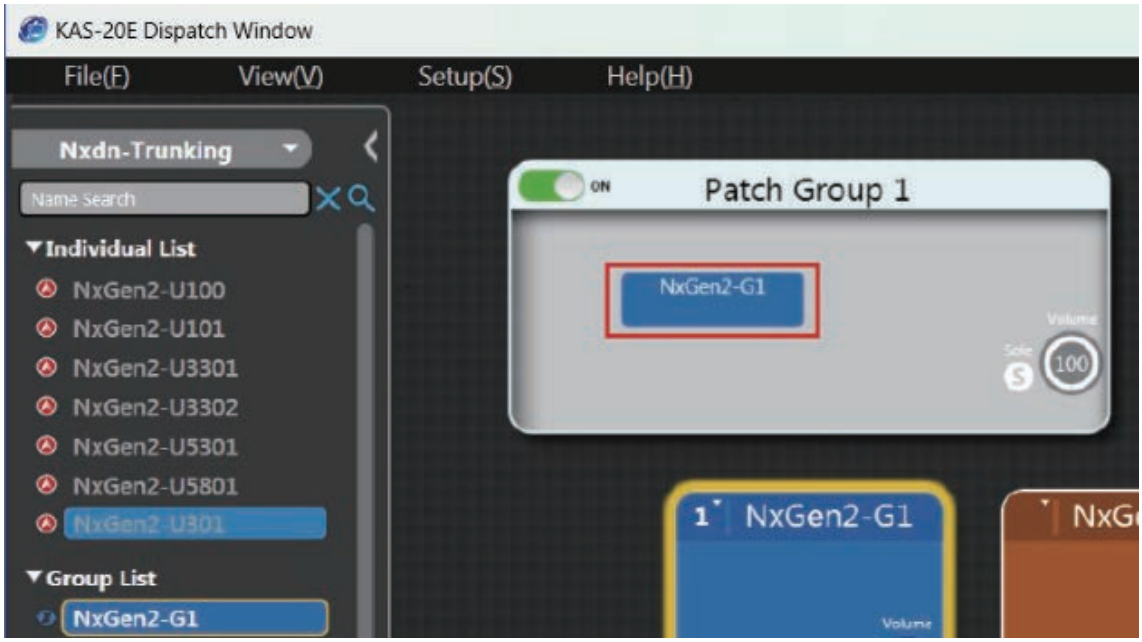

Figure 9-43 After Mobile Station is Registered

4 **Repeat step 3 to register a different mobile station.**

Note

- It is necessary to register at least 2 mobile stations in a Patch Group in order to enable the Patch function.
- Up to 4 mobile stations of the Group ID type within the same communication system can be registered in a single Patch Group.
- The ID type cannot be registered outside the group.
- Groups in which the **Scan Add** checkbox is not selected cannot be registered.

5 **Click the “Layout Unlocked” button.**

The Dispatch pane switches to the “Layout Locked” state and the changes are confirmed. (Refer to Locking/Unlocking the Dispatch Pane on page 378.)

Adding a Mobile Station to a Patch Group

Mobile stations can be added to a Patch Group. There is no need to unlock the **Dispatch** pane when adding mobile stations to a Patch Group.
For details on the procedure, refer to Steps 3 and 4 in “Creating a Patch Group on page 415”.

Starting or Stopping Patch Operation

Select the ON/ OFF switch of the Patch Group to start or stop Patch operations.

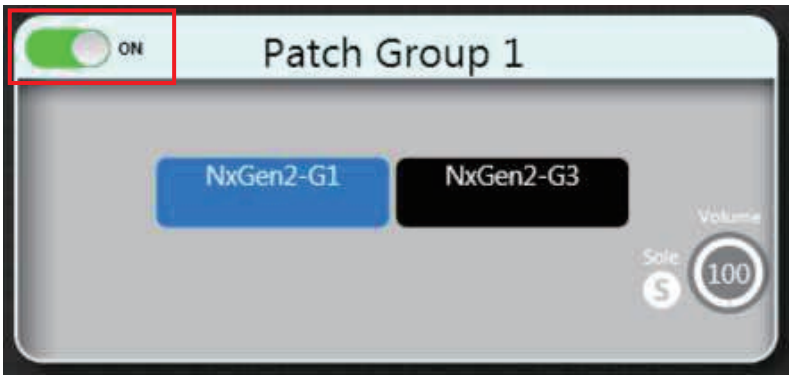

Figure 9-44 ON/ OFF of Patch Group

Note

- When the ID registered in the Patch Group is in communication, the ON/ OFF switch is disabled and Patch operations cannot be changed.
- If the operation authority of a user is changed after creating a Patch Group and the Patch becomes inoperable, the Patch Group will be turned OFF and deactivated.

Configuring the Volume of the Received Audio

The volume level can be configured for each Patch Group.

Note

In the case of voice calls for mobile stations that are registered both in a Patch Group and a Dispatch Tile, priority will be given to the volume setting of the Patch Group.

Adjusting the Volume Level

Clicking the volume display icon in the Patch Group displays a volume control bar for adjusting the volume level.

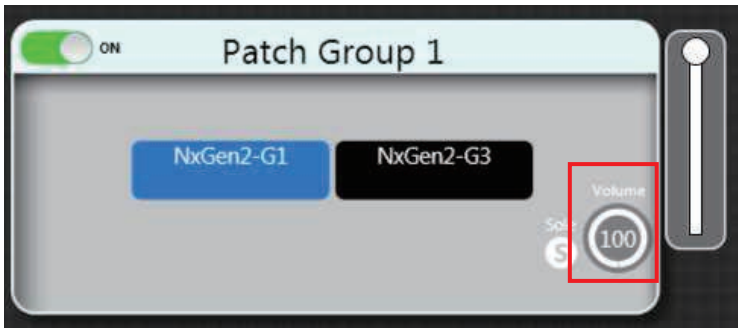

Figure 9-45 Volume Control

Playing Back Audio Sound Received Only in a Specific Dispatch Tile

Clicking the “Sole” icon in a Patch Group enables playback of the audio sound only for the corresponding Patch Group. Audio sound in the other Patch Groups is muted.

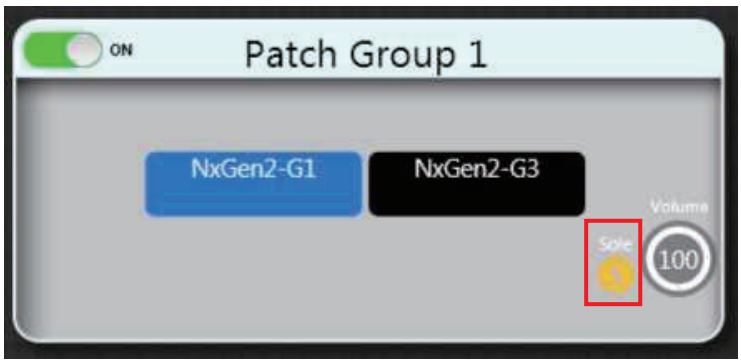

Figure 9-46 Single Playback

Note

Single playback can only be executed in one Patch Group at a time. For example, if the “Sole” button of Patch Group 2 is clicked while single playback is ongoing in Patch Group 1, playback in Patch Group 1 ends and playback in Patch Group 2 starts.

Deleting a Mobile Station from a Patch Group

Mobile stations can be deleted from a Patch Group.

1 **Select the mobile station to delete from a Patch Group, and drag and drop it in the “Delete” icon.**

Figure 9-47 Delete

A confirmation message box appears.

2 **Click the “OK” button.**

The selected mobile station is deleted from the Patch Group.

Figure 9-48 Deletion of Mobile Station

Note

- There is no need to unlock the **Dispatch** pane when deleting a mobile station from a Patch Group.
- Mobile stations cannot be deleted from a Patch Group while the Patch function is running.

Deleting a Patch Group

A Patch Group can be deleted.

1 **Click the “Layout Locked” button.**

The Dispatch pane switches to the “Layout Unlocked” state. (Refer to Locking/Unlocking the Dispatch Pane on page 378.)

2 **Select the Patch Group to delete, and drag and drop it in the “Delete” icon.**

Figure 9-49 Delete

A confirmation message box appears.

3 Click the “OK” button.

The selected Patch Group is deleted.

Figure 9-50 Deletion of Patch Group

4 Click the “Layout Unlocked” button.

The Dispatch pane switches to the “Layout Locked” state and the changes are confirmed. (Refer to Locking/Unlocking the Dispatch Pane on page 378.)

Note

Patch Group cannot be deleted while the Patch function is running.

9.6 Operation during Reception

This section explains the Dispatch Tile and Patch Group displays when a voice call, text message or status message is received.

Operation When Receiving a Voice Call

Incoming Voice Call from a Mobile Station Registered in a Dispatch Tile

- The display changes as follows to indicate that a Dispatch Tile is currently receiving a voice call.
- When a voice call with alias information is received, the alias information is displayed in place of the mobile station name.
- Audio sound is played back automatically when a voice call is received. However, audio sound will not play back automatically when **Message Trunked (Enhanced)** is enabled and **Automatic Response** is disabled.
- Audio sound received is not played back when transmitting a voice call.
- An animated " " icon is displayed during the transmission.
- Clicking the " " button in an IP network connection ends the voice call.

Figure 9-51 Dispatch Tile

Note

- The default Dispatch Tile is used when a voice call is received from a mobile station that is not registered in the Dispatch Tile. In this case, reception behaves in the same way as that described above.

Figure 9-52 Default Dispatch Tile

- If DMR Tier III Trunking is enabled in **Fleet Dialing Plan**, and if a voice call is received from a non-administered mobile station (when the mobile station is not registered in **Radio Resource List** or when the mobile station is registered in **Radio Resource List** but **Target List** is disabled), a value configured in the Prefix - Fleet - IN format is displayed.

Incoming Voice Call from a Mobile Station Registered in a Patch Group

- The display for the mobile station of a Patch Group changes as follows to indicate that it is currently receiving a voice call.
- When a voice call with alias information is received, the alias information is displayed in place of the mobile station name.
- Audio sound is played back automatically when a voice call is received.
- Audio sound received is not played back when transmitting a voice call.

Figure 9-53 Patch Group

Incoming Voice Call That Requires a Response Action

When a voice call that requires a response action is received, a “ ” button and a “ ” button are displayed as shown below.

Figure 9-54 Response Action

Table 9-27 Response Action during an Incoming Voice Call

Item	Description
“ ” Button	Starts a voice call.
“ ” Button	Denies a voice call. Note This item is displayed only for IP network connection.

Note

When a voice call that requires a response action is received, the voice call can be started by selecting the corresponding Dispatch Tile and clicking the “PTT” button in the box.

Multiple Incoming Calls

When multiple voice calls are received at the same time in an IP network connection, the reception behavior varies depending on the number of authenticated VOICE PATH LICENSE (KWD-20C-VP). (Refer to About Software Upgrade License on page 13.)

● When there is only one VOICE PATH LICENSE (KWD-20C-VP)

When multiple voice calls are received, the Dispatch Tiles switch the display to indicate an incoming voice call if the mobile stations from which the calls are received are registered in the Dispatch Tile. In this case, only the audio sound of the first incoming voice call is emitted.
The default Dispatch Tile is used to receive only the first incoming call if voice calls are received from multiple mobile stations that are not registered in the Dispatch Tile. The information on the second and subsequent calls can be viewed in the **Call** tab of the **Log** pane. After the first call has ended and the second incoming call is still ongoing, the default Dispatch Tile will switch to display information of the mobile station for the second call. (Refer to Checking the Communication Log on page 429.)

● When there are 2 or more VOICE PATH LICENSE (KWD-20C-VP)

- The same number of received audio sounds as the number of authenticated VOICE PATH LICENSE (KWD-20C-VP) can be played back at the same time.
- To listen to only one of the audio sound data, click the “Sole” button corresponding to the Dispatch Tile to listen to, and only the audio sound of the selected Dispatch Tile will be played back. (Refer to Configuring the Volume of the Received Audio on page 399.)
- The Dispatch Tile for which sound is to be played back can also be switched by clicking the “ ” button.

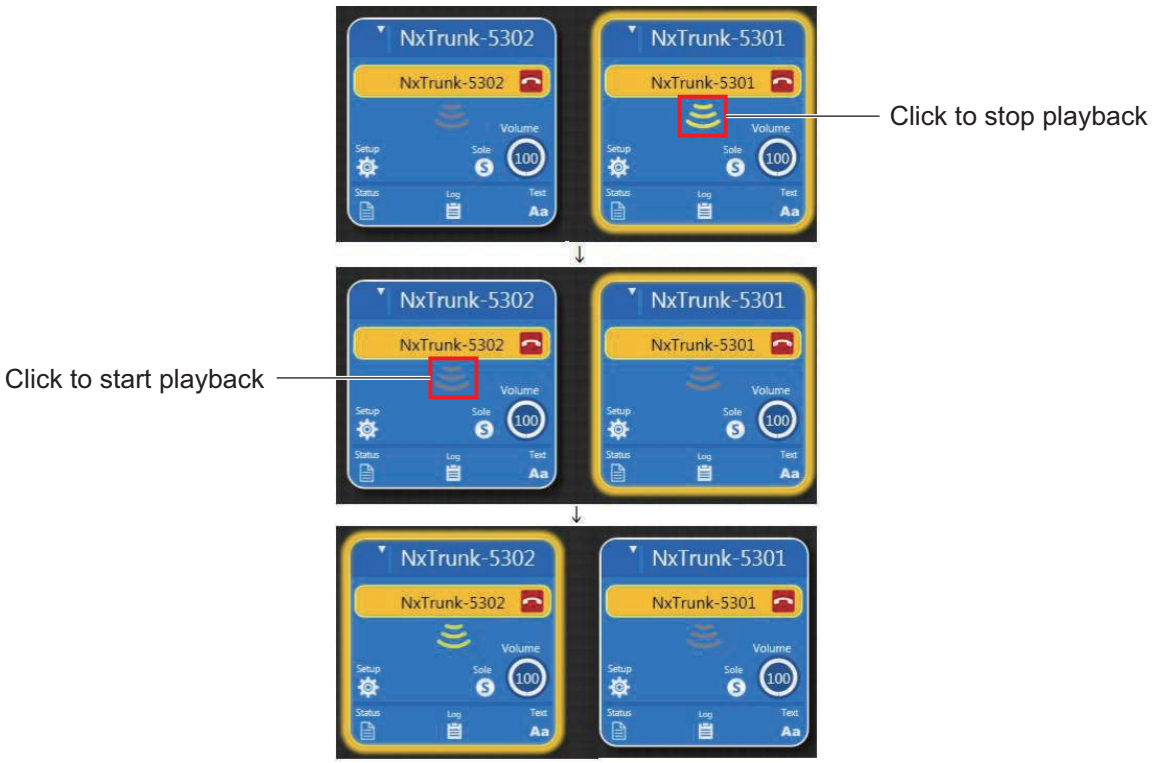

Figure 9-55 Monitor Button

Incoming Voice Call from a Telephone or a SIP Phone

In NXDN Trunking (Type-C), a voice call can be received from a telephone.

In NXDN Conventional/ DMR Tier III Trunking/ DMR Conventional, a voice call can be received from a SIP Phone.

An incoming voice call from a telephone or a SIP Phone is supported only in group calls. The call is received in the default Dispatch Tile or Dispatch Tile of Group ID type.

Figure 9-56 Receiving an Incoming Voice Call From a Telephone (Example of NXDN Trunking (Type-C) Screen)

When a voice call is received from a telephone, “Telephone” is displayed.

When a voice call is received from a SIP Phone, “Telephone”, “Telephone(PSTN)”, or “Telephone(PABX)” is displayed.

A reply can be made for the received voice call but transmission cannot be made from the KAS-20CE to a telephone or a SIP Phone.

For a call from a SIP Phone, a reply can be made to the SIP Phone by pressing the “PTT” button while audio data of the SIP Phone is being received.

For a call between a telephone or a SIP Phone and KAS-20CE, communication alternates.

Incoming Voice Call with a Higher Order of Receiving Priority

Upon receiving a voice call from a mobile station with a higher priority during reception in an IP network connection, the KAS-20CE switches automatically to receive the call with a higher level of priority. (Refer to Configuring the Order of Receiving Priority on page 398.)

Operation When Receiving a Text Message

The content of the text message appears in the **Text** tab of the **Log** pane when a text message is received. (Refer to Checking the Communication Log on page 429.)

Operation When Receiving a Status Message

The content of the status message appears in the **Status** tab of the **Log** pane when a status message is received. (Refer to Checking the Communication Log on page 429.)

Note

- When a Paging Call status message is received in an IP network connection, “Paging” is displayed in the Dispatch Tile. This display continues throughout the voice call.
- The receiving of Paging Call status message is not supported in a serial connection.

9.7 Starting/ Stopping Lone Worker

Lone Worker is a function to check whether the user of a mobile station is in an emergency state due to an accident or other reasons.

If a **Lone Worker** response status is not received from a mobile station for a certain time interval after a **Lone Worker** request status has been sent from the KAS-20SE, the user of the mobile station is deemed to be in an emergency state.

Selecting “Lone Worker” from the **View** menu displays a **Lone Worker** dialog box that enables the starting or stopping of the **Lone Worker** function.

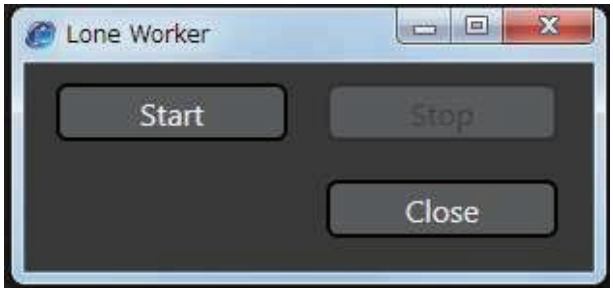

Figure 9-57 Lone Worker

Table 9-28 Lone Worker

Item	Description
“Start” button	Starts **Lone Worker**. Activated while Lone Worker is stopped.
“Stop” button	Stops **Lone Worker**. Activated while Lone Worker is running.
“Close” button	Closes the **Lone Worker** dialog box.

Note

- **Lone Worker** continues to operate in the start or stop state even after the **Lone Worker** dialog box is closed.
- The functions of **Lone Worker** can be configured on the **System** screen. (Refer to Configuring the Lone Worker Function on page 118.)

9.8 Checking the Communication Log

The **Log** pane allows you to view the communication logs and logs related to the different types of notifications.

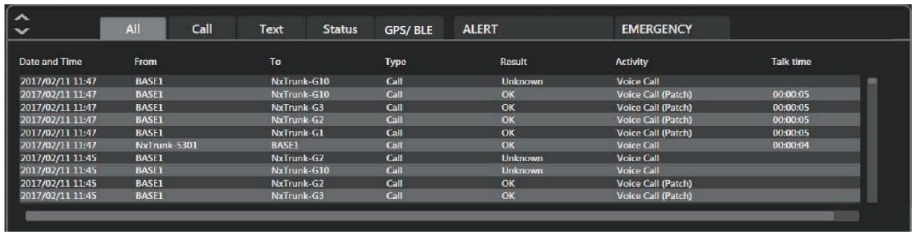

Figure 9-58 Log Pane

The **Log** pane is made up of the following tabs.

