

NEXEDGE 1st Generation

System Programming Reference (SYSM)

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About this Manual

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

Items	Specifications	How to Verify
Market Code	K/ E	Printed or labeled on the outside of carton and the model name plate on the repeater.
Firmware Version of NXR-700/ NXR-800/ NXR-900/ NXR-901	5.20.00 or later	Can be viewed in the Repeater Information dialog box of KPG-109D/ KPG-109DN.
Version of KPG-109D/ KPG-109DN	V 5.00 or later	Can be viewed in the About KPG-109D or About KPG-109DN dialog box of KPG-109D/ KPG-109DN.
Firmware Version of NXR-5700/ NXR-5800/ NXR-5900/ NXR-5901	5.20.00 or later	Can be viewed in the Repeater Information dialog box of KPG-D2/ KPG-D2N.
Version of KPG-D2/ KPG-D2N	V 5.20 or later	Can be viewed in the About KPG-D2 or About KPG-D2N dialog box of KPG-D2/ KPG-D2N.
Version of KPG-110SM	V 5.20 or later	Can be viewed in the About KPG-110SM dialog box of KPG-110SM.

K: Designed for the North American markets.

E: Designed for the European markets.

About Notations

The following notations are used in this manual:

[]

The characters in [] indicate the name of the operating portion of the repeater and the key of the PC.

“ ” (Double Quotation Marks)

The characters in “ ” indicate the name of the functions, buttons, and menus shown on KPG-110SM, or the display of the repeater.

Bold Letters

The characters in bold letters indicate the name of the windows, tabs, checkboxes in KPG-110SM and functions assigned to the keys on the repeater.

[] + []

This notation is used for describing functions activated by pressing 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.

PF (Programmable Function) Key

This notation is used for describing the key of the repeater to which any function is assigned. When the Reset function is assigned to the **[A]** key, the **[A]** key is described as the “Reset key”.

Notations for FPU Names

KPG-109D and KPG-109DN are referred to collectively as “KPG-109D/ DN” in this document. Also, KPG-D2 and KPG-D2N are referred to collectively as “KPG-D2/ D2N” in this document.

Notations for Repeater Model Names

NXR-700, NXR-800, NXR-900, and NXR-901 are referred to collectively as “NXR-x00” in this document. Also, NXR-5700, NXR-5800, NXR-5900, and NXR-5901 are referred to collectively as “NXR-5x00”.

About KPG-109DN/ KPG-D2N

KPG-109DN and KPG-D2N are the programming software to configure functions for the repeater. KPG-109DN and KPG-D2N conform to the specification of FCC Part 90, so that “Wide” (25 kHz) cannot be configured as the Channel Spacing for the VHF/ UHF repeater (except for the 300 MHz band). The specifications for other functions are the same as the existing KPG-109D/ KPG-D2.

About Firmware Version of a Repeater and Version of KPG-109D/ KPG-109DN/ KPG-D2/ KPG-D2N/ KPG-110SM

Available repeater models vary depending on the destination. This manual provides the description of a firmware version of a repeater supporting each function as needed. The versions of KPG-109D/ KPG-109DN/ KPG-D2/ KPG-D2N/ KPG-110SM corresponding to each firmware version are shown below.

■ K Type

Model Name of Repeaters	Firmware Version of Repeater	Version of KPG-109D/ KPG-109DN	Version of KPG-D2/ KPG-D2N	Version of KPG-110SM
NXR-700 (K/ K2) NXR-800 (K/ K2/ K3/ K4/ K5) NXR-900 (K) NXR-901 (K)	5.20.00 or later	V 5.00 or later	-	V 5.20 or later
NXR-5700 (K) NXR-5800 (K/ K3/ K5) NXR-5900 (K) NXR-5901 (K)	5.20.00 or later	-	V 5.20 or later	V 5.20 or later

■ E Type

Model Name of Repeaters	Firmware Version of Repeater	Version of KPG-109D	Version of KPG-D2	Version of KPG-110SM
NXR-700 (E) NXR-800 (E/ E3/ E4)	5.20.00 or later	V 5.00 or later	-	V 5.20 or later
NXR-5700 (E) NXR-5800 (E)	5.20.00 or later	-	V 5.20 or later	V 5.20 or later

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Preface	i	3.2.9 Help Pulldown Menu	18
About Copyright	i	3.3 About Keyboard Operations	18
About this Manual	i	3.3.1 Shortcut Keys.....	18
About Notations	ii	3.3.2 Editing Configuration Data	19
About KPG-109DN/ KPG-D2N.....	ii	4 BASIC CONFIGURATION	20
About Firmware Version of a Repeater and Version of KPG-109D/ KPG-109DN/ KPG-D2/ KPG-D2N/ KPG-110SM	iii	4.1 Configuring the Network Information	21
About Trademarks and Patent Rights	iii	4.2 Enabling the Configured Network Information.....	21
REVISION HISTORY	ix	4.3 Configuring the Site Data.....	22
1 OUTLINE OF OPERATION ON KPG-110SM	1	4.4 Configuring the Fleet Data	22
1.1 About NXDN Trunking System	1	4.5 Configuring the GID Data	23
1.2 How to Structure a Site for Different Repeater Models to Coexist	2	4.6 Configuring the UID Data.....	23
1.2.1 Adding NXR-5x00 to a System Structured with NXR-x00.....	2	4.7 Configuring the Parameters for Various Functions Determining Behaviors of the System.....	24
1.2.2 Adding a Repeater Having Firmware Version Earlier Than Version 5.20.00 to a Mixed System	3	4.8 Configuring the Communications Functions Available in the System	24
1.2.3 Connecting the path for providing external reference signals	6	4.9 Writing the Configuration Data to a Repeater	25
1.2.4 Startup Time of the Repeater	9	4.10 Viewing a Help Topic	25
2 SETTING UP KPG-110SM	10	4.11 Entering Conventions of Configuration Parameters	26
2.1 System Requirements	10	5 CONFIGURATION PROCEDURE	27
2.2 Installing KPG-110SM	10	5.1 Configuring the Site Data.....	28
2.3 Starting and Exiting KPG-110SM	11	5.2 Configuring the Fleet Data.....	30
2.3.1 Starting KPG-110SM	11	5.3 Configuring the GID Data	31
2.3.2 Exiting KPG-110SM.....	11	5.4 Configuring the UID Data.....	32
2.4 Uninstalling KPG-110SM	12	5.5 Configuring the IP Console Data	33
2.5 Connecting a Repeater to a PC.....	12	5.6 Configuring the Telephone Interconnect Data	34
3 MENU DESCRIPTION	13	5.7 Configuring the System Behavior	35
3.1 Main Window	13	5.7.1 Queue	35
3.1.1 Menu Bar	13	5.7.2 Hold Timer, Occupation Timer	36
3.1.2 Toolbar.....	13	5.7.3 Cross-busy.....	37
3.1.3 Status Bar.....	14	5.7.4 Group Registration.....	37
3.2 Menu Command Descriptions	14	5.7.5 NXDN ESN Validation.....	38
3.2.1 File Pulldown Menu	14	5.7.6 Multicast Group Call.....	38
3.2.2 Edit Pulldown Menu	15	5.7.7 Speed Dial	39
3.2.3 Program Pulldown Menu	15	5.7.8 Call Restriction.....	39
3.2.4 Tools Pulldown Menu	15	5.8 Configuring the GID Class of Service	40
3.2.5 Monitor Pulldown Menu	16	5.9 Configuring the UID Class of Service	41
3.2.6 Setup Pulldown Menu.....	17	6 FILE MENU	42
3.2.7 View Pulldown Menu	17	6.1 New.....	42
3.2.8 Window Pulldown Menu	17	6.2 Open	42

6.3	Save.....	43	7.5.1	Voice Call.....	86
6.4	Save As	44	7.5.2	Long Data Call	86
6.5	Import.....	44	7.5.3	Emergency Call.....	87
6.5.1	Importing Site Data	44	7.5.4	IP Console Call	87
6.5.2	Importing ID Data.....	45	7.5.5	Telephone Call	87
6.6	Export	47	7.5.6	General	87
6.6.1	Exporting Site Data.....	47	7.6	Station ID Window	88
6.6.2	Exporting ID Data	47	7.6.1	Channel.....	88
6.7	Print	48	7.6.2	Station ID	88
6.7.1	Printout List Item.....	48	7.6.3	Transmit Interval Time	88
6.8	Print Preview.....	50	7.6.4	Type	88
6.8.1	Toolbar for Print Preview	50	7.7	Class of Service Information Window	89
6.9	Exit.....	51	7.7.1	GID Tab	89
6.10	Network Memory Allocation Dialog Box....	51	7.7.2	UID Tab.....	90
			7.7.3	Others Tab	91
7	EDIT MENU.....	52	7.8	GID Class of Service Edit Window.....	91
7.1	System Configuration Window.....	52	7.8.1	Class.....	91
7.1.1	General Tab.....	52	7.8.2	General Tab	91
7.1.2	System Key File Dialog Box	53	7.8.3	Call Type Tab.....	93
7.1.3	Queue Tab.....	54	7.8.4	Intersite Tab	93
7.1.4	Timers Tab.....	55	7.8.5	Telephone Tab.....	96
7.1.5	Optional Tab	60	7.9	UID Class of Service Edit Window.....	96
7.1.6	Network Tab	65	7.9.1	Class.....	96
7.1.7	IP Console Tab.....	66	7.9.2	General Tab	96
7.1.8	Speed Dial Tab.....	67	7.9.3	Call Type Tab.....	98
7.1.9	Call Restriction Tab	67	7.9.4	Telephone Tab.....	100
7.2	Site Information Window.....	69	7.10	All Groups Call Window	101
7.2.1	Site.....	69	7.10.1	General Tab	101
7.2.2	Valid.....	69	7.10.2	Call Type Tab.....	102
7.2.3	Site Name.....	70	7.10.3	Intersite Tab	103
7.2.4	Non-dedicated Control Channel	70	7.10.4	Telephone Tab.....	104
7.2.5	Automatic Rollover.....	70	7.11	Secondary GID Class of Service Window	105
7.2.6	Add Button	71	7.11.1	General Tab	105
7.2.7	Delete Button	71	7.11.2	Call Type Tab.....	106
7.2.8	Site Edit Button	72	7.11.3	Telephone Tab.....	107
7.2.9	Context Menu	72	7.12	Secondary UID Class of Service Window	107
7.3	Site Edit Window.....	72	7.12.1	General Tab	108
7.3.1	General Tab.....	72	7.12.2	Call Type Tab.....	109
7.3.2	Channel Tab	76	7.12.3	Telephone Tab.....	111
7.3.3	Adjacency Tab.....	78	7.13	Telephone Call Window	112
7.3.4	Session Tab.....	80	7.14	Fleet Information Window	113
7.4	Channel Edit Window	82	7.14.1	Fleet.....	113
7.4.1	Channel	82	7.14.2	Valid	113
7.4.2	Valid.....	82	7.14.3	Fleet Name	113
7.4.3	Frequency No.	83	7.14.4	Home Site	113
7.4.4	Channel Type	83	7.14.5	Common CoS (GID).....	113
7.4.5	Station ID	83	7.14.6	Common CoS (UID).....	114
7.4.6	Station ID Button.....	83	7.14.7	Add Button	114
7.4.7	Cross-busy Input Trigger	84	7.14.8	Delete Button	114
7.4.8	Failsoft Mode	84	7.14.9	Fleet Edit Button	115
7.4.9	Multicast IP Address.....	85	7.14.10	Context Menu.....	115
7.5	Channel Allocation Window	86	7.15	Fleet Edit Window	115

7.15.1	GID Information Button	115	7.21	Console Edit Window	128
7.15.2	UID Information Button	115	7.21.1	UID	128
7.15.3	General Tab	115	7.21.2	Valid	128
7.15.4	Customer Tab	117	7.21.3	UID Name	128
7.15.5	Edit GID Range Dialog Box	118	7.21.4	UID Class of Service	128
7.15.6	Edit UID Range Dialog Box	118	7.21.5	Talkpath (Talkpath)	129
7.16	GID Information Window	119	7.21.6	Site (Talkpath)	129
7.16.1	Fleet	119	7.22	Telephone Line Information Window	129
7.16.2	Home Site	119	7.22.1	Site	130
7.16.3	Common Class of Service (GID)	119	7.22.2	Total Number of Console	130
7.16.4	GID	119	7.22.3	UID	130
7.16.5	Valid	119	7.22.4	Valid	130
7.16.6	GID Name	120	7.22.5	Fleet	130
7.16.7	GID Class of Service	120	7.22.6	UID Name	130
7.16.8	Add Button	120	7.22.7	Add Button	131
7.16.9	Delete Button	120	7.22.8	Delete Button	131
7.16.10	GID Edit Button	120	7.22.9	Edit Button	131
7.16.11	Context Menu	120	7.22.10	Context Menu	131
7.17	GID Edit Window	121	7.23	Telephone Line Edit Window	132
7.17.1	GID	121	7.23.1	UID	132
7.17.2	Valid	121	7.23.2	Valid	132
7.17.3	GID Name	121	7.23.3	UID Name	132
7.17.4	GID Class of Service	121	7.23.4	Bi-directional Use	133
7.17.5	Associated GID	122			
7.18	UID Information Window	122	8	PROGRAM MENU	134
7.18.1	Fleet	123	8.1	Write Data to the System	134
7.18.2	Home Site	123	8.1.1	Error Detection prior to Executing the Write Data to the System	136
7.18.3	Common Class of Service (UID)	123	8.1.2	Error Detection for Network Connection and Configuration Data prior to Writing	138
7.18.4	UID	123	8.1.3	Errors Detected while Writing the Configuration Data	138
7.18.5	Valid	123	8.1.4	Write Data Result Dialog Box	139
7.18.6	UID Name	123	8.2	Read Data from the System	139
7.18.7	UID Class of Service	123	8.2.1	Error Detection for Network Connection and Configuration Data prior to Reading	141
7.18.8	NXDN ESN	124	8.2.2	Errors Detected while Reading the Configuration Data	141
7.18.9	Add Button	124	8.3	Write ID data to the System	142
7.18.10	Delete Button	124	8.3.1	Consistency Evaluation for Configuration Data during Activation of Write ID Data to the System	142
7.18.11	UID Edit Button	124	8.3.2	Error Detection for Network Connection and Configuration Data prior to Writing	144
7.18.12	Context Menu	124	8.3.3	Errors Detected while Writing an ID	144
7.19	UID Edit Window	125	8.3.4	Status of the Write ID data to the System Menu	145
7.19.1	UID	125	8.4	Firmware Update	148
7.19.2	Valid	125			
7.19.3	UID Name	125	9	TOOLS MENU	150
7.19.4	UID Class of Service	125	9.1	Network Setup Wizard	150
7.20	Console Information Window	126	9.1.1	Single Site Setup Flow	151
7.20.1	Site	126			
7.20.2	Total Number of Console	126			
7.20.3	UID	126			
7.20.4	Valid	126			
7.20.5	Fleet Name	127			
7.20.6	UID Name	127			
7.20.7	UID Class of Service	127			
7.20.8	Add Button	127			
7.20.9	Delete Button	127			
7.20.10	Edit Button	127			
7.20.11	Context Menu	127			

9.1.2	Multi-site Setup Flow	152	10.7	Restore (Call Detail) Dialog Box	190
9.2	Network Configuration	153	10.8	System Log Dialog Box	191
9.2.1	IP Address Tab	153	10.8.1	System Log - System Dialog Box	191
9.2.2	System Recognition Tab	154	10.8.2	System Log - Hardware Dialog Box	194
9.2.3	Site Map Tab	157	10.9	Diagnostic Log Dialog Box	197
9.2.4	Others Tab	159			
9.3	Channel Reconfiguration	161	11 SETUP MENU	198	
9.3.1	Conventional Reset	161	11.1	Communication Port Dialog Box	198
9.3.2	Network Information	161	11.1.1	Communication Mode	198
9.3.3	System Information	162	11.1.2	Port	198
9.4	Restart	162	11.1.3	Port Device	198
9.5	Conventional Reset	163	11.1.4	Baud Rate	198
9.6	Factory Reset	163	11.1.5	Phone Book	199
9.7	Security	164	11.1.6	Phone Book Dialog Box	199
9.8	FPU Data	165	11.2	Activation Folder Dialog Box	200
9.8.1	Read Data from the Repeater	165	11.3	User Account Dialog Box	200
9.8.2	Write Data to the Repeater	166	11.4	Restricted User Dialog Box	201
9.9	Time Adjustment	168	11.4.1	Login	202
9.9.1	Time Zone	169	11.4.2	About Restricted User Mode	202
9.9.2	Daylight Saving Time	173	11.5	Restricted User Edit Dialog Box	203
9.10	Login (Restricted User Mode)	173	11.5.1	User Name	203
9.11	Logout (Restricted User Mode)	173	11.5.2	Restriction Menu Tab	203
9.12	Option Dialog Box	174	11.5.3	Fleet/CoS Tab	204
9.12.1	Auto Save/ Load	174	11.6	Language Dialog Box	205
9.12.2	Temperature Units	174			
9.12.3	Auto Disconnect Timer	174	12 VIEW MENU	206	
9.12.4	Update Rate	174	12.1	Tree View Window	206
			12.2	Toolbar	206
			12.3	Status Bar	206
10 MONITOR MENU	175		13 WINDOW MENU	207	
10.1	System Overview Dialog Box	175	13.1	Cascade	207
10.1.1	Network Dialog Box	177	13.2	Horizontal Tile	207
10.1.2	Hardware Dialog Box	178	13.3	Vertical Tile	207
10.2	Channel State	179	13.4	Arrange Icons	207
10.2.1	Channel State Dialog Box	179	13.5	Close All Windows	208
10.2.2	Site Change	180	13.6	Opened Window List	208
10.3	Channel Load Dialog Box	180			
10.3.1	Channel Load (Graph)	181	14 HELP MENU	209	
10.3.2	Clear	182	14.1	Help Topics	209
10.4	Communication Log Dialog Box	182	14.1.1	Contents Tab	209
10.4.1	Communication Log (Table)	183	14.1.2	Index Tab	209
10.4.2	Memory Used	186	14.1.3	Search Tab	209
10.4.3	Extract	186	14.2	About KPG-110SM Dialog Box	210
10.4.4	Clear	186			
10.5	Statistics - Airtime Accumulation Dialog Box	187			
10.5.1	Core Time (Left)	187			
10.5.2	Core Time (Right)	188			
10.5.3	Statistics - Airtime Accumulation (Table)	188			
10.5.4	Save	189			
10.6	Backup (Call Detail) Dialog Box	189			

15 MENU LIST	211
 16 ABOUT TELEPHONE INTERCONNECT GATEWAY (KPG-1014GW)	 222
16.1 Overview of Telephone Interconnect Gateway.....	222
16.1.1 System Structure	222
16.1.2 Terms.....	223
16.1.3 Telephone Interconnect Gateway Command List.....	223
16.1.4 Main Features of KPG-1014GW.....	224
16.1.5 Capacity.....	225
16.1.6 License Key	225
16.1.7 Hardware	225
16.2 Basic Behaviors	226
16.2.1 Communication Function	226
16.2.2 Local Redundancy	226
16.3 Overview of Web Tool	227
16.3.1 Web Tool Access Procedure	227
16.3.2 Basic Screen Layout of the Web Tool.....	228
16.3.3 User Information	229
16.3.4 Header.....	231
16.3.5 Navigation.....	232
16.3.6 Main Window	232
16.3.7 Footer	232
16.3.8 Basic Operation Keys	233
16.4 Various Web Tool Functions (Edit)	235
16.4.1 Home	235
16.4.2 Information.....	238
16.4.3 System Configurations.....	241
16.4.4 Server Configurations.....	245
16.4.5 SIP Phone.....	247
16.5 Various Web Tool Functions (Maintenance).....	256
16.5.1 Log.....	256
16.5.2 System.....	267
16.5.3 Setting.....	284
16.5.4 Field Support	287
16.6 Web Tool (Administration)	291
16.6.1 User List.....	291
16.6.2 User Levels.....	295
 INDEX	 299

REVISION HISTORY

Date	Description
2008.6.30	1) Added the procedure to specify the Activation Folder to 2.1.1 Starting KPG-110SM. 2) Added the following items to 5.1.1 General Tab: ■ Activation File ■ Customer Information ■ Revision Number ■ Create Activation Log Button 3) Added the following items to 5.1.4 Timers Tab: ■ Trunking Type ■ Hold Timer (Traffic Channel by Voice Call > Broadcast Call) ■ Hold Timer (Traffic Channel by Data Call > Broadcast Call) 4) Added the following items to 5.1.5 Optional Tab: ■ Location Registration ■ NXDN ESN Validation ■ Manufacturer Limitation ■ Manufacturer Code 5) Added 5.1.6 Network Tab. 6) Added the following items to 5.3.1 General Tab: ■ Storage Location ■ Channel ■ Size 7) Added the following items to 5.7.3 Call Type Tab: ■ Short Data Call ■ Long Data Call 8) Added ■ Late Entry to 5.8.2 General Tab. 9) Added the following items to 5.8.3 Call Type Tab: ■ Short Data Call ■ Long Data Call 10) Added the following items: 5.1.6 Network Tab 5.3.4 Network Tab 5.6.3 Others Tab 5.7.4 Inter-site Tab 5.9 All Groups Call Window 5.10 Secondary GID Class of Service Window 5.11 Secondary UID Class of Service Window 7.1.2 Multi-site setup Flow 7.8 Management User 7.9 Monitor User 8.3 Channel Load Window 8.4 Communication Log Window 8.5 Statistics - Airtime Accumulation Window 8.6 Backup (Call Detail) Window 8.7 Restore (Call Detail) Window 8.8 System Log Window 9.2 Activation Folder Dialog Box 9.3 User Account Dialog Box 11) Added ■ Multi-site Configuration to 7.2.2 System Recognition. 12) Corrected clerical errors. 13) Changed the version number from 1.00 to 2.00.

Date	Description
2008.12.31	1) Added the following functions: 4.5 Import 4.6 Export ■ Time-out Timer in Failsoft Mode (5.1.4 Timers Tab) ■ Group Registration (5.1.5 Optional Tab) 5.4.8 Failsoft Mode ■ All Sites (5.9.3 Intersite Tab) ■ Start Time (7.7.2 Daylight Saving Time) ■ End Time (7.7.2 Daylight Saving Time) 8.9 Diagnostic Log Dialog Box 9.4 Language Dialog Box 2) Added the description about parameters and information relevant to configuration for the following functions in Section 5.2 Site Information Window: ■ Valid ■ Site Name ■ Non-dedicated Control Channel ■ Automatic Rollover 3) Added the description about parameters and information relevant to configuration for the following functions in Section 5.3.2 Channel Tab: ■ Valid ■ Frequency No. ■ Channel Type ■ CW ID 4) Added the description about parameters and information relevant to configuration for the following functions in Sections 5.6.1 GID Tab and 5.6.2 UID Tab: ■ Valid ■ Class Name ■ Comment 5) Revised "Inter-site" to "Intersite". 6) Integrated ■ Inter-site Voice Call and ■ Inter-site Data Call in Section 5.7.4 Intersite Tab and Section 5.9.3 Intersite Tab, and then renamed the title to ■ Intersite Call. 7) Added "Assigned" as an option to the Site dropdown list in ■ Intersite Call Table. 8) Added the description about parameters and information relevant to configuration for the following functions: 5.12.2 Valid 5.12.3 Fleet Name 5.12.5 Common CoS (GID) 5.12.6 Common CoS (UID) 5.14.4 GID 5.14.5 Valid 5.14.6 GID Name 5.14.7 GID Class of Service 5.16.4 UID 5.16.5 Valid 5.16.6 UID Name 5.16.7 UID Class of Service 9) Corrected clerical errors. 10) Changed the version number from 2.00 to 2.10.

Date	Description																												
2010.4.30	1) Added the following chapters: 1 OUTLINE OF OPERATION ON KPG-110SM 5 CONFIGURATION PROCEDURE																												
	2) Changed the chapter number as follows:																												
	<table><tr><th>Before Revising</th><th>After Revising</th></tr><tr><td>1 SETTING UP KPG-110SM</td><td>2 SETTING UP KPG-110SM</td></tr><tr><td>2 BASIC OPERATION</td><td>4 BASIC OPERATIONS</td></tr><tr><td>3 MENU DESCRIPTION</td><td>3 MENU DESCRIPTION</td></tr><tr><td>4 FILE MENU</td><td>6 FILE MENU</td></tr><tr><td>5 EDIT MENU</td><td>7 EDIT MENU</td></tr><tr><td>6 PROGRAM MENU</td><td>8 PROGRAM MENU</td></tr><tr><td>7 TOOLS MENU</td><td>9 TOOLS MENU</td></tr><tr><td>8 MONITOR MENU</td><td>10 MONITOR MENU</td></tr><tr><td>9 SETUP MENU</td><td>11 SETUP MENU</td></tr><tr><td>10 VIEW MENU</td><td>12 VIEW MENU</td></tr><tr><td>11 WINDOW MENU</td><td>13 WINDOW MENU</td></tr><tr><td>12 HELP MENU</td><td>14 HELP MENU</td></tr><tr><td>13 MENU LIST</td><td>15 MENU LIST</td></tr></table>	Before Revising	After Revising	1 SETTING UP KPG-110SM	2 SETTING UP KPG-110SM	2 BASIC OPERATION	4 BASIC OPERATIONS	3 MENU DESCRIPTION	3 MENU DESCRIPTION	4 FILE MENU	6 FILE MENU	5 EDIT MENU	7 EDIT MENU	6 PROGRAM MENU	8 PROGRAM MENU	7 TOOLS MENU	9 TOOLS MENU	8 MONITOR MENU	10 MONITOR MENU	9 SETUP MENU	11 SETUP MENU	10 VIEW MENU	12 VIEW MENU	11 WINDOW MENU	13 WINDOW MENU	12 HELP MENU	14 HELP MENU	13 MENU LIST	15 MENU LIST
	Before Revising	After Revising																											
	1 SETTING UP KPG-110SM	2 SETTING UP KPG-110SM																											
	2 BASIC OPERATION	4 BASIC OPERATIONS																											
	3 MENU DESCRIPTION	3 MENU DESCRIPTION																											
	4 FILE MENU	6 FILE MENU																											
	5 EDIT MENU	7 EDIT MENU																											
	6 PROGRAM MENU	8 PROGRAM MENU																											
	7 TOOLS MENU	9 TOOLS MENU																											
	8 MONITOR MENU	10 MONITOR MENU																											
	9 SETUP MENU	11 SETUP MENU																											
	10 VIEW MENU	12 VIEW MENU																											
	11 WINDOW MENU	13 WINDOW MENU																											
	12 HELP MENU	14 HELP MENU																											
	13 MENU LIST	15 MENU LIST																											
3) Added the following items to 2 SETTING UP KPG-110SM: 2.3 Starting and Exiting KPG-110SM (Moved from the chapter 2) 2.5 Connecting a Repeater to a PC																													
4) Added the following items to 4 BASIC OPERATION: 4.1 Configuring the Network Information 4.2 Enabling the Configured Network Information 4.3 Configuring the Site Data 4.4 Configuring the Fleet Data 4.5 Configuring the GID Data 4.6 Configuring the UID Data 4.7 Configuring the Parameters for Various Functions Determining Behaviors of the System 4.8 Configuring the Communications Functions Available in the System 4.9 Writing the Configuration Data to a Repeater																													
5) Added the description about Console Information to 3.2.2 Edit Pulldown Menu.																													
6) Added the descriptions about Channel Reconfiguration and Restart to 3.2.4 Tools Pulldown Menu.																													
7) Added the description about Network Memory Allocation to 6.1 New.																													
8) Added the descriptions about All Data, Data without Network Information and Network Data to the following sections: 6.2 Open 6.3 Save 6.4 Save As																													
9) Added ■ Console Information to 6.7.1 Printout List Item.																													
10) Added 6.10 Network Memory Allocation Dialog Box.																													
11) Added the following items to 7.1.6 Network Tab: ■ Multicast Group Call ■ Maximum Number of Group Calls																													
12) Added 7.1.7 IP Console Tab to 7.1 System Configuration Window.																													
13) Added ■ CW ID Inhibit to 7.3.1 General Tab.																													
14) Change the tab name from Network tab to Session tab (7.3.4 Session Tab).																													
15) Added the maximum number of network routes to the description of ■ Route Name in 7.3.4 Session Tab.																													
16) Added the supplemental remarks regarding CW ID Inhibit to 7.4.5 CW ID, 7.4.6 CW ID Button, and 7.5 CW ID Window.																													
17) Added 7.4.9 Multicast IP Address to 7.4 Channel Edit Window.																													

Date	Description
2010.4.30	18) Added the following items to 7.7.4 Intersite Tab: ■ Group Refusal ■ Valid ■ Dynamic Allocation 19) Deleted ■ All Sites in 7.9.3 Intersite Tab. 20) Added ■ Valid to 7.9.3 Intersite Tab. 21) Added 7.15.5 Associated GID to 7.15 GID Edit Window. 22) Added the following items: 7.18 Console Information Window 7.19 Console Edit Window 23) Changed the operational procedure in 8.1 Write Data to the System. 24) Revised the description of Table 8-1 Inspection Criteria and Troubleshooting. 25) Added the description of the error status in 8.2.2 Errors Detected while Reading the Configuration Data. 26) Revised the description of Table 8-5 Inspection Criteria and Troubleshooting. 27) Added the following items to Table 8-7 Status of the Write ID data to the System Menu: - Conventional Reset - Factory Reset 28) Changed the flow in Figure 9-5 Multi-site setup Flow. 29) Changed the operational procedure for ■ Multi-site Configuration in 9.2.2 System Recognition Tab. 30) Added ■ Site Connection Test in 9.2.2 System Recognition Tab. 31) Changed the operational procedure in 9.2.3 Site Map Tab. 32) Added the following items: 9.3 Channel Reconfiguration Window 9.4 Restart 33) Changed the operational procedure in 10.1 System Overview Dialog Box. 34) Added the description regarding "Memory Used" button to 10.4.2 Memory Used. 35) Added ■ Save in 10.8.1 System Log - System Dialog Box. 36) Added ■ Save in 10.8.2 System Log - System Dialog Box. 37) Added that a maximum of 48 sites can be added. Also, added that the maximum number of sites that can be configured differs depending on the Network Category settings (Local or Regional). 38) Changed the screens of a windows, dialog boxes, and message boxes due to updating KPG-110SM. 39) Changed the version number from 2.10 to 2.20.
2011.3.31	1) Added the model name of NXR-900. 2) Deleted Windows 2000, and added Windows 7 as a supporting OS in 2.1 System Requirements. 3) Deleted the operational procedure in Windows 2000, and added the operational procedure in Windows 7 in 2.4 Uninstalling KPG-110SM. 4) Added the following items to 7.1.5 Optional Tab: ■ Group Registration Reset Time ■ Transmit Interval Time of Adjacent Site information ■ Network Failure Information 5) Added the supplementary information concerning the Enter Access Code dialog box to 8.1 Write Data to the System. 6) Revised the descriptions in Table 8-1 and Table 8-5. Added Inspection Criteria. 7) Revised the operational procedure in 8.4 Firmware Update. 8) Added "All" as an option for the Site dropdown list in 9.7 Security. Added the supplementary information concerning the option for the Site dropdown list. 9) Added "All" as an option for the Site dropdown list in 9.9 Time Adjustment. Added the supplementary information concerning the option for the Site dropdown list. 10) Change the following screens: - Figure 7-5 Optional Tab - Figure 14-4 About KPG-110SM Dialog Box

Date	Description
2011.4.30	1) Changed the corresponding Service Pack to Service Pack 2 for .NET Framework 2.0 in 2.1 System Requirements. 2) Added the supplementary information concerning the Login dialog box to 2.3.1 Starting KPG-110SM. 3) Added the description about Telephone Line Information to 3.2.2 Edit Pulldown Menu. 4) Added the description about Restricted User Mode to 3.2.6 Setup Pulldown Menu. 5) Added the description about Restricted User Mode to 3.2.4 Tools Pulldown Menu. 6) Added 5.6 Configuring the Telephone Interconnect Data. 7) Added the supplementary information concerning the Login dialog box to 6.2 Open. 8) Added the following items to 6.7.1 Printout List Item: ■ Telephone Line Information ■ Restricted User 9) Added the following items to 7.1.4 Timers Tab: ■ Hold Timer (Traffic Channel by Voice Call > Telephone Call) ■ Occupation Timer (Traffic Channel by Voice Call > Telephone Call) 10) Added 7.1.8 Speed Dial Tab. 11) Added 7.1.9 Call Restriction Tab. 12) Added the supplementary information concerning Restricted User Mode to the following items: 7.6 Class of Service Information Window 7.12 Fleet Information Window 7.15 GID Information Window 7.17 UID Information Window 7.19 Console Information Window 8.3.4 Status of the Write ID data to the System Menu 9.12.1 Auto Save/ Load 11.1 Communication Port Dialog Box 11.1.1 Communication Mode 13) Added the ■ Telephone Call button to 7.6 Class of Service Information Window. 14) Added 7.8.4 Telephone Tab. 15) Added 7.11.3 Telephone Tab. 16) Added 7.12 Telephone Call Window. 17) Added the configuration procedures for Range of GID and Range of UID to 7.13.7 Add Button. 18) Added the following items to 7.14.3 General Tab: ■ Range of GID ■ Edit GID Range Button ■ Range of UID ■ Edit UID Range Button 19) Added 7.14.5 Edit GID Range Dialog Box. 20) Added 7.14.6 Edit UID Range Dialog Box. 21) Added 7.21 Telephone Line Information Window. 22) Added 7.22 Telephone Line Edit Window. 23) Added Inspection Criteria to Table 8-1. 24) Changed the operational procedure in 8.2 Read Data to the System. 25) Added 9.10 Login (Restricted User Mode). 26) Added 9.11 Logout (Restricted User Mode). 27) Added the supplemental remarks to 11.1.3 Port Device. 28) Added 11.4 Restricted User Dialog Box. 29) Added 11.5 Restricted User Edit Dialog Box. 30) Change the following screens: - Figure 3-7 Edit Pulldown Menu - Figure 4-6 Fleet Edit Window - Figure 4-11 System Configuration Window - Figure 4-14 UID Class of Service Edit Window - Figure 6-16 Printout List Dialog Box - Figure 7-1 General Tab - Figure 7-3 Queue Tab - Figure 7-4 Timers Tab - Figure 7-5 Optional Tab - Figure 7-7 Network Tab

Date	Description
2011.4.30	Figure 7-8 IP Console Tab Figure 7-24 Channel Edit Window Figure 7-28 General Tab Figure 7-29 Call Type Tab Figure 7-36 General Tab Figure 7-37 Call Type Tab Figure 7-41 Fleet Add Dialog Box Figure 7-43 General Tab Figure 12-1 Tree View Window Figure 14-4 About KPG-110SM Dialog Box 31) Changed the version number from 2.20 to 2.50.
2011.10.1	1) Changed "4 BASIC OPERATION" to "4 BASIC CONFIGURATION". 2) Moved the contents of 1.1 Basic Workflows to the beginning of 4 BASIC CONFIGURATION. 3) Added the following to 5 CONFIGURATION PROCEDURE: 5.7 Configuring the System Behavior 5.8 Configuring the GID Class of Service 5.9 Configuring the UID Class of Service 4) Added the following to 7.1.2 System Key File Dialog Box: Added the related procedures. ■ Range of GID (Range of ID) ■ Range of UID (Range of ID) 5) Added "Message Trunked (Enhanced)" as an option for ■ Trunking Type. Added the related procedures. 6) Added the default values for the following items if "Message Trunked (Enhanced)" is selected from the Trunking Type dropdown list: ■ Hold Timer (Traffic Channel by Voice Call > Broadcast Call) ■ Hold Timer (Traffic Channel by Voice Call > Conference Call) ■ Hold Timer (Traffic Channel by Voice Call > Individual Call) ■ Hold Timer (Traffic Channel by Data Call > Broadcast Call) ■ Hold Timer (Traffic Channel by Data Call > Conference Call) ■ Hold Timer (Traffic Channel by Data Call > Individual Call) 7) Added ■ NXDN ESN Validation Reset Time to 7.1.5 Optional Tab. 8) Added ■ Channel Allocation Button to 7.3.2 Channel Tab. 9) Added 7.5 Channel Allocation Window. 10) Changed ■ Individual Call Response Type to ■ Individual Call Response Type (Voice) in 7.9.2 General Tab. 11) Added ■ Individual Call Response Type (Data) in 7.9.2 General Tab. 12) Changed ■ Individual Call Response Type to ■ Individual Call Response Type (Voice) in 7.12.1 General Tab. 13) Added ■ Individual Call Response Type (Data) in 7.12.1 General Tab. 14) Added the supplementary information concerning the display in the UID Information window in 7.18.4 UID. 15) Added the supplementary information concerning the display in the UID Information window in 7.18.4 UID. 16) Added the supplementary information concerning the display in the Console Information window in 7.20.3 UID. 17) Added 7.21.5 Talkpath (Talkpath). 18) Added 7.21.6 Site (Talkpath). 19) Added Inspection Criteria in Table 8-1 and Table 8-5. 20) Change the following screens: Figure 4-14 UID Class of Service Edit Window Figure 7-2 System Key File Dialog Box Figure 7-5 Optional Tab Figure 7-15 Channel Tab Figure 7-29 General Tab Figure 7-37 General Tab Figure 7-54 Console Edit Window 21) Changed the version number from 2.50 to 2.70.

Date	Description
2012.6.30	1) Added NXR-901 to the model names. 2) Added "About KPG-109DN". Changed the notation of "KPG-109D" to "KPG-109D/ KPG-109DN". 3) Added the procedure to enter the password again in the Confirmation edit box in 11.4 Restricted User Dialog Box. 4) Changed the screen in Figure 11-4 Restricted User Dialog Box. 5) Corrected clerical errors. 6) Changed the version number from 2.70 to 2.80.
2016.7.25	1) Corrected each version information in "About this Manual". 2) Added NXR-5700/ NXR-5800 as supported models. 3) Added KPG-D2/ D2N as a supported FPU. 4) Added "About Notations". 5) Changed "CW ID" to "Station ID". 6) Added "1.2 How to Structure a Site for Different Repeater Models to Coexist". 7) Corrected the system requirements in Table 2-1. Added the information on the connection cables used for NXR-5700/ NXR-5800. 8) Corrected the operational procedure in "2.4 Uninstalling KPG-110SM". 9) Added the information on the connection cables used for NXR-5700/ NXR-5800 to the following items: 2.5 Connecting a Repeater to a PC 8.1 Write Data to the System 8.2 Read Data from the System 9.1 Network Setup Wizard 9.2 Network Configuration 9.3 Channel Reconfiguration 9.4 Restart 9.5 Conventional Reset 9.6 Factory Reset 9.7 Security 9.8 FPU Data 9.9 Time Adjustment 10) Added the configuration procedure for Incoming Call from Telephone Line of GID Class of Service and All Groups Call to "5.6 Configuring the Telephone Interconnect Data". 11) Deleted the note about the Non-dedicated Control Channel configuration in "7.2.5 Automatic Rollover". 12) Changed "CF Card" to "CF Card / Internal Flash" in "■ Storage Location". Corrected the behavior description and note. Added the note about the size of a Call Log that can be stored in NXR-5700/ NXR-5800. 13) Corrected the behavior descriptions in "■ Channel" and "■ Size". Added the note about the conditions to activate a function. 14) Added "■ Adjusted Boot Timing" to "7.3 Site Edit Window". 15) Corrected the configuration ranges of the following items: 7.5.1 Voice Call 7.5.2 Long Data Call 7.5.3 Emergency Call 7.5.4 IP Console Call 7.5.5 Telephone Call 16) Deleted the note about the Non-dedicated Control Channel configuration in "7.5 Channel Allocation Window". 17) Added "7.6.4 Type". 18) Added "7.8.5 Telephone Tab". 19) Added "7.10.4 Telephone Tab". 20) Added "7.11.3 Telephone Tab". 21) Added "7.18.8 NXDN ESN". 22) Added the description about the UID Add dialog box to "7.18.8 Add Button". 23) Corrected the description of each inspection criteria in Table 8-1. 24) Corrected the description of each inspection criteria in Table 8-5. 25) Changed the firmware update procedure in "8.4 Firmware Update". 26) Added "Fan Lock Detection" to Table 10-3. 27) Corrected "15 MENU LIST".

Date	Description
2016.7.25	28) Change the following screens: Figure 4-4 Site Edit Window Figure 4-9 UID Information Window Figure 4-14 UID Class of Service Edit Window Figure 7-14 General Tab Figure 7-22 Station ID Window Figure 7-33 General Tab Figure 7-34 Call Type Tab Figure 7-35 Intersite Tab Figure 7-37 General Tab Figure 7-38 Call Type Tab Figure 8-15 Firmware Update Dialog Box Figure 10-3 Hardware Dialog Box Figure 14-4 About KPG-110SM Dialog Box 29) Changed the version number from 2.80 to 5.00.
2017.11.30	1) Corrected each version information in “About this Manual” and “1.2 How to Structure a Site for Different Repeater Models to Coexist”. 2) Added NXR-5900 and NXR-5901 as supported models. 3) Corrected the description of Adjusted Boot Timing and added the note in “1.2.3 Connecting the path for providing external reference signals” and “1.2.4 Startup Time of the Repeater”. 4) Added the note in “ ■ Adjusted Boot Timing”. 5) Changed “Select Site Dialog Box” to “Site Select Dialog Box”. 6) Changed “Connection Test Result Details Dialog Box” to “Detailed Reports of Connection Test Dialog Box”. 7) Changed the Windows XP screens to Windows 7 screens. 8) Change the following screens: Figure 8-15 Firmware Update Dialog Box Figure 14-4 About KPG-110SM Dialog Box Figure 4-9 UID Information Window 9) Changed the version number from 5.00 to 5.20.
2025.5.16	1) Added “ABOUT TELEPHONE INTERCONNECT GATEWAY (KPG-1014GW)” to Chapter 16. 2) Changed the version number from 5.20 to 5.30.

1 OUTLINE OF OPERATION ON KPG-110SM

KPG-110SM allows a field engineer to configure the network configuration required to use a repeater as a control channel and a traffic channel in an NXDN Trunking System, the configuration for a site, an Fleet, a GID, and a UID, the configuration of parameters for various functions determining behaviors of the system.

KPG-110SM also allows a system administrator to monitor the operating status of the system. (Refer to: [10 MONITOR MENU on page 175](#))

This chapter describes the basic workflows to configure parameters for the network and various functions for a repeater, and the outline of an NXDN Trunking System using KPG-110SM.

1.1 About NXDN Trunking System

In an NXDN Trunking System, the subscriber units can communicate by using the repeater as a control channel or a traffic channel. In an NXDN Trunking System, a maximum of 30 repeaters can be installed in a site and a maximum of 48 sites can be interconnected by use of the IP network.

NXDN Trunking System can provide a Single Site consisting of one site, and Multi-site consisting of multiple sites up to 48 sites.

Connecting a PC with KPG-110SM (System Manager) installed to an NXDN Trunking System network via a hub or network devices allows to monitor the operating status of the system.

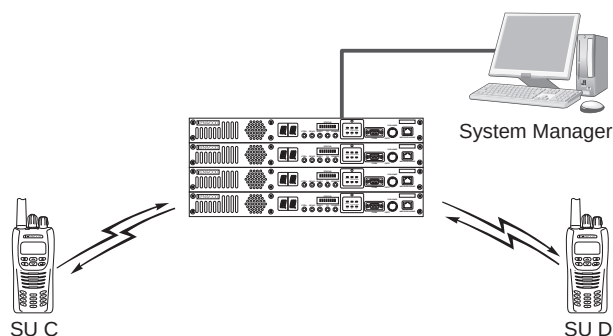


Figure 1-1 Single Site

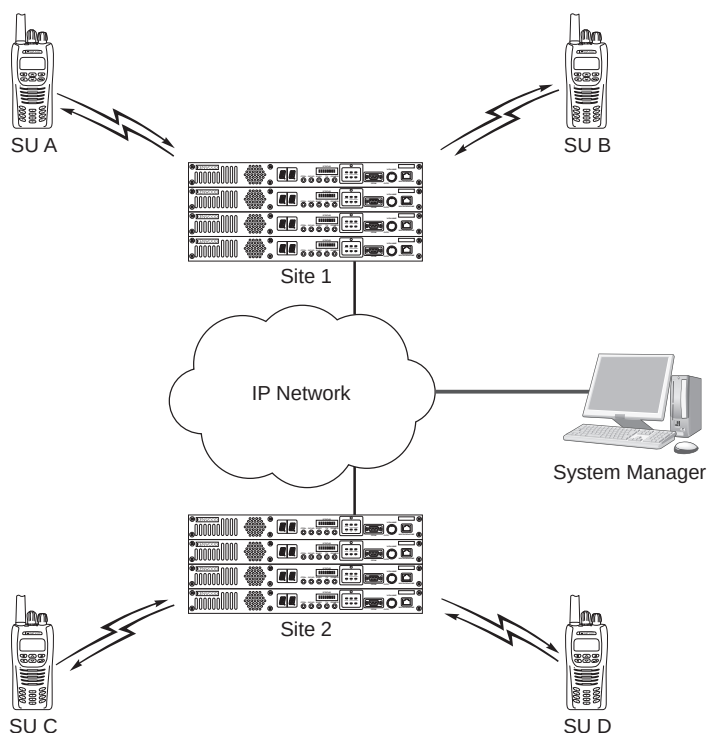


Figure 1-2 Multi-site

1.2 How to Structure a Site for Different Repeater Models to Coexist

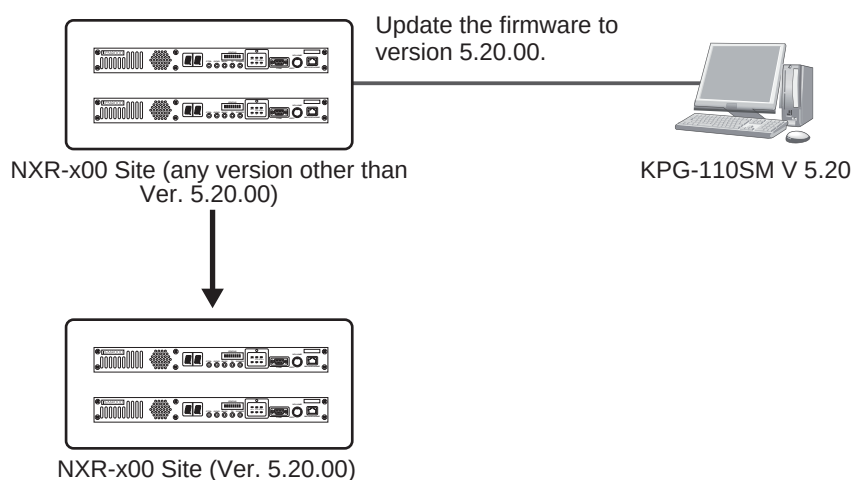
To structure a site for different repeater models to coexist, the firmware needs to be updated in advance.

1.2.1 Adding NXR-5x00 to a System Structured with NXR-x00

To add NXR-5x00 to a system structured with NXR-x00, the firmware of NXR-x00 needs to be updated to version 5.20.00 prior to adding NXR-5x00.

Update the firmware and add NXR-5x00 with the following steps:

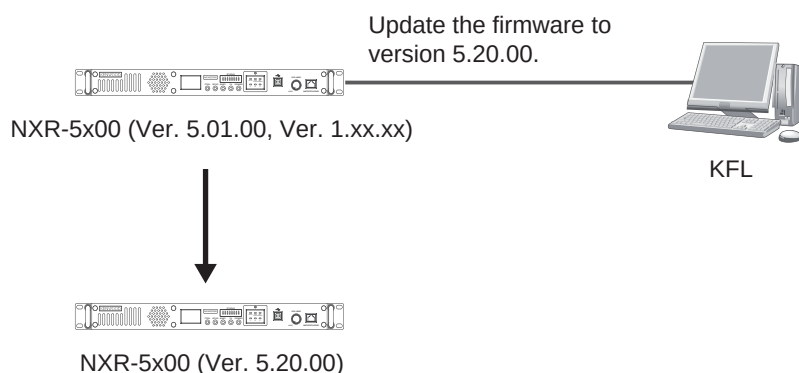
1. Update the firmware of all NXR-x00 that exist in the system to version 5.20.00 by using KPG-110SM V 5.20.



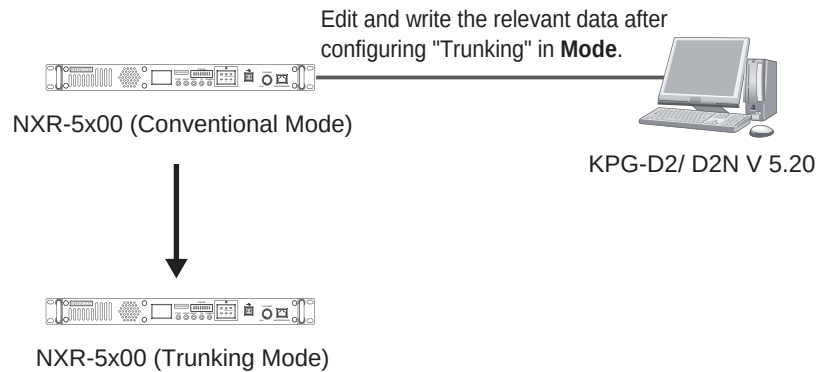
Note:

- ◆ If the firmware version of NXR-x00 is 1.xx.xx, update the firmware by using KPG-110SM of a version earlier than V 5.20. In this case, the firmware of NXR-x00 cannot be updated by using KPG-110SM V 5.20.

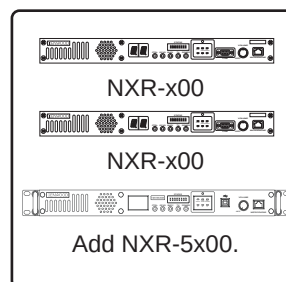
2. Update the firmware of NXR-5x00 to version 5.20.00 by using KFL.



3. Configure the configuration related to NXDN Trunking by using KPG-D2/ D2N V 5.20.



4. Connect each device structuring the system to NXR-5x00 by each cable.



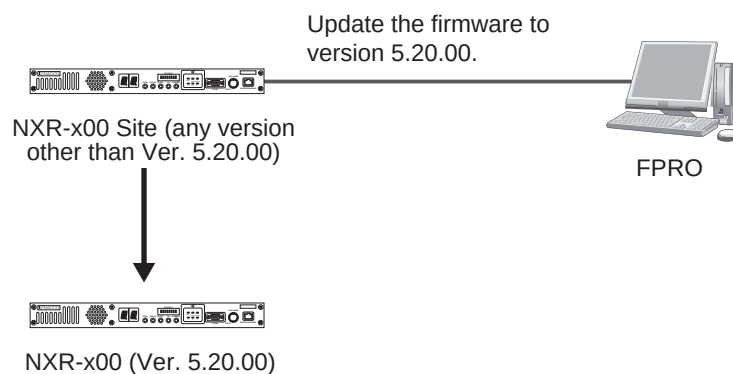
5. Configure the configuration related to NXDN Trunking by using KPG-110SM V 5.20.

1.2.2 Adding a Repeater Having Firmware Version Earlier Than Version 5.20.00 to a Mixed System

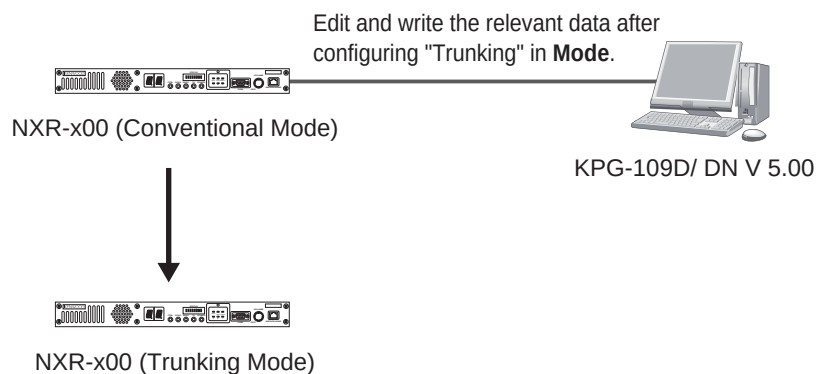
To add a repeater having firmware version earlier than version 5.20.00 to a system where NXR-x00 and NXR-5x00 coexist, the firmware of the repeater to be added needs to be updated to version 5.20.00.

■ For NXR-x00

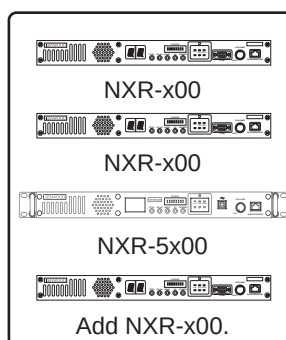
1. Update the firmware of NXR-x00 to version 5.20.00 by using FRPO.



2. Configure the configuration related to NXDN Trunking by using KPG-109D/ DN V 5.00.



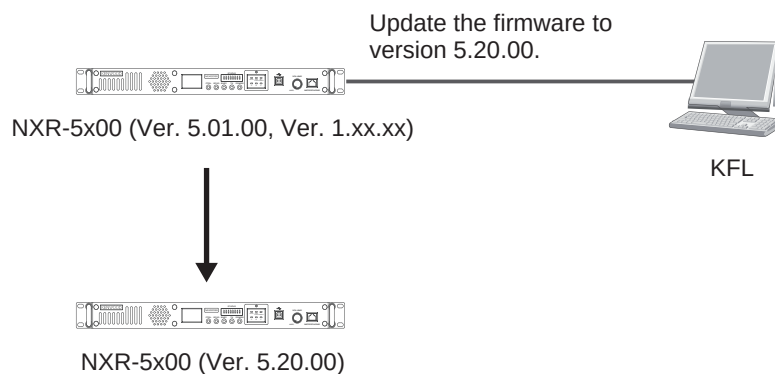
3. Connect each device structuring the system to NXR-x00 by each cable.



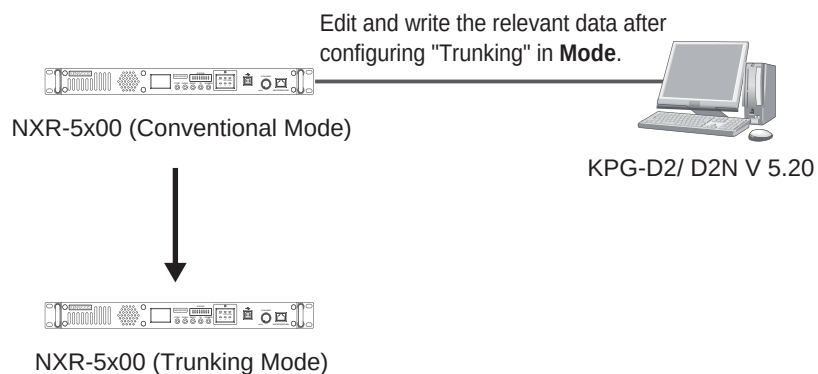
4. Configure the configuration related to NXDN Trunking by using KPG-110SM V 5.20.

■ For NXR-5x00

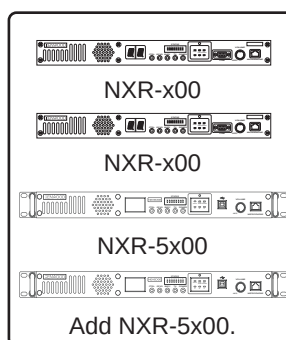
1. Update the firmware of NXR-5x00 to version 5.20.00 by using KFL.



2. Configure the configuration related to NXDN Trunking by using KPG-D2/ D2N V 5.20.



3. Connect each device structuring the system to NXR-5x00 by each cable.



4. Configure the configuration related to NXDN Trunking by using KPG-110SM V 5.20.

1.2.3 Connecting the path for providing external reference signals

This section explains the steps to connect the path for providing external reference signals when adding NXR-5x00 to an existing site that is made up of NXR-x00 or when configuring a site that consists only of NXR-5x00.

■ When adding NXR-5x00 to an existing site that is made up of NXR-x00

To add NXR-5x00 to an existing site structured with NXR-x00, connect each repeater for an external reference signal to be supplied as shown in the diagram below:

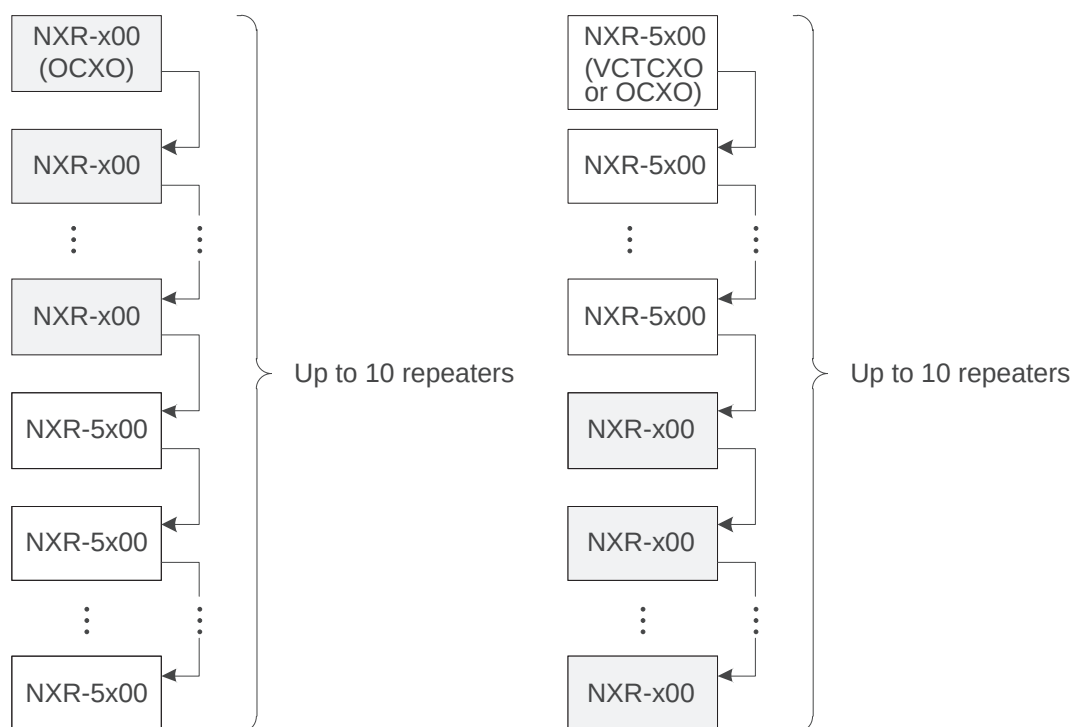


**Figure 1-3 Connection of Path for Providing External Reference Signals
(Site Structure Where NXR-x00 and NXR-5x00 Coexist)**

Enable **Adjusted Boot Timing** by KPG-110SM. If **Adjusted Boot Timing** is enabled, NXR-5x00 can be started by the timing to start NXR-x00.

To structure a site for NXR-x00 and NXR-5x00 to coexist, configure “5min” in **Startup Delay** of NXR-5x00 by using KPG-D2/ D2N regardless of the presence of OCXO.

Note:

- ◆ For NXR-5900/ NXR-5901, the startup time does not change even if **Adjusted Boot Timing** is enabled. If a system is operated in a site where NXR-900/ NXR-901 also coexists, configure “5min” in **Startup Delay** regardless of the presence of OCXO. In this case, a PF key cannot be operated for 1 min from when the displayed channel name starts blinking.

To add NXR-5x00 to a site using 11 NXR-x00 units or more, connect NXR-5x00 as shown in the diagram below:

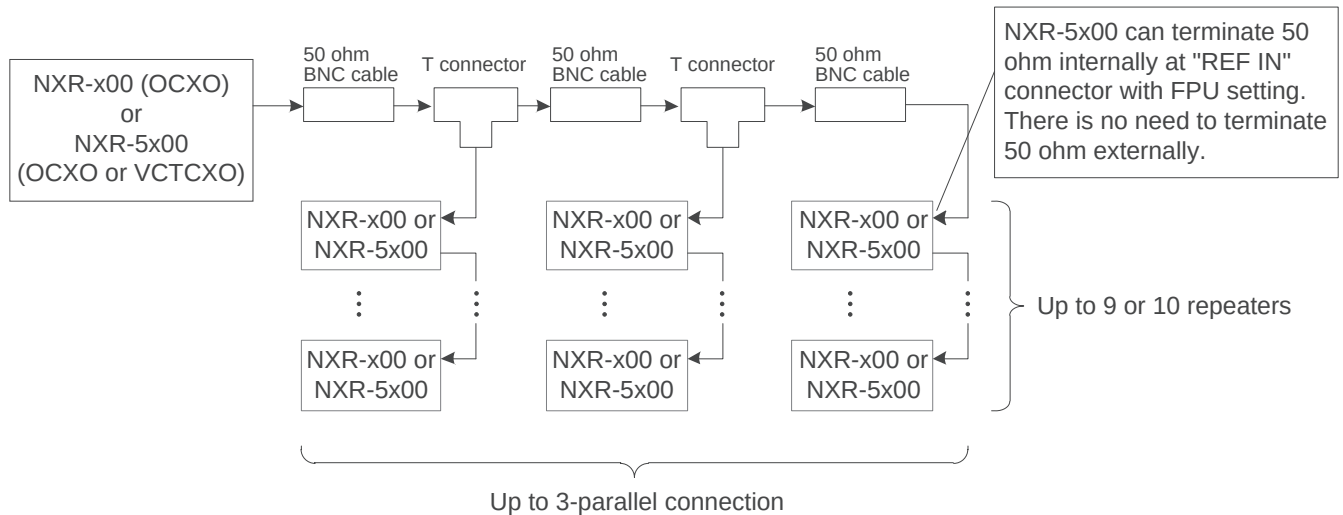


**Figure 1-4 Connection of Path for Providing External Reference Signals
(Site Structure Where NXR-x00 and NXR-5x00 Coexist) (11 or more)**

Note:

- ◆ For NXR-5x00, if 50 Ohm Termination is enabled in KPG-D2/ D2N, a 50 ohm termination can be connected to an external reference signal input terminal (RF IN) in a repeater. In a site structured with NXR-x00, if a 50 ohm termination is already connected to an external terminator, the external terminator can be used. If the repeater in the upper right of Figure 1-4 is NXR-5x00, enable 50 Ohm Termination in KPG-D2/ D2N. Also, to connect a T connector to a 50 ohm external terminator, disable 50 Ohm Termination. In a site structured with NXR-x00, if the repeater in the upper right of Figure 1-4 is connected to a 50 ohm external terminator, the external terminator can be used.
- ◆ To synchronize frequencies by using the built-in VCTCXO of NXR-5x00, check and adjust the frequencies every 5 months.
- ◆ For a trunking system structured with a maximum of 30 repeaters, always synchronize frequencies with one external reference signal for all NXR-5x00 units in the system.

■ Configuring a site that consists only of NXR-x00

To build a site only with NXR-x00, refer to CSI of NXR-700/ NXR-800.

■ Adding NXR-5x00 to the Digital Narrow mode system of an asynchronous frequency

If the frequency of each repeater is not synchronized and if Digital Narrow mode is configured in a site structured only with NXR-x00, connect NXR-5x00 as shown in the diagram below:

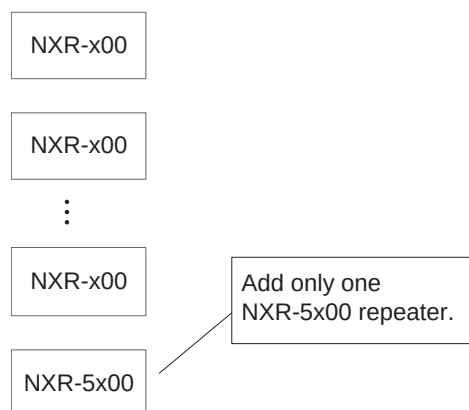


Figure 1-5 Connection in Digital Narrow Mode (if adding a single NXR-5x00 unit)

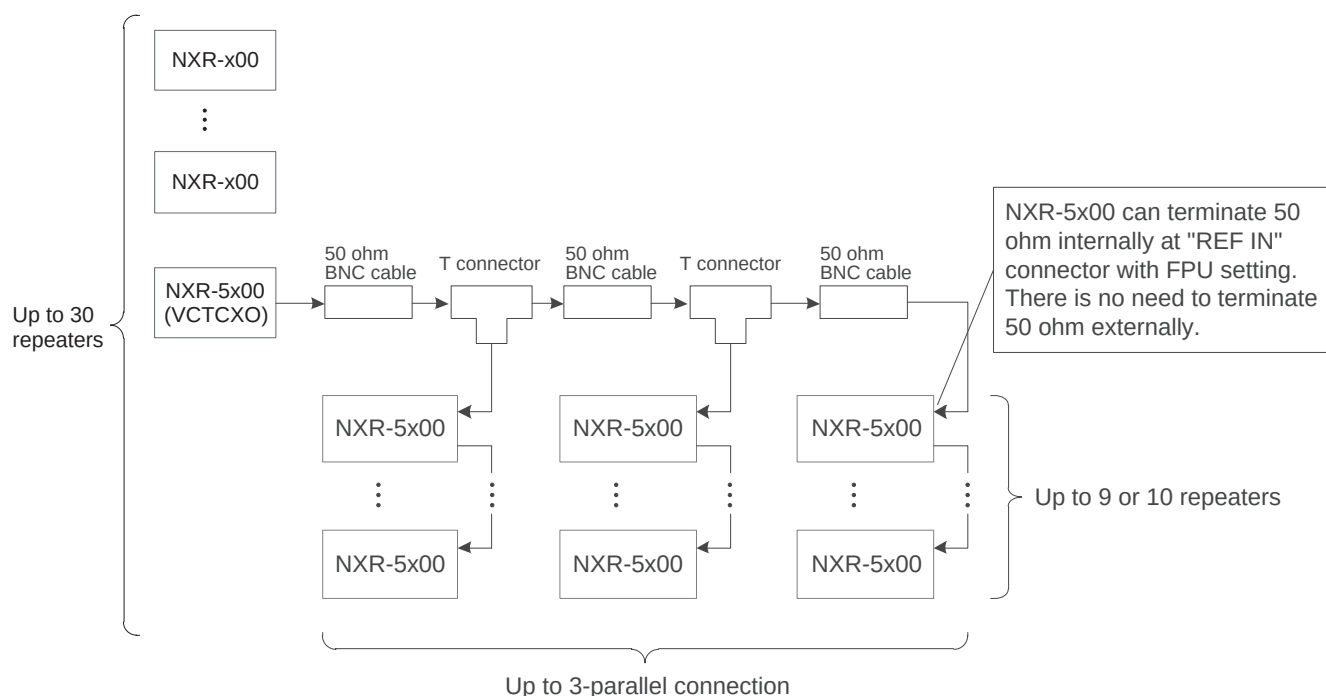


Figure 1-6 Connection in Digital Narrow Mode
(the connection of external reference signals if adding multiple NXR-5x00 units)

If NXR-5x00 is added in Digital Narrow mode, the first part of a conversation may not be communicated in a weak signal field. Therefore, adding the OCXO to NXR-x00 and synchronizing the frequencies of repeaters, including the frequency of the NXR-5x00 to be added, is recommended. If installation of OCXO is difficult, frequency synchronization for all repeaters by using the VCTCXO of NXR-5x00 as shown in Figure 1-4 is recommended. If frequency synchronization for the existing NXR-x00 is difficult, always add NXR-5x00 to a site after frequency synchronization for all NXR-5x00 units.

Note:

- ◆ Frequency synchronization is not required if only a single NXR-5x00 unit is to be added to an NXR-x00 site.
- ◆ If multiple NXR-5x00 units are added to an NXR-x00 site, always synchronize the frequencies of all NXR-5x00 units to be added. For the external reference signal for synchronizing frequencies, the built-in VCTCXO of NXR-5x00 is used.

1.2.4 Startup Time of the Repeater

To structure a site for NXR-x00 and NXR-5x00 to coexist, enable Adjusted Boot Timing for NXR-5x00 by using KPG-110SM. This allows NXR-5x00 to start up according to the startup time of NXR-x00 when the power is turned ON. (Refer to: ■ [Adjusted Boot Timing on page 76](#))

Also, configure “5min” in **Startup Delay** of NXR-5x00 by using KPG-D2/ D2N regardless of the presence of OCXO.

If the site is built only with NXR-5x00 and the reference oscillator is the OCXO, configure “5min” in **Startup Delay** by using KPG-D2/ D2N.

In a trunking system with the frequency synchronized, turning ON all repeaters simultaneously is recommended. For turning ON repeaters by different timings for each group, after the repeater for the first group is turned ON, the repeaters for all remaining groups need to be turned ON within 5 sec.

Note:

- ◆ For NXR-5900/ NXR-5901, the startup time does not change even if **Adjusted Boot Timing** is enabled. If a system is operated in a site where NXR-900/ NXR-901 also coexists, configure “5min” in **Startup Delay** regardless of the presence of OCXO. In this case, a PF key cannot be operated for 1 min from when the displayed channel name starts blinking.

2 SETTING UP KPG-110SM

KPG-110SM is the software designed for configuring various functions of an NXDN Trunking System and monitoring the operation status of the system. Connecting a repeater to a PC on which KPG-110SM is installed enables to write the configured data to a repeater, read the configuration data from a repeater, and edit the data in a PC. Also, in actual system operation, the network and hardware information and the status of channel usage can be monitored in real time.

2.1 System Requirements

Following are devices and operating systems that are required to install KPG-110SM.

Table 2-1 System Requirements

Hard Disk	40 MB or more free hard disk space
Memory	256 MB
CD-ROM Drive	A CD-ROM drive that can be accessed directly or via a network
Monitor	Resolution of 1024 x 768 pixels (Super VGA) and 256 colors or more
OS	• Microsoft Windows® 10 • Microsoft Windows® 11
Software	Microsoft .NET Framework 3.5 (Including Microsoft .NET Framework 2.0 and Microsoft .NET Framework 3.0) * .NET Framework 3.5 is installed by default in Windows 10.
USB	1.0, 2.0, or 3.0 USB port
LAN	10 Base-T or faster
Communication Port	A PC must have at least 1 serial communication port compatible with asynchronous communication adapter to communicate with a repeater.
Connection Cable	NXR-x00: Connect the repeater to a PC by using the RS-232C cross-wired cable (DB-9). NXR-5x00: Connect the repeater to a PC by using the USB Type-B cable. To make IP connection between the repeater and a PC, a LAN cable must be connected via a hub or network device.

Note:

- ◆ If KPG-110SM and other software run simultaneously, KPG-110SM may not function properly due to insufficient resources.

2.2 Installing KPG-110SM

Follow the procedure shown below to install KPG-110SM on a PC.

Note:

- ◆ Administrative privileges are required to install KPG-110SM.
1. Quit all running programs (including resident programs such as a virus-checking program).
 2. Insert the KPG-110SM CD-ROM disk into the CD-ROM drive.
 3. Double-click "Setup.exe" that appears by double-clicking the CD-ROM drive icon.
 4. Insert a USB Secure Key into a USB port on a PC.

The setup program starts providing the instructions for installation. Follow the instructions provided on the screen to install the software.

If Microsoft .NET Framework 3.5 is not installed on a PC, install Microsoft .NET Framework 3.5 according to the instructions.

2.3 Starting and Exiting KPG-110SM



CAUTION

To start KPG-110SM, a USB Secure Key and Activation File for which system parameters and service information are preconfigured are required. The USB Secure Key and Activation File are supplied by KENWOOD.

2.3.1 Starting KPG-110SM

To start KPG-110SM for the first time after installing KPG-110SM, select the folder in which the Activation File is stored, and then start KPG-110SM.

■ Selecting the Folder in which the Activation File Is Stored

1. Create a folder on the hard disk on a PC, and then store the Activation File in the folder.
2. Insert a USB Secure Key into a USB port on a PC.

Ensure that the USB Secure Key has been recognized by a PC and the USB Secure Key is ready to use.

3. Select “KPG-110SM” after clicking “Start” > (All) Programs > Kenwood FPU in the task bar.

The splash screen appears, and then the Activation Folder dialog box opens.

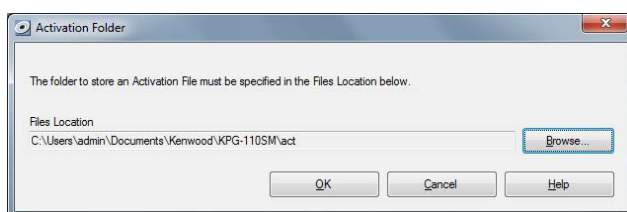


Figure 2-1 Activation Folder Dialog Box

4. Click the “Browse” button.
The Browse For Folder dialog box opens.
5. Select the folder where the Activation File is stored as described in step 1, and then click the “OK” button.

The path for the selected folder appears in the Files Location information box.

6. Click the “OK” button.

The configuration data is stored, and then the configurations becomes enabled when KPG-110SM runs next time.

■ Starting KPG-110SM

1. Ensure that the Activation File has been stored in the Activation Folder.
2. Insert a USB Secure Key into a USB port on a PC.
3. Select “KPG-110SM” after clicking “Start” > (All) Programs > Kenwood FPU in the task bar.

KPG-110SM starts after the splash screen appears, and then the main window opens.

Note:

- ◆ If Auto Save/ Load is disabled or automatically saved data file failed to be read, the **Network Memory Allocation** dialog box opens after displaying the splash screen. (Refer to: 6.10 Network Memory Allocation Dialog Box on page 51)
- ◆ Once the folder to store the Activation File is specified, the **Activation Folder** dialog box does not open each time KPG-110SM starts.
- ◆ Until the Activation Folder is specified and until a valid Activation File is stored in the selected folder, KPG-110SM cannot be started.
- ◆ The following is the default of the Activation Folder:
My Documents\Kenwood\KPG-110SM\act
- ◆ Activation Folder can be changed in the **Setup** pulldown menu > **Activation Folder** dialog box. (Refer to: 11.2 Activation Folder Dialog Box on page 200)
- ◆ KPG-110SM can be started by selecting the folder where KPG-110SM is installed, and double-clicking “KPG-110SM.exe”.
- ◆ If the license information read from the automatically saved data (Network Category or System Code) does not match the license information read from the USB Secure Key and Activation File during the startup of KPG-110SM, the following display appears. Clicking the “Auto Save Data Reset” button clears the data automatically saved, and then KPG-110SM starts. Clicking the “Exit Program” button quits KPG-110SM without clearing automatically saved data.

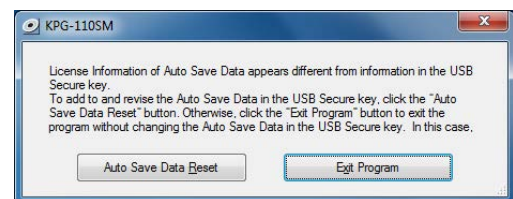


Figure 2-2 Display for Unmatched State of License Information

- ◆ The **Login** dialog box opens after the splash screen is displayed if Restricted User has been specified. (Refer to: 11.4.1 Login on page 202)

2.3.2 Exiting KPG-110SM

Selecting “Exit” from the File pulldown menu or clicking the “” button quits KPG-110SM.

2.4 Uninstalling KPG-110SM

Follow the procedure below to uninstall KPG-110SM from a PC.

Note:

- ◆ Exit KPG-110SM before uninstalling KPG-110SM.
- ◆ Administrative privileges are required to uninstall KPG-110SM.

■ Uninstalling KPG-110SM by Using the “Start” Button in Windows

1. Click “Uninstall a program” in the **Control Panel** window.
2. Select “KPG-110SM”.
3. Click the “Uninstall/Change” button.

Follow the instructions on the screen to uninstall KPG-110SM.

■ Uninstalling KPG-110SM by Using the KPG-110SM CD-ROM Disc

1. Insert the KPG-110SM CD-ROM disc into the CD-ROM drive.
2. Double-click “Setup.exe” that appears by double-clicking the CD-ROM drive icon.
3. Click the “Next” button.
4. Select the “Remove” radio button, and then click the “Next” button.

Follow the instructions on the screen to uninstall KPG-110SM.

2.5 Connecting a Repeater to a PC

Follow the procedure below to connect a repeater to a PC with KPG-110SM installed.

1. Turn a PC OFF.
2. Connect a cable to a PC.

NXR-x00:

Connect the RS-232C cross-wired cable (DB-9) to one of the serial ports, COM 1 to COM 20, of a PC.

NXR-5x00:

Connect the USB Type-B cable to one of the serial ports, COM 1 to COM 256, of a PC.

3. Turn the PC ON.
4. Turn the repeater OFF.
5. Connect a cable to the repeater.

NXR-x00:

The other end of the RS-232C cross-wired cable (DB-9) is connected to the 9-pin serial connector located on the front panel of the repeater.

NXR-5x00:

The other end of the USB Type-B cable is connected to the USB Type-B connector located on the front panel of the repeater.

6. Turn the repeater ON again.

The repeater starts up and the Status LED [1] flashes. If the repeater is properly activated, the Status LED [1] then turns Off.

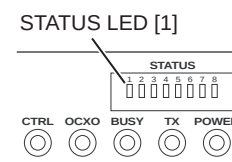


Figure 2-3 STATUS LED

3 MENU DESCRIPTION

3.1 Main Window

The menu bar and toolbar are located on the top of the main window. The status bar appears in the lower part of this window.

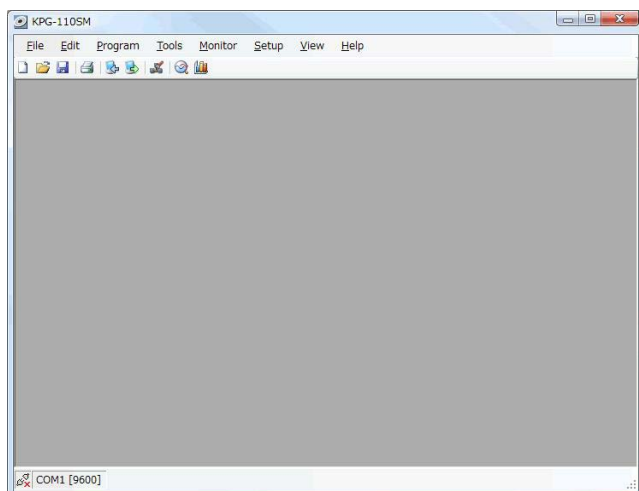


Figure 3-1 Main Window

3.1.1 Menu Bar

The menu bar has menu titles that are used to configure and manage the repeater using KPG-110SM. Clicking the menu title pulls down the pulldown menu, and then menu commands contained in the menu appear. (Refer to: 3.2 Menu Command Descriptions on page 14)

Note:

- ◆ The **Window** menu appears on the menu bar only by selecting a function from the **Edit** pulldown menu and while the window of the function is active.

File Edit Program Tools Monitor Setup View Window Help

Figure 3-2 Menu Bar (if the Window menu appears)

File Edit Program Tools Monitor Setup View Help

Figure 3-3 Menu Bar
(if the Window menu does not appear)

3.1.2 Toolbar

Frequently-used icons in menu commands are shown on the toolbar.



Figure 3-4 Toolbar

Note:

- ◆ Selecting "Toolbar" from the **View** pulldown menu toggles the Toolbar between active and inactive. (Refer to: 12.2 Toolbar on page 206)

Table 3-1 Descriptions of the Buttons on the Toolbar

Button	Function
 New	Clears the current configuration data and creates new configuration data by editing the default values. (Refer to: 6.1 New on page 42)
 Open	Opens a configuration data file stored on the hard disk or other external storage devices. (Refer to: 6.2 Open on page 42)
 Save	Stores the current configuration data to a hard disk or external storage device as a file. (Refer to: 6.3 Save on page 43)
 Print	Opens the Printout List dialog box, and then a summary of the configuration data can be configured. (Refer to: 6.7 Print on page 48)
 Read Data from the System	Opens the Read Data from the System dialog box, and then the configuration data can be transferred from a repeater to KPG-110SM. (Refer to: 8.2 Read Data from the System on page 139)
 Write Data to the System	Opens the Write Data to the System dialog box, and then the configuration data in KPG-110SM can be written to a repeater. (Refer to: 8.1 Write Data to the System on page 134)
 Network Setup Wizard	Activates the Network Setup Wizard, and then the initial configuration of a network can be configured in the Wizard format. (Refer to: 9.1 Network Setup Wizard on page 150)
 System Overview	Opens the System Overview dialog box, and then network information and hardware information can be viewed. (Refer to: 10.1 System Overview Dialog Box on page 175)
 Channel Load	Opens the Channel Load dialog box, and then the status of channel usage can be monitored. (Refer to: 10.3 Channel Load Dialog Box on page 180)

3.1.3 Status Bar

The status bar shows the communication status between KPG-110SM and a repeater, and the serial communication port used for data communication between KPG-110SM and a repeater.

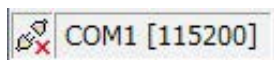


Figure 3-5 Status Bar

Communication status between KPG-110SM and a repeater appears using the following icons.

Table 3-2 Communication Status Display

Items	Display
Communication Status	Serial communication : Not communicating : Communicating
	Modem communication : Not communicating : Communicating
	LAN : Not communicating : Communicating
Configuration for Communication Port	LAN, COM n [Modem], COM n [9600 to 115200] (n: Port number)
System Synchronization Status	If KPG-110SM and data in a repeater are desynchronized, a message prompting you to solve the non-synchronous state appears. After the non-synchronous state is resolved, the message disappears.

Note:

- ◆ Selecting "Status Bar" from the **View** pulldown menu toggles the Status bar between active and inactive. (Refer to: [12.3 Status Bar on page 206](#))
- ◆ Double-clicking of the displayed communication port opens the **Communication Port** dialog box. If logged in to KPG-110SM using a restricted user account, the **Communication Port** dialog box does not appear.

3.2 Menu Command Descriptions

Following are the descriptions of the menu commands available in each menu title of the menu bar.

3.2.1 File Pulldown Menu

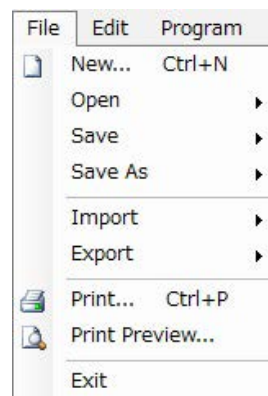


Figure 3-6 File Pulldown Menu

Table 3-3 File Pulldown Menu Function List

Function	Description
New	Deletes the current configuration data completely, and then the configuration data can be edited and configured using the default values. (Refer to: 6.1 New on page 42)
Open	Opens a configuration data file stored on the hard disk or external storage device. (Refer to: 6.2 Open on page 42)
Save	Stores the current configuration data on a hard disk or external storage devices as a file. (Refer to: 6.3 Save on page 43)
Save As	Names the current configuration data and stores the configuration data to the hard disk or other external storage devices. (Refer to: 6.4 Save As on page 44)
Import	Configuration data for a site and ID created and edited using the export function can be transferred to KPG-110SM. (Refer to: 6.5 Import on page 44)
Export	Configuration data for a site and ID created and edited using KPG-110SM can be exported and stored with a file name to a hard disk or an external device. (Refer to: 6.6 Export on page 47)
Print	Opens the Printout List dialog box, and then a summary of the configuration data can be printed out. (Refer to: 6.7 Print on page 48)
Print Preview	Views the print image of configuration data. (Refer to: 6.8 Print Preview on page 50)
Exit	Exits KPG-110SM. (Refer to: 6.9 Exit on page 51)

3.2.2 Edit Pulldown Menu

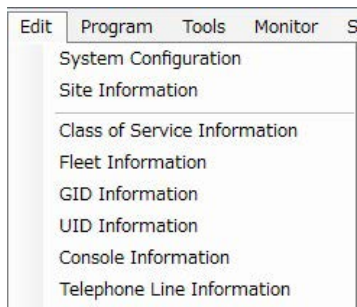


Figure 3-7 Edit Pulldown Menu

Table 3-4 Edit Pulldown Menu Function List

Function	Description
System Configuration	Opens the window to view system values and configure various behaviors used for transmitting or receiving at the system side. (Refer to: 7.1 System Configuration Window on page 52)
Site Information	Opens the window to configure the site information. (Refer to: 7.2 Site Information Window on page 69)
Class of Service Information	Opens the window to configure a Service Class that can be used by a GID and UID. (Refer to: 7.7 Class of Service Information Window on page 89)
Fleet Information	Opens the window to configure parameters associated with various functions for Fleet. (Refer to: 7.14 Fleet Information Window on page 113)
GID Information	Configure parameters associated with various functions for GID. (Refer to: 7.16 GID Information Window on page 119)
UID Information	Open the window to configure parameters associated with various functions for UID. (Refer to: 7.18 UID Information Window on page 122)
Console Information	Open the window to configure parameters associated with various functions for IP Console. (Refer to: 7.20 Console Information Window on page 126)
Telephone Line Information	Open the window to configure parameters associated with various functions for Telephone Interconnect. (Refer to: 7.22 Telephone Line Information Window on page 129)

3.2.3 Program Pulldown Menu

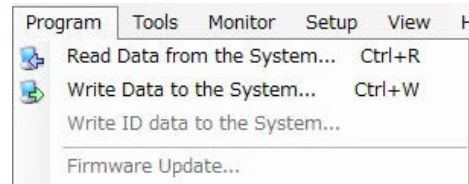


Figure 3-8 Program Pulldown Menu

Table 3-5 Program Pulldown Menu Function List

Function	Description
Read Data from the System	Opens the window to read configuration data from a repeater using KPG-110SM. (Refer to: 8.2 Read Data from the System on page 139)
Write Data to the System	Opens the window to write configuration data to a repeater by use of KPG-110SM. (Refer to: 8.1 Write Data to the System on page 134)
Write ID data to the System	Opens the window to write Fleets, GIDs and UIDs to a repeater. (Refer to: 8.3 Write ID data to the System on page 142)
Firmware Update	Opens the window to update the firmware of a repeater. (Refer to: 8.4 Firmware Update on page 148)

3.2.4 Tools Pulldown Menu

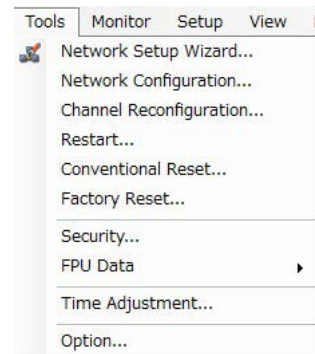


Figure 3-9 Tools Pulldown Menu

Table 3-6 Tools Menu Function List

Function	Description
Network Setup Wizard	Opens the window allowing the initial configurations for a network by means of the wizard format. (Refer to: 9.1 Network Setup Wizard on page 150)
Network Configuration	Opens the window allowing the initial configurations for a network. (Refer to: 9.2 Network Configuration on page 153)

Function	Description
Channel Reconfiguration	Opens the window to change various configurations for a repeater. (Refer to: 9.3 Channel Reconfiguration on page 161)
Restart	Opens the window to restart a repeater for each site. (Refer to: 9.4 Restart on page 162)
Conventional Reset	Opens the window to restore the Conventional Mode configuration. (Refer to: 9.5 Conventional Reset on page 163)
Factory Reset	Opens the window to clear all configurations of a repeater. (Refer to: 9.6 Factory Reset on page 163)
Security	Opens the window to configure the access code for accessing a site. (Refer to: 9.7 Security on page 164)
FPU Data	Opens the window to read the data configured using KPG-109D/ DN or KPG-D2/ D2N from a repeater. Opens the window to write the data configured using KPG-109D/ DN or KPG-D2/ D2N to a repeater. (Refer to: 9.8 FPU Data on page 165)
Time Adjustment	Opens the window to configure the clock time of a repeater. (Refer to: 9.9 Time Adjustment on page 168)
Login (Restricted User Mode)	Opens the window to change the status of Restricted User Mode. The menu appears only when logged in to KPG-110SM using the user account of a system administrator. (Refer to: 11.4.2 About Restricted User Mode on page 202)
Logout (Restricted User Mode)	
Option	Opens the window to change various configurations stored in KPG-110SM. (Refer to: 9.12 Option Dialog Box on page 174)

3.2.5 Monitor Pulldown Menu

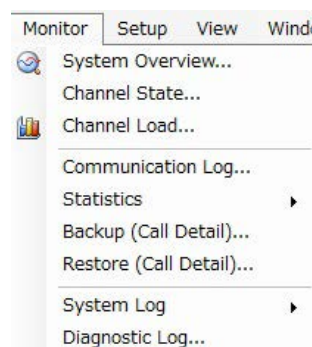


Figure 3-10 Monitor Pulldown Menu

Table 3-7 Monitor Pulldown Menu Function List

Function	Description
System Overview	Opens the window to monitor network information and hardware information of each channel. (Refer to: 10.1 System Overview Dialog Box on page 175)
Channel State	Opens the window to monitor usage statuses of the channels in the site. (Refer to: 10.2 Channel State on page 179)
Channel Load	Opens the window to monitor the statuses of the channel usage in the site using a usage rate graph. (Refer to: 10.3 Channel Load Dialog Box on page 180)
Communication Log	Opens the window to acquire the communication log of each site. (Refer to: 10.4 Communication Log Dialog Box on page 182)
Statistics	Opens the window to display statistics of system communication. (Refer to: 10.5 Statistics - Airtime Accumulation Dialog Box on page 187)
Backup (Call Detail)	Opens the window to store communication information to a PC. (Refer to: 10.6 Backup (Call Detail) Dialog Box on page 189)
Restore (Call Detail)	Opens the window to restore communication information that was stored to a PC. (Refer to: 10.7 Restore (Call Detail) Dialog Box on page 190)
System Log	Opens the window to read the system and hardware log from each site. (Refer to: 10.8 System Log Dialog Box on page 191)
Diagnostic Log	Opens the window to read the diagnostic log data stored in a repeater and save the data as a log file. (Refer to: 10.9 Diagnostic Log Dialog Box on page 197)

3.2.6 Setup Pulldown Menu

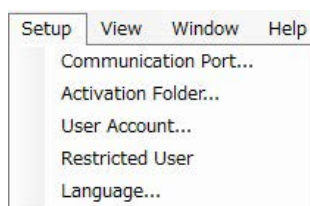


Figure 3-11 Setup Pulldown Menu

Table 3-8 Setup Pulldown Menu Function List

Function	Description
Communication Port	Opens the window to select the communication port used between KPG-110SM and a repeater. (Refer to: 11.1 Communication Port Dialog Box on page 198)
Activation Folder	Opens the window to specify the folder in which the Activation File is stored. (Refer to: 11.2 Activation Folder Dialog Box on page 200)
User Account	Opens the window to configure the Management Password. (Refer to: 11.3 User Account Dialog Box on page 200)
Restricted User	Opens the window to specify the configuration for Restricted User. (Refer to: 11.4 Restricted User Dialog Box on page 201)
Language	Opens the window to select the user interface language to be used in KPG-110SM. (Refer to: 11.6 Language Dialog Box on page 205)

3.2.7 View Pulldown Menu

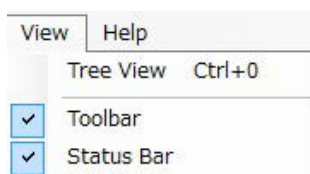


Figure 3-12 View Pulldown Menu

Table 3-9 View Pulldown Menu Function List

Function	Description
Tree View	Opens the window to make the contents of the Edit pulldown menu listed in another window. (Refer to: 12.1 Tree View Window on page 206)
Toolbar	Activates or deactivates the Toolbar. (Refer to: 12.2 Toolbar on page 206)

Function	Description
Status Bar	Activates or deactivates the Status bar. (Refer to: 12.3 Status Bar on page 206)

3.2.8 Window Pulldown Menu

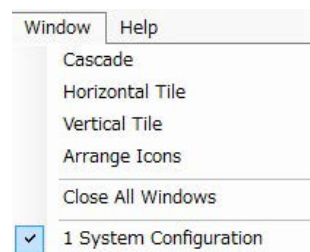


Figure 3-13 Window Pulldown Menu

Table 3-10 Window Pulldown Menu function List

Function	Description
Cascade	Rearranges the open windows to be diagonally overlapped (cascaded). (Refer to: 13.1 Cascade on page 207)
Horizontal Tile	Rearranges the open windows as horizontal tiles. (Refer to: 13.2 Horizontal Tile on page 207)
Vertical Tile	Rearranges the open windows as vertical tiles. (Refer to: 13.3 Vertical Tile on page 207)
Arrange Icons	Rearranges the minimized icons. (Refer to: 13.4 Arrange Icons on page 207)
Close All Windows	Closes all open windows. (Refer to: 13.5 Close All Windows on page 208)
Opened Window List	Lists all titles of the open windows. Clicking the window title opens the selected window at the frontmost on the display. (Refer to: 13.6 Opened Window List on page 208)

3.2.9 Help Pulldown Menu

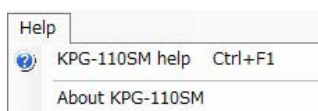


Figure 3-14 3-14 Help Pulldown Menu

Table 3-11 Help Pulldown Menu Function List

Function	Description
KPG-110SM help	Searches help topics. (Refer to: 14.1 Help Topics on page 209)
About KPG-110SM	Opens the window to view information about KPG-110SM. (Refer to: 14.2 About KPG-110SM Dialog Box on page 210)

3.3 About Keyboard Operations

3.3.1 Shortcut Keys

The following shortcut keys are assigned to the keyboard for KPG-110SM.

Table 3-12 Shortcut Keys

Keystrokes	Action
[Ctrl] + [r] keys	Opens the Read Data from the System dialog box and the configuration data can be read from a repeater to KPG-110SM. (Refer to: 8.2 Read Data from the System on page 139)
[Ctrl] + [w] keys	Opens the Write Data to the System dialog box, and then the configuration data in KPG-110SM can be written to a repeater. (Refer to: 8.1 Write Data to the System on page 134)
[Ctrl] + [n] keys	Deletes the current configuration data completely, and then the configuration data can be edited and configured using the default values. (Refer to: 6.1 New on page 42)
[Ctrl] + [o] keys	Opens a configuration data file stored on the hard disk or external storage device. (Refer to: 6.2 Open on page 42)
[Ctrl] + [s] keys	Stores the current configuration data on a hard disk or an external storage device as a file. (Refer to: 6.3 Save on page 43)
[Ctrl] + [c] keys	Copies the configured values in the selected row or edit box.
[Ctrl] + [v] keys	Pastes the copied value in the selected row or edit box to the position where the cursor is placed.
[Ctrl] + [0] keys	Opens the Tree View window. (Refer to: 12.1 Tree View Window on page 206)
[Ctrl] + [0] keys [Ctrl] + [8] keys	Adjusts the size of the print image displayed to the window size of the Print Preview window. (Refer to: 6.8 Print Preview on page 50)
[Ctrl] + [1] keys [Ctrl] + [3] keys [Ctrl] + [5] keys [Ctrl] + [7] keys [Ctrl] + [9] keys	Adjusts the size of the print image displayed in the Print Preview window to 100 %. (Refer to: 6.8 Print Preview on page 50)
[Ctrl] + [2] keys [Ctrl] + [6] keys	Adjusts the size of the print image displayed in the Print Preview window to 200 %. (Refer to: 6.8 Print Preview on page 50)
[Ctrl] + [4] keys	Adjusts the size of the print image displayed in the Print Preview window to 25 %. (Refer to: 6.8 Print Preview on page 50)
[Alt] + [0] keys	Moves the focus to the Tree View window.

Keystrokes	Action
[Alt] + [F4] keys	Exits KPG-110SM.
[F1] key	Opens the KPG-110SM HTML Help window. Pressing the [F1] key opens the help topic for the function being used.
[Alt] key [F10] key	Activates the Menu Bar. Pressing the [Enter] key or pressing the key of the first letter of the pulldown menu name opens the menu. Pressing the [Escape], [Alt] or [F10] key while a menu is selected deselects the menu.
[Shift] + [↑]/[↓] keys	Selects more than one row in a table.

3.3.2 Editing Configuration Data

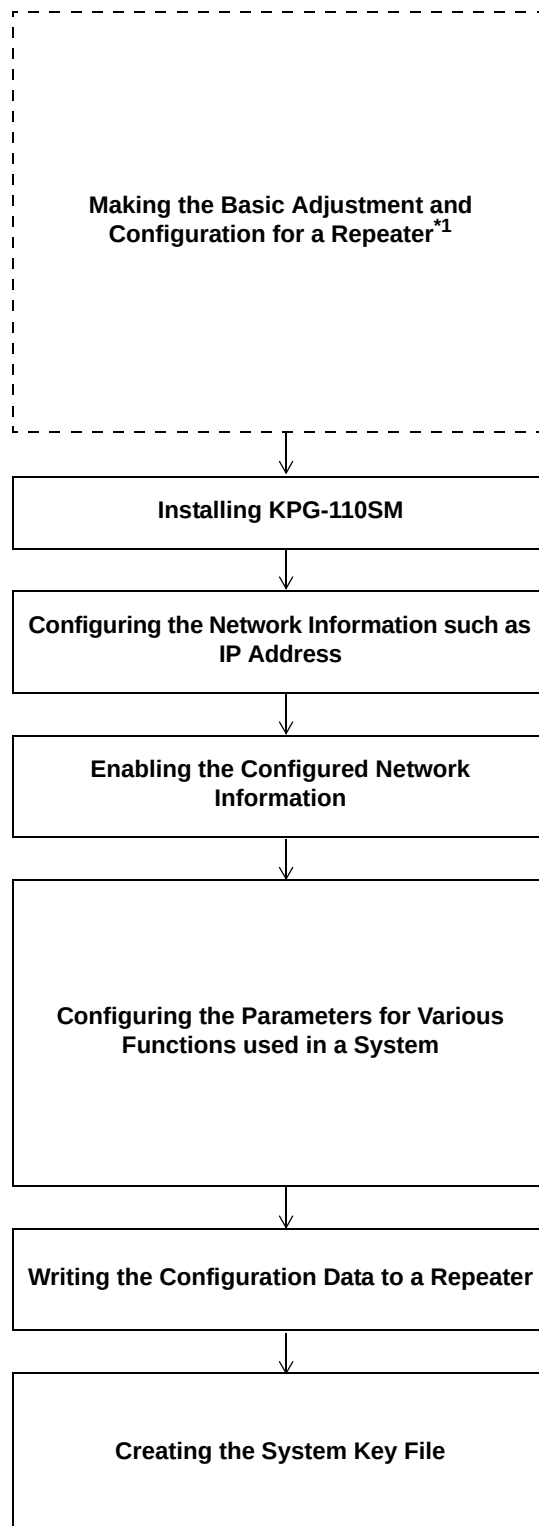
Following are the keyboard operations that are available for editing values by use of KPG-110SM.

Table 3-13 Editing Configuration Data

Keystrokes	Action
[Tab] key	Moves the focus in the active window.
[Enter] key	Confirms the entered value and moves the cursor to the next configuration item.
[↑] key [↓] key	- Functions as a key to increase or decrease the value same as spin buttons for configuration items along with the spin buttons. - Selects a value from the dropdown list without displaying the list.
[Home] key	Moves the cursor placed in an edit box to the beginning of the text.
[PgUp] key and [PgDn] key	Selects the first item or the last item in a dropdown list.
[End] key	Moves the cursor placed in an edit box to the end of the text.

4 BASIC CONFIGURATION

Following are basic workflows to configure parameters for the network and various functions for a repeater using KPG-110SM.



- a) Adjust the front-end circuit of a receiver and other settings by using KPG-109D/ DN or KPG-D2/ D2N. (Refer to 6. ADJUSTING THE REPEATER in the CSI Reference.)
- b) Connect each repeater using a LAN cable and a SYNC cable. If an optional reference oscillator OCXO (K-type: KXK-3 M3, E-type: KXK-3 M2) is installed in one of the repeaters, the repeater with a reference oscillator needs to be connected as a starting point for connecting each repeater by using cables. (Refer to 1.3 SYNC CABLE, 4.1 OCXO (KXK-3 M3) (K-type) and 4.1 OCXO (KXK-3 M2) (E-type) in the CSI Reference.)
- c) Configure the parameters associated with basic functions such as the frequency used in the system (Trunking mode) by using KPG-109D/ DN or KPG-D2/ D2N. (Refer to 5.1.2 Trunking Mode in the FPRG Reference.)

Install KPG-110SM onto a PC.
→ [2 SETTING UP KPG-110SM on page 10](#)

Configure the network information such as IP Address for each repeater, which is required to connect the repeater to the network.
→ [4.1 Configuring the Network Information on page 21](#)

Enable the network information such as IP Address configured for a repeater. → [4.2 Enabling the Configured Network Information on page 21](#)

Configure the parameters for a site, an Fleet, a GID, a UID, and various functions determining behaviors of the system.
→ [4.3 Configuring the Site Data on page 22](#)
→ [4.4 Configuring the Fleet Data on page 22](#)
→ [4.5 Configuring the GID Data on page 23](#)
→ [4.6 Configuring the UID Data on page 23](#)
→ [4.7 Configuring the Parameters for Various Functions Determining Behaviors of the System on page 24](#)
→ [4.8 Configuring the Communications Functions Available in the System on page 24](#)

Write the configuration data to all the repeaters upon completion of configuration. → [4.9 Writing the Configuration Data to a Repeater on page 25](#)

Create the System Key File, which is required to configure various functions for an NXDN Trunking System in the FPU for subscriber units supporting an NXDN Trunking System (hereinafter referred to as "FPU for subscriber units") such as KPG-111D or KPG-D1, by using KPG-110SM. → [7.1.2 System Key File Dialog Box on page 53](#)

*1 This procedure is not identical to the operations using KPG-110SM. Refer to the description in a corresponding reference to learn the operations and configurations at each step of a) through c).

Note:

- ◆ Refer to the NEXEDGE System Manual for details of the system configuration method.

4.1 Configuring the Network Information

The network information such as IP Address required to connect a repeater to the network can be configured for each repeater.

A repeater needs to be connected to a PC by using a cable in order to configure the network information for the repeater. (Refer to: [2.5 Connecting a Repeater to a PC on page 12](#))

Selecting “Network Configuration” from the Tools pulldown menu opens the Network Configuration dialog box. The network information for a repeater can be configured in the IP Address tab.

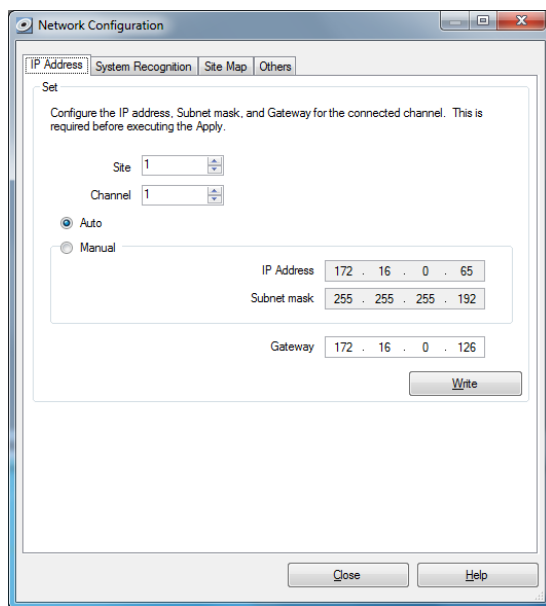


Figure 4-1 Network Configuration Dialog Box > IP Address Tab

Refer to [9.2.1 IP Address Tab on page 153](#) for the detailed configuration method.

Note:

- ◆ The initial configurations for a network can also be done by the use of Network Setup Wizard. (Refer to: [9.1 Network Setup Wizard on page 150](#))

4.2 Enabling the Configured Network Information

The network information such as IP Address configured for a repeater can be enabled.

The repeater needs to be connected to a PC by using a cable in order to enable the network information configured for the repeater. (Refer to: [2.5 Connecting a Repeater to a PC on page 12](#))

Selecting “Network Configuration” from the Tools pulldown menu opens the Network Configuration dialog box. The network information configured for a repeater can be enabled in the System Recognition tab.

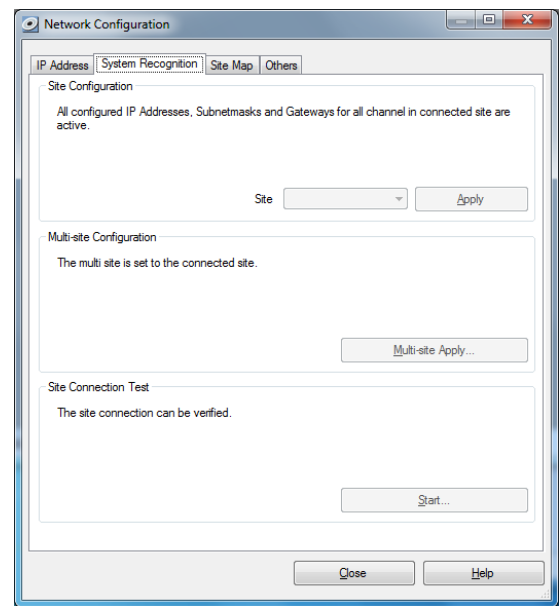


Figure 4-2 Network Configuration Dialog Box > System Recognition Tab

Refer to [9.2.2 System Recognition Tab on page 154](#) for the detailed configuration method.

Note:

- ◆ The initial configurations for a network can also be done by the use of Network Setup Wizard. (Refer to: [9.1 Network Setup Wizard on page 150](#))

4.3 Configuring the Site Data

The sites can be configured depending on the site scale to be operated, and parameters for the various functions can be configured for each site.

Selecting “Site Information” from the Edit pulldown menu opens the Site Information window.

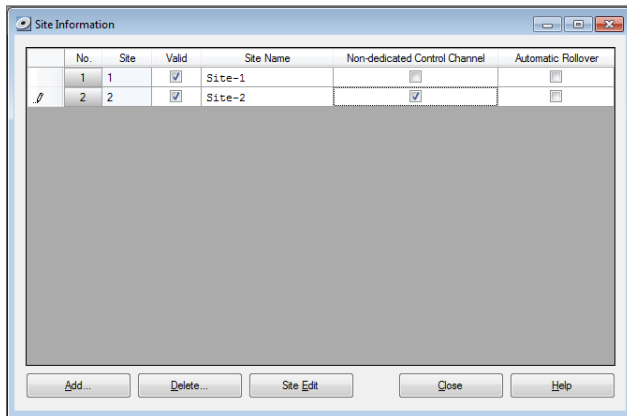


Figure 4-3 Site Information Window

Clicking the “Site Edit” button in the Site Information window also opens the Site Edit window.

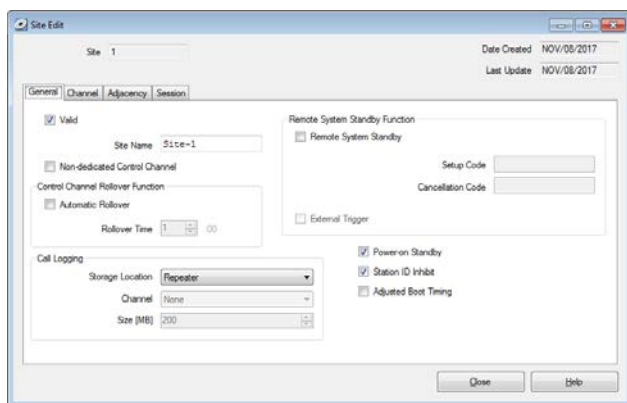


Figure 4-4 Site Edit Window

In the Site Edit window, the detailed functions can be configured for each site.

Refer to the following for the detailed configuration method.

[5.1 Configuring the Site Data on page 28](#)

[7.2 Site Information Window on page 69](#)

[7.3 Site Edit Window on page 72](#)

4.4 Configuring the Fleet Data

A Fleet where Unit ID and Group ID are located together can be configured, and parameters for the various functions can be configured for each Fleet.

Selecting “Fleet Information” from the Edit pulldown menu opens the Fleet Information window.

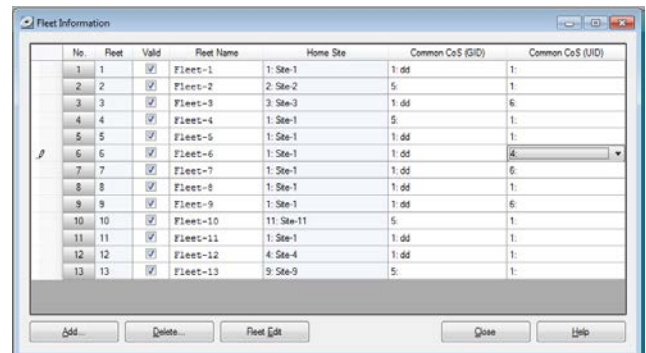


Figure 4-5 Fleet Information Window

Clicking the “Fleet Edit” button in the Fleet Information window also opens the Fleet Edit window.

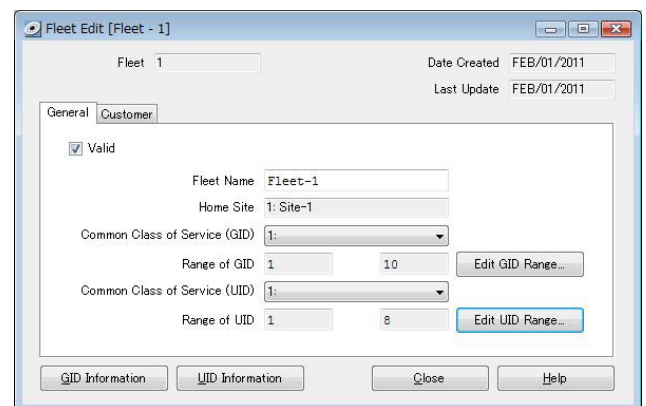


Figure 4-6 Fleet Edit Window

In the Fleet Edit window, the detailed functions can be configured for each Fleet.

Refer to the following for the detailed configuration method.

[5.2 Configuring the Fleet Data on page 30](#)

[7.14 Fleet Information Window on page 113](#)

[7.15 Fleet Edit Window on page 115](#)

4.5 Configuring the GID Data

GID (Group ID) needed to use Group Call can be configured, and parameters for the various functions can be configured for each GID.

Selecting “GID Information” from the Edit pulldown menu opens the GID Information window.

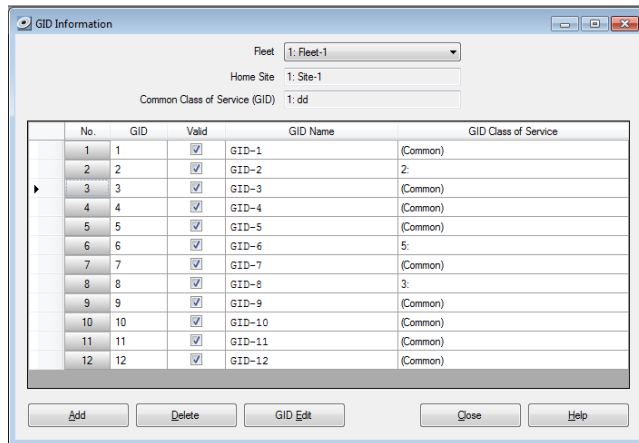


Figure 4-7 GID Information Window

Clicking the “GID Edit” button in the GID Information window also opens the GID Edit window.

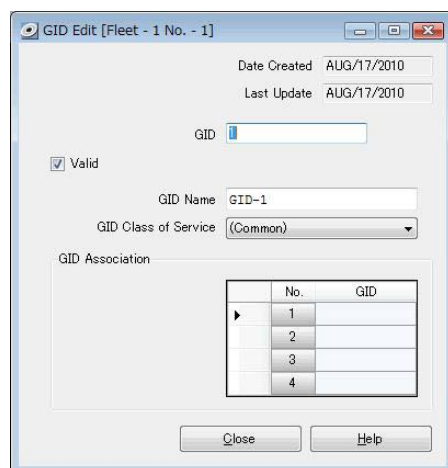


Figure 4-8 GID Edit Window

In the GID Edit window, the detailed functions can be configured for each GID.

Refer to the following for the detailed configuration method.

[5.3 Configuring the GID Data on page 31](#)

[7.16 GID Information Window on page 119](#)

[7.17 GID Edit Window on page 121](#)

4.6 Configuring the UID Data

UID (Unit ID) of a subscriber unit to be used in a system can be configured, and parameters for the various functions can be configured for each UID.

Selecting “UID Information” from the Edit pulldown menu opens the UID Information window.

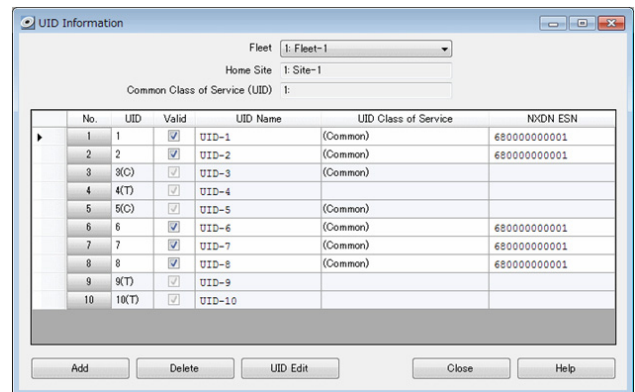


Figure 4-9 UID Information Window

Clicking the “UID Edit” button in the UID Information window also opens the UID Edit window.

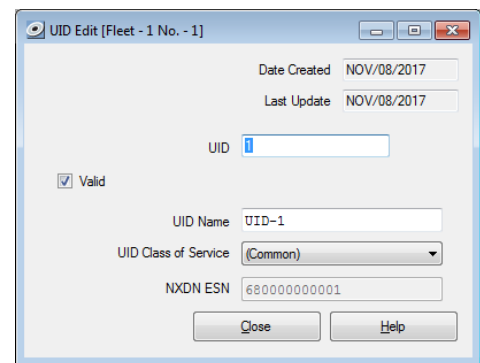


Figure 4-10 UID Edit Window

In the UID Edit window, the detailed functions can be configured for each UID.

Refer to the following for the detailed configuration method.

[5.4 Configuring the UID Data on page 32](#)

[7.18 UID Information Window on page 122](#)

[7.19 UID Edit Window on page 125](#)

4.7 Configuring the Parameters for Various Functions Determining Behaviors of the System

The system behavior for communications such as the method to control a call request and a registration request from a subscriber unit, various timers, and the method to control a control channel and a traffic channel can be configured.

Selecting “System Configuration” from the Edit pulldown menu opens the System Configuration window.

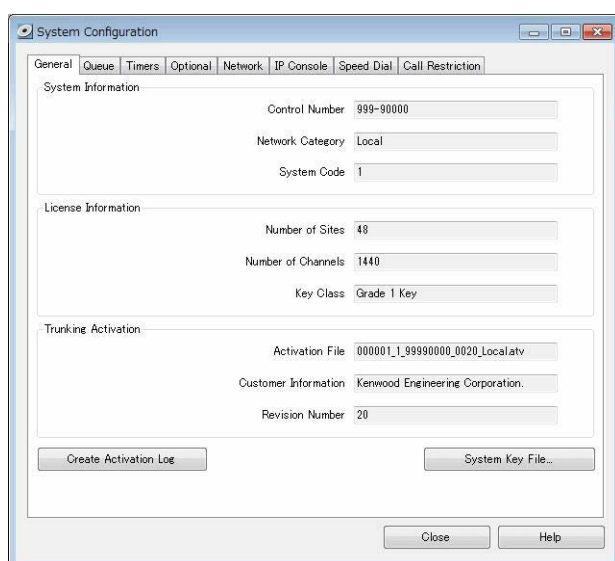


Figure 4-11 System Configuration Window

Refer to the following for the detailed configuration method.

[5.7 Configuring the System Behavior on page 35](#)

[7.1 System Configuration Window on page 52](#)

4.8 Configuring the Communications Functions Available in the System

The communications functions available in the system can be preconfigured, and the configuration content can be applied to each UID and GID.

Selecting “Class of Service Information” from the Edit pulldown menu opens the Class of Service Information window.

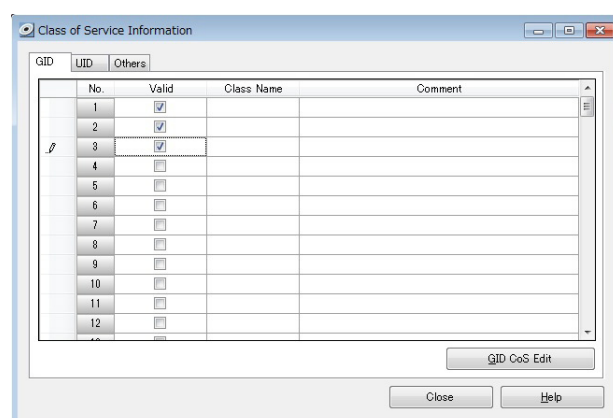


Figure 4-12 Class of Service Information Window

Clicking the “GID Cos Edit” button or “UID Cos Edit” button in the GID or UID tab opens the GID Class of Service Edit or UID Class of Service Edit window.

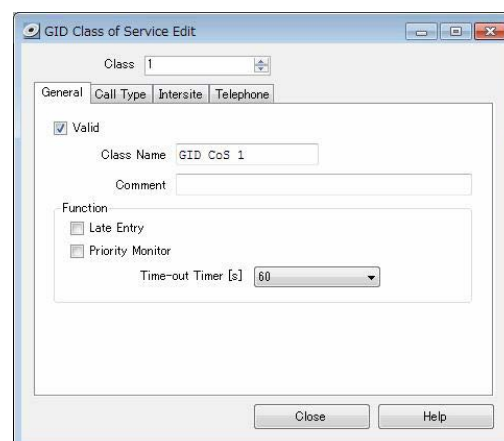


Figure 4-13 GID Class of Service Edit Window

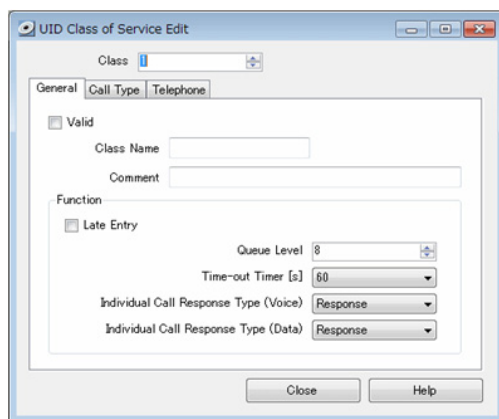


Figure 4-14 UID Class of Service Edit Window

In the GID Class of Service Edit or UID Class of Service Edit window, the detailed functions can be configured for each UID or GID.

Refer to the following for the detailed configuration method.

[5.8 Configuring the GID Class of Service on page 40](#)

[5.9 Configuring the UID Class of Service on page 41](#)

[7.7 Class of Service Information Window on page 89](#)

[7.8 GID Class of Service Edit Window on page 91](#)

[7.9 UID Class of Service Edit Window on page 96](#)

4.9 Writing the Configuration Data to a Repeater

The data configured using KPG-110SM can be written to a repeater.

The repeater needs to be connected to a PC by using a cable in order to write the configuration data to a repeater. ([Refer to: 2.5 Connecting a Repeater to a PC on page 12](#))

Selecting “Write Data to the System” from the Program pulldown menu opens the Write Data to the System dialog box.

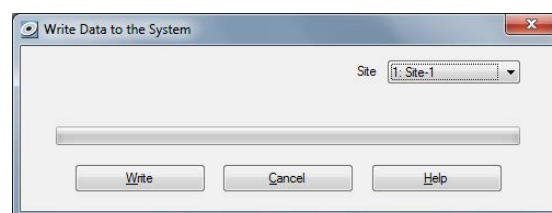


Figure 4-15 Write Data to the System Dialog Box

Refer to [8.1 Write Data to the System on page 134](#) for the detailed operational procedure.

4.10 Viewing a Help Topic

Clicking the “Help” button in each window opens the KPG-110SM HTML Help window, and the relative help topics appears. Pressing the [F1] key on the keyboard while an item is selected also opens the help topic file about the selected item. ([Refer to: 14 HELP MENU on page 209](#))

4.11 Entering Conventions of Configuration Parameters

Following are conventions for entering parameters using the edit boxes and dropdown lists.

Table 4-1 Entering Conventions of Configuration Parameters

Configuration Conditions	Configuration Method or KPG-110SM Operation
If a value is entered into an edit box	Following are available entry methods. • Directly entering alphanumeric characters and symbols. • Selecting from the dropdown list.
If a value is configured using spin buttons	The value can be increased or decreased by clicking the “Up” or “Down” button. Also, the “Up” or “Down” button can be clicked and held until the desired value appears.
If a value configured in an edit box is cleared	One of the following options is automatically configured depending on the type of each edit box: • The lower limit value is automatically configured. • The value in the edit box is cleared. • “None” is automatically configured. • “Off” is automatically configured.
If a digit after the decimal point is entered	“.” (period) and “,” (comma) can be entered. The decimal point separator is determined by PC configuration.
If a value outside of the available range is entered	One of the following options is automatically configured depending on the type of each edit box: • The value is automatically replaced by the lower limit value. • The value is automatically replaced by the upper limit value. • An error message box appears.
If a value of less than a single step size is entered	The value of less than a single step size is rounded off.
If “Off” can be configured in an edit box	If the number “0” is entered in the edit box, “Off” is automatically configured.
If “ALL” can be configured in an edit box	If the number “0” or the letter “A” is entered in the edit box, “ALL” is automatically configured.

5 CONFIGURATION PROCEDURE



WARNING

This chapter describes the outline of the configuration procedure for main functions. Parameters of each function vary depending on the system and environment where the repeater is served; hence, parameters need to be examined in advance depending on how the repeater is used.

This chapter explains the configuring procedure of the following data and parameters for the main functions for the repeater using KPG-110SM.

- Site Data
- Fleet Data
- GID Data
- UID Data
- IP Console Data
- Telephone Interconnect Data
- Configuration for the System Behavior
- GID Class of Service
- UID Class of Service

In each step, function names, a corresponding reference in this document, ranges, defaults, recommended parameters, and tips and remarks are described. Follow the procedure below to configure various functions and parameters. Refer to the description in a corresponding reference or a corresponding description in the Function Reference to learn the details of functions at each step.

5.1 Configuring the Site Data

This section describes the procedure to configure the site data used in the system.

Step No.	Function Name	Range Recommended Parameter		Tips and Remarks
1	Add (Button) Site Information window > "Add" button	Range: Single Site: 1 Multi-site: 1 to 30 (Local) or 1 to 48 (Regional)		- When designing a Multi-site system, the range varies depending on the Network Category setting (Local or Regional). - The configurable number of sites can be viewed in the Number of Sites information box in the System Configuration window.
		Default: ---	Recommended: ---	
2	Configure the channel data. Site Information window > Site Edit window > Channel tab > "Add" button	Range: 1 to 30		- A maximum of 30 channels can be configured for each site. - The configurable number of channels can be viewed in the Number of Channels information box in the System Configuration window.
		Default: ---	Recommended: ---	
3	Configure parameters for various functions of a channel. Site Information window > Site Edit window > Channel Edit window Valid Frequency No. Channel Type Station ID Cross-busy Input Trigger Failsoft Mode Multicast IP Address	Range: ---		
		Default: ---	Recommended: ---	

Step No.	Function Name	Range Recommended Parameter		Tips and Remarks
4	Configure parameters for various functions of a site. Site Information window > Site Edit window > General tab Valid Site Name Non-dedicated Control Channel Automatic Rollover Rollover Time Storage Location (Call Logging) Channel (Call Logging) Size (Call Logging) Remote System Standby Setup Code Cancellation Code External Trigger Power-on Standby Station ID Inhibit Adjusted Boot Timing Channel tab Channel Valid Frequency No. Channel Type Station ID Adjacency tab Adjacent Control Channels Additional Control Channels Delete Control Channels Session tab Session Table Route Table	Range: ---		
		Default: ---	Recommended: ---	
Associated Functions				

5.2 Configuring the Fleet Data

This section describes the procedure to configure the Fleet data.

Step No.	Function Name	Range Recommended Parameter		Tips and Remarks
1	Configure the site data. Refer to: 5.1 Configuring the Site Data on page 28	Range: Single Site: 1 Multi-site: 1 to 30 (Local) or 1 to 48 (Regional)	Default: ---	When designing a Multi-site system, the range varies depending on the Network Category setting (Local or Regional).
			Recommended: ---	
2	Add (Button) Fleet Information window > "Add" button	Range: 1 to 5000	Default: ---	A maximum of 5000 Fleets can be configured for the system. However, the maximum number of Fleets that can be configured in one site varies depending on the configuration in the Network Memory Allocation dialog box. (Refer to: 6.10 Network Memory Allocation Dialog Box on page 51)
			Recommended: ---	
3	Configure parameters for various functions of a Fleet. Fleet Information window > Fleet Edit window > General tab Valid Fleet Name Home Site Common Class of Service (GID) Range of GID Common Class of Service (UID) Range of UID Customer tab Customer Name Address Customer Phone	Range: ---	Default: ---	
			Recommended: ---	
Associated Functions				

5.3 Configuring the GID Data

This section describes the procedure to configure the GID (Group ID) data.

Step No.	Function Name	Range Recommended Parameter		Tips and Remarks
1	Configure the site data. Refer to: 5.1 Configuring the Site Data on page 28	Range: Single Site: 1 Multi-site: 1 to 30 (Local) or 1 to 48 (Regional)	Default: --- Recommended: ---	When designing a Multi-site system, the range varies depending on the Network Category setting (Local or Regional).
2	Configure the Fleet data. Refer to: 5.2 Configuring the Fleet Data on page 30	Range: 1 to 5000	Default: --- Recommended: ---	
3	Fleet GID Information window > Fleet dropdown list	Range: 1 to 5000 (Fleet numbers configured in the system)	Default: The lowest Fleet number configured in the system or The Fleet number selected in the Fleet Edit window Recommended: ---	
4	Add (Button) GID Information window > "Add" button	Range: 1 to 60000	Default: --- Recommended: ---	A maximum of 3000 GIDs can be configured for a single site. A maximum of 60000 GIDs can be configured for the system. However, the maximum number of GIDs that can be configured for a single site varies depending on the configuration in the Network Memory Allocation dialog box. (Refer to: 6.10 Network Memory Allocation Dialog Box on page 51)
5	Configure parameters for various functions of a GID. GID Information window > GID Edit window > GID Valid GID Name GID Class of Service Associated GID	Range: ---	Default: --- Recommended: ---	
Associated Functions				

5.4 Configuring the UID Data

This section describes the procedure to configure the UID (Unit ID) data.

Step No.	Function Name	Range Recommended Parameter		Tips and Remarks
1	Configure the site data. Refer to: 5.1 Configuring the Site Data on page 28	Range: Single Site: 1 Multi-site: 1 to 30 (Local) or 1 to 48 (Regional)		When designing a Multi-site system, the range varies depending on the Network Category setting (Local or Regional).
		Default: ---	Recommended: ---	
2	Configure the Fleet data. Refer to: 5.2 Configuring the Fleet Data on page 30	Range: 1 to 5000		
		Default: ---	Recommended: ---	
3	Fleet UID Information window > Fleet dropdown list	Range: 1 to 5000 (Fleet numbers configured in the system)		
		Default: The lowest Fleet number configured in the system or The Fleet number selected in the Fleet Edit window	Recommended: ---	
4	Add (Button) UID Information window > “Add” button	Range: 1 to 60000		A maximum of 3000 UIDs can be configured for a single site. A maximum of 60000 UIDs can be configured for the system. However, the maximum number of UIDs that can be configured for a single site varies depending on the configuration in the Network Memory Allocation dialog box. (Refer to: 6.10 Network Memory Allocation Dialog Box on page 51)
		Default: ---	Recommended: ---	
5	Configure parameters for various functions of a UID. UID Information window > UID Edit window > UID Valid UID Name UID Class of Service NXDN ESN	Range: ---		
		Default: ---	Recommended: ---	
Associated Functions				

5.5 Configuring the IP Console Data

This section describes the procedure to configure the IP Console. The IP Console is an external device that can be used on the IP Network Interface. Connecting an IP Console to the NXDN Trunking System enables the IP Console to be connected to a subscriber unit. (Refer to 21.17 IP Console in the FUNC Reference.)

Step No.	Function Name	Range Recommended Parameter		Tips and Remarks
1	Configure the site data. Refer to: 5.1 Configuring the Site Data on page 28	Range: Single Site: 1 Multi-site: 1 to 30 (Local) or 1 to 48 (Regional)		When designing a Multi-site system, the range varies depending on the Network Category setting (Local or Regional).
		Default: ---	Recommended: ---	
2	Site Console Information window > Site dropdown list	Range: Local: 1: Site Name to 30: Site Name Regional: 1: Site Name to 48: Site Name		When designing a Multi-site system, the range varies depending on the Network Category setting (Local or Regional).
		Default: The lowest site number	Recommended: ---	
3	Configure the Fleet data. Refer to: 5.3 Configuring the GID Data on page 31	Range: 1 to 5000		
		Default: ---	Recommended: ---	
4	Add (Button) Console Information window > "Add" button	Range: 1 to 10		
		Default: ---	Recommended: ---	
5	Configure parameters for various functions of an IP Console. Console Information window > Console Edit window > UID Valid UID Name UID Class of Service Talkpath	Range: ---		
		Default: ---	Recommended: ---	
6	IP Console System Configuration window > IP Console tab > IP Console checkbox	Range: Check, Uncheck		
		Default: Unchecked	Recommended: Check	
Associated Functions				

5.6 Configuring the Telephone Interconnect Data

This section describes the procedure to configure the Telephone Interconnect. Connecting an Interconnect Adapter (KTI-4) to the NXDN Trunking System network enables the NXDN Trunking System to be interconnected to a telephone line to allow the communications between a subscriber unit and telephone. The KTI-4 is an optional external device capable of the Telephone Interconnect. (Refer to 21.21 Telephone Interconnect in the FUNC Reference.)

Step No.	Function Name	Range Recommended Parameter		Tips and Remarks
1	Configure the site data. Refer to: 5.1 Configuring the Site Data on page 28	Range: Single Site: 1 Multi-site: 1 to 30 (Local) or 1 to 48 (Regional)		When designing a Multi-site system, the range varies depending on the Network Category setting (Local or Regional).
		Default: ---	Recommended: ---	
2	Site Console Information window > Site dropdown list	Range: Local: 1: Site Name to 30: Site Name Regional: 1: Site Name to 48: Site Name		When designing a Multi-site system, the range varies depending on the Network Category setting (Local or Regional).
		Default: The lowest site number	Recommended: ---	
3	Configure the Fleet data. Refer to: 5.3 Configuring the GID Data on page 31	Range: 1 to 5000		
		Default: ---	Recommended: ---	
4	Add (Button) Telephone Line Information window > "Add" button	Range: 1 to 6		
		Default: ---	Recommended: ---	
5	GID Class of Service: Incoming Call from Telephone Line Class of Service Information window > GID Class of Service Edit window > Telephone tab UID Class of Service: Incoming Call from Telephone Line Outgoing Call to Telephone Line Class of Service Information window > UID Class of Service Edit window > Telephone tab All Groups Call: Incoming Call from Telephone Line Class of Service Information window > All Groups Call window > Telephone tab	Range: Check, Uncheck		
		Default: Unchecked	Recommended: Check	
6	Configure parameters for various functions of the Telephone Interconnect. System Configuration window > Speed Dial tab Speed Dial (Refer to: 5.7.7 Speed Dial on page 39) System Configuration window > Call Restriction tab Call Restriction (Refer to: 5.7.8 Call Restriction on page 39) Class of Service Information window > UID Class of Service Edit window > Telephone tab Call Restriction Table Number Class of Service Information window > Other tab > Telephone Call window Time-out Timer	Range: ---		
		Default: ---	Recommended: ---	
Associated Functions				

5.7 Configuring the System Behavior

This section explains the configuration procedures for the following functions regarding the system behavior for communications such as the method to control a call request and a registration request from a subscriber unit, various timers, and the method to control a control channel and a traffic channel.

- Queue
- Hold Timer, Occupation Timer
- Cross-busy
- Group Registration
- NXDN ESN Validation
- Multicast Group Call
- Speed Dial
- Call Restriction

5.7.1 Queue

A field engineer can configure how the system responds upon receipt of a new call request from a subscriber unit; however, all traffic channels are busy. (Refer to: [7.1.3 Queue Tab on page 54](#))

Step No.	Function Name	Range Recommended Parameter		Tips and Remarks
1	Queue (Emergency Call, Level 2 to Level 8) System Configuration window > Queue tab > Emergency Call dropdown list Level 2 to Level 8 dropdown list	Range: None, Queue, Preemption		
		Default: None	Recommended: ---	
2	Number of Queues System Configuration window > Queue tab > Number of Queues edit box	Range: 1 to 15		
		Default: 3	Recommended: ---	
Associated Functions				

5.7.2 Hold Timer, Occupation Timer

A field engineer can configure various timers to control the connection between a subscriber unit and the system.
(Refer to: 7.1.4 Timers Tab on page 55)

Step No.	Function Name	Range Recommended Parameter		Tips and Remarks
1	Trunking Type System Configuration window > Timers tab > Trunking Type dropdown list	Range: Transmission Trunked, Message Trunked, Message Trunked (Enhanced)		
		Default: Transmission Trunked	Recommended: ---	
2	Hold Timer System Configuration window > Timers tab > Hold Timer edit box	Range: 0 sec to 10 sec		- The default values for Hold Timer other than Telephone Call vary depending on the configuration in the Trunking Type dropdown list. - If “Transmission Trunked” is selected from the Trunking Type dropdown list, “0” is automatically configured and the configuration cannot be changed. - Configure the Hold Timer for each call respectively.
		Default: Telephone Call: 30 sec Other than Telephone Call: Transmission Trunked: 0 sec Message Trunked: 5 sec Message Trunked (Enhanced): 5 sec	Recommended: ---	
3	Occupation Timer System Configuration window > Timers tab > Occupation Timer edit box	Range: 15 sec to 1200 sec		Configure the Occupation Timer for each call respectively.
		Default: Telephone Call: 600 sec Other than Telephone Call: 60 sec	Recommended: ---	
Associated Functions				

5.7.3 Cross-busy

A field engineer can configure to avoid interfering with and being interfered with by other parties if the same transmit frequency is used among the systems. (Refer to: 7.1.5 Optional Tab on page 60)

Step No.	Function Name	Range Recommended Parameter		Tips and Remarks
1	Cross-busy System Configuration window > Optional tab > Cross-busy frame > Cross-busy checkbox	Range: Check, Uncheck		
		Default: Unchecked	Recommended: Check	
2	Traffic Channel Release Delay Timer System Configuration window > Optional tab > Cross-busy frame > Traffic Channel Release Delay Timer edit box	Range: 0 sec to 10.0 sec		
		Default: 0 sec	Recommended: ---	
3	Control Channel Burst System Configuration window > Optional tab > Cross-busy frame > Control Channel Burst checkbox	Range: Check, Uncheck		To enable the intermittent behavior of a control channel, this function needs to be enabled before proceeding to the next step.
		Default: Unchecked	Recommended: Check	
4	Control Channel Active Timer System Configuration window > Optional tab > Cross-busy frame > Control Channel Active Timer edit box	Range: 5 sec to 600 sec		
		Default: 10 sec	Recommended: ---	
5	Control Channel Wait Timer System Configuration window > Optional tab > Cross-busy frame > Control Channel Wait Timer edit box	Range: 1 slot to 60 slots		
		Default: 10 slots	Recommended: ---	
Associated Functions				

5.7.4 Group Registration

A field engineer can configure to enable the registration of the Group ID of a subscriber unit to the system. (Refer to: 7.1.5 Optional Tab on page 60)

Step No.	Function Name	Range Recommended Parameter		Tips and Remarks
1	Group Registration System Configuration window > Optional tab > Registration frame > Group Registration checkbox	Range: Check, Uncheck		
		Default: Unchecked	Recommended: Check	
2	Group Registration Reset Time System Configuration window > Optional tab > Registration frame > Group Registration Reset Time edit box	Range: Off, 1 h to 254 h		
		Default: 12 h	Recommended: ---	
Associated Functions				

5.7.5 NXDN ESN Validation

A field engineer can configure to enable the ESN validation for a subscriber unit when the system receives an access request from a subscriber unit. (Refer to: 7.1.5 Optional Tab on page 60)

Step No.	Function Name	Range Recommended Parameter		Tips and Remarks
1	NXDN ESN Validation System Configuration window > Optional tab > Registration frame > NXDN ESN Validation checkbox	Range: Check, Uncheck		
		Default: Unchecked	Recommended: Check	
2	NXDN ESN Validation Reset Time System Configuration window > Optional tab > Registration frame > NXDN ESN Validation Reset Time edit box	Range: Off, 0 to 23		
		Default: 0	Recommended: ---	
3	Manufacturer Limitation System Configuration window > Optional tab > Registration frame > Manufacturer Limitation checkbox	Range: Check, Uncheck		
		Default: Unchecked	Recommended: Check	
4	Manufacturer Code (1 to 8) System Configuration window > Optional tab > Registration frame > Manufacturer Code frame > Manufacturer Code edit box (1 to 8)	Range: A maximum of 2 alphanumeric characters		
		Default: Manufacturer Code 1: 68 Manufacturer Code 2 to Manufacturer Code 8: Blank	Recommended: ---	
Associated Functions				

5.7.6 Multicast Group Call

A field engineer can configure to send audio packet data for Intersite Group Call in a Multicast method. (Refer to: 7.1.6 Network Tab on page 65)

Step No.	Function Name	Range Recommended Parameter		Tips and Remarks
1	Multicast Group Call System Configuration window > Network tab > Multicast frame > Multicast Group Call checkbox	Range: Check, Uncheck		
		Default: Unchecked	Recommended: Check	
2	Maximum Number of Group Calls System Configuration window > Network tab > Multicast frame > Maximum Number of Group Calls edit box	Range: Unlimited, 1 to 696		
		Default: Unlimited	Recommended: ---	
Associated Functions				

5.7.7 Speed Dial

In a communications system using Telephone Interconnect, Speed Dial is a function that enables a subscriber unit to make a call to the preconfigured telephone numbers in the system by entering a speed dial number. A field engineer can configure telephone numbers corresponding to the speed dial numbers. (Refer to: 7.1.8 Speed Dial Tab on page 67)

Step No.	Function Name	Range Recommended Parameter		Tips and Remarks
1	Configuring the Telephone Interconnect Data Refer to: 5.6 Configuring the Telephone Interconnect Data on page 34	Range: ---		
		Default: ---	Recommended: ---	
2	Phone number System Configuration window > Speed Dial tab > Phone number edit box	Range: A maximum of 32 alphanumeric characters and symbols		
		Default: Blank	Recommended: ---	
Associated Functions				

5.7.8 Call Restriction

A field engineer can configure parameters for various functions to restrict a call to a telephone number from a subscriber unit using Telephone Interconnect. (Refer to: 7.1.9 Call Restriction Tab on page 67)

Step No.	Function Name	Range Recommended Parameter		Tips and Remarks
1	Call Restriction Table Number System Configuration window > Call Restriction tab > Call Restriction Table Number dropdown list	Range: 1 to 16		
		Default: 1	Recommended: ---	
2	Minimum Number of Digits System Configuration window > Call Restriction tab > Call Restriction Table frame > Minimum Number of Digits edit box	Range: 1 to 18		
		Default: 1	Recommended: ---	
3	Maximum Number of Digits System Configuration window > Call Restriction tab > Call Restriction Table frame > Maximum Number of Digits edit box	Range: 1 to 18		
		Default: 18	Recommended: ---	
4	Telephone Number System Configuration window > Call Restriction tab > Call Restriction Table frame > Telephone Number edit box	Range: A maximum of 18 alphanumeric characters and symbols		
		Default: Blank	Recommended: ---	
5	Valid System Configuration window > Call Restriction tab > Call Restriction Table frame > Valid checkbox	Range: Check, Uncheck		
		Default: Unchecked	Recommended: Check	
Associated Functions				

5.8 Configuring the GID Class of Service

This section explains the procedures for configuring the GID (Group ID) Class of Service and assign the configured Service Class to a GID.

Step No.	Function Name	Range Recommended Parameter		Tips and Remarks
1	Class Class of Service Information window > GID tab > GID Class of Service Edit window > Class edit box	Range: 1 to 127		
		Default: The Service Class that is selected in the GID tab in the Class of Service Information window	Recommended: ---	
2	Valid Class of Service Information window > GID tab > GID Class of Service Edit window > General tab > Valid checkbox	Range: Check, Uncheck		
		Default: Unchecked	Recommended: Check	
3	Configure parameters for various functions in each tab in the GID Class of Service Edit window. General tab Class Name Comment Late Entry Priority Monitor Time-out Timer Call Type tab Voice Call Status Call Short Data Call Long Data Call Intersite tab Intersite Call Busy System Wait Group Refusal Valid Dynamic Allocation	Range: ---		
		Default: ---	Recommended: ---	
4	Configuring the GID Data Refer to: 5.3 Configuring the GID Data on page 31	Range: 1 to 60000		
		Default: ---	Recommended: ---	
5	GID Class of Service GID Information window > GID Edit window > GID Class of Service dropdown list	Range: Common, 1 : Class Name to 127 : Class Name		
		Default: Common	Recommended: ---	
Associated Functions				

5.9 Configuring the UID Class of Service

This section explains the procedures for configuring the UID (Unit ID) Class of Service and assign the configured Service Class to a UID.

Step No.	Function Name	Range Recommended Parameter		Tips and Remarks
1	Class Class of Service Information window > UID tab > UID Class of Service Edit window > Class edit box	Range: 1 to 127		
		Default: The Service Class that is selected in the UID tab in the Class of Service Information window	Recommended: ---	
2	Valid Class of Service Information window > UID tab > UID Class of Service Edit window > General tab > Valid checkbox	Range: Check, Uncheck		
		Default: Unchecked	Recommended: Check	
3	Configure parameters for various functions in each tab in the UID Class of Service Edit window. General tab Valid Class Name Comment Late Entry Priority Monitor Time-out Timer Call Type tab Voice Call Status Call Short Data Call Long Data Call Intersite tab Intersite Call Intersite Voice Call Intersite Data Call Busy System Wait Group Refusal Valid Dynamic Allocation Telephone tab Incoming Call from Telephone Line	Range: ---		
		Default: ---	Recommended: ---	
4	Configuring the UID Data Refer to: 5.4 Configuring the UID Data on page 32	Range: 1 to 60000		
		Default: ---	Recommended: ---	
5	UID Class of Service UID Information window > UID Edit window > UID Class of Service dropdown list	Range: Common, 1 : Class Name to 127 : Class Name		
		Default: Common	Recommended: ---	
Associated Functions				

6 FILE MENU

6.1 New

Selecting “New” from the File pulldown menu allows a field engineer to newly create a configuration data file. All configuration data can be cleared from an active file, the configuration data is substituted by default values, and the new data can be edited.

The default file name for a new file is “kpg110sm.smx”.

Follow the procedure below.

1. Select “New” from the File pulldown menu.

A warning message box appears.

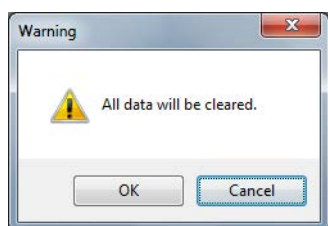


Figure 6-1 File New Warning Message Box

2. Click the “OK” button.

The Network Memory Allocation dialog box opens.

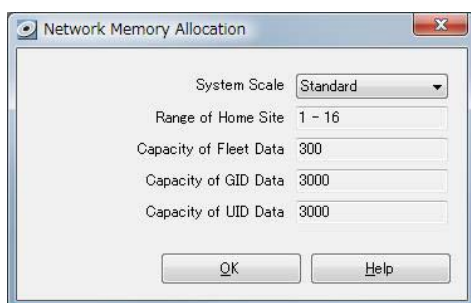


Figure 6-2 Network Memory Allocation Dialog Box

Note:

- ◆ If there is any data being edited and not yet stored, a confirmation message box prompting you to store the edited configuration data appears.

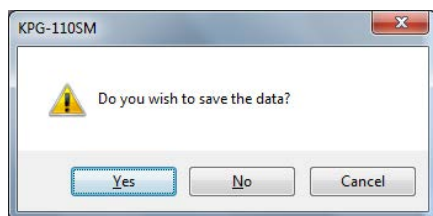


Figure 6-3 File New Confirmation Message Box

Either clicking “Yes” button to store the data, or clicking the “No” button opens the Network Memory Allocation dialog box. However, clicking “No” does not store the data being edited. Clicking “Cancel” button closes the message box and a new data file cannot be created.

If the data being edited includes a site with the network disabled, a confirmation message box prompting you to delete the site appears. Clicking the “OK” button opens the message box in Figure 6-3.

3. Select “Standard” or “Intermediate” or “Large” from the System Scale dropdown list, and then click the “OK” button.

These options show the site or ID scale used in the system. ([Refer to: 6.10 Network Memory Allocation Dialog Box on page 51](#))

6.2 Open

Selecting “All Data” or “Data without Network Information” or “Network Data” from “Open” on the File pulldown menu allows a field engineer to open one of the following configuration data files saved on a hard disk or an external storage device.

Table 6-1 Configuration Data File

Type	Description
All Data	The All Data file is a data file containing the configuration data for channels, IDs and parameters determining the system behaviors, and also, the network configuration information such as the IP address used when a repeater communicates with the other repeater. The extension of an All Data file is “.smx”.
Data without Network Data	The Data without Network Data file is a data file containing the configuration data for channels, IDs and parameters determining the system behaviors. The extension of a Data without Network Data file is “.smx”.
Network Data	The Network Data file is a data file containing the network configuration information such as the IP address used when a repeater communicates with the other repeater. The extension of a Network Data file is “.ndx”.

Follow the procedure below.

1. Select “All Data” or “Data without Network Information” or “Network Data” from “Open” on the File pulldown menu.

The Open dialog box opens.

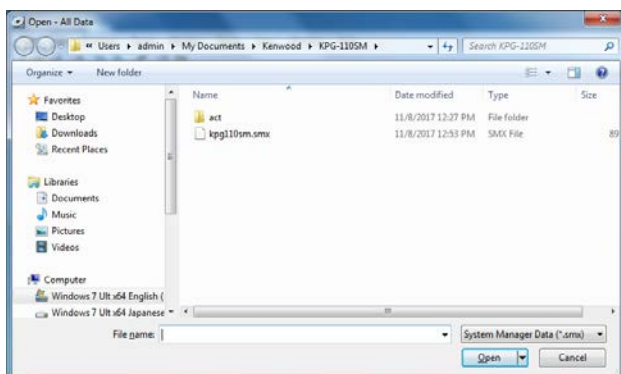


Figure 6-4 File Open Dialog Box

2. Select the configuration data file to be opened.
3. Click the “Open” button.

The configured data in the file selected in step 2 are read by KPG-110SM.

An error message box appears if a file having a different data format from those corresponded by KPG-110SM is selected.

Note:

- ◆ If Restricted User is configured in the file selected in step 2 (except Network Data), clicking the “Open” button opens the **Login** dialog box. (Refer to: 11.4.1 Login on page 202)

6.3 Save

Selecting “All Data” or “Network Data” from “Save” on the File pulldown menu allows a field engineer to save the edited configuration data on a hard disk or an external storage device. (Refer to: Table 6-1 Configuration Data File on page 42)

Follow the procedure below.

1. Select “All Data” or “Network Data” from “Save” on the File pulldown menu.

The configuration data is stored as a new file.

A warning message box appears if a file with the same name exists in the target folder.