Table 9-29 Log Pane

Tab	Description
All	Displays all logs regardless of the content of communication.
Call	Displays the logs of voice calls. A log is displayed when a voice call starts, and the time elapsed (ending time) is added to the log display when the call ends.
Text	Displays the content of text messages that have been sent and received.
Status	Displays the status messages, status message request messages, Call Interruption request messages, and Special Command that are sent or received. • For status messages that are registered on the **Status Message** screen, the registered information is displayed. (Refer to Configuring the Status Message on page 122.) • The status messages for status numbers --- (Emergency), --- (Emergency Man-down), --- (Stationary Detection), --- (Motion Detection), and --- (Lone Worker) are not displayed for all communication systems. • Status messages that are contained inside the GPS Data are also not displayed.
GPS/ BLE	Displays the GPS Data and BLE Data (positional information) as well as the GPS Data and BLE Data request messages.
ALERT	Displays a Geofence alert when the Geofence settings have been violated. (Refer to Alert Display for Geofence on page 281.) Displays a Speeding warning when the value configured for **Speed Limit** on the **Radio Resource List** screen is exceeded. (Refer to Configuring a Mobile Station on page 98.)
EMERGENCY	Displays the emergency notifications. • The status messages for status numbers --- (Emergency), --- (Emergency Man-down), --- (Stationary Detection), --- (Motion Detection), and --- (Lone Worker) are displayed.
Filtered	Displays the filtered communication log history. (Refer to Displaying the Communication Log History on page 434.) • Displays the search results from the **Log Filter and Export** dialog box. • This tab is displayed only when the filter settings are configured in the **Log Filter and Export** dialog box.
Application Error	A tab appears when a problem occurs on the KAS-20CE and the content of the error is displayed in the tab. The number of errors is displayed in the tab. Records of the errors are retained until the KAS-20CE is closed.

The following information is displayed in each tab.

Table 9-30 Contents of the Display

Item	Description
Date and Time	**Date and Time** displays the date and time the log data was saved.
System	**System** shows the system name. When **System Name** is enabled, a System column is displayed. (Refer to Configuring Settings Related to Log Data Acquisition on page 182.)
From	**From** displays the name or number of the mobile station at the sending end. When a voice call is received from a telephone in NXDN Trunking (Type-C), “Telephone” is displayed. When a voice call is received from a SIP Phone in NXDN Conventional, “Telephone” is displayed. When a voice call is received from a SIP Phone in DMR Tier III Trunking/ DMR Conventional, “Telephone(PSTN)” or “Telephone(PABX)” is displayed. If DMR Tier III Trunking is enabled in **Fleet Dialing Plan**, and if a voice call is received from a non-administered mobile station (when the mobile station is not registered in **Radio Resource List** or when the mobile station is registered in **Radio Resource List** but **Target List** is disabled), a value configured in the Prefix - Fleet - IN format is displayed.
To	**To** displays the name or number of the mobile station at the receiving end. Note This item is not displayed in the **ALERT** or **EMERGENCY** tab.
Type	**Type** displays the type of communication. The information displayed is as follows. **Call:** Voice Call **Text:** Text Message **Status:** Status Message, Special Command **GPS:** GPS Data **BLE:** BLE Data **ALERT:** Speed Limit, Geofence **EMERGENCY:** Emergency **Request:** Request Status Message, Request GPS Report, Call Interruption

Item	Description
Result	**Result** displays the results of transmission from the KAS-20CE. The information displayed is as follows. **IP network connection:** **OK or (Blank):** Sent successfully, received successfully, no error **Not Connected:** Repeater is not connected **Parameter Error:** Configuration error **Not Found:** The transceiver is not registered. **Busy:** The console or addressee terminal is in the busy state. **Empty:** The audio data received does not exist. **State Error:** An action that cannot be executed in the current state has been executed. **Not Exist:** The addressee ID does not exist or the power is turned off. **Decline:** The request has been denied by the addressee terminal. **Rejected:** Request denied **Port Error:** The RTP port cannot be used. **No Resource:** Insufficient system resources **Incorrect Data Error:** Incorrect incoming data **Internal Error:** An internal system error has occurred. Check the parameters, network and other settings. **System Busy:** Repeater is in a busy state **Timeout:** Timeout has occurred **Denial:** Rejected by Message Trunked (Enhanced), Individual Call Acknowledge Request, or FOACSU. **Fail:** Call Interruption failed **Cancel:** Call Interruption is canceled Note • For DMR Conventional (via TKR-D series), Short Data Message appears in **Result** when the message has been sent from the KAS-20CE during **OK** or status message transmission. • For Trunking 2.5/ DMR Tier III Trunking, **Result** appears in **System Busy** when the request is denied by the addressee terminal. • For Trunking 2.5/ DMR Tier III Trunking, **Result** appears in **Timeout** when the addressee ID does not exist or the power is turned off. **Serial connection:** **OK:** Sent successfully, received successfully, no error **COM Port Error:** Communication port is not opened. **Fail:** PC command configuration error, Received unsupported command, No response from the addressee (timeout has occurred on the base station transceiver), Call Interruption failed **Base Station Busy:** The base station transceiver is in the busy state **Busy:** The console or addressee terminal is in the busy state **Not Connected:** The base station transceiver is not connected **Timeout:** Timeout has occurred on the KAS-20E **Base Station Stun:** The base station transceiver is in the stun state **Time-out Timer:** Time-out Timer is functioning during transmission. **Low Battery:** The battery is in the low battery state during transmission.

Item	Description
Activity	**Activity** displays descriptions of the activity. The information displayed is as follows. **Voice Call:** Voice Call, Voice Call (Patch), Voice Call (Rejected) **Text Message:** (messages that have been sent and received) **Status Message:** (Status Message No.) ((Status Message Name)) **Special Command:** Special Command ((Command)) **GPS:** (Status Message No.) (GPS information) **BLE:** (BLE Beacon Major ID) (BLE Beacon Minor ID) (Measured Power) (RSSI) **Geofence:** Entry to Geofence“(Geofence Name)”, Exit from Geofence“(Geofence Name)”, Crossing Geofence“(Geofence Name)” **Speed Limit:** Speeding (Speed) > (Speed Limit) **Request GPS/ BLE Report:** Request GPS/ BLE Report **Request Status Message:** Request Status Message **Call Interruption:** Request Call Interruption Note • The following are the details of GPS information: “status number + latitude (north latitude or south latitude) + longitude (east longitude or west longitude) + speed (unit: knot) + elevation angle + GPS positioning status (A: positioning state, V: non-positioning state)+positioning date and time” • In a serial connection, when a command to start audio reception is sent from the base station transceiver to the KAS-20E, and the transmission is successful without sending a command to end the audio reception because the command is lost or a Call Interruption is received by the base station transceiver, or when another reception occurs, Activity(Start Only)“ is displayed at the end of the ” description and the audio reception ends. And if a command to end the audio reception is sent from the base station transceiver to the KAS-20E without first receiving the command to start the audio reception, Activity(End Only)“ is displayed at the end of the ” description. The talk time will not be displayed in these cases.
Talk Time	**Talk Time** displays the calling time of a voice call.

Selecting a communication log and right-clicking on it displays a menu that allows for operations such as configuring the display of the communication log history or deleting a log.

Note

When GPS Report with Voice is sent from the transceiver to the Group ID configured for the KAS-20SE, the display order of the communication logs displayed on the **All** tab whose **Type** are Call and GPS may be switched.

Table 9-31 Right-click Menu

Item	Description
Select for Call	Places the ID of the sender of the selected communication log in the selected state in the Dispatch Window.
Show All Mobile Stations	This item cannot be selected.
Show Mobile Station	This item cannot be selected.
Track Mobile Station	This item cannot be selected.
Request Status Message	Allows you to send out a status message request message to the selected mobile station. Note This item cannot be selected in the case of Trunking 2.5.
Request GPS/ BLE Report	This item cannot be selected. Note This item cannot be selected in the case of Trunking 2.5.
Replay Log	This item cannot be selected.
Filter and Export	Allows you to display the history of a communication log. (Refer to Displaying the Communication Log History on page 434.)
Acknowledge	Allows you to stop playback of the tone.
Clear Emergency	Allows you to cancel the emergency of the selected communication log. (Refer to Canceling an Emergency on page 445.)
Clear Alert	Allows you to cancel the alert of the selected communication log. (Refer to Canceling an Alert on page 442.)
Play	Allows you to play back a voice call that is recorded in the KAS-20SE. (Refer to Playing Back a Recorded Voice Call on page 439.) Note Available for selection only for IP network connection.
MP3 Export	Allows you to convert a voice call that is recorded in the KAS-20SE and save it as an MP3 file. (Refer to Converting Saved Audio Data to an MP3 File on page 441.) Note Available for selection only for IP network connection.
Copy	Allows you to copy the **Activity** of the selected communication log.
Clear All Logs	Allows you to delete all the displayed logs.

Displaying the Communication Log History

The communication log history in the **Filtered** tab can be displayed by specifying the display range.

Note

All logs will be displayed regardless of the Target List settings.

1 Select “Filter and Export” from the right-click menu.

The **Log Filter and Export** dialog box appears.

2 Specify the range of communication logs to display.

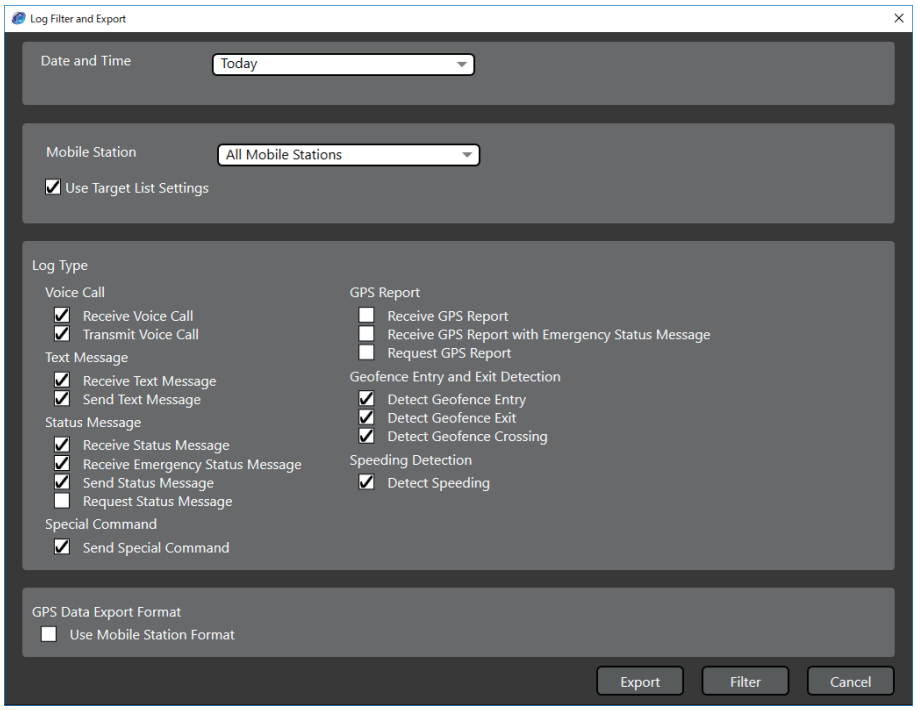

Figure 9-59 Log Filter and Export

Table 9-32 Log Filter and Export Settings

Item	Description	Configurable Range	Default
Date and Time	**Date and Time** allows you to specify the date and time range of the communication log that is displayed in the **Filtered** tab.	**Today:** Displays the communication log of the current date. **All Days:** Displays the communication log throughout the entire period. **Start/ Stop Date and Time:** Displays the communication log of a specific period of time. Selecting “Start/ Stop Date and Time” enables **Start Date/ Start Time** and **Stop Date/ Stop Time**, which allow the date and time range to be specified.	Today

Item	Description	Configurable Range	Default
Mobile Station	**Mobile Station** allows you to specify the range of the communication log that is displayed in the **Filtered** tab. Note When a value other than “All Mobile Stations” is selected, **System Name** is displayed and the system name can be specified.	**All Mobile Stations:** Displays the communication logs of all mobile stations. **System:** Displays the communication logs of all mobile stations that belong to the specified system. When “System” is selected, **System Name** is displayed and the system name can be specified. **Fleet ID:** Displays only the communication logs of the mobile stations with the specified Fleet ID. Selecting “Fleet ID” displays the **Fleet ID** (edit box), which allows you to specify the Fleet ID of the mobile station for which the communication log is to be displayed. **Mobile Station Name:** Displays only the communication log of one mobile station. Selecting “Mobile Station Name” displays **Name**, which allows you to specify the name of the mobile station for which the communication log is to be displayed. **Mobile Station ID:** Displays only the communication logs of the mobile stations with the specified ID. Selecting “Mobile Station ID” displays **Type** and **ID**, which allow you to specify respectively the communication type and ID of the mobile station for which the communication log is to be displayed. If Trunking 2.5 is enabled in DMR Tier III Trunking/ **Fleet Dialing Plan**, **Number Prefix**, **Fleet Individual Number/Fleet Group Number**, and **Individual Number/Group Number** appear, and these settings can be configured. **Keyword:** Selecting “Keyword” displays the **Keyword** (edit box), which allows you to directly enter keywords contained in the name of the mobile station for which the communication log is to be displayed. The communication log of all mobile stations that contain the specified keyword will be displayed.	**Display Type = Intervals:** All Mobile Stations **Display Type = Trail:** Mobile Station Name

Item	Description	Configurable Range	Default
Use Target List Settings	**Use Target List Settings** allows you to configure whether to limit to the mobile stations assigned as targets to be monitored by the logged-in user when specifying the range of mobile stations for which the communication log is to be displayed in the **Filtered** tab.	**Check (Enable):** Limits the range of communication logs to be displayed in the **Filtered** tab to those assigned as targets to be monitored by the logged-in user. **Uncheck (Disable):** Does not limit the range of mobile stations.	Checked (Enabled)
Voice Call	Allows you to configure whether to display the following communication log histories related to outgoing and incoming voice calls in the **Filtered** tab. • Receive Voice Call • Transmit Voice Call	**Check (Enable):** Displays the communication log history. **Uncheck (Disable):** Does not display the communication log history.	Checked (Enabled)
Text Message	Allows you to configure whether to display the following communication log histories related to the sending and receiving of text messages in the **Filtered** tab. • Receive Text Message • Send Text Message	**Check (Enable):** Displays the communication log history. **Uncheck (Disable):** Does not display the communication log history.	Checked (Enabled)
Status Message	Allows you to configure whether to display the following communication log histories related to the sending and receiving of status messages in the **Filtered** tab. • Receive Status Message • Receive Emergency Status Message • Send Status Message • Request Status Message	**Check (Enable):** Displays the communication log history. **Uncheck (Disable):** Does not display the communication log history.	**Receive Status Message/ Receive Emergency Status Message/ Send Status Message:** Checked (Enabled) **Request Status Message:** Unchecked (Disabled)
Special Command	Allows you to configure whether to display the communication log history for special commands that have been sent in the **Filtered** tab. • Send Special Command	**Check (Enable):** Displays the communication log history. **Uncheck (Disable):** Does not display the communication log history.	Checked (Enabled)

Item	Description	Configurable Range	Default
GPS/ BLE Report	Allows you to configure whether to display the following communication log histories related to the sending and receiving of position reports in the **Filtered** tab. • Receive GPS/ BLE Report • Receive GPS/ BLE Report with Emergency Status Message • Request GPS/ BLE Report Note In the case of DMR Conventional/ DMR Conventional (via TKR-D series), there is no log for Receive GPS Report with Emergency Status Message as there is no emergency information in the communication log of the positional information.	**Check (Enable):** Displays the communication log history. **Uncheck (Disable):** Does not display the communication log history.	Unchecked (Disabled)
Geofence Entry and Exit Detection	Allows you to configure whether to display the following communication log histories related to the detection of Geofence alerts in the **Filtered** tab. • Detect Geofence Entry • Detect Geofence Exit • Detect Geofence Crossing	**Check (Enable):** Displays the communication log history. **Uncheck (Disable):** Does not display the communication log history.	Checked (Enabled)
Speeding Detection	Allows you to configure whether to display the following communication log histories related to the detection of Speeding warnings in the **Filtered** tab. • Detect Speeding	**Check (Enable):** Displays the communication log history. **Uncheck (Disable):** Does not display the communication log history.	Checked (Enabled)
Use Mobile Station Format	**Use Mobile Station Format** allows you to configure whether to set the latitude and longitude of the GPS Data to be sent during export in the format acquired from the mobile station or the format configured in **Geometry Data Format**.	**Check (Enable):** Sets the format of the latitude and longitude of the GPS Data to be sent during export in the format acquired from the mobile station. **Uncheck (Disable):** Sets the format of the latitude and longitude of the GPS Data to be sent during export in the format configured in **Geometry Data Format**.	Unchecked (Disabled)

3 **Click the “Filter” button.**

The communication log history as specified is displayed in the **Filtered** tab.

Note

Selecting “Clear All Logs” from the right-click menu at the **Filtered** tab closes the **Filtered** tab.

Outputting the Communication Log History to a TSV File

The communication log history as specified in the **Log Filter and Export** dialog box can be saved in TSV format (extension: .tsv).
Clicking the “Export” button in step 3 of “Displaying the Communication Log History on page 434” exports the communication log history in a TSV file in UTF-8 format.

9.9 Playing Back a Recorded Voice Call

Voice calls are saved in the KAS-20SE when **Voice Record** in the **Voice Record** screen is enabled in an IP network connection. (Refer to Configuring Settings Related to Audio Recording on page 187.)
Allows you to play back a voice call that is recorded in the KAS-20SE.

Note

- Voice recording and playback of the voice recording are not supported in serial connection.
- Voice calls can be recorded only when VOICE RECORD LICENSE (KWD-20S-VR) is authenticated. (Refer to About Software Upgrade License on page 13.)
- Do not disconnect the speaker device in use during audio sound playback.

1 **Right-click the voice call log in the Call tab of the Log pane and select "Play".**

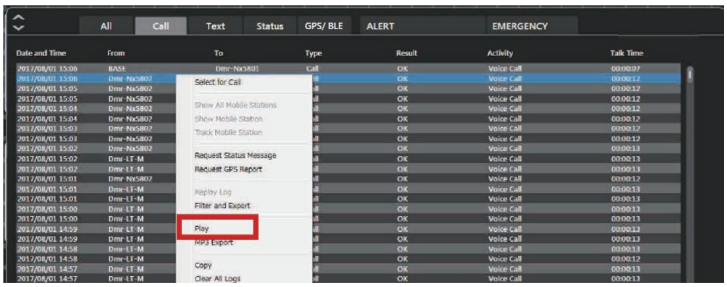

Figure 9-60 Call Tab

The **Play** dialog box appears.

2 **Click the Play button.**

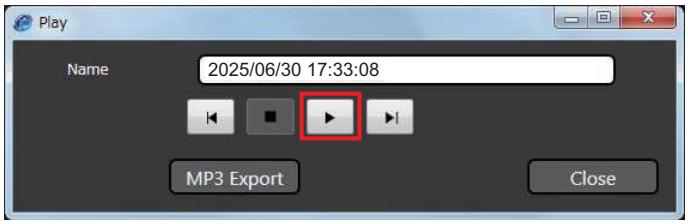

Figure 9-61 Play

The audio sound is played back.

Note

- Voice calls can be played back only when VOICE PATH LICENSE (KWD-20C-VP) is authenticated. (Refer to About Software Upgrade License on page 13.)
- Stops playback of all audio sound except for the audio recordings regardless of the number of authenticated VOICE PATH LICENSE (KWD-20C-VP).

Operation of the Play Dialog Box

The **Play** dialog box allows you to perform the following operations.

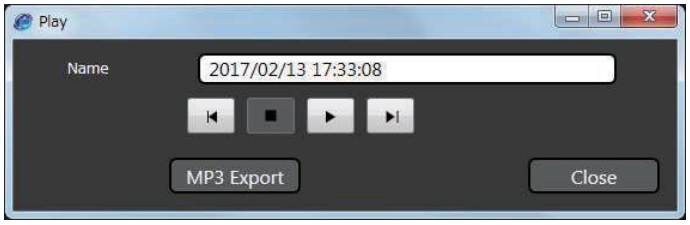

Figure 9-62 Play

Table 9-33 Operation of the Play Dialog Box

Item	Description
Name	Displays the name of the audio file to be played.
	Plays back the previous voice call.
	Stops playback of voice calls.
	Plays back voice calls.
	Plays back the next voice call.
MP3 Export	Converts the selected voice call to the MP3 format and saves it as a file. (Refer to Converting Saved Audio Data to an MP3 File on page 441.)