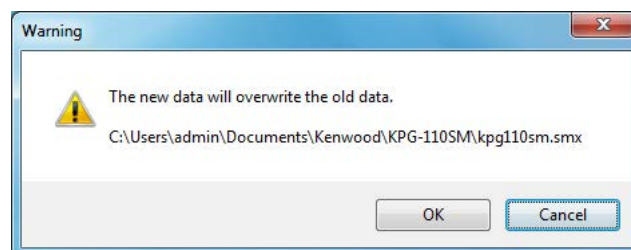


Figure 6-5 File Save Warning Message Box

2. Do one of the following operations.
 - Click the “OK” button.
The existing configuration data file is overwritten.
 - Click the “Cancel” button.
The save operation is aborted. The existing configuration data file cannot be overwritten.

6.4 Save As

Selecting “All Data” or “Network Data” from “Save As” on the File pulldown menu allows a field engineer to save the edited configuration data on a hard disk or external storage device with a different file name.

(Refer to: [Table 6-1 Configuration Data File on page 42](#))

Follow the procedure below.

1. Select “All Data” or “Network Data” from “Save As” on the File pulldown menu.

The Save As dialog box opens.

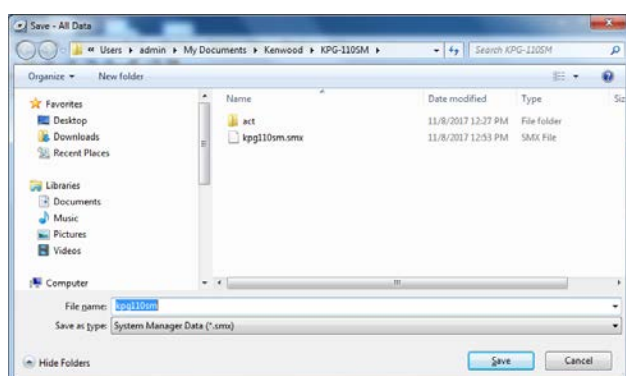


Figure 6-6 Save As Dialog Box

2. Enter a file name in the File name edit box and then click the “Save” button.

The configuration data is stored with the entered file name.

A warning message box appears if a file with the same file name already exists in the target folder.

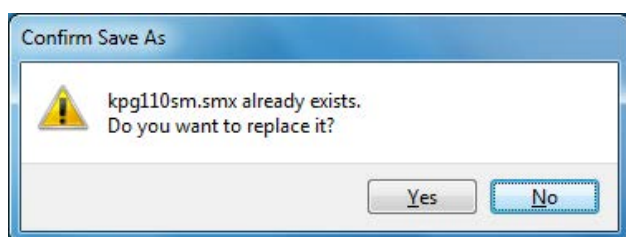


Figure 6-7 Save As Warning Message Box

3. Do one of the following operations.

- Click the “Yes” button.

The existing configuration data file is overwritten.

- Click the “No” button.

The save operation is aborted. The existing configuration data file cannot be overwritten.

6.5 Import

Import allows a field engineer to import the configuration data (file extension: .itm), that is created for the site or ID using the Export function into KPG-110SM. (Refer to: [6.6 Export on page 47](#))

Upon importing the configuration data for the site or ID, each data for the site or ID is imported into the configuration data in KPG-110SM.

Diverting the configuration data by use of the Export and Import functions reduces the workload for configuring data and also simplifies the site construction.

6.5.1 Importing Site Data

Selecting “Import” > “Site” from the File pulldown menu allows a field engineer to import a site configuration data (file extension: .itm) created using the Export function into KPG-110SM. The site configuration data to be imported contains data for Site Information, Class of Service Information, Fleet Information, GID Information and UID Information.

Follow the procedure below.

1. Select “Import” > “Site” from the File pulldown menu.

The Open dialog box opens.

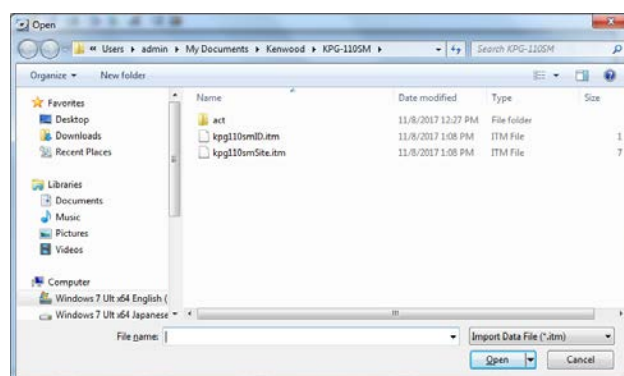


Figure 6-8 Open Dialog Box

2. Select the configuration data file to be imported, and then click the “Open” button.

The confirmation message box appears. If there are individual parameters configured for the same configuration items in the configuration data to be imported for a site and the configuration data in KPG-110SM, whether parameters of the configuration data in KPG-110SM are overwritten by parameters of the configuration data to be imported for a site can be determined in this message box.

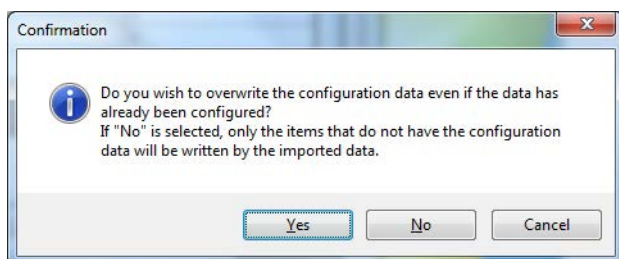


Figure 6-9 Confirmation Message Box

3. Do one of the following operations.

- Click the "Yes" button.

KPG-110SM starts importing the configuration data. If there are individual parameters configured for the same configuration items in the configuration data to be imported for a site and the configuration data in KPG-110SM, parameters of the configuration data in KPG-110SM are overwritten by parameters of the configuration data to be imported for a site.

- Click the "No" button.

KPG-110SM starts importing the configuration data. In the case that there are individual parameters configured for the same configuration items in the configuration data to be imported for a site and the configuration data in KPG-110SM, parameters of the configuration data in KPG-110SM are not overwritten by parameters of the configuration data to be imported for a site. Parameters for corresponding configuration items in KPG-110SM are not overwritten.

- Click the "Cancel" button.

KPG-110SM aborts importing the configuration data.

If the data contained in the configuration data for a site to be imported cannot be transferred to KPG-110SM, the Import Result dialog box opens. A list of the data that cannot be transferred to KPG-110SM appears in the Import Result dialog box.

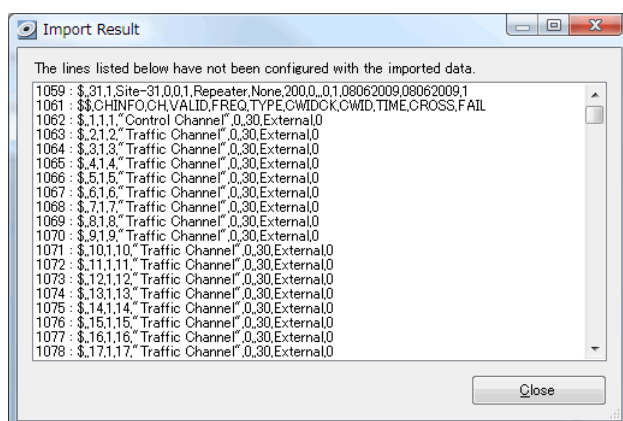


Figure 6-10 Import Result Dialog Box

Note:

- Only configuration data for a site created using the Export function can be imported. (Refer to: 6.6.1 Exporting Site Data on page 47)
- Only the data configured within the range of each function in KPG-110SM can be imported.
- An error message box appears if a file to be read does not correspond to the Import function.
- A warning message box appears if the data to be imported has a different configuration for language. If the data import is continued, data that is dependent on the language configuration may not be properly imported.
- The information that appears in the **Import Result** dialog box is automatically stored in the following folder as a log file: My Documents\Kenwood\KPG-110SM\log

6.5.2 Importing ID Data

Selecting "Import" > "ID" from the File pulldown menu allows a field engineer to import the ID configuration data (file extension: .itm) created by use of the Export function into KPG-110SM. The ID configuration data to be imported contains data for GID Information and UID Information.

To import the configuration data for an ID, configuration data for Site Information, Class of Service Information and Fleet Information must be preconfigured in KPG-110SM.

Follow the procedure below.

- Select "Import" > "ID" from the File pulldown menu.

The Open dialog box opens.

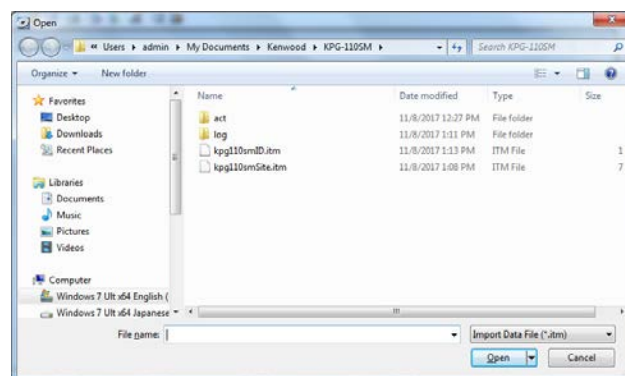


Figure 6-11 Open Dialog Box

2. Select the configuration data file to be imported, and then click the “Open” button.

The confirmation message box appears. If there are individual parameters configured for the same configuration items in the configuration data to be imported for an ID and the configuration data in KPG-110SM, whether parameters of the configuration data in KPG-110SM are overwritten by parameters of the configuration data to be imported for an ID can be determined in this message box.

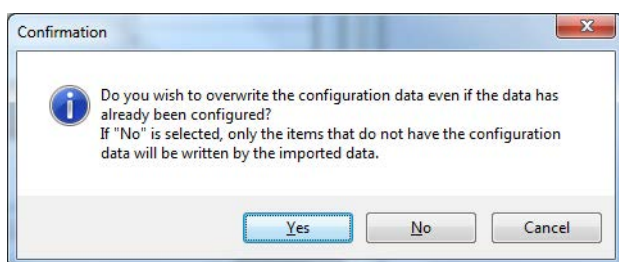


Figure 6-12 Confirmation Message Box

3. Do one of the following operations.

- Click the “Yes” button.

KPG-110SM starts importing the configuration data. If there are individual parameters configured for the same configuration items in the configuration data to be imported for an ID and the configuration data in KPG-110SM, parameters of the configuration data in KPG-110SM are overwritten by parameters of the configuration data to be imported for an ID.

- Click the “No” button.

KPG-110SM starts importing the configuration data. If there are individual parameters configured for the same configuration items in the configuration data to be imported for an ID and the configuration data in KPG-110SM, parameters of the configuration data in KPG-110SM are not overwritten by parameters of the configuration data to be imported for an ID. Parameters for corresponding configuration items in KPG-110SM are not overwritten.

- Click the “Cancel” button.

KPG-110SM aborts importing the configuration data.

If data contained in the configuration data for an ID to be imported cannot be transferred to KPG-110SM, the Import Result dialog box opens. A list of the data that cannot be transferred to KPG-110SM appears in the Import Result dialog box.

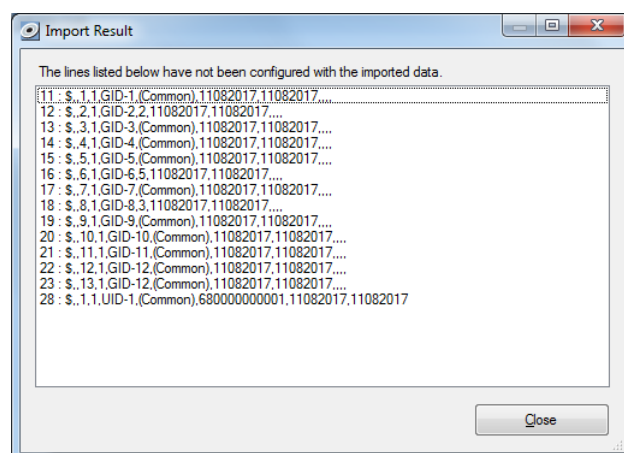


Figure 6-13 Import Result Dialog Box

Note:

- ◆ Only configuration data for an ID created using the Export function can be imported. (Refer to: 6.6.2 Exporting ID Data on page 47)
- ◆ Only the data configured within the range of each function in KPG-110SM can be imported.
- ◆ An error message box appears if a file to be read does not correspond to the Import function.
- ◆ A warning message box appears if the data to be imported has a different configuration for language. If the data import is continued, data that is dependent on the language configuration may not be properly imported.
- ◆ The information that appears in the **Import Result** dialog box is automatically stored in the following folder as a log file: My Documents\Kenwood\KPG-110SM\log

6.6 Export

Export allows a field engineer to export the site and ID data configured using KPG-110SM and store the exported data with a file name on a hard disk or other external storage devices.

A field engineer can open the exported configuration data for a site or ID using application software that is capable of text edit, revise and save the configuration data, and import the configuration data to KPG-110SM. (Refer to: 6.5 Import on page 44)

Diverting the configuration data by use of the Export and Import functions reduces the workload for configuring data and also simplifies the site construction.

Note:

- ◆ If the configuration data is edited using application software, the configuration data must be changed by referring to the available range for the corresponding function in 7 EDIT MENU on page 52.

6.6.1 Exporting Site Data

Selecting “Export” > “Site” from the File pulldown menu allows a field engineer to export the site data configured using KPG-110SM, and then store the exported data with a file name on a hard disk or other external storage devices. The site configuration data created by use of this function contains configuration data for Site Information, Class of Service Information, Fleet Information, GID Information and UID Information.

Follow the procedure below.

1. Select “Export” > “Site” from the File pulldown menu.

The Save As dialog box opens.

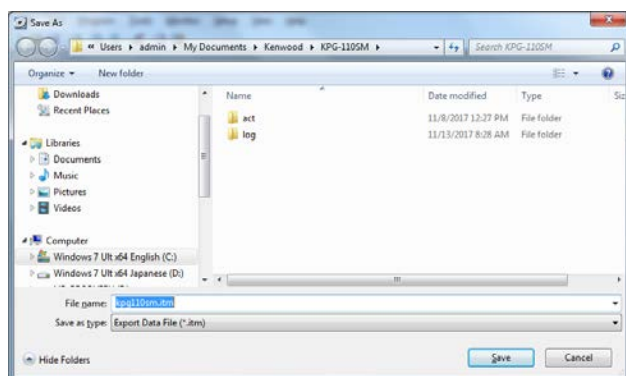


Figure 6-14 Save As Dialog Box

2. Select the destination folder, and then enter a file name in the File name edit box (file extension: .itm).
3. Click the “Save” button.

The configuration data for a site is exported and stored in the selected folder.

A warning message box appears if a file with the same file name already exists in the target folder. Click the “Yes” button to overwrite the file. Click the “No” button to quit exporting the configuration data. In this case, the existing configuration data file cannot be overwritten.

6.6.2 Exporting ID Data

Selecting “Export” > “ID” from the File pulldown menu allows a field engineer to export the ID data configured by use of KPG-110SM, and then store the exported data with a file name on a hard disk or other external storage devices. The ID configuration data created by use of this function contains the data for GID Information and UID Information.

Follow the procedure below.

1. Select “Export” > “ID” from the File pulldown menu.

The Save As dialog box opens.

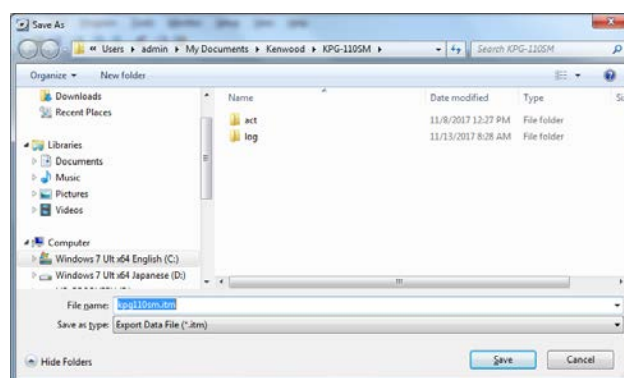


Figure 6-15 Save As Dialog Box

2. Select the destination folder, and then enter a file name in the File name edit box (file extension: .itm).
3. Click the “Save” button.

The configuration data for an ID is exported and stored in the selected folder.

A warning message box appears if a file with the same file name already exists in the target folder. Click the “Yes” button to overwrite the file. Click the “No” button to quit exporting the configuration data. In this case, the existing configuration data file cannot be overwritten.

6.7 Print

A field engineer can print out the configuration data by selecting “Print” from the File pulldown menu.

Follow the procedure below.

1. Select “Print” from the File pulldown menu.

The Printout List dialog box opens, and then configuration items for KPG-110SM appear.

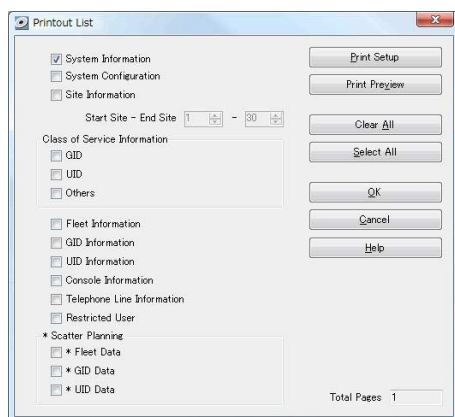


Figure 6-16 Printout List Dialog Box

2. Click on the checkbox to enable the desired configuration data to be printed out.

Note:

- ◆ The **Start Site - End Site** edit box can be configured if Site Information is enabled by clicking on the **Site Information** checkbox.

3. Click the “OK” button.

The Kenwood KPG-110SM Repeater Programming Information is printed out. (Refer to: 6.8 Print Preview on page 50)

6.7.1 Printout List Item

■ System Information

Printing out the configured values in the System Configuration window > System Information frame can be enabled or disabled. (Refer to: 7.1 System Configuration Window on page 52)

Range	Check (Enable)	Enables the capability to print out the parameters.
	Uncheck (Disable)	Disables the capability to print out the parameters.
Default	Checked (Enabled)	

■ System Configuration

Printing out the configured values in the System Configuration window can be enabled or disabled. (Refer to: 7.1 System Configuration Window on page 52)

Range	Check (Enable)	Enables the capability to print out the parameters.
	Uncheck (Disable)	Disables the capability to print out the parameters.
Default	Unchecked (Disabled)	

■ Site Information

Printing out the configured values in the Site Information window can be enabled or disabled. (Refer to: 7.2 Site Information Window on page 69)

Range	Check (Enable)	Enables the capability to print out the parameters.
	Uncheck (Disable)	Disables the capability to print out the parameters.
Default	Unchecked (Disabled)	

■ Start Site - End Site

The start site and the end site can be configured if the Site Information is enabled by clicking on the Site Information checkbox.

The site number to be printed out can be selected in the range of 1 to 30 or 1 to 48.

Range	Start Site	End Site
	The range varies depending on the configuration for Network Category (Local or Regional) as follows: Local: 1 to 30 Regional: 1 to 48	
Default	1	16

Note:

- ◆ The value in the **Start Site** edit box must be lower than the value configured in the **End Site** edit box.

■ GID (Class of Service Information)

Printing out the configured values on the GID tab in the Class of Service Information window can be enabled or disabled. (Refer to: 7.7 Class of Service Information Window on page 89)

Range	Check (Enable)	Enables the capability to print out the parameters.
	Uncheck (Disable)	Disables the capability to print out the parameters.
Default	Unchecked (Disabled)	

■ UID (Class of Service Information)

Printing out the configured values on the UID tab in the Class of Service Information window can be enabled or disabled. (Refer to: 7.7 Class of Service Information Window on page 89)

Range	Check (Enable)	Enables the capability to print out the parameters.
	Uncheck (Disable)	Disables the capability to print out the parameters.
Default	Unchecked (Disabled)	

■ Others (Class of Service Information)

Printing out the configured values on the Others tab in the Class of Service Information window can be enabled or disabled. (Refer to: [7.7 Class of Service Information Window on page 89](#))

Range	Check (Enable)	Enables the capability to print out the parameters.
	Uncheck (Disable)	Disables the capability to print out the parameters.
Default	Unchecked (Disabled)	

■ Fleet Information

Printing out the configured values in the Fleet Information window can be enabled or disabled. (Refer to: [7.14 Fleet Information Window on page 113](#))

Range	Check (Enable)	Enables the capability to print out the parameters.
	Uncheck (Disable)	Disables the capability to print out the parameters.
Default	Unchecked (Disabled)	

■ GID Information

Printing out the configured values in the GID Information window can be enabled or disabled. (Refer to: [7.16 GID Information Window on page 119](#))

Range	Check (Enable)	Enables the capability to print out the parameters.
	Uncheck (Disable)	Disables the capability to print out the parameters.
Default	Unchecked (Disabled)	

■ UID Information

Printing out the configured values in the UID Information window can be enabled or disabled. (Refer to: [7.18 UID Information Window on page 122](#))

Range	Check (Enable)	Enables the capability to print out the parameters.
	Uncheck (Disable)	Disables the capability to print out the parameters.
Default	Unchecked (Disabled)	

■ Console Information

Printing out the configured values in the Console Information window can be enabled or disabled. (Refer to: [7.20 Console Information Window on page 126](#))

Range	Check (Enable)	Enables the capability to print out the parameters.
	Uncheck (Disable)	Disables the capability to print out the parameters.
Default	Unchecked (Disabled)	

■ Telephone Line Information

Printing out the configured values in the Telephone Line Information window can be enabled or disabled. (Refer to: [7.22 Telephone Line Information Window on page 129](#))

Range	Check (Enable)	Enables the capability to print out the parameters.
	Uncheck (Disable)	Disables the capability to print out the parameters.
Default	Unchecked (Disabled)	

■ Restricted User

Printing out the configured values in the Restricted User dialog box can be enabled or disabled. (Refer to: [11.4 Restricted User Dialog Box on page 201](#))

Range	Check (Enable)	Enables the capability to print out the parameters.
	Uncheck (Disable)	Disables the capability to print out the parameters.
Default	Unchecked (Disabled)	

■ Total Pages

The number of total pages to print out appears.

■ Print Setup Button

Clicking the “Print Setup” button opens the Print Setup window. The printer used for printing out the configuration data, the paper size, and the paper orientation can be configured.

■ Print Preview Button

Clicking the “Print Preview” button opens the print image of the configuration data. (Refer to: [6.8 Print Preview on page 50](#))

■ Clear All Button

Clicking the “Clear All” button clicks off all checkboxes.

■ Select All Button

Clicking the “Select All” button clicks on all checkboxes.

■ OK Button

Clicking the “OK” button results in the checked items to be printed out.

■ Cancel Button

Clicking the “Cancel” button closes the Printout List dialog box without printing any values.

■ Help Button

Clicking the “Help” button opens the KPG-110SM HTML Help window. The help topics about Print appear. (Refer to: [14 HELP MENU on page 209](#))

6.8 Print Preview

Selecting “Print Preview” from the File pulldown menu allows a field engineer to view the print image of selected items to be printed out in the Printout List dialog box.

Follow the procedure below.

1. Do one of the following operations.

- Select “Print Preview” from the **File** menu.

The **Print Preview** window opens and the print image of all items can be viewed.

- Click the “Print Preview” button in the **Printout List** dialog box. (Refer to: [6.7.1 Printout List Item on page 48](#))

The Print Preview window opens and the print image of the items selected from the Print List can be viewed.

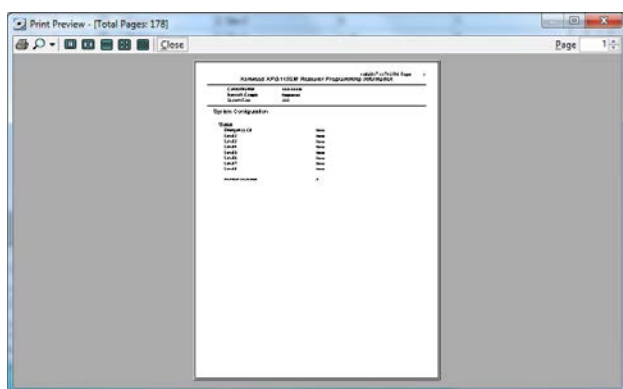


Figure 6-17 Print Preview

6.8.1 Toolbar for Print Preview

The display can be switched and moved to another page by clicking the buttons on the toolbar located at the top of the Print Preview window.

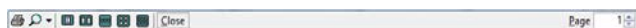


Figure 6-18 Print Preview Toolbar

■ Print Button

Clicking the “Print” button prints out parameters for all the functions checked in the Printout List dialog box. (Refer to: [6.7.1 Printout List Item on page 48](#))

■ Zoom In/ Zoom Out Button

The magnification or reduction ratio for the print image can be selected from 10 %, 25 %, 50 %, 75 %, 100 %, 150 %, 200 %, 500 % and Auto available in the dropdown list. Selecting “Auto” button or clicking the “” button results in the print image to be magnified or reduced to fit the Print Preview window.

Also, the size of the print image can be magnified or reduced in steps of 10 % by moving a mouse while pressing and holding the [Ctrl] key on the keyboard.

■ Page Reduction Button

The number of page(s) to be displayed can be selected from 1, 2, 3, 4 and 6.

■ Close Button

Clicking the “Close” button closes the Print Preview window and opens the main window or the Printout List window.

■ Page

The page to be displayed can be changed by clicking spin buttons.

Also, the page to be displayed can also be changed by moving a mouse.

6.9 Exit

Selecting “Exit” from the File pulldown menu allows a field engineer to exit KPG-110SM.

Follow the procedure below.

1. Select “Exit” from the File pulldown menu.

The confirmation message box prompting you to exit KPG-110SM appears.

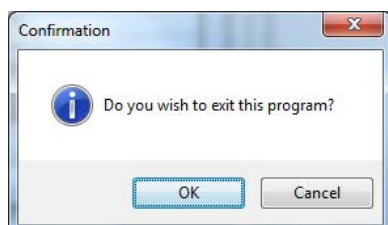


Figure 6-19 File Exit

2. Click the “OK” button.

The next action varies depending on the Auto Save/Load configuration:

- **If Auto Save/Load is Enabled:**

KPG-110SM ends after the configuration data is overwritten to the automatic save file.

- **If Auto Save/Load is Disabled:**

KPG-110SM ends if the configuration data has not been changed or has already been saved. If any configuration data has been changed, a confirmation message box prompting you to save the edited configuration data appears.

- Click the “Yes” button.

The Save As dialog box opens. ([Refer to: 6.4 Save As on page 44](#))

KPG-110SM ends after storing the configuration data.

- Click the “No” button.

KPG-110SM ends without storing the configuration data.

- Click the “Cancel” button.

The message box prompting you to save the data disappears. In this case, KPG-110SM does not end.

6.10 Network Memory Allocation Dialog Box

Selecting a site scale used in the system in the Network Memory Allocation dialog box allows a field engineer to configure the maximum number of Fleets, Group IDs and Unit IDs to be configured in one site.

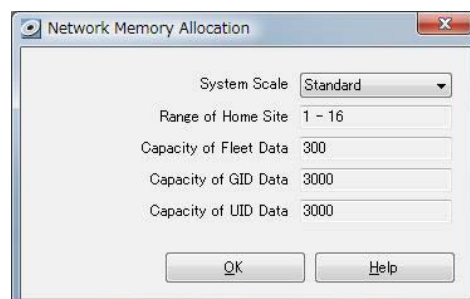


Figure 6-20 Network Memory Allocation Dialog Box

The number of sites that can be used in the system, the number of Fleets, Group IDs and Unit IDs that can be configured in one site can automatically be configured depending on the site scale (Standard or Intermediate or Large) selected from the System Scale dropdown list.

Table 6-2 Network Memory Allocation Dialog Box

Configuration Item	Range
System Scale	The range varies depending on the configuration for Network Category (Local or Regional) as follows: Local: Standard or Intermediate Regional: Standard or Intermediate or Large Standard: A maximum of 16 sites can be used for designing the system. Intermediate: A maximum of 30 sites can be used for designing the system. Large: A maximum of 48 sites can be used for designing the system.
Range of Home Site	Standard: 1-16 Intermediate: 1-30 Large: 1-48
Capacity of Fleet Data	Standard: 300 Intermediate: 150 Large: 100
Capacity of GID Data	Standard: 3000 Intermediate: 1500 Large: 1000
Capacity of UID Data	Standard: 3000 Intermediate: 1500 Large: 1000

7.1 System Configuration Window

In the System Configuration window, a field engineer can verify the system configurations and configure various behaviors of the system for transmitting or receiving.

The System Configuration window consists of the following tabs:

- **General** tab
- **Queue** tab
- **Timers** tab
- **Optional** tab
- **Network** tab
- **IP Console** tab

7.1.1 General Tab

In the General tab, system information and license information appear. System information and license information are configured and managed by KENWOOD. A field engineer cannot configure each item in the System Information and License Information frames.

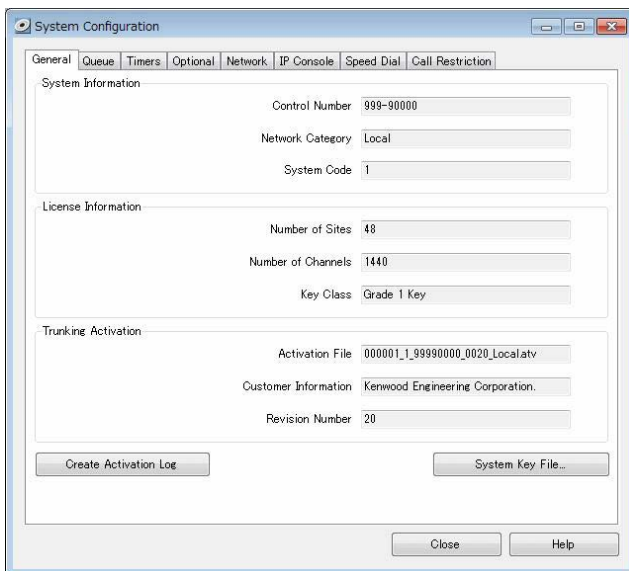


Figure 7-1 General Tab

■ Control Number

Control Number represents the Control Number (001-00001 to 999-99999) of the system.

KENWOOD administrates the systems using the Control Number.

■ Network Category

In Network Category, the Network Category of the system appears. Network Category represents the size of the network utilized by NXR-x00 or NXR-5x00.

■ System Code

System Code for the system appears in the System Code information box. System Code is a unique ID (1 to 131,070) assigned to each system.

■ Number of Sites

In Number of Sites, the upper limit value for the number of sites that can be added to the system appears. For a Multi-site system, a value between 2 and 48 appears. For a Single Site system, "Single [Site n]" appears. "n" representing the site number (1 to 48) that can be configured for a system appears.

■ Number of Channels

In Number of Channels, the upper limit value of the number of channels in the range between 1 and 480 that can be added to the system appears. Number of Channels is the total number of channels that can be configured in all sites.

■ Key Class

In Key Class, the type of USB Secure Key appears. Operation for KPG-110SM varies as below followed by the type of Key Class.

Grade 1 Key:

A field engineer can add or delete a site and a channel.

Grade 2 Key:

A field engineer cannot add or delete a site and a channel.

■ Activation File

The file name of the Activation File that is read during the startup of KPG-110SM appears in the Activation File information box. (Refer to: [11.2 Activation Folder Dialog Box on page 200](#))

■ Customer Information

The customer information stored in the Activation File that is read during the startup of KPG-110SM appears in the Customer Information information box.

■ Revision Number

The revision number stored in the Activation File that is read during the startup of KPG-110SM appears in the Revision number.

■ Create Activation Log Button

Clicking the “Create Activation Log” button creates the information about the repeater, as a log file, distinguished if the repeater fails in verifying an ESN in the writing process of the network information to a repeater.

The log file (extension: .rav) is automatically named as shown below and stored in the Activation Folder. (Refer to: 11.2 Activation Folder Dialog Box on page 200)

FILENAME_00_result.rav

File name for the Activation File Suffix

A 2-digit number from 00 to 99 is suffixed. 00 is suffixed after the suffix number reaches 99, and the log file is overwritten and stored even if the same file name has already been existent.

■ System Key File Button

Clicking the “System Key File” button opens the System Key File dialog box. (Refer to: 7.1.2 System Key File Dialog Box on this page)

7.1.2 System Key File Dialog Box

System Key File allows a field engineer to create a System Key File required for configuring each subscriber unit for use in the system. Reading the created System Key File by the FPU for subscriber units enables a field engineer to configure the system.

Follow the procedure shown below to create a System Key File.

1. Click the “System Key File” button.

The System Key File dialog box opens.

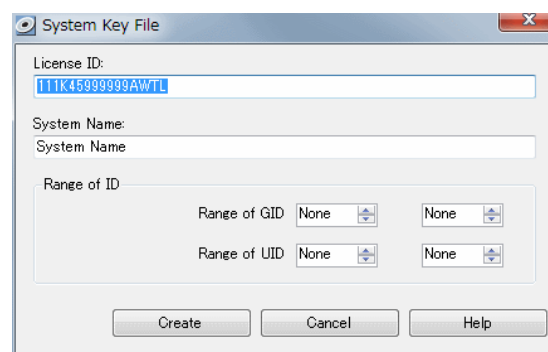


Figure 7-2 System Key File Dialog Box

2. Enter the License ID of the FPU for subscriber units in the **License ID** edit box.

A maximum of 20 characters can be entered in the edit box.

3. Enter the system name in the System Name edit box.

A system name consisting of a maximum of 16 characters can be entered.

4. Configure the GID and UID ranges available on the FPU for subscriber units in the **Range of ID** frame.

5. Click the “Create” button.

The Save As dialog box opens.

6. Select the destination to save and enter a file name (extension: .skf), and then click the “Save” button.

The System Key File is created and saved.

■ License ID

License ID allows a field engineer to enter the license ID of the FPU for subscriber units.

License ID can be configured by directly entering a text string in the edit box.

Range	A maximum of 20 alphanumeric characters and symbols
Available Characters	(space) ! " # \$ % & ' () ~ + - . / : ; < = > / @ [\] ^ _ ` { } * 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
Default	Blank

■ System Name

System Name allows a field engineer to configure a name for the system to be configured in the System Key File.

System Name can be configured by directly entering a text string in the edit box.

Range	A maximum of 16 alphanumeric characters and symbols
Available Characters	(space)! " # \$ % & ' () ~ + - , . / : ; < = > / @ [\] ^ _ ` { } * 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
Default	Blank

■ Range of GID (Range of ID)

Range of GID allows a field engineer to configure the GID range available on the FPU for subscriber units. By configuring the available GID range, the System Key File with a restriction on the GIDs available on the FPU for subscriber units can be created.

The GID range can be configured by entering the lower limit value in the edit box on the left side and entering the upper limit value in the edit box on the right side respectively.

If "None" is configured for both the upper limit and the lower limit, the GID range available on the FPU for subscriber units is not configured.

Range	None, 1 to 60000
Default	None

Note:

- ◆ The values configured in Range of GID can be used only on the FPU for subscriber units.
- ◆ Range of GID needs to be configured at the same time as configuring Range of UID.

■ Range of UID (Range of ID)

Range of UID allows a field engineer to configure the UID range available on the FPU for subscriber units. By configuring the available UID range, the System Key File with a restriction on the UIDs available on KPG-111D or KPG-D1 can be created.

The UID range can be configured by entering the lower limit value in the edit box on the left side and the upper limit value in the edit box on the right side respectively.

If "None" is configured for both the upper limit and the lower limit, the UID range available on the FPU for subscriber units is not configured.

Range	None, 1 to 60000
Default	None

Note:

- ◆ The values configured in Range of UID can be used only on the FPU for subscriber units.
- ◆ Range of UID needs to be configured at the same time as configuring Range of GID.

■ Create Button

Clicking the "Create" button creates a System Key File, and then the file name (file extension: .skf) can be entered so as to store the file in the specified destination.

Note:

- ◆ If no name is entered in the **System Name** edit box, the "Create" button is grayed out, and no System Key File can be created.

7.1.3 Queue Tab

In the Queue tab, a field engineer can configure how the system responds upon receipt of a new call request from a subscriber unit; however, all traffic channels are busy.

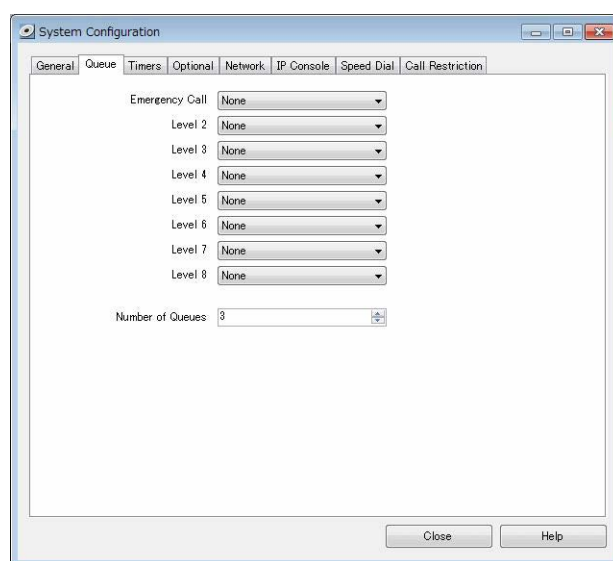


Figure 7-3 Queue Tab

■ Level

Busy Queue Mode allows a field engineer to configure how the system responds upon receipt of a new call request from a subscriber unit; however, all traffic channels in a site are busy.

Busy Queue Mode can be configured by selecting the desired option from the Emergency Call and Level 2 to Level 8 dropdown lists.

Emergency Call and Level 2 to Level 8 represent the priority sequence. Emergency Call has the highest priority and Level 8 has the lowest priority.

Range	None	If the system receives a new call request from a subscriber unit while all traffic channels in the site are busy, the system responds to the call request by sending back a System Busy status and then terminates the call.
	Queue	If the system receives a new call request from a subscriber unit while all traffic channels in the site are busy, the system changes the Busy Queue sequence corresponding to the priority of the call. The queued call is queued until the system receives a cancel request from the subscriber unit.
	Preemption ^{*1}	If the system receives a new call request from a subscriber while all traffic channels in the site are busy, the system automatically terminates the call having the lowest priority level. After the call having the lowest priority level is terminated, the call request that is configured for Preemption is assigned to a vacant channel. However, while the subscriber unit occupying the channel is transmitting, the system cannot automatically terminate the call until the call ends. The system stops counting down the hold time configured for a traffic channel and releases the channel after the subscriber unit stops transmitting.
Default	None	

^{*1} This function can be used only by a repeater having firmware version 1.10.00 or later.

Note:

- ◆ "Preemption" cannot be selected from the Level 8 dropdown list.
- ◆ If "Preemption" is selected from the Level dropdown list that is one level higher than the Level dropdown list to be configured, all options become available from the Level dropdown list to be configured.
- ◆ If "Queue" is selected from the Level dropdown list that is one level higher than the Level dropdown list to be configured, "None" or "Queue" becomes available from the Level dropdown list to be configured.
- ◆ If "None" is selected from the Level dropdown list that is one level higher than the Level dropdown list to be configured, "None" becomes the only available option from the Level dropdown list to be configured.
- ◆ If a Level is changed, the Levels with a priority level lower than the changed Level is corrected as follows:

Before Revising	After Revising	Correction Value
None	Queue	No change
None	Preemption	No change
Queue	None	None
Queue	Preemption	No change
Preemption	None	None
Preemption	Queue	For Queue: No change For Preemption: None

■ Number of Queues

Number of Queues allows a field engineer to configure the number of calls to be queued. If the number of call requests exceeds the number configured for Number of Queues, the system responds to a new call request by sending back a System Busy status, and then cancels the call. However, an Emergency Call is exempted.

Number of Queues can be configured by directly entering a value in the edit box or clicking the spin buttons.

Range	1 to 15
In steps of	1
Default	3

7.1.4 Timers Tab

In the Timers tab, a field engineer can configure various timers used by a subscriber unit to initiate a Voice Call or a Data Call in the system.

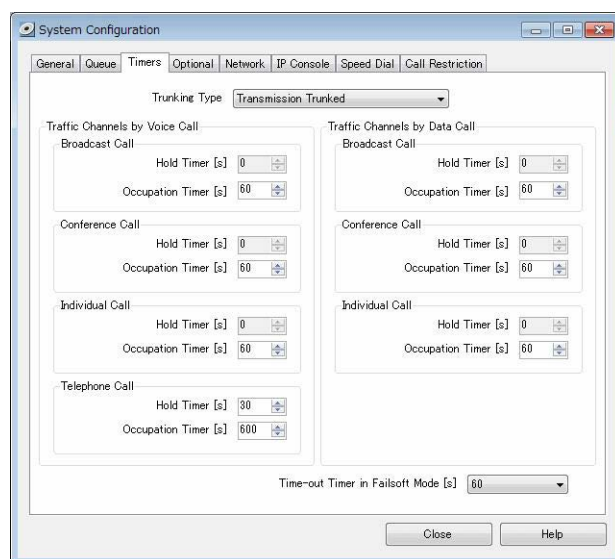


Figure 7-4 Timers Tab

■ Trunking Type

Trunking Type allows a field engineer to configure how the transmitting subscriber unit controls the link to a traffic channel after a communication is finished by a subscriber releasing the PTT switch.

Trunking Type can be configured by selecting the desired option from the dropdown list.

Range	Transmission Trunked	The traffic channel becomes available immediately after the transmitting subscriber unit finishes the communication by a subscriber releasing the PTT switch. To resume the communication, the subscriber unit establishes a link to a traffic channel again, and then the subscriber unit starts transmitting. If "Transmission Trunked" is selected, a value of "0" is automatically configured for all Hold Timers except for Telephone Call and the configuration cannot be changed.
	Message Trunked	The link to a traffic channel is retained after the transmitting subscriber unit finishes the communication by a subscriber releasing the PTT switch until the time configured for Hold Timer elapses. If the PTT switch is pressed while the link to a traffic channel is maintained, the subscriber unit can communicate without reestablishing a link. If "Message Trunked" is selected, a value of "5" is automatically configured for Hold Timers (except for Telephone Call). However, the configuration for Hold Timer can be changed.

Range	Message Trunked (Enhanced)	The link to a traffic channel is retained after the transmitting subscriber unit finishes the communication by a subscriber releasing the PTT switch until the time configured for Hold Timer elapses. If the PTT switch is pressed while the link to a traffic channel is maintained, the subscriber unit can communicate without reestablishing a link. To use this option, the system is required to receive a connection request message from the receiving subscriber unit to establish the communication by means of an Individual Call. If "Message Trunked (Enhanced)" is selected, a value of "5" is automatically configured for Hold Timers (except for Telephone Call). However, the configuration for Hold Timer can be changed.
Default	Transmission Trunked	

Note:

- ◆ "Transmission Trunked" and "Message Trunked" can be used only by a repeater having firmware version 1.10.00 or later.
- ◆ "Message Trunked (Enhanced)" can be used only by a repeater having firmware version 2.70.00 or later.
- ◆ If the configuration for Trunking Type is changed, a message box appears asking whether to adjust the parameter of Hold Timer. Clicking the "OK" button renews the configuration for Trunking Type. Clicking the "Cancel" button does not renew the configuration for Trunking Type.
- ◆ With "Message Trunked (Enhanced)" configured, the procedure to establish a communication for Individual Call differs from the procedures with other Trunking Types configured. Therefore, the communication by means of an Individual Call is unavailable for a subscriber unit without "Message Trunked (Enhanced)" configured. To use "Message Trunked (Enhanced)", "Message Trunked (Enhanced)" also needs to be configured for Trunking Type in the subscriber unit.
- ◆ If "Message Trunked (Enhanced)" is configured for Trunking Type, Individual Call Response Type (Voice) cannot be configured in the **UID Class of Service Edit** and **Secondary UID Class of Service** windows.

■ Hold Timer (Traffic Channel by Voice Call > Broadcast Call)

Hold Timer allows a field engineer to configure the time required for retaining a traffic channel from when a transmitting subscriber unit finishes a Broadcast Call by a subscriber releasing the PTT switch until the receiving subscriber unit responds.

If a value of "0" is configured for Hold Timer, a traffic channel becomes available immediately after a call is completed by a subscriber releasing the PTT switch on the transmitting subscriber unit, and then the subscriber unit reverts to a control channel.

Hold Timer can be configured by directly entering a value in the edit box or clicking the spin buttons.

Range	0 sec to 10 sec
In steps of	1 sec
Default	If Transmission Trunked is selected from the Trunking Type dropdown list: 0 sec If Message Trunked is selected from the Trunking Type dropdown list: 5 sec If Message Trunked (Enhanced) is selected from the Trunking Type dropdown list: 5 sec

Note:

- ◆ This function can be used only by a repeater having firmware version 1.10.00 or later.
- ◆ If "Transmission Trunked" is selected from the **Trunking Type** dropdown list, a value of "0" is automatically configured and the configuration cannot be changed.
- ◆ If "Message Trunked" is selected from the **Trunking Type** dropdown list, Hold Timer becomes disabled in the site with **Non-dedicated Control Channel** enabled in the **Site Edit** window > **General** tab.

■ Occupation Timer (Traffic Channel by Voice Call > Broadcast Call)

Occupation Timer allows a field engineer to configure the maximum length of communication time for a Hold Timer to retain a reciprocal call using a Broadcast Call. The system uses this timer to restrict a group call or an individual call by the same group or a caller from being held overly long.

Occupation Timer can be configured by directly entering a value in the edit box or clicking the spin buttons.

Range	15 sec to 1200 sec
In steps of	5 sec
Default	60 sec

■ Hold Timer (Traffic Channel by Voice Call > Conference Call)

Hold Timer allows a field engineer to configure the length of time from when the transmitting subscriber unit finishes a call by a subscriber releasing the PTT switch until a traffic channel for a Conference Call is no longer held in order for the receiving subscriber unit to respond.

If a value of "0" is configured for Hold Timer, a traffic channel becomes available immediately after a call is completed by a subscriber releasing the PTT switch on the transmitting subscriber unit, and then the subscriber unit reverts to a control channel.

Hold Timer can be configured by directly entering a value in the edit box or clicking the spin buttons.

Range	0 sec to 10 sec
In steps of	1 sec
Default	If Transmission Trunked is selected from the Trunking Type dropdown list: 0 sec If Message Trunked is selected from the Trunking Type dropdown list: 5 sec If Message Trunked (Enhanced) is selected from the Trunking Type dropdown list: 5 sec

Note:

- ◆ If "Transmission Trunked" is selected from the **Trunking Type** dropdown list, a value of "0" is automatically configured and the configuration cannot be changed.
- ◆ If "Message Trunked" is selected from the **Trunking Type** dropdown list, Hold Timer becomes disabled in the site with **Non-dedicated Control Channel** enabled in the **Site Edit** window > **General** tab.

■ Occupation Timer (Traffic Channel by Voice Call > Conference Call)

Occupation Timer allows a field engineer to configure the maximum length of communication time for a Hold Timer to retain a reciprocal call using a Conference Call. The system uses this timer to restrict a group call or an individual call by the same group or a caller from being held overly long.

Occupation Timer can be configured by directly entering a value in the edit box or clicking the spin buttons.

Range	15 sec to 1200 sec
In steps of	5 sec
Default	60 sec

■ Hold Timer (Traffic Channel by Voice Call > Individual Call)

Hold Timer allows a field engineer to configure the length of time from when the transmitting subscriber unit completes a call by a subscriber releasing the PTT switch until a traffic channel for an Individual Call is no longer held in order for the receiving subscriber unit to respond.

If a value of "0" is configured for Hold Timer, a traffic channel becomes available immediately after a call is completed by a subscriber releasing the PTT switch on the transmitting subscriber unit, and then the subscriber unit reverts to a control channel.

Hold Timer can be configured by directly entering a value in the edit box or clicking the spin buttons.

Range	0 sec to 10 sec
In steps of	1 sec
Default	If Transmission Trunked is selected from the Trunking Type dropdown list: 0 sec If Message Trunked is selected from the Trunking Type dropdown list: 5 sec If Message Trunked (Enhanced) is selected from the Trunking Type dropdown list: 5 sec

Note:

- ◆ If "Transmission Trunked" is selected from the **Trunking Type** dropdown list, a value of "0" is automatically configured and the configuration cannot be changed.
- ◆ If "Message Trunked" is selected from the **Trunking Type** dropdown list, Hold Timer becomes disabled in the site with **Non-dedicated Control Channel** enabled in the **Site Edit** window > **General** tab.

■ Occupation Timer (Traffic Channel by Voice Call > Individual Call)

Occupation Timer allows a field engineer to configure the maximum length of communication time for a Hold Timer to retain a reciprocal call using an Individual Call. The system uses this timer to restrict a group call or an individual call by the same group or a caller from being held overly long.

Occupation Timer can be configured by directly entering a value in the edit box or clicking the spin buttons.

Range	15 sec to 1200 sec
In steps of	5 sec
Default	60 sec

■ Hold Timer (Traffic Channel by Voice Call > Telephone Call)

Hold Timer allows a field engineer to configure the length of time from when the transmitting subscriber unit finishes a call by a subscriber releasing the PTT switch until a traffic channel for a Telephone Call is no longer held in order for hearing the voice from the telephone line.

This function prevents a traffic channel from carelessly being held if a disconnection from the telephone line cannot be detected.

Hold Timer can be configured by directly entering a value in the edit box or clicking the spin buttons.

Range	5 sec to 60 sec
In steps of	1 sec
Default	30 sec

Note:

- ◆ This function can be configured only for a repeater having firmware version 2.50.00 or later.

■ Occupation Timer (Traffic Channel by Voice Call > Telephone Call)

Occupation Timer allows a field engineer to configure the maximum length of communication time for a telephone call. The system uses this timer to restrict a telephone call by the same group or a caller from being held overly long. A traffic channel becomes available upon lapse of the time configured for the timer, and the telephone call ends.

Occupation Timer can be configured by directly entering a value in the edit box or clicking the spin buttons.

Range	15 sec to 1200 sec
In steps of	5 sec
Default	600 sec

Note:

- ◆ This function can be configured only for a repeater having firmware version 2.50.00 or later.

■ Hold Timer (Traffic Channel by Data Call > Broadcast Call)

Hold Timer allows a field engineer to configure the time required for retaining a traffic channel from when a transmitting subscriber unit finishes a Broadcast Call by a subscriber releasing the PTT switch until the receiving subscriber unit responds.

If a value of "0" is configured for Hold Timer, a traffic channel becomes available immediately after a call is completed by a subscriber releasing the PTT switch on the transmitting subscriber unit, and then the subscriber unit reverts to a control channel.

Hold Timer can be configured by directly entering a value in the edit box or clicking the spin buttons.

Range	0 sec to 10 sec
In steps of	1 sec
Default	If Transmission Trunked is selected from the Trunking Type dropdown list: 0 sec If Message Trunked is selected from the Trunking Type dropdown list: 5 sec If Message Trunked (Enhanced) is selected from the Trunking Type dropdown list: 5 sec

Note:

- ◆ This function can be used only by a repeater having firmware version 1.10.00 or later.
- ◆ If "Transmission Trunked" is selected from the **Trunking Type** dropdown list, a value of "0" is automatically configured and the configuration cannot be changed.
- ◆ If "Message Trunked" is selected from the **Trunking Type** dropdown list, Hold Timer becomes disabled in the site with **Non-dedicated Control Channel** enabled in the **Site Edit** window > **General** tab.

■ Occupation Timer (Traffic Channel by Data Call > Broadcast Call)

Occupation Timer allows a field engineer to configure the maximum length of communication time for a Hold Timer to retain the data communications using a Broadcast Call. The system utilizes this timer to restrict data communications by the same group or a subscriber from being held overly long.

Occupation Timer can be configured by directly entering a value in the edit box or clicking the spin buttons.

Range	15 sec to 1200 sec
In steps of	5 sec
Default	60 sec

■ Hold Timer (Traffic Channel by Data Call > Conference Call)

Hold Timer allows a field engineer to configure the length of time from when the transmitting subscriber unit finishes data communications by a subscriber releasing the PTT switch until a traffic channel for a Conference Call is no longer held in order for the receiving subscriber unit to respond.

If a value of "0" is configured for Hold Timer, a traffic channel becomes available immediately after a call is completed by a subscriber releasing the PTT switch on the transmitting subscriber unit, and then the subscriber unit reverts to a control channel.

Hold Timer can be configured by directly entering a value in the edit box or clicking the spin buttons.

Range	0 sec to 10 sec
In steps of	1 sec
Default	If Transmission Trunked is selected from the Trunking Type dropdown list: 0 sec If Message Trunked is selected from the Trunking Type dropdown list: 5 sec If Message Trunked (Enhanced) is selected from the Trunking Type dropdown list: 5 sec

Note:

- ◆ If "Transmission Trunked" is selected from the **Trunking Type** dropdown list, a value of "0" is automatically configured and the configuration cannot be changed.
- ◆ If "Message Trunked" is selected from the **Trunking Type** dropdown list, Hold Timer becomes disabled in the site with **Non-dedicated Control Channel** enabled in the **Site Edit** window > **General** tab.

■ Occupation Timer (Traffic Channel by Data Call > Conference Call)

Occupation Timer allows a field engineer to configure the maximum length of communication time for a Hold Timer to retain the data communications using a Conference Call. The system utilizes this timer to restrict data communications by the same group or a subscriber from being held overly long.

Occupation Timer can be configured by directly entering a value in the edit box or clicking the spin buttons.

Range	15 sec to 1200 sec
In steps of	5 sec
Default	60 sec

■ Hold Timer (Traffic Channel by Data Call > Individual Call)

Hold Timer allows a field engineer to configure the length of time from when the transmitting subscriber unit finishes data communications by a subscriber releasing the PTT switch until a traffic channel for an Individual Call is no longer held in order for the receiving subscriber unit to respond.

If a value of "0" is configured for Hold Timer, a traffic channel becomes available immediately after a call is completed by a subscriber releasing the PTT switch on the transmitting subscriber unit, and then the subscriber unit reverts to a control channel.

Hold Timer can be configured by directly entering a value in the edit box or clicking the spin buttons.

Range	0 sec to 10 sec
In steps of	1 sec
Default	If Transmission Trunked is selected from the Trunking Type dropdown list: 0 sec If Message Trunked is selected from the Trunking Type dropdown list: 5 sec If Message Trunked (Enhanced) is selected from the Trunking Type dropdown list: 5 sec

Note:

- ◆ If "Transmission Trunked" is selected from the **Trunking Type** dropdown list, a value of "0" is automatically configured and the configuration cannot be changed.
- ◆ If "Message Trunked" is selected from the **Trunking Type** dropdown list, Hold Timer becomes disabled in the site with **Non-dedicated Control Channel** enabled in the **Site Edit** window > **General** tab.

■ Occupation Timer (Traffic Channel by Data Call > Individual Call)

Occupation Timer allows a field engineer to configure the maximum length of communication time for a Hold Timer to retain the data communications using an Individual Call. The system utilizes this timer to restrict data communications by the same group or a subscriber from being held overly long.

Occupation Timer can be configured by directly entering a value in the edit box or clicking the spin buttons.

Range	15 sec to 1200 sec
In steps of	5 sec
Default	60 sec

■ Time-out Timer in Failsoft Mode

Time-out Timer in Failsoft Mode allows a field engineer to configure the maximum length of time that a subscriber unit can continuously transmit in a Group Call in Failsoft Mode.

The time information for Time-out Timer is embedded in a call message and sent to a subscriber unit. Transmitting and receiving subscriber units communicate using the value embedded in the call message.

Time-out Timer can be configured by selecting the desired length of time from the dropdown list.

Range	15 sec, 30 sec, 45 sec, 60 sec, 75 sec, 90 sec, 105 sec, 120 sec, 135 sec, 150 sec, 165 sec, 180 sec, 210 sec, 240 sec, 270 sec, 300 sec, 330 sec, 360 sec, 390 sec, 420 sec, 450 sec, 480 sec, 510 sec, 540 sec, 570 sec, 600 sec, Unlimited
Default	60 sec

Note:

- ◆ If "Unlimited" is configured, a subscriber unit can continue to make a Group Call according to the configuration for the subscriber unit.
- ◆ This function can be used only by a repeater having firmware version 1.16.00 or later.

7.1.5 Optional Tab

In the Optional tab, a field engineer can configure various behaviors when a subscriber unit transmits or receives on the system.

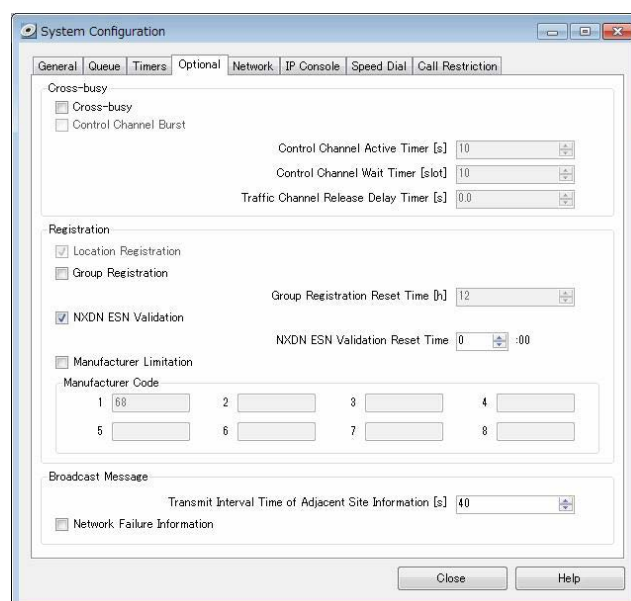


Figure 7-5 Optional Tab

■ Cross-busy

Cross-busy allows a field engineer to enable or disable Cross-busy.

Cross-Busy is used to avoid interfering with and being interfered with by other parties if the same transmit frequency is allocated in other systems.

Range	Check (Enable)	Enables the Cross-busy.
	Uncheck (Disable)	Disables the Cross-busy.
Default	Unchecked (Disabled)	

■ Control Channel Burst

Control Channel Burst allows a field engineer to enable or disable the intermittent behavior of a control channel.

If this function is enabled, transmission on a control channel continues for the time configured for Control Channel Active Timer, and then the transmission pauses. A transmission on a control channel starts upon lapse of the time configured for Control Channel Wait Time after the transmission pauses. Subsequently, a control channel becomes active at the intervals configured for Control Channel Active Timer and Control Channel Wait Timer.

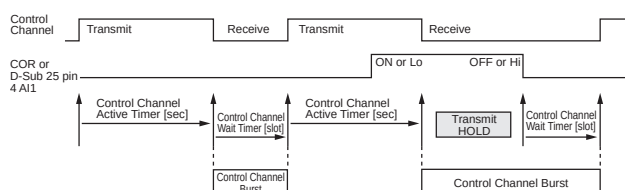


Figure 7-6 Control Channel Burst Timing Diagram

Range	Check (Enable)	Enables the capability of intermittent behavior for a control channel.
	Uncheck (Disable)	Disables the capability of intermittent behavior for a control channel.
Default	Unchecked (Disabled)	

Note:

- ◆ This function can be configured only if Cross-busy is enabled by clicking on the **Cross-busy** checkbox.

■ Control Channel Active Timer

Control Channel Active Timer allows a field engineer to configure the length of time required to continuously transmit on a control channel.

A transmission on a control channel continues until the time configured for Control Channel Active Time elapses, and then the transmission pauses. A transmission on a control channel starts upon lapse of the time configured for Control Channel Wait Time after the transmission pauses. (Refer to: [Figure 7-6 Control Channel Burst Timing Diagram on page 61](#))

Control Channel Active Timer can be configured by directly entering a value in the edit box or clicking the spin buttons.

Range	5 sec to 600 sec
In steps of	1 sec
Default	10 sec

Note:

- ◆ This function can be configured only if Cross-busy and Control Channel Burst are enabled by clicking on both the **Cross-busy** checkbox and the **Control Channel Burst** checkbox.

■ Control Channel Wait Timer

Control Channel Wait Timer allows a field engineer to configure the length of time for how long a transmission on a control channel pauses.

This function is used to monitor the availability of channels while the time configured for Control Channel Wait Timer is counting down.

A transmission on a control channel continues until the time configured for Control Channel Active Time elapses, and then the transmission pauses. A transmission on a control channel starts upon lapse of the time configured for Control Channel Wait Time after the transmission pauses. (Refer to: [Figure 7-6 Control Channel Burst Timing Diagram on page 61](#))

Control Channel Wait Timer can be configured by directly entering a value in the edit box or clicking the spin buttons.

Range	1 slot to 60 slots
In steps of	1 slot
Default	10 slots

Note:

- ◆ This function can be configured only if Cross-busy and Control Channel Burst are enabled by clicking on both the **Cross-busy** checkbox and the **Control Channel Burst** checkbox.
- ◆ The applied unit is a slot. For Very Narrow, 1 slot represents 80 ms and for Narrow, 1 slot represents 40 ms. For Very Narrow, the maximum number of slots is 60 slots which represents 4800 ms in time.

■ Traffic Channel Release Delay Timer

Traffic Channel Release Delay Timer allows a field engineer to configure the length of time from when the busy state of a traffic channel restricted by an external Busy input is relieved until a traffic channel becomes available again.

Traffic Channel Release Delay Timer can be configured by directly entering a value in the edit box or clicking the spin buttons.

Range	0 sec to 10.0 sec
In steps of	0.1 sec
Default	0 sec

Note:

- ◆ This function can be configured only if Cross-busy is enabled by clicking on the **Cross-busy** checkbox.

■ Location Registration

Location Registration allows a field engineer to enable or disable the location registration of a subscriber unit.

Local Registration can be used to specify the site for a subscriber unit to wait for a call.

Range	Check (Enable)	The system can accept a request for location registration from a subscriber unit.
	Uncheck (Disable)	The system cannot accept a request for location registration from a subscriber unit.
Default	Unchecked (Disabled)	

Note:

- ◆ If a value of "2" or higher is configured for Number of Sites in the **System Configuration** window > **General** tab > **License Information** frame, the **Location Registration** checkbox is automatically clicked on and grayed out.
- ◆ This function can be used only by a repeater having firmware version 1.10.00 or later.

■ Group Registration

Group Registration allows a field engineer to configure whether to enable a subscriber unit to register with the system the Group ID to be used in a system.

If a Group Call is initiated in a Multi-site system, subscriber units belonging to a group are called using the channel resources (frequencies) across multiple sites. In this case, to use channel resources effectively, it is necessary to efficiently and appropriately recognize the locations of subscriber units that are waiting for a Group Call and also suppress transmissions on channels where there is no subscriber unit to receive the Group Call.

If this function is enabled, a subscriber unit can register with the system the Group ID to be used for own station when the subscriber unit is turned ON, when the subscriber unit roams to different sites, or when the Group ID with no group registration is selected.

The information is recorded in the system upon registration of a Group ID by the subscriber unit. If a Group Call request is placed in a Multi-site system, the system determines the call range for the Group ID based on information stored in a repeater and then initiates the Group Call.

By use of this function, the Group Call can effectively be processed even in a system where a subscriber unit frequently migrates among sites.

Range	Check (Enable)	A subscriber unit can register to the system a Group ID to be used in a system.
	Uncheck (Disable)	A subscriber unit cannot register to the system a Group ID to be used in a system.
Default	Unchecked (Disabled)	

Note:

- ◆ If Location Registration is disabled by clicking off the **Location Registration** checkbox, the **Group Registration** checkbox becomes grayed out.
- ◆ This function can be used only by a repeater having firmware version 1.16.00 or later.

■ Group Registration Reset Time

Group Registration Reset Time allows a field engineer to configure the length of time from when the registered Group ID information was updated last time until the registered Group ID information is automatically deleted if the Group ID has not been used.

Enabling both Group Registration and Dynamic Allocation makes a traffic channel in a system to be used effectively. However, a traffic channel in a system cannot be used effectively without deleting regularly the registered Group ID information. For example, the channel resources are unnecessarily used if the registered Group ID information is maintained in the system for long time even after subscriber units using the Group ID moved out of all the coverage areas. To effectively utilize a traffic channel in a system, it is necessary to configure the registered Group ID information to be automatically deleted if no Group ID has been used for more than the certain period of time by use of Group Registration Reset Time.

Group Registration Reset Time can be configured by directly entering a value in the edit box or clicking the spin buttons.

Range	Off, 1 h to 254 h
In steps of	1 h
Default	12 h

Note:

- ◆ This function cannot be configured if Group Registration is disabled by clicking off the **Group Registration** checkbox.
- ◆ This function can be configured only for a repeater having firmware version 2.20.00 or later.
- ◆ If Dynamic Allocation is enabled in a site where a subscriber unit is registered only for use in receiving in a fixed station, the registered Group ID information is deleted by Group Registration Reset Time and the subscriber unit cannot receive a call. In this case, Dynamic Allocation in the site must be disabled.

■ NXDN ESN Validation

NXDN ESN Validation allows a field engineer whether to enable or disable the NXDN ESN Validation.

NXDN ESN Validation is used to validate the ESN of a subscriber unit when the system receives an access request from a subscriber unit. If the ESN is invalid, the system does not accept the request from a subscriber unit.

Range	Check (Enable)	Enables the NXDN ESN Validation.
	Uncheck (Disable)	Disables the NXDN ESN Validation.
Default	Unchecked (Disabled)	

Note:

- ◆ This function cannot be configured if Location Registration is disabled by clicking off the **Location Registration** checkbox.
- ◆ This function can be used only by a repeater having firmware version 1.10.00 or later.

■ NXDN ESN Validation Reset Time

NXDN ESN Validation Reset Time allows a field engineer to configure the length of time that elapses before the ESN validation record for a subscriber unit is deleted from the system.

The ESN validation record for a subscriber unit is automatically deleted from the system upon lapse of the time configured for NXDN ESN Validation Reset Time.

Range	Off, 0 to 23
In steps of	0
Default	0

Note:

- ◆ If "Off" is configured in NXDN ESN Validation Reset Time, no records are preserved in the system even if the ESN validation for a subscriber unit is made by the system.
- ◆ This function can be configured only if NXDN ESN Validation is enabled by clicking on the **NXDN ESN Validation** checkbox.
- ◆ This function can be used only by a repeater having firmware version 2.70.00 or later.

■ Manufacturer Limitation

Manufacturer Limitation allows a field engineer whether to enable or disable the Manufacturer Limitation.

Manufacturer Limitation is used to limit the manufacturer of applicable subscriber units. In the ESN validation of Manufacturer Limitation, the preconfigured Manufacturer Code is compared with the ESN configured for the subscriber unit to determine whether the code has matched.

Range	Check (Enable)	Enables the Manufacturer Limitation.
	Uncheck (Disable)	Disables the Manufacturer Limitation.
Default	Unchecked (Disabled)	

Note:

- ◆ This function cannot be configured if NXDN ESN Validation is disabled by clicking off the **NXDN ESN Validation** checkbox.
- ◆ This function can be used only by a repeater having firmware version 1.10.00 or later.

■ Manufacturer Code

Manufacturer Code allows a field engineer to configure a maximum of 8 different manufacturer code that are allowed to use the system.

Manufacturer Code can be configured by directly entering alphanumeric characters in the 1 to 8 edit boxes.

Range	A maximum of 2 alphanumeric characters
Available Characters	0 1 2 3 4 5 6 7 8 9 A B C D E F
Default	Manufacturer Code 1: 68 Manufacturer Code 2 to Manufacturer Code 8: Blank

Note:

- ◆ This function cannot be configured if NXDN ESN Validation and Manufacturer Limitation are disabled by clicking off the **NXDN ESN Validation** and **Manufacturer Limitation** checkboxes.
- ◆ This function can be used only by a repeater having firmware version 1.10.00 or later.

■ Transmit Interval Time of Adjacent Site information

Transmit Interval Time of Adjacent Site information allows to configure the time interval for notifying the frequency number of a control channel in an adjacent site.

The system regularly notifies the frequency number of a control channel in an adjacent site that is configured in the Frequency No. edit box of Adjacent Control Channels, and the frequency numbers are sent 3 numbers at a time to a subscriber unit using a control channel. This information is used for Background Hunt by a subscriber unit.

Transmit Interval Time of Adjacent Site information can be configured by directly entering a value in the edit box or clicking the spin buttons.

Range	1 sec to 254 sec
In steps of	1 sec
Default	40 sec

Note:

- ◆ This function can be configured only for a repeater having firmware version 2.20.00 or later.

■ Network Failure Information

Network Failure Information allows a field engineer to enable or disable the function to notify a subscriber unit of that the site is temporarily isolated from the network when the network failure between sites has occurred on a Multi-site system.

The system monitors whether a network failure occurs between sites approximately every 10 minutes. If the site determines that the network connection between sites has been disconnected, because of the incapability of connecting to any site, the system notifies to the subscriber unit that the site has been isolated from the network. When the site connects to other site again via the network, the system notifies to the subscriber unit that the site has recovered from the isolated status.

When a subscriber unit receives the notification of the network failure from the system, the subscriber unit notifies the site status to the user by showing it on the display and by an alert tone according to the configuration of the subscriber unit.

Range	Check (Enable)	Enables the capability to notify that the site has temporarily been isolated from the network because of a network failure to a subscriber unit.
	Uncheck (Disable)	Disables the capability to notify that the site has temporarily been isolated from the network because of a network failure to a subscriber unit.
Default	Unchecked (Disabled)	

Note:

- ◆ This function can be configured only for a repeater having firmware version 2.20.00 or later.

7.1.6 Network Tab

In the Network tab, a field engineer can configure parameters for various functions relevant to a channel for the network.

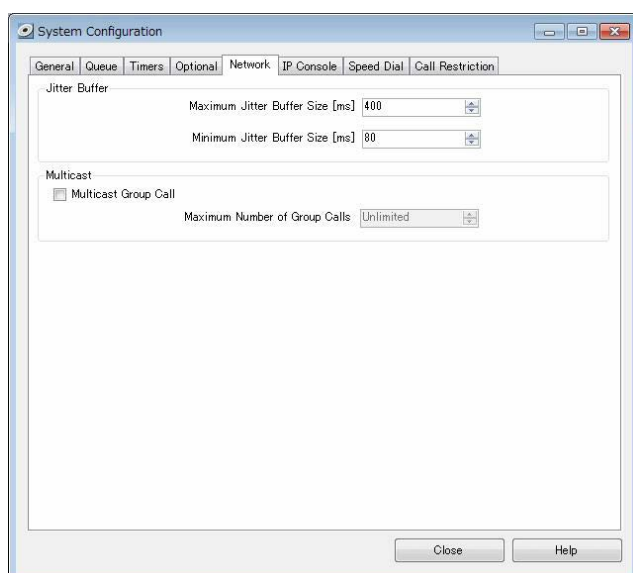


Figure 7-7 Network Tab

■ Maximum Jitter Buffer Size

There may be a variation in the intervals for packet data to reach the target site while audio data is transmitted and received among sites. This variation is called “Jitter”. Jitter Buffer can be used to temporarily store the received packet data in the buffer memory. Jitter Buffer minimizes the variation in intervals for the packet data to reach the target site and, therefore, improves the audio quality.

Maximum Jitter Buffer Size allows a field engineer to configure the maximum length of time to extract the packet data that is stored in the buffer memory.

Maximum Jitter Buffer Size can be configured by directly entering a value in the edit box or clicking the spin buttons.

Range	0 ms to 560 ms
In steps of	80 ms
Default	400 ms

Note:

- ◆ This function can be used only by a repeater having firmware version 1.10.00 or later.

■ Minimum Jitter Buffer Size

Minimum Jitter Buffer Size allows a field engineer to configure the minimum length of time to extract the packet data that is stored in the buffer memory.

Minimum Jitter Buffer Size can be configured by directly entering a value in the edit box or clicking the spin buttons.

Range	0 ms to 320 ms
In steps of	80 ms
Default	80 ms

Note:

- ◆ This function can be used only by a repeater having firmware version 1.10.00 or later.

■ Multicast Group Call

Multicast Group Call allows a field engineer to configure whether to send audio packet data for Intersite Group Call in a Multicast method. (Refer to 21.14.7 Intersite Call (GID) in the FUNC Reference.)

Range	Check (Enable)	This system sends audio packet data for Intersite Group Call by means of a Multicast method. Multicast is a communication method to send the packet data to multiple units in a communications network at the same time. This communication method enables the system to send the audio packet data to each site with low loads. The number of sites being called by Intersite Group Call has no upper limit.
	Uncheck (Disable)	This system sends the audio packet data for Intersite Group Call in a conventional Unicast method. Unicast is a communication method to send the packet data to a specified unit in a communications network. The upper limit of sites being called by Intersite Group Call is 16 sites in this communications method.
Default	Unchecked (Disabled)	

Note:

- ◆ This function can be used only by a repeater having firmware version 2.00.00 or later.

■ Maximum Number of Group Calls

Maximum Number of Group Calls allows a field engineer to configure the maximum number of Intersite Group Calls to be sent by the system at the same time.

Configuring the maximum number of Intersite Group Calls to be sent by the system at the same time prevents the network from being congested when the system sends multiple Intersite Group Calls in the Multicast method at the same time.

If the number of call requests for Intersite Group Call exceeds the number configured for Maximum Number of Group Calls, the system becomes busy and the call will be canceled. (Refer to 21.14.7 Intersite Call (GID) in the FUNC Reference.)

Maximum Number of Group Calls can be configured by directly entering a value in the edit box or clicking the spin buttons.

Range	Unlimited or 1 to 696
In steps of	1
Default	Unlimited

Note:

- ◆ This function can be configured only if Multicast Group Call is enabled by clicking on the **Multicast Group Call** checkbox.
- ◆ If "Unlimited" is configured in Maximum Number of Group Calls, the maximum number of Intersite Group Calls that can be sent by the system at the same time are not configured.
- ◆ This function can be used only by a repeater having firmware version 2.00.00 or later.

7.1.7 IP Console Tab

In the IP Console tab, a field engineer can configure parameters for IP Console.