Converting Saved Audio Data to an MP3 File

Allows you to convert a voice call that is recorded in the KAS-20SE and save it as an MP3 file.

1 **Right-click the voice call log in the Call tab of the Log pane and select “MP3 Export”.**

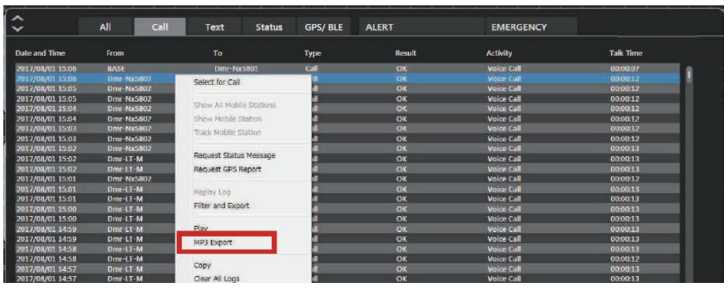

Figure 9-63 Call Tab

A dialog box for specifying the destination folder to save the file appears.

2 **Specify a file name and a folder in which to save the data, and then click the “Save” button.**

The voice call data is converted into an MP3 file and saved in the specified folder.

Note

- Voice calls can be converted to an MP3 file only when VOICE PATH LICENSE (KWD-20C-VP) is authenticated. (Refer to About Software Upgrade License on page 13.)
- Stops playback of all audio sound except for the audio recordings regardless of the number of authenticated VOICE PATH LICENSE (KWD-20C-VP).

9.10 Display and Operation during an Alert

A list of notified alerts is displayed in the **ALERT** tab of the **Log** pane when an alert occurs at a mobile station. Lines corresponding to alert notifications that have not been processed are highlighted.

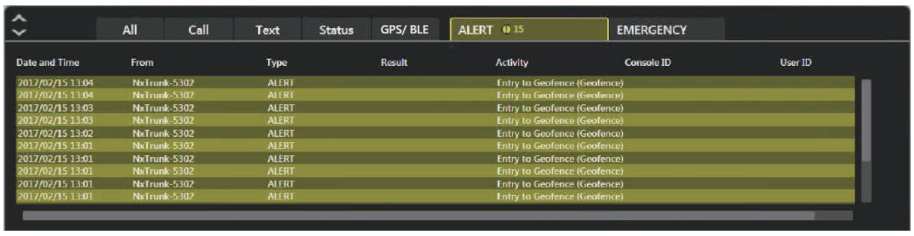

Figure 9-64 ALERT Log

Note

The number of alert occurrences is displayed in the **ALERT** tab.

Canceling an Alert

An alert that has occurred can be canceled.

1 **Select an alert log in the ALERT tab of the Log pane and right-click on it.**

The menu appears.

2 **Select “Clear Alert”.**

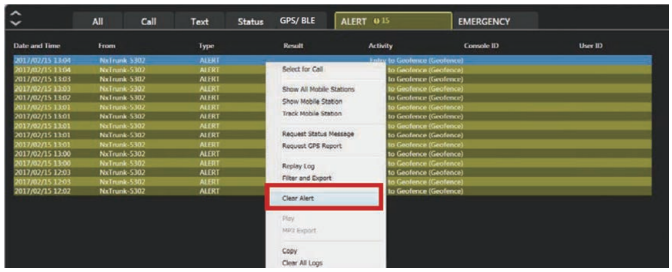

Figure 9-65 Clear Alert

The selected alert log switches to the normal log display.

Note

When an alert has been canceled, the change is also applied to the **Log** on the AVL Window.

9.11 Display and Operation during an Emergency

When an emergency occurs at a mobile station, an emergency tone is emitted and the emergency bar at the bottom of the Dispatch Window lights up in red.

If **External AUX Output** is enabled in a serial connection, the external device connected to the KAS-20CE transceiver will be turned on. (Refer to Configuring Settings for Controlling the External Device Connected to the Base Station Transceiver on page 127.)

The **EMERGENCY** tab of the **Log** pane is highlighted in red, and the notified emergencies are listed. Lines corresponding to emergency notifications that have not been processed are highlighted.

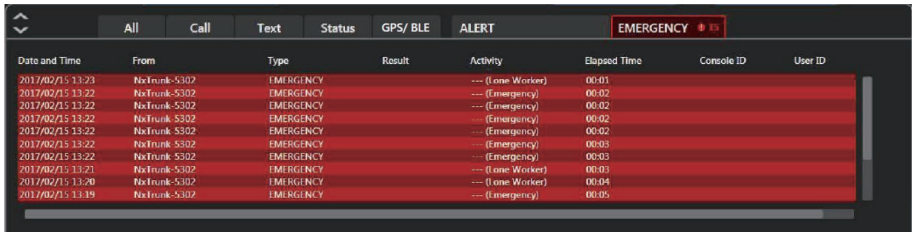

Figure 9-66 Emergency Log

Note

The number of emergency occurrences is displayed in the **EMERGENCY** tab.

Initiating a Call to the Mobile Station where an Emergency Has Occurred

A call to the mobile station where an emergency has occurred can be initiated.

1 Select an emergency log in the EMERGENCY tab of the Log pane and right-click on it.

The menu appears.

2 Select “Select for Call”.

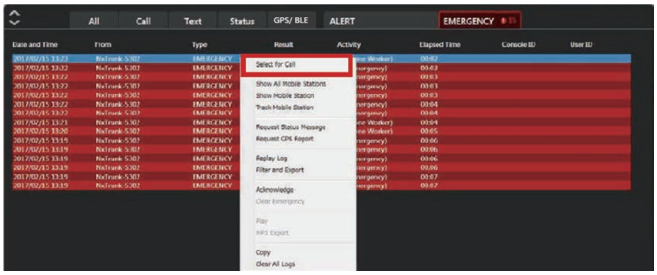

Figure 9-67 Select for Call

The sender ID of the selected emergency log is selected in the Dispatch Window.

3 Click the “PTT” button in the Dispatch Window.

Doing so initiates a call to the mobile station of the selected emergency log.

Note

This operation is enabled only when the VOICE PATH LICENSE (KWD-20C-VP) is authenticated. (Refer to About Software Upgrade License on page 13.)

Display Showing Emergency Log Check in Progress

When checking an emergency that has occurred, the display mode can be switched to one that shows that emergency log check is in progress and the checking personnel (Console ID, User ID) can be displayed in the log.

Also, when the display shows that emergency log check is in progress, the emergency tone that is emitted during an emergency stops.

1 **Select an emergency log in the EMERGENCY tab of the Log pane and right-click on it.**

The menu appears.

2 **Select “Acknowledge”.**

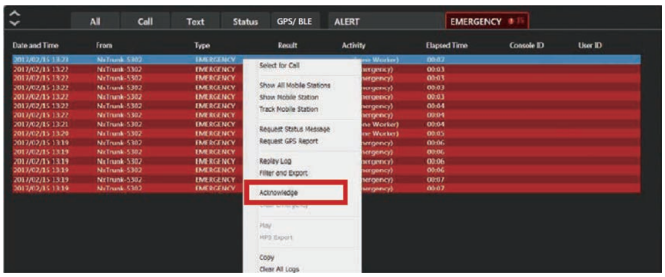

Figure 9-68 Acknowledge

The background color of the emergency log changes, and the Console ID for the KAS-20CE is displayed in the Console ID field of the emergency log, while the User ID of the logged-in user appears in the User ID field.

Note

- Even when the same emergency log is received while the tone is stopped, emergency tone will not be emitted until the emergency has been canceled.
- If **External AUX Output** is enabled in a serial connection, the external device connected to the KAS-20CE transceiver will be turned off. Until the time interval configured in **Emergency Suppress Time** elapses, the external device will not turned on even when an emergency log is received again. (Refer to Configuring Settings for Controlling the External Device Connected to the Base Station Transceiver on page 127.)
- Upon switching to the display that shows emergency log check is in progress, the display is also applied to the **Log** pane on the AVL Window and Indoor Location Window.
- When operating the KAS-20E AVL/ Dispatch system with multiple clients, the display is also applied to the **Log** pane of other KAS-20CE units, and the emergency tone stops.

Canceling an Emergency

An emergency that has occurred can be canceled.

1 **Select an emergency log in the EMERGENCY tab of the Log pane and right-click on it.**

The menu appears.

2 **Select “Clear Emergency”.**

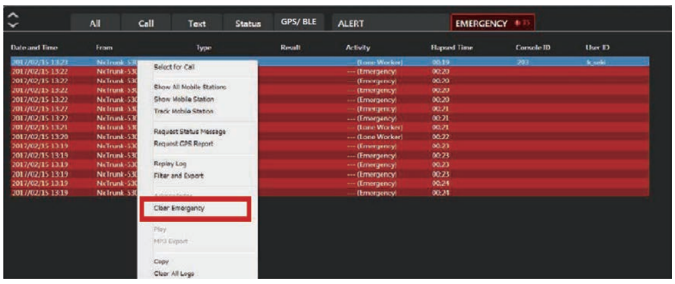

Figure 9-69 Clear Emergency

The selected emergency log switches to the normal log display. When all the emergencies have been canceled, the light of the emergency bar goes off.

Note

- When an emergency has been canceled, the change is also applied to the **Log** pane on the AVL Window and Indoor Location Window.
- When operating the KAS-20E AVL/ Dispatch system with multiple clients, the change is also applied to the **Log** pane of other KAS-20CE units.
- **Clear Emergency** can be performed only for users that have selected **Acknowledge**.

10.1 System Environment (Hardware and Software Environments)

To use KAS-20SE/ KAS-20CE, the following system environment and software environment are required.

System Environment

The system environment required to use KAS-20SE/ KAS-20CE is as follows:

Table 10-1 System Environment

Item	System Environment
CPU	**KAS-20SE/ KAS-20CE**: Intel 8th Generation Core i5 CPU or higher
Hard disk	**KAS-20SE**: 50 GB or more free hard disk space **KAS-20CE**: 500 MB or more free hard disk space
Memory	**KAS-20SE/ KAS-20CE**: 8 GB or more free hard disk space
Ethernet	**KAS-20SE/ KAS-20CE**: 1 port or more
COM Port	**KAS-20SE**: 1 port or more*1 *2 **KAS-20CE**: 1 port or more*1
LAN	**KAS-20SE/ KAS-20CE**: 100 BASE (100 Mbps) or above
Display	**KAS-20SE**: XGA (1024 x 768) or higher*3 **KAS-20CE**: FHD (1920 x 1080) or higher*3. 23 inches and above recommended
Sound card (recommended)	Optional

*1 This is required only in serial connection.

*2 This is not required if a transceiver is not used to communicate with the KAS-20SE.

*3 The size settings (DPI setting) of 100 %, 125 % and 150 % for the text and icons on the display are supported.

Software Environment

The software environment required to use KAS-20SE/ KAS-20CE is as follows:

Table 10-2 Software Environment

Item	System Environment
OS*1	KAS-20SE/ KAS-20CE operates on the following OS: **KAS-20SE:** • Windows 11 • Windows Server 2016 • Windows Server 2019 • Windows Server 2022 • Windows Server 2025 **KAS-20CE:** • Windows 11 **If KAS-20SE and KAS-20CE are used on one PC (If used standalone):** • Windows 11
Microsoft .NET Framework	**KAS-20SE/ KAS-20CE**: 4.8
SQL Server*4	To use KAS-20SE, one of the following SQL Servers needs to be installed on the PC to be used. • SQL Server 2022 • SQL Server 2022 Express Refer to the following website to download SQL Server Express: https://www.microsoft.com/en-us/download/ Note • SQL Server is not supplied with KAS-20SE/ KAS-20CE. • SQL Server is the paid version. Purchase the paid version from a dealer, etc. (excluding the Express version) • KAS-20SE and KAS-20CE can operate on the following SQL Server, but they are not covered under the guarantee. • SQL Server 2016 SP3 Express*2 *3 • SQL Server 2016 SP3*2 *3 • SQL Server 2017 Express*3 • SQL Server 2017*3 • SQL Server 2019 Express • SQL Server 2019
Google Earth	To use Google Earth, Google Earth needs to be installed separately. Refer to the following website for the use of Google Earth: https://earth.google.com/ Note Google Earth is not supplied with KAS-20SE/ KAS-20CE.

*1 Use a 64-bit OS.
*2 The SQL Server is not supported by Windows 11 and Windows Server 2022.
*3 The SQL Server is not supported by Windows Server 2025.
*4 Confirm the hardware and software requirements for installing SQL Server.

Note

- In KAS-20SE/ KAS-20CE, the multi-user function of an OS is not supported.
- For KAS-20SE/ KAS-20CE, the use of KAS-20SE/ KAS-20CE on a dedicated PC that does not operate other applications is recommended.

10.2 Supported Transceivers

KAS-20SE/ KAS-20CE supports the following transceivers, repeaters, and accessories:

Note

For firmware versions of the supported transceivers and the supported repeaters and accessories, refer to the notes in “Applicable Communications Systems on page 11”.

Supported Transceivers (Base Stations (AVL/ Dispatch Supported))

Table 10-3 Supported Transceivers (Base Stations (AVL/ Dispatch Supported))

System Protocol	Devices to Connect
NXDN Trunking (Type-C): NEXEDGE 2nd Generation NXDN Trunking (Type-C): NEXEDGE 1st Generation	NX-5700, NX-5700H, NX-5800, NX-5800H, NX-5900, NX-3720, NX-3720H, NX-3720G, NX-3720HG, NX-3820, NX-3820H, NX-3820G, NX-3820HG, NX-3920, NX-3920G, NX-3921, NX-3921G, NX-700, NX-800
NXDN Conventional	NX-5600H, NX-5700, NX-5700H, NX-5800, NX-5800H, NX-5900, NX-3720, NX-3720H, NX-3720G, NX-3720HG, NX-3820, NX-3820H, NX-3820G, NX-3820HG, NX-3920, NX-3920G, NX-3921, NX-3921G, NX-700, NX-740, NX-800, NX-840, NX-1700HNV, NX-1700HN, NX-1700N, NX-1800HNU, NX-1800HN, NX-1800N
Trunking 2.5	NX-5700, NX-5800, NX-3720, NX-3720H, NX-3720G, NX-3720HG, NX-3820, NX-3820H, NX-3820G, NX-3820HG
DMR Tier III Trunking	NX-5700, NX-5800, NX-5900, NX-3720, NX-3720H, NX-3720G, NX-3720HG, NX-3820, NX-3820H, NX-3820G, NX-3820HG, NX-3920, NX-3920G, NX-3921, NX-3921G
DMR Conventional	NX-5700, NX-5800, NX-5900, NX-3720, NX-3720H, NX-3720G, NX-3720HG, NX-3820, NX-3820H, NX-3820G, NX-3820HG, NX-3920, NX-3920G, NX-3921, NX-3921G, TK-D740, TK-D840, NX-1700HDV, NX-1700HD, NX-1700D, NX-1800HDU, NX-1800HD, NX-1800D
DMR Conventional (via TKR-D series)	NX-5700, NX-5800, NX-5900, NX-3720, NX-3720H, NX-3720G, NX-3720HG, NX-3820, NX-3820H, NX-3820G, NX-3820HG, NX-3920, NX-3920G, NX-3921, NX-3921G, TK-D740, TK-D840, NX-1700HDV, NX-1700HD, NX-1700D, NX-1800HDU, NX-1800HD, NX-1800D
FleetSync	NX-5600H, NX-5700, NX-5700H, NX-5800, NX-5800H, NX-5900, NX-3720, NX-3720H, NX-3720G, NX-3720HG, NX-3820, NX-3820H, NX-3820G, NX-3820HG, NX-3920, NX-3920G, NX-3921, NX-3921G, NX-700, NX-740, NX-800, NX-840, TK-D740, TK-D840, TK-5710G, TK-5710HG, TK-5810G, TK-5810HG, TK-7180, TK-7180H, TK-7302V, TK-7302H, TK-7302HV, TK-7360H, TK-8180, TK-8180H, TK-8302V, TK-8302H, TK-8302HV, TK-8360H, NX-1700HNV, NX-1700HN, NX-1700N, NX-1700HDV, NX-1700HD, NX-1700D, NX-1700HAV, NX-1700HA, NX-1700A, NX-1800HNU, NX-1800HN, NX-1800N, NX-1800HDU, NX-1800HD, NX-1800D, NX-1800HAU, NX-1800HA, NX-1800A

Supported Transceivers (Mobile Stations (AVL/ Dispatch Supported))

Table 10-4 Supported Transceivers (Mobile Stations (AVL/ Dispatch Supported))

System Protocol	Devices to Connect
NXDN Trunking (Type-C): NEXEDGE 2nd Generation NXDN Trunking (Type-C): NEXEDGE 1st Generation	NX-5x00/ NX-5x00LG series NX-3xx0 series NX-x00/ NX-x10/ NX-x20 series
NXDN Conventional	NX-5x00/ NX-5x00LG series NX-3xx0 series NX-x00/ NX-x10/ NX-x20/ NX-x40 series NX-1x00 series
Trunking 2.5	NX-5x00 series NX-3xx0 series
DMR Tier III Trunking	NX-5x00 series NX-3xx0 series
DMR Conventional	NX-5x00 series NX-3xx0 series NX-1x00 series TK-Dx00/ TK-Dx40 series
DMR Conventional (via TKR-D series)	NX-5x00 series NX-3xx0 series NX-1x00 series TK-Dx00/ TK-Dx40 series
FleetSync	NX-5x00/ NX-5x00LG series NX-3xx0 series NX-x00/ NX-x40 series NX-1x00 series TK-Dx40 series TK-5x10G/ TK-5x10HG series TK-x180/ TK-x180H series TK-x312/ TK-x302V/ TK-x302H/ TK-x302HV series TK-x360/ TK-x360H series

Supported Repeaters and Accessories (AVL/ Dispatch Supported)

Table 10-5 Supported Repeaters and Accessories (AVL/ Dispatch Supported)

System Protocol	Devices to Connect
NXDN Trunking (Type-C): NEXEDGE 2nd Generation	PC server in which the IP Gateway Software (KPG-1002GW) is installed
NXDN Trunking (Type-C): NEXEDGE 1st Generation	NXR-5x00/ NXR-x00 Repeater
NXDN Conventional	NXR-x10 Repeater + KTI-3, NXR-5x00/ NXR-1x00/ NXR-x00 Repeater
Trunking 2.5	TKR-2500 Repeater, KTI-2500 Node Controller
DMR Tier III Trunking	PC server in which the IP Gateway Software (KPG-1013GW) is installed (KAIROS system)
DMR Conventional	NXR-1x00 Repeater, PC server in which the IP Gateway Software (KPG-1013GW) is installed (KAIROS system)
DMR Conventional (via TKR-D series)	TKR-Dx10 Repeater + KTI-5

Supported Transceivers (Base Stations (Indoor Location Supported))

Table 10-6 Supported Transceivers (Base Stations (Indoor Location Supported))

System Protocol	Devices to Connect
NXDN Trunking (Type-C): NEXEDGE 2nd Generation NXDN Trunking (Type-C): NEXEDGE 1st Generation	NX-5700, NX-5700H, NX-5800, NX-5800H, NX-5900, NX-3720, NX-3720H, NX-3720G, NX-3720HG, NX-3820, NX-3820H, NX-3820G, NX-3820HG, NX-3920, NX-3920G, NX-3921, NX-3921G
NXDN Conventional	NX-5600H, NX-5700, NX-5700H, NX-5800, NX-5800H, NX-5900, NX-3720, NX-3720H, NX-3720G, NX-3720HG, NX-3820, NX-3820H, NX-3820G, NX-3820HG, NX-3920, NX-3920G, NX-3921, NX-3921G
Trunking 2.5	NX-5700, NX-5800, NX-3720, NX-3720H, NX-3720G, NX-3720HG, NX-3820, NX-3820H, NX-3820G, NX-3820HG
DMR Tier III Trunking	NX-5700, NX-5800, NX-5900, NX-3720, NX-3720H, NX-3720G, NX-3720HG, NX-3820, NX-3820H, NX-3820G, NX-3820HG, NX-3920, NX-3920G, NX-3921, NX-3921G
DMR Conventional	NX-5700, NX-5800, NX-5900, NX-3720, NX-3720H, NX-3720G, NX-3720HG, NX-3820, NX-3820H, NX-3820G, NX-3820HG, NX-3920, NX-3920G, NX-3921, NX-3921G

Supported Transceivers (Mobile Stations (Indoor Location Supported))

Table 10-7 Supported Transceivers (Mobile Stations (Indoor Location Supported))

System Protocol	Devices to Connect
NXDN Trunking (Type-C): NEXEDGE 2nd Generation NXDN Trunking (Type-C): NEXEDGE 1st Generation	NX-5200, NX-5200LG, NX-5300, NX-5300LG, NX-5400, NX-3200, NX-3220, NX-3300, NX-3320, NX-3400, NX-3420
NXDN Conventional	NX-5200, NX-5200LG, NX-5300, NX-5300LG, NX-5400, NX-3200, NX-3220, NX-3300, NX-3320, NX-3400, NX-3420
Trunking 2.5	NX-5200, NX-5300, NX-3200, NX-3220, NX-3300, NX-3320
DMR Tier III Trunking	NX-5200, NX-5300, NX-5400, NX-3200, NX-3220, NX-3300, NX-3320, NX-3400, NX-3420
DMR Conventional	NX-5200, NX-5300, NX-5400, NX-3200, NX-3220, NX-3300, NX-3320, NX-3400, NX-3420

Note

To use the Indoor Location function in Trunking 2.5 and DMR Tier III Trunking, configure “Bluetooth System” in the **Send Location via** configuration of the FPU (KPG-D1/ KPG-D3). If “RF System” is configured in **Send Location via**, the Indoor Location function is not supported.