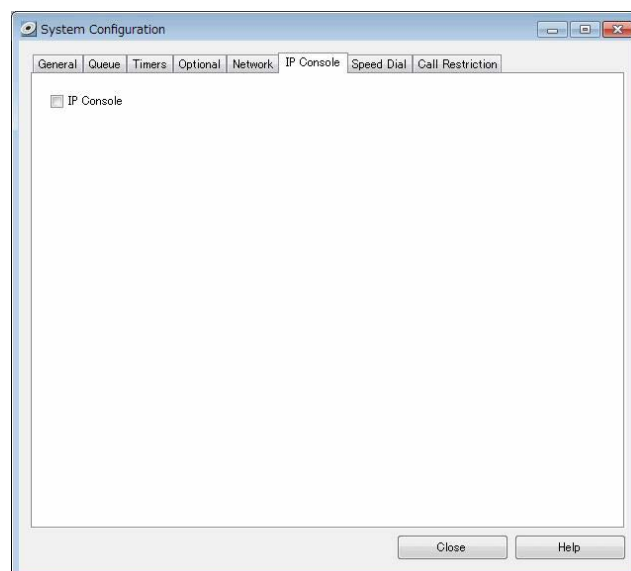


Figure 7-8 IP Console Tab

■ IP Console

IP Console allows a field engineer to enable or disable the parameters for various functions of IP Console configured in the Console Information window. (Refer to: [7.20 Console Information Window on page 126](#))

Range	Check (Enable)	Enables the parameters for various functions of IP Console configured in the Console Information window.
	Uncheck (Disable)	Disables the parameters for various functions of IP Console configured in the Console Information window.
Default	Unchecked (Disabled)	

Note:

- ◆ This function can be used only by a repeater having firmware version 2.00.00 or later.

7.1.8 Speed Dial Tab

Speed Dial is a function that enables a subscriber unit to make a call to the preconfigured telephone numbers in the system by entering the speed dial number. Speed Dial allows a field engineer to configure a maximum of 255 different telephone numbers corresponding to the speed dial numbers.

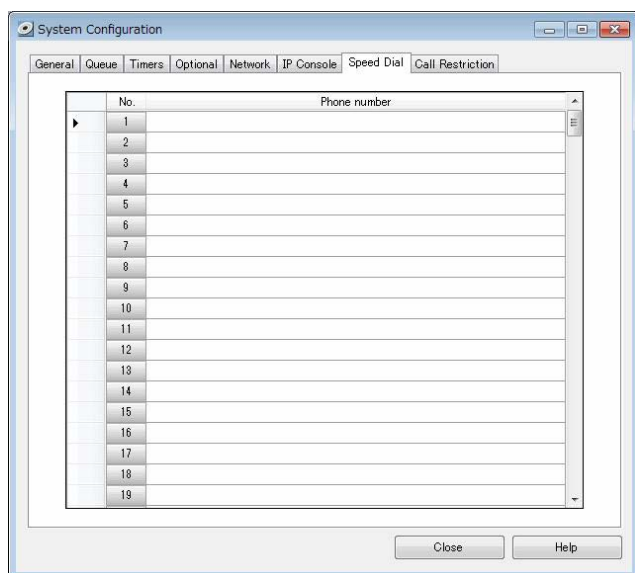


Figure 7-9 Speed Dial Tab

Note:

- ◆ This function can be configured only for a repeater having firmware version 2.50.00 or later.

■ Phone number

Phone Number allows a field engineer to configure the telephone number corresponding to the speed dial numbers. The speed dial number ranges from No. 1 to No. 255, and the telephone number can be assigned to each speed dial number.

This function allows a subscriber to call to the telephone number by entering the corresponding speed dial number.

Phone number can be configured by directly entering a text string in the edit box.

Range	A maximum of 32 alphanumeric characters and symbols
Available Characters	# * 0 1 2 3 4 5 6 7 8 9 A B C D
Default	Blank

7.1.9 Call Restriction Tab

In the Call Restriction tab, a field engineer can configure various functions to restrict a subscriber unit from making a call to the telephone number using Telephone Interconnect.

This function can restrict the number of digits and area codes of the telephone number to be called from a subscriber unit. For example, long-distance calls to the telephone number with certain area codes can be restricted by using this function.

The telephone number that can be called from a subscriber unit can be restricted by using the Call Restriction Table in the Call Restriction tab, along with the Call Restriction Table Number in the UID Class of Service window > Telephone tab. (Refer to: 7.9.4 Telephone Tab on page 100)

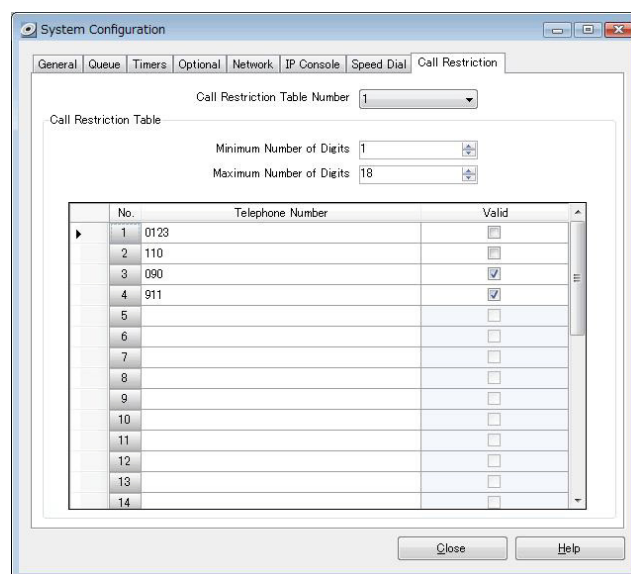


Figure 7-10 Call Restriction Tab

Note:

- ◆ This function can be configured only for a repeater having firmware version 2.50.00 or later.

■ Call Restriction Table Number

Call Restriction Table Number allows a field engineer to select the number in a Call Restriction Table. A maximum of 16 Call Restriction Tables can be configured in a system. Selecting a Call Restriction Table Number displays the parameters for various functions that are configured in the Call Restriction Table.

Call Restriction Table Number can be configured by selecting the desired option from the dropdown list.

Range	1 to 16
In steps of	1
Default	1

Note:

- ◆ The Call Restriction Table Number is linked with the Call Restriction Table Number in the **UID Class of Service** window > **Telephone** tab.

■ Minimum Number of Digits

Minimum Number of Digits allows a field engineer to configure the minimum number of digits in the telephone number that must be entered using a subscriber unit to initiate an outgoing call. Only the telephone number with the number of digits configured for Minimum Number of Digits or more digits can be called from a subscriber unit. The telephone number containing fewer digits than the number of digits configured for Minimum Number of Digits cannot be called from a subscriber unit.

For instance, in order to restrict outgoing calls to the telephone number with 4 digits or less, a value of 5 must be configured for Minimum Number of Digits.

Minimum Number of Digits can be configured by directly entering a value in the edit box or clicking the spin buttons.

Range	1 to 18
In steps of	1
Default	1

Note:

- ◆ The value larger than the value configured in Maximum Number of Digits cannot be configured in Minimum Number of Digits.
- ◆ The restriction by Minimum Number of Digits does not apply to the telephone number configured in the speed dial list.

■ Maximum Number of Digits

Maximum Number of Digits allows a field engineer to configure the maximum number of digits in the telephone number that can be entered using a subscriber unit to initiate an outgoing call. Only the telephone number with the number of digits configured for Maximum Number of Digits or fewer digits can be called from a subscriber unit. The telephone number containing more digits than the number of digits configured for Maximum Number of Digits cannot be called from a subscriber unit.

For instance, in order to restrict a subscriber from initiating a long-distance call (with 8 digits or more), a value of 7 must be configured for Maximum Number of Digits.

Maximum Number of Digits can be configured by directly entering a value in the edit box or clicking the spin buttons.

Range	1 to 18
In steps of	1
Default	18

Note:

- ◆ The value smaller than the value configured in Minimum Number of Digits cannot be configured in Maximum Number of Digits.
- ◆ The restriction by Maximum Number of Digits does not apply to the telephone number configured in the speed dial list.

■ Telephone Number

Telephone Number allows a field engineer to configure the telephone number that can or cannot be called from a subscriber unit. This function enables the system to compare the telephone number entered using a subscriber unit with the number configured for Telephone Number, and then to allow (or restrict) an outgoing call to the telephone number if the prefix of the telephone number matches the number enabled (or disabled) for Telephone Number. Whether to allow or block an outgoing call to the telephone number depends on the configuration for Valid.

This function can be used, for instance, to restrict long-distance calls and international calls, or to allow outgoing calls to only a specific area code.

● Example of How to Block International Calls

To restrict international calls using the prefix "010", the telephone number must be configured as follows:

Telephone Number	Valid
010	Uncheck

Disables outgoing calls to the telephone number with "010" prefixed.

● Example of How to Allow Outgoing Calls to Only a Specific Area Code

To allow outgoing calls to only the area code "045", Telephone Number must be configured as follows:

Telephone Number	Valid
0	Uncheck
1	Uncheck
2	Uncheck
3	Uncheck
4	Uncheck
5	Uncheck
6	Uncheck
7	Uncheck
8	Uncheck
9	Uncheck

Telephone Number	Valid
045	Check

Clicking off the Valid checkboxes for the numbers “0” to “9” can restrict outgoing calls to the telephone number beginning with a number. In addition, clicking on the Valid checkbox for the number “045” can allow outgoing calls to only the telephone number with “045” prefixed.

A maximum of 32 different numbers can be configured for Telephone Number in each Call Restriction Table.

Telephone Number can be configured by directly entering a text string in the edit box.

Range	Blank or a maximum of 18 alphanumeric characters and symbols
Available Characters	# * 0 1 2 3 4 5 6 7 8 9 A B C D
Default	Blank

Note:

- ◆ The same telephone number cannot be configured redundantly if the number has already been configured.

Valid

Valid allows a field engineer to configure whether to allow or restrict an outgoing call from a subscriber unit to the telephone number if the prefix of the telephone number entered using a subscriber unit matches the number configured in the Telephone Number.

Range	Check (Enable)	Enables the capability to make an outgoing call to the telephone number if the prefix of the telephone number entered using a subscriber unit matches the number configured in the Telephone Number.
	Uncheck (Disable)	Disables the capability to make an outgoing call to the telephone number if the prefix of the telephone number entered using a subscriber unit matches the number configured in the Telephone Number.
Default	Unchecked (Disabled)	

Note:

- ◆ This function cannot be configured if no number is configured in Telephone Number.

7.2 Site Information Window

In the Site Information window, a field engineer can add or delete a site and configure various functions of the site. The sites can be configured depending on the site scale to be in service, and parameters for the various functions can be configured for each site.

A maximum of 48 sites can be configured. The configurable number of sites can be viewed in the Number of Sites information box in the System Configuration window.

Double-clicking a cell in the leftmost row, the No. row or the Site row, or clicking the “Site Edit” button opens the Site Edit window. In the Site Edit window, the detailed information for a site can be configured. (Refer to: 7.3 Site Edit Window on page 72)

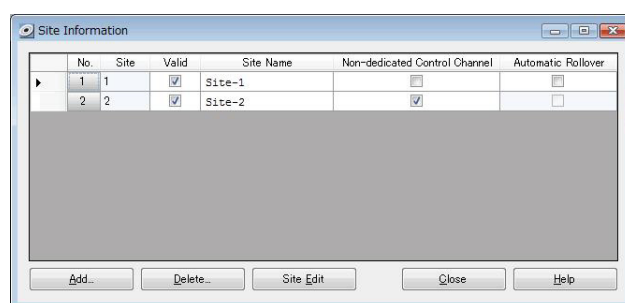


Figure 7-11 Site Information Window

7.2.1 Site

The site number appears in the Site information box.

7.2.2 Valid

Valid allows a field engineer to enable or disable each configured site in the system.

Range	Check (Enable)	Enables a configured site in the system.
	Uncheck (Disable)	Disables a configured site in the system.
Default	Checked (Enabled)	

7.2.3 Site Name

Site Name allows a field engineer to configure a site name.

Site Name can be configured by directly entering a text string in the edit box.

Range	A maximum of 12 alphanumeric characters and symbols
Available Characters	(space)! " # \$ % & ' () ~ + - , . / : ; < = > / @ [\] ^ _ ` { } * 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
Default	Site name of the selected site

7.2.4 Non-dedicated Control Channel

Non-dedicated Control Channel allows a field engineer to enable or disable a Non-dedicated Control Channel.

This function can be used only if one Dual-functional Channel is configured for the site. (If a site is constructed with only one repeater)

If this function is enabled, a channel is normally used as a control channel, but the channel can be used as a traffic channel if a request for a call is placed by a subscriber unit. However, since there is no control channel available when a call request is placed by a subscriber unit, other subscriber units which are not communicating are searching for a channel until a traffic channel becomes available.

Range	Check (Enable)	Enables a Non-dedicated Control Channel.
	Uncheck (Disable)	Disables a Non-dedicated Control Channel.
Default	Unchecked (Disabled)	

Note:

- ◆ This function cannot be used if the site consists of multiple channels.

7.2.5 Automatic Rollover

Automatic Rollover allows a field engineer to enable or disable the Automatic Rollover.

Automatic Rollover is the function to automatically switch a control channel in a site at the specified time. A control channel can be switched only once a day. A channel configured as "Control Channel" or "Dual-functional Channel" is a suitable channel candidate for switching.

Range	Check (Enable)	Enables the Automatic Rollover.
	Uncheck (Disable)	Disables the Automatic Rollover.
Default	Unchecked (Disabled)	

Note:

- ◆ The time of day to switch a control channel can be configured in Rollover Time in the **Site Edit** window > **General** tab. ([Refer to: 7.3 Site Edit Window on page 72](#))
- ◆ To use the Automatic Rollover, one of the following channel structures needs to be satisfied:
 - "Control Channel" is configured for 2 or more channels.
 - "Dual-functional Channel" is configured for 2 or more channels.
 - "Control Channel" is configured for 1 channel and "Dual-functional Channel" is configured for 1 channel.

How the channel is used can be configured in the Channel Type dropdown list in the Channel tab > Site Edit window. ([Refer to: 7.3.2 Channel Tab on page 76](#))

As an example, a site consisting of 5 channels is explained below:

Ex.1) Configuring all channels as "Dual-functional Channel" (recommended)

Channel 1: Dual-functional Channel
 Channel 2: Dual-functional Channel
 Channel 3: Dual-functional Channel
 Channel 4: Dual-functional Channel
 Channel 5: Dual-functional Channel

For instance, if Channel 1 behaves as a control channel, the control channel is alternately switched in the following order every time the time configured in Rollover Time arrives: Channel 1 → Channel 2 ••• → Channel 5 → Channel 1 •••. The other 4 channels behave as a traffic channel. Since a control channel is alternately switched everyday, excessive load on a certain repeater can be avoided. Also, all repeaters can be effectively used since 4 channels are always retained for use as a traffic channel.

Ex.2) Configuring one channel as “Control Channel” and other as “Dual-functional Channel”, respectively

Channel 1: Control Channel

Channel 2: Dual-functional Channel

Channel 3: Traffic Channel

Channel 4: Traffic Channel

Channel 5: Traffic Channel

In this example, Channel 1 is used as a control channel first and Channel 2 to Channel 5 behave as traffic channels. In this case, Channel 2 starts working as a control channel when the time configured in Rollover Time arrives and Channel 3 to Channel 5 behave as traffic channels. In this case, 3 channels can be used as traffic channels since Channel 1 is configured as “Control Channel” and cannot behave as a traffic channel.

Ex.3) Configuring 2 channels as “Control Channel”

Channel 1: Control Channel

Channel 2: Control Channel

Channel 3: Traffic Channel

Channel 4: Traffic Channel

Channel 5: Traffic Channel

In this example, Channel 1 and Channel 2 are used as the dedicated control channels. In this case, the control channel is alternately switched in the following order every time the time configured in Rollover Time arrives: CH1 → CH2 → CH1 ... Three channels can be used as traffic channels.

- ◆ If the time configured in Rollover Time arrives while a traffic channel to be the next control channel is used, this function cannot be activated and the control channel cannot be switched.

7.2.6 Add Button

Add allows a field engineer to add a new site.

Follow the procedure shown below to add a new site.

1. Click the “Add” button.

The Site Add dialog box opens.

2. Select the site number to be added from the list in the Site Add dialog box.

Select the site number with a Name where “Not used” is configured. Already added sites are grayed out. A site cannot be added to the grayed out site number.

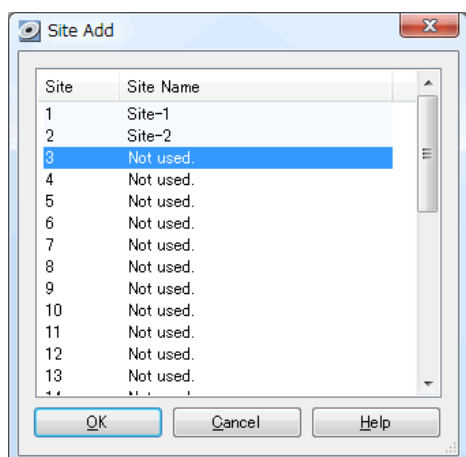


Figure 7-12 Site Add Dialog Box

3. Click the “OK” button.

A new site is added.

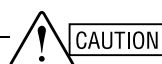
Note:

- ◆ If no site to be added exists, the “Add” button becomes grayed out.
- ◆ If “Grade 2 Key” is configured for Key Class in the **System Configuration** window > **General** tab > **License Information** frame, the “Add” button becomes grayed out and no site can be added.
- ◆ If the number of configured sites reaches the upper limit value configured for Number of Sites in the **System Configuration** window > **General** tab > **License Information** frame, the “Add” button becomes grayed out and no site can be added.

7.2.7 Delete Button

Delete allows a field engineer to delete the site data.

Follow the procedure shown below to delete the site data.



Be sure to save the configuration data of a site before deleting the data. If the site data is deleted, the Fleet of the site, GID and UID configured for the Fleet are also deleted.

1. Select the site to be deleted in the Site Information window, and then click the “Delete” button.

The Site Delete dialog box opens. Fleets in the selected site and GIDs and UIDs configured for the Fleets are listed.

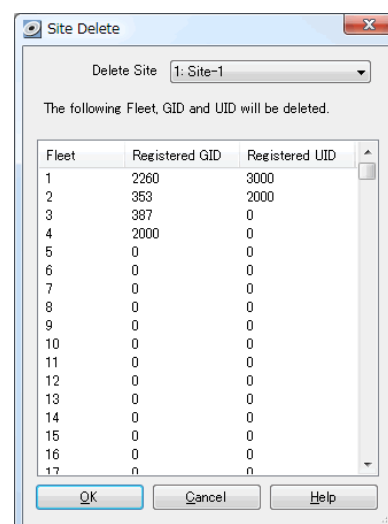


Figure 7-13 Site Delete Dialog Box

Note:

- ◆ A site to be deleted can be selected from the **Delete Site** dropdown list.

- Click the “OK” button.

The confirmation message box appears.

- Click the “Yes” button.

The site, Fleets in the site, and GIDs and UIDs configured for the Fleets are deleted.

Note:

- ◆ If no site to be deleted exists, the “Delete” button becomes grayed out.
- ◆ If “Grade 2 Key” is configured for Key Class in the **System Configuration** window > **General** tab > **License Information** frame, the “Delete” button becomes grayed out and no site data can be deleted.

7.2.8 Site Edit Button

Clicking the “Site Edit” button after selecting a site opens the Site Edit window. (Refer to: [7.3 Site Edit Window on this page](#))

7.2.9 Context Menu

Right-clicking the mouse after selecting a site pops up the Context Menu. Following is the operation that can be done using Context Menu:

Table 7-1 Context Menu

Function	Description
	The Site Edit window opens. (Refer to: 7.3 Site Edit Window on this page)
	The Site Add dialog box opens. (Refer to: 7.2.6 Add Button on page 71)
	The selected site data is cleared.

7.3 Site Edit Window

In the Site Edit window, a field engineer can configure parameters for various functions of a site.

The Site Edit window consists of the following tabs:

- **General** tab
- **Channel** tab
- **Adjacency** tab
- **Session** tab

The following is the information that appears at the top of the **Site Edit** window.

■ Site

The selected site number appears in the Site information box.

■ Date Created

The date of the data created for the selected site appears in the Date Created information box.

■ Last Update

The date in which data for the selected site was last edited appears in the Last Update information box.

7.3.1 General Tab

In the General tab, a field engineer can configure parameters for the basic functions of a site.

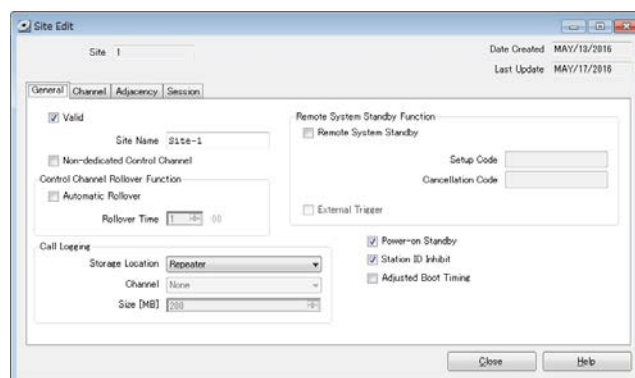


Figure 7-14 General Tab

Valid

Valid allows a field engineer to enable or disable each configured site in the system.

Range	Check (Enable)	Enables a configured site in the system.
	Uncheck (Disable)	Disables a configured site in the system.
Default	Checked (Enabled)	

Site Name

Site Name allows a field engineer to configure a site name.

Site Name can be configured by directly entering a text string in the edit box.

Range	A maximum of 12 alphanumeric characters and symbols
Available Characters	(space)! " # \$ % & ' () ~ + - , . / : ; < = > / @ [\] ^ _ ` { } * 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
Default	Site name of the selected site

Non-dedicated Control Channel

Non-dedicated Control Channel allows a field engineer to enable or disable a Non-dedicated Control Channel.

This function can be used only if one Dual-functional Channel is configured for the site. (If a site is constructed with only one repeater)

If this function is enabled, a channel is normally used as a control channel, but the channel can be used as a traffic channel if a request for a call is placed by a subscriber unit. However, since there is no control channel available when a call request is placed by a subscriber unit, other subscriber units which are not communicating are searching for a channel until a traffic channel becomes available.

Range	Check (Enable)	Enables a Non-dedicated Control Channel.
	Uncheck (Disable)	Disables a Non-dedicated Control Channel.
Default	Unchecked (Disabled)	

Note:

- ◆ This function cannot be used if the site consists of multiple channels.
- ◆ Even if "Message Trunked" is configured in Trunking Type on the **Timers** tab in the **System Configuration** window, Hold Timer becomes disabled in a site with **Non-dedicated Control Channel** enabled.

Automatic Rollover

Automatic Rollover allows a field engineer to enable or disable the Automatic Rollover.

Automatic Rollover is the function to automatically switch a control channel in a site at the specified time. A control channel can be switched only once a day. A channel configured as "Control Channel" or "Dual-functional Channel" is a suitable channel candidate for switching.

Range	Check (Enable)	Enables the Automatic Rollover.
	Uncheck (Disable)	Disables the Automatic Rollover.
Default	Unchecked (Disabled)	

Note:

- ◆ This function cannot be configured if Non-dedicated Control Channel is enabled by clicking on the **Non-dedicated Control Channel** checkbox.
- ◆ The time of day to switch a control channel can be configured in Rollover Time.
- ◆ To use the Automatic Rollover, one of the following channel structures needs to be satisfied:
 - "Control Channel" is configured for 2 or more channels.
 - "Dual-functional Channel" is configured for 2 or more channels.
 - "Control Channel" is configured for 1 channel and "Dual-functional Channel" is configured for 1 channel.

How the channel is used can be configured in the Channel Type dropdown list in the Channel tab > Site Edit window. (Refer to: [7.3.2 Channel Tab on page 76](#))

As an example, a site consisting of 5 channels is explained below:

Ex.1) Configuring all channels as "Dual-functional Channel" (recommended)

Channel 1: Dual-functional Channel
Channel 2: Dual-functional Channel
Channel 3: Dual-functional Channel
Channel 4: Dual-functional Channel
Channel 5: Dual-functional Channel

For instance, if Channel 1 behaves as a control channel, the control channel is alternately switched in the following order every time the time configured in Rollover Time arrives: Channel 1 → Channel 2 ... → Channel 5 → Channel 1 ... The other 4 channels behave as a traffic channel. Since a control channel is alternately switched everyday, excessive load on a certain repeater can be avoided. Also, all repeaters can be effectively used since 4 channels are always retained for use as a traffic channel.

Ex.2) Configuring one channel as "Control Channel" and other as "Dual-functional Channel", respectively
 Channel 1: Control Channel
 Channel 2: Dual-functional Channel
 Channel 3: Traffic Channel
 Channel 4: Traffic Channel
 Channel 5: Traffic Channel
 In this example, Channel 1 is used as a control channel first and Channel 2 to Channel 5 behave as traffic channels. In this case, Channel 2 starts working as a control channel when the time configured in Rollover Time arrives and Channel 3 to Channel 5 behave as traffic channels. In this case, 3 channels can be used as traffic channels since Channel 1 is configured as "Control Channel" and cannot behave as a traffic channel.

Ex.3) Configuring 2 channels as "Control Channel"
 Channel 1: Control Channel
 Channel 2: Control Channel
 Channel 3: Traffic Channel
 Channel 4: Traffic Channel
 Channel 5: Traffic Channel
 In this example, Channel 1 and Channel 2 are used as the dedicated control channels. In this case, the control channel is alternately switched in the following order every time the time configured in Rollover Time arrives: CH1 → CH2 → CH1 ... Three channels can be used as traffic channels.

- ◆ If the time configured in Rollover Time arrives while a traffic channel to be the next control channel is used, this function cannot be activated and the control channel cannot be switched.

■ Rollover Time

Rollover Time allows a field engineer to configure the time to switch a control channel. A control channel can be switched only once a day.

Rollover Time can be configured by directly entering a value in the edit box or clicking the spin buttons.

Range	0 to 23
In steps of	1
Default	1

Note:

- ◆ The time of day is configured based on the Time Zone configured in the **Tools** pulldown menu > **Adjustment Time** dialog box.
- ◆ This function can be configured only if Automatic Rollover is enabled by clicking on the Automatic Rollover checkbox.

■ Storage Location

Storage Location allows a field engineer to configure for each site whether a Call Log is stored in the internal memory of a repeater or is stored on a CF card inserted in the compact flash card slot of a repeater.

Storage Location can be configured by selecting the desired option from the dropdown list.

Range	Repeater	Stores a Call Log in the internal memory of a repeater.
	CF Card / Internal Flash	NXR-x00: Stores a Call Log on a CF card inserted in the compact flash card slot in a repeater. NXR-5x00: Stores a Call Log in the flash memory in a repeater. The target repeater and the size of data to be stored can be specified.
Default	Repeater	

Note:

- ◆ To store a Call Log on a CF card, a CF card needs to be inserted into the compact flash card slot in NXR-x00. No CF card is supplied with NXR-x00. The card must be prepared separately.
- ◆ Contact KENWOOD for information about compatible CF cards.
- ◆ For NXR-5x00, if "Repeater" is configured in Storage Location, the size of a Call Log that can be stored is limited to 20 MB.

■ Channel

Channel allows a field engineer to configure the destination repeater for storing a Call Log.

Channel can be configured by selecting the desired option from the dropdown list.

Range	None, 1 to 30
Default	None

Note:

- ◆ This function cannot be configured if "Repeater" is configured in Storage Location.

■ Size

Size allows a field engineer to configure the maximum data size of a Call Log that can be stored in a CF card (NXR-x00) or flash memory (NXR-5x00).

If the data size exceeds the size configured using this function when storing a Call Log on a CF card or flash memory, new data overwrites the oldest data.

Size can be configured by directly entering a value in the edit box or clicking the spin buttons.

Range	1 MB to 200 MB
In steps of	1 MB
Default	200 MB

Note:

- ◆ This function cannot be configured if "Repeater" is configured in Storage Location.
- ◆ This function cannot be configured if "None" is configured in Channel.

■ Remote System Standby

Remote System Standby is used to temporarily deactivate a control channel in a site or activate a control channel using remote control with a DTMF code from a subscriber unit.

If the preconfigured Setup Code is received on a control channel, transmission on a control channel is stopped and the system is temporarily disabled. Transmission on a control channel becomes suspended. If a control channel receives a Cancellation Code, the control channel is reactivated.

Range	Check (Enable)	Enables the Remote System Standby.
	Uncheck (Disable)	Disables the Remote System Standby.
Default	Unchecked (Disabled)	

■ Setup Code

Setup Code allows a field engineer to configure a DTMF code used for temporarily suspend the site by use of Remote System Standby.

A control channel receives a DTMF code that is sent using the Analog Narrow channel spacing. A signal can be received on a control channel using the Analog Narrow channel spacing even if the system is operated using either Narrow or Very Narrow channel spacing.

Setup Code can be configured by entering the desired code directly in the edit box.

Range	A maximum of 16 digits of numbers and symbols
Available Characters	# * 0 1 2 3 4 5 6 7 8 9 A B C D
Default	Blank

Note:

- ◆ This function can be configured only if Remote System Standby is enabled by clicking on the **Remote System Standby** checkbox.

■ Cancellation Code

Cancellation Code allows a field engineer to configure a DTMF code used for reactivating a site that was temporarily deactivated by Remote System Standby.

Cancellation Code can be configured by entering the desired code directly in the edit box.

Range	A maximum of 16 digits of numbers and symbols
Available Characters	# * 0 1 2 3 4 5 6 7 8 9 A B C D
Default	Blank

Note:

- ◆ This function can be configured only if Remote System Standby is enabled by clicking on the **Remote System Standby** checkbox.

■ External Trigger

External Trigger allows a field engineer to enable or disable the External Trigger.

External Trigger can temporarily deactivate a control channel in a site or reactivate a control channel by means of the input from an external terminal.

If the input of any external terminals on the controller in the site goes Low, transmission on a control channel is interrupted and the system is temporarily suspended. Transmission on a control channel becomes suspended. If the input of all external terminals goes High, a control channel becomes reactivated.

Range	Check (Enable)	Enables the External Trigger.
	Uncheck (Disable)	Disables the External Trigger.
Default	Unchecked (Disabled)	

Note:

- ◆ This function can be configured only if Remote System Standby is enabled by clicking on the **Remote System Standby** checkbox.
- ◆ This function uses the external terminal that is assigned to pin 5 of CONTROL I/O (25-pin D-sub connector) on the rear of a repeater.

■ Power-on Standby

If Power-on Standby is enabled, a repeater does not start transmitting since a repeater is placed in Remote System Standby Mode when a repeater is turned ON. If a repeater receives a Cancellation Code on a control channel, a PF key on a repeater is pressed or the logic state of all external terminals in the site goes High, a repeater exits Remote System Standby Mode and a repeater can transmit.

Range	Check (Enable)	A repeater automatically starts up in Remote System Standby Mode when a repeater is turned ON.
	Uncheck (Disable)	A repeater automatically starts up in normal mode in place of Remote System Standby Mode when a repeater is turned ON.
Default	Checked (Enabled)	

■ Station ID Inhibit

Station ID Inhibit allows a field engineer to configure whether to disable the repeater from sending a Station ID.

In a site with this function enabled, when a channel in the site behaves as a control channel, the channel cannot send a Station ID even if the channel is configured to be able to send a Station ID. (Refer to 21.13.2 Station ID Inhibit in the FUNC Reference.)

Range	Check (Enable)	A repeater cannot send a Station ID.
	Uncheck (Disable)	A repeater can send a Station ID.
Default	Checked (Enabled)	

Note:

- ◆ This function can be used only by a repeater having firmware version 2.00.00 or later.

■ Adjusted Boot Timing

Adjusted Boot Timing allows a field engineer to configure whether to delay the startup time of NXR-5x00.

Since the length of time to stabilize the external reference frequency varies depending on the repeater if a system is operated in a site where different types of repeaters coexist, a channel can become available by the same timing as NXR-x00 that is slow to stabilize the external reference frequency by delaying the startup time of NXR-5x00.

Range	Check (Enable)	The startup time of NXR-5x00 is extended.
	Uncheck (Disable)	The startup time of NXR-5x00 is not extended.
Default	Checked (Enabled)	

Note:

- ◆ For NXR-5900/ NXR-5901, the startup time does not change even if Adjusted Boot Timing is enabled.

7.3.2 Channel Tab

In the Channel tab, a field engineer can add or delete a channel and configure parameters for the various functions.

A maximum of 30 channels can be configured for each site. The configurable number of channels can be viewed in the Number of Channels information box in the System Configuration window.

Double-clicking a cell in the leftmost row, the No. row or the Channel row, or clicking the "Channel Edit" button opens the **Channel Edit** window. In the **Channel Edit** window, the detailed information for a channel registered in the system can be configured. (Refer to: [7.4 Channel Edit Window on page 82](#))

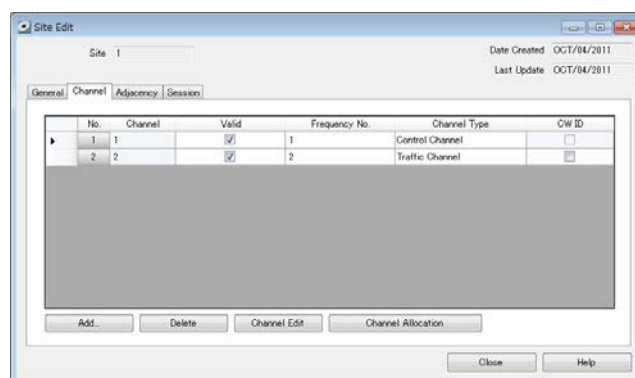


Figure 7-15 Channel Tab

Note:

- ◆ If a site is added after the configuration of the network is completed, a channel is automatically added.

■ Channel

The channel number appears in the Channel information box.

■ Valid

Valid allows a field engineer to configure whether to enable or disable a channel in the system for each site.

Range	Check (Enable)	Enables the channel in the site.
	Uncheck (Disable)	Disables the channel in the site.
Default	Checked (Enabled)	

■ Frequency No.

Frequency No. allows a field engineer to configure a number between 1 and 1023 for the pair of receive/ transmit frequencies configured for each repeater.

A traffic channel can also assigned on a control channel by associating the number with the transmit and receive frequencies. If this value is incorrect, a system error may occur, such as a subscriber unit may not distinguish the system properly or cannot initiate a call.

The same number cannot be used by a subscriber unit redundantly in the system.

Frequency No. can be configured by directly entering a value in the edit box or clicking the spin buttons.

Range	1 to 1023
In steps of	1
Default	The lowest unused Frequency Number.

Note:

- ◆ Frequency No. is linked with the number in the Frequency Table configured in the FPU for subscriber units. Also, the channel number configured when the network is configured is assigned to Channel Number.

■ Channel Type

Channel Type allows a field engineer to configure the usage of each channel.

The desired Channel Type can be configured by selecting it from the dropdown list.

Range	Control Channel	The channel can be used as a control channel.
	Traffic Channel	The channel can be used as a traffic channel.
	Dual-functional Channel	The channel can be used as a control channel or a traffic channel. This channel can be used as the objective channel enabling a switch between Automatic Rollover and Non-dedicated Control Channel.
Default	The first configured channel: Control Channel Other channels: Traffic Channel	

Note:

- ◆ At least 1 control channel candidate needs to exist in a site. If no control channel is configured for the site, the configuration data cannot be written to the repeater.
- ◆ If no control channel exists in the site when a channel is added, "Control Channel" is automatically configured. If a control channel already exists, "Traffic Channel" is automatically configured.

■ Station ID

Station ID allows a field engineer to configure whether to permit the sending of a Station ID at certain time intervals.

Station ID is the function that uses the downlink frequency of the repeater to notify the identifier that is specified beforehand by the repeater site at the time intervals configured in Transmit Interval Time.

Range	Check (Enable)	A Station ID is allowed to be sent at certain time intervals.
	Uncheck (Disable)	A Station ID is not allowed to be sent at certain time intervals.
Default	Unchecked (Disabled)	

Note:

- ◆ If "Analog CW ID" is configured in Type, a Station ID is sent in Analog mode. Also, "OUT OF RANGE" appears on the main display of the subscriber unit and the subscriber unit cannot connect to the system while a Station ID is being sent on a control channel.
- ◆ If this function is enabled, the "Station ID" button in the **Channel Edit** window > **General** tab becomes active. Clicking the "Station ID" button opens the **Station ID** window, and functions relevant to Station ID can be configured.
- ◆ Transmit Interval Time can be configured in the **Station ID** window. (Refer to: 7.6 Station ID Window on page 88)

■ Add Button

Add allows a field engineer to add a new channel. Follow the procedure below to add a new channel.

1. Click the "Add" button.

The **Channel Add** dialog box opens.

2. Select the channel number to be added from the list in the **Channel Add** dialog box.

The number of channels that are configured, or that can be configured, in a site appear in the Number of Channels information box.

Already configured channels are grayed out and these channels cannot be selected.

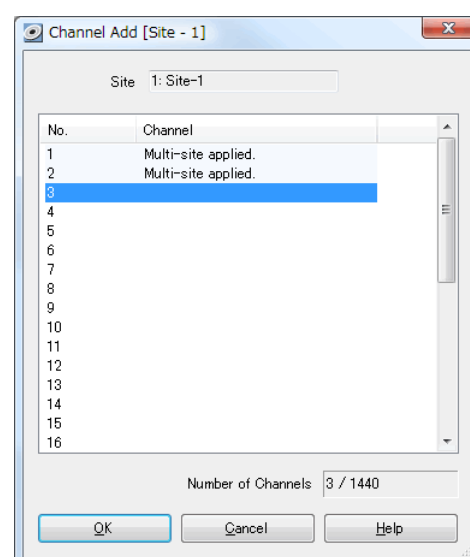


Figure 7-16 Channel Add Dialog Box

3. Click the "OK" button.

A new channel is added.

Note:

- ◆ If "Grade 2 Key" is configured for Key Class in the **System Configuration** window > **General** tab > **License Information** frame, the "Add" button becomes grayed out and no site can be added.
- ◆ If the number of configured channels reaches the upper limit value configured for Number of Channels in the **System Configuration** window > **General** tab > **License Information** frame, the "Add" button becomes grayed out and no channel can be added.

■ Delete Button

Delete allows a field engineer to delete the channel data.

The channel data can be deleted by selecting the channel to be deleted in the **Channel Edit** window, and then clicking the “Delete” button.

Note:

- ◆ If no channel to be deleted exists, the “Delete” button becomes grayed out.
- ◆ If “Grade 2 Key” is configured for Key Class in the **System Configuration** window > **General** tab > **License Information** frame, the “Delete” button becomes grayed out and no channel data can be deleted.

■ Channel Edit Button

Clicking the “Channel Edit” button after selecting a channel opens the **Channel Edit** window. (Refer to: [7.4 Channel Edit Window on page 82](#))

■ Channel Allocation Button

Clicking the “Channel Allocation” button opens the **Channel Allocation** window. (Refer to: [7.5 Channel Allocation Window on page 86](#))

Note:

- ◆ The “Channel Allocation” button becomes active if 1 or more channels with “Dual-functional Channel” or “Traffic Channel” configured in Channel Type in the **Channel Edit** window exist.
- ◆ The “Channel Allocation” button becomes inactive if Non-dedicated Control Channel is enabled by clicking on the **Non-dedicated Control Channel** checkbox in the **Site Edit** window > **General** tab.

■ Context Menu

Clicking the right button on the mouse after selecting a channel pops up the Context Menu. Following is the operation that can be done using Context Menu:

Table 7-2 Context Menu

Function	Description
	The Channel Edit window opens. (Refer to: 7.4 Channel Edit Window on page 82)
	The Channel Add dialog box opens.
	Deletes the currently selected channel data.
	Copies the currently selected channel data.
	Pastes the copied channel data to the channel data in the selected line to overwrite the data.

7.3.3 Adjacency Tab

In the **Adjacency** tab, a field engineer can configure the control channel information for an adjacent site.

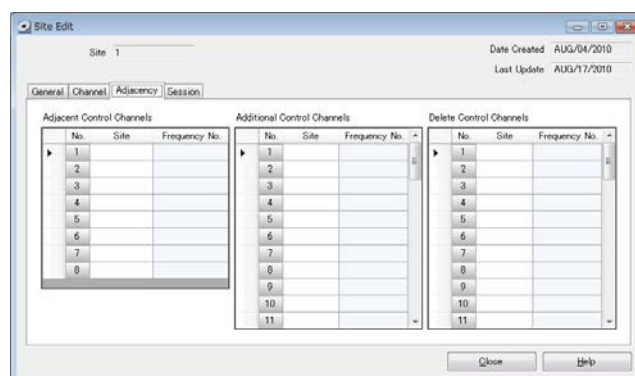


Figure 7-17 Adjacency Tab

Note:

- ◆ To allow a subscriber unit to acquire the control channel information by receiving the Frequency Number broadcast from the system, Frequency Number needs to be preconfigured for the subscriber unit by using the FPU for subscriber units.

■ Adjacent Control Channels

Adjacent Control Channels guide a subscriber unit to migrate to a control channel providing better receiving conditions by sending a Broadcast Message notifying the subscriber unit of the control channel information of adjacent sites.

This function is effective, for instance, if a control channel is automatically altered by Automatic Rollover. (Refer to: [7.2.5 Automatic Rollover on page 70](#))

Also, if the secondary control channel becomes active due to a malfunction of the primary control channel, the channel information is always refreshed, so that subscriber units can smoothly roam.

If the subscriber unit receives the Adjacency Control Channel Message, the subscriber unit stores the message in volatile memory and utilizes the stored message for Background Search Sequence. The subscriber unit can migrate to a control channel having higher priority or providing better receive conditions than the current control channel by activating the Background Search Sequence.

The system can provide a subscriber unit with the control channel information of a maximum of 48 adjacent sites. To use this function, the Site Number of an adjacent site and the Frequency Number configured for the site must be specified.

● Site

Site (Adjacent Control Channels) allows a field engineer to configure the site numbers of adjacent sites.

Site (Adjacent Control Channels) can be configured by selecting the desired site number from the dropdown list.

Range	The range varies followed by the configuration for Network Category (Local or Regional) as follows: Local: Blank, 1: Site Name to 30: Site Name Regional: Blank, 1: Site Name to 48: Site Name
Default	Blank

Note:

- ◆ Only the number appears if no Site Name is configured.

● Frequency No.

Frequency No. (Adjacent Control Channels) allows a field engineer to configure the Frequency Number assigned to control channels in adjacent sites.

If the repeater is operated in Multi-site Mode, Auto can be configured for Frequency Number. If Auto is configured, the control channel information of an adjacent site is automatically collected and provided to a subscriber unit.

Frequency No. (Adjacent Control Channels) can be configured by selecting the desired frequency from the dropdown list.

Range	1 to 1023, Auto
Default	The configuration varies as below depending on the site selected from the Site (Adjacent Control Channels) dropdown list. If the selected site is configured in the Site Information window: Auto If the selected site is not configured in the Site Information window: The lowest Frequency Number.

Note:

- ◆ This function can be configured only if the site number is selected from the **Site (Adjacent Control Channels)** dropdown list.
- ◆ Auto can be used only by a repeater having firmware version 1.10.00 or later.
- ◆ "Auto" cannot be selected unless the site selected from the **Site (Adjacent Control Channels)** dropdown list is configured in the **Site Information** window.

■ Additional Control Channels

Additional Control Channels is used to broadcast the control channel information of a renewed adjacent site to subscriber units using a Broadcast Message. The subscriber unit can reduce the length of time for channel search using the renewed information about the acquired control channels.

The system can provide a subscriber unit with renewed information of the control channels of a maximum of 48 adjacent sites. To use this function, the Site Number of an adjacent site and the Frequency Number configured for the site must be specified.

● Site

Site (Additional Control Channels) allows a field engineer to configure the site numbers of adjacent sites.

Site (Additional Control Channels) can be configured by selecting the desired site number from the dropdown list.

Range	The range varies followed by the configuration for Network Category (Local or Regional) as follows: Local: Blank, 1: Site Name to 30: Site Name Regional: Blank, 1: Site Name to 48: Site Name
Default	The lowest Frequency Number

Note:

- ◆ Only the number appears if no Site Name is configured.

● Frequency No.

Frequency No. (Additional Control Channels) allows a field engineer to configure the Frequency Number configured in the site of the selected Site Number.

Frequency No. (Additional Control Channels) can be configured by selecting the desired frequency from the dropdown list.

Range	1 to 1023
Default	The lowest Frequency Number

Note:

- ◆ This function can be configured only if a Site Number is selected from the **Site** dropdown list.
- ◆ If the value entered is the same value as one already selected from another **Frequency No.** dropdown list for Additional Control Channels, an error message box appears and the value reverts to the previous value.

■ Delete Control Channels

Delete Control Channels is used to broadcast the control channel information of the deleted adjacent site to subscriber units using a Broadcast Message. The subscriber unit can reduce the length of time for channel search by excluding the acquired control channel information from the objective of channel search. Also, if a control channel that is received on a Deleted Control Channel is stored as the Additional Control Channel in non-volatile memory of the subscriber unit, the information of that control channel will be deleted.

The system can provide a subscriber unit with the control channel information of a maximum of 48 adjacent sites. To use this function, the Site Number of an adjacent site and the Frequency Number configured for the site must be specified.

● Site

Site (Delete Control Channels) allows a field engineer to configure site numbers of adjacent sites.

Site (Delete Control Channels) can be configured by selecting the desired site number from the dropdown list.

Range	The range varies followed by the configuration for Network Category (Local or Regional) as follows: Local: Blank, 1: Site Name to 30: Site Name Regional: Blank, 1: Site Name to 48: Site Name
Default	Blank

Note:

- ◆ Only the number appears if no Site Name is configured.

● Frequency No.

Frequency No. (Delete Control Channels) allows a field engineer to configure the Frequency Number configured in the site of the selected Site Number.

Frequency No. (Delete Control Channels) can be configured by selecting the desired frequency from the dropdown list.

Range	1 to 1023
Default	The lowest Frequency Number

Note:

- ◆ This function can be configured only if a Site Number is selected from the **Site** dropdown list.
- ◆ If the value entered is the same value as one already selected from another **Frequency No.** dropdown list for Delete Control Channels, an error message box appears and the value reverts to the previous value.

7.3.4 Session Tab

In the **Session** tab, network information among sites can be configured. This tab can also be used to configure the communication path and the number of lines for the system operation in Multi-site Mode.

If no network information is configured, the communication path and the number of lines are not limited. If the communication path and the number of lines need to be limited, the limit must be configured first.

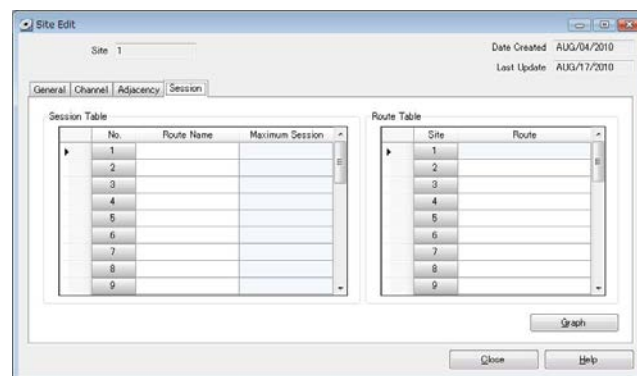


Figure 7-18 Session Tab

■ Route Name

Route Name allows a field engineer to configure a name for a network route.

The network route(s) for a maximum of 29 networks (Local) or a maximum of 47 networks (Regional) can be configured in the Session Table frame. The configured network route can be selected from the **Route** dropdown list in the **Route Table** frame.

Route Name can be configured by directly entering a text string in the edit box.

Range	A maximum of 12 alphanumeric characters and symbols
Available Characters	(space) ! " # \$ % & ' () ~ + - , . / : ; < = > ? @ [\] ^ _ ` { } * 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
Default	Blank

Note:

- ◆ This function can be used only by a repeater having firmware version 1.10.00 or later.

■ Maximum Session

Maximum Session allows a field engineer to configure the number of virtual lines that are constantly retained on a network route.

The network route(s) for a maximum of 29 networks (Local) or a maximum of 47 networks (Regional) can be configured in the Session Table frame. The configured network route can be selected from the **Route** dropdown list in the **Route Table** frame.

Maximum Session can be configured by directly entering a value in the edit box or clicking the spin buttons.

Range	1 to 150, Unlimited
In steps of	1
Default	Unlimited

Note:

- ◆ This function can be used only by a repeater having firmware version 1.10.00 or later.

■ Context Menu (Session Table)

Clicking the right button on the mouse after selecting a Session Table pops up the Context Menu. Following are the operation that can be executed using Context Menu:

Table 7-3 Context Menu

Function	Description
	Copies the selected Session Table data.
	Pastes the copied Session Table data to the Session Table data in the selected line to overwrite the data.

■ Route

The site(s) configured in the system (a maximum of 30 sites (Local) or 48 sites (Regional)) appears in the **Route Table** frame.

Route allows a field engineer to configure the network route between the current site and another site while the system is used in the Multi-site Mode.

To use this function, a network route must be preconfigured in the **Session Table** frame.

Route can be configured by selecting the desired route number from the dropdown list.

Range	The range consists of the network route(s) configured in the Session Table frame. The range varies followed by the configuration for Network Category (Local or Regional) as follows: Local: Blank or 1 to 29 Regional: Blank or 1 to 47
Default	Blank

Note:

- ◆ Since no network route that leads to one's own station exists, no network route can be configured for one's own site (the site currently being edited).
- ◆ This function can be used only by a repeater having firmware version 1.10.00 or later.

■ Context Menu (Route Table)

Clicking the right button on the mouse after selecting a Route Table pops up the Context Menu. Following are the operation that can be executed using Context Menu:

Table 7-4 Context Menu

Function	Description
	Copies the selected Route Table data.
	Pastes the copied Route Table data to the Route Table data in the selected line to overwrite the data.

■ Graph

Clicking the “Graph” button opens the **Graph** window. The **Graph** window shows the configuration of the network route visually that is configured in the **Session** tab. The entire route is illustrated by plotting the line between the site configured as the origin and the destination site.

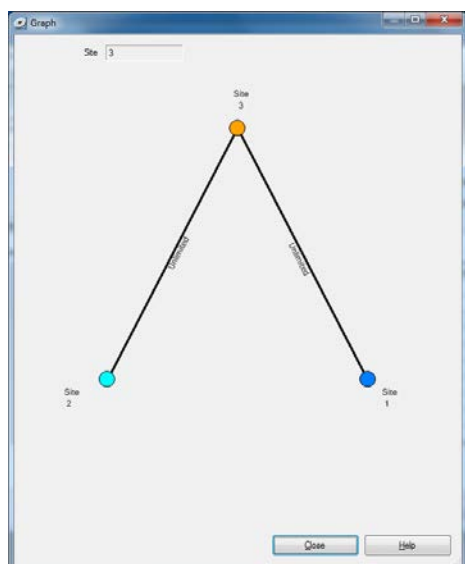


Figure 7-19 Graph Window

● Description of the display:

- The line indicates the route configured in the Route Table.
- The value of the Maximum Session appears on the line.
- The origin (own station site) is displayed by an orange circle. The destination site is displayed with a bluish circle.
- A maximum of 48 sites appear. (own station site: 1, destination site: 47)
- Circles on the same route are displayed in the same bluish color.
- If multiple sites for which the same route is configured exist, lines are plotted in order from the shortest distance.

7.4 Channel Edit Window

In the **Channel Edit** window, a field engineer can configure parameters for various functions of a channel.

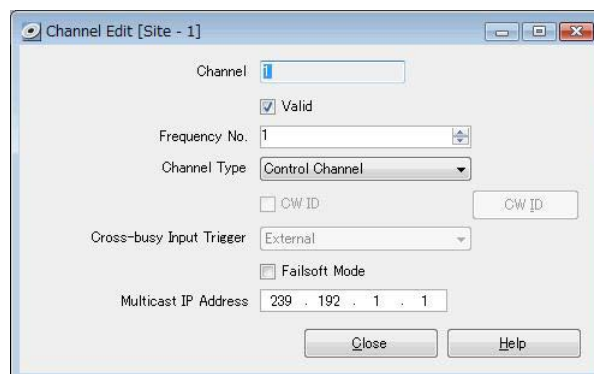


Figure 7-20 Channel Edit Window

7.4.1 Channel

The selected channel number appears in the Channel information box.

7.4.2 Valid

Valid allows a field engineer to configure whether to enable or disable a channel in the system for each site.

Range	Check (Enable)	Enables the channel in the site.
	Uncheck (Disable)	Disables the channel in the site.
Default	Checked (Enabled)	

7.4.3 Frequency No.

Frequency No. allows a field engineer to configure a number between 1 and 1023 for the pair of receive/transmit frequencies configured for each repeater.

A traffic channel can also be assigned on a control channel by associating the number with the transmit and receive frequencies. If this value is incorrect, a system error may occur, such as a subscriber unit may not distinguish the system properly or cannot initiate a call.

The same number cannot be used by a subscriber unit redundantly in the system.

Frequency No. can be configured by directly entering a value in the edit box or clicking the spin buttons.

Range	1 to 1023
In steps of	1
Default	The lowest unused Frequency Number.

Note:

- ◆ Frequency No. is linked with the number in the Frequency Table configured in the FPU for subscriber units. Also, the channel number configured when the network is configured is assigned to Channel Number.

7.4.4 Channel Type

Channel Type allows a field engineer to configure the usage of each channel.

The desired Channel Type can be configured by selecting it from the dropdown list.

Range	Control Channel	The channel can be used as a control channel.
	Traffic Channel	The channel can be used as a traffic channel.
	Dual-functional Channel	The channel can be used as a control channel or a traffic channel. This channel can be used as the objective channel enabling a switch between Automatic Rollover and Non-dedicated Control Channel.
Default	The first configured channel: Control Channel Other channels: Traffic Channel	

Note:

- ◆ At least 1 control channel candidate needs to exist in a site. If no control channel is configured for the site, the configuration data cannot be written to the repeater.
- ◆ If no control channel exists in the site when a channel is added, "Control Channel" is automatically configured. If a control channel already exists, "Traffic Channel" is automatically configured.

7.4.5 Station ID

Station ID allows a field engineer to configure whether to permit the sending of a Station ID at certain time intervals.

Station ID is the function that uses the downlink frequency of the repeater to notify the identifier that is specified beforehand by the repeater site at the time intervals configured in Transmit Interval Time.

Range	Check (Enable)	A Station ID is allowed to be sent at certain time intervals.
	Uncheck (Disable)	A Station ID is not allowed to be sent at certain time intervals.
Default	Unchecked (Disabled)	

Note:

- ◆ A Station ID is sent in Analog mode. Also, "OUT OF RANGE" appears on the main display of the subscriber unit and the subscriber unit cannot connect to the system while a Station ID is being sent on a control channel.
- ◆ If this function is enabled, the "Station ID" button becomes active. Clicking the "Station ID" button opens the **Station ID** window, and functions relevant to Station ID can be configured.
- ◆ Transmit Interval Time can be configured in the **Station ID** window. (Refer to: [7.6 Station ID Window on page 88](#))
- ◆ This function cannot be configured if Station ID Inhibit is enabled by clicking on the **Station ID Inhibit** checkbox in the **Site Edit** window > **General** tab, and "Control Channel" is selected from the **Channel Type** dropdown list in the **Channel Edit** window.

7.4.6 Station ID Button

Clicking the "Station ID" button opens the **Station ID** window. (Refer to: [7.6 Station ID Window on page 88](#))

Note:

- ◆ The "Station ID" button becomes active only if Station ID is enabled by clicking on the **Station ID** checkbox.
- ◆ The "CW ID" button does not become active if Station ID Inhibit is enabled by clicking on the **Station ID Inhibit** checkbox in the **Site Edit** window > **General** tab, and "Control Channel" is selected from the **Channel Type** dropdown list in the **Channel Edit** window.

7.4.7 Cross-busy Input Trigger

Cross-busy Input Trigger allows a field engineer to configure how to determine whether the frequency is being used by other system when Cross-busy is used.

Cross-Busy is used to avoid interfering with and being interfered with by other parties if the same transmit frequency is allocated in other systems.

The repeater determines whether the frequency is used for one of the methods such as internal trigger, external trigger and both internal and external triggers and can restrict the use of the channel.

Cross-busy Input Trigger can be configured by selecting the desired trigger from the dropdown list.

Range	External	The repeater determines the status (High or Low) of the input port (Pin 4 of 25-pin D-sub ACC Connector (AUX1 1)) to which an external device is connected. If the logic state of input port (Pin 4 of 25-pin D-sub ACC Connector (AUX1 1)) goes Low, the repeater interprets that the frequency is being used by another system and limits the use of the channel.
	Internal	This trigger is used to stop the repeater from transmitting if the repeater detects a carrier.
	Both	The repeater determines whether the frequency is used for both internal and external triggers and restricts the use of the channel.
Default	External	

Note:

- ◆ This function can be configured only if Cross-busy is enabled by clicking on the **Cross-busy** checkbox in the **System Configuration** window > **Optional** tab.

7.4.8 Failsoft Mode

Failsoft Mode allows a field engineer to configure whether to operate the repeater in a site in Failsoft Mode if interference, for example, on the communication paths that connect the repeaters within the system occurs, and Trunking Mode cannot be maintained.

If this function is enabled, the repeater enters Failsoft Mode and the channel functions as a Failsoft Channel while the system cannot maintain the Trunking Mode. Only Group ID is checked on a Failsoft Channel and all types of digital voice calls are repeated. Only group voice calls within the site are available.

If this function is disabled, the repeater does not enter Failsoft Mode and stops the trunking behaviors if the system is forced not to maintain the Trunking Mode.

This function provides the minimum communication path to subscriber units in the site even if the system cannot maintain the Trunking Mode by a failure or a malfunction of devices in the site.

Range	Check (Enable)	The repeater enters Failsoft Mode if the system is forced not to maintain the Trunking Mode.
	Uncheck (Disable)	The repeater does not enter Failsoft Mode even if the system is forced not to maintain the Trunking Mode. In this case, the repeater stops transmitting and then enters standby mode.
Default	Unchecked (Disabled)	

Note:

- ◆ This function can be used only by a repeater having firmware version 1.16.00 or later.

■ Details of Behaviors in Failsoft Mode

To provide the minimum communication capability for and among the subscriber units while the system is in Failsoft Mode, the Frequency Number of the repeater that is used in Failsoft Mode needs to be configured for subscriber units by using the **Failsoft Channel** window of the FPU for subscriber units. A maximum of 16 channels can be configured as a Failsoft Channel for each subscriber unit. It is well considered that this allows one channel to be configured for every site in a system that can contain a maximum of 16 sites.

The subscriber unit searches for a configured Failsoft Channel in order, and then the subscriber unit stays on the Frequency Number of the repeater that has received a Failsoft Mode signal sent from the system. Among subscriber units (user group) in need of the minimum communication path, one Failsoft Channel is assigned to one site enabling configuration of the same Frequency Number (Repeater) for every subscriber unit. Because of this, the subscriber units can establish a call among subscriber units while the system is in the Failsoft mode.

To provide a service for a number of subscriber units in Failsoft Mode, a unique Frequency Number (repeater) for each group of subscriber units must have the same Group ID. Because of this, while the system is in Failsoft Mode, the accesses of the repeater can be properly controlled.

■ Precautions for Configurations

The system allows multiple repeaters to be served in Failsoft Mode. Therefore, keep in mind that minimum communication capability for and among the subscriber units may not be available in the following cases:

- If subscriber units in need of the minimum communication capability have different configurations, each subscriber unit enters Failsoft Mode on a different repeater (Frequency Number). In this case, communications cannot be established among subscriber units while the system is in Failsoft Mode.
- In the system, if multiple repeaters to be placed in Failsoft Mode are configured in the same site, and if multiple Failsoft Channels are configured on the subscriber unit side, each subscriber unit may be placed in Failsoft Mode on a different repeater (Frequency Number). In this case, communications cannot be established among subscriber units while the system is in Failsoft Mode even if they have the same Group ID.

■ Repeater's Behavior until the Repeater Starts Failsoft Mode and Precautions

When the repeater enters Failsoft Mode, the system restarts. After the system restarts, a repeater that is placed in Failsoft Mode sends the Failsoft information at 5-second intervals. The timer starts counting down the time from when the repeater starts up until the repeater sends the Failsoft information. Therefore, the timing to transmit Failsoft information is not always the same even if multiple repeaters in the same site are placed in Failsoft Mode.

The repeater in Failsoft Mode is placed in the continuous transmission state. Therefore, if multiple repeaters are placed in Failsoft Mode, all repeaters are placed in the transmission state; hence, the power supply capacity must be well considered to design the system.

■ About the Length of Time until the Subscriber Unit Enters Failsoft Mode

Once a subscriber unit does not receive a signal from a control channel, the subscriber unit starts the hunt sequence. The subscriber unit searches for all control channels configured in the hunt table, and then the subscriber unit starts the process to migrate to Failsoft Mode if no control channel is detected. Therefore, if multiple control channels configured in the hunt table exist, more control channels are configured, and a longer length of time is required until the subscriber unit is placed in Failsoft Mode.

7.4.9 Multicast IP Address

Multicast IP Address allows a field engineer to configure a Multicast Group IP address that is used if the channel is assigned as a traffic channel. Multicast IP Address is used for a repeater to send the audio packet data for Intersite Group Call in the Multicast method.

Multicast IP Address can be configured by directly entering an address in the edit box.

Range	239.192.0.0 to 239.251.255.255
Default	239.192.n1.n2 (n1: the Site number, n2: the Channel number)

Note:

- ◆ This function can be configured only if Multicast Group Call is enabled by clicking on the **Multicast Group Call** checkbox in the **System Configuration** window > **Network** tab > **Multicast** frame.
- ◆ This function can be used only by a repeater having firmware version 2.00.00 or later.

7.5 Channel Allocation Window

In the **Channel Allocation** window, a field engineer can configure a number of traffic channels used for each communications service listed below in a site.

- Voice Call
- Long Data Call
- Emergency Call
- IP Console Call
- Telephone Call

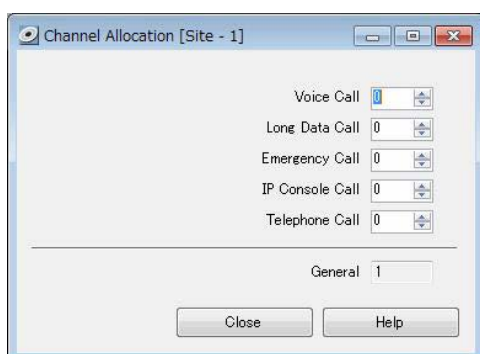


Figure 7-21 Channel Allocation Window

The traffic channels can be preserved by configuring the number of traffic channels available for various communications services.

The traffic channels that are not configured for various communications services are available for all communications services. This number of traffic channels appears in the **General** information box.

Note:

- ◆ Only Dual-functional Channels or Traffic Channels can be configured as the traffic channels available for various communications services above.
- ◆ Parameters for various functions can be configured in the **Channel Allocation** window if 1 or more channels with “Dual-functional Channel” or “Traffic Channel” configured in Channel Type in the **Channel Edit** window exist.

7.5.1 Voice Call

Voice Call allows a field engineer to configure a number of traffic channels used as a dedicated channel for Voice Call.

The traffic channels (Dual-functional Channel or Traffic Channel) configured in a site can be used as a dedicated channel for Voice Call.

Voice Call can be configured by directly entering a value in the edit box or clicking the spin buttons.

Range	0 to 30 (the total number of Dual-functional Channels and Traffic Channels)
In steps of	1
Default	0

Note:

- ◆ This function can be used only by a repeater having firmware version 2.70.00 or later.

7.5.2 Long Data Call

Long Data Call allows a field engineer to configure a number of traffic channels used as a dedicated channel for Long Data Call.

The traffic channels (Dual-functional Channel or Traffic Channel) configured in a site can be used as a dedicated channel for Long Data Call.

Long Data Call can be configured by directly entering a value in the edit box or clicking the spin buttons.

Range	0 to 30 (the total number of Dual-functional Channels and Traffic Channels)
In steps of	1
Default	0

Note:

- ◆ This function can be used only by a repeater having firmware version 2.70.00 or later.

7.5.3 Emergency Call

Emergency Call allows a field engineer to configure the number of traffic channels used as a dedicated channel for Emergency Call.

The traffic channels (Dual-functional Channel or Traffic Channel) configured in a site can be used as a dedicated channel for Emergency Call.

Emergency Call can be configured by directly entering a value in the edit box or clicking the spin buttons.

Range	0 to 30 (the total number of Dual-functional Channels and Traffic Channels)
In steps of	1
Default	0

Note:

- ◆ This function can be used only by a repeater having firmware version 2.70.00 or later.

7.5.4 IP Console Call

IP Console Call allows a field engineer to configure the number of traffic channels used as a dedicated channel for the calls using IP Console.

The traffic channels (Dual-functional Channel or Traffic Channel) configured in a site can be used as a dedicated channel for the calls using IP Console.

This channel is only used for a call from an IP console.

IP Console Call can be configured by directly entering a value in the edit box or clicking the spin buttons.

Range	0 to 30 (the total number of Dual-functional Channels and Traffic Channels)
In steps of	1
Default	0

Note:

- ◆ This function can be used only by a repeater having firmware version 2.70.00 or later.

7.5.5 Telephone Call

Telephone Call allows a field engineer to configure the number of traffic channels used as a dedicated channel for Telephone Call.

The traffic channels (Dual-functional Channel or Traffic Channel) configured in a site can be used as a dedicated channel for Telephone Call.

This channel is used for a call to or from the telephone line.

Telephone Call can be configured by directly entering a value in the edit box or clicking the spin buttons.

Range	0 to 30 (the total number of Dual-functional Channels and Traffic Channels)
In steps of	1
Default	0

Note:

- ◆ This function can be used only by a repeater having firmware version 2.70.00 or later.

7.5.6 General

The number of traffic channels that are not configured to be used for any specific communications service appears in the General information box. These traffic channels are available for all communications services.

7.6 Station ID Window

In the **Station ID** window, a field engineer can configure parameters for various functions related to Station ID.

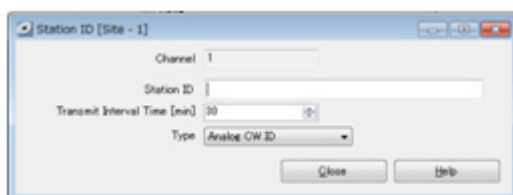


Figure 7-22 Station ID Window

Note:

- ◆ Parameters for various functions can be configured in the **Station ID** window if Station ID is enabled by clicking on the **Station ID** checkbox in the **Channel Edit** window.
- ◆ Parameters for various functions cannot be configured in the **Station ID** window if Station ID Inhibit is enabled by clicking on the **Station ID Inhibit** checkbox in the **Site Edit** window > **General** tab, and "Control Channel" is selected from the **Channel Type** dropdown list in the **Channel Edit** window.

7.6.1 Channel

The selected channel number appears in the Channel information box.

7.6.2 Station ID

Station ID allows a field engineer to configure a Station ID code.

Station ID can be configured by directly entering a value in the edit box.

Range	A maximum of 32 alphanumeric characters and symbols
Available Characters	(space) " ' () + - , . / : = ? 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
Default	Blank

7.6.3 Transmit Interval Time

Transmit Interval Time allows a field engineer to configure the interval time to send a Station ID.

The Station ID code configured in the **Station ID** edit box is automatically sent at the intervals configured by using this function.

Transmit Interval Time can be configured by directly entering a value in the edit box or clicking the spin buttons.

Range	1 min to 60 min
In steps of	1 min
Default	30 min

Note:

- ◆ A Station ID is sent in Analog mode. Also, "OUT OF RANGE" appears on the main display of the subscriber unit and the subscriber unit cannot connect to the system while a Station ID is being sent on a control channel.

7.6.4 Type

Type allows a field engineer to configure the modulation method (analog or NXDN digital) for sending a Station ID.

Type can be configured by selecting a desired option from the dropdown list.

Range	Analog CW ID, NXDN Digital
Default	Analog CW ID

7.7 Class of Service Information Window

In the **Class of Service Information** window, a field engineer can configure the Service Class that can be used by UID and GID.

Service Class simplifies the management of restrictions of the subscriber unit by predefining the function range that can be used by UID and GID and applying the definition for each GID and UID.

The **Class of Service Information** window consists of the following tabs.

- **GID** tab
- **UID** tab
- **Others** tab

Note:

- ◆ When logged in to KPG-110SM by using a restricted user account, the available functions are limited depending on the configuration in the **Restricted User Edit** dialog box. (Refer to: [11.4.2 About Restricted User Mode on page 202](#))

7.7.1 GID Tab

In the **GID** tab, a field engineer can configure a maximum of 127 Service Classes that can be used by GID.

Double-clicking a cell in the leftmost row, the No. row, or clicking the “GID CoS Edit” button opens the **GID Class of Service Edit** window. In the **GID Class of Service Edit** window, the detailed information for each Service Class that can be used by GID can be configured. (Refer to: [7.8 GID Class of Service Edit Window on page 91](#))

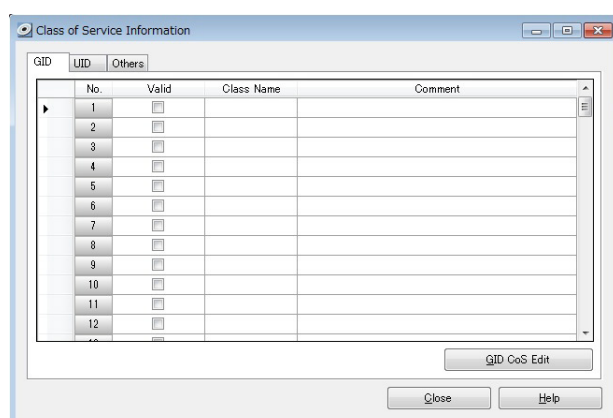


Figure 7-23 GID Tab

Valid

Valid allows a field engineer to enable or disable the selected GID Service Class in the system for each Service Class.

Range	Check (Enable)	Enables the selected GID Service Class in the system.
	Uncheck (Disable)	Disables the selected GID Service Class in the system.
Default	Unchecked (Disabled)	

Class Name

Class Name allows a field engineer to configure a name for a Service Class.

Class Name can be configured by directly entering a text string in the edit box.

Range	A maximum of 12 alphanumeric characters and symbols
Available Characters	(space) ! " # \$ % & ' () ~ + - . , / : ; < = > / @ [\] ^ _ ` { } * 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
Default	Blank

Comment

Comment allows a field engineer to configure comments for the Service Class.

Comment can be configured by directly entering a text string in the edit box.

Range	A maximum of 32 alphanumeric characters and symbols
Available Characters	(space) ! " # \$ % & ' () ~ + - . , / : ; < = > / @ [\] ^ _ ` { } * 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
Default	Blank

GID CoS Edit Button

Clicking the “GID CoS Edit” button after selecting the GID opens the **GID Class of Service Edit** window. (Refer to: [7.8 GID Class of Service Edit Window on page 91](#))

■ Context Menu

Clicking the right button on the mouse after selecting the GID pops up the Context Menu. Following is the operation that can be done using Context Menu:

Table 7-5 Context Menu

Function	Description
	The GID Class of Service Edit window opens. (Refer to: 7.8 GID Class of Service Edit Window on page 91)
	Copies the selected GID data.
	Pastes the copied GID data to the GID data in the selected line to overwrite the data.

7.7.2 UID Tab

In the **UID** tab, a field engineer can configure a maximum of 127 Service Classes that can be used by a UID.

Double-clicking a cell in the leftmost row, the No. row, or clicking the “UID CoS Edit” button opens the UID Class of Service Edit window. In the **UID Class of Service Edit** window, the detailed information for each Service Class applied for a UID can be configured. (Refer to: 7.9 UID Class of Service Edit Window on page 96)

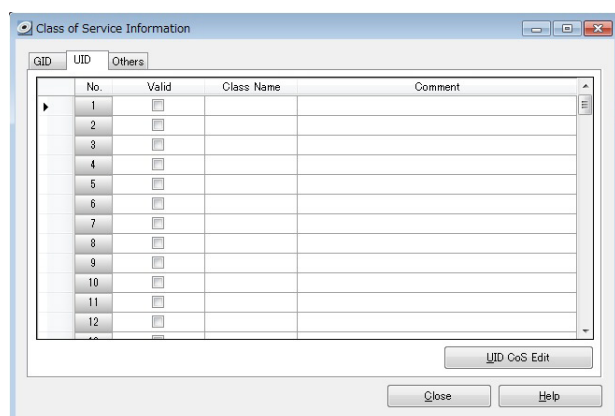


Figure 7-24 UID Tab

■ Valid

Valid allows a field engineer to enable or disable the selected UID Service Class in the system for each Service Class.

Range	Check (Enable)	Enables the selected UID Service Class in the system.
	Uncheck (Disable)	Disables the selected UID Service Class in the system.
Default	Unchecked (Disabled)	

■ Class Name

Class Name allows a field engineer to configure a name for a Service Class.

Class Name can be configured by directly entering a text string in the edit box.

Range	A maximum of 12 alphanumeric characters and symbols
Available Characters	(space)! " # \$ % & ' () ~ + - . , / : ; < = > / @ [\] ^ _ ` { } * 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
Default	Blank

■ Comment

Comment allows a field engineer to configure comments for the Service Class.

Comment can be configured by directly entering a text string in the edit box.

Range	A maximum of 32 alphanumeric characters and symbols
Available Characters	(space)! " # \$ % & ' () ~ + - . , / : ; < = > / @ [\] ^ _ ` { } * 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
Default	Blank

■ UID CoS Edit Button

Clicking the “UID CoS Edit” button after selecting the UID opens the **UID Class of Service Edit** window. (Refer to: 7.9 UID Class of Service Edit Window on page 96)

■ Context Menu

Clicking the right button on the mouse after selecting a UID pops up the Context Menu. Following is the operation that can be done using Context Menu:

Table 7-6 Context Menu

Function	Description
	The UID Class of Service Edit window opens. (Refer to: 7.9 UID Class of Service Edit Window on page 96)
	Copies the selected UID data.
	Pastes the copied UID data to the UID data in the selected line to overwrite the data.