Supported Repeaters and Accessories (Indoor Location Supported)

Table 10-8 Supported Repeaters and Accessories (Indoor Location Supported)

System Protocol	Devices to Connect
NXDN Trunking (Type-C): NEXEDGE 2nd Generation	PC server in which the IP Gateway Software (KPG-1002GW) is installed
NXDN Trunking (Type-C): NEXEDGE 1st Generation	NXR-5x00/ NXR-x00 Repeater
NXDN Conventional	NXR-5x00/ NXR-1x00 Repeater
DMR Conventional	NXR-1x00 Repeater

Note

In the Indoor Location function, the BLE Beacon/ BLE Gateway-compatible devices in the following URL can be used:
https://manual2.jvckenwood.com/com/help_ref/nx5000_series/compatible_model_list/CNMJSYnnzoitpv.html

10.3 Switching from a Standalone Configuration to a Server-Client Configuration

A system operating in a standalone configuration can be switched to a server-client configuration by the following steps:
1. Move KAS-20SE to another PC.
2. Add the PC with KAS-20CE installed.

In this section, an example of when PC 1 (KAS-20SE and KAS-20CE) prior to switching is a standalone configuration and Software Upgrade License of KWD-20C-VD (VOICE DISPATCH LICENSE) and KWD-20C-VP (VOICE PATH LICENSE) are authenticated is described.

Table 10-9 Authenticated License for PC 1 Prior to Switching

Authenticated PC	License Level	Software Upgrade License
PC 1	Dealer	KWD-20C-VD (VOICE DISPATCH LICENSE)
		KWD-20C-VP (VOICE PATH LICENSE)

Note

- The following KAS-20SE/ KAS-20CE setting items are configured for each PC. Therefore, these setting items need to be configured for each PC if a PC is switched or a new PC is added.
  - Network Adapter, Console ID, Group ID, and Console Name of KAS-20SE
  - Network Adapter, Console ID, and Console Name of KAS-20CE
- If a system is operated in a server-client configuration, the time on all PCs with the KAS-20SE and KAS-20CE installed needs to be set as the same.

Moving KAS-20SE to Another PC

KAS-20SE is moved to the new PC 2 (Server).

1 **For safety, close the running KAS-20CE.**

2 **Save the database file.**

For details on how to save a database file, refer to “Saving a Database File on page 148”.

Note

A tone file (wav file) configured by a user is not included in the saved database file. If the user configured a tone file, the tone file needs to be moved manually to the same folder path location as that of PC 1. If the tone file cannot be placed in the same folder path, the tone file needs to be configured again. (Refer to Configuring the Different Tones on page 197.)

3 **Install SQL Server on PC 2 (Server).**

For details on how to install SQL Server, refer to “Setting up the SQL Server on page 20”.

4 **Install KAS-20SE on PC 2 (Server).**

For details on how to install KAS-20SE, refer to “Installing or Uninstalling KAS-20SE on page 39”.

5 **Authenticate the following licenses for PC 2 (Server).**

License Level: Dealer

Software Upgrade License: KWD-20S-MC (MULTI-CLIENT LICENSE)

6 **Move the database file saved in step 2 to PC 2, and start up KAS-20SE of PC 2 to restore the database file.**

For details on how to restore a database file, refer to “Restoring a Database File on page 149”.

7 **Start up KAS-20CE in PC 1, and enter the server information of PC 2 to log in.**

For details on how to start up KAS-20CE, refer to “Starting up and Exiting KAS-20CE on page 51”.

8 **If logging in to PC 1 is successful and activation in the same environment as before the move is confirmed, uninstall KAS-20SE on PC 1.**

For details on how to uninstall KAS-20SE, refer to “Installing or Uninstalling KAS-20SE on page 39”.

Adding the PC with KAS-20CE Installed

KAS-20CE is installed on the new PC 3.

1 **Install KAS-20CE on PC 3.**

For details on how to install KAS-20CE, refer to “Installing or Uninstalling KAS-20CE on page 50”.

2 **Authenticate the following licenses for PC 3.**

License Level: Dealer

Software Upgrade License: KWD-20C-VD (VOICE DISPATCH LICENSE), KWD-20C-VP (VOICE PATH LICENSE)

3 **Start up KAS-20CE on PC 1 and additionally register the user for PC 3.**

For details on the registration procedure of users, refer to “Managing KAS-20SE/ KAS-20CE Users on page 57”.

4 **Start up KAS-20CE on PC 3, and log in by entering the server information on PC 2 and user information made in step 3.**

10.4 Matters to Consider When Deciding System Scale

Parameter Settings When Using GPS Report Channel

The parameter settings for using GPS Report Channel in an NXDN Trunking (Type-C) system (NEXEDGE 2nd Generation) will affect the number of mobile stations managed by the system.

When using GPS Report Channel, for every channel operating as a GPS Report Channel, the total GPS data received (total number of mobile stations) can be configured at maximum 12.5 GPS data per second (4800 GPS data/ 386 seconds).

On the other hand, the KAS-20E receiving the GPS data can receive maximum 100 GPS data per second. Adjust the installation numbers of GPS Report Channel and parameters such that the total GPS data received by the KAS-20E is within 100 GPS data per second.

For example, for the following system configuration, the total GPS data received by the KAS-20E is maximum 25 GPS data (12.5 + 12.5) per second:

- 2-site system
- Each site is using 1 GPS Report Channel
- Settings for both GPS Report Channels are 12.5 GPS data/second.

Configuring Other Configurations

In the case of DMR Conventional, configure 1 or greater in **Number of Retries** below by using the FPU of the mobile station that is being communicated with. (Example: In the case of KPG-166D)

- Edit > DMR > General > Parameters > Number of Retries

10.5 Configuring the Map

A user with the “Admin” operation authority is allowed to configure the map used for KAS-20CE in the **AVL** screen of the KAS-20CE setting screen. (Refer to Configuring the Functions to Be Used on AVL Window on page 157.)

- **Map Settings**

  Configuration settings related to the display of the map used in KAS-20CE (OpenStreetMap, Scanned Map) can be configured.

  To use OpenStreetMap:

  Select the **OpenStreetMap** checkbox and enter the URL of the tile server in **OpenStreetMap Path**.

  To use the Scanned Map:

  Click the “Setup” button and register the Scanned Map in the **Scanned Map Options** dialog box to configure the position data.

- **GPS File**

  When using a Google Earth map, the KML file format position information data that can be displayed in Google Earth can be configured to be created automatically.

  In addition, the configuration to link KML files to Google Earth (Network Link configuration) needs to be configured to make the KML file created by KAS-20E Dispatch Client Software regularly read to Google Earth.

When the configurations of **Map Settings** and **GPS File** finish, click the “Save” button to save the configurations.

Configuration of Google Earth

When using a Google Earth map, Admin users need to configure the configuration to link the KML files to Google Earth to make the KML file regularly read to Google Earth.

The Network Link for Google Earth can be configured with the following procedure:

1 **Start up Google Earth.**

2 **Select “Network Link” from Add in the main screen.**

The **New Network Link** dialog box appears.

3 Configure the following configurations in New Network Link dialog box.

1) Enter the name of the Network Link in **Name**.
2) Click the “Browse” button to select the target KML file.
3) Click the tab title of the **Refresh** tab.
4) Select “Periodically” from **Time-Based Refresh**.
5) In the respective edit boxes for hour, minute, and second in **Time-Based Refresh**, configure the interval of when the position information displayed on the Google Earth map is refreshed.

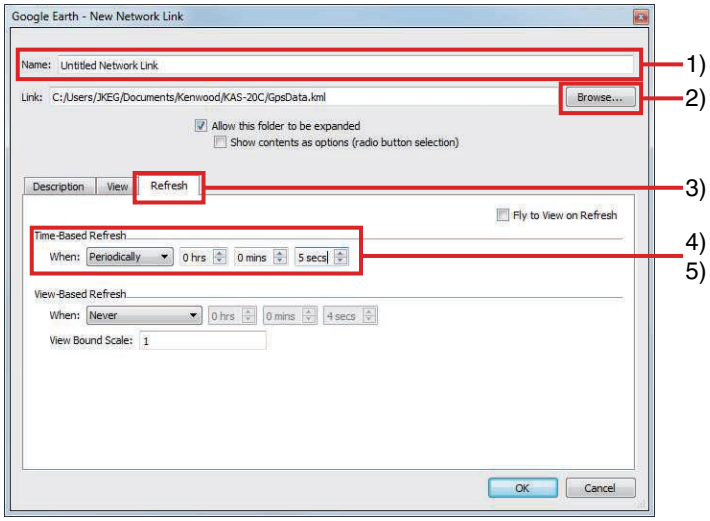

Figure 10-1 Edit Network Link Dialog Box

4 Click the “OK” button.

The name of the configured Network Link appears on the **Places** list of **Sidebar**.

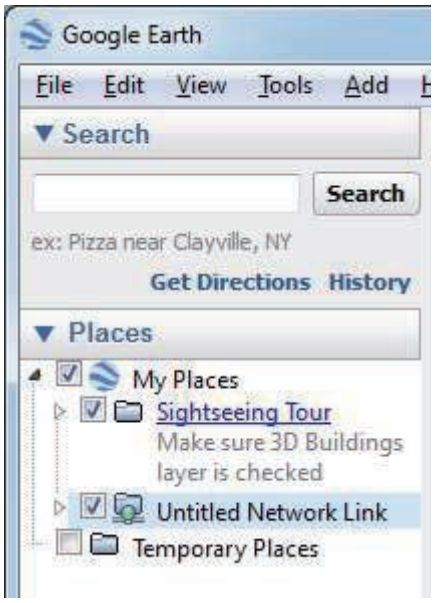

Figure 10-2 Sidebar

Note

- The folder in which the KML files are stored can be configured in **File Location** of the **AVL** screen on the KAS-20CE configuration screen.
- For the details on the usage of Google Earth, refer to the help texts of Google Earth.

10.6 Capacity of the SQL Server

Depending on the number of logs saved in the database in 1 day, the indication of the duration for which the database files can be stored in the database is as follows:

Table 10-10 Indication of the SQL Server Capacity

Log Acquisition Interval	Number of Logs When the System Operates for 24 Hours	Storage Period
1 station/ sec	86,400	Approximately 462 days
10 stations/ sec	864,000	Approximately 46 days

Above is a rough indication for storage period when SQL Server 2022 Express is used for the SQL Server and all the available space in the database (10 GB) can be used. If the paid SQL Server 2022 is used, the storage period varies depending on the amount of available configured space in the database.

10.7 Capacity Warning

When the remaining space of the database drops below 10 %, a database capacity warning is notified. When there is no space in the database, storage of the logs, GPS data, and voice calls stops.

When the remaining space of the database drops below 10 %, a capacity warning (DB Warning) appears in the **Log** pane of the AVL Window, Indoor Location Window, or Dispatch Window as an application error of KAS-20CE.

If SQL Server Express is used for the SQL Server and all the available space in the database (10 GB) can be used, a capacity warning appears when the space used exceeds approximately 9 GB. If all the available space has been used, the logs acquired are not saved.

This chapter explains how to configure the transceiver as a base station using the KAS-20SE/ KAS-20CE. For the FPU used when configuring the transceiver, the KPG-D3 and KPG-111D settings are described as examples.

11.1 Configuring the NX-3720x/ NX-3820x/ NX-392x Series (KPG-D3)

This section explains how to configure the NX-3720/ NX-3720H/ NX-3720G/ NX-3720HG/ NX-3820/ NX-3820H/ NX-3820G/ NX-3820HG/ NX-3920/ NX-3920G/ NX-3921/ NX-3921G as a base station using the KAS-20SE/ KAS-20CE.

KPG-D3 is required in this configuration. For more details, refer to the help file of KPG-D3.

Note

- NX-3720/ NX-3720H/ NX-3720G/ NX-3720HG/ NX-3820/ NX-3820H/ NX-3820G/ NX-3820HG/ NX-3920/ NX-3920G/ NX-3921/ NX-3921G can be used as both a base station and a mobile station for the AVL function and Dispatch function.
- Only the basic settings to configure the transceiver as a base station using KAS-20SE/ KAS-20CE is described.

1 **Select the Model Name and Frequency of the transceiver to use in Radio Configuration > Radio Definition > Product Information.**

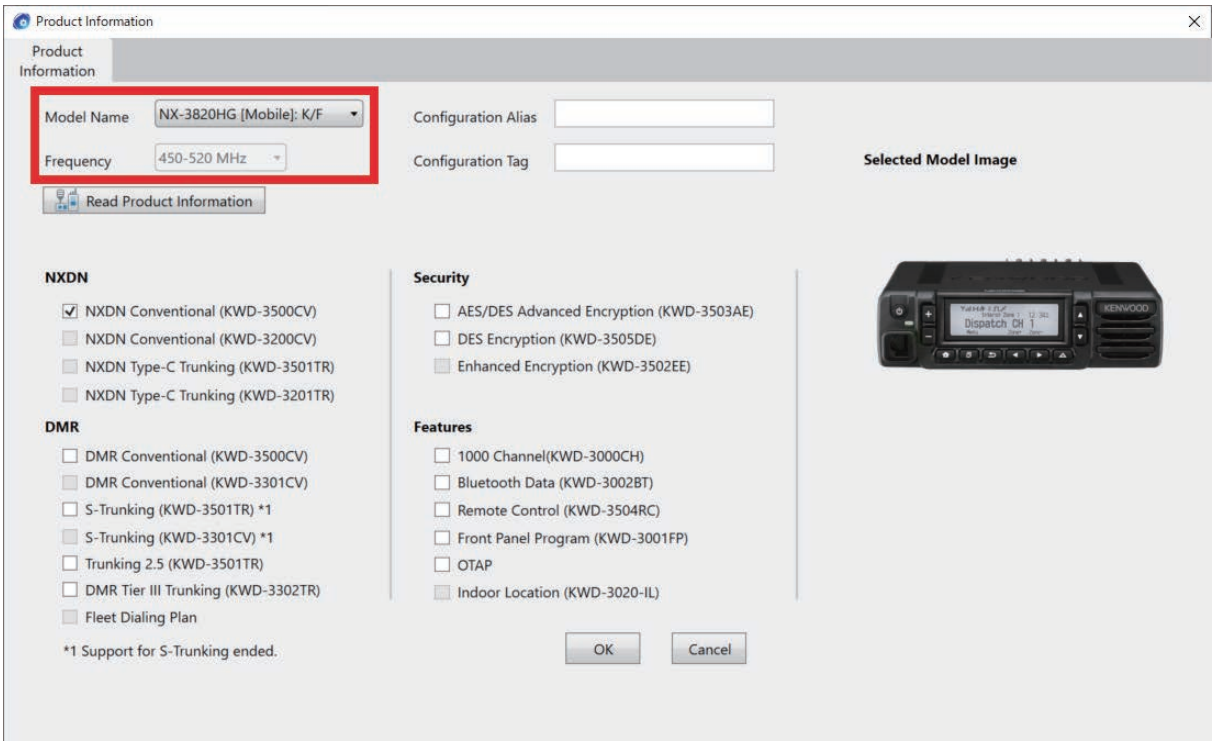

Figure 11-1 Product Information

2 **Configure the following channel information in the Personalities tab under Radio Configuration > System Properties > Systems.**

- **Channel Spacing**
- **Busy Channel Lockout**
- **Optional Signaling**
- **Selcall on PTT** (Configure **PTT ID** instead of **Selcall on PTT** when using FleetSync.)
- **Group ID Scan** (Configuration of **Group ID Scan** is not required when using FleetSync.)

Note

- Register the system to use in advance in **System List** under **Radio Configuration** > **System Properties** > **Systems**.

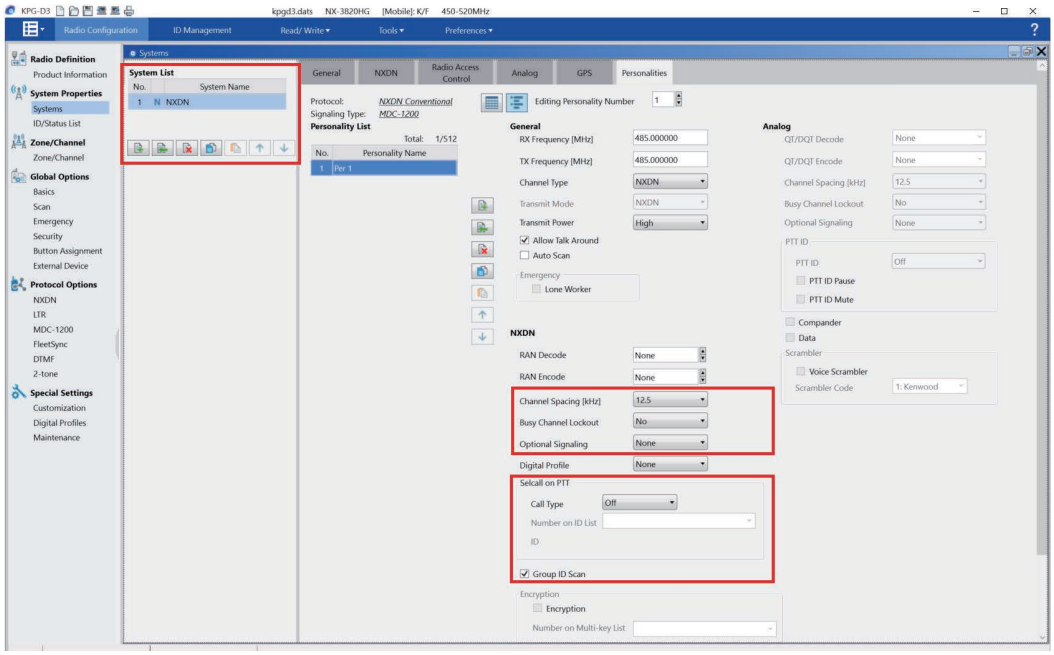

Figure 11-2 Personalities Tab

- For DMR, configure the following channel information.

  DMR Conventional:
  - **Busy Channel Lockout**
  - **In-call Busy Channel Lockout**
  - **Selcall on PTT**
  - **Group ID Scan**

  DMR-based Trunking:
  - **Selcall on PTT**
  - **Group ID Scan**

3 Configure Serial Interface in the General tab under Radio Configuration > Global Options > External Device.

Function (COM port 1): Select “Data + Location Data Output” (Can also select “Data” when not using Location Data)*1

Stop Bit (COM port 1): Configure according to the communication port used

Baud Rate (COM port 1): Select the baud rate to use

PC Interface Protocol: Select “Version 2”

J Command Serial Output: Enabled (Checked)

Data Override: Enabled (Checked)

GPS Base Station Settings > $PKLDS/$PKNDS (KW): Enabled (Checked)

BLE Base Station Settings > $PKPBD (KW): Enabled (Checked)*2

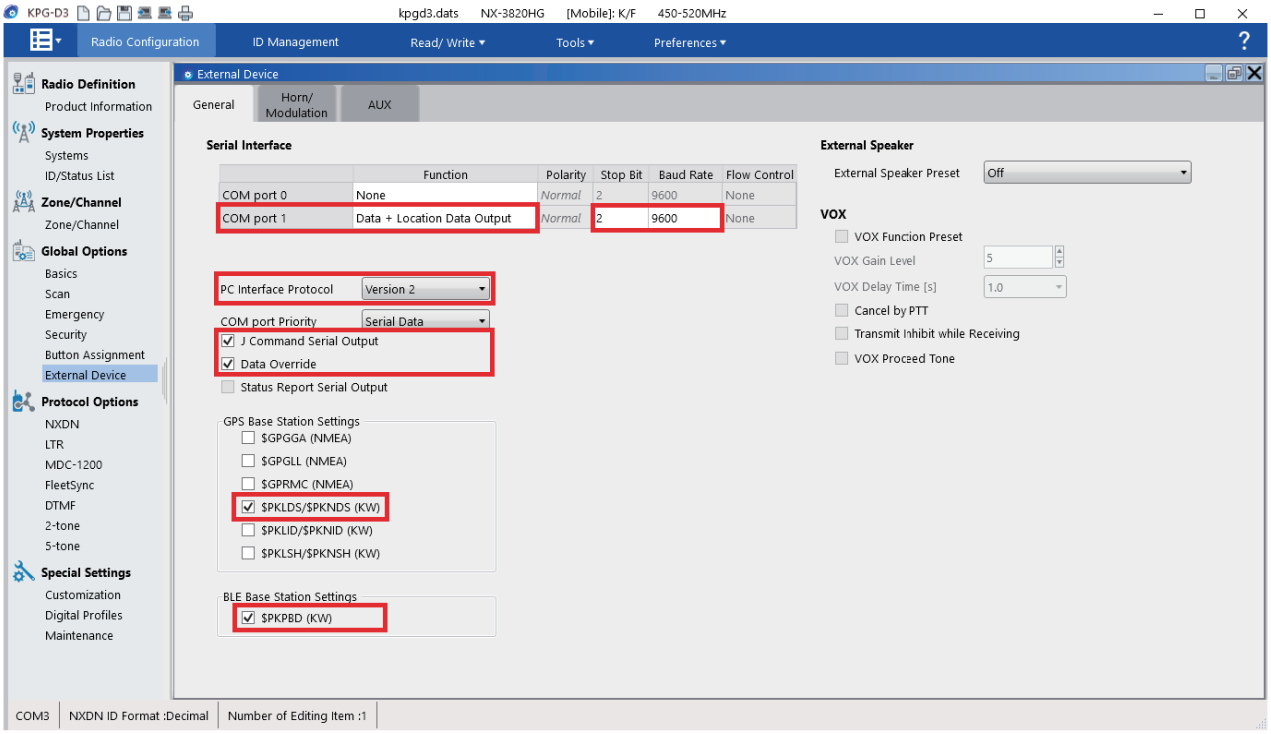

Figure 11-3 General Tab (Serial Interface)

*1 If the KPG-D3 version is earlier than V 4.30, select “Data + GPS Data Output” (“Data” can also be selected when not using GPS Data).

*2 Configure Disabled (Unchecked) when not using the Indoor Location function. If the KPG-D3 version is earlier than V 4.30, the configuration cannot be done.

4 **Configure Serial Output in the General tab under Radio Configuration > Protocol Options > NXDN/ DMR/ FleetSync.**

Unit ID: Enabled (Checked)

Status Message: Enabled (Checked)

Short Message: Enabled (Checked)

Note

Select the protocol to use from the list under **Radio Configuration** > **Protocol Options**.

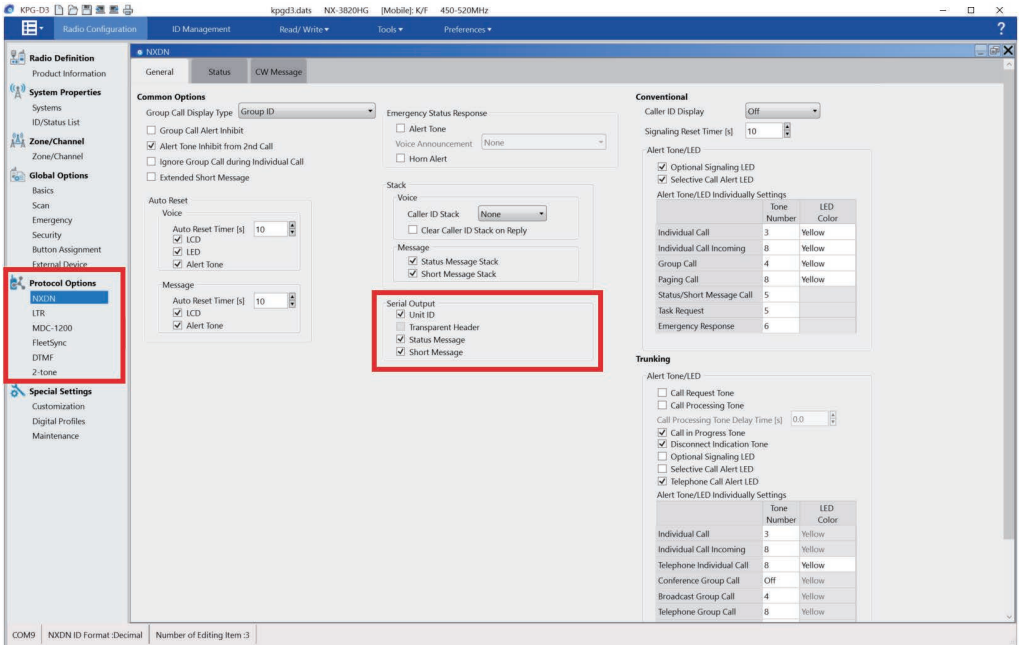

Figure 11-4 General Tab (Serial Output)

5 Configure the base station ID in ID Management.

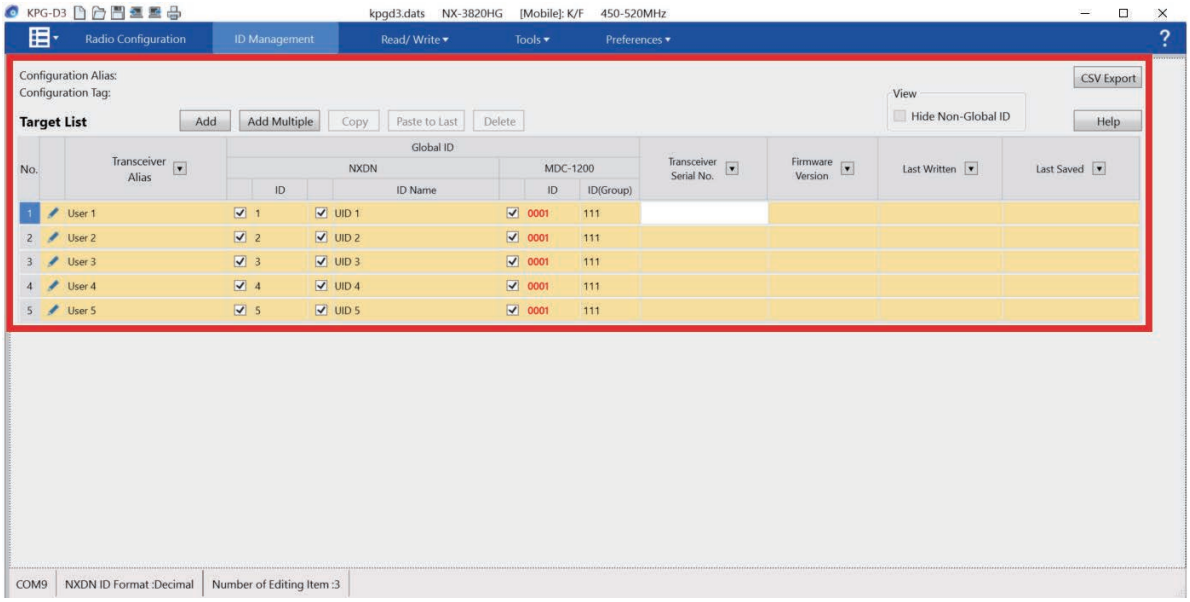

Figure 11-5 ID Management

Note

If **ID Management** is disabled in **Preferences** > **ID Management**, configure **ID (Own)** in the **General** tab under **Radio Configuration** > **System Properties** > **Systems**.

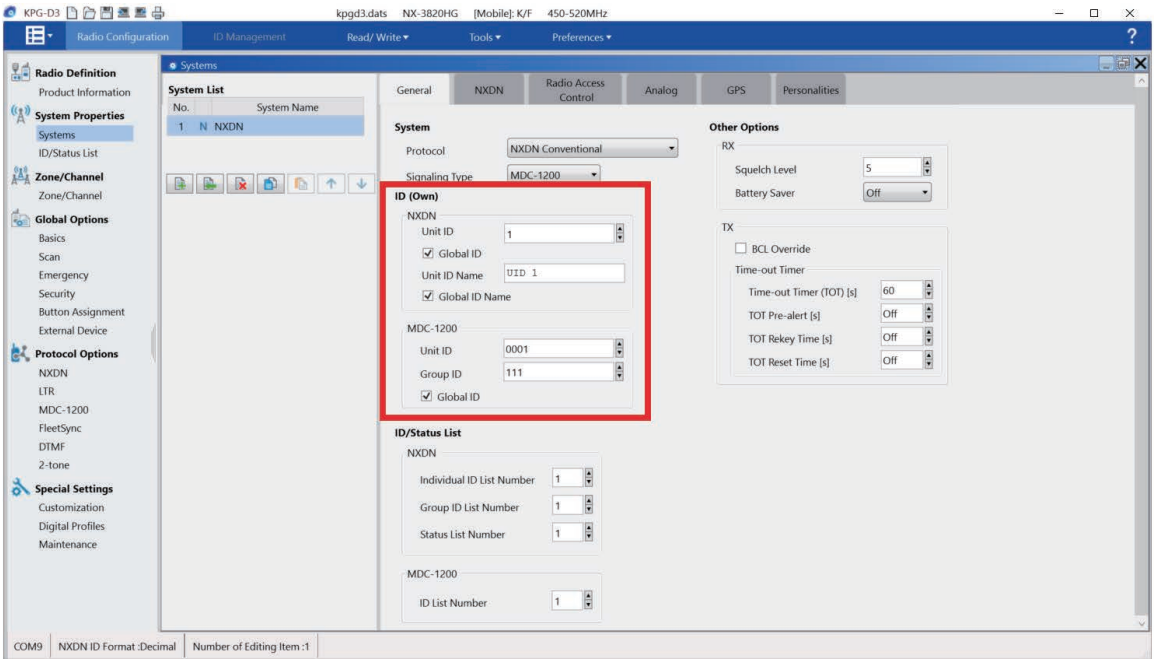

Figure 11-6 General Tab (ID (Own))

6 Configure the ID and Status to use in Radio Configuration > System Properties > ID/Status List.

- **Group ID setting example**

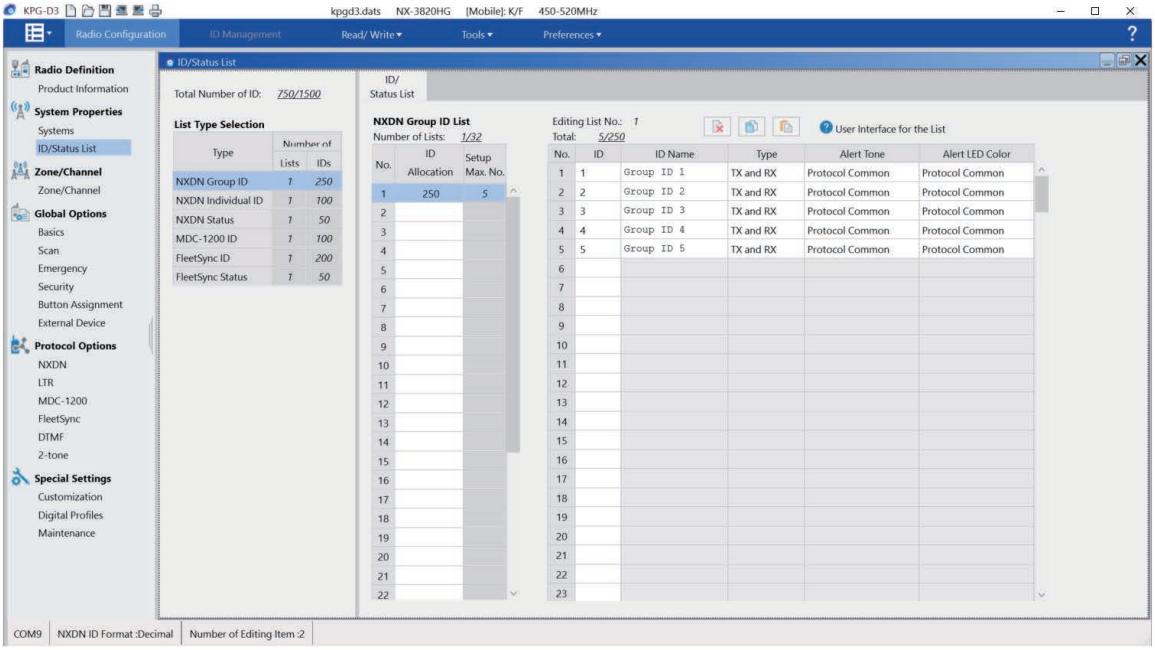

Figure 11-7 ID/Status List (Group ID Setting Example)

- **Individual ID setting example**

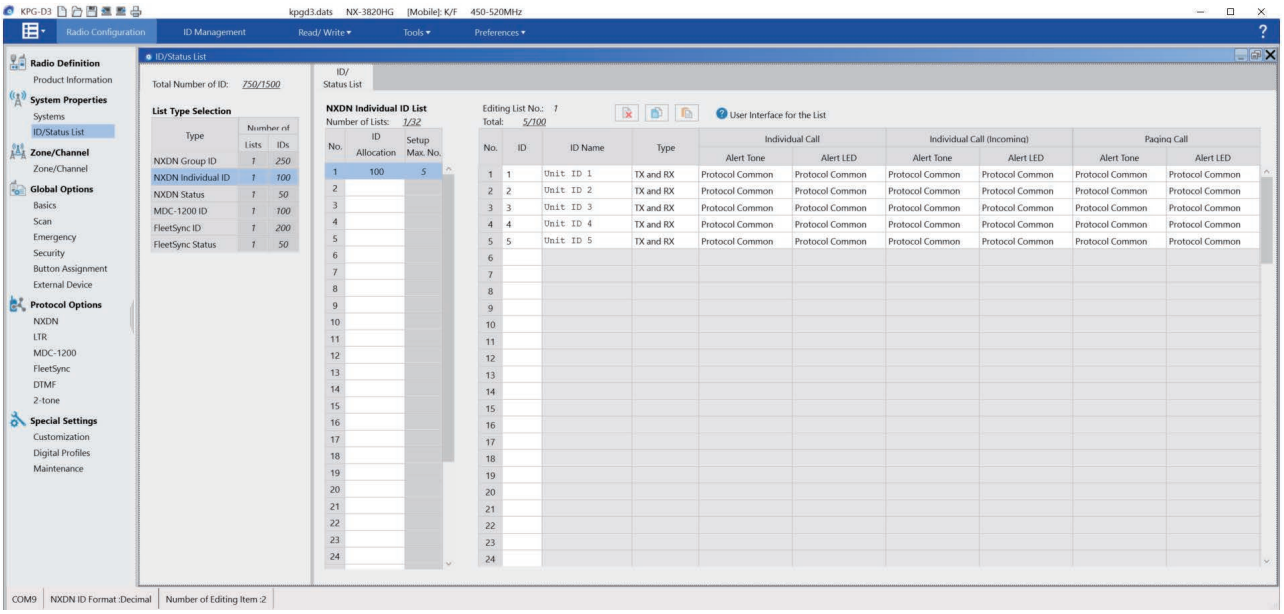

Figure 11-8 ID/Status List (Individual ID Setting Example)

- **Status setting example**

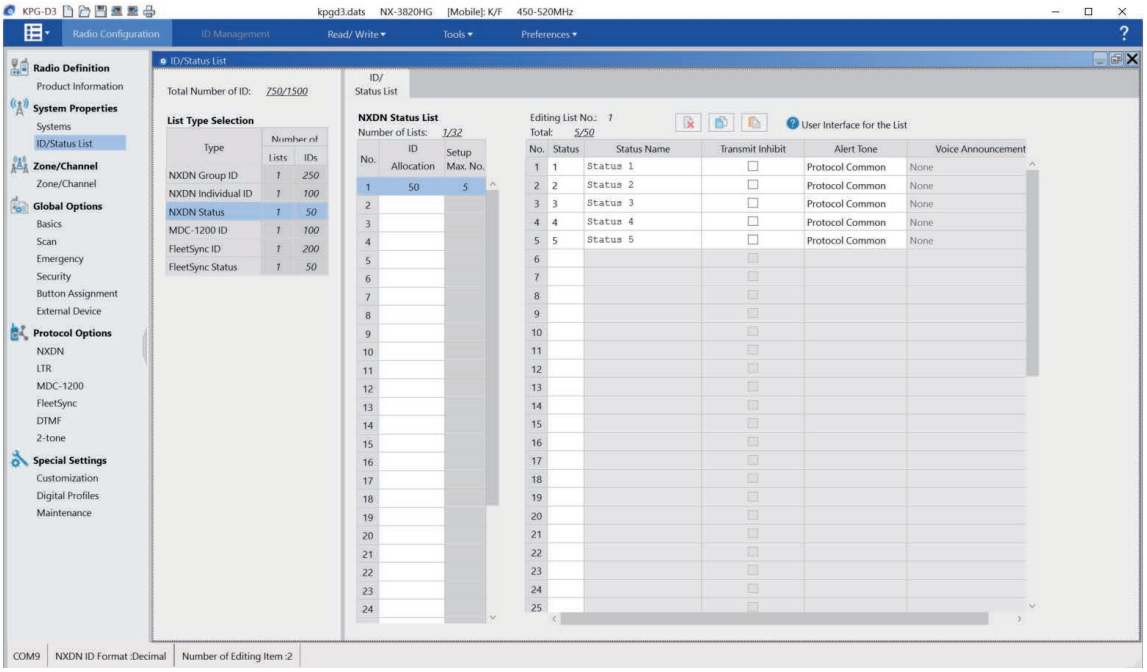

Figure 11-9 ID/Status List (Status Setting Example)

11.2 Configuring the NX-x00/ NX-x40 Series, TK-5x10G/ TK-5x10HG Series, TK-x180/ TK-x180H Series, TK-x302V/ TK-x302H/ TK-x302HV Series, TK-x360H Series

This section explains how to configure the NX-x00/ NX-x40 series, TK-5x10G/ TK-5x10HG series, TK-x180/ TK-x180H series, TK-x302V/ TK-x302H/ TK-x302HV series and TK-x360H series as base station using the KAS-20SE/ KAS-20CE.