7.7.3 Others Tab

In the **Others** tab, a field engineer can open the window to configure parameters for various functions of All Groups Call, Secondary GID Class of Service, Secondary UID Class of Service and Telephone Call.

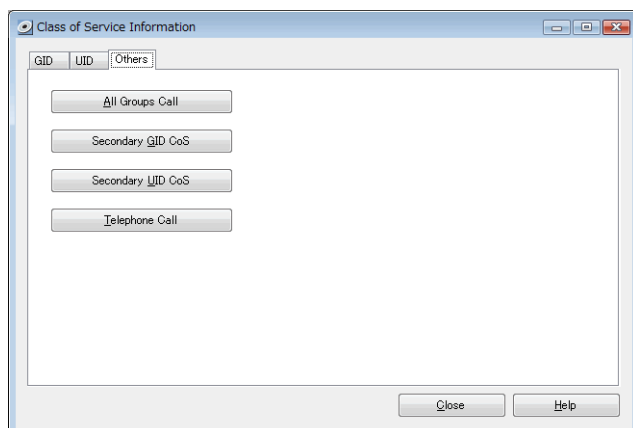


Figure 7-25 Others tab

■ All Groups Call Button

Clicking the “All Groups Call” button opens the **All Groups Call** window. (Refer to: [7.10 All Groups Call Window on page 101](#))

■ Secondary GID CoS Button

Clicking the “Secondary GID CoS” button opens the **Secondary GID Class of Service** window. (Refer to: [7.11 Secondary GID Class of Service Window on page 105](#))

■ Secondary UID CoS Button

Clicking the “Secondary UID CoS” button opens the **Secondary UID Class of Service** window. (Refer to: [7.12 Secondary UID Class of Service Window on page 107](#))

■ Telephone Call Button

Clicking the “Telephone Call” button opens the **Telephone Call** window. (Refer to: [7.13 Telephone Call Window on page 112](#))

7.8 GID Class of Service Edit Window

In the **GID Class of Service Edit** window, a field engineer can configure a maximum of 127 Service Classes that can be used by a GID.

The **GID Class of Service Edit** window consists of the following tabs:

- **General** tab
- **Call Type** tab
- **Intersite** tab
- **Telephone** tab

7.8.1 Class

Class allows a field engineer to select the Service Class for the GID to be configured.

Class can be configured by directly entering a value in the edit box or clicking the spin buttons.

Range	1 to 127
In steps of	1
Default	The Service Class that is selected in the GID tab in the Class of Service Information window

7.8.2 General Tab

In the General tab, a field engineer can configure basic functions of GID Service Class.

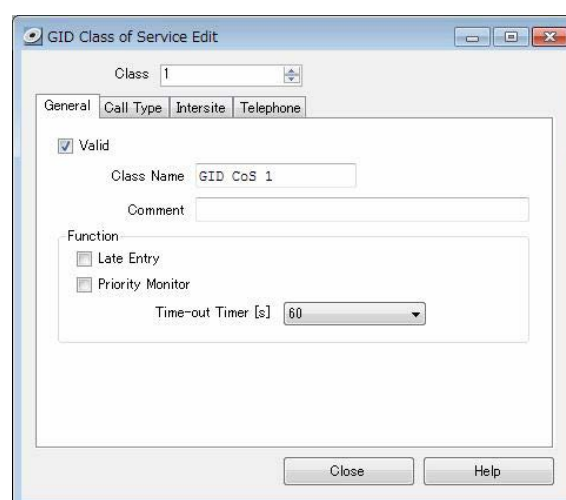


Figure 7-26 General Tab

Valid

Valid allows a field engineer to enable or disable the selected GID Service Class in the system for each Service Class.

Range	Check (Enable)	Enables the selected GID Service Class in the system.
	Uncheck (Disable)	Disables the selected GID Service Class in the system.
Default	Unchecked (Disabled)	

Class Name

Class Name allows a field engineer to configure a name for a Service Class.

Class Name can be configured by directly entering a text string in the edit box.

Range	A maximum of 12 alphanumeric characters and symbols
Available Characters	(space) ! " # \$ % & ' () ~ + - , . / : ; < = > / @ [\] ^ _ ` { } * 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
Default	Blank

Comment

Comment allows a field engineer to configure comments for the Service Class.

Comment can be configured by directly entering a text string in the edit box.

Range	A maximum of 32 alphanumeric characters and symbols
Available Characters	(space) ! " # \$ % & ' () ~ + - , . / : ; < = > / @ [\] ^ _ ` { } * 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
Default	Blank

Late Entry

Late Entry allows a field engineer to configure whether to send the instruction message for a traffic channel on a control channel at certain intervals by means of a Group Call.

Using this function, the subscriber unit can participate in a Group Call midway through the call after reverting to the communication area even if the subscriber unit is temporarily outside of the communication area and can not receive a message that is sent by use of a Group Call.

Range	Check (Enable)	The repeater unit repeatedly sends the instruction message for a traffic channel on a control channel at certain intervals by use of a Group Call.
	Uncheck (Disable)	The repeater unit does not repeatedly send the instruction message for a traffic channel on a control channel at certain intervals by use of a Group Call.
Default	Unchecked (Disabled)	

Priority Monitor

Priority Monitor allows a field engineer to configure whether to provide the Group Call information on a traffic channel.

If a subscriber unit detects using Group Call information that is provided on a traffic channel a Group Call having higher priority level than that of the current Group Call, the subscriber unit can participate in a Group Call having higher priority.

Range	Check (Enable)	The Group Call information is provided on a traffic channel.
	Uncheck (Disable)	No Group Call information is provided on a traffic channel.
Default	Unchecked (Disabled)	

Note:

- ◆ The priority level depends on the four Group IDs configured in Priority Monitor ID of the FPU for subscriber units.

Time-out Timer

Time-out Timer allows a field engineer to configure the maximum continuous transmission time for a subscriber unit to communicate by use of a Group Call. The time information for Time-out Timer is embedded in a call message and sent to a subscriber unit. Transmitting and receiving subscriber units communicate using the value embedded in a call message.

Time-out Timer can be configured by selecting the desired length of time from the dropdown list.

Range	15 sec, 30 sec, 45 sec, 60 sec, 75 sec, 90 sec, 105 sec, 120 sec, 135 sec, 150 sec, 165 sec, 180 sec, 210 sec, 240 sec, 270 sec, 300 sec, 330 sec, 360 sec, 390 sec, 420 sec, 450 sec, 480 sec, 510 sec, 540 sec, 570 sec, 600 sec, Unlimited
Default	60 sec

Note:

- ◆ If "Unlimited" is configured, a subscriber unit can continue to make a Group Call according to the configuration for the subscriber unit.
- ◆ The Time-out Timer configured by using KPG-109D/ DN or KPG-D2/ D2N is not used.

7.8.3 Call Type Tab

In the **Call Type** tab, a field engineer can configure limitations on various call types for a GID.

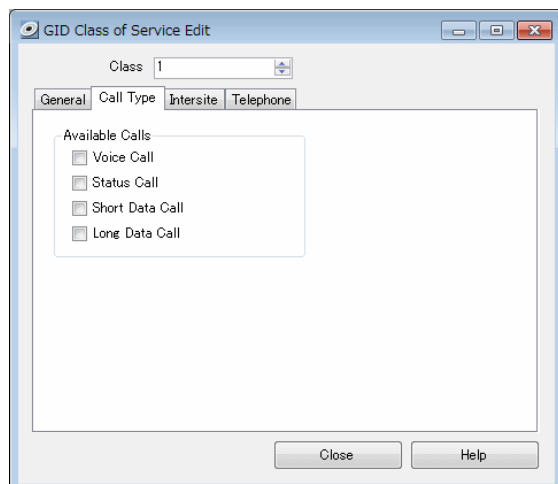


Figure 7-27 Call Type Tab

■ Voice Call

Voice Call allows a field engineer to configure whether to permit communication by use of a Voice Call for a GID.

Range	Check (Enable)	Enables the capability to communicate by use of a Voice Call for a GID.
	Uncheck (Disable)	Disables the capability to communicate by use of a Voice Call for a GID.
Default	Unchecked (Disabled)	

■ Status Call

Status Call allows a field engineer to configure whether to permit communication by use of a Status Call for a GID.

Range	Check (Enable)	Enables the capability to communicate by use of a Status Call for a GID.
	Uncheck (Disable)	Disables the capability to communicate by use of a Status Call for a GID.
Default	Unchecked (Disabled)	

■ Short Data Call

Short Data Call allows a field engineer to configure whether to permit communication by use of a Short Data Call for a GID.

Range	Check (Enable)	Enables the capability to communicate by use of a Short Data Call for a GID.
	Uncheck (Disable)	Disables the capability to communicate by use of a Short Data Call for a GID.
Default	Unchecked (Disabled)	

Note:

- ◆ This function can be used only by a repeater having firmware version 1.10.00 or later.

■ Long Data Call

Long Data Call allows a field engineer to configure whether to permit communication by use of a Long Data Call for a GID.

Range	Check (Enable)	Enables the capability to communicate by use of a Long Data Call for a GID.
	Uncheck (Disable)	Disables the capability to communicate by use of a Long Data Call for a GID.
Default	Unchecked (Disabled)	

Note:

- ◆ This function can be used only by a repeater having firmware version 1.10.00 or later.

7.8.4 Intersite Tab

In the Intersite tab, a field engineer can configure parameters for various functions to communicate between sites.

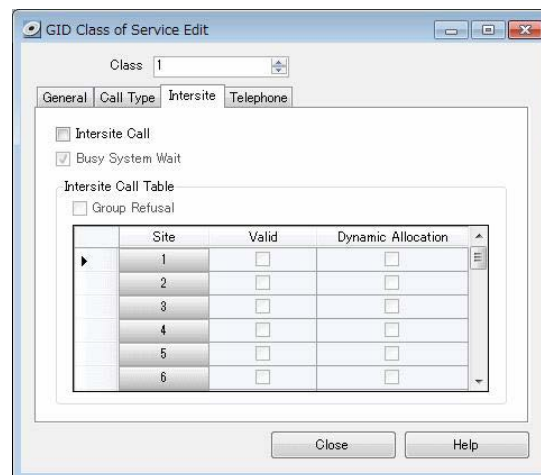


Figure 7-28 Intersite Tab

■ Intersite Call

Intersite Call allows a field engineer to configure whether to allow communications using a Voice Call and a Data Call (Status Call, Short Data Call and Long Data Call) among sites.

If this function is enabled, a Voice Call and Data Call can be made among sites that are specified in the Intersite Call Table.

Range	Check (Enable)	Enables the capability to communicate by use of a Voice Call and a Data Call among sites.
	Uncheck (Disable)	Disables the capability to communicate by use of a Voice Call and a Data Call among sites.
Default	Unchecked (Disabled)	

Note:

- ◆ This function can be used only by a repeater having firmware version 1.10.00 or later.

■ Busy System Wait

Busy System Wait allows a field engineer to configure how the system provides a service if a Voice Call or a Data Call is made among sites.

Range	Check (Enable)	To communicate by use of a Voice Call, the system requests the subscriber unit connect to the site having an available channel upon a Group Call transmission and then communication can start immediately. If no channel is available for the site, the call becomes queued. If any channel becomes available in a busy site during a call, the system initiates a call in these sites with the order in which the site becomes available. Queue is applied to both sites for the transmitting and receiving. To communicate by use of a Data Call, the system connects only to a site where an available channel exists when a Group Call is initiated, and then starts the call. If no available channel exists in the site, the call cannot be queued.
Range	Uncheck (Disable)	If there is a busy site in prepared target sites, including the transmitting site, the system notifies a subscriber unit of the System Busy state that the call cancellation immediately takes place.
Default	Checked (Enabled)	

Note:

- ◆ This function can be used only by a repeater having firmware version 1.10.00 or later.
- ◆ This function cannot be configured if Intersite Call is disabled by clicking off the **Intersite Call** checkbox.

■ Group Refusal

If a subscriber unit succeeded in a Group Registration to a site, Group Refusal allows a field engineer to configure whether the communications area covered by the site becomes an area covered by the subscriber unit. (Refer to 21.16.4 Group Refusal in the FUNC Reference)

Range	Check (Enable)	If a subscriber unit succeeded in a Group Registration to a site, the communications area covered by the site becomes an area covered by the subscriber unit. If a subscriber unit failed to make a Group Registration to a site, the subscriber unit cannot stay in the site. In the site where a subscriber unit fails to make a Group Registration, the Signal Strength Indicator shows the outside the communication area, and a communication cannot be established.
	Uncheck (Disable)	Even if a subscriber unit succeeded in a Group Registration to a site, the communications area covered by the site does not become an area covered by the subscriber unit. If a subscriber unit fails to make a Group Registration to a site, the subscriber unit stays in the site without completing a Group Registration.
Default	Unchecked (Disabled)	

Note:

- ◆ This function can be configured only if Group Registration is enabled by clicking on the **Group Registration** checkbox in the **System Configuration** window > **Optional** tab.
- ◆ This function can be used only by a repeater having firmware version 1.19.00 or later.

■ Intersite Call Table

In the Intersite Call Table, a field engineer can configure a maximum of 30 sites (Local) or a maximum of 48 sites (Regional) that can be a target site for a Group Call.

Note:

- ◆ This function cannot be configured if Intersite Call is disabled by clicking off the **Intersite Call** checkbox.
- ◆ This function can be used only by a repeater having firmware version 1.10.00 or later.

■ Valid

Valid allows a field engineer to configure whether each site becomes a target for a Group Call.

Range	Check (Enable)	Includes the corresponding sites as an objective for a Group Call.
	Uncheck (Disable)	Excludes the corresponding sites as an objective for a Group Call.
Default	Unchecked (Disabled)	

Note:

- ◆ This function cannot be configured if Intersite Call is disabled by clicking off the **Intersite Call** checkbox.
- ◆ The following are the restrictions that apply when configuring this function if Multicast Group Call is disabled by clicking off the **Multicast Group Call** checkbox in the **System Configuration** window > **Network** tab > **Multicast** frame:
 - If Group Registration is enabled by clicking on the **Group Registration** checkbox in the **System Configuration** window > **Optional** tab > **Registration** frame:
More than 16 sites with Valid enabled by clicking on the **Valid** checkbox and also with Dynamic Allocation disabled by clicking off the **Dynamic Allocation** checkbox, cannot be configured.
 - If Group Registration is disabled by clicking off the **Group Registration** checkbox in the **System Configuration** window > **Optional** tab > **Registration** frame:
More than 16 sites with Valid enabled by clicking on the **Valid** checkbox cannot be configured.
- ◆ This function can be used only by a repeater having firmware version 2.00.00 or later.

■ Dynamic Allocation

If a site where no subscriber units have finished a Group Registration exists, Dynamic Allocation allows a field engineer to configure whether or not to assign a traffic channel to the site.

Use of this function prevents an invalid traffic channel from being assigned to a site, and enables to effectively use the channel resources. (Refer to 21.16.3 Dynamic Allocation in the FUNC Reference.)

Range	Check (Enable)	A traffic channel cannot be assigned to a site where no subscriber units have finished a Group Registration. A subscriber unit cannot make a Group Call in a site where no traffic channel is assigned.
	Uncheck (Disable)	A traffic channel can be assigned to a site where no subscriber units have finished a Group Registration. A subscriber unit cannot make a Group Call even in a site where a traffic channel is assigned without completing a Group Registration.
Default	Unchecked (Disabled)	

Note:

- ◆ This function cannot be configured if Intersite Call is disabled by clicking off the **Intersite Call** checkbox.
- ◆ This function cannot be configured if Group Registration is disabled by clicking off the **Group Registration** checkbox in the **System Configuration** window > **Optional** tab.
- ◆ This function cannot be configured if Valid is disabled by clicking off the corresponding **Valid** checkbox.
- ◆ The following are the restrictions that apply when configuring this function if Multicast Group Call is disabled by clicking off the **Multicast Group Call** checkbox in the **System Configuration** window > **Network** tab > **Multicast** frame:
 - If Group Registration is enabled by clicking on the **Group Registration** checkbox in the **System Configuration** window > **Optional** tab > **Registration** frame:
More than 16 sites with Valid enabled by clicking on the **Valid** checkbox and also with Dynamic Allocation disabled by clicking off the **Dynamic Allocation** checkbox, cannot be configured.
- ◆ This function can be used only by a repeater having firmware version 1.19.00 or later.

■ Context Menu

Clicking the right button on the mouse after selecting a site in the Intersite Call Table pops up the Context Menu. Following is the operation that can be done using Context Menu:

Table 7-7 Context Menu

Function	Description
	The selected site is cleared.

7.8.5 Telephone Tab

In the **Telephone** tab, a field engineer can configure the restrictions on incoming calls from a telephone line for each Group ID assigned to a subscriber unit.

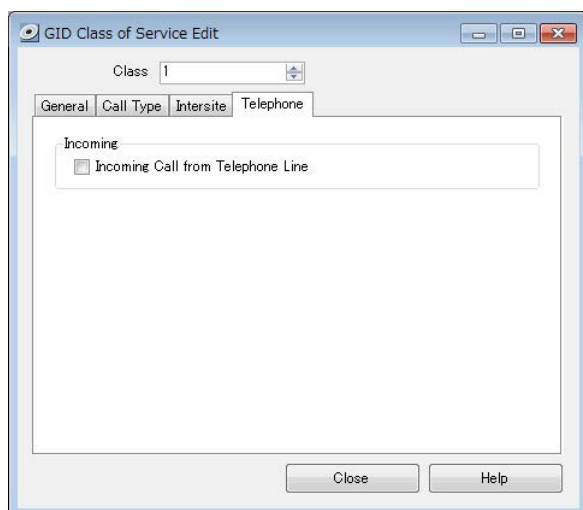


Figure 7-29 Telephone Tab

■ Incoming Call from Telephone Line (Incoming)

Incoming Call from Telephone Line allows a field engineer to configure whether or not to enable a subscriber unit to receive an incoming call by Group Call from a telephone line.

Range	Check (Enable)	Enables a subscriber unit to receive an incoming call from a telephone line.
	Uncheck (Disable)	Disables a subscriber unit from receiving an incoming call from a telephone line.
Default	Unchecked (Disabled)	

Note:

- ◆ Disable this function for a subscriber unit that does not support Telephone Interconnect because the subscriber unit cannot receive a call from a telephone line.

7.9 UID Class of Service Edit Window

In the **UID Class of Service Edit** window, a field engineer can configure a maximum of 127 Service Classes that can be used for a UID.

The **UID Class of Service Edit** window consists of the following tabs:

- **General** tab
- **Call Type** tab
- **Telephone** tab

7.9.1 Class

Class allows a field engineer to select the Service Class for a UID to be configured.

Class can be configured by directly entering a value in the edit box or clicking the spin buttons.

Range	1 to 127
In steps of	1
Default	The Service Class that is selected in the UID tab in the Class of Service Information window

7.9.2 General Tab

In the General tab, a field engineer can configure basic functions of UID Service Class.

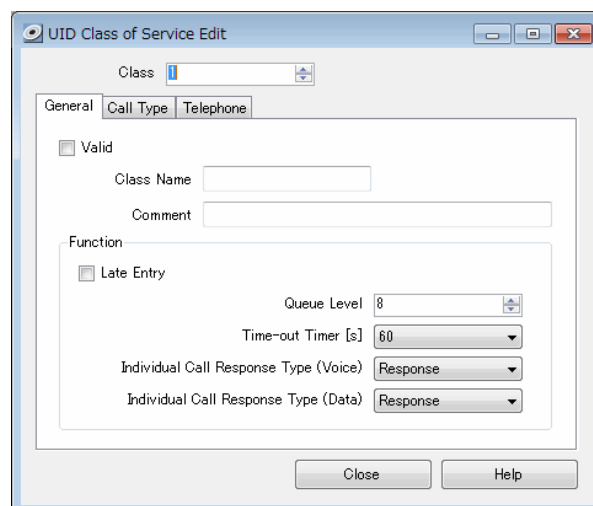


Figure 7-30 General Tab

Valid

Valid allows a field engineer to enable or disable the selected UID Service Class in the system for each Service Class.

Range	Check (Enable)	Enables the selected UID Service Class in the system.
	Uncheck (Disable)	Disables the selected UID Service Class in the system.
Default	Unchecked (Disabled)	

Class Name

Class Name allows a field engineer to configure a name for a Service Class.

Class Name can be configured by directly entering a text string in the edit box.

Range	A maximum of 12 alphanumeric characters and symbols
Available Characters	(space)!"#\$%&'()*~+-,./:;<=>/@[\]^_`{ }*0123456789ABCDEFGHIJ KLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz
Default	Blank

Comment

Comment allows a field engineer to configure comments for the Service Class.

Comment can be configured by directly entering a text string in the edit box.

Range	A maximum of 32 alphanumeric characters and symbols
Available Characters	(space)!"#\$%&'()*~+-,./:;<=>/@[\]^_`{ }*0123456789ABCDEFGHIJ KLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz
Default	Blank

Late Entry

Late Entry allows a field engineer to configure whether to send an instruction message for a traffic channel on a control channel at certain intervals by use of an Individual Call.

Using this function, the subscriber unit can participate in an Individual Call midway through the call after reverting to the communication area even if the subscriber unit is temporarily outside of the communication area and cannot receive the message that is sent by use of an Individual Call.

Range	Check (Enable)	The system repeatedly sends an instruction message for a traffic channel using a control channel at certain intervals during the Individual Call.
	Uncheck (Disable)	The system does not repeatedly send an instruction message for a traffic channel using a control channel at certain intervals during the Individual Call.
Default	Unchecked (Disabled)	

Note:

- ◆ This function can be used only by a repeater having firmware version 1.10.00 or later.

Queue Level

Queue Level allows a field engineer to configure the priority level to be applied when a subscriber unit initiates an Individual Call to the target subscriber unit.

How the system behaves while the system is in System Busy state varies followed by the priority level at the transmitting transceiver. In Busy Queue Mode, the field engineer can configure how the system behaves while the system is in System Busy state.

A field engineer can configure the Priority Level by selecting it from 2 to 8. A value of 2 has the highest priority and a value of 8 has the lowest priority. The higher the priority level is, the quicker it is to establish a call while the system is in the System Busy state. Emergency Call has the highest priority level and it corresponds to Priority Level 1.

Queue Level can be configured by directly entering a value in the edit box or by clicking the spin buttons.

Range	2 to 8
In steps of	1
Default	8

Note:

- ◆ Busy Queue Mode can be configured in the **Queue** tab in the **System Configuration** window. (Refer to: [7.1.3 Queue Tab on page 54](#))

■ Time-out Timer

Time-out Timer allows a field engineer to configure the maximum continuous transmission time for a subscriber unit to communicate by use of an Individual Call. The time information for Time-out Timer is embedded in a call message and sent to a subscriber unit. Transmitting and receiving subscriber units communicate using the value embedded in a call message.

Time-out Timer can be configured by selecting the desired length of time from the dropdown list.

Range	15 sec, 30 sec, 45 sec, 60 sec, 75 sec, 90 sec, 105 sec, 120 sec, 135 sec, 150 sec, 165 sec, 180 sec, 210 sec, 240 sec, 270 sec, 300 sec, 330 sec, 360 sec, 390 sec, 420 sec, 450 sec, 480 sec, 510 sec, 540 sec, 570 sec, 600 sec, Unlimited
Default	60 sec

Note:

- ◆ If "Unlimited" is configured, a subscriber unit can continue to transmit by Individual Call according to the configuration for the subscriber unit.
- ◆ The Time-out Timer configured by using KPG-109D/ DN or KPG-D2/ D2N is not used.

■ Individual Call Response Type (Voice)

Individual Call Response Type (Voice) allows a field engineer to configure how the receiving subscriber unit responds when a subscriber unit initiates an Individual Call (voice).

Individual Call Response Type (Voice) can be configured by selecting the desired response type from the dropdown list.

Range	Normal	The system assigns a traffic channel without checking for the presence of the receiving subscriber unit in the same manner as that for a Group Call.
	Response	The system sends a call message to the receiving subscriber unit and assigns a traffic channel only if the receiving subscriber unit responds. If there is no response, transmission is not permitted and no traffic channel can be assigned.
Default	Response	

Note:

- ◆ This function cannot be configured if "Message Trunked (Enhanced)" is selected from the **Trunking Type** dropdown list in the **System Configuration** window > **Timers** tab.

■ Individual Call Response Type (Data)

Individual Call Response Type (Data) allows a field engineer to configure how the receiving subscriber unit responds when a subscriber unit initiates an Individual Call (data).

Individual Call Response Type (Data) can be configured by selecting the desired response type from the dropdown list.

Range	Normal	The system assigns a traffic channel without checking for the presence of the receiving subscriber unit in the same behavior as that for a Group Call.
	Response	The system sends a call message to the receiving subscriber unit and assigns a traffic channel only if the receiving subscriber unit responds. If there is no response, transmission is not permitted and no traffic channel can be assigned.
Default	Response	

Note:

- ◆ This function can be used only by a repeater having firmware version 2.70.00 or later.

7.9.3 Call Type Tab

In the **Call Type** tab, a field engineer can configure limitations on various call types for UID.

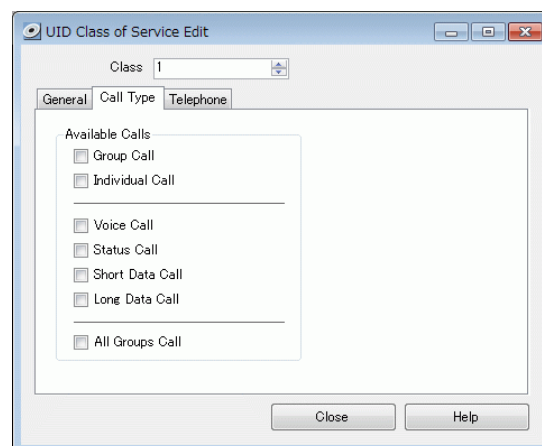


Figure 7-31 Call Type Tab

■ Group Call

Group Call allows a field engineer to configure whether to permit communication by use of a Group Call for a UID.

Range	Check (Enable)	Enables the capability to communicate by use of a Group Call for a UID.
	Uncheck (Disable)	Disables the capability to communicate by use of a Group Call for a UID.
Default	Unchecked (Disabled)	

■ Individual Call

Individual Call allows a field engineer to configure whether to permit communication by use of an Individual Call for a UID.

Range	Check (Enable)	Enables the capability to communicate by use of an Individual Call for a UID.
	Uncheck (Disable)	Disables the capability to communicate by use of an Individual Call for a UID.
Default	Unchecked (Disabled)	

■ Voice Call

Voice Call allows a field engineer to configure whether to permit an individual call by use of a Voice Call for a UID.

Range	Check (Enable)	Enables the capability to communicate by use of a Voice Call for a UID.
	Uncheck (Disable)	Disables the capability to communicate by use of a Voice Call for a UID.
Default	Unchecked (Disabled)	

■ Status Call

Status Call allows a field engineer to configure whether to permit an individual call by use of a Status Call for a UID.

Range	Check (Enable)	Enables the capability to communicate by use of a Status Call for a UID.
	Uncheck (Disable)	Disables the capability to communicate by use of a Status Call for a UID.
Default	Unchecked (Disabled)	

■ Short Data Call

Short Data Call allows a field engineer to configure whether to permit communication by use of a Short Data Call for a UID.

Range	Check (Enable)	Enables the capability to communicate by use of a Short Data Call for a UID.
	Uncheck (Disable)	Disables the capability to communicate by use of a Short Data Call for a UID.
Default	Unchecked (Disabled)	

Note:

- ◆ This function can be used only by a repeater having firmware version 1.10.00 or later.

■ Long Data Call

Long Data Call allows a field engineer to configure whether to permit communication by use of a Long Data Call for a UID.

Range	Check (Enable)	Enables the capability to communicate by use of a Long Data Call for a UID.
	Uncheck (Disable)	Disables the capability to communicate by use of a Long Data Call for a UID.
Default	Unchecked (Disabled)	

Note:

- ◆ This function can be used only by a repeater having firmware version 1.10.00 or later.

■ All Groups Call

All Groups Call allows a field engineer to configure whether to permit communication by use of an All Groups Call for a UID.

All Groups Call can be used to initiate a call to all groups that are currently used in the system.

Range	Check (Enable)	Enables the capability to communicate by use of an All Groups Call for a UID.
	Uncheck (Disable)	Disables the capability to communicate by use of an All Groups Call for a UID.
Default	Unchecked (Disabled)	

7.9.4 Telephone Tab

In the Telephone tab, a field engineer can configure the outgoing and incoming call restrictions on each Unit ID assigned to a subscriber unit.

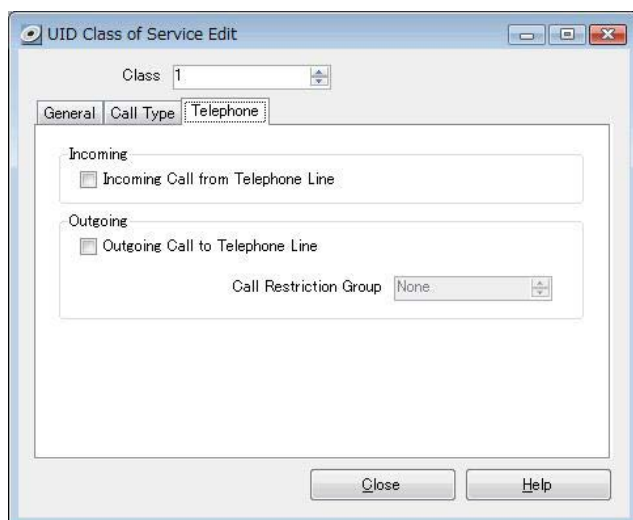


Figure 7-32 Telephone Tab

Note:

- ◆ This function can be configured only for a repeater having firmware version 2.50.00 or later.

■ Incoming Call from Telephone Line (Incoming)

Incoming Call from Telephone Line allows a field engineer to configure whether or not to enable a subscriber unit to receive an incoming call from a telephone line.

Range	Check (Enable)	Enables a subscriber unit to receive an incoming call from a telephone line.
	Uncheck (Disable)	Disables a subscriber unit from receiving an incoming call from a telephone line.
Default	Unchecked (Disabled)	

Note:

- ◆ Disable this function for a subscriber unit that does not support Telephone Interconnect because the subscriber unit cannot receive a call from a telephone line.

■ Outgoing Call to Telephone Line (Outgoing)

Outgoing Call to Telephone Line allows a field engineer to configure whether or not to enable a subscriber unit to send an outgoing call to a telephone line.

Range	Check (Enable)	Enables an outgoing call from a subscriber unit to a telephone line according to the configuration for Call Restriction Table. A Call Restriction Table to be used can be selected from the Call Restriction Table Number edit box.
	Uncheck (Disable)	Disables a subscriber unit from sending an outgoing call to a telephone line.
Default	Unchecked (Disabled)	

■ Call Restriction Table Number (Outgoing)

Call Restriction Table Number allows a field engineer to configure the number for the Call Restriction Table to be referenced for an initiation of an outgoing call from a subscriber unit to a telephone line.

To use this function, the parameters for various functions to restrict an outgoing call from a subscriber unit to a telephone line must be configured in the **System Configuration** window > **Call Restriction** tab. (Refer to: [7.1.9 Call Restriction Tab on page 67](#))

Range	None, 1 to 16 (Call Restriction Table Number in the System Configuration window > Call Restriction tab)
In steps of	1
Default	None

Note:

- ◆ An outgoing call from a subscriber unit to a telephone line is not restricted if "None" is configured in Call Restriction Table Number.

7.10 All Groups Call Window

In the **All Groups Call** window, a field engineer can configure various functions and calls that a subscriber unit can use while making an All Groups Call.

The **All Groups Call** window consists of the following tabs:

- **General** tab
- **Call Type** tab
- **Intersite** tab
- **Telephone** tab

7.10.1 General Tab

In the **General** tab, a field engineer can configure the parameters for various functions that a subscriber unit uses while making an All Groups Call.

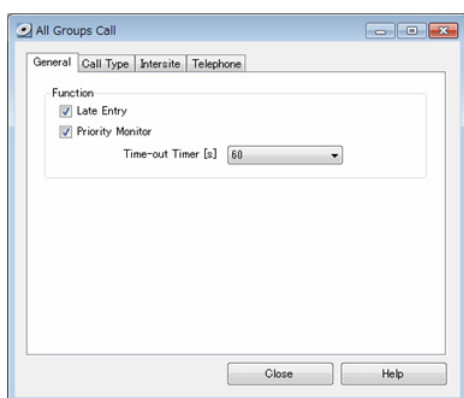


Figure 7-33 General Tab

■ Late Entry

Late Entry allows a field engineer to configure whether to send an instruction message for a traffic channel on a control channel at certain intervals by use of an All Groups Call.

Using this function, the subscriber unit can participate in an All Groups Call midway through the call after reverting to the communication area even if the subscriber unit is temporarily outside of the communication area and cannot receive the message that is sent by use of an All Groups Call.

Range	Check (Enable)	The subscriber unit repeatedly sends an instruction message for a traffic channel using a control channel at certain intervals during the All Groups Call.
	Uncheck (Disable)	The subscriber unit does not repeatedly send the instruction message for a traffic channel using a control channel at certain intervals during the All Groups Call.
Default	Checked (Enabled)	

Note:

- ◆ This function can be used only by a repeater having firmware version 1.10.00 or later.

■ Priority Monitor

Priority Monitor allows a field engineer to configure whether to provide the All Groups Call information on a traffic channel.

If a subscriber unit finds an All Groups Call having higher priority than that for the current All Groups Call by use of the All Groups Call information that is provided on a traffic channel, the subscriber unit can participate in the All Groups Call having higher priority.

Range	Check (Enable)	All Groups Call information is provided on a traffic channel.
	Uncheck (Disable)	No All Groups Call information is provided on a traffic channel.
Default	Checked (Enabled)	

Note:

- ◆ This function can be used only by a repeater having firmware version 1.10.00 or later.
- ◆ The priority level depends on the four Group IDs configured in Priority Monitor ID of the FPU for subscriber units.
- ◆ To use this function, Priority Monitor ID needs to be configured for a subscriber unit by using the FPU for subscriber units.

■ Time-out Timer

Time-out Timer allows a field engineer to configure the maximum continuous transmission time for a subscriber unit to communicate by use of an All Groups Call. The time information for Time-out Timer is embedded in a call message and sent to a subscriber unit. Transmitting and receiving subscriber units communicate using the value embedded in a call message.

Time-out Timer can be configured by selecting the desired option from the dropdown list.

Range	15 sec, 30 sec, 45 sec, 60 sec, 75 sec, 90 sec, 105 sec, 120 sec, 135 sec, 150 sec, 165 sec, 180 sec, 210 sec, 240 sec, 270 sec, 300 sec, 330 sec, 360 sec, 390 sec, 420 sec, 450 sec, 480 sec, 510 sec, 540 sec, 570 sec, 600 sec, Unlimited
Default	60 sec

Note:

- ◆ This function can be used only by a repeater having firmware version 1.10.00 or later.
- ◆ If "Unlimited" is configured, a subscriber unit can continue to make an All Groups Call according to the configuration for the subscriber unit.

7.10.2 Call Type Tab

In the **Call Type** tab, a field engineer can configure various calls that a subscriber unit can use while making an All Groups Call.

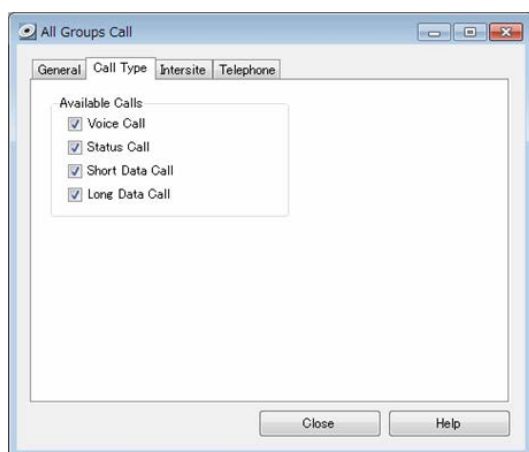


Figure 7-34 Call Type Tab

■ Voice Call

Voice Call allows a field engineer to configure whether to permit a Voice Call by use of an All Groups Call.

Range	Check (Enable)	Enables a Voice Call by use of an All Groups Call.
	Uncheck (Disable)	Disables a Voice Call by use of an All Groups Call.
Default	Checked (Enabled)	

Note:

- ◆ This function can be used only by a repeater having firmware version 1.10.00 or later.

■ Status Call

Status Call allows a field engineer to configure whether to permit a Status Call by means of an All Groups Call.

Range	Check (Enable)	Enables a Status Call by use of an All Groups Call.
	Uncheck (Disable)	Disables a Status Call by use of an All Groups Call.
Default	Checked (Enabled)	

Note:

- ◆ This function can be used only by a repeater having firmware version 1.10.00 or later.

■ Short Data Call

Short Data Call allows a field engineer to configure whether to permit a Short Data Call by use of an All Groups Call.

Range	Check (Enable)	Enables a Short Data Call by means of an All Groups Call.
	Uncheck (Disable)	Disables a Short Data Call by means of an All Groups Call.
Default	Checked (Enabled)	

Note:

- ◆ This function can be used only by a repeater having firmware version 1.10.00 or later.

■ Long Data Call

Long Data Call allows a field engineer to configure whether to permit a Long Data Call by use of an All Groups Call.

Range	Check (Enable)	Enables a Long Data Call by means of an All Groups Call.
	Uncheck (Disable)	Disables a Long Data Call by means of an All Groups Call.
Default	Checked (Enabled)	

Note:

- ◆ This function can be used only by a repeater having firmware version 1.10.00 or later.

7.10.3 Intersite Tab

In the **Intersite** tab, a field engineer can configure various functions for calls that are made among sites.

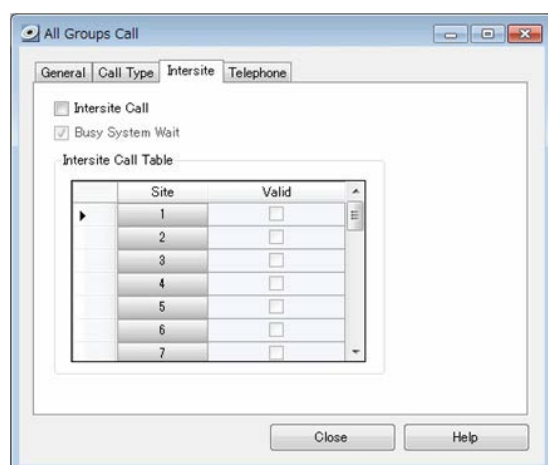


Figure 7-35 Intersite Tab

■ Intersite Call

Intersite Call allows a field engineer to configure whether to allow communications using a Voice Call and a Data Call (Status Call, Short Data Call and Long Data Call) among sites.

If this function is enabled, a Voice Call and a Data Call by use of an All Group Call can be made among sites that are specified in the Intersite Call table.

Range	Check (Enable)	Enables the capability of communication by use of a Voice Call and a Data Call among sites.
	Uncheck (Disable)	Disables the capability of communication by use of a Voice Call and a Data Call among sites.
Default	Unchecked (Disabled)	

Note:

- ◆ This function can be used only by a repeater having firmware version 1.10.00 or later.

■ Busy System Wait

Busy System Wait allows a field engineer to configure how the system behaves during the Voice Call or the Data Call by means of an All Groups Call among sites.

Range	Check (Enable)	To communicate using Voice Call, the system immediately connects to the site having available channels when an All Groups Call is initiated, and then the system will initiate a call. If no channel is available for the site, the call becomes queued. If any channel becomes available in a busy site during a call, the system initiates a call in these sites with the order in which the site becomes available. Queue is applied to both sites for the transmitting and receiving. To communicate by use of a Data Call, the system connects only to a site where an available channel exists when an All Groups Call is initiated, and then starts the call. If no available channel exists in the site, the call cannot be queued.
	Uncheck (Disable)	If there is a busy site in prepared target sites, including the transmitting site, the system notifies a subscriber unit of the System Busy state that the call cancellation immediately takes place.
Default	Checked (Enabled)	

Note:

- ◆ This function can be used only by a repeater having firmware version 1.10.00 or later.
- ◆ This function cannot be configured if Intersite Call is disabled by clicking off the **Intersite Call** checkbox.

■ Intersite Call Table

In the Intersite Call Table, a field engineer can configure a maximum of 30 sites (Local) or a maximum of 48 sites (Regional) that can be objective of an All Groups Call.

Note:

- ◆ This function can be used only by a repeater having firmware version 1.10.00 or later.
- ◆ This function cannot be configured if Intersite Call is disabled by clicking off the **Intersite Call** checkbox.

Valid

Valid allows a field engineer to configure whether each site becomes a target for an All Groups Call.

Range	Check (Enable)	Includes the corresponding sites as an objective for an All Groups Call.
	Uncheck (Disable)	Excludes the corresponding sites as an objective for an All Groups Call.
Default	Unchecked (Disabled)	

Note:

- ◆ This function cannot be configured if Intersite Call is disabled by clicking off the **Intersite Call** checkbox.
- ◆ This function cannot be configured if Multicast Group Call is disabled by clicking off the **Multicast Group Call** checkbox in the **System Configuration** window > **Network** tab > **Multicast** frame.
- ◆ More than 16 sites with Valid enabled by clicking on the **Valid** checkbox cannot be configured if Multicast Group Call is disabled by clicking off the **Multicast Group Call** checkbox in the **System Configuration** window > **Network** tab > **Multicast** frame.
- ◆ This function can be used only by a repeater having firmware version 2.00.00 or later.

Context Menu

Clicking the right button on the mouse after selecting a site in the Intersite Call table pops up the Context Menu. Following are the operation that can be executed using Context Menu:

Table 7-8 Context Menu

Function	Description
	The selected site is cleared.

7.10.4 Telephone Tab

In the **Telephone** tab, a field engineer can configure the restrictions on incoming calls from a telephone line for Unit IDs that are permitted to communicate by All Groups Call.

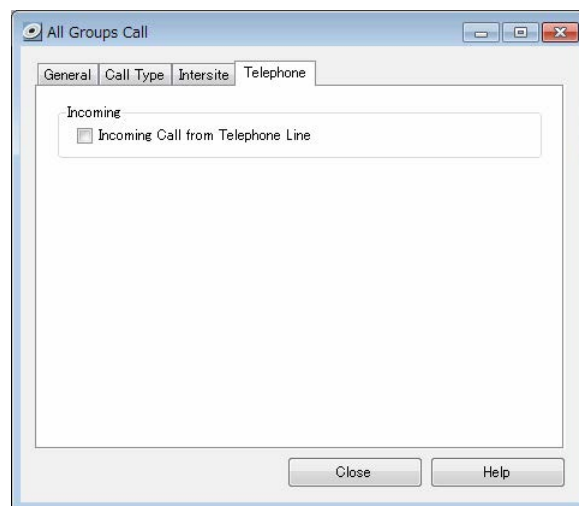


Figure 7-36 Telephone Tab

Incoming Call from Telephone Line (Incoming)

Incoming Call from Telephone Line allows a field engineer to configure whether or not to enable a subscriber unit to receive an incoming call by All Groups Call from a telephone line.

Range	Check (Enable)	Enables a subscriber unit to receive an incoming call by All Groups Call from a telephone line.
	Uncheck (Disable)	Disables a subscriber unit from receiving an incoming call by All Groups Call from a telephone line.
Default	Unchecked (Disabled)	

Note:

- ◆ Disable this function for a subscriber unit that does not support Telephone Interconnect because the subscriber unit cannot receive a call from a telephone line.

7.11 Secondary GID Class of Service Window

In the **Secondary GID Class of Service** window, a field engineer can configure various functions and calls that a system can use while making a Group Call in Site Trunking Mode.

Site Trunking Mode is the state in which the subscriber unit cannot access the Home Site where a GID is configured. If the connection among sites is disconnected in the Multi-site system, the system is placed in Site Trunking Mode.

The **Secondary GID Class of Service** window consists of the following tabs:

- **General** tab
- **Call Type** tab

7.11.1 General Tab

In the General tab, a field engineer can configure various functions that a system uses while making a Group Call in Site Trunking Mode.

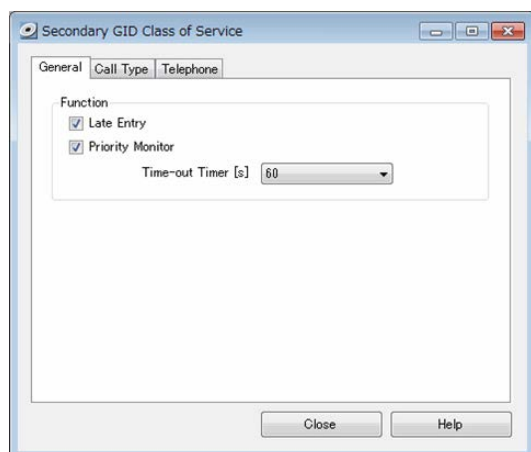


Figure 7-37 General Tab

■ Late Entry

Late Entry allows a field engineer to configure whether to send the instruction message for a traffic channel using a control channel at certain intervals during a Group Call while the system is in Site Trunking Mode.

Using this function, the subscriber unit can participate in a Group Call midway through the call after reverting to the communication area even if the subscriber unit is temporarily outside of the communication area and can not receive the message that is sent by use of a Group Call.

Range	Check (Enable)	The system repeatedly sends an instruction message for a traffic channel using a control channel at certain intervals during the Group Call while the system is in Site Trunking Mode.
	Uncheck (Disable)	The system does not repeatedly send an instruction message for a traffic channel using a control channel at certain intervals during the Group Call while the system is in Site Trunking Mode.
Default	Checked (Enabled)	

Note:

- ◆ This function can be used only by a repeater having firmware version 1.10.00 or later.

■ Priority Monitor

Priority Monitor allows a field engineer to configure whether to provide the Group Call information for a traffic channel while the system is in Site Trunking Mode.

If the subscriber unit detects a Group Call having higher priority than that for the current Group Call using the Group Call information that is provided on a traffic channel, the subscriber unit can participate in the Group Call having higher priority.

Range	Check (Enable)	Group Call information is provided on a traffic channel while the system is in Site Trunking Mode.
	Uncheck (Disable)	No Group Call information is provided on a traffic channel while the system is in Site Trunking Mode.
Default	Checked (Enabled)	

Note:

- ◆ This function can be used only by a repeater having firmware version 1.10.00 or later.
- ◆ The priority level depends on the four Group IDs configured in Priority Monitor ID of the FPU for subscriber units.

■ Time-out Timer

Time-out Timer allows a field engineer to configure the maximum continuous transmission time for a subscriber unit to make a Group Call while the system is in Site Trunking Mode. The time information for Time-out Timer is embedded in a call message and sent to a subscriber unit. Transmitting and receiving subscriber units communicate using the value embedded in a call message.

Time-out Timer can be configured by selecting the desired option from the dropdown list.

Range	15 sec, 30 sec, 45 sec, 60 sec, 75 sec, 90 sec, 105 sec, 120 sec, 135 sec, 150 sec, 165 sec, 180 sec, 210 sec, 240 sec, 270 sec, 300 sec, 330 sec, 360 sec, 390 sec, 420 sec, 450 sec, 480 sec, 510 sec, 540 sec, 570 sec, 600 sec, Unlimited
Default	60 sec

Note:

- ◆ This function can be used only by a repeater having firmware version 1.10.00 or later.
- ◆ If "Unlimited" is configured, a subscriber unit can continue to make a Group Call according to the configuration for the subscriber unit.

7.11.2 Call Type Tab

In the **Call Type** tab, a field engineer can configure various calls that can be used when a system makes a Group Call while in Site Trunking Mode.

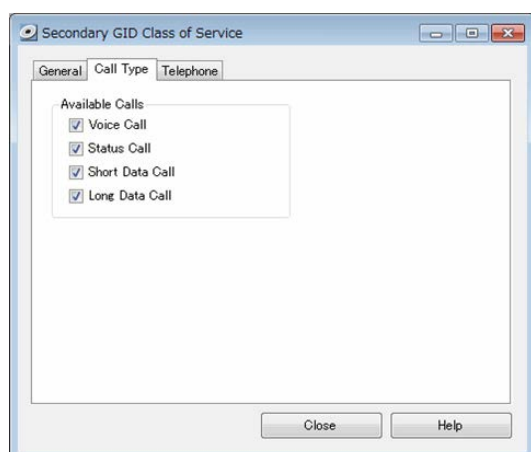


Figure 7-38 Call Type Tab

■ Voice Call

Voice Call allows a field engineer to configure whether to permit communication by use of a Voice Call for a GID while the system is in Site Trunking Mode.

Range	Check (Enable)	Enables the capability to communicate by means of a Voice Call for a GID while the system is in Site Trunking Mode.
	Uncheck (Disable)	Disables the capability to communicate by means of a Voice Call for a GID while the system is in Site Trunking Mode.
Default	Checked (Enabled)	

Note:

- ◆ This function can be used only by a repeater having firmware version 1.10.00 or later.

■ Status Call

Status Call allows a field engineer to configure whether to permit communication by use of a Status Call for a GID while the system is in Site Trunking Mode.

Range	Check (Enable)	Enables the capability to communicate by means of a Status Call for a GID while the system is in Site Trunking Mode.
	Uncheck (Disable)	Disables the capability to communicate by means of a Status Call for a GID while the system is in Site Trunking Mode.
Default	Checked (Enabled)	

Note:

- ◆ This function can be used only by a repeater having firmware version 1.10.00 or later.

■ Short Data Call

Short Data Call allows a field engineer to configure whether to permit communication by use of a Short Data Call for a GID while the system is in Site Trunking Mode.

Range	Check (Enable)	Enables the capability to communicate by means of a Short Data Call for a GID while the system is in Site Trunking Mode.
	Uncheck (Disable)	Disables the capability to communicate by means of a Short Data Call for a GID while the system is in Site Trunking Mode.
Default	Checked (Enabled)	

Note:

- ◆ This function can be used only by a repeater having firmware version 1.10.00 or later.

■ Long Data Call

Long Data Call allows a field engineer to configure whether to permit communication by means of a Long Data Call for a GID while the system is in Site Trunking Mode.

Range	Check (Enable)	Enables the capability to communicate by means of a Long Data Call for a GID while the system is in Site Trunking Mode.
	Uncheck (Disable)	Disables the capability to communicate by means of a Long Data Call for a GID while the system is in Site Trunking Mode.
Default	Checked (Enabled)	

Note:

- ◆ This function can be used only by a repeater having firmware version 1.10.00 or later.

■ Incoming Call from Telephone Line (Incoming)

Incoming Call from Telephone Line allows a field engineer to configure whether or not to enable a subscriber unit to receive an incoming call by Group Call from a telephone line.

Range	Check (Enable)	Enables a subscriber unit to receive an incoming call from a telephone line while the system is in Site Trunking Mode.
	Uncheck (Disable)	Disables a subscriber unit from receiving an incoming call from a telephone line while the system is in Site Trunking Mode.
Default	Unchecked (Disabled)	

Note:

- ◆ This function should be disabled for a subscriber unit that does not correspond to the Telephone Interconnect because the subscriber unit cannot receive a call from the telephone line.

7.11.3 Telephone Tab

In the **Telephone** tab, a field engineer can configure the restrictions on incoming calls from a telephone line for each Group ID assigned to a subscriber unit while the system is in Site Trunking Mode.

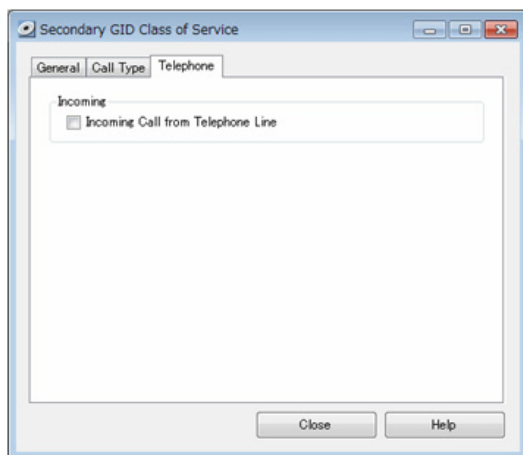


Figure 7-39 Telephone Tab

7.12 Secondary UID Class of Service Window

In the **Secondary UID Class of Service** window, a field engineer can configure various functions and calls that a system can use while making an Individual Call in Site Trunking Mode.

Site Trunking Mode is the state in which the subscriber unit cannot access a Home Site where a UID is configured. If the connection among sites is disconnected in the Multi-site system, the system is placed in Site Trunking Mode.

The **Secondary UID Class of Service** window consists of the following tabs:

- **General** tab
- **Call Type** tab
- **Telephone** tab

7.12.1 General Tab

In the General tab, a field engineer can configure various functions that a system uses while making an Individual Call in Site Trunking Mode.

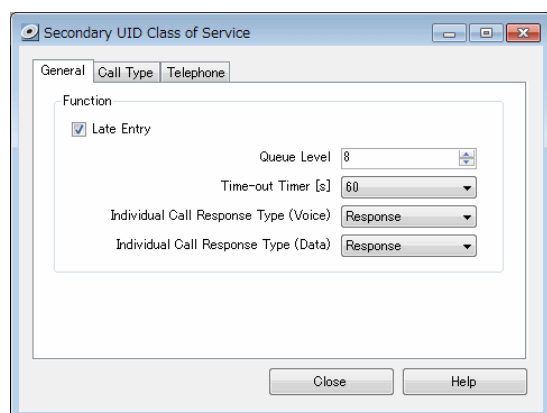


Figure 7-40 General Tab

■ Late Entry

Late Entry allows a field engineer to configure whether to send an instruction message for a traffic channel using a control channel at certain intervals during the Individual Call while the system is in Site Trunking Mode.

Using this function, the subscriber unit can participate in an Individual Call midway through the call after reverting to the communication area even if the subscriber unit is temporarily outside of the communication area and cannot receive the message that is sent by use of an Individual Call.

Range	Check (Enable)	The system repeatedly sends the instruction message for a traffic channel using a control channel at certain intervals during the Individual Call while the system is in Site Trunking Mode.
	Uncheck (Disable)	The system does not repeatedly send an instruction message for a traffic channel using a control channel at certain intervals during the Individual Call while the system is in Site Trunking Mode.
Default	Checked (Enabled)	

Note:

- ◆ This function can be used only by a repeater having firmware version 1.10.00 or later.

■ Queue Level

Queue Level allows a field engineer to configure the priority level to be applied when an Individual Call is initiated to the target subscriber unit while in Site Trunking Mode.

How the system behaves while in System Busy state varies depending on the priority level of the transmitting subscriber unit. In Busy Queue Mode, the field engineer can configure how the system behaves while in System Busy state.

The field engineer can configure the Priority Level from 2 to 8. A value of 2 has the highest priority and a value of 8 has the lowest priority. The higher the priority level is, the quicker it is to establish a call while the system is in the System Busy state. Also, Emergency Call has the highest priority level, which corresponds to Priority Level 1.

Queue Level can be configured by directly entering a value in the edit box or by clicking the spin buttons.

Range	2 to 8
In steps of	1
Default	8

Note:

- ◆ This function can be used only by a repeater having firmware version 1.10.00 or later.
- ◆ Busy Queue Mode can be configured in the **Queue** tab in the **System Configuration** window. (Refer to: [7.1.3 Queue Tab on page 54](#))

■ Time-out Timer

Time-out Timer allows a field engineer to configure the maximum continuous transmission time for a subscriber unit to make an Individual Call while the system is in Site Trunking Mode. The time information for Time-out Timer is embedded in a call message and sent to a subscriber unit. Transmitting and receiving subscriber units communicate using the value embedded in a call message.

Time-out Timer can be configured by selecting the desired option from the dropdown list.

Range	15 sec, 30 sec, 45 sec, 60 sec, 75 sec, 90 sec, 105 sec, 120 sec, 135 sec, 150 sec, 165 sec, 180 sec, 210 sec, 240 sec, 270 sec, 300 sec, 330 sec, 360 sec, 390 sec, 420 sec, 450 sec, 480 sec, 510 sec, 540 sec, 570 sec, 600 sec, Unlimited
Default	60 sec

Note:

- ◆ This function can be used only by a repeater having firmware version 1.10.00 or later.
- ◆ If "Unlimited" is configured, a subscriber unit can continue to transmit by Individual Call according to the configuration for the subscriber unit.

■ Individual Call Response Type (Voice)

Individual Call Response Type (Voice) allows a field engineer to configure how the receiving subscriber unit responds when a subscriber unit initiates an Individual Call (voice).

Individual Call Response Type (Voice) can be configured by selecting the desired response type from the dropdown list.

Range	Normal	The system assigns a traffic channel without checking for the presence of the receiving subscriber unit in the same behavior as that for a Group Call.
	Response	The system sends a call message to the receiving subscriber unit and assigns a traffic channel only if the receiving subscriber unit responds. If there is no response, transmission is not permitted and no traffic channel can be assigned.
Default	Response	

Note:

- ◆ This function can be used only by a repeater having firmware version 1.10.00 or later.
- ◆ This function cannot be configured if "Message Trunked (Enhanced)" is selected from the **Trunking Type** dropdown list in the **System Configuration** window > **Timers** tab.

■ Individual Call Response Type (Data)

Individual Call Response Type (Data) allows a field engineer to configure how the receiving subscriber unit responds when a subscriber unit initiates an Individual Call (data).

Individual Call Response Type (Data) can be configured by selecting the desired response type from the dropdown list.

Range	Normal	The system assigns a traffic channel without checking for the presence of the receiving subscriber unit in the same behavior as that for a Group Call.
	Response	The system sends a call message to the receiving subscriber unit and assigns a traffic channel only if the receiving subscriber unit responds. If there is no response, transmission is not permitted and no traffic channel can be assigned.
Default	Response	

Note:

- ◆ This function can be used only by a repeater having firmware version 2.70.00 or later.

7.12.2 Call Type Tab

In the **Call Type** tab, a field engineer can configure various calls that can be used when a system makes an Individual Call in Site Trunking Mode.

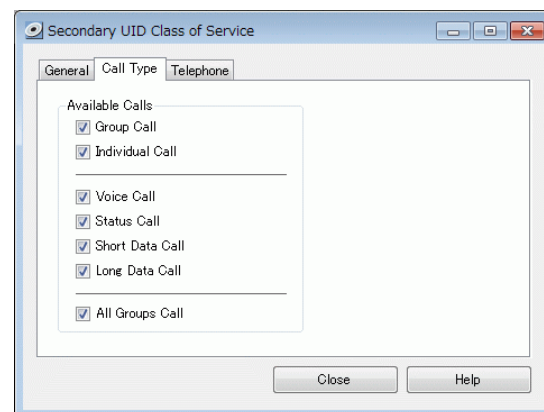


Figure 7-41 Call Type Tab

■ Group Call

Group Call allows a field engineer to configure whether to permit communication by use of a Group Call for a UID while the system is in Site Trunking Mode.

Range	Check (Enable)	Enables the capability to communicate by use of a Group Call for a UID while the system is in Site Trunking Mode.
	Uncheck (Disable)	Disables the capability to communicate by use of a Group Call for a UID while the system is in Site Trunking Mode.
Default	Checked (Enabled)	

Note:

- ◆ This function can be used only by a repeater having firmware version 1.10.00 or later.

■ Individual Call

Individual Call allows a field engineer to configure whether to permit communication by means of an Individual Call for a UID while the system is in Site Trunking Mode.

Range	Check (Enable)	Enables the capability to communicate by use of an Individual Call for a UID while the system is in Site Trunking Mode.
	Uncheck (Disable)	Disables the capability to communicate by use of an Individual Call for a UID while the system is in Site Trunking Mode.
Default	Checked (Enabled)	

Note:

- ◆ This function can be used only by a repeater having firmware version 1.10.00 or later.

■ Voice Call

Voice Call allows a field engineer to configure whether to permit an individual call by use of a Voice Call for a UID while the system is in Site Trunking Mode.

Range	Check (Enable)	Enables the capability to communicate by use of a Voice Call for a UID while the system is in Site Trunking Mode.
	Uncheck (Disable)	Disables the capability to communicate by use of a Voice Call for a UID while the system is in Site Trunking Mode.
Default	Checked (Enabled)	

Note:

- ◆ This function can be used only by a repeater having firmware version 1.10.00 or later.

■ Status Call

Status Call allows a field engineer to configure whether to permit an individual call by use of a Status Call for a UID while the system is in Site Trunking Mode.

Range	Check (Enable)	Enables the capability to communicate by use of a Status Call for a UID while the system is in Site Trunking Mode.
	Uncheck (Disable)	Disables the capability to communicate by use of a Status Call for a UID while the system is in Site Trunking Mode.
Default	Checked (Enabled)	

Note:

- ◆ This function can be used only by a repeater having firmware version 1.10.00 or later.

■ Short Data Call

Short Data Call allows a field engineer to configure whether to permit an individual call by means of a Short Data Call for a UID while the system is in Site Trunking Mode.

Range	Check (Enable)	Enables the capability to communicate by use of a Short Data Call for a UID while the system is in Site Trunking Mode.
	Uncheck (Disable)	Disables the capability to communicate by use of a Short Data Call for a UID while the system is in Site Trunking Mode.
Default	Checked (Enabled)	

Note:

- ◆ This function can be used only by a repeater having firmware version 1.10.00 or later.

■ Long Data Call

Long Data Call allows a field engineer to configure whether to permit an individual call by use of a Long Data Call for a UID while the system is in Site Trunking Mode.

Range	Check (Enable)	Enables the capability to communicate by use of a Long Data Call for a UID while the system is in Site Trunking Mode.
	Uncheck (Disable)	Disables the capability to communicate by use of a Long Data Call for a UID while the system is in Site Trunking Mode.
Default	Checked (Enabled)	

Note:

- ◆ This function can be used only by a repeater having firmware version 1.10.00 or later.

■ All Groups Call

All Groups Call allows a field engineer to configure whether to permit communication by use of an All Units Call for a UID while the system is in Site Trunking Mode.

All Groups Call is a call type that can be used to initiate a call to all subscriber units that are currently on the system.

Range	Check (Enable)	Enables the capability to communicate by use of an All Units Call for a UID while the system is in Site Trunking Mode.
	Uncheck (Disable)	Disables the capability to communicate by use of an All Units Call for a UID while the system is in Site Trunking Mode.
Default	Checked (Enabled)	

Note:

- ◆ This function can be used only by a repeater having firmware version 1.10.00 or later.

7.12.3 Telephone Tab

In the Telephone tab, a field engineer can configure the outgoing and incoming call restrictions on each Unit ID assigned to a subscriber unit.

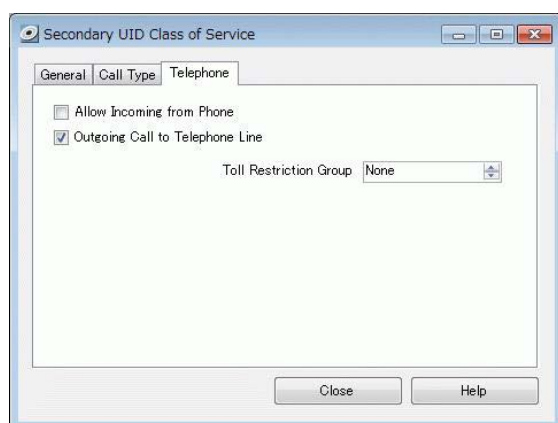


Figure 7-42 Telephone Tab

Note:

- ◆ This function can be configured only for a repeater having firmware version 2.50.00 or later.

■ Incoming Call from Telephone Line (Incoming)

Incoming Call from Telephone Line allows a field engineer to configure whether or not to enable a subscriber unit to receive an incoming call from a telephone line.

Range	Check (Enable)	Enables a subscriber unit to receive an incoming call from a telephone line.
	Uncheck (Disable)	Disables a subscriber unit from receiving an incoming call from a telephone line.
Default	Unchecked (Disabled)	

Note:

- ◆ Disable this function for a subscriber unit that does not support Telephone Interconnect because the subscriber unit cannot receive a call from a telephone line.

■ Outgoing Call to Telephone Line (Outgoing)

Outgoing Call to Telephone Line allows a field engineer to configure whether or not to enable a subscriber unit to send an outgoing call to a telephone line.

Range	Check (Enable)	Enables an outgoing call from a subscriber unit to a telephone line according to the configuration for Call Restriction Table. A Call Restriction Table to be used can be selected from the Call Restriction Table Number edit box.
	Uncheck (Disable)	Disables a subscriber unit from sending an outgoing call to a telephone line.
Default	Unchecked (Disabled)	

■ Call Restriction Table Number (Outgoing)

Call Restriction Table Number allows a field engineer to configure the number for the Call Restriction Table to be referenced for an initiation of an outgoing call from a subscriber unit to a telephone line.

To use this function, the parameters for various functions to restrict an outgoing call from a subscriber unit to a telephone line must be configured in the **System Configuration** window > **Call Restriction** tab. (Refer to: 7.1.9 Call Restriction Tab on page 67)

Range	None, 1 to 16 (Call Restriction Table Number in the System Configuration window > Call Restriction tab)
In steps of	1
Default	None

Note:

- ◆ An outgoing call from a subscriber unit to a telephone line is not restricted if "None" is configured in Call Restriction Table Number.

7.13 Telephone Call Window

In the Telephone Call window, a field engineer can configure the Time-out Timer for Telephone Call, which is a dedicated Class of Service for telephone connection.

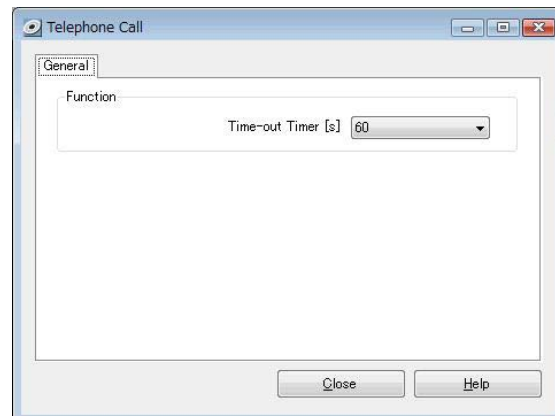


Figure 7-43 Telephone Call Window

Note:

- ◆ This function can be configured only for a repeater having firmware version 2.50.00 or later.

■ Time-out Timer

Time-out Timer allows a field engineer to configure the maximum continuous transmission time for a subscriber unit to make a Telephone Call.

Range	15 sec to 1200 sec
In steps of	5 sec
Default	60 sec

7.14 Fleet Information Window

In the **Fleet Information** window, a field engineer can add or delete a Fleet and configure parameters for various functions of a Fleet.

Double-clicking a cell in the leftmost row, the No. row or the Fleet row, or clicking the “Fleet Edit” button opens the Fleet Edit window. In the Fleet Edit window, parameters of the detailed information for various functions relevant to the Fleet can be configured.

(Refer to: [7.15 Fleet Edit Window on page 115](#))

A Fleet is a generic term for an assembly of Units and Groups and is used for effectively managing multiple subscriber units. A maximum of 5000 Fleets can be configured in the system. For each Fleet, the system provides optional services that can be used by all subscriber units belonging to each Fleet.

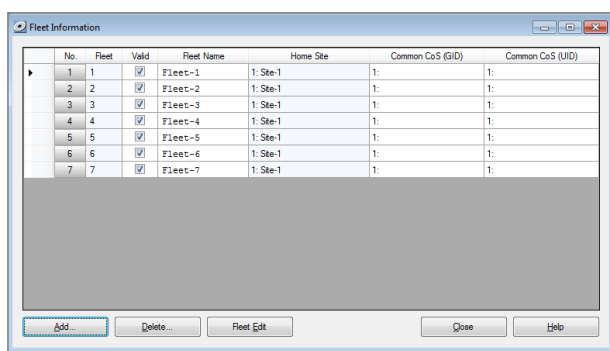


Figure 7-44 Fleet Information Window

Note:

- ◆ When logged in to KPG-110SM by using a restricted user account, the available functions are limited depending on the configuration in the **Restricted User Edit** dialog box. (Refer to: [11.4.2 About Restricted User Mode on page 202](#))

7.14.1 Fleet

The number of Fleet configured in the system appears in the Fleet edit box (1 to 5000).

7.14.2 Valid

Valid allows a field engineer to enable or disable each configured Fleet in the system.

Range	Check (Enable)	Enables a configured Fleet in the system.
	Uncheck (Disable)	Disables a configured Fleet in the system.
Default	Checked (Enabled)	

7.14.3 Fleet Name

Fleet Name allows a field engineer to configure a name for a Fleet.

Fleet Name can be configured by directly entering a text string in the edit box.

Range	A maximum of 12 alphanumeric characters and symbols
Available Characters	(space) ! " # \$ % & ' () ~ + - , . / : ; < = > / @ [\] ^ _ ` { } * 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
Default	Fleet - n (n represents the Fleet number)

7.14.4 Home Site

The number and name of a Home Site to which a Fleet configured in the system belongs appear. The name of the Home Site appears only if Site Name is preconfigured.

7.14.5 Common CoS (GID)

Common Class of Service (GID) allows a field engineer to configure the default Service Class assigned to the GID configured in the Fleet. Common Class of Service (GID) is configured as default of the added GID.

A field engineer can configure the Common CoS (GID) by selecting the desired Service Class from classes configured in the **GID** tab in the **Class of Service Information** window.

Common Class of Service (GID) can be configured by selecting the desired service class from the dropdown list.

Range	1: Class Name to 127: Class Name
Default	1: Class Name

Note:

- ◆ Only the number appears if no Class Name is configured.

7.14.6 Common CoS (UID)

Common Class of Service (UID) allows a field engineer to configure the default Service Class assigned to a UID configured in the Fleet. Common Class of Service (UID) is configured as default of the added UID.

A field engineer can configure the Common CoS (UID) by selecting the desired Service Class from classes configured in the **UID** tab in the **Class of Service Information** window.

Common Class of Service (UID) can be configured by selecting the desired service class from the dropdown list.

Range	1: Class Name to 127: Class Name
Default	1: Class Name

Note:

- ◆ Only the number appears if no Class Name is configured.

7.14.7 Add Button

Add allows a field engineer to add a new Fleet. Follow the procedure below to add a new Fleet.

1. Click the “Add” button.

The **Fleet Add** dialog box opens.

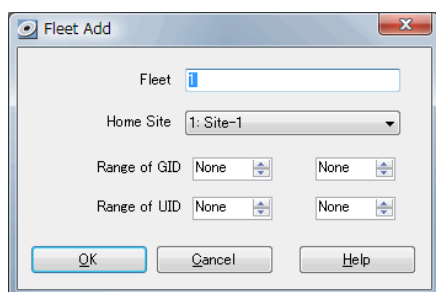


Figure 7-45 Fleet Add Dialog Box

2. Enter the Fleet Number to be added in the **Fleet** edit box.

A value in the range from 1 to 5000 can be entered.

3. Select a Home Site from the **Home Site** dropdown list.

The Fleet Number that was entered at step 2 is configured for Home Site.

4. Configure the range for a GID or a UID that can be registered to this Fleet in the **Range of GID** or **Range of UID** edit box.

- The lower limit value can be entered in the edit box on the left side and the upper limit value can be entered in the edit box on the right side in the range from 1 to 60000 for each limit.
- If “None” is configured for both lower and upper limits in the edit boxes, a GID or a UID that can be registered to a Fleet is not limited.
- If a restricted user exists, “None” cannot be configured in each edit box. In this case, a Fleet cannot be added without entering the range for a GID and a UID.

5. Click the “OK” button.

A new Fleet is added.

Note:

- ◆ If no Fleet to be added exists, the “Add” button becomes grayed out.

7.14.8 Delete Button

Delete allows a field engineer to delete the Fleet data.

Follow the procedure shown below to delete the Fleet data.

1. Select the Fleet to be deleted in the **Fleet Information** window, and then click the “Delete” button.

The **Fleet Delete** dialog box opens. The selected Fleet, and GID and UID that are configured for the Fleet appear.

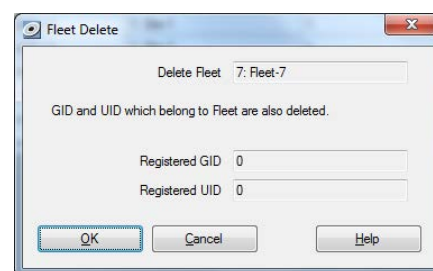


Figure 7-46 Fleet Delete Dialog Box

2. Click the “OK” button.

The confirmation message box appears.

3. Click the “Yes” button.

The selected Fleet, and GID and UID that are configured for the Fleet is deleted.

Note:

- ◆ If no Fleet to be deleted exists, the “Delete” button becomes grayed out.

7.14.9 Fleet Edit Button

Clicking the “Fleet Edit” button after selecting a Fleet opens the **Fleet Edit** window. (Refer to: [7.15 Fleet Edit Window on this page](#))

7.14.10 Context Menu

Clicking the right button on the mouse after selecting a Fleet pops up the Context Menu. Following is the operation that can be done using Context Menu:

Table 7-9 Context Menu

Function	Description
	The Fleet Edit window opens. (Refer to: 7.15 Fleet Edit Window on this page)
	The Fleet Add dialog box opens. (Refer to: 7.14.7 Add Button on page 114)
	The selected Fleet data is cleared. (Refer to: 7.14.8 Delete Button on page 114)
	Copies the selected Fleet data.
	Pastes the copied Fleet data to the Fleet data in the selected line to overwrite the data.

7.15 Fleet Edit Window

In the Fleet Edit window, a field engineer can configure parameters for various functions of a Fleet.

The **Fleet Edit** window consists of the following tabs:

- **General** tab
- **Customer** tab

Following are the information that appears at the top of the **Fleet Edit** window.

■ Fleet

The selected Fleet number appears in the Fleet information box.

■ Date Created

The date of the data created for the selected Fleet appears in the Date Created information box.

■ Last Update

The date that data for the selected Fleet was last edited appears in the Last Update information box.

7.15.1 GID Information Button

Clicking the “GID Information” button opens the **GID Information** window. (Refer to: [7.16 GID Information Window on page 119](#))

7.15.2 UID Information Button

Clicking the “UID Information” button opens the **UID Information** window. (Refer to: [7.18 UID Information Window on page 122](#))

7.15.3 General Tab

In the General tab, a field engineer can configure the basic functions of a Fleet.

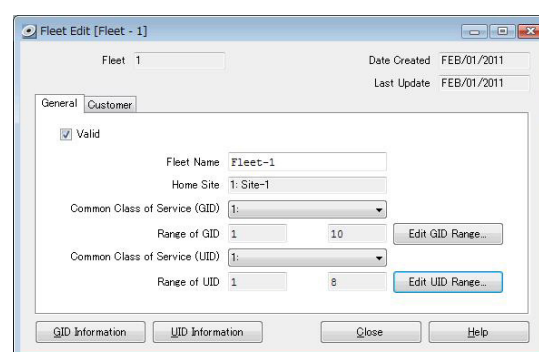


Figure 7-47 General Tab

Valid

Valid allows a field engineer to enable or disable each configured Fleet in the system.

Range	Check (Enable)	Enables a configured Fleet in the system.
	Uncheck (Disable)	Disables a configured Fleet in the system.
Default	Checked (Enabled)	

Fleet Name

Fleet Name allows a field engineer to configure a name for a Fleet.

Fleet Name can be configured by directly entering a text string in the edit box.

Range	A maximum of 12 alphanumeric characters and symbols
Available Characters	(space) ! " # \$ % & ' () ~ + - , . / : ; < = > / @ [\] ^ _ ` { } * 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
Default	Fleet - n (n represents the Fleet number)

Home Site

The number and name of a Home Site to which a Fleet configured in the system belongs appear. The name of the Home Site appears only if Site Name is preconfigured.

Common Class of Service (GID)

Common Class of Service (GID) allows a field engineer to configure the default Service Class assigned to the GID configured in the Fleet. Common Class of Service (GID) is configured as default of the added GID.

A field engineer can configure the Common CoS (GID) by selecting the desired Service Class from classes configured in the **GID** tab in the **Class of Service Information** window.

Common Class of Service (GID) can be configured by selecting the desired service class from the dropdown list.

Range	1: Class Name to 127: Class Name
Default	1: Class Name

Note:

- ◆ Only the number appears if no Class Name is configured.

Range of GID

The GID range that can be configured for a Fleet appears in the Range of GID information box. The lower limit of GID appears in the information box on the left side and the upper limit appears in the information box on the right side.

The GID range that can be registered to a Fleet can be configured in the Edit GID Range dialog box. (Refer to: [7.15.5 Edit GID Range Dialog Box on page 118](#))

Range	None, 1 to 60000
Default	None

Note:

- ◆ This function can be configured only for a repeater having firmware version 2.50.00 or later.
- ◆ If "None" is displayed for both lower and upper limits in the information boxes, a GID that can be registered to a Fleet is not limited.

Edit GID Range Button

Clicking the "Edit GID Range" button opens the **Edit GID Range** dialog box. (Refer to: [7.15.5 Edit GID Range Dialog Box on page 118](#))

Note:

- ◆ When logged in to KPG-110SM by using a restricted user account, the "Edit GID Range" button becomes inactive and the configuration of Range of GID cannot be changed. (Refer to: [11.4.2 About Restricted User Mode on page 202](#))

■ Common Class of Service (UID)

Common Class of Service (UID) allows a field engineer to configure the default Service Class assigned to a UID configured in the Fleet. Common Class of Service (UID) is configured as default of the added UID.

A field engineer can configure the Common CoS (UID) by selecting the desired Service Class from classes configured in the **UID** tab in the **Class of Service Information** window.

Common Class of Service (UID) can be configured by selecting the desired service class from the dropdown list.

Range	1: Class Name to 127: Class Name
Default	1: Class Name

Note:

- ◆ Only the number appears if no Class Name is configured.

■ Range of UID

The UID range that can be configured for a Fleet appears in the Range of UID information box. The lower limit of UID appears in the information box on the left side and the upper limit appears in the information box on the right side.

The UID range that can be registered for a Fleet can be configured in the Edit UID Range dialog box. (Refer to: [7.15.6 Edit UID Range Dialog Box on page 118](#))

Range	None, 1 to 60000
Default	None

Note:

- ◆ This function can be configured only for a repeater having firmware version 2.50.00 or later.
- ◆ If "None" is displayed for both lower and upper limits in the information boxes, a UID that can be registered to a Fleet is not limited.

■ Edit UID Range Button

Clicking the "Edit UID Range" button opens the **Edit UID Range** dialog box. (Refer to: [7.15.6 Edit UID Range Dialog Box on page 118](#))

Note:

- ◆ When logged in to KPG-110SM by using a restricted user account, the "Edit UID Range" button becomes inactive and the configuration of Range of UID cannot be changed. (Refer to: [11.4.2 About Restricted User Mode on page 202](#))

7.15.4 Customer Tab

In the **Customer** tab, a field engineer can configure information for a customer using the Fleet.

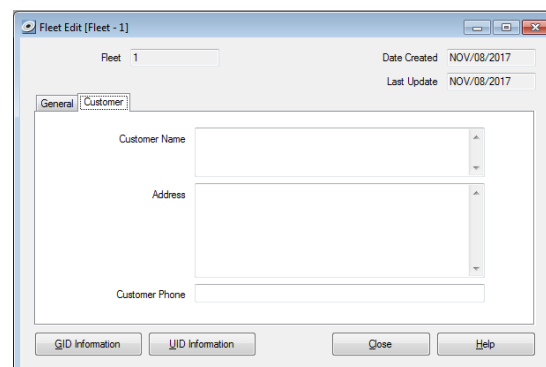


Figure 7-48 Customer Tab

■ Customer Name

Customer Name allows a field engineer to configure the name of a user using a Fleet.

Customer Name can be configured by directly entering a text string in the edit box.

Range	A maximum of 64 alphanumeric characters and symbols
Available Characters	(space) ! " # \$ % & ' () ~ + - . , / : ; < = > / @ [\] ^ _ ` { } * 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
Default	Blank

■ Address

Address allows a field engineer to configure the address of a user using a Fleet.

Address can be configured by directly entering a text string in the edit box.

Range	A maximum of 250 alphanumeric characters and symbols
Available Characters	(space) ! " # \$ % & ' () ~ + - . , / : ; < = > / @ [\] ^ _ ` { } * 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
Default	Blank

■ Customer Phone

Customer Phone allows a field engineer to configure the telephone number of a user using a Fleet.

Customer Phone can be configured by directly entering numbers in the edit box.

Range	A maximum of 32 digits of numbers and symbols
Available Characters	# * - 0 1 2 3 4 5 6 7 8 9
Default	Blank

Note:

- ◆ “-” cannot be entered as a prefix. Also, “-” cannot be entered repeatedly.

7.15.5 Edit GID Range Dialog Box

In the Edit GID Range dialog box, a field engineer can configure the GID range that can be registered for a Fleet.



Figure 7-49 Edit GID Range Dialog Box

Follow the procedure shown below to configure the GID range that can be registered for a Fleet.

1. Click the “Edit GID Range” button.

The **Edit GID Range** dialog box opens.

2. Configure the GID range that can be registered for this Fleet in the **Range of GID** edit box.

- The lower limit value can be entered in the edit box on the left side and the upper limit value can be entered in the edit box on the right side in the range from 1 to 60000 for each limit.
- If “None” is configured for both lower and upper limits in the edit boxes, a GID that can be registered to a Fleet is not limited.

3. Click the “OK” button.

The value in the Range of GID information box in the **Fleet Edit** window > **General** tab is renewed and the configuration is applied.

Note:

- ◆ This function can be configured only for a repeater having firmware version 2.50.00 or later.
- ◆ Among Fleets, the same GID cannot be configured redundantly as a GID that can be registered to a Fleet.

- ◆ When logged in to KPG-110SM by using a restricted user account, the “Edit GID Range” button becomes inactive and the configuration of Range of GID cannot be changed. (Refer to: [11.4.2 About Restricted User Mode on page 202](#))
- ◆ If any GIDs have already been registered to a Fleet, these GIDs need to be within the GID range.

7.15.6 Edit UID Range Dialog Box

In the Edit UID Range dialog box, a field engineer can configure the UID range that can be registered for a Fleet.

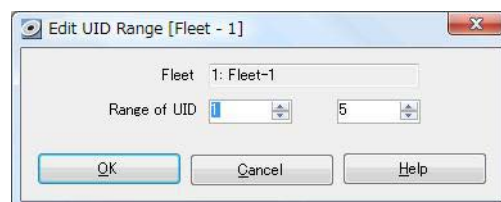


Figure 7-50 Edit UID Range Dialog Box

Follow the procedure shown below to configure the UID range that can be registered for a Fleet.

1. Click the “Edit UID Range” button.

The **Edit UID Range** dialog box opens.

2. Configure the UID range that can be registered for this Fleet in the **Range of UID** edit box.

- The lower limit value can be entered in the edit box on the left side and the upper limit value can be entered in the edit box on the right side in the range from 1 to 60000 for each limit.
- If “None” is configured for both lower and upper limits in the edit boxes, a UID that can be registered to a Fleet is not limited.

3. Click the “OK” button.

The value in the Range of UID information box in the **Fleet Edit** window > **General** tab is renewed and the configuration is applied.

Note:

- ◆ This function can be configured only for a repeater having firmware version 2.50.00 or later.
- ◆ Among Fleets, the same UID cannot be configured redundantly as a UID that can be registered to a Fleet.
- ◆ When logged in to KPG-110SM by using a restricted user account, the “Edit GID Range” button becomes inactive and the configuration of Range of UID cannot be changed. (Refer to: [11.4.2 About Restricted User Mode on page 202](#))
- ◆ If any UIDs have already been registered to a Fleet, these UIDs need to be within the UID range.

7.16 GID Information Window

In the **GID Information** window, a field engineer can add or delete a GID and configure parameters for various functions of a GID.

Double-clicking a cell in the leftmost row, the No. row, or clicking the “GID Edit” button opens the GID Edit window. In the GID Edit window, parameters of the detailed information for various functions relevant to a GID can be configured. (Refer to: [7.17 GID Edit Window on page 121](#))

GID (Group ID) is an ID representing a group of members who wish to make a call. A maximum of 60000 GIDs can be configured in a system and a maximum of 3000 GIDs can be configured in each site. A Group Call can be made among the subscriber units by sharing the same GID.

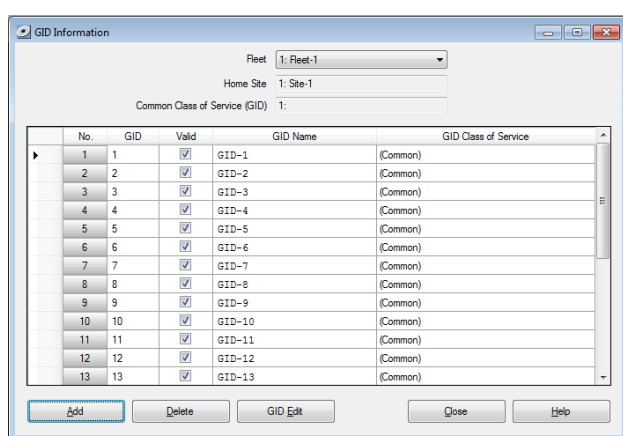


Figure 7-51 GID Information Window

Note:

- ◆ When logged in to KPG-110SM by using a restricted user account, the available functions are limited depending on the configuration in the **Restricted User Edit** dialog box. (Refer to: [11.4.2 About Restricted User Mode on page 202](#))

7.16.1 Fleet

Fleet allows a field engineer to select a Fleet for a GID to be configured.

Fleet can be configured by selecting the desired Fleet from the dropdown list.

Range	1 to 5000 (Fleet numbers configured in the system)
Default	If the GID information window becomes active by selecting GID information from the Edit pulldown menu: The lowest Fleet number configured in the system If the GID information window becomes active by clicking the GID information button in the Fleet Edit window: The Fleet selected in the Fleet Edit window

7.16.2 Home Site

The number and name of a Home Site to which the selected Fleet belongs appear. The name of the Home Site appears only if Site Name is preconfigured.

7.16.3 Common Class of Service (GID)

The Service Class configured in the **General** tab in the **Fleet Information Edit** window appears in the Common Class of Service (GID) information box.

7.16.4 GID

GID allows a field engineer to configure a Group ID.

GID can be configured by directly entering a value in the edit box.

Range	1 to 60000
Default	The lowest available Group ID

Note:

- ◆ The same Group ID cannot be redundantly configured within a system.

7.16.5 Valid

Valid allows a field engineer to enable or disable each Group ID in the system.

Range	Check (Enable)	Enables a Group ID in the system.
	Uncheck (Disable)	Disables a Group ID in the system.
Default	Checked (Enabled)	

7.16.6 GID Name

GID Name allows a field engineer to configure a name for a GID.

GID Name can be configured by directly entering a text string in the edit box.

Range	A maximum of 12 alphanumeric characters and symbols
Available Characters	(space) ! " # \$ % & ' () ~ + - , . / : ; < = > / @ [\] ^ _ ` { } * 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
Default	GID - n (n represents the GID number)

7.16.7 GID Class of Service

GID Class of Service allows a field engineer to configure a Service Class for a Group ID.

Service Class can be selected from the GID Service Classes configured in the **Class of Service Information** window. (Refer to: [7.7.1 GID Tab on page 89](#))

If “Common” is configured, the Service Class configured for Common Class of Service (GID) is applied to the Group ID Service Class.

GID Class of Service can be configured by selecting the desired service class from the dropdown list.

Range	(Common), 1: Class Name to 127: Class Name
Default	(Common)

Note:

- ◆ Only the number appears if no Class Name is configured.

7.16.8 Add Button

Clicking the “Add” button adds a new GID.

7.16.9 Delete Button

Clicking the “Delete” button after selecting a GID to be deleted deletes the selected GID.

7.16.10 GID Edit Button

Clicking the “GID Edit” button after selecting a GID opens the **GID Edit** window. (Refer to: [7.17 GID Edit Window on page 121](#))

7.16.11 Context Menu

Clicking the right button on the mouse after selecting the GID pops up the Context Menu. Following is the operation that can be done using Context Menu:

Table 7-10 Context Menu

Function	Description
	The GID Edit window opens. (Refer to: 7.17 GID Edit Window on page 121)
	A new GID data is added.
	The selected GID data is cleared.
	Copies the selected GID data.
	Pastes the copied GID data to the GID data in the selected line to overwrite the data.

7.17 GID Edit Window

In the GID Edit window, a field engineer can configure parameters for various functions of a GID configured in a Fleet.

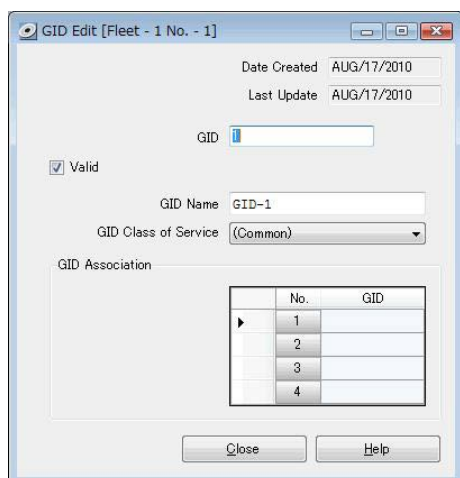


Figure 7-52 GID Edit Window

Following are the information that appears at the top of the **GID Edit** window.

■ Date Created

The date of the data created for the selected GID appears in the Date Created information box.

■ Last Update

The date that data for the selected GID was last edited appears in the Last Update information box.

7.17.1 GID

GID allows a field engineer to configure a Group ID.

GID can be configured by directly entering a value in the edit box.

Range	1 to 60000
Default	The lowest available Group ID

Note:

- ◆ The same Group ID cannot be redundantly configured within a system.

7.17.2 Valid

Valid allows a field engineer to enable or disable each Group ID in the system.

Range	Check (Enable)	Enables a Group ID in the system.
	Uncheck (Disable)	Disables a Group ID in the system.
Default	Checked (Enabled)	

7.17.3 GID Name

GID Name allows a field engineer to configure a name for a Group ID.

GID Name can be configured by directly entering a text string in the edit box.

Range	A maximum of 12 alphanumeric characters and symbols
Available Characters	(space) ! " # \$ % & ' () ~ + - . , / ; < = > / @ [\] ^ _ ` { } * 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
Default	GID - n (n represents the GID number)

7.17.4 GID Class of Service

GID Class of Service allows a field engineer to configure a Service Class for a Group ID.

Service Class can be selected from the GID Service Classes configured in the **Class of Service Information** window. (Refer to: 7.7.1 GID Tab on page 89)

If "Common" is configured, the Service Class configured for Common Class of Service (GID) is applied to the Group ID Service Class.

GID Class of Service can be configured by selecting the desired service class from the dropdown list.

Range	(Common), 1: Class Name to 127: Class Name
Default	(Common)

Note:

- ◆ Only the number appears if no Class Name is configured.

7.17.5 Associated GID

Associated GID allows a field engineer to configure a registered GID (Target GID) in the system as an Associated GID. Since an Associated GID can be related with a Target GID, even if a subscriber unit selects a GID other than the Target GID, the subscriber unit can participate in a Group Call for the Target GID.

A maximum of 4 Associated GIDs can be configured for one Target GID. (Refer to 21.18 Associated GID in the FUNC Reference.)

Associated GID can be configured by directly entering a value in the edit box or clicking the spin buttons.

Range	1 to 60000
Default	Blank

Note:

- ◆ GID Association is the function that enables the subscriber units selecting different GIDs to participate in the same communication. When the system starts a Group Call to a Target GID, the Target GID can be called in both sites where called as the Target GID and called as the Associated GID. This enables the subscriber unit selecting the Associated GID to participate in a traffic channel assigned for the Group Call with the Target GID. To use this function, it is necessary to include the Target GID to the targets for scanning or to configure the Target GID as a Priority Monitor ID in the subscriber unit selecting an Associated GID.
- ◆ This function can be configured only if Intersite Call is enabled by clicking on the **Intersite Call** checkbox in the **GID Class of Service Edit** window > **Intersite** tab.
- ◆ This function can be used only by a repeater having firmware version 2.00.00 or later.

7.18 UID Information Window

In the **UID Information** window, a field engineer can add or delete a UID and configure parameters for various functions of a UID.

Double-clicking a cell in the leftmost row, the No. row, or clicking the "UID Edit" button opens the UID Edit window. In the **UID Edit** window, parameters of the detailed information for various functions relevant to the UID can be configured. (Refer to: [7.19 UID Edit Window on page 125](#))

UID (Unit ID) is a unique number assigned to each subscriber unit. A maximum of 60000 UIDs can be configured in a system, and a maximum of 3000 UIDs can be configured in each site. Since the system identifies the subscriber unit by using a UID, a subscriber unit to which no UID is assigned cannot be operated in the system. A user can use any UID in Conventional Mode or Trunking Mode. However, a call cannot be initiated if one subscriber unit is in Conventional Mode and other subscriber units are in Trunking Mode.

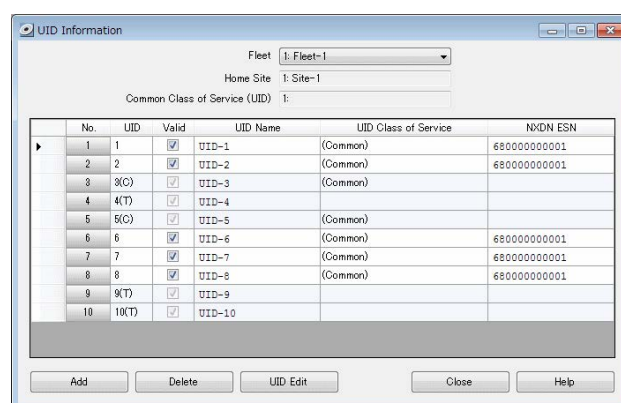


Figure 7-53 UID Information Window

Note:

- ◆ The UID being used with Console or Telephone Line is prefixed with "*". This UID can be changed in the **Console Information** window or **Telephone Line Information** window.
- ◆ When logged in to KPG-110SM by using a restricted user account, the available functions are limited depending on the configuration in the **Restricted User Edit** dialog box. (Refer to: [11.4.2 About Restricted User Mode on page 202](#))

7.18.1 Fleet

Fleet allows a field engineer to select the Fleet for the UID to be configured.

Fleet can be configured by selecting the desired Fleet from the dropdown list.

Range	1 to 5000 (Fleet numbers configured in the system)
Default	If the UID information window becomes active by selecting UID information from the Edit pulldown menu: The lowest Fleet number configured in the system If the UID information window becomes active by clicking the UID information button in the Fleet Edit window: The Fleet selected in the Fleet Edit window

7.18.2 Home Site

The number and name of a Home Site to which the selected Fleet belongs appear. The name of the Home Site appears only if Site Name is preconfigured.

7.18.3 Common Class of Service (UID)

The Service Class configured in the **General** tab in the **Fleet Information Edit** window appears in the Common Class of Service (UID) information box.

7.18.4 UID

UID allows a field engineer to configure a Unit ID.

UID can be configured by directly entering a value in the edit box.

Range	1 to 60000
Default	The lowest available Unit ID number

Note:

- ◆ The same Unit ID cannot be redundantly configured within a system.
- ◆ A UID being used with IP Console has "(C)" after its number. In this case, parameters for various functions of a UID having "(C)" after its number cannot be changed in the UID Information window.
- ◆ A UID being used with Telephone Interconnect has "(T)" after its number. In this case, parameters for various functions of a UID having "(T)" after its number cannot be changed in the UID Information window.

7.18.5 Valid

Valid allows a field engineer to enable or disable each Unit ID in the system.

Range	Check (Enable)	Enables a Unit ID in the system.
	Uncheck (Disable)	Disables a Unit ID in the system.
Default	Checked (Enabled)	

7.18.6 UID Name

UID Name allows a field engineer to configure a name for a Unit ID.

UID Name can be configured by directly entering a text string in the edit box.

Range	A maximum of 12 alphanumeric characters and symbols
Available Characters	(space) ! " # \$ % & ' () ~ + - . , / ; < = > / @ [\] ^ _ ` { } * 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
Default	UID - n (n represents the UID number)

7.18.7 UID Class of Service

UID Class of Service allows a field engineer to configure a Service Class for a Unit ID.

Service Class can be selected from the UID Service Class(es) configured in the **Class of Service Information** window. (Refer to: [7.7.2 UID Tab on page 90](#))

If "Common" is configured, the Service Class configured for Common Class of Service (UID) is applied to the Unit ID Service Class.

UID Class of Service can be configured by selecting the desired service class from the dropdown list.

Range	(Common), 1: Class Name to 127: Class Name
Default	(Common)

Note:

- ◆ Only the number appears if no Class Name is configured.

7.18.8 NXDN ESN

NXDN ESN allows a field engineer to configure the NXDN ESN of the subscriber unit for a UID.

NXDN ESN can be configured by directly entering a value in the edit box or clicking the spin buttons.

Range	ESN assigned to the NXDN subscriber unit
Default	680000000001

Note:

- ◆ This function cannot be configured if Location Registration or NXDN ESN Validation is disabled by clicking off either the **Location Registration** or **NXDN ESN Validation** checkbox in the **System Configuration** window > **Optional** tab.
- ◆ This function cannot be configured if Manufacturer Limitation is enabled by clicking on the **Manufacturer Limitation** checkbox in the **System Configuration** window > **Optional** tab.

7.18.9 Add Button

Clicking the “Add” button adds a new UID.

Also, clicking the “Add” button while selecting the row of the UID with an NXDN ESN configured displays the **UID Add** dialog box. The configuration value of the NXDN ESN can be confirmed and changed in the **UID Add** dialog box.

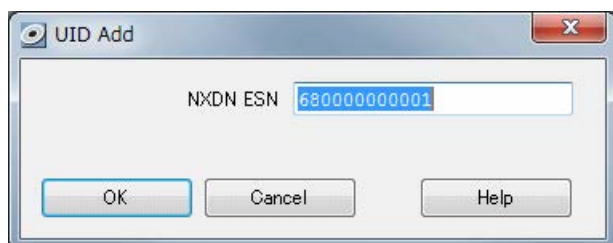


Figure 7-54 UID Add Dialog Box

7.18.10 Delete Button

Clicking the “Delete” button after selecting the UID to be deleted deletes the selected UID.

7.18.11 UID Edit Button

Clicking the “UID Edit” button after selecting a UID opens the **UID Edit** window. (Refer to: [7.19 UID Edit Window on page 125](#))

7.18.12 Context Menu

Clicking the right button on the mouse after selecting a UID pops up the Context Menu. Following is the operation that can be done using Context Menu:

Table 7-11 Context Menu

Function	Description
	The UID Edit window opens. (Refer to: 7.19 UID Edit Window on page 125)
	A new UID data is added.
	The selected UID data is cleared.
	Copies the selected UID data.
	Pastes the copied UID data to the UID data in the selected line to overwrite the data.

7.19 UID Edit Window

In the UID Edit window, a field engineer can configure parameters for various functions of a UID configured in a Fleet.

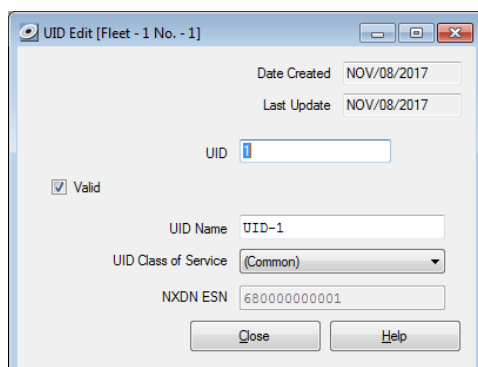


Figure 7-55 UID Edit Window

Following are the information that appears at the top of the **UID Edit** window.

■ Date Created

The date of the data created for the selected UID appears in the Date Created information box.

■ Last Update

The date that data for the selected UID was last edited appears in the Last Update information box.

7.19.1 UID

UID allows a field engineer to configure a Unit ID.

UID can be configured by directly entering a value in the edit box.

Range	1 to 60000
Default	The lowest available Unit ID number

Note:

- ◆ The same Unit ID cannot be redundantly configured within a system.

7.19.2 Valid

Valid allows a field engineer to enable or disable each Unit ID in the system.

Range	Check (Enable)	Enables a Unit ID in the system.
	Uncheck (Disable)	Disables a Unit ID in the system.
Default	Checked (Enabled)	

7.19.3 UID Name

UID Name allows a field engineer to configure a name for a UID.

UID Name can be configured by directly entering a text string in the edit box.

Range	A maximum of 12 alphanumeric characters and symbols
Available Characters	(space) ! " # \$ % & ' () ~ + - , . / : ; < = > / @ [\] ^ _ ` { } * 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
Default	UID - n (n represents the UID number)

7.19.4 UID Class of Service

UID Class of Service allows a field engineer to configure a Service Class for a Unit ID.

Service Class can be selected from the UID Service Class(es) configured in the **Class of Service Information** window. (Refer to: [7.7.2 UID Tab on page 90](#))

If "Common" is configured, the Service Class configured for Common Class of Service (UID) is applied to the Unit ID Service Class.

UID Class of Service can be configured by selecting the desired service class from the dropdown list.

Range	(Common), 1: Class Name to 127: Class Name
Default	(Common)

Note:

- ◆ Only the number appears if no Class Name is configured.

7.20 Console Information Window

IP Console is a function that enables to connect to a subscriber unit by use of an IP Network Interface. A dispatcher can connect to a subscriber unit even outside of the wireless communications area using an external device that can be used on the IP Network Interface (hereinafter referred to as "IP Console"). (Refer to 21.17 IP Console in the FUNC Reference.)

In the Console Information window, a field engineer can add or delete the IP Console that is used to connect to a subscriber unit on the IP Network Interface, and configure the parameters for various functions for each site. A maximum of 10 IP Consoles can be configured for each site, and a maximum of 100 IP Consoles can be configured in the system.

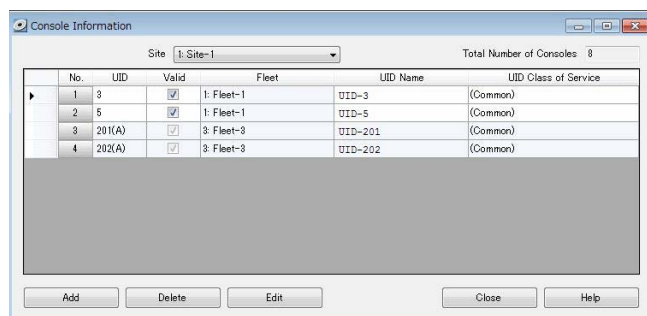


Figure 7-56 Console Information Window

Double-clicking a cell in the leftmost row, the No. row, or clicking the "Edit" button opens the **Console Edit** window. The parameters for various functions of IP Console can also be configured in the Console Edit window the same as in the Console Information window. (Refer to: [7.21 Console Edit Window on page 128](#))

Note:

- ◆ This function can be used only by a repeater having firmware version 2.00.00 or later.
- ◆ The maximum number of IP Consoles to be configured includes the number of INTERCONNECT ADAPTERs (KTI-4). Therefore, the maximum number of IP Consoles to be configured is decreased by the number of KTI-4 if a KTI-4 is connected to the system. (Refer to: [7.22 Telephone Line Information Window on page 129](#))
- ◆ When logged in to KPG-110SM by using a restricted user account, the available functions are limited depending on the configuration in the **Restricted User Edit** dialog box. (Refer to: [11.4.2 About Restricted User Mode on page 202](#))

7.20.1 Site

Site allows a field engineer to select a site where an IP Console is connected.

The target site can be selected from the Site dropdown list, and a UID (Unit ID) for the IP Console can be configured for each site.

Range	The range varies followed by the configuration for Network Category (Local or Regional) as follows: Local: 1: Site Name to 30: Site Name Regional: 1: Site Name to 48: Site Name
Default	The lowest site number

7.20.2 Total Number of Console

The total number of IP Consoles configured in the Console Information window appears in the Total Number of Console information box.

7.20.3 UID

UID allows a field engineer to configure a Unit ID of the IP Console.

UID can be configured by directly entering a value in the edit box.

Range	1 to 60000
Default	The lowest configurable Unit ID number

Note:

- ◆ The same Unit ID cannot be redundantly configured within a system.
- ◆ The UID of an IP Console capable of Talkpath has "(A)" after its number. In this case, parameters for various functions of a UID having "(A)" after its number cannot be changed in the Console Information window.

7.20.4 Valid

Valid allows a field engineer to enable or disable a Unit ID of an IP Console in the system.

Range	Check (Enable)	Enables the Unit ID of an IP Console in the system.
	Uncheck (Disable)	Disables the Unit ID of an IP Console in the system.
Default	Checked (Enabled)	

7.20.5 Fleet Name

The Fleet name where a Unit ID assigned to an IP Console is included appears in the Fleet Name information box.

7.20.6 UID Name

UID Name allows a field engineer to configure a Unit ID name for an IP Console.

UID Name can be configured by directly entering a text string in the edit box.

Range	A maximum of 12 alphanumeric characters and symbols
Available Characters	(space)! " # \$ % & ' () ~ + - , . / : ; < = > / @ [\] ^ _ ` { } * 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
Default	UID - n (n represents the UID number)

7.20.7 UID Class of Service

UID Class of Service allows a field engineer to configure a Service Class for a Unit ID of an IP Console.

Service Class can be selected from the UID Service Class(es) configured in the **Class of Service Information** window. (Refer to: [7.7.2 UID Tab on page 90](#))

If “Common” is configured, the Service Class configured for Common Class of Service (UID) is applied to the Unit ID Service Class for the IP Console.

UID Class of Service can be configured by selecting the desired service class from the dropdown list.

Range	(Common), 1: Class Name to 127: Class Name
Default	(Common)

Note:

- ◆ Only the number appears if no Class Name is configured.

7.20.8 Add Button

Add allows a field engineer to add a new IP Console.

Follow the procedure shown below to newly add an IP Console.

1. Click the “Add” button.

The **Console Add** dialog box opens.

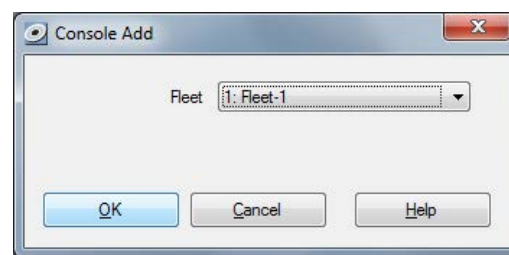


Figure 7-57 Console Add Dialog Box

2. Select the desired Fleet number from the Fleet dropdown list to be applied to the IP Console.
3. Click the “OK” button.

A new IP Console data is added.

7.20.9 Delete Button

Clicking the “Delete” button after selecting the IP Console to be deleted deletes the selected IP Console.

7.20.10 Edit Button

Clicking the “Edit” button after selecting an IP Console opens the **Console Edit** window. (Refer to: [7.21 Console Edit Window on page 128](#))

7.20.11 Context Menu

Clicking the right button on the mouse after selecting an IP Console pops up the Context Menu. Following are the operation that can be executed using Context Menu:

Table 7-12 Context Menu

Function	Description
	The Console Edit window opens. (Refer to: 7.21 Console Edit Window on page 128)
	The Console Add dialog box opens. (Refer to: 7.20.8 Add Button on this page)
	Clear the selected IP Console data.
	Copies the selected IP Console data.
	Pastes the copied IP Console data to the IP Console data in the selected line to overwrite the data.

7.21 Console Edit Window

In the Console Edit window, a field engineer can configure parameters for various functions of an IP Console that is used to connect to a subscriber unit on an IP Network Interface. (Refer to 21.17 IP Console in the FUNC Reference.)

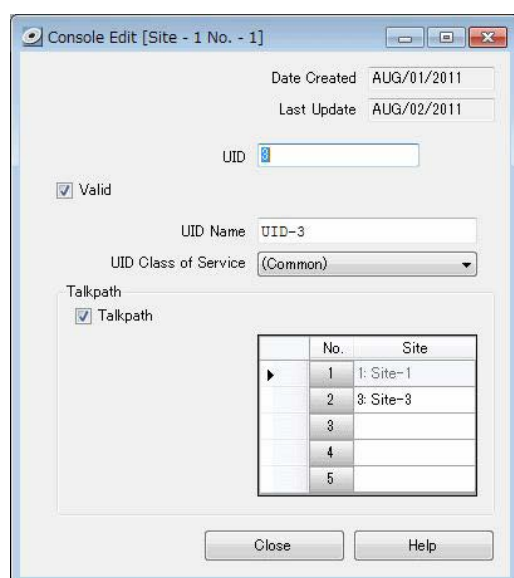


Figure 7-58 Console Edit Window

■ Date Created

The date of the data created for the selected IP Console appears in the Date Created information box.

■ Last Update

The date that data for the selected IP Console was last edited appears in the Last Update information box.

7.21.1 UID

UID allows a field engineer to configure a Unit ID of the IP Console.

UID can be configured by directly entering a value in the edit box.

Range	1 to 60000
Default	The lowest configurable Unit ID number

Note:

- ◆ The same Unit ID cannot be redundantly configured within a system.

7.21.2 Valid

Valid allows a field engineer to enable or disable a Unit ID of an IP Console in the system.

Range	Check (Enable)	Enables the Unit ID of an IP Console in the system.
	Uncheck (Disable)	Disables the Unit ID of an IP Console in the system.
Default	Checked (Enabled)	

7.21.3 UID Name

UID Name allows a field engineer to configure a Unit ID name for an IP Console.

UID Name can be configured by directly entering a text string in the edit box.

Range	A maximum of 12 alphanumeric characters and symbols
Available Characters	(space) ! " # \$ % & ' () ~ + - , . / : ; < = > / @ [\] ^ _ ` { } * 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
Default	UID - n (n represents the UID number)

7.21.4 UID Class of Service

UID Class of Service allows a field engineer to configure a Service Class for a Unit ID of an IP Console.

Service Class can be selected from the UID Service Class(es) configured in the **Class of Service Information** window. (Refer to: 7.7.2 UID Tab on page 90)

If "Common" is configured, the Service Class configured for Common Class of Service (UID) is applied to the Unit ID Service Class for the IP Console.

UID Class of Service can be configured by selecting the desired service class from the dropdown list.

Range	(Common), 1: Class Name to 127: Class Name
Default	(Common)

Note:

- ◆ Only the number appears if no Class Name is configured.

7.21.5 Talkpath (Talkpath)

Talkpath allows a field engineer to enable or disable the Talkpath function for an IP Console.

Range	Check (Enable)	Enables the IP Console capability of Talkpath to be connected to an IP network.
	Uncheck (Disable)	Disables the IP Console capability of Talkpath to be connected to an IP network.
Default	Unchecked (Disabled)	

Note:

- ◆ This function can be used only by a repeater having firmware version 2.70.00 or later.
- ◆ This function needs to be enabled to connect an IP Console capable of Talkpath to an IP network. This function must be disabled to connect an IP Console not having the capability of Talkpath to the IP network.

7.21.6 Site (Talkpath)

Site allows a field engineer to configure the site to connect an IP Console, in addition to a home site, if Talkpath is configured to be enabled.

Site can be configured by selecting each site number to connect from the Site dropdown lists for No. 2 through No. 5.

Range	The range varies followed by the configuration for Network Category (Local or Regional) as follows: Local: Blank, 1: Site Name to 30: Site Name Regional: Blank, 1: Site Name to 48: Site Name
Default	No. 1: The home site number No. 2 to No. 5: Blank

Note:

- ◆ This function can be configured only if Talkpath is enabled by clicking on the **Talkpath** checkbox.
- ◆ The home site number is automatically configured in the **Site** dropdown list for No. 1, and the configuration cannot be changed.
- ◆ The UID data of an IP Console is automatically added in the **UID Information** window for the site configured in the site table for Talkpath. A UID of the IP Console having the capability of Talkpath has "(A)" after its number in the UID Information window.
- ◆ This function can be used only by a repeater having firmware version 2.70.00 or later.

7.22 Telephone Line Information Window

Telephone Interconnect is the function that interconnects between an NXDN Trunking System and a telephone line to establish a communication between a subscriber unit and a telephone. Connection to a telephone line, such as PSTN and PABX, can be made via a telephone patch by connecting an optional Interconnect Adapter (KTI-4) to an IP network of an NXDN Trunking System. (Refer to 21.21 Telephone Interconnect in the FUNC Reference.)

In the Telephone Line Information window, a field engineer can configure a telephone line used for Telephone Interconnect (hereinafter referred to as "KTI-4"), and can configure parameters, such as a Unit ID to be assigned to a KTI-4 and a Fleet to manage a Unit ID. A maximum of 6 lines can be configured in one site. A maximum of 100 lines can be configured in the system.

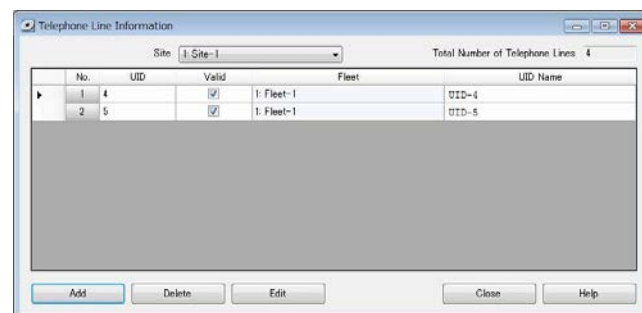


Figure 7-59 Telephone Line Information Window

Double-clicking a cell in the leftmost row, the No. row, or clicking the "Edit" button opens the **Telephone Line Edit** window. The parameters for various functions of Telephone Interconnect can also be configured in the Telephone Line Edit window the same as in the Telephone Line Information window. (Refer to: [7.23 Telephone Line Edit Window on page 132](#))

Note:

- ◆ This function can be configured only for a repeater having firmware version 2.50.00 or later.
- ◆ The maximum number of KTI-4 to be configured includes the number of IP Consoles. Therefore, the maximum number of KTI-4 to be configured is decreased by the number of IP Consoles if an IP Console is connected to the system. (Refer to: [7.20 Console Information Window on page 126](#))
- ◆ When logged in to KPG-110SM by using a restricted user account, the available functions are limited depending on the configuration in the **Restricted User Edit** dialog box. (Refer to: [11.4.2 About Restricted User Mode on page 202](#))

7.22.1 Site

Site allows a field engineer to select a site where a KTI-4 is connected.

The target site can be selected from the Site dropdown list, and a UID (Unit ID) of the KTI-4 can be configured for each site.

Range	The range varies followed by the configuration for Network Category (Local or Regional) as follows: Local: 1: Site Name to 30: Site Name Regional: 1: Site Name to 48: Site Name
Default	The lowest site number

7.22.2 Total Number of Console

The total number of KTI-4 configured in the Telephone Line Information window appears in the Total Number of Console information box.

7.22.3 UID

UID allows a field engineer to configure a Unit ID to be assigned to the KTI-4.

UID can be configured by directly entering a value in the edit box.

Range	1 to 60000
Default	The lowest configurable Unit ID number

Note:

- ◆ The same Unit ID cannot be redundantly configured within a system.
- ◆ A Unit ID is used to identify each KTI-4; hence, the same value needs to be configured for a KTI-4 as the KTI-4 Unit ID Number.

7.22.4 Valid

Valid allows a field engineer to enable or disable a KTI-4 being connected to the system. Normally, the Valid checkbox must be clicked on to use a KTI-4. However, the checkbox can be clicked off, for instance, if a telephone line needs to be temporarily disabled.

Range	Check (Enable)	Enables a KTI-4, which is connected to a system, to be used on the system.
	Uncheck (Disable)	Disables a KTI-4, which is connected to a system, to be used on the system.
Default	Checked (Enabled)	

7.22.5 Fleet

The Fleet number where a Unit ID assigned to the KTI-4 is included appears in the Fleet information box.

7.22.6 UID Name

UID Name allows a field engineer to configure a name for a Unit ID. The name must be manageable, for instance, by including the Unit ID number of each telephone line connected to the system.

UID Name can be configured by directly entering a text string in the edit box.

Range	A maximum of 12 alphanumeric characters and symbols
Available Characters	(space) ! " # \$ % & ' () ~ + - . , / : ; < = > / @ [\] ^ _ ` { } * 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
Default	UID - n (n represents the UID number)

Note:

- ◆ The Class of Service of the Unit ID assigned to a KTI-4 cannot be configured individually. Also, Common Class of Service cannot be used for a Fleet in which a Unit ID is included. This is because normal contents of the Service Class requires the configuration for the parameters unnecessary for a telephone connection. For a Unit ID assigned to a KTI-4, a dedicated Class of Service for telephone connection is used. (Refer to: [7.13 Telephone Call Window on page 112](#))

7.22.7 Add Button

Add allows a field engineer to add a new KTI-4.

Follow the procedure shown below to newly add a KTI-4.

1. Select the desired site from the Site dropdown list and then click the “Add” button.

The **Telephone Line Add** dialog box opens.

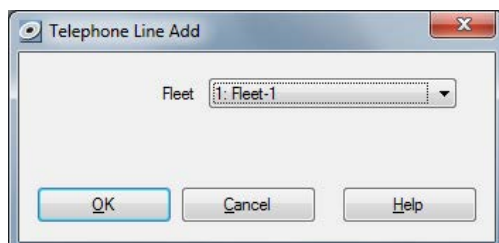


Figure 7-60 Telephone Line Add Dialog Box

2. Select the desired Fleet number from the Fleet dropdown list.

The desired Fleet number can be selected from the Fleet numbers configured in the system, which range from 1 to 5000.

In the selected Fleet, the Unit ID assigned to a telephone line can be configured. If a telephone line is configured for the first time, we recommend a dedicated Fleet for telephone lines be newly created. Creating a dedicated Fleet for telephone lines makes it easy to manage information about telephone line configuration, such as the configuration for Class of Service.

3. Click the “OK” button.

A new KTI-4 data is added.

7.22.8 Delete Button

Clicking the “Delete” button after selecting the KTI-4 to be deleted deletes the selected KTI-4.

7.22.9 Edit Button

Clicking the “Edit” button after selecting a KTI-4 opens the **Telephone Line Edit** window. ([Refer to: 7.23 Telephone Line Edit Window on page 132](#))

7.22.10 Context Menu

Clicking the right button on the mouse after selecting a KTI-4 pops up the Context Menu. Following are the operation that can be executed using Context Menu:

Table 7-13 Context Menu

Function	Description
	The Telephone Line Edit window opens. (Refer to: 7.23 Telephone Line Edit Window on page 132)
	The Telephone Line Add dialog box opens. (Refer to: 7.22.7 Add Button on this page)
	Clear the selected KTI-4 data.
	Copies the selected KTI-4 data.
	Pastes the copied KTI-4 data to the KTI-4 data in the selected line to overwrite the data.

7.23 Telephone Line Edit Window

In the Telephone Line Edit window, a field engineer can configure parameters for various functions of a KTI-4 to be used for Telephone Interconnect. (Refer to 21.21 Telephone Interconnect in the FUNC Reference.)

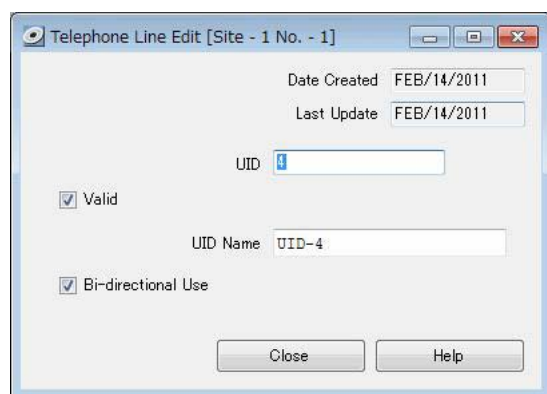


Figure 7-61 Telephone Line Edit Window

■ Date Created

The date of the data created for the selected KTI-4 appears in the Date Created information box.

■ Last Update

The date that data for the selected KTI-4 was last edited appears in the Last Update information box.

7.23.1 UID

UID allows a field engineer to configure a Unit ID to be assigned to the KTI-4.

UID can be configured by directly entering a value in the edit box.

Range	1 to 60000
Default	The lowest configurable Unit ID number

Note:

- ◆ The same Unit ID cannot be redundantly configured within a system.
- ◆ A Unit ID is used to identify each KTI-4; hence, the same value needs to be configured for a KTI-4 as the KTI-4 Unit ID Number.

7.23.2 Valid

Valid allows a field engineer to enable or disable a KTI-4 being connected to the system. Normally, the Valid checkbox must be clicked on to use a KTI-4. However, the checkbox can be clicked off, for instance, if a telephone line needs to be temporarily disabled.

Range	Check (Enable)	Enables a KTI-4, which is connected to a system, to be used on the system.
	Uncheck (Disable)	Disables a KTI-4, which is connected to a system, to be used on the system.
Default	Checked (Enabled)	

7.23.3 UID Name

UID Name allows a field engineer to configure a name for a Unit ID. The name must be manageable, for instance, by including the Unit ID number of each telephone line connected to the system.

UID Name can be configured by directly entering a text string in the edit box.

Range	A maximum of 12 alphanumeric characters and symbols
Available Characters	(space) ! " # \$ % & ' () ~ + - . , / : ; < = > / @ [\] ^ _ ` { } * 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
Default	UID - n (n represents the UID number)

Note:

- ◆ The Class of Service of the Unit ID assigned to a KTI-4 cannot be configured individually. Also, Common Class of Service cannot be used for a Fleet in which a Unit ID is included. This is because normal contents of the Service Class requires the configuration for the parameters unnecessary for a telephone connection. For a Unit ID assigned to a KTI-4, a dedicated Class of Service for telephone connection is used. (Refer to: 7.13 Telephone Call Window on page 112)

7.23.4 Bi-directional Use

Bi-directional Use allows a field engineer to configure whether or not to assign the telephone line (KTI-4) if an Telephone Interconnect has been initiated from a subscriber unit.

This function is used to avoid any call loss caused by a collision between an outgoing call and an incoming call over the same telephone line. The call loss can be avoided by configuring and using a dedicated telephone line for an outgoing call and a dedicated telephone line for an incoming call.

Range	Check (Enable)	Enables the system to assign the telephone line if a Telephone Call has been initiated from a subscriber unit.
	Uncheck (Disable)	Disables the system to assign the telephone line if a Telephone Call has been initiated from a subscriber unit.
Default	Checked (Enabled)	

8 PROGRAM MENU

In the Program pulldown menu, a field engineer can read the configuration data from a repeater or write configuration data and various IDs to a repeater.

8.1 Write Data to the System

Write Data to the System enables the data configured using KPG-110SM to be written to a repeater.

Following are the conditions that must be met to write configuration data to a repeater:

- The site configuration in LAN configuration information read from a repeater matches the site configuration in site data.
- The security data configured for a repeater matches the security data configured for KPG-110SM.

The procedures differ between the communication by connecting each repeater to a PC with the RS-232C cross-wired cable or USB Type-B cable, and communication by connecting a repeater connected via an IP network to a PC with a LAN cable.

■ Connecting Each Repeater to a PC with the RS-232C Cross-wired Cable or USB Type-B Cable for the Communication

1. Connect a repeater to a PC with the RS-232C cross-wired cable or USB Type-B cable. (Refer to: [2.5 Connecting a Repeater to a PC on page 12](#))
2. Do one of the following operations.
 - Select “Write Data to the System” from the **Program** pulldown menu.
 - Click the “” icon on the Toolbar.
 - Press the [w] key while pressing and holding the [Ctrl] key on the keyboard.

The Write Data to the System dialog box opens.

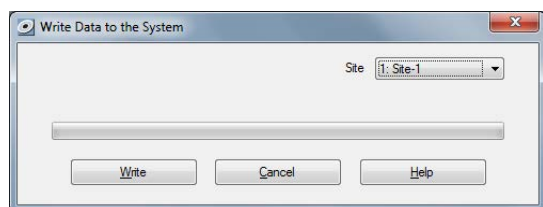


Figure 8-1 Write Data to the System Dialog Box 1

3. Select a target site from the Site dropdown list.

Following are the range and the default value of the Site dropdown list:

Range	The range varies followed by the configuration for Network Category (Local or Regional) as follows: Local: All or 1 to 30 Regional: All or 1 to 48
Default	Modem communication: All Serial communication: The lowest site number

Note:

- ◆ Only the sites with the network information that has been enabled can be selected.
- ◆ If “All” is selected while writing the configuration data to a repeater by means of the modem communication, the configuration data can be written to all repeaters being connected. “All” cannot be selected while writing the configuration data to a repeater with the serial communication.

4. Click the “Write” button.

Writing of the configuration data to a repeater starts.

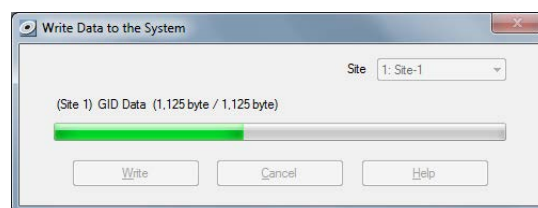


Figure 8-2 Write Data to the System Dialog Box 2

The Enter Access Code dialog box opens if an access code has been configured for the selected site. Clicking the “OK” button after entering an Access Code results in a PC to start writing the configuration data to a repeater. (Refer to: [9.7 Security on page 164](#))

The Enter Access Code dialog box also opens if “All” has been selected from the Site dropdown list.

If there is no Access Code being configured, clicking the “OK” button without entering anything results in a PC to start writing the configuration data to a repeater.

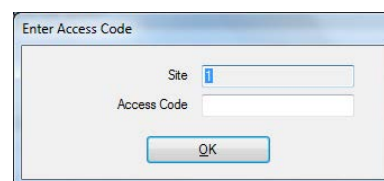


Figure 8-3 Enter Access Code Dialog Box

KPG-110SM obtains the writing result from a repeater and inspects that writing has been completed successfully to all channels every time data is written to a repeater. If there is a channel to which data fails to write, the Write Data Result dialog box opens. (Refer to: 8.1.4 Write Data Result Dialog Box on page 139)

5. Click the “OK” button after the writing completion message box appears.

Note:

- ◆ If a serial connection is established between a PC and a repeater, the configuration data is written only to the connected site. If the system configuration is changed, the configuration data must be written to all sites in order to prevent inconsistency among sites.

■ Connecting a Repeater Connected via an IP Network to a PC with the LAN Cable for the Communication

1. Connect a PC to a repeater with a LAN cable via a hub or a network device.
2. Do one of the following operations.
 - Select “Write Data to the System” from the **Program** pulldown menu.
 - Click the “” icon on the Toolbar.
 - Press the [w] key while pressing and holding the [Ctrl] key on the keyboard.

The Write Data to the System dialog box opens.

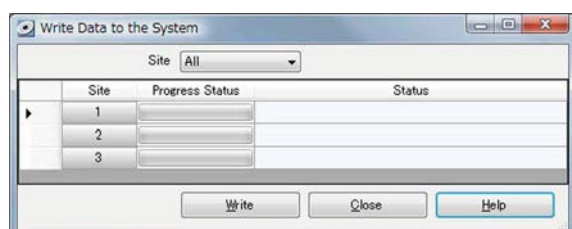


Figure 8-4 Write Data to the System Dialog Box 3

3. Select a target site from the Site dropdown list.

Following are the range and the default value of the **Site** dropdown list:

Range	The range varies followed by the configuration for Network Category (Local or Regional) as follows: Local: All or 1 to 30 Regional: All or 1 to 48
Default	All

Note:

- ◆ Only the sites with the network information that has been enabled can be selected.
- ◆ The site number selected from the **Site** dropdown list appears in the table. If “All” is selected, the site numbers of all the sites with the network information that have been enabled appear in the table.
- ◆ Selecting “All” enables the configuration data to be written to all repeaters being connected.

4. Click the “Write” button.

The Enter Access Code dialog box opens.

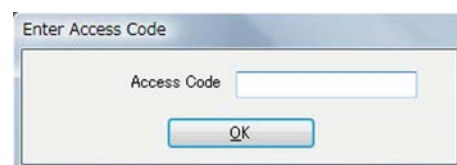


Figure 8-5 Enter Access Code Dialog Box

Note:

- ◆ If an option other than “All” is selected from the **Site** dropdown list, the **Enter Access Code** dialog box opens only if there is an access code that has been written to a repeater.

Clicking the “OK” button after entering an Access Code results in a PC to start writing the configuration data to a repeater. If there is no Access Code being configured, clicking the “OK” button without entering anything results in a PC to start writing the configuration data to a repeater.

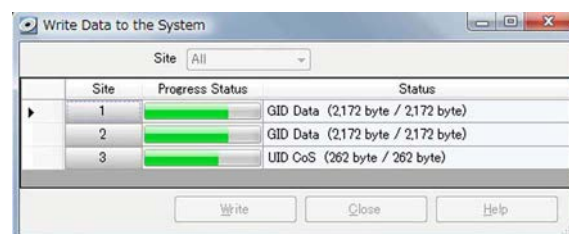


Figure 8-6 Write Data to the System Dialog Box 4

KPG-110SM obtains the writing result from a repeater and inspects that writing has been completed successfully to all channels every time data is written to a repeater. If there is a channel to which data fails to write, the Write Data Result dialog box opens. (Refer to: 8.1.4 Write Data Result Dialog Box on page 139)

5. Click the “OK” button after the writing completion message box appears.

8.1.1 Error Detection prior to Executing the Write Data to the System

KPG-110SM inspects whether the data has properly been configured when the Write Data to the System dialog box opens. If any configuration that does not conform to the following inspection criteria is detected, an error or warning message box appears. In such a case, ensure that configuration is appropriate by referring to troubleshooting.

Table 8-1 Inspection Criteria and Troubleshooting

Inspection Criteria	Troubleshooting upon Appearance of Error or Warning Message
Detects whether there is available LAN configuration information.	Ensure that the network configuration is appropriate. (Refer to: 9.2 Network Configuration on page 153)
Detects whether the total number of configured sites is lower than the value configured for Number of Sites in the System Configuration window > General tab.	Ensure that the site configuration has been appropriate. (Refer to: 7.2 Site Information Window on page 69)
Detects whether the total number of configured channels is lower than the value configured for Number of Channels in the System Configuration window.	Ensure that the channel configuration is appropriate. (Refer to: 7.4 Channel Edit Window on page 82)
Detects whether the Single site number matches the number of configured sites if a value of "1" is configured for Number of Sites in the System Configuration window > General tab.	Ensure that the site configuration has been appropriate. (Refer to: 7.2 Site Information Window on page 69)
Detects whether the target site to which the configuration data was written has been configured for the Site Information window.	Ensure that configuration for Site in the Site Information window is appropriate. (Refer to: 7.2 Site Information Window on page 69)
Detects whether the channel read in the Network Configuration window > Site Map tab has been configured in the site.	Ensure that configuration for Channel in the Site Edit window is appropriate. (Refer to: 7.3.2 Channel Tab on page 76)
If Non-dedicated Control Channel is enabled: The following 2 criteria are inspected: •Detects whether a channel with Valid enabled does not exist. •Detects whether a channel with "Dual-functional Channel" configured in Channel Type exists. If Non-dedicated Control Channel is disabled: Detects whether there are 2 or more channels where Valid has been enabled.	Ensure that the site configuration has been appropriate. (Refer to: 7.2 Site Information Window on page 69) Ensure that configuration for Channel Type is appropriate. (Refer to: 7.4 Channel Edit Window on page 82)

Inspection Criteria	Troubleshooting upon Appearance of Error or Warning Message
Detects whether there is at least one channel for which "Control Channel" or "Dual-functional Channel" has been configured for its Channel Type in each site.	Ensure that configuration for Channel Type is appropriate. (Refer to: 7.4 Channel Edit Window on page 82)
Detects whether there is at least one channel for which "Traffic Channel" or "Dual-functional Channel" has been configured for its Channel Type in each site, and whether there is no site consisting of only Control Channel(s).	
Detects whether there are no consecutive spaces inserted in the text string of a Station ID being configured.	Ensure that no consecutive space has been inserted in a text string of the Station ID. (Refer to: 7.6.2 Station ID on page 88)
Detects whether a Route Name has been configured for the Route configured in the Site Edit window > Session tab > Route Table frame.	Ensure that the network configuration for the site is appropriate. (Refer to: 7.3.4 Session Tab on page 80)
Detects whether Valid is not configured to be enabled for a site in the Intersite Call Table when the site is not configured in the Site Information window while Group Registration is disabled in the System Configuration window > Optional tab > Registration frame and Intersite Call is disabled in the GID Class of Service Edit window > Intersite tab.	Ensure that the configuration in the Intersite Call Table in the GID Class of Service Edit window > Intersite tab is appropriate. (Refer to: 7.8.4 Intersite Tab on page 93)
Detects whether the number of sites with Valid enabled is 16 or less in the GID Class of Service Edit window > Intersite tab > Intersite Call Table frame while Multicast Group Call is disabled and Intersite Call (GID Class of Service) is enabled.	Ensure that the configuration in the Intersite Call Table in the GID Class of Service Edit window > Intersite tab is appropriate. (Refer to: 7.8.4 Intersite Tab on page 93)
Detects whether the Class of Service where Valid in GID Class of Service was disabled has been configured for Fleet in the Fleet Information window. Or, ensure that Class of Service has been configured for GID in the GID Information window.	Ensure that the configuration in the Fleet Information and GID Information windows is appropriate. (Refer to: 7.14 Fleet Information Window on page 113 , 7.16 GID Information Window on page 119)
Detects whether the Class of Service where Valid in UID Class of Service was disabled has been configured for Fleet in the Fleet Information window. Or, ensure that the Class of Service has not been configured for UID in the UID Information window.	Ensure that the configuration in the Fleet Information and UID Information windows is appropriate. (Refer to: 7.14 Fleet Information Window on page 113 , 7.18 UID Information Window on page 122)

Inspection Criteria	Troubleshooting upon Appearance of Error or Warning Message	Inspection Criteria	Troubleshooting upon Appearance of Error or Warning Message
Detects whether Valid is not configured to be enabled for a site in the Intersite Call Table when the site is not configured in the Site Information window while Multicast Group Call is disabled in the System Configuration window > Network tab > Multicast frame and Intersite Call is disabled in the All Groups Call window > Intersite tab.	Ensure that the configuration in the Intersite Call Table in the All Groups Call window > Intersite tab is appropriate. (Refer to: 7.10.3 Intersite Tab on page 103)	Detects whether no Frequency Numbers configured for all channels in a site are redundant.	Ensure that the channel configuration is appropriate. (Refer to: 7.4 Channel Edit Window on page 82)
Detects whether the same Multicast IP Address has not yet redundantly been configured for each channel and if Group Registration has been enabled in the System Configuration window > Optional tab > Registration frame.	Ensure that configuration for Multicast IP Address is appropriate. (Refer to: 7.4 Channel Edit Window on page 82)	Detects whether no Frequency Numbers configured for all channels in a site are redundant to the Frequency Numbers configured for Adjacent Control Channels in the same site.	Ensure that the site configuration has been appropriate. (Refer to: 7.3 Site Edit Window on page 72)
Detects whether the number of sites with Valid enabled is 16 or less in the All Groups Call window > Intersite tab > Intersite Call Table frame while Multicast Group Call is disabled and Intersite Call (All Groups Call) is enabled.	Ensure that the configuration in the Intersite Call Table in the All Groups Call window > Intersite tab is appropriate. (Refer to: 7.10.3 Intersite Tab on page 103)	Detects whether the combinations of a site and Frequency No. in Adjacent Control Channels in a site are not redundant.	Ensure that configuration for Adjacent Control Channel is appropriate. (Refer to: 7.3.3 Adjacency Tab on page 78)
Detects whether the NXDN ESN of all UIDs has conformed to the format. If Location Registration and NXDN ESN Validation are enabled in the System Configuration window > Optional tab and if Manufacturer Limitation is disabled, the above items are inspected.	Ensure that the NXDN ESN format for a UID is appropriate. (Refer to: 7.19 UID Edit Window on page 125)	Detects whether the number of Unit IDs of IP Console configured in a site does not exceed the upper limit.	Ensure that the Unit ID configuration of IP Console is appropriate. (Refer to: 7.20 Console Information Window on page 126)
Detects whether the NXDN ESN of all UIDs has conformed to the format.	Ensure that the NXDN ESN format for a UID is appropriate. (Refer to: 7.19 UID Edit Window on page 125)	Detects whether the channel selected from the Channel dropdown list in the Site Edit window > General tab > Call Logging frame is existent.	Ensure that the channel configuration is appropriate. (Refer to: 7.4 Channel Edit Window on page 82)
Detects whether the GID of itself has not yet been configured in the GID Edit window as an Associated GID.	Ensure that configuration for Associated GID is appropriate. (Refer to: 7.17.5 Associated GID on page 122)	Detects whether the number of traffic channels available for various communications services configured in the Channel Allocation window does not exceed the total number of channels (Dual-functional Channel or Traffic Channel) with Valid enabled.	Ensure that the configuration is appropriate in the Channel Allocation window. (Refer to: 7.5 Channel Allocation Window on page 86)
Detects whether the same GID has not yet redundantly been configured in the GID Edit window as an Associated GID.	Ensure that configuration for Associated GID is appropriate. (Refer to: 7.17.5 Associated GID on page 122)	Detects whether Valid has been configured to be enabled for one or more sites in the Intersite Call Table of the GID for which Valid has been enabled in the GID Class of Service Edit window > General tab and if one of the following functions has been enabled. • Group Registration in the System Configuration window > Optional tab > Registration frame • Intersite Call in the GID Class of Service Edit window > Intersite tab	Ensure that the configuration in the Intersite Call Table in the GID Class of Service Edit window > Intersite tab is appropriate. (Refer to: 7.8.4 Intersite Tab on page 93)
Detects whether the number of sites where Valid was configured to be enabled is 16 or less in the Intersite Call Table of the GID Class of Service for the Target GID and Associated GID and if Multicast Group Call was disabled in the System Configuration window > Network tab > Multicast frame.	Ensure that the configuration in the Intersite Call Table in the GID Class of Service Edit window > Intersite tab is appropriate. (Refer to: 7.8.4 Intersite Tab on page 93)	Detects whether there is at least one Manufacture Code that has been configured. If Location Registration and NXDN ESN Validation are enabled in the System Configuration window > Optional tab and if Manufacturer Limitation is enabled, the above items are inspected.	Ensure that configuration for Manufacture Code is appropriate. (Refer to: 7.1.5 Optional Tab on page 60)

Inspection Criteria	Troubleshooting upon Appearance of Error or Warning Message
Detects whether 2 or more channels with "Control Channel" or "Dual-functional Channel" configured in Channel Type exist in the site while Automatic Rollover is enabled.	Ensure that configuration for Channel Type is appropriate. (Refer to: 7.4 Channel Edit Window on page 82)
Detects whether there is at least one site that successfully completed reading the configuration data and if Restricted User Mode was enabled.	Execute Read Data from the System to read configuration data from a site. (Refer to: 8.2 Read Data from the System on page 139)

8.1.2 Error Detection for Network Connection and Configuration Data prior to Writing

KPG-110SM inspects the network connection status and configurations for options prior to writing the configuration data to a repeater, and then determines whether to write the configuration data. If any configuration that does not conform to the following inspection criteria is detected, an error message box appears and writing of the configuration data to a repeater does not start.

Table 8-2 Inspection Criteria and Troubleshooting

Inspection Criteria	Troubleshooting upon Appearance of Error or Warning Message
If a repeater is connected via a modem, KPG-110SM detects whether phone numbers have been configured for all sites.	Ensure that phone numbers have been configured for all sites.
If a repeater is connected to a LAN, KPG-110SM detects whether one or more connections conforming to TCP/IP have been enabled.	Ensure that the LAN connection status is appropriate.
If a repeater is connected to a LAN, KPG-110SM detects whether there are one or more sites with the network information being enabled.	Ensure that the network configuration is appropriate. (Refer to: 9.2 Network Configuration on page 153)

8.1.3 Errors Detected while Writing the Configuration Data

An error message box appears and the writing is aborted if the following event occurs while KPG-110SM is writing the configuration data to a repeater:

- If the site configuration in LAN configuration information read from a repeater does not match the site configuration in site data
- If the security data configured for a repeater does not match the security data configured for KPG-110SM
- If a Communication Error occurs
- If LAN configuration information cannot be acquired from a repeater
- If the access code configured for a repeater differs from the access code entered in the Enter Access Code dialog box

Clicking the "Yes" button on the displayed message box opens the **Enter Access Code** dialog box. Reading of the configuration data from a repeater aborts if a wrong password is entered 3 times in a row.

8.1.4 Write Data Result Dialog Box

The Write Data Result dialog box opens if there is a channel that failed in writing the configuration data to the system. The channel information for each channel that has written configuration data appears in the Write Data Result dialog box.

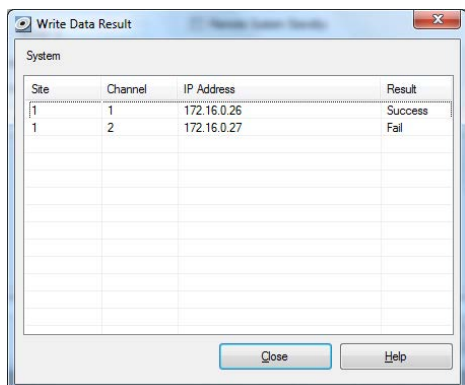


Figure 8-7 Write Data Result Dialog Box

Table 8-3 Information to Appear

Items	Description
Site	The site number appears.
Channel	The channel number appears.
Address	The IP address appears.
Result	The result of writing the configuration data appears. "Fail" appears if writing of the configuration data fails, and "Success" appears if writing of the configuration data succeeds.

8.2 Read Data from the System

Read Data from the System enables configuration data to be read from a repeater to KPG-110SM.

The procedures differ between the communication by connecting each repeater to a PC with the RS-232C cross-wired cable or USB Type-B cable, and communication by connecting a repeater connected via an IP network to a PC with a LAN cable.

■ Connecting Each Repeater to a PC with the RS-232C Cross-wired Cable or USB Type-B Cable for the Communication

1. Connect a repeater to a PC with the RS-232C cross-wired cable or USB Type-B cable. (Refer to: 2.5 Connecting a Repeater to a PC on page 12)
2. Do one of the following operations.
 - Select "Read Data from the System" from the **Program** pulldown menu.
 - Click the "🔍" icon on the Toolbar.
 - Press the [r] key while pressing and holding the [Ctrl] key on the keyboard.

The Read Data from the System dialog box opens.

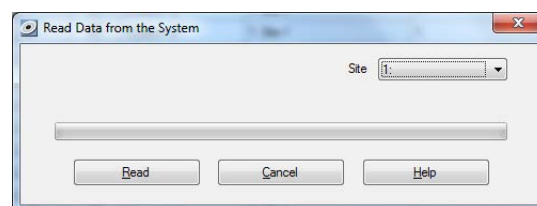


Figure 8-8 Read Data from the System Dialog Box 1

3. Select a site from which site the configuration data is read from the Site dropdown list.

Following are the range and the default value of the **Site** dropdown list:

Range	The range varies followed by the configuration for Network Category (Local or Regional) as follows: Local: All or 1 to 30 Regional: All or 1 to 48
Default	Modem communication: All Serial communication: The lowest site number

Note:

- ◆ Only the sites with the network information that has been enabled can be selected.
- ◆ Selecting “All” to read the configuration data from a repeater with the modem communication can read the configuration data from all repeaters being connected. “All” cannot be selected to read the configuration data from a repeater with the serial communication.

4. Click the “Read” button.

Reading the configuration data starts.

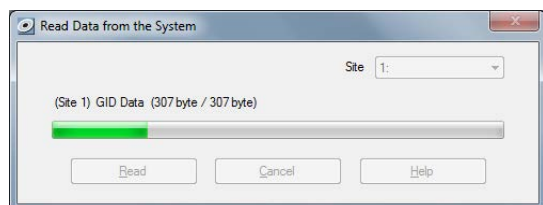


Figure 8-9 Read Data from the System Dialog Box 2

The Enter Access Code dialog box opens if an access code is configured for the selected site. Clicking the “OK” button after entering an Access Code results in a PC to start reading the configuration data. (Refer to: [9.7 Security on page 164](#))

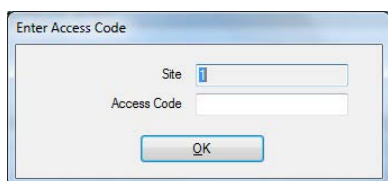


Figure 8-10 Enter Access Code Dialog Box

KPG-110SM stops reading the configuration data if checksums from all channels that belong to the target site do not match.

5. Click the “OK” button after the reading completion message box appears.

■ Connecting a Repeater Connected via an IP Network to a PC with the LAN Cable for the Communication

1. Connect a PC to a repeater with a LAN cable via a hub or a network device.
2. Do one of the following operations.
 - Select “Read Data from the System” from the **Program** pulldown menu.
 - Click the “ ” icon on the Toolbar.
 - Press the [r] key while pressing and holding the [Ctrl] key on the keyboard.

The Read Data from the System dialog box opens.

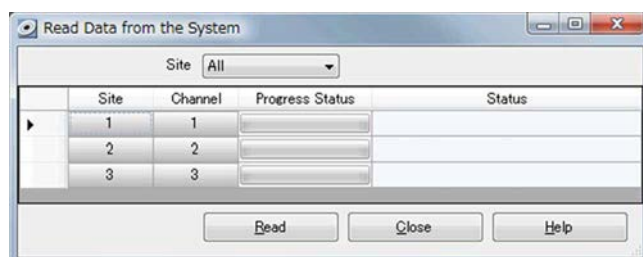


Figure 8-11 Read Data from the System Dialog Box 3

3. Select a target site from the Site dropdown list.

Following are the range and the default value of the **Site** dropdown list:

Range	The range varies followed by the configuration for Network Category (Local or Regional) as follows: Local: All or 1 to 30 Regional: All or 1 to 48
Default	All

Note:

- ◆ Only the sites with the network information that has been enabled can be selected.
- ◆ The site number selected from the **Site** dropdown list appears in the table. If “All” is selected, the site numbers of all the sites with the network information that have been enabled appear in the table.
- ◆ Selecting “All” enables the configuration data to be read from all repeaters being connected.

4. Click the “Read” button.

The Enter Access Code dialog box opens.

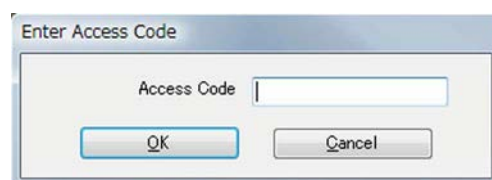


Figure 8-12 Enter Access Code Dialog Box

Note:

- ◆ If an option other than “All” is selected from the **Site** dropdown list, the **Enter Access Code** dialog box opens only if there is an access code that has been written to a repeater.

Clicking the “OK” button after entering an Access Code results in a PC to start reading the configuration data. If there is no Access Code that has been configured, clicking the “OK” button without entering anything results in a PC to start reading the configuration data.

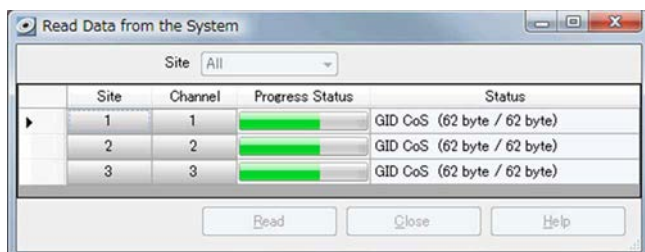


Figure 8-13 Read Data from the System Dialog Box 4

KPG-110SM obtains the reading result from a repeater every time configuration data is read from a repeater, and inspects that reading has been completed successfully from all channels.