Note

- The NX-x00/ NX-x40 series, TK-5x10G/ TK-5x10HG series, TK-x180/ TK-x180H series, TK-x302V/ TK-x302H/ TK-x302HV series and TK-x360H series can be used as both a base station and a mobile station.
- Only the basic settings to configure the transceiver as a base station using KAS-20SE/ KAS-20CE is described. Also, the KPG-111D setting is provided in the FPU as an example.

1 Select the Model Name and Frequency of the transceiver to use in Model > Product Information.

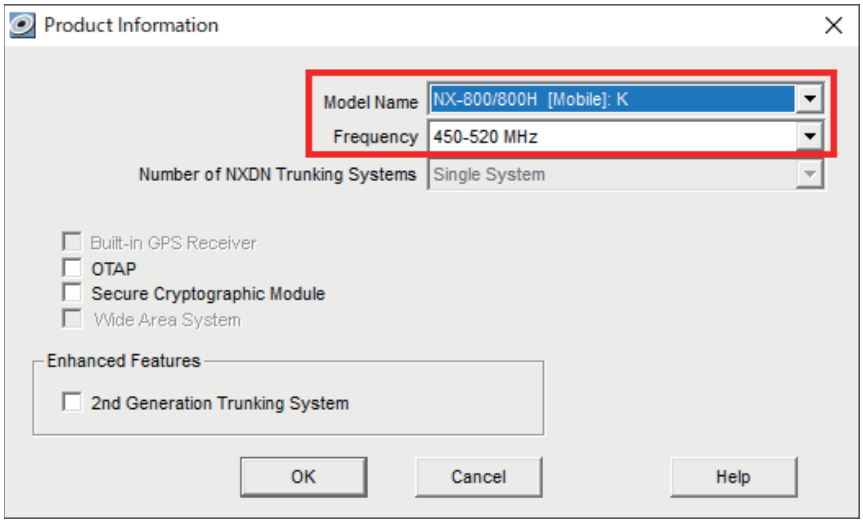

Figure 11-10 Product Information

2 Configure Zone Type and the zone information in Edit > Zone Information.

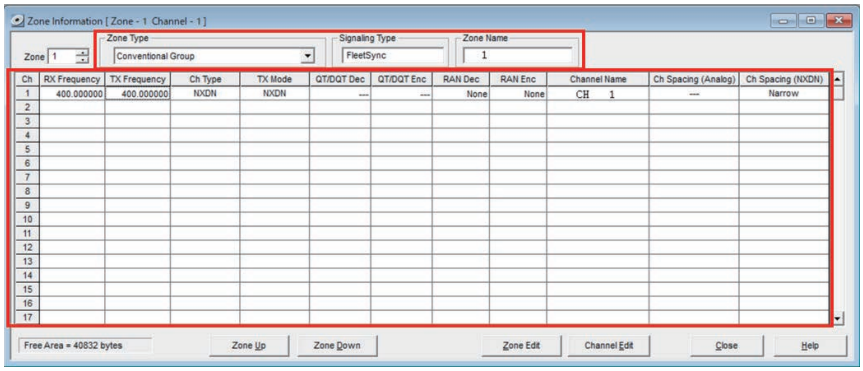

Figure 11-11 Zone Information

3 **Configure the following channel information in the Page 1 tab under Edit > Zone Information > Channel Edit.**

- **Channel Spacing**
- **Busy Channel Lockout**
- **Optional Signaling**
- **Selcall on PTT** (Configure **PTT ID** instead of **Selcall on PTT** when using FleetSync.)
- **ID List Number**
- **GID Scan** (Configuration of **GID Scan** is not required when using FleetSync.)

● **NXDN channel setting example**

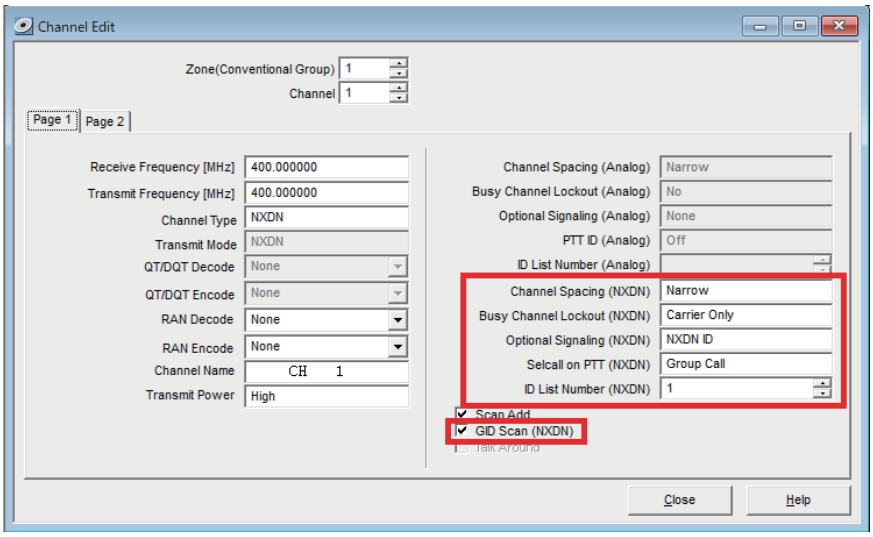

Figure 11-12 Page 1 Tab (NXDN Channel Setting Example)

● **Analog channel setting example**

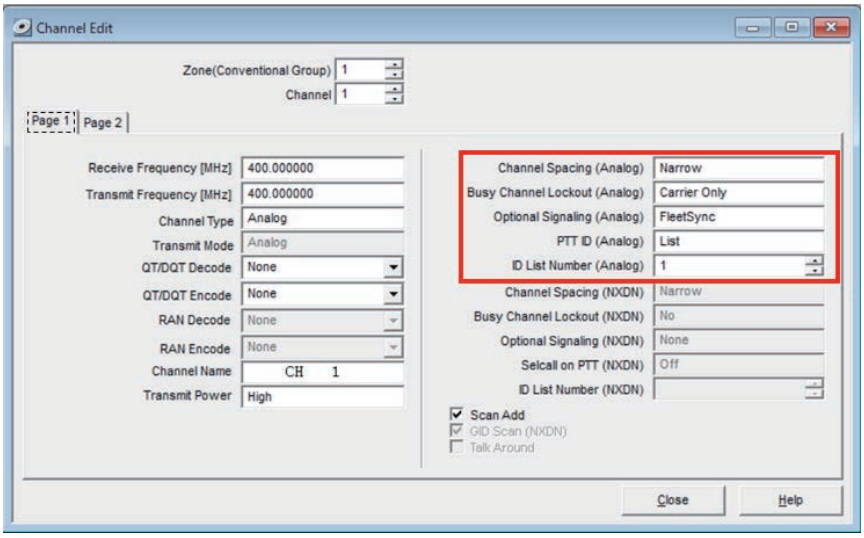

Figure 11-13 Page 1 Tab (Analog Channel Setting Example)

4 Configure the serial interface, Serial Output and Serial Input in Edit > Optional Features > Optional Features 1.

1) Configure the serial interface in the **Common Page 3** tab.

PC Interface Protocol: Select “Version 2”

Function (COM port 1): Select “Data + GPS Data Output” (Can also select “Data” when not using GPS)

Stop Bit (COM port 1): Configure according to the communication port used

Baud Rate (COM port 1): Select the baud rate to use

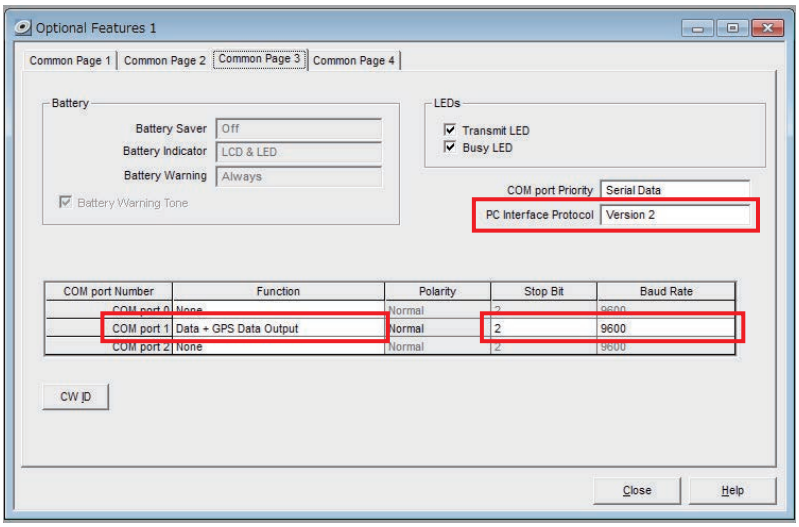

Figure 11-14 Common Page 3 Tab

2) Configure **Serial Output** and **Serial Input** in the **Common Page 4** tab.

Status Message Serial Output: Enabled (Checked)

Short Message Serial Output: Enabled (Checked)

Unit ID Serial Output: Enabled (Checked)

J Command Serial Output: Enabled (Checked)

Data Override: Enabled (Checked)

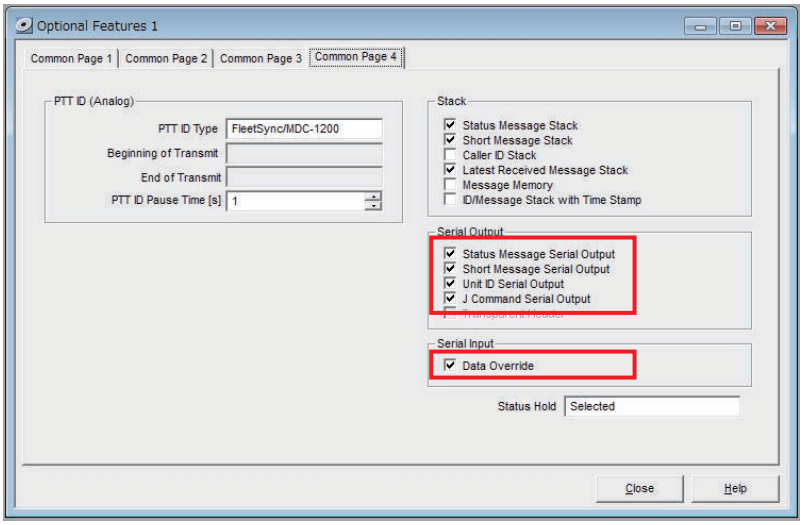

Figure 11-15 Common Page 4 Tab

5 Configure GPS in the GPS tab under Edit > Optional Features > Optional Features 2.

Base Station Settings > $PKLDS/$PKNDS (KW): Enabled (Checked)

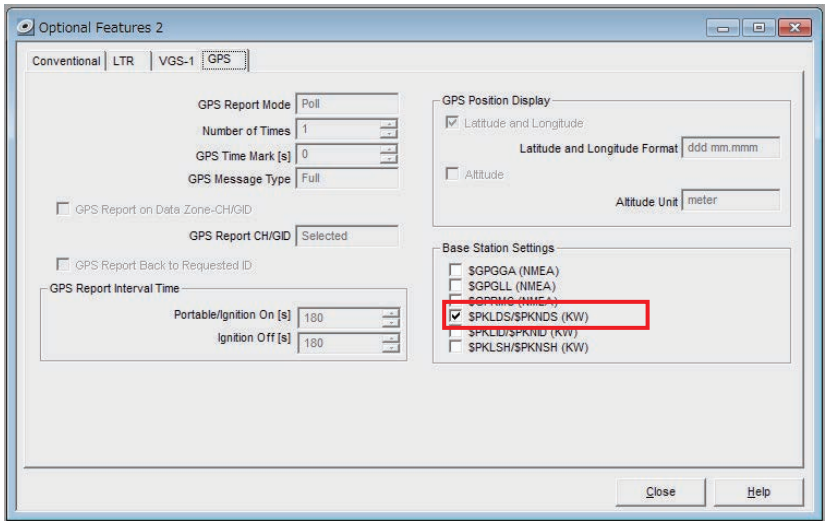

Figure 11-16 GPS Tab

6 Configure Unit ID (Own)/ Fleet (Own) and ID (Own).

- **NXDN**

  Configure **Unit ID (Own)** in the **General 1** tab under **Edit** > **NXDN** > **NXDN 1**.

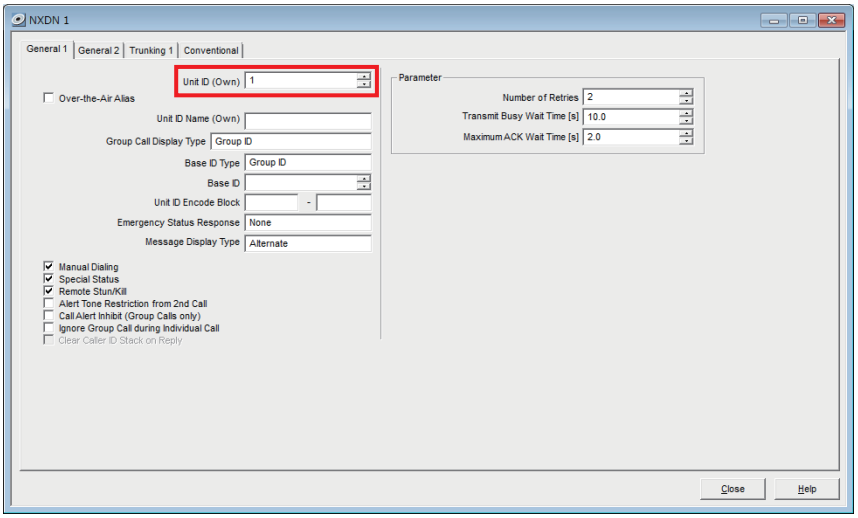

Figure 11-17 ID (Own) Setting (NXDN)

- **FleetSync**

  Configure **Fleet (Own)** and **ID (Own)** in the **General 1** tab under **Edit** > **FleetSync**.

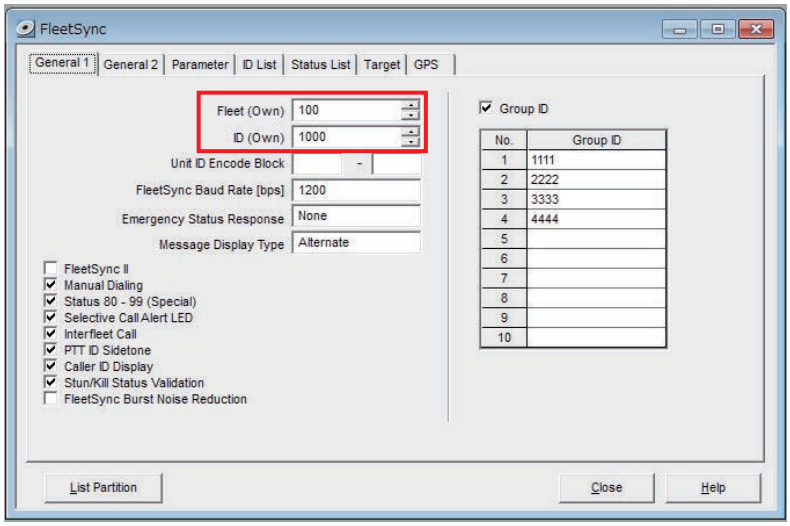

Figure 11-18 ID (Own) Setting (FleetSync)

7 Configure Unit ID List/ ID List.

- **NXDN**

  Configure in the **Unit ID List** tab under **Edit** > **NXDN** > **NXDN 2**.

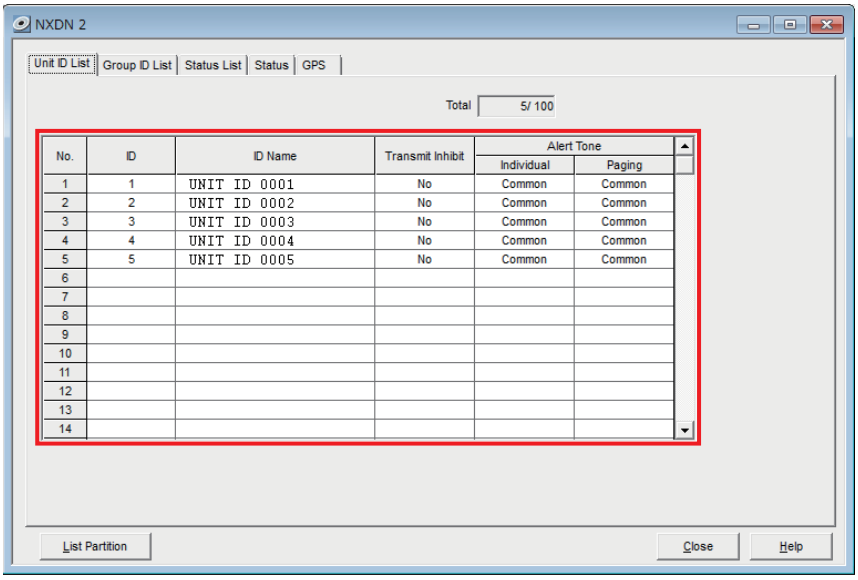

Figure 11-19 Unit ID Setting (NXDN)

- **FleetSync**

  Configure in the **ID List** tab under **Edit** > **FleetSync**.

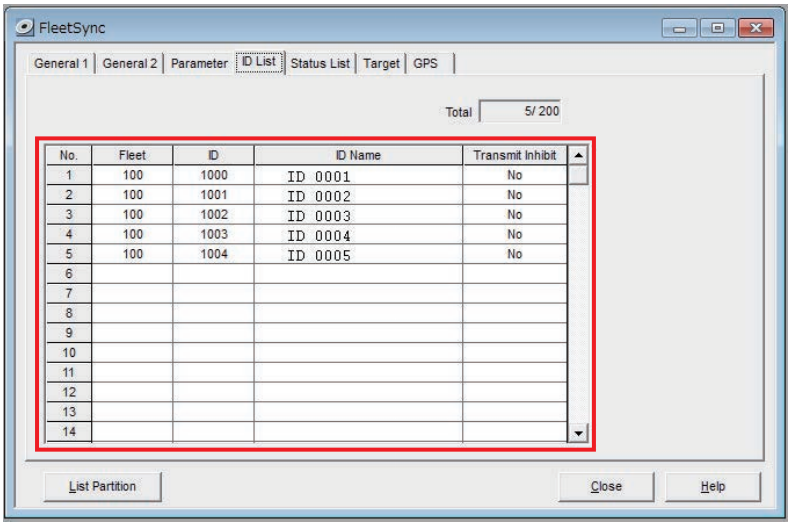

Figure 11-20 Unit ID Setting (FleetSync)

8 Configure Group ID List/ Group ID.

- **NXDN**

  Configure in the **Group ID List** tab under **Edit** > **NXDN** > **NXDN 2**.