5. Click the “OK” button after the reading completion message box appears.

8.2.1 Error Detection for Network Connection and Configuration Data prior to Reading

KPG-110SM inspects the network connection status and configurations for options prior to reading the configuration data from a repeater, and then determines whether to read the configuration data. If any configuration that does not conform to the following inspection criteria is detected, an error message box appears and reading of the configuration data from a repeater does not start.

Table 8-4 Inspection Criteria and Troubleshooting

Inspection Criteria	Troubleshooting upon Appearance of Error or Warning Message
If a repeater is connected via a modem, KPG-110SM detects whether phone numbers have been configured for all sites.	Ensure that phone numbers have been configured for all sites.
If a repeater is connected to a LAN, KPG-110SM detects whether one or more connections conforming to TCP/IP have been enabled.	Ensure that the LAN connection status is appropriate.
In the case of connection to a LAN, KPG-110SM detects whether there are one or more sites to which Apply has been done.	Ensure that the network configuration is appropriate. (Refer to: 9.2 Network Configuration on page 153)

8.2.2 Errors Detected while Reading the Configuration Data

An error message box appears and reading of the configuration data from a repeater is aborted if the following event occurs while KPG-110SM is reading the configuration data from a repeater:

- **If a Communication Error occurs**
- **If LAN configuration information cannot be acquired from a repeater**
- **If the access code configured for a repeater differs from the access code entered in the Enter Access Code dialog box**
Clicking the “Yes” button on the displayed message box opens the **Enter Access Code** dialog box. Reading of the configuration data from a repeater aborts if a wrong password is entered 3 times in a row.
- **If the file version is not supported by KPG-110SM**
- **If the site number read from a repeater does not match the site number configured in the USB Secure Key if a repeater is connected to a PC through a serial connection, and also the system is used in a single site**
- **If a PC and a repeater is connected via LAN, and also the LAN configuration information read from a repeater does not match the LAN configuration information configured for KPG-110SM**

8.3 Write ID data to the System

Write ID data to the System allows a field engineer to write only a newly added ID or a revised ID (Fleet, GID and UID) to a repeater.

The ID can be edited without resetting the system. Also, the system can continuously be operated while changing the ID.

Follow the procedure below.

1. Connect a PC to a repeater using a LAN cable or a modem.

To connect to a repeater that has been connected to the IP network using a LAN cable, a PC must be connected to a repeater using a LAN cable via a hub or a network device. To enable "Write ID data to the System" in a PC, the PC must be the same PC as was used to configure the system. Executing the Write Data to the System for all sites (in the case of multi-site) after connecting the LAN cable establishes synchronization between a PC and the system side. If Auto Save/Load is enabled by clicking on the Auto Save/Load checkbox in the Tools pulldown menu > Option dialog box, "Write ID data to the System" becomes enabled the next time KPG-110SM is started.

- 2 Select "Write ID data to the System" from the Program pulldown menu.

The Write ID data to the System dialog box opens. The Write ID data to the System dialog box consists of Fleet, GID and UID tabs. The information list for a newly added ID or revised ID appears in each tab.

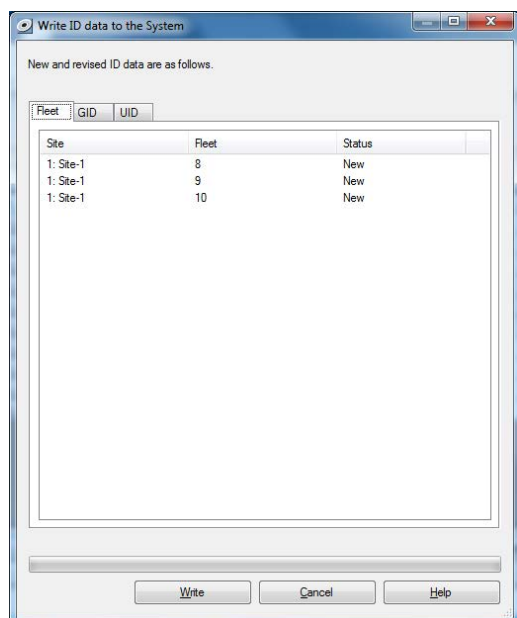


Figure 8-14 Write ID data to the System Dialog Box

Note:

- ◆ Refer to [8.3.4 Status of the Write ID data to the System Menu on page 145](#) for conditions to activate or deactivate Write ID data to the System.

3. Click the tab title in which a newly added ID or revised ID is listed.

4. Click the "Write" button.

A newly added or revised ID is written to a repeater.

The completion message box appears upon completion of the writing.

Note:

- ◆ If a communication error occurs for one or more sites when communication ends, the **Write Result** dialog box opens and the communication result can be viewed for each site. "Success" appears for a site for which communication succeeded and "Fail" appears for a site for which a communication error occurred.

5. Click the "OK" button.

8.3.1 Consistency Evaluation for Configuration Data during Activation of Write ID Data to the System

KPG-110SM inspects, during the startup of Write ID data to the System, whether the data has been properly configured. If any configuration that does not conform to the following inspection criteria is detected, an error or warning message box appears. In such a case, ensure that configuration is appropriate by referring to troubleshooting.

Table 8-5 Inspection Criteria and Troubleshooting

Inspection Criteria	Troubleshooting upon Appearance of Error or Warning Message
Detects whether Valid is not configured to be enabled for a site in the Intersite Call Table when the site is not configured in the Site Information window while Group Registration is disabled in the System Configuration window > Optional tab > Registration frame and Intersite Call is disabled in the GID Class of Service Edit window > Intersite tab.	Ensure that the configuration in the Intersite Call Table in the GID Class of Service Edit window > Intersite tab is appropriate. (Refer to: 7.8.4 Intersite Tab on page 93)
Detects whether the number of sites with Valid enabled is 16 or less in the GID Class of Service Edit window > Intersite tab > Intersite Call Table frame while Multicast Group Call is disabled and Intersite Call (GID Class of Service) is enabled.	Ensure that the configuration in the Intersite Call Table in the GID Class of Service Edit window > Intersite tab is appropriate. (Refer to: 7.8.4 Intersite Tab on page 93)

Inspection Criteria	Troubleshooting upon Appearance of Error or Warning Message
Detects whether the Class of Service where Valid in GID Class of Service was disabled has been configured for Fleet in the Fleet Information window. Or, ensure that Class of Service has been configured for GID in the GID Information window.	Ensure that the configuration in the Fleet Information and GID Information windows is appropriate. (Refer to: 7.14 Fleet Information Window on page 113 , 7.16 GID Information Window on page 119)
Detects whether the Class of Service where Valid in UID Class of Service was disabled has been configured for Fleet in the Fleet Information window. Or, ensure that the Class of Service has not been configured for UID in the UID Information window.	Ensure that the configuration in the Fleet Information and UID Information windows is appropriate. (Refer to: 7.14 Fleet Information Window on page 113 , 7.18 UID Information Window on page 122)
Detects whether Valid is not configured to be enabled for a site in the Intersite Call Table when the site is not configured in the Site Information window while Multicast Group Call is disabled in the System Configuration window > Network tab > Multicast frame and Intersite Call is disabled in the All Groups Call window > Intersite tab.	Ensure that the configuration in the Intersite Call Table in the All Groups Call window > Intersite tab is appropriate. (Refer to: 7.10.3 Intersite Tab on page 103)
Detects whether the number of sites where Valid was configured to be enabled is 16 or less in the All Groups Call window > Intersite Call Table frame and if Multicast Group Call was disabled in the System Configuration window > Network tab > Multicast frame.	Ensure that the configuration in the Intersite Call Table in the All Groups Call window > Intersite tab is appropriate. (Refer to: 7.10.3 Intersite Tab on page 103)
Detects whether the NXDN ESN of all UIDs has conformed to the format. If Location Registration and NXDN ESN Validation are enabled in the System Configuration window > Optional tab and if Manufacturer Limitation is disabled, the above items are inspected.	Ensure that the NXDN ESN format for a UID is appropriate. (Refer to: 7.19 UID Edit Window on page 125)
Detects whether the GID of itself has not yet been configured in the GID Edit window as an Associated GID.	Ensure that configuration for Associated GID is appropriate. (Refer to: 7.17.5 Associated GID on page 122)
Detects whether the same GID has not yet redundantly been configured in the GID Edit window as an Associated GID.	Ensure that configuration for Associated GID is appropriate. (Refer to: 7.17.5 Associated GID on page 122)

Inspection Criteria	Troubleshooting upon Appearance of Error or Warning Message
Detects whether the number of sites where Valid was configured to be enabled is 16 or less in the Intersite Call Table of the GID Class of Service for the Target GID and Associated GID and if Multicast Group Call was disabled in the System Configuration window > Network tab > Multicast frame.	Ensure that the configuration in the Intersite Call Table in the GID Class of Service Edit window > Intersite tab is appropriate. (Refer to: 7.8.4 Intersite Tab on page 93)
Detects whether the number of Unit IDs of IP Console configured in a site does not exceed the upper limit.	Ensure that the Unit ID configuration of IP Console is appropriate. (Refer to: 7.20 Console Information Window on page 126)
Detects whether Valid has been configured to be enabled for one or more sites in the Intersite Call Table of the GID for which Valid has been enabled in the GID Class of Service Edit window > General tab and if one of the following functions has been enabled. - Group Registration in the System Configuration window > Optional tab > Registration frame - Intersite Call in the GID Class of Service Edit window > Intersite tab	Ensure that the configuration in the Intersite Call Table in the GID Class of Service Edit window > Intersite tab is appropriate. (Refer to: 7.8.4 Intersite Tab on page 93)

8.3.2 Error Detection for Network Connection and Configuration Data prior to Writing

KPG-110SM inspects the network connection status and configurations for options prior to writing an ID to each repeater, and then determines whether to write the ID to the repeaters. If any configuration that does not conform to the following inspection criteria is detected, an error message box appears and writing of the configuration data to a repeater does not start.

Table 8-6 Inspection Criteria and Troubleshooting

Inspection Criteria	Troubleshooting upon Appearance of Error or Warning Message
If a repeater is connected via a modem, KPG-110SM detects whether phone numbers have been configured for all sites.	Ensure that phone numbers have been configured for all sites.
If a repeater is connected to a LAN, KPG-110SM inspects that LAN cable has properly been connected.	Ensure that the LAN connection status is appropriate.

8.3.3 Errors Detected while Writing an ID

An error message box appears and writing is aborted if one of the following events occurs while writing an ID to a repeater:

- If the site configuration in LAN configuration information read from a repeater does not match the site configuration in site data
- If a Communication Error occurs
- If LAN configuration information cannot be acquired from a repeater

8.3.4 Status of the Write ID data to the System Menu

Following are conditions to activate or deactivate the Write ID data to the System menu.

Table 8-7 Status of the Write ID data to the System Menu

Operation	Conditions Precedent	Status of the Write ID data to the System Menu	
		Active	Inactive
Select "New" from the File pulldown menu.	-		✓
Select "Open" from the File pulldown menu.	-		✓
Select "Site" or "ID" from "Import" in the File pulldown menu.	-		✓
Site Information			
Add a new site by clicking the "Add" button or selecting "Add" in the Context Menu.	-		✓
Deletes the site data by clicking the "Delete" button or selecting "Delete" in the Context Menu.	-		✓
Edit a site in the Site Edit window after clicking the "Site Edit" button or selecting "Site Edit" in the Context Menu.	While the Write ID data to the System menu is in the inactive state		✓
	While the Write ID data to the System menu is in the active state	✓	
Fleet Information			
Adds a new Fleet by clicking the "Add" button or selecting "Add" in the Context Menu.	While the Write ID data to the System menu is in the inactive state		✓
	While the Write ID data to the System menu is in the active state	✓	
Delete a Fleet by clicking the "Delete" button or selecting "Delete" in the Context Menu.	While the Write ID data to the System menu is in the inactive state		✓
	While the Write ID data to the System menu is in the active state		✓
Edit a Fleet after clicking the "Fleet Edit" button or selecting "Fleet Edit" in the Context Menu.	While the Write ID data to the System menu is in the inactive state		✓
	While the Write ID data to the System menu is in the active state	✓	
Delete an added Fleet prior to writing the configuration data to a repeater to which Fleet is added.	While the Write ID data to the System menu is in the inactive state		✓
	While the Write ID data to the System menu is in the active state	✓	
GID Information			
Add a new GID by clicking the "Add" button or selecting "Add" in the Context Menu.	While the Write ID data to the System menu is in the inactive state		✓
	While the Write ID data to the System menu is in the active state	✓	
Delete a GID by clicking the "Delete" button or selecting "Delete" in the Context Menu.	While the Write ID data to the System menu is in the inactive state		✓
	While the Write ID data to the System menu is in the active state		✓
Edit a GID after clicking the "GID Edit" button or selecting "GID Edit" in the Context Menu.	While the Write ID data to the System menu is in the inactive state		✓
	While the Write ID data to the System menu is in the active state	✓	

Operation	Conditions Precedent	Status of the Write ID data to the System Menu	
		Active	Inactive
Deletes an added GID prior to writing the configuration data to a repeater to which GID is added.	While the Write ID data to the System menu is in the inactive state		✓
	While the Write ID data to the System menu is in the active state	✓	
UID Information			
Add a new UID by clicking the “Add” button or selecting “Add” in the Context Menu.	While the Write ID data to the System menu is in the inactive state		✓
	While the Write ID data to the System menu is in the active state	✓	
Delete a UID by clicking the “Delete” button or selecting “Delete” in the Context Menu.	While the Write ID data to the System menu is in the inactive state		✓
	While the Write ID data to the System menu is in the active state		✓
Edit a UID after clicking the “UID Edit” button or selecting “UID Edit” in the Context Menu.	While the Write ID data to the System menu is in the inactive state		✓
	While the Write ID data to the System menu is in the active state	✓	
Deletes an added UID prior to writing the configuration data to a repeater to which UID is added.	While the Write ID data to the System menu is in the inactive state		✓
	While the Write ID data to the System menu is in the active state	✓	
Write Data to the System			
Specify a site and then write the configuration data to a repeater.	There is a site to which the configuration data has not yet been written.		✓
	The configuration data has been written to all sites.	✓	
Read Data from the System			
Read the configuration data from a repeater.	-	✓	
Write ID data to the System			
Specify a site and then write the IDs to a repeater.	-	✓	
Network Configuration (same as Network Setup Wizard)			
Write a new IP address, etc. to a repeater.	-		✓
Write an IP address again to a repeater to which an IP address has been written.	-		✓
Specify a site and then enable the network information.	-		✓
Enable the network information again for the site where the network information has been enabled.	-		✓
Conventional Reset			
Delete a site by clicking the “OK” button in the message box that appears after Conventional Reset completes.	-		✓
Factory Reset			
Delete a site by clicking the “OK” button in the message box that appears after Factory Reset completes.	-		✓

Operation	Conditions Precedent	Status of the Write ID data to the System Menu	
		Active	Inactive
Option			
Click on the Auto Save/Load checkbox to enable the Auto Save/Load and then restart KPG-110SM.	While the Write ID data to the System menu is in the inactive state before restarting		✓
	While the Write ID data to the System menu is in the active state before restarting	✓	
Communication Port			
Select the COM radio button for Communication Mode, and then close the window by clicking the “OK” button while the Serial radio button is selected for Port Device.	-		✓

Note:

- ◆ If Restricted User Mode is enabled, the **Write ID data to the System** menu becomes active if there is at least one site that has successfully completed reading of the configuration data. ([Refer to: 11.4.2 About Restricted User Mode on page 202](#))

8.4 Firmware Update



CAUTION

DO NOT TURN A REPEATER OFF WHILE WRITING THE FIRMWARE TO A REPEATER. OTHERWISE, LOG DATA, SUCH AS CALL LOG, MAY BE DELETED.

Firmware Update allows a system administrator to update the firmware of every repeater in the site.

Note:

- ◆ This function cannot be used if Conventional Mode has been configured for system mode.
- ◆ If COM is selected from Communication Mode in the Communication Port dialog box, Firmware Update is grayed out and cannot be selected.

Follow the procedure below.

1. Connect a PC to repeaters being connected with LAN cables.

A PC and repeaters can be connected using a LAN cable via a hub or a network device.

2. Select "Firmware Update" from the Program pulldown menu.

The Firmware Update dialog box opens.

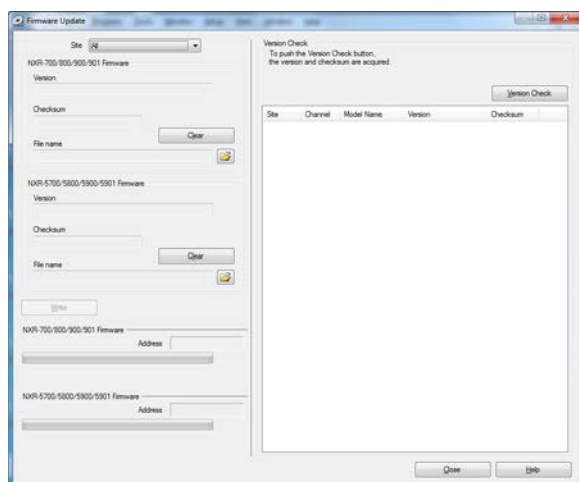


Figure 8-15 Firmware Update Dialog Box

Note:

- ◆ If no site is configured for LAN configuration information and if "LAN" is selected from Communication Mode in the Communication Port dialog box, the Firmware Update dialog box does not open.

3. Select a target site from the Site dropdown list.

Range	The range varies depending on the configuration for Network Category (Local or Regional) as follows. Local: All or 1 to 30 Regional: All or 1 to 48
Default	The lowest site number

Note:

- ◆ Clicking the "Version Check" button displays a list of the firmware version and checksum of each repeater in the selected site.

4. Click the "Open" button in the NXR-700/800/900/901 Firmware or NXR-5700/5800/5900/5901 Firmware frame.

The Open dialog box opens.

5. Select the data file for the new firmware, and then click the "Open" button.

The extensions are as follows:

NXR-x00: .nxb

NXR-5x00: .bin

The new firmware data is read and the firmware version appears in the Version text box, and then the checksum appears in the Checksum text box, and the file name appears in the File Name text box respectively. In this case, the "Write" button becomes active.

Note:

- ◆ The firmware data for NXR-x00 and the firmware data for NXR-5x00 can be selected and read.

6. Click the "Write" button.

- If "All" is selected from the Site dropdown list:

The Enter Access Code dialog box opens.

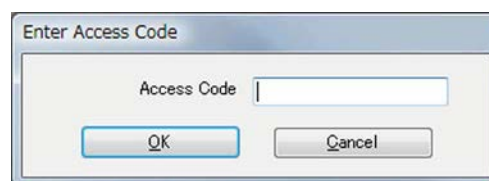


Figure 8-16 Enter Access Code Dialog Box

Entering an access code and then clicking the "OK" button starts updating of the firmware for repeaters in all sites. If there is no Access Code being configured, clicking the "OK" button without entering anything results in a PC to start updating the firmware.

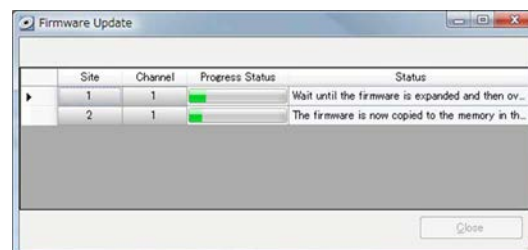


Figure 8-17 Firmware Update Dialog Box (Progress Status)

The update result appears upon completion of the firmware update. (Figure 8-19)

- If anything other than “All” is selected from the Site dropdown list:

The Channel Select dialog box opens. Proceed to step 7.

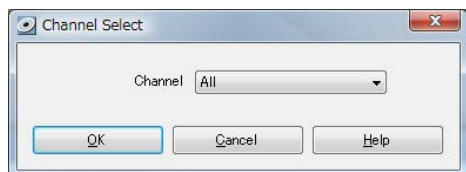


Figure 8-18 Channel Select Dialog Box

7. Select “All” or a channel from the Channel dropdown list.

All	Firmware of all repeaters in the site is updated.
1 to 30	Only the firmware of a repeater of the selected channel is updated.

8. Click the “OK” button.

A PC restores the Firmware Update dialog box, and then starts updating the firmware.

The update result appears upon completion of the firmware update.

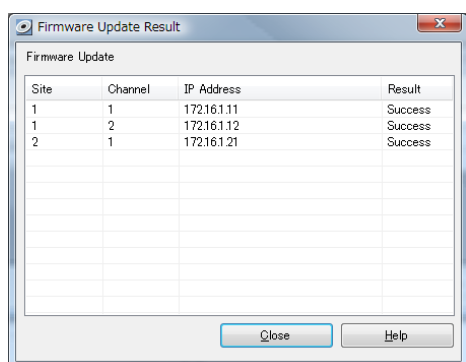


Figure 8-19 Update result window

Note:

- ◆ If the firmware data for NXR-x00 and the firmware data for NXR-5x00 are selected, the firmware update for NXR-x00 starts first. The firmware update for NXR-5x00 starts after the NXR-x00 firmware data transfer completes.
- ◆ If a communication error occurs, the error message box appears and the firmware update stops.
- ◆ If anything other than “All” is selected from the **Channel** dropdown list in the **Channel Select** dialog box, clicking the “OK” button displays a warning message box. Clicking the “OK” button in the warning message box opens the Firmware Update dialog box to start updating the firmware. Clicking the “Cancel” button does not start updating the firmware.
- ◆ If the access code differs depending on the site, the firmware update cannot be completed even though “All” has been selected from the **Channel** dropdown list. (Refer to: [9.7 Security on page 164](#))

9 TOOLS MENU

9.1 Network Setup Wizard

Network Setup Wizard allows a field engineer to easily configure the initial settings for the network by selecting an option or entering values by following instructions on the PC display.

Following options can be configured in the Network Setup Wizard:

- Changing the repeater operating mode to Trunking Mode.
- Constructing a repeater network (Single Site or Multi-site).
- Adding a repeater to a site.

Follow the procedure below.

1. Connect a repeater to a PC with the RS-232C cross-wired cable or USB Type-B cable. (Refer to: [2.5 Connecting a Repeater to a PC on page 12](#))
2. Do one of the following operations.
 - Select “Network Setup Wizard” from the **Tools** pulldown menu.
 - Click the “” icon on the Toolbar.

The Network Setup Wizard appears. Click the “Next” button.

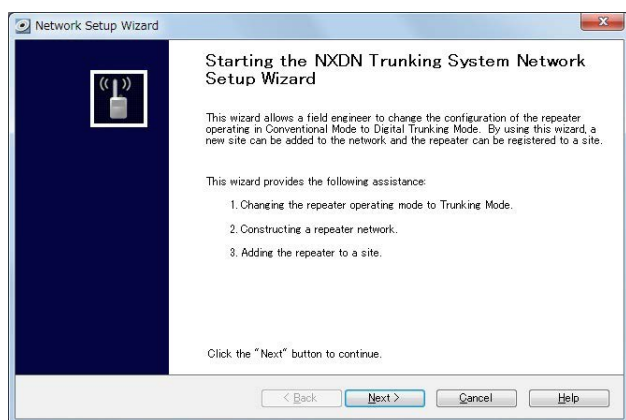


Figure 9-1 Network Setup Wizard 1

If there are 2 or more configured Single Sites and the construction of multi sites is allowed by a USB Secure Key, clicking the “Next” button opens the screen of Step 3. Then, proceed to step 3.

In other cases, click the “Next” button to open the screen for the Single Site Setup. Follow the instructions provided on the PC display to configure a Single Site.

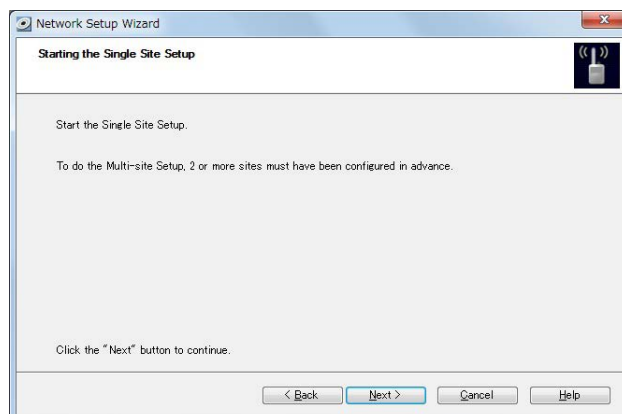


Figure 9-2 Setup Display for Single Site

3. Select the **Single site setup** radio button to configure a Single Site network or the **Multi-site setup** radio button to configure a Multi-site network, and then click the “Next” button.

Follow the instructions provided on the PC display to configure a Single Site.

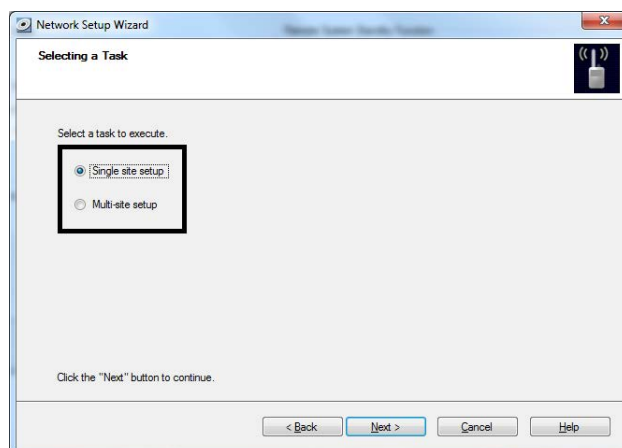


Figure 9-3 Network Setup Wizard 2

Note:

- ◆ In the **Network Configuration** dialog box, the same items can be configured as those are configured with the Network Setup Wizard.

9.1.1 Single Site Setup Flow

Following is the setup flow of a Single site:

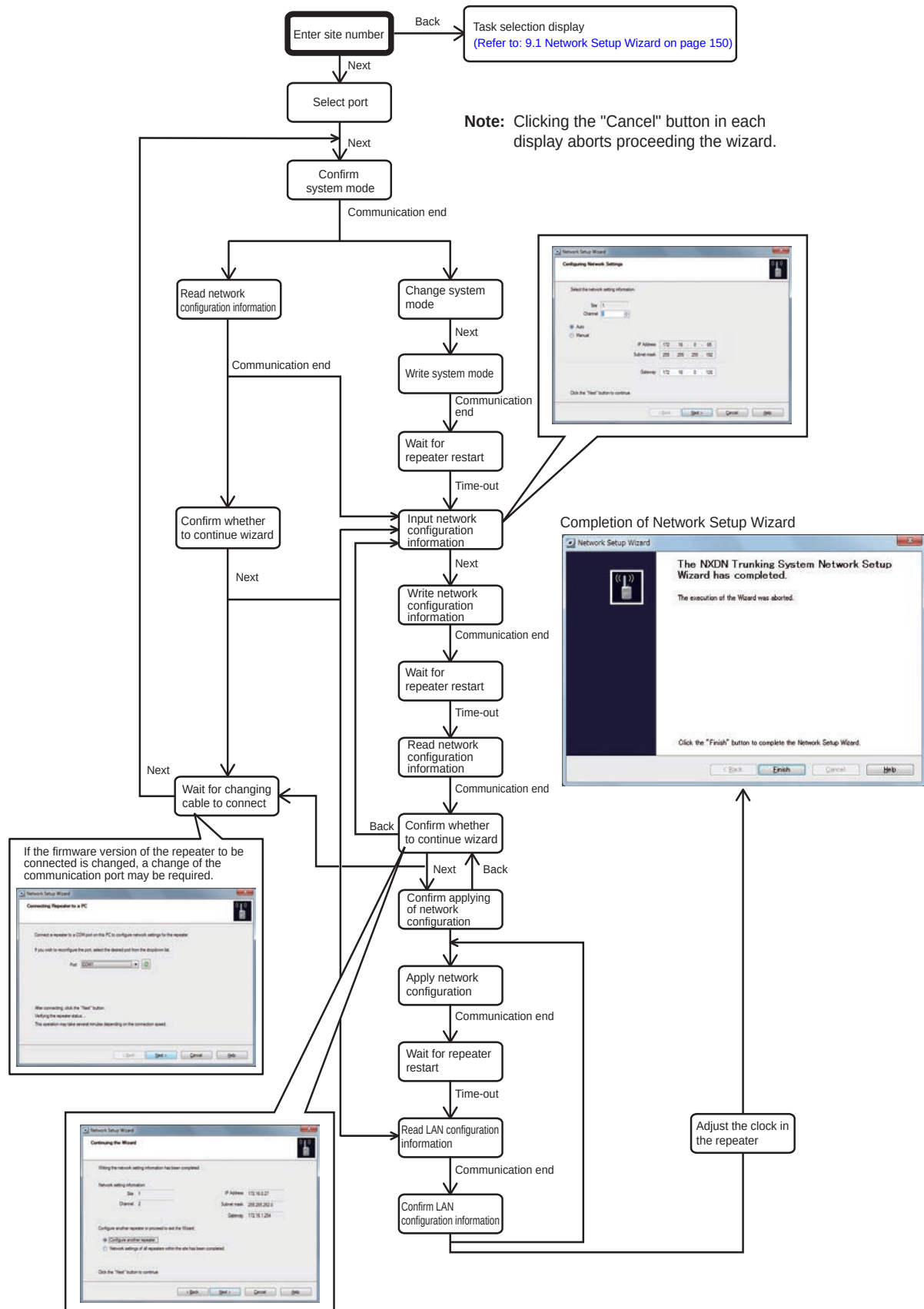


Figure 9-4 Single Site Setup Flow

9.1.2 Multi-site Setup Flow

Following is the setup flow of a Multi-site:

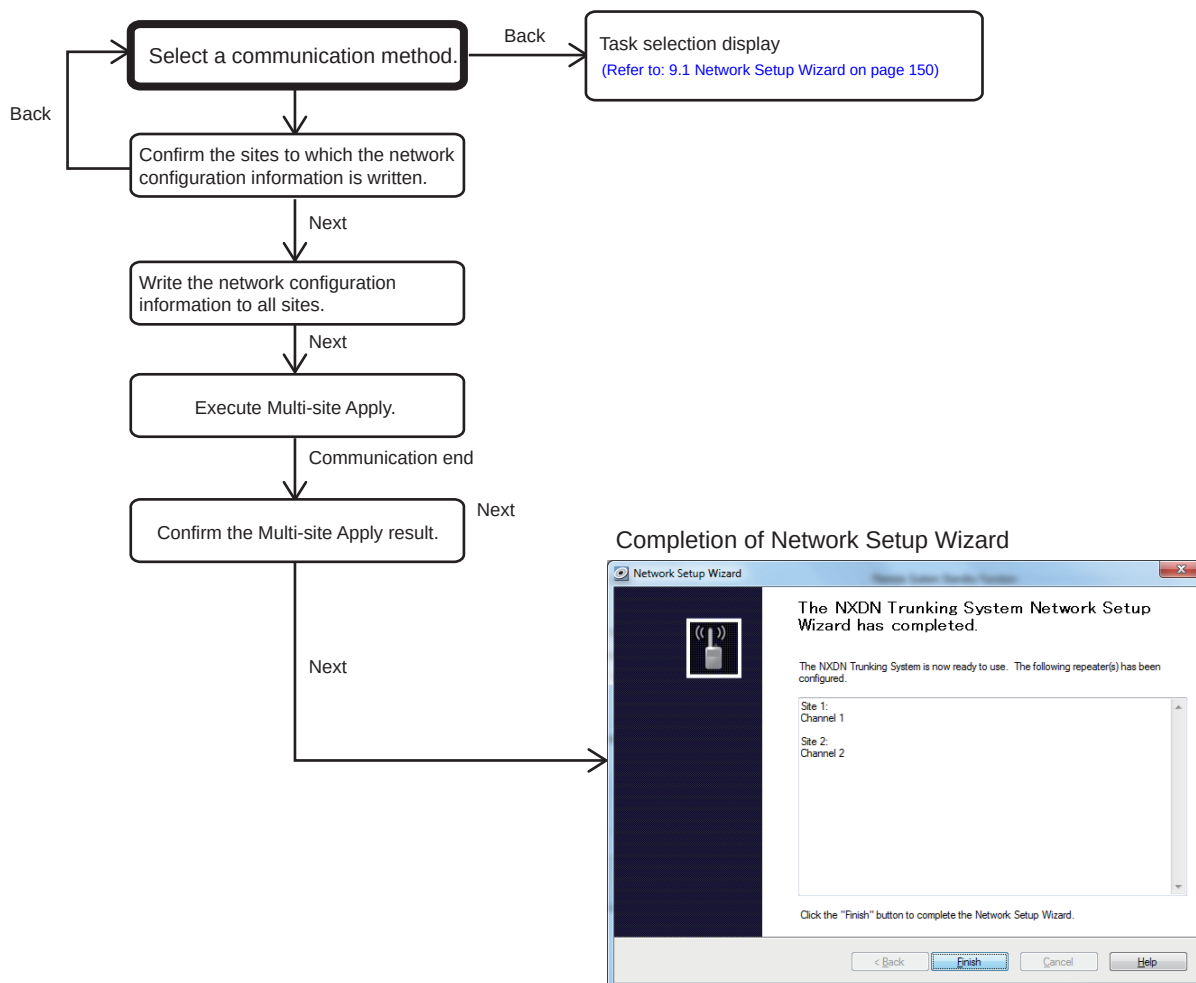


Figure 9-5 Multi-site Setup Flow

Note:

- ◆ To cancel the wizard, click the "Cancel" button in each window.
- ◆ The PC and repeaters need to be connected with LAN cables to execute Multi-site Apply during the Multi-site setup.

9.2 Network Configuration

In the **Network Configuration** dialog box, a field engineer can configure the initial settings for the network.

In the Network Configuration dialog box, the same items can be configured as those are configured with the Network Setup Wizard.

The **Network Configuration** dialog box consists of the following tabs:

- **IP Address** tab
- **System Recognition** tab
- **Site Map** tab
- **Others** tab

Note:

- ◆ To configure LAN, the IP address assigned to a PC in use must be configured in accordance with the network in an NXDN Trunking System.
- ◆ To configure each item in the **Network Configuration** dialog box, a repeater needs to be connected to a PC by using an RS-232C cross-wired cable or USB Type-B cable. (Refer to: [2.5 Connecting a Repeater to a PC on page 12](#))
- ◆ All sites must be connected using network devices, such as a router to construct a Multi-site system.
- ◆ While Set, Apply, Get, Read or Reset is in progress, each item cannot be configured.

9.2.1 IP Address Tab

In the **IP Address** tab, a field engineer can configure the IP address, the subnet mask number and gateway address for each repeater.

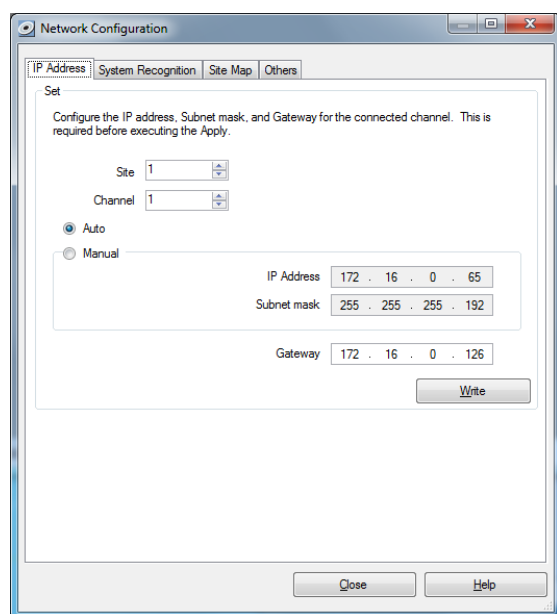


Figure 9-6 IP Address Tab

Note:

- ◆ The parameters for various functions in the **IP Address** tab cannot be configured under the following conditions:
 - If "LAN" is selected for Communication Mode in the **Communication Port** dialog box.
 - If "Modem" is selected for Port Device in the **Communication Port** dialog box.

■ Site

Site allows a field engineer to select the site number to be configured for the network.

Site can be configured by directly entering a value in the edit box or clicking the spin buttons.

Range	The range varies followed by the configuration for Network Category (Local or Regional) as follows: Local: 1 to 30 Regional: 1 to 48
In steps of	1
Default	The default value varies depending on the configuration for Number of Sites in the System Configuration window > General tab > License Information frame. If the value of "1" is configured for Number of Sites: Single site number of the USB Secure Key (this configuration cannot be changed.) If anything other than the value of "1" is configured for Number of Sites: 1

■ Channel

Channel allows a field engineer to select the channel number to be configured for the network. Select a channel number for a repeater that is connected to a PC by directly entering a value in the edit box or clicking the spin buttons.

Range	1 to 30
In steps of	1
Default	1

Note:

- ◆ The channel number here corresponds to the channel number configured using KPG-109D/ DN or KPG-D2/ D2N.

■ Set

Set allows a field engineer to configure how to configure the IP address, Subnet mask, and Gateway address values, either automatically or manually.

Range	Auto	IP address, Subnet mask and Gateway address are automatically configured.
	Manual	IP address, Subnet mask and Gateway address must be entered manually. The IP Address and Subnet mask edit boxes becomes active so as to enter the address.
Default	Auto	

Note:

- ◆ "Auto" must normally be used.
- ◆ If the parameter is changed from "Manual" to "Auto", then IP address, Subnet mask, and Gateway address values are automatically refreshed.

■ IP Address

IP Address allows a field engineer to configure the IP (Internet Protocol) address for a repeater selected in the Channel edit box.

IP Address can be configured by entering the IP address provided by the network administrator.

Range	0.0.0.0 to 223.255.255.255
Default	172.16.0.65

Note:

- ◆ The IP Address to be configured is a Private IP Address.
- ◆ If "Auto" is selected, this function cannot be configured.

■ Subnet mask

Subnet mask allows a field engineer to configure the subnet mask number for a repeater selected in the Channel edit box.

Subnet mask can be configured by directly entering the subnet mask number provided by the network administrator.

Range	0.0.0.0 to 255.255.255.255
Default	255.255.255.192

Note:

- ◆ If "Auto" is selected, this function cannot be configured.

■ Gateway

Gateway allows a field engineer to configure the gateway address for a repeater selected in the Channel edit box.

Gateway can be configured by entering the gateway address provided by the network administrator.

Range	0.0.0.0 to 255.255.255.255
Default	172.16.0.126

■ Write Button

Write allows a field engineer to write the network information configured in the Set frame to a repeater connected to the PC.

A field engineer can write network information to every repeater via the 9-pin serial connector located on the front of a repeater. Upon completion of writing of network information to all repeaters, the Ethernet port opens and the LED on the hub turns on.

Follow the procedure below.

1. Click the "Write" button.

Writing network information to a repeater starts.

The completion message box appears upon completion of the writing.

2. Click the "OK" button.

9.2.2 System Recognition Tab

In the **System Recognition** tab, a field engineer can apply the information configured in the **IP Address** tab to the repeaters in a Single Site or Multi-site.

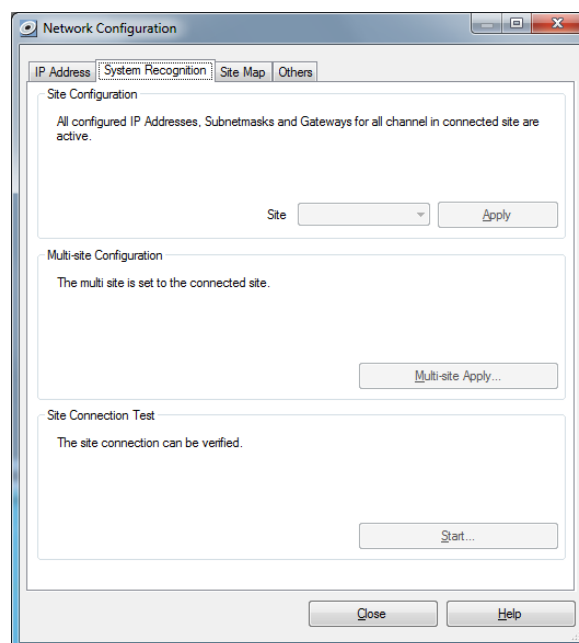


Figure 9-7 System Recognition Tab

■ Site Configuration

Site Configuration allows a field engineer to determine the network information for each repeater in the site and apply the information in a Single Site. Subsequently, each repeater in the site is connected via a network.

Follow the procedure below.

1. Connect a repeater to a PC with the RS-232C cross-wired cable or USB Type-B cable. (Refer to: [2.5 Connecting a Repeater to a PC on page 12](#))
2. Connect each repeater in the site with a LAN cable.
3. Select the site number to apply to the single site from the **Site** dropdown list.

Following are the range and the default value of the **Site** dropdown list:

Range	The range varies followed by the configuration for Network Category (Local or Regional) as follows: Local: 1 to 30 Regional: 1 to 48
Default	The default value varies depending on the configuration for Number of Sites in the System Configuration window > General tab > License Information frame. If the value of “1” is configured for Number of Sites: Single site number of the USB Secure Key (this configuration cannot be changed.) If anything other than the value of “1” is configured for Number of Sites: The lowest site number

4. Click the “Apply” button.

Network information is written to each repeater.

The **Site Configuration - Apply** message box appears upon completion of the writing.

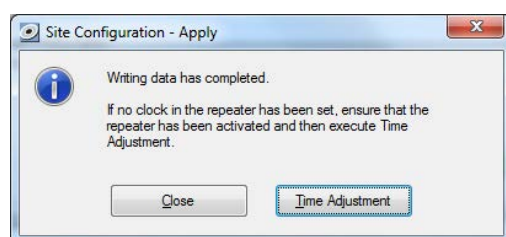


Figure 9-8 Site Configuration - Apply Message Box

5. Do one of the following operations.

- Click the “Close” button.

The **Site Configuration - Apply** message box closes.

- Click the “Time Adjustment” button.

The **Time Adjustment** dialog box opens, and then a repeater in the site to which data is just applied can be configured. (Refer to: [9.9 Time Adjustment on page 168](#))

Note:

- ◆ Apply cannot be done under the following conditions:
 - If a site cannot be selected from the **Site** dropdown list.
 - If “LAN” is selected for Communication Mode in the **Communication Port** dialog box.

■ Multi-site Configuration

Multi-site Configuration allows a field engineer to determine the network information for repeaters in all sites and validate the information in a Multi-site system. Subsequently, every repeater in all sites is connected via a network.

Follow the procedure below.

1. Connect a repeater to a PC with a LAN cable.
2. Connect each repeater in the site with a LAN cable.
3. Click the “Multi-site Apply” button.

The Multi-site Apply dialog box opens.



Figure 9-9 Multi-site Apply Dialog Box 1

4. Select a target site number from the Site dropdown list.

Following are the range and the default value of the Site dropdown list:

Range	The range varies followed by the configuration for Network Category (Local or Regional) as follows: Local: All or 1 to 30 Regional: All or 1 to 48
Default	All

5. Click the “Apply” button.

Network information is written to repeaters in all sites or selected sites.

The completion message box appears upon completion of the writing.

6. Click the “OK” button.

One of the following results appears for each site.

- **Success**
Connection can be established for all sites.
- **Fail**
Connection cannot be established for all sites or some sites.

Note:

- ◆ Multi-site Apply cannot be done under the following conditions:
 - There is a site for which the Apply process has not been completed yet.
 - There is only 1 site to which the Apply is done.
 - “Serial” is selected for Port Device in the **Communication Port** dialog box.
 - The value of “1” is configured for Number of Sites in the **System Configuration** window > **General** tab > **License Information** frame.

■ Site Connection Test

Site Connection Test allows a field engineer to inspect whether each site is connected to the network after Multi-site Apply is executed.

Follow the procedure below.

1. Connect a repeater to a PC with a LAN cable.
2. Connect each repeater in the site with a LAN cable.

3. Click the “Start” button.

The **Connection Test** dialog box opens.

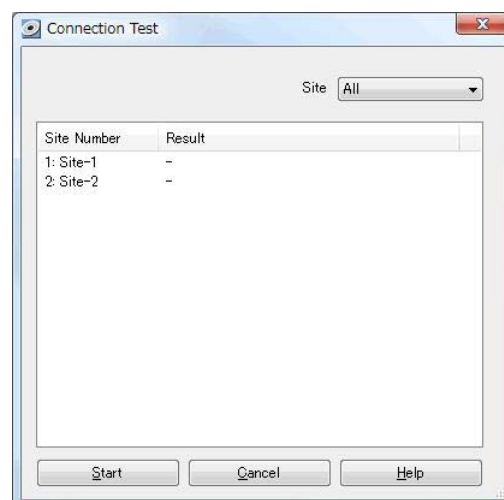


Figure 9-10 Connection Test Dialog Box 1

4. Select a target site number from the Site dropdown list.

Following are the range and the default value of the Site dropdown list:

Range	The range varies followed by the configuration for Network Category (Local or Regional) as follows: Local: All or 1 to 30 Regional: All or 1 to 48
Default	All

5. Click the “Start” button.

The network connection test starts.

Either of the following results appears for each site upon completion of the network connection test.

- **Success**
Connection can be established for all sites.
- **Fail**
Connection cannot be established for all sites or some sites. In this case, proceed to step 6 to verify which site connection cannot be established.

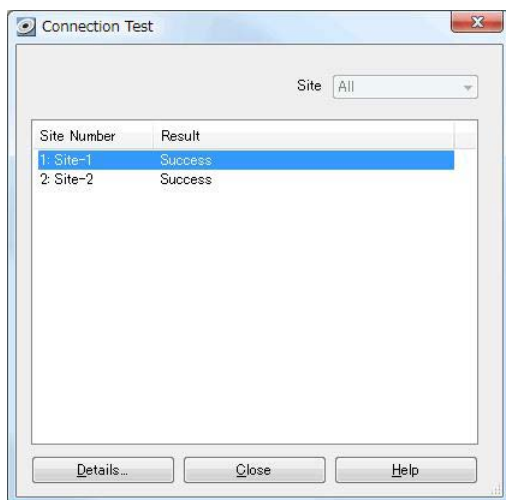


Figure 9-11 Connection Test Dialog Box 2

6. Select the site that appears on the grid, and then click the “Details” button.

The **Detailed Reports of Connection Test** dialog box opens. In the **Detailed Reports of Connection Test** dialog box, whether the selected site can be connected to other sites can be verified.

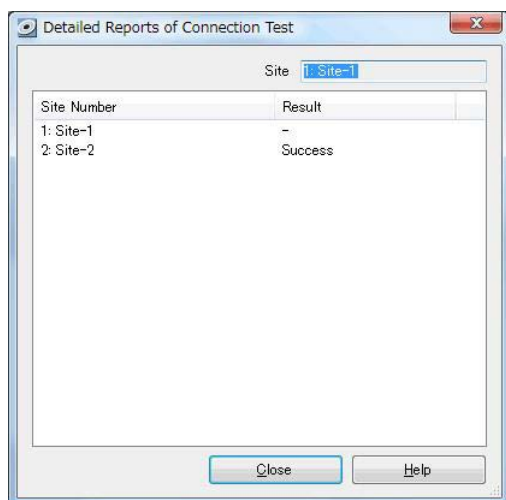


Figure 9-12 Detailed Reports of Connection Test Dialog Box

Note:

- ◆ This function cannot be used if “COM” is selected for Communication Mode in the **Communication Port** dialog box.

9.2.3 Site Map Tab

In the **Site Map** tab, a field engineer can retrieve LAN configuration information from the site and display the information by clicking the “Get” button.

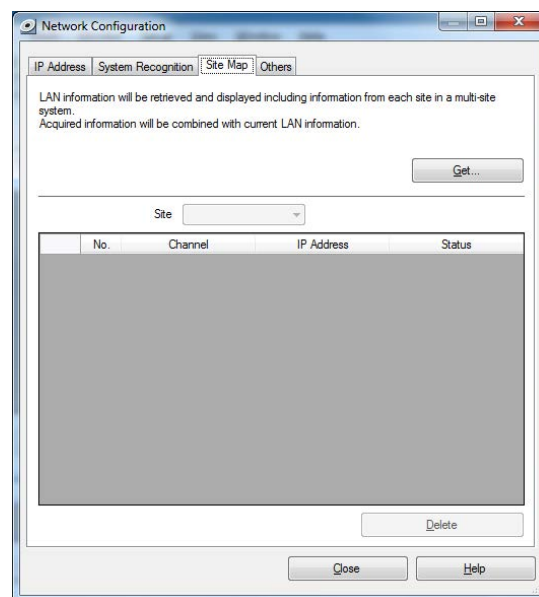


Figure 9-13 Site Map Tab

The procedures differ between the communication by connecting a repeater to a PC with the RS-232C cross-wired cable or USB Type-B cable, and communication by connecting a repeater connected via an IP network to a PC with a LAN cable.

■ Connecting a Repeater to a PC with the RS-232C Cross-wired Cable or USB Type-B cable for the Communication

1. Connect a repeater to a PC with the RS-232C cross-wired cable or USB Type-B cable. ([Refer to: 2.5 Connecting a Repeater to a PC on page 12](#))
2. Connect each repeater in the site with a LAN cable.
3. Click the “Get” button.

The **Get** dialog box opens.

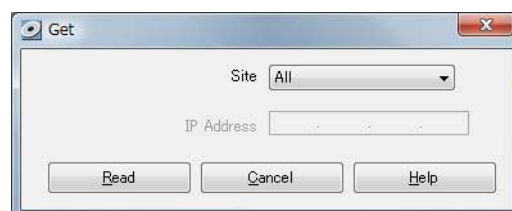


Figure 9-14 Get Dialog Box (Serial)

4. Select a target site number from the **Site** dropdown list.

Following are the range and the default value of the **Site** dropdown list:

Range	The range varies followed by the configuration for Network Category (Local or Regional) as follows: Local: All or 1 to 30 Regional: All or 1 to 48
Default	Serial communication: All Modem communication: The lowest site number

5. Click the “Read” button.

The LAN configuration information for the site is read by KPG-110SM.

The completion message box appears upon completion of the retrieving process.

If “All” is selected from the Site dropdown list, the LAN configuration information for all sites is read by KPG-110SM. However, “All” cannot be selected if a communication takes place by connecting a PC with a repeater via a modem.

6. Click the “OK” button.

The LAN configuration information of the retrieved site and of a repeater in the site appears.

The channel number appears in the **Channel** information box.

The IP address of a repeater appears in the **IP Address** information box.

Whether the network information for the repeater is enabled appears in the **Status** information box. If a repeater is used in a single site system and if the network information for a repeater is enabled, “Applied.” appears. If a repeater is used in a multi-site system and if the network information for a repeater is enabled, “Multi-site applied.” appears. If the network information for a repeater is not enabled, “Not applied yet.” appears.

■ Connecting a Repeater Connected via an IP Network to a PC with the LAN Cable for the Communication

1. Connect a PC to a repeater with a LAN cable via a hub or a network device.
2. Connect each repeater in the site with a LAN cable.
3. Click the “Get” button.

The Get dialog box opens.

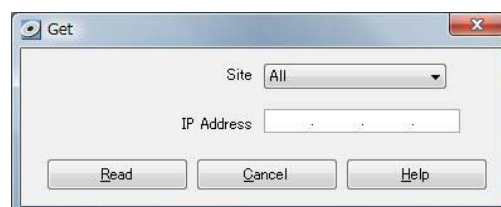


Figure 9-15 Get Dialog Box (LAN)

4. Select a target site from the Site dropdown list, and enter the IP Address of a repeater to be connected in the IP Address edit box.

Following are the range and the default value of the Site dropdown list:

Range	The range varies followed by the configuration for Network Category (Local or Regional) as follows: Local: All or 1 to 30 Regional: All or 1 to 48
Default	All

Following are the range and the default value of the IP Address edit box:

Range	0.0.0.0 to 223.255.255.255
Default	Blank

5. Click the “Read” button.

The LAN configuration information for the site is read by KPG-110SM.

The completion message box appears upon completion of the retrieving process.

6. Click the “OK” button.

The LAN configuration information of the retrieved site and of a repeater in the site appears.

The channel number appears in the Channel information box.

The IP address of a repeater appears in the IP Address information box.

Whether the network information for the repeater is enabled appears in the Status information box. If a repeater is used in a single site system and if the network information for a repeater is enabled, "Applied." appears. If a repeater is used in a multi-site system and if the network information for a repeater is enabled, "Multi-site applied." appears. If the network information for a repeater is not enabled, "Not applied yet." appears.

Note:

- ◆ After the reading of LAN configuration information is completed, selecting a channel in the table on the **Site Map** tab, and then clicking the "Delete" button can delete the LAN configuration information for the selected channel in the table on the **Site Map** tab.
- ◆ The configuration for the communication port of a PC needs to be changed in the **Communication Port** dialog box depending on how to connect a PC to a repeater. (Refer to: [11.1.1 Communication Mode on page 198](#))

9.2.4 Others Tab

In the Others tab, a field engineer can retrieve network information configured for each repeater.

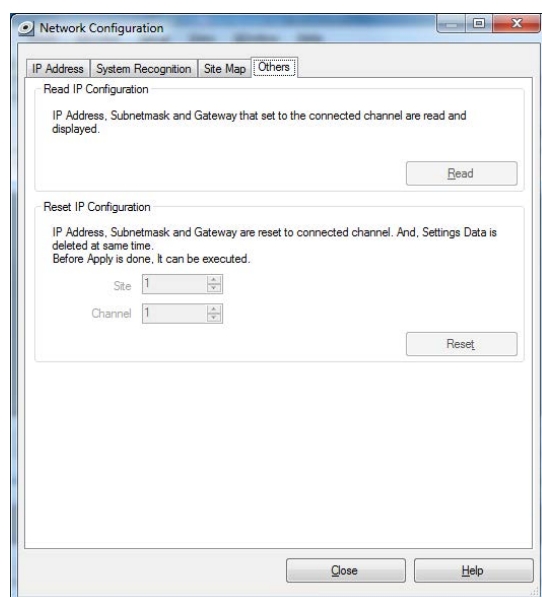


Figure 9-16 Others Tab

Note:

- ◆ The network information can not be retrieved in the **Others** tab under the following conditions:
 - If "LAN" is selected for Communication Mode in the **Communication Port** dialog box.
 - If "Modem" is selected for Port Device in the **Communication Port** dialog box.

■ Read IP Configuration

Read IP Configuration allows a field engineer to retrieve and display the network information configured for a repeater connected to a PC.

Follow the procedure below.

1. Connect a repeater to a PC with the RS-232C cross-wired cable or USB Type-B cable. (Refer to: [2.5 Connecting a Repeater to a PC on page 12](#))
2. Connect each repeater in the site with a LAN cable.
3. Click the "Read" button.

A PC starts retrieving the network information.

4. A PC completes retrieving the network information.

The Network Information dialog box opens.

Following network configuration information can be confirmed.

- Site Number
- Channel Number
- IP Address
- Subnet mask
- Gateway

Furthermore, "Not applied yet.", "Applied." or "Multi-site applied." appears below the Gateway text box to show the repeater status.

If the above network configuration information is active on a network, "Applied." or "Multi-site applied." appears. If this network information is not validated, a "Not applied yet." appears.

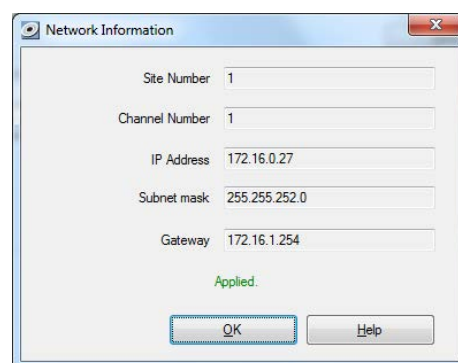


Figure 9-17 Network Information Dialog Box (Applied.)

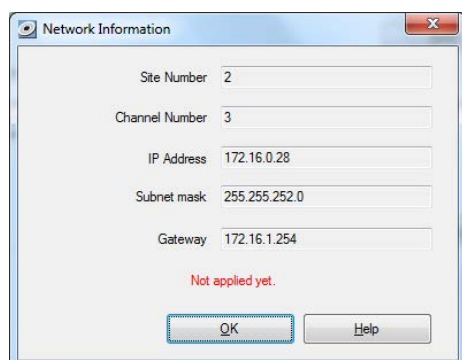


Figure 9-18 Network Information Dialog Box (Not Applied yet.)

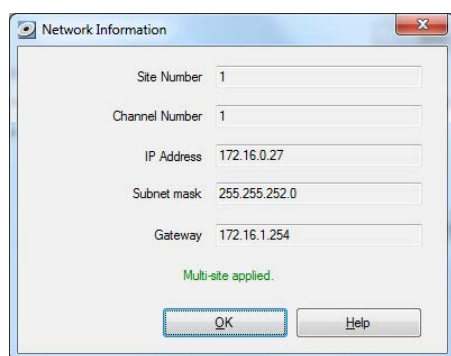


Figure 9-19 Network Information Dialog Box (Multi-site applied.)

■ Reset IP Configuration

Reset IP Configuration allows a field engineer to delete the network information configured for a repeater connected to a PC.

This function can be used to reset a repeater to which Apply has not been done.

Follow the procedure below.

1. Connect a repeater to a PC with the RS-232C cross-wired cable or USB Type-B cable. ([Refer to: 2.5 Connecting a Repeater to a PC on page 12](#))
2. Connect each repeater in the site with a LAN cable.
3. Select in the Site edit box the site number of a repeater with the network information to be deleted.

Following are the range and the default value of the Site edit box:

Range	The range varies followed by the configuration for Network Category (Local or Regional) as follows: Local: 1 to 30 Regional: 1 to 48
In steps of	1
Default	The default value varies depending on the configuration for Number of Sites in the System Configuration window > General tab > License Information frame. If the value of “1” is configured for Number of Sites: Single site number of the USB Secure Key (this configuration cannot be changed.) If anything other than the value of “1” is configured for Number of Sites: 1

4. Select in the Channel edit box the channel number of a repeater with the network information to be deleted.

Following are the range and the default value of the Channel edit box:

Range	1 to 30
In steps of	1
Default	1

5. Click the “Reset” button.

Network configuration data of a repeater selected is deleted using KPG-110SM.

The completion message box appears upon clearance of the network information.

6. Click the “OK” button.

9.3 Channel Reconfiguration

Channel Reconfiguration allows a field engineer to reset the repeater status to the status while in use with Conventional Mode, set the time of a repeater, and write network information and configuration data to a repeater while connecting a PC to a repeater with the RS-232C cross-wired cable or USB Type-B cable.

(Refer to: [2.5 Connecting a Repeater to a PC on page 12](#))

Since these operations can be executed to only the repeater being connected to a PC, the configuration and status of the repeater can be changed without restarting other repeaters in the same site or repeaters in other sites.

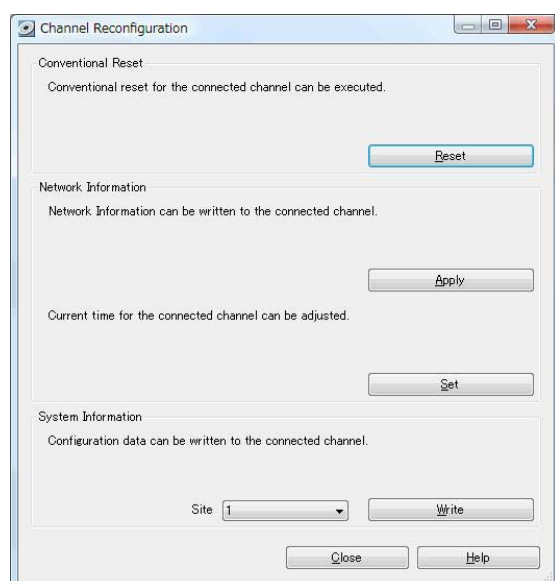


Figure 9-20 Channel Reconfiguration Dialog Box

Note:

- ◆ To use the functions in the **Channel Reconfiguration** dialog box, "COM" needs to be selected for Communication Mode in the **Communication Port** dialog box.

9.3.1 Conventional Reset

Conventional Reset allows a field engineer to reset the status of a repeater to the status for use in Conventional Mode while connecting a PC to a repeater with the RS-232C cross-wired cable or USB Type-B cable.

Follow the procedure below.

1. Connect a repeater to a PC with the RS-232C cross-wired cable or USB Type-B cable. (Refer to: [2.5 Connecting a Repeater to a PC on page 12](#))

2. Click the "Reset" button.

Conventional Reset starts.

The completion message box appears upon completion of Conventional Reset.

3. Click the "OK" button.

9.3.2 Network Information

Network Information allows a field engineer to write the network information to a repeater while connecting a PC to a repeater with the RS-232C cross-wired cable or USB Type-B cable. Also, the clock time of a repeater can be configured.

Follow the procedure below.

■ Writing Network Information to a Repeater

1. Connect a repeater to a PC with the RS-232C cross-wired cable or USB Type-B cable. (Refer to: [2.5 Connecting a Repeater to a PC on page 12](#))
2. Click the "Apply" button.

Network information is written to a repeater.

The Site Configuration - Apply message box appears upon completion of the writing.

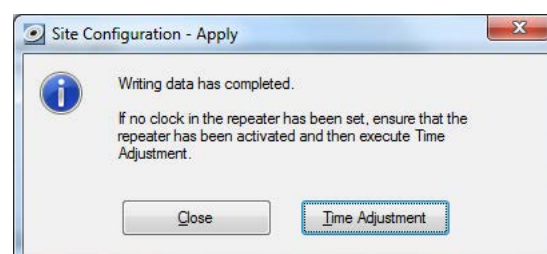


Figure 9-21 Site Configuration - Apply Message Box

3. Do one of the following operations.

- Click the “Close” button.

The **Site Configuration - Apply** message box closes.

- Click the “Time Adjustment” button.

The Time Adjustment dialog box opens, and then the clock time of a repeater can be configured. (Refer to: [9.9 Time Adjustment on page 168](#))

■ Configuring the Clock Time of a Repeater

- Connect a repeater to a PC with the RS-232C cross-wired cable or USB Type-B cable. (Refer to: [2.5 Connecting a Repeater to a PC on page 12](#))
- Click the “Set” button.

The Time Adjustment dialog box opens, and then the clock time of a repeater can be configured. (Refer to: [9.9 Time Adjustment on page 168](#))

9.3.3 System Information

System Information allows a field engineer to write configuration data to a repeater while connecting a PC to a repeater with the RS-232C cross-wired cable or USB Type-B cable.

Follow the procedure below.

- Connect a repeater to a PC with the RS-232C cross-wired cable or USB Type-B cable. (Refer to: [2.5 Connecting a Repeater to a PC on page 12](#))
- Select a target site number from the **Site** dropdown list.

The site number with the configuration data to be written can be selected.

Following are the range and the default value of the **Site** dropdown list:

Range	The range varies followed by the configuration for Network Category (Local or Regional) as follows: Local: All or 1 to 30 Regional: All or 1 to 48
Default	The lowest site number

- Click the “Write” button.

The configuration data is written to a repeater.

The completion message box appears upon completion of the writing of configuration data.

- Click the “OK” button.

9.4 Restart

Restart allows a field engineer to restart repeaters for each site.

Follow the procedure below.

- Connect a repeater to a PC with the RS-232C cross-wired cable or USB Type-B cable. Or, connect a repeater to a PC with a LAN cable via a hub or network device. (Refer to: [2.5 Connecting a Repeater to a PC on page 12](#))
- Select “Restart” from the Tools pulldown menu.
The Restart dialog box opens.

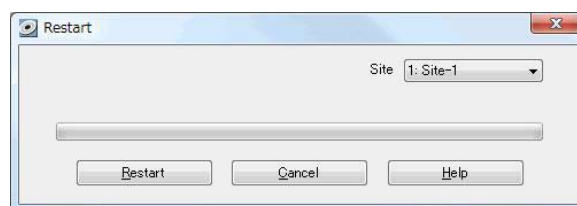


Figure 9-22 Restart Dialog Box

- Select a target site number from the **Site** dropdown list.

Following are the range and the default value of the **Site** dropdown list:

Range	The range varies followed by the configuration for Network Category (Local or Regional) as follows: Local: All or 1 to 30 Regional: All or 1 to 48
Default	The lowest site number

- Click the “Restart” button.
A warning message box appears.
- Click the “OK” button.
The site restarts.
The completion message box appears upon completion of the restarting of the site.
- Click the “OK” button.

9.5 Conventional Reset

Conventional Reset allows a field engineer to reset all Trunking Mode configurations for repeaters configured using KPG-110SM and restore the default Conventional Mode configuration. However, the data configured using KPG-109D/ DN or KPG-D2/ D2N cannot be cleared.

All channels in a site connected to the hub in the selected site becomes reset.

Follow the procedure below.

1. Connect a repeater to a PC with the RS-232C cross-wired cable or USB Type-B cable. (Refer to: [2.5 Connecting a Repeater to a PC on page 12](#))
2. Connect each repeater in the site with a LAN cable.
3. Select "Conventional Reset" from the Tools pulldown menu.

The Conventional Reset dialog box opens.

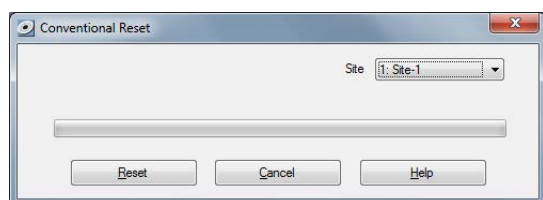


Figure 9-23 Conventional Reset Dialog Box

4. Select a site from the Site dropdown list to reset its communication mode to Conventional.

Following are the range and the default value of the **Site** dropdown list:

Range	The range varies followed by the configuration for Network Category (Local or Regional) as follows: Local: 1 to 30 Regional: 1 to 48
Default	The lowest site number

Note:

- ◆ Only a site to which Apply has been done can be selected.
- ◆ To use Conventional Reset, the system configured for USB Secure Key must be the same system configured for the repeater. If the systems do not match, Conventional Reset cannot be done.

5. Click the "Reset" button.

A warning message box appears.

6. Click the "OK" button.

Conventional Reset is done for all repeaters in the site.

The completion message box appears upon completion of the Conventional Reset.

7. Click the "OK" button.

A warning message box appears. If the "Yes" button is clicked, Site Data, Fleet Data, GID Data, UID Data, LAN configuration information and Phone Book configured for the site that was reset are cleared.

9.6 Factory Reset

Factory Reset allows a field engineer to clear all repeater configurations, including the parameters configured using KPG-109D/ DN or KPG-D2/ D2N, and reset the configuration to the factory default values.

All channels in a site connected to the hub in the selected site becomes reset.

Follow the procedure below.

1. Connect a repeater to a PC with the RS-232C cross-wired cable or USB Type-B cable. (Refer to: [2.5 Connecting a Repeater to a PC on page 12](#))
2. Connect each repeater in the site with a LAN cable.
3. Select "Factory Reset" from the Tools pulldown menu.

The Factory Reset dialog box opens.



Figure 9-24 Factory Reset Dialog Box

4. Select from the Site dropdown list a site that can reset the configurations to the factory default values.

Following are the range and the default value of the **Site** dropdown list:

Range	The range varies followed by the configuration for Network Category (Local or Regional) as follows: Local: 1 to 30 Regional: 1 to 48
Default	The lowest site number

Note:

- ◆ Only a site to which Apply has been done can be selected.
- ◆ To use Factory Reset, the system configured for USB Secure Key must be the same system configured for the repeater. If the systems are inconsistent, Factory Reset cannot be done. However, Factory Reset can be done in KPG-109D/ DN or KPG-D2/ D2N even if the systems are inconsistent. In this case, unplug all LAN cables and Sync codes, and then perform Factory Reset one by one.

5. Click the “Reset” button.

A warning message box appears.

6. Click the “OK” button.

Factory Reset is done for all repeaters in the site.

The completion message box appears upon completion of the Factory Reset.

7. Click the “OK” button.

A warning message box appears. If the “Yes” button is clicked, Site Data, Fleet Data, GID Data, UID Data, LAN configuration information and Phone Book configured for the site to which Factory Reset was done are cleared.

9.7 Security

Security allows a field engineer to configure an access code for each site. The field engineer must enter the same access code as was configured for the site in order to connect to the site.

Follow the procedure below to configure an access code.

1. Connect a repeater to a PC with the RS-232C cross-wired cable or USB Type-B cable. ([Refer to: 2.5 Connecting a Repeater to a PC on page 12](#))
2. Connect each repeater in the site with a LAN cable.
3. Select “Security” from the Tools pulldown menu.

The Security dialog box opens.

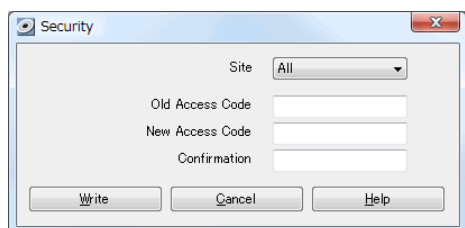


Figure 9-25 Security Dialog Box 1

4. Select a site from the Site dropdown list to configure an access code to the site.

Following are the range and the default value of the **Site** dropdown list:

Range	The range varies followed by the configuration for Network Category (Local or Regional) as follows: Local: All, 1 to 30 Regional: All, 1 to 48
Default	The lowest site number

5. Enter the following access code.

A maximum of 12 alphanumeric characters can be entered.

Old Access Code	Enter the access code which is already configured. This edit box can be left blank if no access code is configured.
New Access Code	Enter a new access code.
Confirmation	Enter the new access code to confirm the code.

6. Click the “Write” button.

A new access code is configured for all repeaters in the site.

The completion message box appears upon completion of the writing.

7. Click the “OK” button.

Note:

- ◆ Following are the characters that can be entered in the **Old Access Code**, **New Access Code** and **Confirmation** edit boxes.

Range	A maximum of 12 alphanumeric characters
Available 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
Default	Blank

- ◆ If the access code entered in the **New Access Code** edit box differs from the access code entered in the **Confirmation** edit box, a reminder icon appears next to the **Confirmation** edit box. In this case, no access code is written even if the “Write” button is clicked.



Figure 9-26 Security Dialog Box 2

- ◆ “All” cannot be selected if COM is selected from Communication Mode in the **Communication Port** dialog box.
- ◆ If the access code differs depending on the site, the repeater firmware in all sites cannot be updated at one time. ([Refer to: 8.4 Firmware Update on page 148](#))

9.8 FPU Data

FPU Data allows a field engineer to read the configuration data configured using KPG-109D/ DN or KPG-D2/ D2N from each repeater or write the configuration data configured using KPG-109D/ DN or KPG-D2/ D2N to each repeater.

9.8.1 Read Data from the Repeater

Read Data from the Repeater allows a field engineer to read the configuration data configured using KPG-109D/ DN or KPG-D2/ D2N from each repeater.

Follow the procedure below.

1. Connect a repeater to a PC with the RS-232C cross-wired cable or USB Type-B cable. (Refer to: [2.5 Connecting a Repeater to a PC on page 12](#))
2. Connect each repeater in the site with a LAN cable.
3. Select "Read Data from the Repeater" from the Tools pulldown menu > FPU Data.

The Read Data from the Repeater dialog box opens.

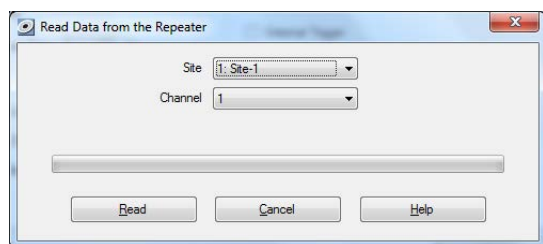


Figure 9-27 Read Data from the Repeater Dialog Box

4. Select a site from the Site dropdown list.

Following are the range and the default value of the **Site** dropdown list:

Range	The range varies followed by the configuration for Network Category (Local or Regional) as follows: Local: 1 to 30 Regional: 1 to 48
Default	The lowest site number

Note:

- ◆ Only a site to which Apply has been done can be selected.

5. From the Channel dropdown list, select the channel number of a repeater from which the configuration data is read.

Following are the range and the default value of the Channel dropdown list:

Range	1 to 30
Default	The minimum channel number

6. Click the "Read" button.

Reading the configuration data starts.

- **If an access code is configured for the selected site:**

The Enter Access Code dialog box opens.

Entering an access code, and then clicking the "OK" button starts reading the data.

- **If the Read Authorization Password is configured for the repeater:**

The Password dialog box opens. If the "OK" button is clicked after entering the password and the password matches, a PC starts reading the configuration data from a repeater.

The completion message box appears upon completion of the retrieving process.

7. Click the "OK" button.

The confirmation message box appears prompting a field engineer whether to configure a password for the read data file.

Select one of the following operations:

- The **Security** dialog box opens by clicking the "Yes" button. Clicking the "OK" button after entering the password in the Password and Confirmation edit boxes opens the Save As dialog box. The configuration data read from a repeater is named and stored.

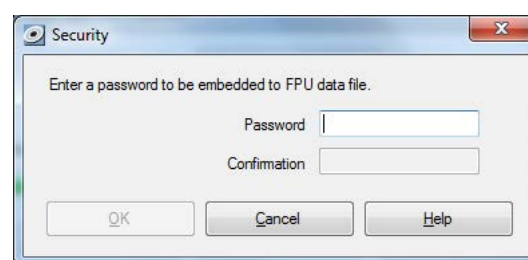


Figure 9-28 Security Dialog Box

- Clicking the "No" button opens the **Save As** dialog box. The configuration data read from a repeater is named and stored.

■ Error Detection for Network Connection and Configuration Data prior to Reading

KPG-110SM inspects the network connection status and configurations for options prior to reading the configuration data from a repeater, and then determines whether to read the configuration data. If any configuration that does not conform to the following inspection criteria is detected, an error message box appears and reading of the configuration data from a repeater does not start.