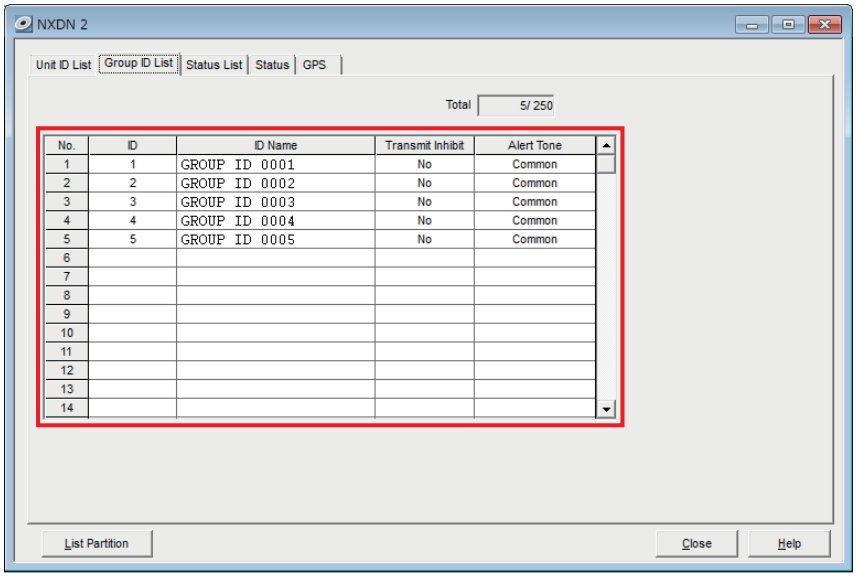

Figure 11-21 Group ID Setting (NXDN)

- **FleetSync**

  Configure **Group ID** in the **General 1** tab under **Edit** > **FleetSync**.

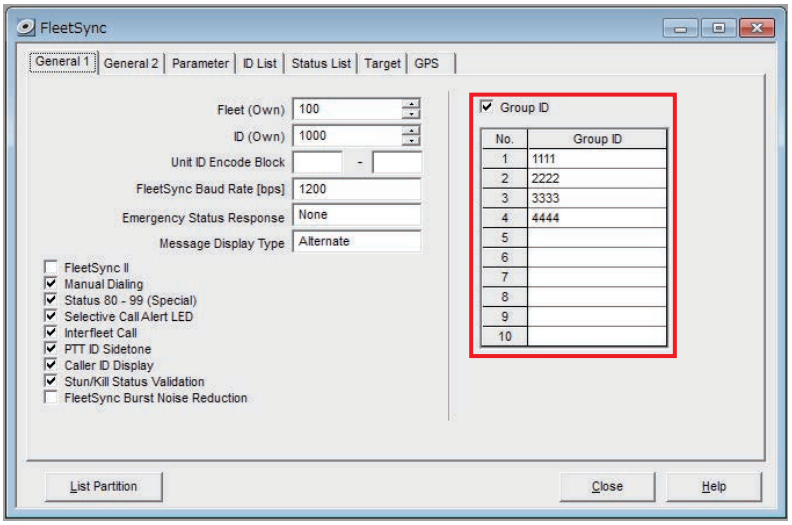

Figure 11-22 Group ID Setting (FleetSync)

9 Configure Status List.

- **NXDN**

  Configure in the **Status List** tab under **Edit** > **NXDN** > **NXDN 2**.

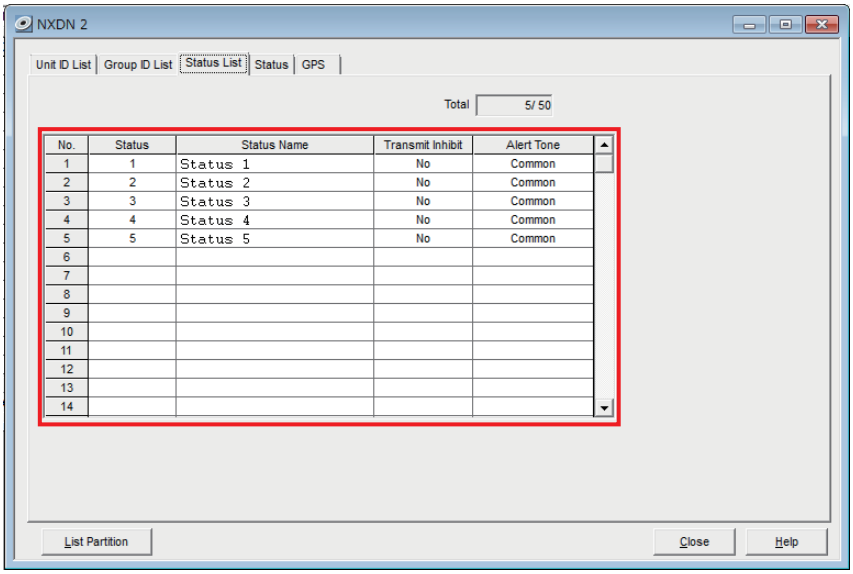

Figure 11-23 Status Setting (NXDN)

- **FleetSync**

  Configure in the **Status List** tab under **Edit** > **FleetSync**.

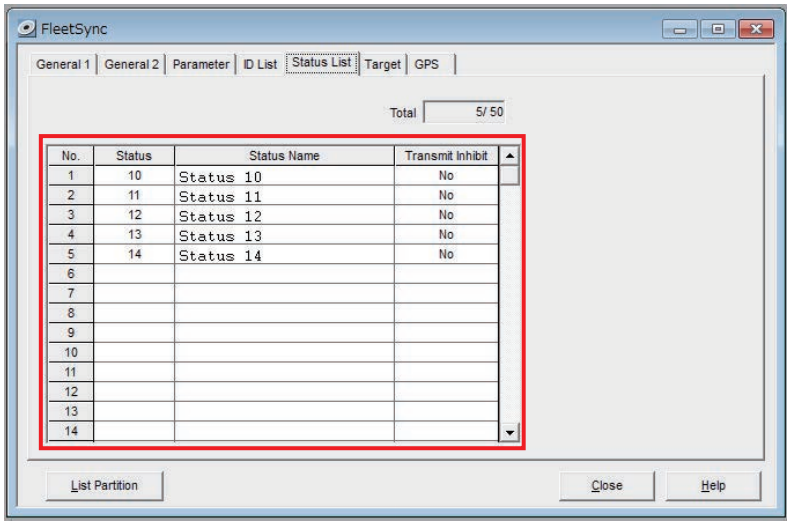

Figure 11-24 Status Setting (FleetSync)

12.1 Glossary

In this section, the terms frequently used for the KAS-20E AVL/ Dispatch system are explained. The definitions cited here are basic descriptions only for the purposes of introducing terms and phrases to the reader.

Table 12-1 Glossary

Terms	Definitions
Base Station	The base station is usually located at a central location, such as the dispatch center. The base station in a KAS-20E AVL/ Dispatch system consists of the transceiver for communications and the PC in which KAS-20SE/ KAS-20CE operates.
Mobile Station	The mobile station is the transceiver that is usually installed in the vehicle at a remotely specified location. By radio technology, the mobile station can make voice calls and data communications to one or more base stations and other mobile stations. Mobile station is a general term that is also used for the portable transceiver that sends reports to base stations.
Repeater	The repeater is a relay station to send the signals received from base stations and mobile stations to other base stations and mobile stations. In the KAS-20E AVL/ Dispatch system, the repeater supports NXDN, DMR, and FleetSync communication systems. The repeaters used vary depending on the communication system.
Indoor Location	Indoor Location is a feature to manage the location of radios using Bluetooth. This function allows you to detect the location of target radios installed indoors and efficiently manage the radio system. In the KAS-20E AVL/ Dispatch system, the repeater supports NXDN and DMR communication systems.

12.2 Troubleshooting

If the following error messages appear during the operation of KAS-20E AVL/ Dispatch system, take the following corrective actions:

Table 12-2 Error Messages and Corrective Actions

Error Message	Corrective Action
The entered password does not match.	Confirm the entered password.
The entered confirm password does not match the new password.	Confirm the entered password.
Failed to log in to server. (User ID or Password not matching.)	Confirm the entered user ID or password.
The database is not installed. To start KAS-20SE, it is necessary to install the database.	Install SQL Server. (Refer to Software Environment on page 447.)

Error Message	Corrective Action
The initial configuration of the database for KAS-20E has failed.	Check one of the following: • Confirm password policy requirements and enter a stronger password. • Check whether the logged in Windows account has administrator authority. • Check whether SQL Server is installed in the logged in Windows account. When configuring the KAS-20SE in an account other than the one in which SQL Server is installed, it is necessary to add an account in SQL Server. • When installing the KAS-20E for the first time the installation failed, delete the KAS20 database before repeating the initial configuration. (Refer to Deleting KAS20 Database on page 480.)
The program was not properly installed due to an error during initialization. Please reinstall the program. ({0} not found.)	Reinstall KAS-20SE and KAS-20CE.
Cannot connect to the database with this version of KAS-20SE because the version is old. Update and then restart KAS-20SE.	The version of KAS-20SE is old. Update KAS-20SE to the same version as KAS-20CE.
Cannot connect to the database because the version of KAS-20CE is old. Update KAS-20CE.	The version of KAS-20CE is old. Update KAS-20CE to the same version as KAS-20SE.
Cannot update the database with an old version. Retry the update after deleting the database, or update KAS-20SE to the latest version.	An attempt has been made to update to a version that is older than the KAS-20SE previously set up. Use the latest KAS-20SE.
The FILESTREAM function of SQL Server could not be enabled.	Check that the system recommended environment is properly set up and the SQL Server service is operating normally. Then perform the operation again. (Refer to Checking SQL Server Service on page 478.)
Unable to connect to the database. Log out from the server, then log in again.	Check whether the SQL Server service is operating and log in again. (Refer to Checking SQL Server Service on page 478.)
Unable to connect to KAS-20SE. Log out from the server, then log in again.	Check whether KAS-20SE is running, and log in again. Check whether the KAS-20SE is running and log in again or check the license of MULTI-CLIENT LICENSE (KWD-20S-MC) is authenticated. (Refer to About Software Upgrade License on page 13, Moving KAS-20SE to Another PC on page 451.)
The information of the logged-in user has been changed. Log out from the server, then log in again.	KAS-20CE has logged out because the user information of the logged in user has changed. Log in again.
The application has already started.	Confirm as to whether the application has already started.
The period of validity of the application has expired.	Consider using the KAS-20E Dealer license.
The application is not authenticated.	Confirm the license authentication status by using KPG-300LMC.
To use the KAS-20CE functions, the authentication of an Upgrade License (AVL License or Dispatch License or Indoor Location License) is required.	Authenticate LOCATION MANAGEMENT LICENSE (KWD-20C-LM) or VOICE DISPATCH LICENSE (KWD-20C-VD) by using KPG-300LMC.

Error Message	Corrective Action
Server Service is stopped.	Restart the SQL Server service. (Refer to Checking SQL Server Service on page 478.)
Server Service is stopped temporarily.	Restart the SQL Server service. (Refer to Checking SQL Server Service on page 478.)
Failed to connect to server. (Server not found.)	Check the entry in **Server IP** and **Database Name**, and log in again.
No valid network adapter. The application will close.	Confirm the network configuration of the PC.
An error has occurred while reading the system data. Please reconfigure the system data using the server application.	Restart KAS-20SE and KAS-20CE.
Failed to connect to database.	Check whether the SQL Server service is running and perform the operation again. (Refer to Checking SQL Server Service on page 478.)
This user cannot log in because the Access Level is not configured as Admin.	Log in with the user ID whose **Access Level** is “Admin”.
Failed to create the database. KAS20.mdf, KAS20_log.ldf, or the KAS20_FileStream folder already exists in the folder {0}. Delete the existing file or folder.	Delete the displayed file or folder, and then execute the operation again. (In “{0}” of the error message, the folder path is displayed.)
User’s password validation failed. The password does not meet Windows policy requirements because it is too short.	Confirm Windows policy requirements for the PC in use and enter a longer password.
User’s password validation failed. The password does not meet Windows policy requirements because it is not complex enough.	Confirm Windows policy requirements for the PC in use and enter a stronger password.
User’s password validation failed. The password does not meet Windows policy.	Confirm Windows policy requirements for the PC in use and enter a stronger password.
Failed to create the database. The {0} folder could not be referenced. Make sure the folder exists, or check the access right.	Check whether the logged in Windows account has administrator authority.
The entered User ID has already been registered or cannot be used as a User ID.	Enter another user ID.
Enter the same password in the Password and Confirm Password fields.	Confirm the entered password and the confirmation password.
Failed to read the Radio Resource List file.	The target **Radio Resource List** file is not in a readable format. This could be because the content of the file is incorrect or the file is damaged. Check the specified file.
Failed to save.	Failed to save the Scanned Map. Try to save again.
Failed to delete.	Failed to delete the Scanned Map. Try to delete again.
Please create the system data using the server application.	Start up KAS-20SE and complete the database setup (Initial Server Setup). After that, restart KAS-20CE.

Error Message	Corrective Action
The file does not exist. {0}	The specified file cannot be found because it has been moved or deleted. Specify a file again.
The setting file cannot be Exported.	Check whether the SQL Server service is running and perform the operation again. (Refer to Checking SQL Server Service on page 478.)
The setting file cannot be imported.	Check whether the SQL Server service is running and perform the operation again. (Refer to Checking SQL Server Service on page 478.)
Unable to import. Change the KAS-20E version in use to the version that was used when the setting file was exported.	Use the KAS-20SE that is of the same version as the exported KAS-20SE to import the file.
The database file cannot be restored.	Check the following and perform the operation again: • The system recommended environment is properly set up. • All the KAS-20CE users have logged out. • The SQL Server service is operating normally.
The database file cannot be backed up.	Check the following and perform the operation again: • The system recommended environment is properly set up. • The SQL Server service is operating normally.
Due to database access rights, locations other than those under the default folder cannot be specified.	Specify the location under the default folder to create the backup file of the database.
The requested help file cannot be found. Reinstall the software.	The help file (Basic Operations) is not in the designated location of the installation folder or it has been deleted. Reinstall KAS-20E and restore the help file to the designated location.
No activity data is found.	No target log items are found in the **Log Filter and Export** and **Log Replay** screens. Check the folder settings and try again.
An error has occurred while saving the database.	Check whether a log indicating insufficient database space is displayed in the **Application Error** tab of the log. And check that KAS-20SE is running and perform the operation again.
No location information is available.	Show All Mobile Stations, Show Mobile Station or Track Mobile Station cannot be used because the positional information (GPS Data, BLE Data) of the ID to perform this function has not been received. Try again after receiving the positional information.
Unable to save because the following items are not configured:	Confirm as to whether the displayed items are configured.
Unable to start Auto ID Collection because the repeater cannot be connected. Check the IP Network configuration.	Confirm the IP Network configuration.
The format of the icon is invalid. The Icon size is up to 32 pixels x 32 pixels.	Use an icon of 32 pixels x 32 pixels or smaller.
The file does not contain coordinates in Point, Polygon or LineString format.	Use a file that contains the coordinate data in the Point, Polygon or LineString format.

Error Message	Corrective Action
Not enough memory. Reduce the size of the image or the number of Scanned Map used.	Use a map image of a smaller size.
The number of IDs that can be specified for the users is 1000.	Use a layer file that contains fewer than 1000 information.
Failed to convert the file to MP3.	Failed to convert recorded data to MP3 file. Try again.
This file is not in the Wave file format.	Use a file in the Wave file format.
The Patch Group could not be created.	Secure enough space to create the Patch Group in the **Dispatch** pane.
Patch Group operation is in progress. It is not possible to delete during operation.	Delete the Patch Group when the IDs registered in the Patch Group do not transmit or receive, or after the IDs are deregistered from the Patch Group. An ID registered in the Patch Group can be deregistered by dragging and dropping the ID to the “Delete” icon.
This Dispatch Tile is always used and cannot be deleted.	The default Dispatch Tile cannot be deleted as it is always used to communicate with IDs that are not registered in the Dispatch Tile.
The ID type cannot be registered outside the group. Groups in which the Scan Add checkbox is not selected cannot be registered.	Register a Group ID, in which **Scan Add** is enabled, in Patch Group.
Unable to start Auto ID Collection because the COM port is unavailable. Check the Serial configuration.	Confirm the Serial setting.
The COM port is unavailable.	Operate when the COM port is available.
The base station transceiver is busy.	The base station transceiver is in the busy state. Try operating again after a while.
The base station transceiver is in the Stun state.	The base station transceiver is in the stun state. Revive the base station transceiver from the stun state.
The function cannot be executed.	The operation has failed due to causes other than the busy state or stun state of the base station transceiver. Check whether the settings of the base station transceiver are correct.
The COM port is unavailable. The application needs to be restarted.	The COM port cannot be used. Restart the application.
The COM port of KAS-20SE is unavailable. KAS-20SE and KAS-20CE need to be restarted.	The COM port cannot be used. Restart KAS-20SE and KAS-20CE.
The COM port does not exist.	The COM port cannot be used. Check the connection.
This unit is used in other systems.	As the ID is already registered in other systems, settings other than Fleet No. and Fleet Name will be the same as the ID of this unit when “Yes” is selected. Check that the settings of other systems are changed.
An error has occurred while loading the database. The database is corrupt or the data is inconsistent.	An error has occurred while loading the database. The database is damaged or there are some data issues. Exit the application. Restart the application.

Error Message	Corrective Action
The file is corrupted.	Unable to decrypt the encrypted Setting file using Import Settings. Check the file and try to import it again.
Microphone Device is not configured.	The Microphone Device is not configured. Configure the device and reperform the operation that triggered the error.
The contents of the user.config file are corrupt. Delete the user.config file manually, then execute KAS-20CE.	Delete the user.config file in the following folder: C:\Users\(username)\AppData\Local\JVCKENWOOD_Corporation\KAS20CE.exe_Url_~\1.0.xxxx.xxxx Note • xxxx.xxxx is a value. • To delete the user.config file, specify the folder of the latest update date and delete the file.
The contents of the user.config file are corrupt. Delete the user.config file manually, then execute KAS-20SE.	Delete the user.config file in the following folder: C:\Users\(username)\AppData\Local\JVCKENWOOD_Corporation\KAS20SE.exe_Url_~\1.0.xxxx.xxxxx Note • xxxx.xxxx is a value. • To delete the user.config file, specify the folder of the latest update date and delete the file.
The selected file is not appropriate. Do you wish to reselect a file?	Displayed when a Scanned Map file is selected, and the file size is large or the image size exceeds the specified range. Select either “Yes” or “No”. Note Select “No” to adjust the image size and register the file.
The configuration of the KAS-20E has been automatically corrected.	Confirm that a USB-LAN converter cable or a USB-COM converter cable configured to be used in the KAS-20E is connected to a PC, and that a LAN and a COM port are available for use. Even in cases other than the above, this message appears if the KAS-20E cannot be used unless the KAS-20E configuration is corrected when the setting screen is opened.
The odd parity is incorrect, or a number of less than 16 digits has been entered. Enter the Key Data once again.	Check that the odd parity is correct, and enter a different Key Date. Check that the digits are correct.
Following key data patterns are weak / semi-weak keys. Enter the Key Data once again.	Enter a different Key Date to avoid simple combinations.
The number cannot be reduced because the floors are set.	On the Floor tab, delete the Floor that has been set, then reduce the number of Floors on the Building tab.
Not enough memory. Reduce the size of the image or the number of Floor Map used.	Use a floor image of a smaller size.

Checking SQL Server Service

Follow the procedure below to check whether the SQL Server service is operating normally. In this section, the steps to check in SQL Server 2022 Express are described.

1 Start up the Microsoft SQL Server 2022 Configuration Management.

For details on how to start up, refer to “Configuring the Network on page 30”.

2 Select “SQL Server Services” in the list on the left.

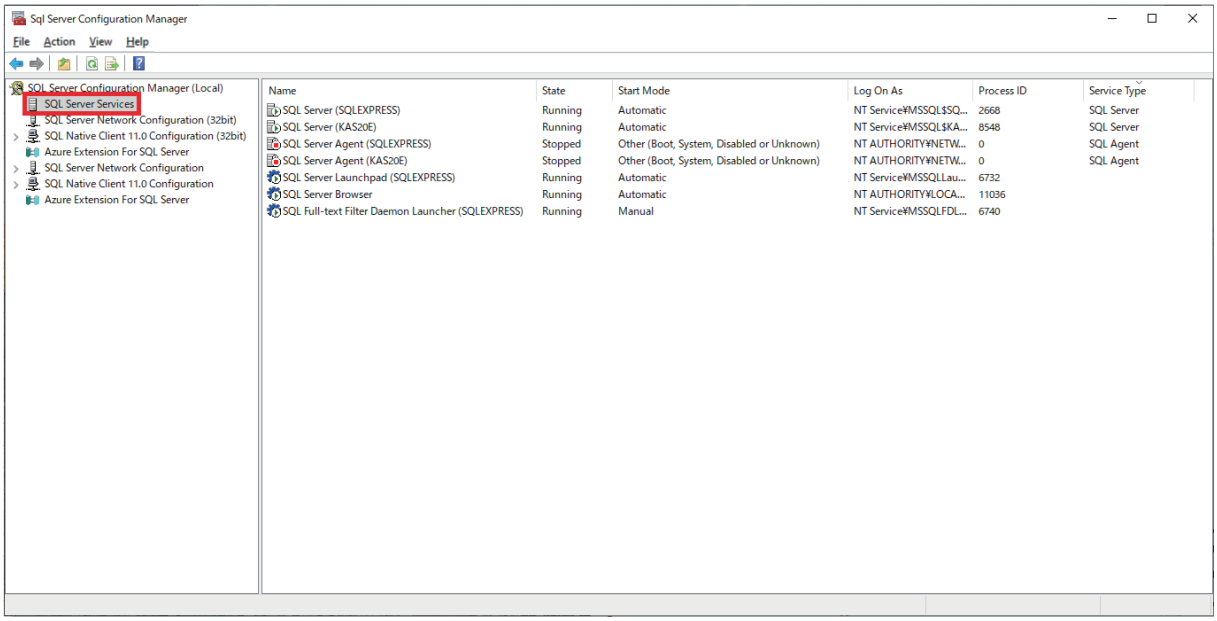

Figure 12-1 SQL Server Services

3 **Check “SQL Server (KAS-20E)” and State of the Start Mode displayed on the right screen.**

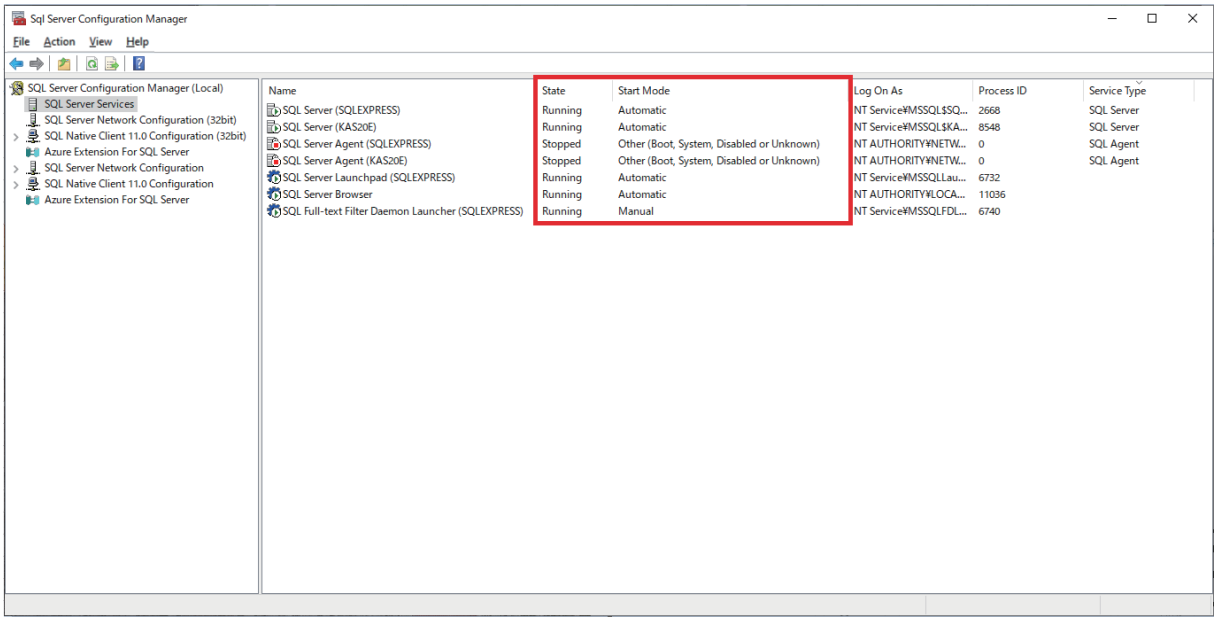

Figure 12-2 State/ Start Mode

If **State** is “Running” and **Start Mode** is “Automatic”, the SQL Server service is operating normally.

- **When State is not “Running”**

  Right-click on “SQL Server (KAS-20E)” and select “Start”. The SQL Server service will begin. If it does not begin, restart the PC and perform the operation again.

- **When Start Mode is not “Automatic”**

  Right-click on “SQL Server (KAS-20E)” to select “Properties”, and configure **Service** > **Start Mode** to “Automatic”. Then click the “OK” button.

Deleting KAS20 Database

Follow the procedure below to delete the KAS20 database.

1 Start up the Microsoft SQL Server Management Studio.

The procedure for starting up the Microsoft SQL Server Management Studio is as follows:

"Start" > "All Apps" > "Microsoft SQL Server Tools" > "Microsoft SQL Server Management Studio"

Note

If the Microsoft SQL Server Management Studio is not installed, obtain and install it from the Microsoft website.

2 Right-click on "(PC name)\KAS20" > "Database" > "KAS20" in the list on the left and select "Delete".

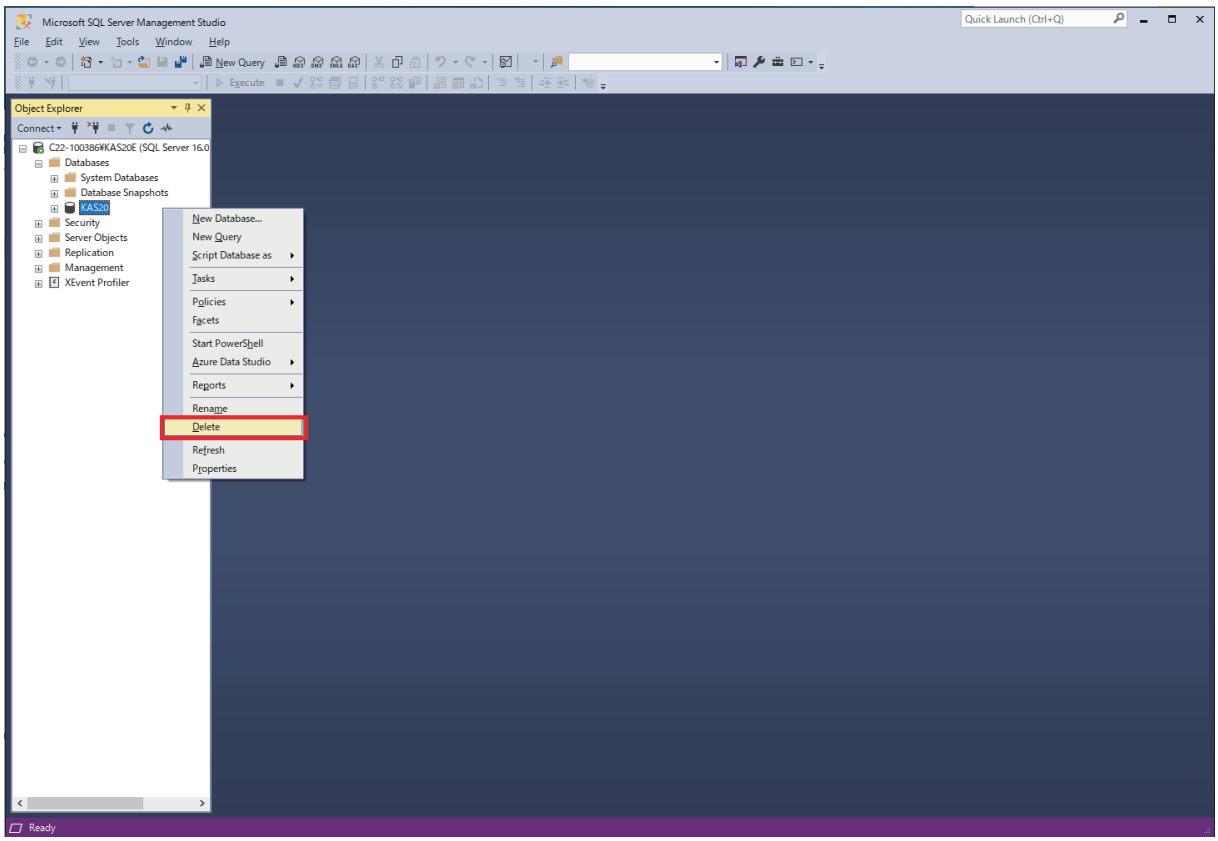

Figure 12-3 Delete

3 **Select “KAS20” on the displayed screen, then click the “OK” button.**

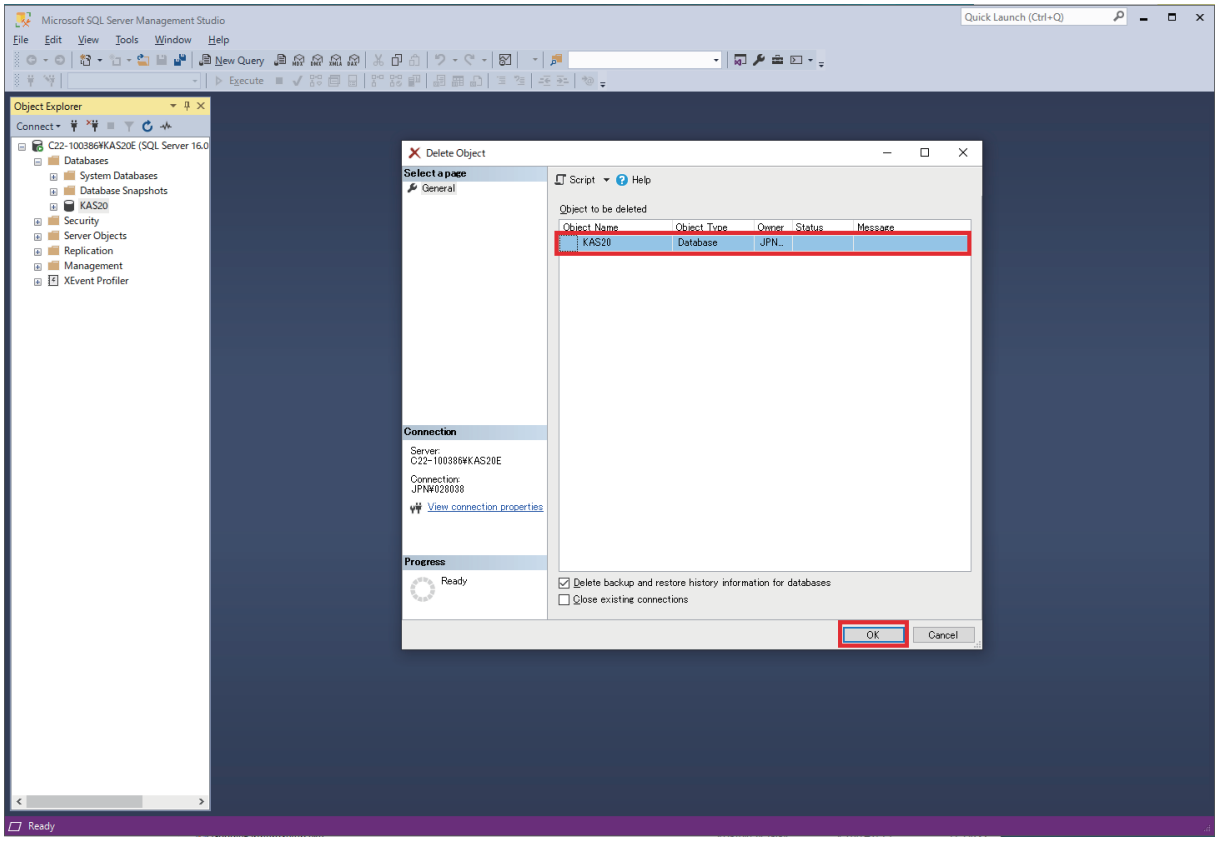

Figure 12-4 OK

Factors that Cause a Result Item in the Log Pane to Be an Internal Error (Internal System Error)

The main factors that cause a **Result** item in the **Log** pane to be an **Internal Error** (internal system error) are as follows:

- If stun is sent from the repeater to the transceiver for which stun is not permitted
- If the configuration of **Channel Spacing** does not match among the transceiver, the repeater (NXDN Trunking (Type-C)/ NXDN Conventional only), and KAS-20E

12.3 Considerations for Determining the Scale of a System

Among the factors affecting the number of mobile stations managed by the system, the following are factors related to KAS-20E.

- Parameter settings when using the GPS Report Channel (NEXEDGE 2nd Generation only)
- Usage Rate of Base Station Connected to the KAS-20SE/ KAS-20CE in a Serial Connection

Parameter Settings When Using GPS Report Channel

When using GPS Report Channel, a maximum of 4800 GPS data/386 seconds (12.5 GPS data/second) can be configured for each channel that functions as a GPS Report Channel.

On the other hand, the KAS-20E receiving the GPS data can receive up to 100 GPS data/second. Adjust the number of configured GPS Report Channel and parameters so that the total data received by the KAS-20E is within 100 GPS data/second.

For example, for the following system configuration, the total GPS data received by the KAS-20E is maximum 12.5 + 12.5 = 25 GPS data/second:

- 2-site system
- Each site is using 1 GPS Report Channel
- Settings for both GPS Report Channels are 4800 GPS data/386 seconds (12.5 GPS data/second).

Usage Rate of Base Station Connected to the KAS-20SE/ KAS-20CE in a Serial Connection

When using the KAS-20SE/ KAS-20CE in a serial connection, the following will affect the maximum number of mobile station supported.

- The number of mobile stations that can be supported decreases when the frequency of refreshing the display of the vehicle's position increases.
- The number of mobile stations that can be supported decreases when the use of voice call increases.
- The number of mobile stations that can be supported decreases when the use of status message and text message increases.
- The number of mobile stations that can be supported is affected by the channel occupancy time when the positional information of a mobile station is obtained by polling.
- As the total time that a mobile station can be used for transmission decreases due to repeater access negotiation, the total number of mobile stations that can be supported decreases when using LTR.
- As the total time that a mobile station can be used for transmission decreases due to GTC data time, the total number of mobile stations that can be supported decreases when using GTC.

The following prerequisites apply when using $PKLDS in FleetSync.

- There are 2 ways to send the positional information, namely Auto Report and Auto Polling.
- The carrier occupancy time for FleetSync during packet transmission is 1 second.
- The FleetSync GPS packets are transmitted according to the setting of Busy Channel Lockout (BCL). If BCL is configured to "No", the packets are transmitted regardless of the busy state of the channel. The data packets are not transmitted for the rest of the BCL settings.
- FleetSync does not require ACK response as the GPS packets are always transmitted.
- The GPS data packets are transmitted within the polling occupancy time (5 seconds) when polling using the KAS-20SE/ KAS-20CE.

The following tables show the number of mobile stations supported by KAS-20SE/ KAS-20CE assuming that the above prerequisites are true. When a base station is connected to the KAS-20SE and KAS-20CE individually and KAS-20SE is receiving the GPS data, take note of the usage rate of the base station connected to the KAS-20SE.

Note

- When considering the carrier occupancy for data transmission, it is recommended to maintain the data collision rate at below 30 %.
- When receiving GPS data from the mobile station, the base station cannot receive the packets if it is already receiving the carriers. The mobile station will not stop its data transmission but the base station cannot receive the transmission.
- The number of mobile stations as follows is an estimate; the maximum number of mobile stations when the above prerequisites are correctly applied.

Auto Report Mode

● Auto Report only

Table 12-3 Mobile Station Supported (Auto Report Only)

Display Refresh Interval (Minute)	Usage Rate of Voice Call + Status + Message (%)						
	0 %	5 %	10 %	20 %	25 %	50 %	75 %
1	18	17	16	14	13	9	4
2	36	34	32	28	27	18	9
3	54	51	48	43	40	27	13
5	90	85	81	72	67	45	22
10	180	171	162	144	135	90	45
15	270	256	243	216	202	135	67
20	360	342	324	288	270	180	90
30	540	513	486	432	405	270	135
60	1080	1026	972	864	810	540	270

● Auto Report and LTR

Table 12-4 Mobile Station Supported (Auto Report and LTR)

Display Refresh Interval (Minute)	Usage Rate of Voice Call + Status + Message (%)						
	0 %	5 %	10 %	20 %	25 %	50 %	75 %
1	13	12	12	10	10	6	3
2	26	25	24	21	20	13	6
3	40	38	36	32	30	20	10
5	66	63	60	53	50	33	16
10	133	126	120	106	100	66	33
15	200	190	180	160	150	100	50
20	266	253	240	213	200	133	66
30	400	380	360	320	300	200	100
60	800	760	720	640	600	400	200

● Auto Report and GTC

Table 12-5 Mobile Station Supported (Auto Report and GTC)

Display Refresh Interval (Minute)	Usage Rate of Voice Call + Status + Message (%)						
	0 %	5 %	10 %	20 %	25 %	50 %	75 %
1	10	9	9	8	7	5	2
2	21	19	18	16	15	10	5
3	31	29	28	25	23	15	7
5	52	49	47	42	39	26	13
10	105	99	94	84	78	52	26
15	157	149	141	126	118	78	39
20	210	199	189	168	157	105	52
30	315	299	283	252	236	157	78
60	630	598	567	504	472	315	157

Auto Polling Mode

● Auto Polling only

Table 12-6 Mobile Station Supported (Auto Polling Only)

Display Refresh Interval (Minute)	Usage Rate of Voice Call + Status + Message (%)						
	0 %	5 %	10 %	20 %	25 %	50 %	75 %
1	12	11	10	9	9	6	3
2	24	22	21	19	18	12	6
3	36	34	32	28	27	18	9
5	60	57	54	48	45	30	15
10	120	114	108	96	90	60	30
15	180	171	162	144	135	90	45
20	240	228	216	192	180	120	60
30	360	342	324	288	270	180	90
60	720	684	648	576	540	360	180

● Auto Polling and LTR

Table 12-7 Mobile Station Supported (Auto Polling and LTR)

Display Refresh Interval (Minute)	Usage Rate of Voice Call + Status + Message (%)						
	0 %	5 %	10 %	20 %	25 %	50 %	75 %
1	11	10	10	8	8	5	2
2	22	21	20	17	16	11	5
3	33	31	30	26	25	16	8
5	56	53	50	44	42	28	14
10	112	106	100	89	84	56	28
15	168	159	151	134	126	84	42
20	224	213	201	179	168	112	56
30	336	319	302	269	252	168	84
60	672	639	605	538	504	336	168

● Auto Polling and GTC

Table 12-8 Mobile Station Supported (Auto Polling and GTC)

Display Refresh Interval (Minute)	Usage Rate of Voice Call + Status + Message (%)						
	0 %	5 %	10 %	20 %	25 %	50 %	75 %
1	10	9	9	8	7	5	2
2	21	19	18	16	15	10	5
3	31	29	28	25	23	15	7
5	52	49	47	42	39	26	13
10	105	99	94	84	78	52	26
15	157	149	141	126	118	78	39
20	210	199	189	168	157	105	52
30	315	299	283	252	236	157	78
60	630	598	567	504	472	315	157

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