Table 9-1 Inspection Criteria and Troubleshooting

Inspection Criteria	Troubleshooting upon Appearance of Error or Warning Message
If a repeater is connected via a modem, KPG-110SM detects whether phone numbers have been configured for all sites.	Ensure that phone numbers have been configured for all sites.
If a repeater is connected to a LAN, KPG-110SM detects whether one or more connections conforming to TCP/IP have been enabled.	Ensure that the LAN connection status is appropriate.
In the case of connection to a LAN, KPG-110SM detects whether there are one or more sites to which Apply has been done.	Ensure that the network configuration is appropriate. (Refer to: 9.2 Network Configuration on page 153)

■ Errors Detected while Reading the Configuration Data

An error message box appears and reading of the configuration data from a repeater is aborted if the following event occurs while KPG-110SM is reading the configuration data from a repeater:

- **If a Communication Error occurs.**
- **If the access code configured for a repeater differs from the access code entered in the Enter Access Code dialog box.**
Clicking the “Yes” button on the displayed message box opens the **Enter Access Code** dialog box. Reading of the configuration data from a repeater aborts if a wrong password is entered 3 times in a row.
- **If the Read Authorization Password entered in the Password dialog box differs from the Read Authorization Password configured for a repeater.**

Clicking the “OK” button on the displayed message box opens the Password dialog box. Reading of the configuration data from a repeater aborts if a wrong password is entered 3 times in a row.

9.8.2 Write Data to the Repeater

Write Data to the Repeater allows a field engineer to write to each repeater the configuration data configured using KPG-109D/ DN or KPG-D2/ D2N.

Follow the procedure below.

1. Connect a repeater to a PC with the RS-232C cross-wired cable or USB Type-B cable. (Refer to: [2.5 Connecting a Repeater to a PC on page 12](#))
2. Connect each repeater in the site with a LAN cable.
3. Select “Write Data to the Repeater” from the Tools pulldown menu > FPU.

The Write Data to the Repeater dialog box opens.

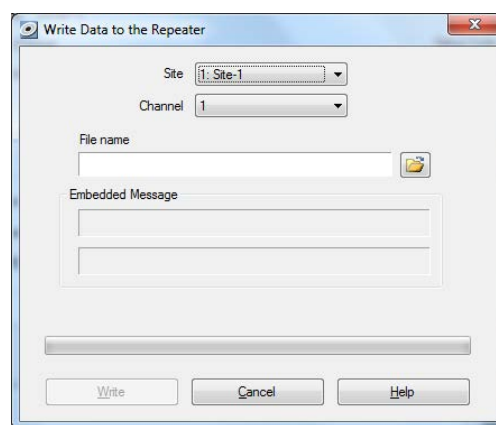


Figure 9-29 Write Data to the Repeater Dialog Box

Note:

- ◆ If no site is configured for LAN configuration information while “LAN” is selected for Communication Mode in the **Communication Port** dialog box, the **Write Data to the Repeater** dialog box does not open.

4. Select a site from the Site dropdown list.

Following are the range and the default value of the **Site** dropdown list:

Range	The range varies followed by the configuration for Network Category (Local or Regional) as follows: Local: 1 to 30 Regional: 1 to 48
Default	The lowest site number

Note:

- ◆ Only a site to which Apply has been done can be selected.

- Select from the Channel dropdown list the channel number of a repeater to which the configuration data is written.

Following are the range and the default value of the Channel dropdown list:

Range	1 to 30
Default	The minimum channel number

Note:

- The channel number corresponds to the channel number configured in the **Site Edit** window > **Channel** tab. (Refer to: [7.3.2 Channel Tab on page 76](#))

- Click the “” button.

The Open dialog box opens. Select the configuration data configured by KPG-109D/ DN or KPG-D2/ D2N to be written to a repeater, and then click the “Open” button.

The Security dialog box opens if a password is configured for the configuration data. Entering the password and then clicking the “OK” button opens the file.

Note:

- An Embedded Message appears in the **Embedded Message** frame in the **FPU Write** dialog box if an Embedded Message is configured for the selected file.

- Click the “Write” button.

Writing of the configuration data to a repeater starts.

- If an access code is configured for the selected site:**

The Enter Access Code dialog box opens. Clicking the “OK” button after entering an Access Code results in a PC to continue writing of the configuration data to a repeater.

- If the Overwrite Password is configured for a Repeater:**

The Password dialog box opens. If the “OK” button is clicked after entering the password and if the password matches, a PC continues writing of the configuration data to a repeater.

The completion message box appears upon completion of the writing.

- Click the “OK” button.

■ Error Detection for Network Connection and Configuration Data prior to Writing

KPG-110SM inspects the network connection status and configurations for options prior to writing the configuration data to a repeater, and then determines whether to write the configuration data. If any configuration that does not conform to the following inspection criteria is detected, an error message box appears and writing of the configuration data to a repeater does not start.

Table 9-2 Inspection Criteria and Troubleshooting

Inspection Criteria	Troubleshooting upon Appearance of Error or Warning Message
If a repeater is connected via a modem, KPG-110SM detects whether phone numbers have been configured for all sites.	Ensure that phone numbers have been configured for all sites.
If a repeater is connected to a LAN, KPG-110SM detects whether one or more connections conforming to TCP/IP have been enabled.	Ensure that the LAN connection status is appropriate.
In the case of connection to a LAN, KPG-110SM detects whether there are one or more sites to which Apply has been done.	Ensure that the network configuration is appropriate. (Refer to: 9.2 Network Configuration on page 153)

■ Errors Detected while Writing the Configuration Data

An error message box appears and the writing is aborted if the following event occurs while KPG-110SM is writing the configuration data to a repeater:

- If a Communication Error occurs.**
- If the access code configured for a repeater differs from the access code entered in the Enter Access Code dialog box.**

Clicking the “Yes” button on the displayed message box opens the **Enter Access Code** dialog box. Writing of the configuration data to a repeater is aborted if a wrong password is entered 3 times in a row.

- If the Overwrite Password entered in the Password dialog box differs from the Overwrite Password configured for a repeater.**

Clicking the “OK” button on the displayed message box opens the Password dialog box. Writing of the configuration data to a repeater is aborted if a wrong password is entered 3 times in a row.

9.9 Time Adjustment

Time Adjustment allows a field engineer to adjust the time for repeaters in Trunking Mode for each site all at once.

Follow the procedure below.

1. Connect a repeater to a PC with the RS-232C cross-wired cable or USB Type-B cable. (Refer to: [2.5 Connecting a Repeater to a PC on page 12](#))
2. **Connect each repeater in the site with a LAN cable.**
3. Select “Time Adjustment” from the Tools pulldown menu.

The Time Adjustment dialog box opens.

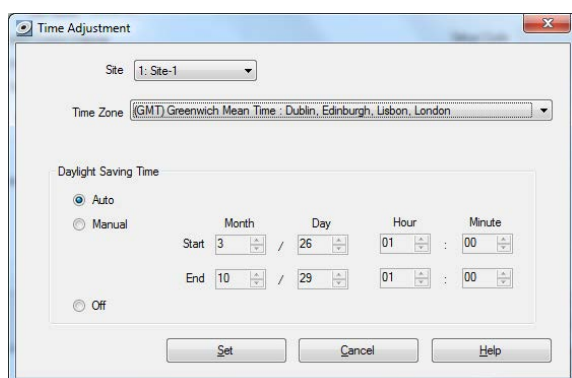


Figure 9-30 Time Adjustment Dialog Box

4. Select a site from the Site dropdown list.

Following are the range and the default value of the **Site** dropdown list:

Range	The range varies followed by the configuration for Network Category (Local or Regional) as follows: Local: All, 1 to 30 Regional: All, 1 to 48
Default	If the Time Adjustment dialog box is opened from the Tools pulldown menu: The lowest site number If the Time Adjustment dialog box is opened after using Apply in the Network Configuration dialog box > System Recognition tab: The site number to which data was applied

Note:

- ◆ “All” cannot be selected if “COM” is selected for Communication Mode in the **Communication Port** dialog box.

5. Select a time zone from the Time Zone dropdown list. (Refer to: [9.9.1 Time Zone on page 169](#))
6. Configure the Daylight Saving Time as necessary. (Refer to: [9.9.2 Daylight Saving Time on page 173](#))

7. Click the “Set” button.

A PC starts writing the time to a repeater.

The completion message box appears upon completion of the writing.

8. Click the “OK” button.

9.9.1 Time Zone

Following are the time zones that can be configured for the repeater:

Table 9-3 Time Zone

No.	Display Name (English-Modify)	DST Support	Start Date/ Time				End Date/ Time				Bias
1	(GMT-12:00) International Date Line West	Not available	-	-	-	-	-	-	-	-	-
2	(GMT-11:00) Midway Island, Samoa	Not available	-	-	-	-	-	-	-	-	-
3	(GMT-10:00) Hawaii	Not available	-	-	-	-	-	-	-	-	-
4	(GMT-09:00) Alaska	Available	Second	Sunday	March	2:00	First	Sunday	November	2:00	+1:00
5	(GMT-08:00) Tijuana	Available	First	Sunday	April	2:00	Last	Sunday	October	2:00	+1:00
6	(GMT-08:00) Pacific Time (US & Canada)	Available	Second	Sunday	March	2:00	First	Sunday	November	2:00	+1:00
7	(GMT-07:00) Arizona	Not available	-	-	-	-	-	-	-	-	-
8	(GMT-07:00) Chihuahua, La Paz, Mazatlan	Available	First	Sunday	April	2:00	Last	Sunday	October	2:00	+1:00
9	(GMT-07:00) Mountain Time (US & Canada)	Available	Second	Sunday	March	2:00	First	Sunday	November	2:00	+1:00
10	(GMT-06:00) Guadalajara, Mexico City, Monterrey	Available	First	Sunday	April	2:00	Last	Sunday	October	2:00	+1:00
11	(GMT-06:00) Saskatchewan	Not available	-	-	-	-	-	-	-	-	-
12	(GMT-06:00) Central America	Not available	-	-	-	-	-	-	-	-	-
13	(GMT-06:00) Central Time (US & Canada)	Available	Second	Sunday	March	2:00	First	Sunday	November	2:00	+1:00
14	(GMT-05:00) Indiana (East)	Not available	-	-	-	-	-	-	-	-	-
15	(GMT-05:00) Bogota, Lima, Quito	Not available	-	-	-	-	-	-	-	-	-
16	(GMT-05:00) Eastern Time (US & Canada)	Available	Second	Sunday	March	2:00	First	Sunday	November	2:00	+1:00
17	(GMT-04:30) Caracas	Not available	-	-	-	-	-	-	-	-	-
18	(GMT-04:00) Santiago	Available	Sunday on or after October 9		October	12:00 AM	Sunday on or after March 9		March	11:00 PM	+1:00
19	(GMT-04:00) La Paz	Not available	-	-	-	-	-	-	-	-	-
20	(GMT-04:00) Atlantic Time (Canada)	Available	Second	Sunday	March	2:00	First	Sunday	November	2:00	+1:00
21	(GMT-04:00) Georgetown	Not available	-	-	-	-	-	-	-	-	-
22	(GMT-03:30) Newfoundland	Available	Second	Sunday	March	12:01 AM	First	Sunday	November	12:01 AM	+1:00
23	(GMT-03:00) Greenland	Available	Last	Sunday	March	10:00 PM	Last	Sunday	October	10:00 PM	+1:00
24	(GMT-03:00) Buenos Aires	Available	Third	Sunday	October	12:00 AM	Third	Sunday	March	12:00 AM	+1:00
25	(GMT-03:00) Brasilia	Available	Third	Sunday	October	12:00 AM	Third	Sunday	February	12:00 AM	+1:00
26	(GMT-02:00) Mid-Atlantic	Not available	-	-	-	-	-	-	-	-	-

No.	Display Name (English-Modify)	DST Support	Start Date/ Time				End Date/ Time				Bias
27	(GMT-01:00) Azores	Available	Last	Sunday	March	12:00 AM	Last	Sunday	October	12:00 AM	+1:00
28	(GMT-01:00) Cape Verde Is.	Not available	-	-	-	-	-	-	-	-	-
29	(GMT) Monrovia	Not available	-	-	-	-	-	-	-	-	-
30	(GMT) Casablanca	Available	-	1	June	12:00 AM	-	1	September	12:00 AM	+1:00
31	(GMT) Greenwich Mean Time: Dublin, Edinburgh, Lisbon, London	Available	Last	Sunday	March	1:00 AM	Last	Sunday	October	1:00 AM	+1:00
32	(GMT+01:00) Amsterdam, Berlin, Bern, Rome, Stockholm, Vienna	Available	Last	Sunday	March	2:00	Last	Sunday	October	2:00	+1:00
33	(GMT+01:00) Sarajevo, Skopje, Warsaw, Zagreb	Available	Last	Sunday	March	2:00	Last	Sunday	October	2:00	+1:00
34	(GMT+01:00) Brussels, Copenhagen, Madrid, Paris	Available	Last	Sunday	March	2:00	Last	Sunday	October	2:00	+1:00
35	(GMT+01:00) Belgrade, Bratislava, Budapest, Ljubljana, Prague	Available	Last	Sunday	March	2:00	Last	Sunday	October	2:00	+1:00
36	(GMT+01:00) West Central Africa	Not available	-	-	-	-	-	-	-	-	-
37	(GMT+02:00) Athens, Bucharest, Istanbul	Available	Last	Sunday	March	3:00 AM	Last	Sunday	October	3:00 AM	+1:00
38	(GMT+02:00) Jerusalem	Available	Friday on or after March 26		March	2:00	-	27	September	2:00	+1:00
39	(GMT+02:00) Cairo	Available	Last	Friday	April	12:00 AM	Last	Tuesday	August	11:00 PM	+1:00
40	(GMT+02:00) Harare, Pretoria	Not available	-	-	-	-	-	-	-	-	-
41	(GMT+02:00) Beirut	Available	Last	Sunday	March	12:00 AM	Last	Sunday	October	12:00 AM	+1:00
42	(GMT+02:00) Helsinki, Kyiv, Riga, Sofia, Tallinn, Vilnius	Available	Last	Sunday	March	3:00 AM	Last	Sunday	October	3:00 AM	+1:00
43	(GMT+02:00) Minsk	Available	Last	Sunday	March	2:00	Last	Sunday	October	2:00	+1:00
44	(GMT+03:00) Kuwait, Riyadh	Not available	-	-	-	-	-	-	-	-	-
45	(GMT+03:00) Nairobi	Not available	-	-	-	-	-	-	-	-	-
46	(GMT+03:00) Baghdad	Not available	-	-	-	-	-	-	-	-	-
47	(GMT+03:00) Moscow, St. Petersburg, Volgograd	Available	Last	Sunday	March	2:00	Last	Sunday	October	2:00	+1:00
48	(GMT+03:30) Tehran	Available	-	22	March	12:00 AM	-	22	September	12:00 AM	+1:00
49	(GMT+04:00) Tbilisi	Not available	-	-	-	-	-	-	-	-	-
50	(GMT+04:00) Abu Dhabi, Muscat	Not available	-	-	-	-	-	-	-	-	-
51	(GMT+04:00) Yerevan	Available	Last	Sunday	March	2:00	Last	Sunday	October	2:00	+1:00
52	(GMT+04:00) Baku	Available	Last	Sunday	March	4:00 AM	Last	Sunday	October	5:00 AM	+1:00
53	(GMT+04:30) Kabul	Not available	-	-	-	-	-	-	-	-	-
54	(GMT+05:00) Islamabad, Karachi	Available	-	1	June	12:00 AM	-	1	November	12:00 AM	+1:00

No.	Display Name (English-Modify)	DST Support	Start Date/ Time				End Date/ Time				Bias
55	(GMT+05:00) Tashkent	Not available	-	-	-	-	-	-	-	-	-
56	(GMT+05:00) Ekaterinburg	Available	Last	Sunday	March	2:00	Last	Sunday	October	2:00	+1:00
57	(GMT+05:30) Sri Jayawardenepura	Not available	-	-	-	-	-	-	-	-	-
58	(GMT+05:30) Chennai, Kolkata, Mumbai, New Delhi	Not available	-	-	-	-	-	-	-	-	-
59	(GMT+05:45) Kathmandu	Not available	-	-	-	-	-	-	-	-	-
60	(GMT+06:00) Astana, Dhaka	Not available	-	-	-	-	-	-	-	-	-
61	(GMT+06:00) Almaty	Not available	-	-	-	-	-	-	-	-	-
62	(GMT+06:00) Novosibirsk	Available	Last	Sunday	March	2:00	Last	Sunday	October	2:00	+1:00
63	(GMT+06:30) Rangoon	Not available	-	-	-	-	-	-	-	-	-
64	(GMT+07:00) Krasnoyarsk	Available	Last	Sunday	March	2:00	Last	Sunday	October	2:00	+1:00
65	(GMT+07:00) Bangkok, Hanoi, Jakarta	Not available	-	-	-	-	-	-	-	-	-
66	(GMT+08:00) Ulaan Bataar	Not available	-	-	-	-	-	-	-	-	-
67	(GMT+08:00) Irkutsk	Available	Last	Sunday	March	2:00	Last	Sunday	October	2:00	+1:00
68	(GMT+08:00) Kuala Lumpur, Singapore	Not available	-	-	-	-	-	-	-	-	-
69	(GMT+08:00) Perth	Available	Last	Sunday	October	2:00	Last	Sunday	March	2:00	+1:00
70	(GMT+08:00) Taipei	Not available	-	-	-	-	-	-	-	-	-
71	(GMT+08:00) Beijing, Chongqing, Hong Kong, Urumqi	Not available	-	-	-	-	-	-	-	-	-
72	(GMT+09:00) Seoul	Not available	-	-	-	-	-	-	-	-	-
73	(GMT+09:00) Yakutsk	Available	Last	Sunday	March	2:00	Last	Sunday	October	2:00	+1:00
74	(GMT+09:00) Osaka, Sapporo, Tokyo	Not available	-	-	-	-	-	-	-	-	-
75	(GMT+09:30) Adelaide	Available	First	Sunday	October	2:00	First	Sunday	April	2:00	+1:00
76	(GMT+09:30) Darwin	Not available	-	-	-	-	-	-	-	-	-
77	(GMT+10:00) Vladivostok	Available	Last	Sunday	March	2:00	Last	Sunday	October	2:00	+1:00
78	(GMT+10:00) Canberra, Melbourne, Sydney	Available	First	Sunday	October	2:00	First	Sunday	April	2:00	+1:00
79	(GMT+10:00) Guam, Port Moresby	Not available	-	-	-	-	-	-	-	-	-
80	(GMT+10:00) Brisbane	Not available	-	-	-	-	-	-	-	-	-
81	(GMT+10:00) Hobart	Available	First	Sunday	October	2:00	First	Sunday	April	2:00	+1:00
82	(GMT+11:00) Solomon Is., New Caledonia	Not available	-	-	-	-	-	-	-	-	-
83	(GMT+11:00) Magadan	Available	Last	Sunday	March	2:00	Last	Sunday	October	2:00	+1:00

No.	Display Name (English-Modify)	DST Support	Start Date/ Time				End Date/ Time				Bias
84	(GMT+12:00) Auckland, Wellington	Available	Last	Sunday	September	2:00	First	Sunday	April	2:00	+1:00
85	(GMT+12:00) Fiji, Marshall Is.	Not available	-	-	-	-	-	-	-	-	-
86	(GMT+12:00) Kamchatka	Available	Last	Sunday	March	2:00	Last	Sunday	October	2:00	+1:00
87	(GMT+13:00) Nuku'alofa	Not available	-	-	-	-	-	-	-	-	-

9.9.2 Daylight Saving Time

Daylight Saving Time allows a field engineer to configure whether Daylight Saving Time (summer time) is automatically or manually set.

The clock in a repeater is controlled based on UTC (Coordinated Universal Time). Also, the Time Zone information of the location where a repeater is installed is written to a repeater. The time of Daylight Saving Time can be adjusted in the personalized environment of a PC according to the time based on UTC and the Time Zone.

Range	Auto	Daylight Saving Time automatically starts and ends according to the date configured for Time Zone selected from the list in Table 9-3.
	Manual	Manually adjusts the Daylight Saving Time. The starting and ending month and date of Daylight Saving Time can be configured respectively.
	Off	The configuration for DST is disabled.
Default	Auto	

■ Start Month/ Day

Start Month/ Day allows a field engineer to configure the starting month and day of Daylight Saving Time.

Range	1/1 to 12/31
Default	Refer to: Table 9-3 Time Zone on page 169

■ Start Time

Start Time allows a field engineer to configure the starting time of Daylight Saving Time.

Range	0:00 to 23:59 [hour: minute]
Default	Refer to: Table 9-3 Time Zone on page 169

■ End Month/ Day

End Month/ Day allows a field engineer to configure the ending month and day of Daylight Saving Time.

Range	1/1 to 12/31
Default	Refer to: Table 9-3 Time Zone on page 169

■ End Time

End Time allows a field engineer to configure the ending time of Daylight Saving Time.

Range	0:00 to 23:59 [hour: minute]
Default	Refer to: Table 9-3 Time Zone on page 169

9.10 Login (Restricted User Mode)

Clicking “Login (Restricted User Mode)” resulting a tick mark placed activates Restricted User Mode. The menu appears only when logged in to KPG-110SM using the user account of a system administrator. ([Refer to: 11.4.2 About Restricted User Mode on page 202](#))

9.11 Logout (Restricted User Mode)

Clicking “Logout (Restricted User Mode)” to add a check mark deactivates Restricted User Mode. The menu appears only when logged in to KPG-110SM using the user account of a system administrator. ([Refer to: 11.4.2 About Restricted User Mode on page 202](#))

9.12 Option Dialog Box

In the Option dialog box, a field engineer can edit various configurations that KPG-110SM can store.

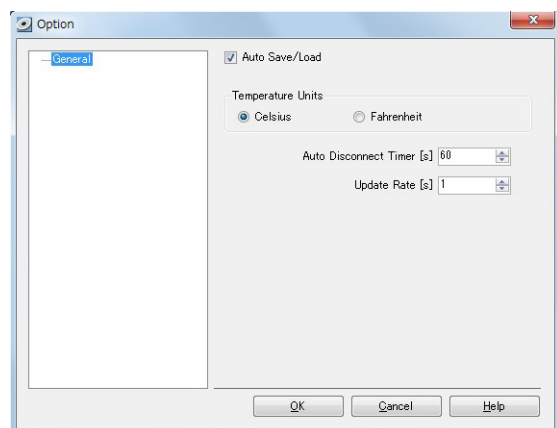


Figure 9-31 Option Dialog Box

9.12.1 Auto Save/ Load

Auto Save/ Load allows a field engineer to enable or disable Auto Save/ Load.

Auto Save/ Load can be used to automatically store the current configuration data when aborting KPG-110SM and then automatically recall the last configuration data when the software becomes active next time.

Range	Check (Enable)	Enables the Auto Save/ Load.
	Uncheck (Disable)	Disables the Auto Save/ Load.
Default	Checked (Enabled)	

Note:

- While Restricted User Mode is enabled, this function is automatically enabled and the configuration cannot be changed. (Refer to: [11.4.2 About Restricted User Mode on page 202](#))

9.12.2 Temperature Units

Temperature Units allows a field engineer to select the desired units for temperatures applied to KPG-110SM. Either Celsius (°C) or Fahrenheit (°F) can be configured for the temperature unit.

Range	Celsius, Fahrenheit
Default	Celsius

9.12.3 Auto Disconnect Timer

Auto Disconnect Timer allows a field engineer to configure the length of time from when communications using a modem are completed until a connection of the modem to a network will be terminated.

Range	Off, 1 to 180
In steps of	1 sec
Default	60 sec

Note:

- If "Off" is configured in the **Auto Disconnect Timer** edit box, connection of the modem to a network is immediately terminated upon completion of communications using a modem.

9.12.4 Update Rate

Update Rate allows a field engineer to configure on the second time scale how often various information that can be monitored in each window in the Monitor pulldown menu is refreshed. (Refer to: [10 MONITOR MENU on page 175](#))

Range	1 sec to 20 sec
In steps of	1 sec
Default	1 sec

10 MONITOR MENU

The Monitor pulldown menu allows a system administrator to monitor the network configuration information and hardware information of the system.

● About Communication Icons

The following icons appear in each window of the Monitor pulldown menu depending on the communication status.

Table 10-1 Communication Icons

Icons	Status
	Appears while the channel is in the non-communication state.
	Appears while the channel is in the standby mode.
	Appears while data is being transmitted or received on the channel.

10.1 System Overview Dialog Box

In the System Overview dialog box, a system administrator can monitor the network information and hardware information of every channel in the site.

Follow the procedure below.

1. Do one of the following operations.

- Select "System Overview" from the **Monitor** pulldown menu.
- Click the "" icon on the Toolbar.

The System Overview dialog box opens.

2. Click to select a target site in the Site list box.

The network information for a repeater in the selected site can be viewed in the right frame in the System Overview dialog box.

The IP address of a repeater appears in the **IP Address** information box.

Whether the network information for the repeater is enabled appears in the **Status** information box. If the network information for the repeater is enabled, "Connected" appears. If the network information for the repeater is not enabled, "Disconnected" appears.

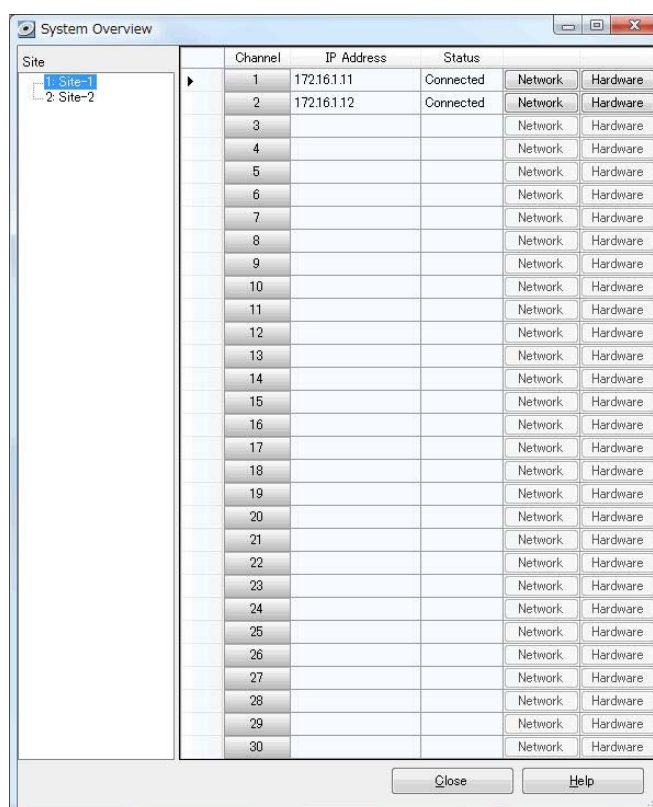


Figure 10-1 System Overview Dialog Box

- Click the “Network” or “Hardware” button for the channel to be monitored.

Clicking the “Network” button opens the Network dialog box, and then network information for the selected channel appears. (Refer to: [10.1.1 Network Dialog Box on page 177](#))

Clicking the “Hardware” button opens the Hardware dialog box, and then hardware information for the selected channel appears. (Refer to: [10.1.2 Hardware Dialog Box on page 178](#))

Note:

- Only network information or hardware information for one channel appears. Network information and hardware information for multiple channels cannot simultaneously be viewed.
- If “Disconnected” appears in the **Status** information box for a channel, the “Network” and “Hardware” buttons are grayed out, and the network information and hardware information cannot be displayed.

10.1.1 Network Dialog Box

In the Network dialog box, a system administrator can monitor the network information of every channel in the site.

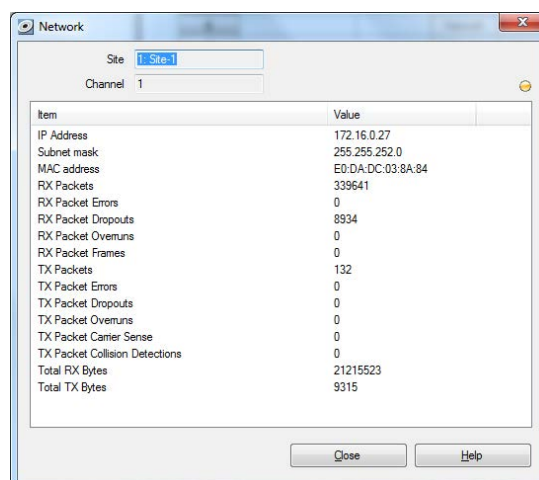


Figure 10-2 Network Dialog Box

The selected site and channel number appear at the top of the Network dialog box.

The following network information can be monitored:

Table 10-2 Network Information

Items	Description
IP Address	The IP address appears.
Subnet mask	The subnet mask appears.
MAC address	The Mac address appears.
RX Packets	The total number of received packets without errors appears.
RX Packet Errors	The number of errors appears.
RX Packet Dropouts	The number of lost packets appears.
RX Packet Overruns	The number of packets that overflowed from the receive buffer appears.
RX Packet Frames	The number of frame errors appears.
TX Packets	The total number of transmitted packets without errors appears.
TX Packet Errors	The number of errors appears.
TX Packet Dropouts	The number of lost packets appears.
TX Packet Overruns	The number of packets that overflowed from the transmit buffer appears.
TX Packet Carrier Sense	The number of detected occurrences of Carrier Sense appears.
TX Packet Collision Detections	The number of detected collisions appears.
Total RX Bytes	The total number of bytes of received data appears.
Total TX Bytes	The total number of bytes of transmitted data appears.

Note:

- ◆ The displayed information is automatically refreshed. The intervals to refresh the displayed information can also be configured in the Tools pulldown menu > Option dialog box > Update Rate edit box. ([Refer to: 9.12.4 Update Rate on page 174](#))

10.1.2 Hardware Dialog Box

In the Hardware dialog box, a system administrator can monitor the hardware information of every channel in the site.

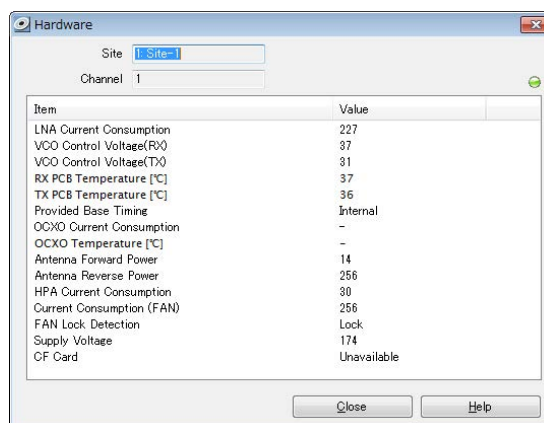


Figure 10-3 Hardware Dialog Box

The selected site and channel number appear at the top of the Hardware dialog box. Following are the hardware information that can be monitored:

Table 10-3 Hardware Information

Items	Description	Display Range
LNA Current Consumption	The current draw of LNA appears.	1 to 256
VCO Control Voltage (RX)	The VCO control voltage (RX) appears.	1 to 256
VCO Control Voltage (TX)	The VCO control voltage (TX) appears.	1 to 256
RX PCB Temperature	The temperature of the RX PCB appears.	-35°C to 90°C (-31°F to 194°F)
TX PCB Temperature	The temperature of the TX PCB appears.	-35°C to 90°C (-31°F to 194°F)
Provided Base Timing	The source of the reference signal appears.	OCXO, External, External (OCXO), Others
OCXO Current Consumption	The current consumption of OCXO appears. “-” appears if anything other than “OCXO” is configured for Provided Base Timing.	1 to 256
OCXO Temperature	The temperature of the OCXO PCB appears. “-” appears if anything other than “OCXO” is configured for Provided Base Timing.	-128°C to 127°C (-198°F to 261°F)
Antenna Forward Power	The forward RF power at the antenna terminal appears.	1 to 256
Antenna Reverse Power	The reverse RF power at the antenna terminal appears.	1 to 256
HPA Current Consumption	The current draw of HPA appears.	1 to 256
Current Consumption (FAN)	The current draw of FAN appears.	1 to 256
Fan Lock Detection ^{*1}	The fan lock detection status appears.	Lock or Unlock
Supply Voltage	The power supply voltage appears.	1 to 256
CF Card	Indication of whether or not the CF card is inserted in the compact flash card slot in NXR-x00 appears.	Available or Unavailable

^{*1} Supports only NXR-5x00. “-” appears because NXR-x00 is not supported.

Note:

- ◆ The displayed information is automatically refreshed. The intervals to refresh the displayed information can also be configured in the Tools pulldown menu > Option dialog box > Update Rate edit box. (Refer to: 9.12.4 Update Rate on page 174)

10.2 Channel State

Channel State allows a system administrator to monitor the usage state of a channel in the site.

Follow the procedure below.

1. Select “Channel State” from the **Monitor** pulldown menu.

The **Site Select** dialog box opens.



Figure 10-4 Site Select Dialog Box

2. Select the desired site from the **Site** dropdown list, and then click the “OK” button.

The **Channel State** dialog box opens. This function can be used to monitor the usage state of the channel in the selected site. ([Refer to: 10.2.1 Channel State Dialog Box on this page](#))

10.2.1 Channel State Dialog Box

In the **Channel State** dialog box, a system administrator can monitor the usage state of a channel in the site.

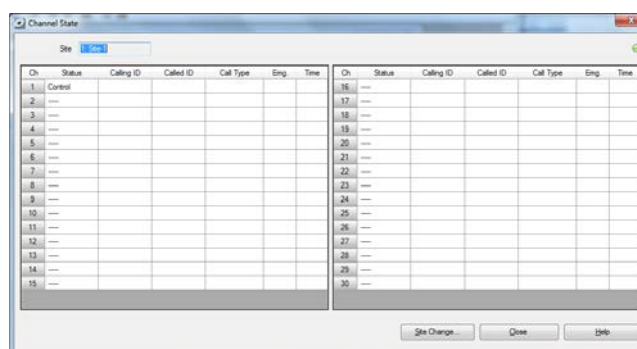


Figure 10-5 Channel State Dialog Box

The selected site number and site name appear at the top of the **Channel State** dialog box.

Following is the channel information that can be monitored:

Table 10-4 Channel State

Items	Description	Display Range	Note
Status	Status information for the channel appears.	Blank, Control, Traffic, Composite, Conventional, Idle, External, Failure	
Calling ID	The calling ID appears.	1 to 60000	
Called ID	The called ID appears.	1 to 60000, All	
Call Type	The call type appears.	Broadcast, Conference, Individual, Interconnect	
Emg.	The configuration of Emergency Call appears.	-	“Emergency” appears if the channel state is Emergency.
Time	The duration of a call appears.	00:00 to 59:59, 59:59+	If the call time exceeds an hour, “59:59+” appears.

Note:

- ◆ The displayed information is automatically refreshed. The intervals to refresh the displayed information can also be configured in the **Tools** pulldown menu > **Option** dialog box > **Update Rate** edit box. ([Refer to: 9.12.4 Update Rate on page 174](#))

10.2.2 Site Change

Site Change allows a system administrator to change the site.

Follow the procedure below.

1. Click the “Site Change” button.

The **Site Select** dialog box opens.



Figure 10-6 Site Select Dialog Box

2. Select the desired site from the **Site** dropdown list, and then click the “OK” button.

The **Channel State** dialog box for the selected site opens.

10.3 Channel Load Dialog Box

In the **Channel Load** dialog box, a system administrator can monitor the status of the channel usage in the site using a usage rate graph.

Note:

- ◆ This function can be used only by a repeater having firmware version 1.10.00 or later.

Follow the procedure below.

1. Do one of the following operations.
 - Select “Channel Load” from the **Monitor** pulldown menu.
 - Click the “” icon on the Toolbar.

The **Channel Load** dialog box opens.

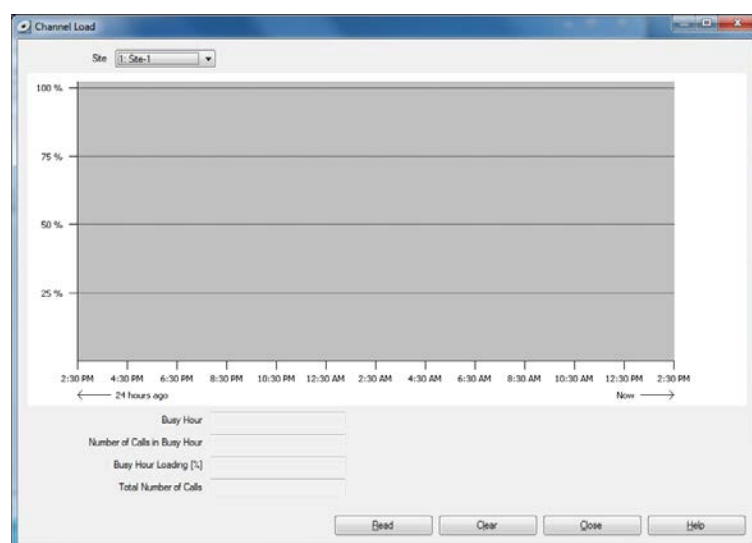


Figure 10-7 Channel Load Dialog Box

2. Select the desired site from the **Site** dropdown list, and then click the “Read” button.

The graph of the usage rate for the selected site appears. ([Refer to: 10.3.1 Channel Load \(Graph\) on page 181](#))

10.3.1 Channel Load (Graph)

In the **Channel Load** dialog box, the channel usage rate information of a site appears with the usage rate graph as below.

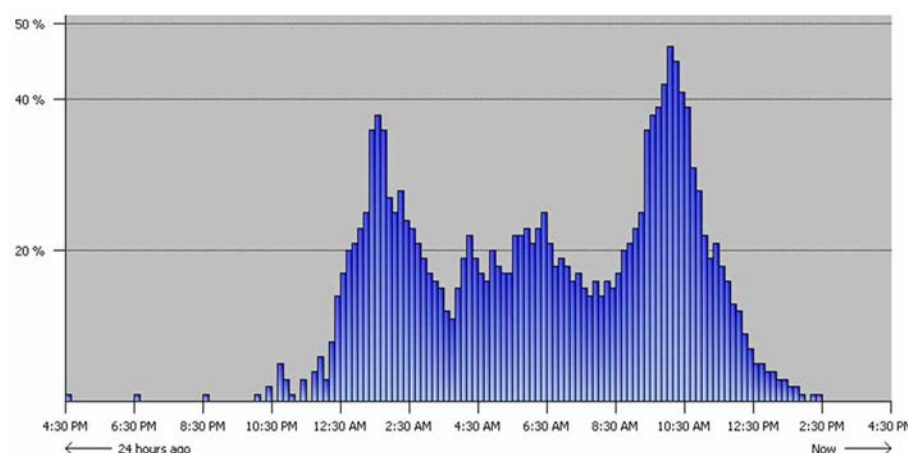


Figure 10-8 Channel Load Dialog Box (Graph)

Vertical Axis: Represents the usage rate. The upper limit is automatically changed based on the maximum usage rate.

Horizontal Axis: Represents the time. The current time appears in the rightmost location.

The graph shows the usage rate of each channel for the last 10 minutes. The usage rate is calculated based on data for the last 24 hours and refreshed every 10 minutes. Since the system always retains data for the last 24 hours, a system administrator can monitor the usage state for the last 24 hours upon starts of monitoring. Also, this data is not stored within the system.

Following are items that can be monitored as well. Following are the information that is simultaneously refreshed along with the graph.

Table 10-5 Channel Load

Items	Description	Display Range	Note
Busy Hour	Time slots at the highest amount of hourly traffic appear.	00:00 to 23:50 (in steps of 10 min)/ None	- If there are 2 or more peak hours, the latest peak hour appears. "None" appears if time slots at the highest amount of hourly traffic is identical to the time slots at the lowest amount of hourly traffic.
Number of Calls in Busy Hour	Number of transmitted and received calls during time slots at the highest amount of hourly traffic appears.	0 to the number of transmitted/ received calls	
Busy Hour Loading	Average utilization ratio during the time slots of the highest amount of hourly traffic appears.	0 to 100 [%] (in steps of 1%)	
Total Number of Calls	The number of transmitted/ received calls in the last 24 hours appears.	0 to the number of transmitted/ received calls	

10.3.2 Clear

Clear allows a system administrator to clear the data for the channel utilization ratio for the last 24 hours from the system.

Follow the procedure below.

1. Click the “Clear” button.

The confirmation message box appears.

2. Click the “OK” button.

The channel utilization ratio data for the last 24 hours is cleared from the system, and then a completion message box appears.

3. Click the “OK” button.

KPG-110SM reads a new channel utilization ratio data, and then KPG-110SM refreshes what appears in the **Channel Load** dialog box.

10.4 Communication Log Dialog Box

In the **Communication Log** dialog box, a system administrator can retrieve the communication log from each site.

Note:

- ◆ This function can be used only by a repeater having firmware version 1.10.00 or later.
- ◆ The destination to which the communication log is stored can be configured using the **Storage Location** dropdown list in the **Site Edit** window > **General** tab. (Refer to: [7.3.1 General Tab on page 72](#))

Follow the procedure below.

1. Select “Communication Log” from the **Monitor** pulldown menu.

The **Communication Log** dialog box opens.

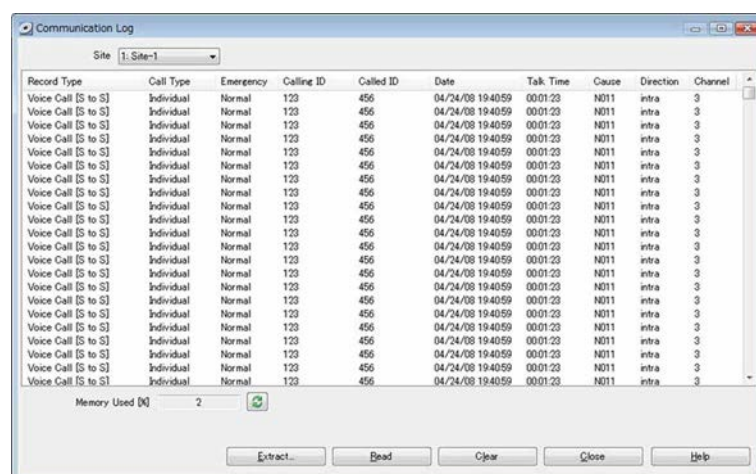


Figure 10-9 Communication Log Dialog Box

2. Select the desired site from the **Site** dropdown list, and then click the “Read” button.

The communication log for the selected site appears. (Refer to: [10.4.1 Communication Log \(Table\) on page 183](#))

10.4.1 Communication Log (Table)

In the **Communication Log** dialog box, a system administrator can retrieve the communication log from each site. In the **Communication Log** dialog box, the list of communication log for the number of recorded calls appears.

The following communication record information appears.

Table 10-6 Communication Log (Table)

Items	Description	Display Range	Note
Record Type	The record type appears.	Registration Status Call Voice Call [S to S] Voice Call [S to P] Voice Call [P to S] Short Data Call Long Data Call Group Registration Registration Clear	S to S: Subscriber to Subscriber S to P: Subscriber to PSTN/ PABX P to S: PSTN/ PABX to Subscriber
Call Type	The call type appears.	Individual, Broadcast, Conference	
Emergency	The call priority level appears.	Emergency, Normal	
Calling ID	The UID of the transmitting subscriber unit appears.	1 to 60000	
Called ID	The UID or GID of the receiving subscriber unit appears.	1 to 60000, 65521, 65535	65521: PSTN/ PABX 65535: All Groups Call
Date	The starting date and time of the call appears.	MM/DD/YY HH24:MI:SS	Time appears in 24-hour format.
Talk Time	The duration of a call appears.	00:00:00 to 23:59:59, 23:59:59+ (HH24:MI:SS)	- Time appears in 24-hour format. - If a call ends after 23:59:59, "23:59:59+" appears.

Items	Description	Display Range	Note
Cause	The call end code appears.	N001 to N011	N001: Registration accepted Appears when the location registration request succeeds. N002: Receive succeed Appears when the transmission of a Short Message or a Status Message succeeds. (with delivery confirmation) N003: Send succeed Appears when the transmission of a Short Message or a Status Message succeeds. (without delivery confirmation) N004: Call Disconnect Appears when the communication is terminated by the request sent from the transmitting subscriber unit. N005: Call Disconnect Appears when the communication is terminated with the request sent from the receiving subscriber unit. N006: Disconnected by Trunking Controller Appears when the communication is terminated by the instruction sent from the controller. N007: Call Limit Time-out Appears when the time configured for Occupation Timer elapses and the communication is terminated. N008: Traffic Channel Failure Appears when the communication is terminated by the traffic channel failure. N009: Other Failure Appears when the communication is terminated by other failures. N010: Location succeed w/ Group failed Appears when the location registration request is successful, but the group registration request has failed. N011: Location succeed w/ Group refused Appears when the location registration request is successful, but the group registration request is rejected.

Items	Description	Display Range	Note
Cause	The call end code appears.	E001 to E022	E001: Registration failed Appears when the location registration request fails. E002: Registration refused Appears when the location registration request is rejected. E003: Temporary failure Appears if a temporary failure occurs in the connection to the network. E004: Equipment congestion Appears if a device on the network is congested due to high traffic. E005: No other resource available Appears when resources are not available. E006: Service Unavailable Appears if the requested service is not available. E007: Step error Appears if the received message is an error. E008: No permit for a service Appears if the requested service is restricted. E009: Unregistered Appears if no location information is registered. E010: No response Appears if there is no response from a subscriber unit. E011: Incoming call rejection Appears if an incoming call is denied. E012: Busy state Appears if the requested ID is in use. E013: Queuing interruption Appears when the time configured for Occupation Timer elapses and the communication is paused while a call request from a subscriber unit is queued. E014: Invalid ID Appears if an ID that is not configured for the system is used. E015: Channel unavailable Appears if the use of a traffic channel is restricted. E016: Network failure Appears if a failure occurs on the network. E017: Temporary failure Appears if a temporary failure occurs on the system. E018: Equipment congestion Appears if all traffic channels are in use. E019: Resource Unavailable Appears when resources are not available. E020: Memory Full Appears if the receiving subscriber unit aborts the communication due to the buffer overflow. E021: Abort Appears if the receiving subscriber unit aborts the communication for any reason. E022: Other Error Appears if the communication is aborted by other errors.
Site	Displays the site number selected from the Site dropdown list.	1 to 48	
Channel	Displays the used frequency code.	1 to 1023	

10.4.2 Memory Used

Memory Used allows a system administrator to monitor what percentage of the memory is used to store the communication log. The memory usage amount for one of the internal memory in a repeater, CF card (NXR-x00) or flash memory (NXR-5x00) appears depending on the destination in which the communication log is stored.

If the new communication log to be stored exceeds the free memory space available in the internal memory in the repeater, CF card (NXR-x00) or flash memory (NXR-5x00), an error message box appears, and then the oldest communication log is overwritten by the newest log data.

The updated memory usage amount can be viewed in the Memory Used information box by clicking the “” button. The amount of log data stored in a repeater can be confirmed before the communication log is read by a PC or stored in a PC as a data file.

10.4.3 Extract

Extract allows a system administrator to store the communication log and customer information files to a PC.

Follow the procedure below.

1. Click the “Extract” button.

The Browse For Folder dialog box opens.

2. Select the destination folder, and then click the “OK” button.

The communication log and customer information files are saved in the CSV format, and then the completion message box appears.

“CommunicationLog_site_date.csv” is stored as a communication log file and “customer_site_date.csv” is stored as a customer information file. The site number is applied to the “site” portion and the saved date is applied to the “date” portion.

If both communication log and customer information files are stored in a PC, the communication log file is cleared from the internal memory of a repeater, CF card (NXR-x00) or flash memory (NXR-5x00).

3. Click the “OK” button.

10.4.4 Clear

Clear allows a system administrator to clear the communication log from the system.

Follow the procedure below.

1. Click the “Clear” button.

The confirmation message box appears.

2. Click the “OK” button.

The communication log is cleared from the system, and then the completion message box appears.

3. Click the “OK” button.

10.5 Statistics - Airtime Accumulation Dialog Box

In the **Statistics - Airtime Accumulation** dialog box, a system administrator can view the statistics of calls by use of call information acquired from each repeater via the **Communication Log** dialog box.

Note:

- ◆ This function can be used only by a repeater having firmware version 1.10.00 or later.

Follow the procedure below.

1. Select “Airtime Accumulation” from Statistics in the **Monitor** pulldown menu.

The **Statistics - Airtime Accumulation** dialog box opens.

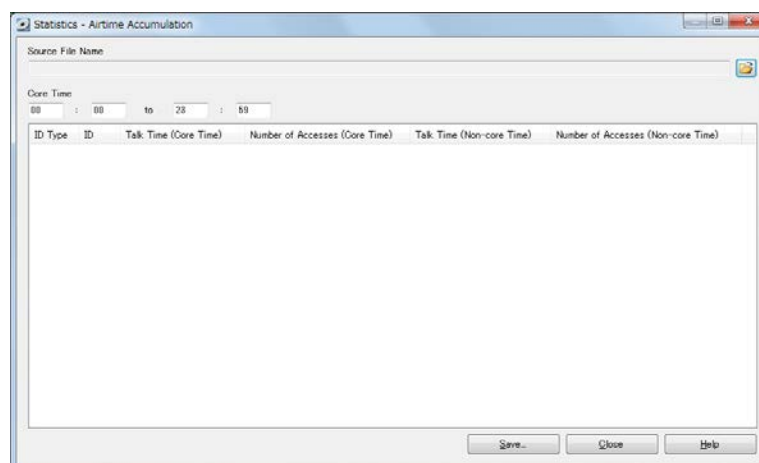


Figure 10-10 Statistics - Airtime Accumulation Dialog Box

2. Click the “” button.

The **Open** dialog box opens.

3. Select the call information file, that has been retrieved from each repeater, in the **Communication Log** dialog box, and then click the “OK” button.

Summarizing statistics starts and the result of statistics appears in the list format. ([Refer to: 10.5.3 Statistics - Airtime Accumulation \(Table\) on page 188](#))

10.5.1 Core Time (Left)

Core Time allows a system administrator to view call information from the Statistics - Airtime Accumulation list by specifying a time slot. The system administrator can configure the beginning of the time slot in the **Core Time (Left)** edit box.

Range	0:00 min to 23:59 min
In steps of	1 min
Default	0:00 min

Note:

- ◆ If a value larger than the value for **Core Time (Right)** is configured, the value configured in the **Core Time (Right)** edit box is replaced with the same value.

10.5.2 Core Time (Right)

Core Time allows a system administrator to view call information from the Statistics - Airtime Accumulation list by specifying a time slot. The system administrator can configure the end of the time slot in the Core Time (Right) edit box.

Range	0:00 min to 23:59 min
In steps of	1 min
Default	23:59 min

Note:

- ◆ If a value smaller than the value for Core Time (Left) is configured, the value configured in the **Core Time (Left)** edit box is replaced with the same value.

10.5.3 Statistics - Airtime Accumulation (Table)

In the Statistics - Airtime Accumulation dialog box, a system administrator can view the statistics of calls by use of call information acquired from each repeater via the Communication Log dialog box.

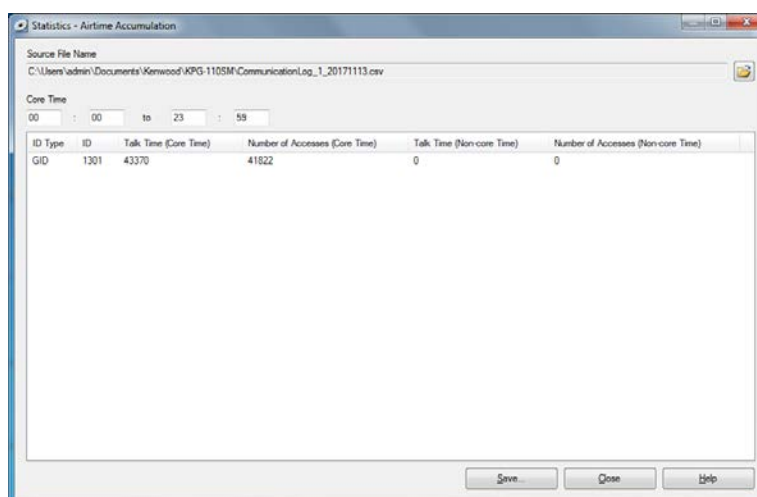


Figure 10-11 Statistics - Airtime Accumulation Dialog Box (Table)

Following statistics information appears.

Table 10-7 Airtime Accumulation (Table)

Items	Description	Display Range	Note
ID Type	The ID type appears. If Individual is configured for Call Type, "UID" appears, or if either Broadcast or Conference is configured for Call Type, "GID" appears.	UID, GID	
ID	The ID number appears.	1 to 60000	
Talk Time (Core Time)	The duration of calls in Core Time appears.	0 to 4294967295	
Number of Accesses (Core Time)	The number of accesses in Core Time appears.		
Talk Time (Non-core Time)	The duration of calls outside of the Core Time appears.		
Number of Accesses (Non-core Time)	The number of accesses outside of Core Time appears.		

10.5.4 Save

Save allows a system administrator to store the statistics information to a PC.

Follow the procedure below.

1. Click the “Save” button.
The Save As dialog box opens.
2. Name a file, select the destination folder, and then click the “OK” button.
The statistical information is saved in the CSV format.

10.6 Backup (Call Detail) Dialog Box

In the Backup (Call Detail) dialog box, a system administrator can store the communication information to a PC. The stored data can be restored by use of the Restore function. (Refer to: [10.7 Restore \(Call Detail\) Dialog Box on page 190](#))

The system administrator can use this function when transferring past communication information to another repeater.

Note:

- ◆ This function can be used only by a repeater having firmware version 1.10.00 or later.

Follow the procedure below.

1. Select “Backup (Call Detail)” from the Monitor pulldown menu.
The Backup (Call Detail) dialog box opens.

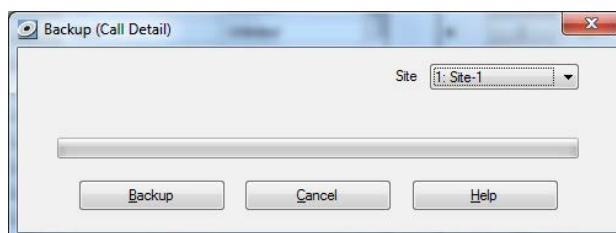


Figure 10-12 Backup (Call Detail) Dialog Box

2. Select a target site from the Site dropdown list.
3. Click the “Backup” button.
The Save As dialog box opens.
4. Name a file, select the destination folder, and then click the “Save” button.
The communication information is stored in the SMC format (Application specific format), and then the completion message box appears.
5. Click the “OK” button.

10.7 Restore (Call Detail) Dialog Box

In the Restore (Call Detail) dialog box, a system administrator can restore the communication information that is stored to a PC by use of the Backup function. The restored communication information becomes the same state as when the information was stored. ([Refer to: 10.6 Backup \(Call Detail\) Dialog Box on page 189](#))

The system administrator can use this function when transferring past communication information to another repeater.

Note:

- ◆ This function can be used only by a repeater having firmware version 1.10.00 or later.

Follow the procedure below.

1. Select "Restore (Call Detail)" from the Monitor pulldown menu.

The Restore (Call Detail) dialog box opens.

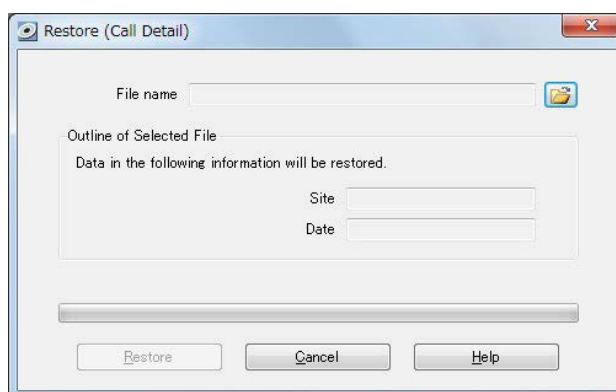


Figure 10-13 Restore (Call Detail) Dialog Box

Note:

- ◆ If no site is configured for LAN configuration information and if LAN is selected from Communication Mode in the **Communication Port** dialog box, the **Restore (Call Detail)** dialog box does not open.

2. Click the "📁" button.

The Open dialog box opens.

3. Select an SMC file to be restored, and then click the "Open" button.

The information recorded in the file is acquired using KPG-110SM. The acquired file information appears on the **Outline of Selected File** frame.

4. Click the "Restore" button.

The communication information is restored.

10.8 System Log Dialog Box

In the **System Log** dialog box, a system administrator can read the system log and hardware log.

Note:

- ◆ This function can be used only by a repeater having firmware version 1.10.00 or later.

10.8.1 System Log - System Dialog Box

In the **System Log - System** dialog box, a system administrator can read the system log from each repeater.

Note:

- ◆ This function can be used only by a repeater having firmware version 1.10.00 or later.

Follow the procedure below.

1. Select "System" for System Log in the **Monitor** pulldown menu.

The **System Log - System** dialog box opens.

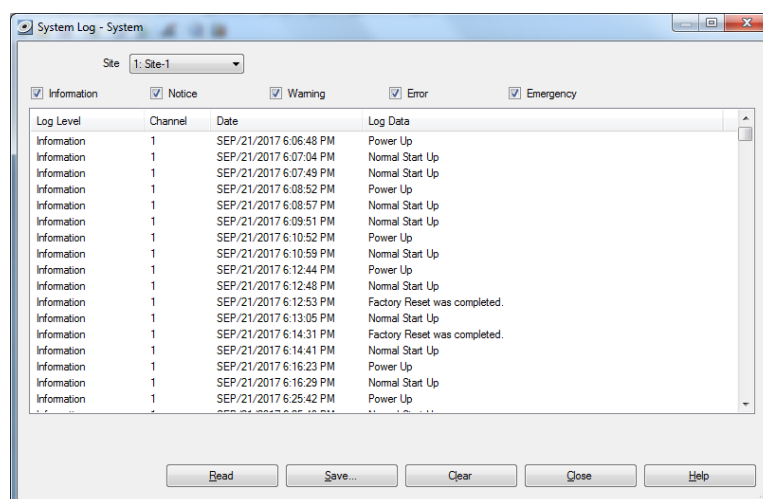


Figure 10-14 System Log - System Dialog Box

2. Select a target site from the **Site** dropdown list.
3. Click the "Read" button.

The system log is read from the selected site, and then the log appears in the list format.

Note:

- ◆ The log information to display can be selected by clicking on the **Information**, **Notice**, **Warning**, **Error** and **Emergency** checkboxes.

■ Information

Information allows a system administrator to configure for display in list format of Information entries from the system log.

Range	Check (Enable)	Enables the capability to display the system log about Information in list format.
	Uncheck (Disable)	Disables the capability to display the system log about Information in list format.
Default	Checked (Enabled)	

■ Notice

Notice allows a system administrator to configure for display in list format of Notice entries from the system log.

Range	Check (Enable)	Enables the capability to display the system log about Notice in list format.
	Uncheck (Disable)	Disables the capability to display the system log about Notice in list format.
Default	Checked (Enabled)	

■ Warning

Warning allows a system administrator to configure for display in list format of Warning entries from the system log.

Range	Check (Enable)	Enables the capability to display the system log about Warning in list format.
	Uncheck (Disable)	Disables the capability to display the system log about Warning in list format.
Default	Checked (Enabled)	

■ Error

Error allows a system administrator to configure for display in list format of Error entries from the system log.

Range	Check (Enable)	Enables the capability to display the system log about Error in list format.
	Uncheck (Disable)	Disables the capability to display the system log about Error in list format.
Default	Checked (Enabled)	

■ Emergency

Emergency allows a system administrator to configure for display in list format of Emergency entries from the system log.

Range	Check (Enable)	Enables the capability to display the system log about Emergency in list format.
	Uncheck (Disable)	Disables the capability to display the system log about Emergency in list format.
Default	Checked (Enabled)	

■ System Log - System (Table)

In the **System Log - System** dialog box, a system administrator can view the system log from each site.

The following items from the system log appear.

Table 10-8 System Log - System (Table)

Items	Description	Display Range	Note
Log Level	The log type appears. The log information to be displayed can be selected by clicking on the Information, Notice, Warning, Error and Emergency checkboxes.	Emergency, Warning, Error, Notice, Information	
Channel	The channel number appears.	1 to 30	The channel number is acquired from the LAN configuration information using the acquired IP address as a key.
Date	The time and date that the log data was generated appear.	MM/DD/YY HH24:MI:SS	Time appears in 24-hour format.
Log Data	The log information appears.	Alphanumeric characters and symbols	The acquired message code converted into alphanumeric characters and an optional parameter dependent on the message code, which is in parentheses, appears.

■ Save

Save allows a system administrator to store the system log acquired from a site in a PC.

Follow the procedure below.

1. Click the "Save" button.

The **Save As** dialog box opens.

2. Name a file, select the destination folder, and then click the "OK" button.

The system log is saved in the CSV format.

■ Clear

Clear allows a system administrator to clear from the system the log information acquired from the selected site.

Follow the procedure below.

1. Click the "Clear" button.

The confirmation message box appears.

2. Click the "OK" button.

The log information acquired from the selected site is cleared from the system, and then the completion message box appears.

3. Click the "OK" button.

KPG-110SM reads new log information, and then KPG-110SM refreshes what appears in the **System Log - System** dialog box.

10.8.2 System Log - Hardware Dialog Box

In the **System Log - Hardware** dialog box, a system administrator can view the hardware log from each repeater.

Note:

- ◆ This function can be used only by a repeater having firmware version 1.10.00 or later.

Follow the procedure below.

1. Select “Hardware” from System Log in the **Monitor** pulldown menu.

The **System Log - Hardware** dialog box opens.

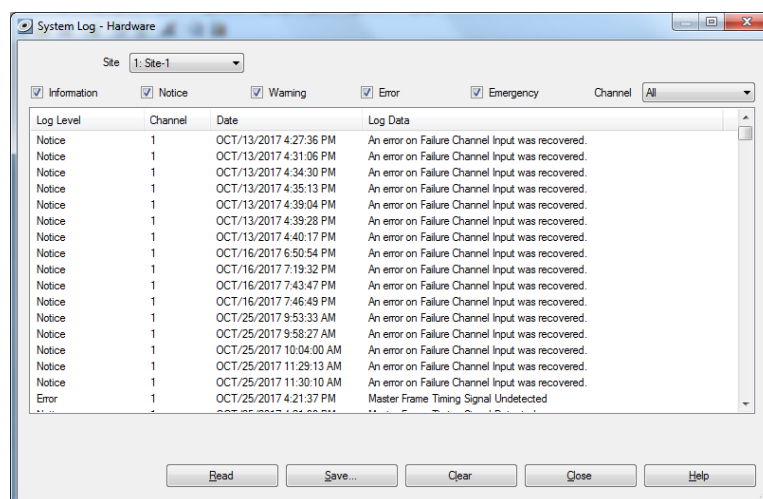


Figure 10-15 System Log - Hardware Dialog Box

2. Select a target site from the **Site** dropdown list.
3. Select a channel number from the **Channel** dropdown list.

Select the channel number of a repeater from which to read the hardware log. Select “All” to read the hardware log from all channels.

4. Click the “Read” button.

The hardware log is read from the selected channel, and then the log appears in list format.

Note:

- ◆ The log information to display can be selected by clicking on the **Information**, **Notice**, **Warning**, **Error** and **Emergency** checkboxes.

■ Information

Information allows a system administrator to configure for display in list format of Information entries from the hardware log.

Range	Check (Enable)	Enables the capability to display the hardware log about Information in list format.
	Uncheck (Disable)	Disables the capability to display the hardware log about Information in list format.
Default	Checked (Enabled)	

■ Notice

Notice allows a system administrator to configure for display in list format of Notice entries from the hardware log.

Range	Check (Enable)	Enables the capability to display the hardware log about Notice in list format.
	Uncheck (Disable)	Disables the capability to display the hardware log about Notice in list format.
Default	Checked (Enabled)	

■ Warning

Warning allows a system administrator to configure for display in list format of Warning entries from the hardware log.

Range	Check (Enable)	Enables the capability to display the hardware log about Warning in list format.
	Uncheck (Disable)	Disables the capability to display the hardware log about Warning in list format.
Default	Checked (Enabled)	

■ Error

Error allows a system administrator to configure for display in list format of Error entries from the hardware log.

Range	Check (Enable)	Enables the capability to display the hardware log about Error in list format.
	Uncheck (Disable)	Disables the capability to display the hardware log about Error in list format.
Default	Checked (Enabled)	

■ Emergency

Emergency allows a system administrator to configure for display in list format of Emergency entries from the hardware log.

Range	Check (Enable)	Enables the capability to display the hardware log about Emergency in list format.
	Uncheck (Disable)	Disables the capability to display the hardware log about Emergency in list format.
Default	Checked (Enabled)	

■ System Log - Hardware (Table)

In the **System Log - Hardware** dialog box, a system administrator can view the hardware log from each site. The following items from the hardware log appear.

Table 10-9 System Log - Hardware (Table)

Items	Description	Display Range	Note
Log Level	The log type appears. The log information to be displayed can be selected by clicking on the Information, Notice, Warning, Error and Emergency checkboxes.	Emergency, Warning, Error, Notice, Information	
Channel	The channel number appears.	1 to 30	The channel number is acquired from the LAN configuration information using the acquired IP address as a key.
Date	The time and date that the log data was generated appear.	MM/DD/YY HH24:MI:SS	Time appears in 24-hour format.
Log Data	The log information appears.	Alphanumeric characters and symbols	The acquired message code converted into alphanumeric characters and an optional parameter dependent on the message code, which is in parentheses, appears.

■ Save

Save allows a system administrator to store the hardware log acquired from a site in a PC.

Follow the procedure below.

1. Click the "Save" button.

The **Save As** dialog box opens.

2. Name a file, select the destination folder, and then click the "OK" button.

The hardware log is saved in the CSV format.

■ Clear

Clear allows a system administrator to clear from the system the log information acquired from the selected site.

Follow the procedure below.

1. Click the "Clear" button.

The confirmation message box appears.

2. Click the "OK" button.

The log information acquired from the selected site is cleared from the system, and then the completion message box appears.

3. Click the "OK" button.

KPG-110SM reads new log information, and then KPG-110SM refreshes what appears in the **System Log - Hardware** dialog box.

10.9 Diagnostic Log Dialog Box

In the **Diagnostic Log** dialog box, a system administrator can read the diagnostic log data recorded in the repeater and then store the data as a log file.

The diagnostic log is required for KENWOOD engineers to analyze the cause of trouble in the case that a malfunction occurs in the system.

Follow the procedure below to acquire a diagnostic log.

1. Select "Diagnostic Log" from the **Monitor** pulldown menu.

The **Diagnostic Log** dialog box opens.

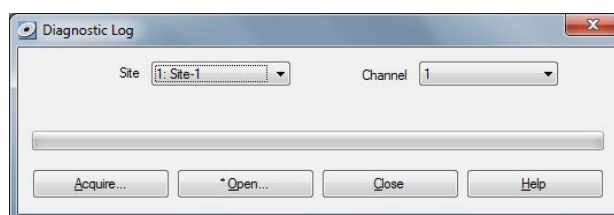


Figure 10-16 Diagnostic Log Dialog Box

2. Select a target site from the **Site** dropdown list.
3. Select the desired channel from the **Channel** dropdown list to read the log information.
4. Click the "Acquire" button.

The **Browse For Folder** dialog box opens.

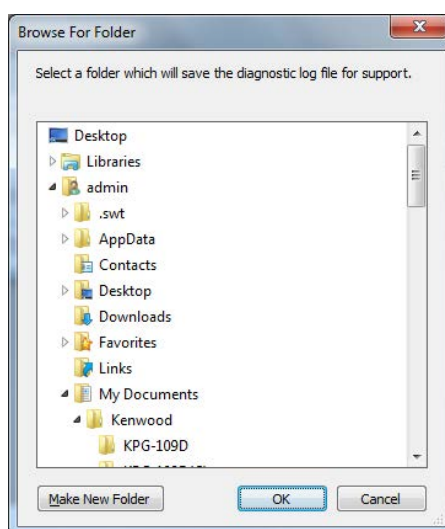


Figure 10-17 Browse For Folder Dialog Box

5. Select the destination folder, and then click the "OK" button.

The diagnostic log is read from a repeater and then the log is stored in the selected folder.

The stored log file (extension: .svl) is automatically named as below.

Diagnostic_10_22_20080912.svl

Site number Date

Channel number

Note:

- ◆ This function can be used only by a repeater having firmware version 1.16.00 or later.

11 SETUP MENU

11.1 Communication Port Dialog Box

In the **Communication Port** dialog box, a field engineer can configure the communication port of a PC that is used for communicating with the system.

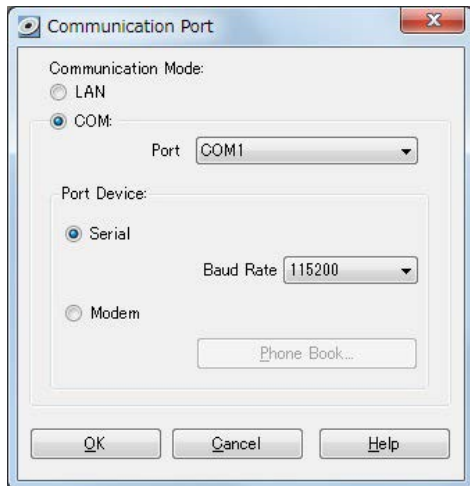


Figure 11-1 Communication Port Dialog Box

Note:

- ◆ When Restricted User Mode is enabled, parameters for various functions cannot be configured in the **Communication Port** dialog box. (Refer to: [11.4.2 About Restricted User Mode on page 202](#))

11.1.1 Communication Mode

Communication Mode allows a field engineer to select the communication port of a PC that is used for communicating with the system.

Range	LAN	A PC communicates with the system via LAN.
	COM	A PC communicates with the system via a serial cable or a modem.
Default	COM	

Note:

- ◆ While Restricted User Mode is enabled, "LAN" is automatically configured and the configuration cannot be changed. (Refer to: [11.4.2 About Restricted User Mode on page 202](#))

11.1.2 Port

Port allows a field engineer to configure a communication port after selecting the **COM** radio button.

Port can be configured by selecting a desired option from the dropdown list.

Range	Available port
Default	The lowest port number

Note:

- ◆ This function cannot be configured if "LAN" is selected with the **Communication Mode** radio button or no communication port is available on a PC.

11.1.3 Port Device

Port Device allows a field engineer to configure a device that uses the communication port after selecting the **COM** radio button.

Range	Serial	A PC communicates with the system via a serial cable.
	Modem	A PC communicates with the system via a modem.
Default	Serial	

Note:

- ◆ This function cannot be configured if the **LAN** radio button is selected or no communication port is available on a PC.
- ◆ While connected via a modem, because the deterioration in the quality of a telephone line connection sharply lowers the transmission speed or disconnects the telephone line due to the characteristic of an analog modem, the execution of a command may not be completed.

11.1.4 Baud Rate

Baud Rate allows a field engineer to configure the baud rate for a serial port.

Baud Rate can be configured by selecting the desired option from the dropdown list.

Range	9600, 19200, 38400, 57600, 115200
Default	115200

Note:

- ◆ This function cannot be configured if the **LAN** radio button is selected or the **Modem** radio button is selected in the **Port Device** frame.

11.1.5 Phone Book

A field engineer can open the **Phone Book** dialog box by clicking the “Phone Book” button.

Note:

- ◆ This function cannot be configured if the **LAN** radio button is selected or the **Serial** radio button is selected in the **Port Device** frame.

11.1.6 Phone Book Dialog Box

In the **Phone Book** dialog box, a field engineer can configure the modem for each site.

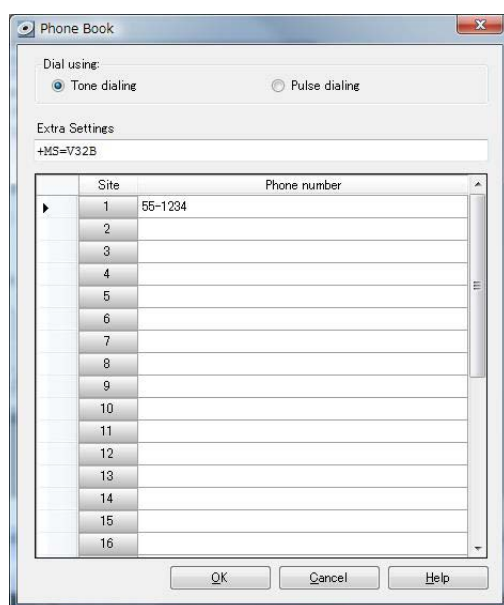


Figure 11-2 Phone Book Dialog Box

Note:

- ◆ This function cannot be configured if the **LAN** radio button is selected or the **Serial** radio button is selected in the **Port Device** frame.

■ Dial using

Dial using allows a field engineer to configure for each site the dialing mode when a PC communicates with the system using a modem.

Range	Tone dialing, Pulse dialing
Default	Tone dialing

■ Extra Settings

Extra Settings allows a field engineer to configure the extended functions for a modem.

Extra Settings can be configured by directly entering a string of text in the edit box.

Range	A maximum of 57 alphanumeric characters and symbols
Available Characters	(space) ! " # \$ % & ' () ~ + - . , / : ; < = > / @ [\] ^ _ ` { } * 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
Default	+MS=V32B

■ Phone number

Phone number allows a field engineer to configure for each site the phone number when a PC communicates with the system using a modem.

Phone number can be configured by directly entering a string of text in the edit box.

Range	A maximum of 32 alphanumeric characters and symbols
Available Characters	0 1 2 3 4 5 6 7 8 9 * # - (space) ,
Default	Blank

Note:

- ◆ Phone number cannot be configured for a site for which no channel is configured.

11.2 Activation Folder Dialog Box

In the **Activation Folder** dialog box, a field engineer can specify the folder having the Activation File with system parameters and service information of an NXDN Trunking System.

The Activation File stored in the folder specified here is read during the startup of KPG-110SM.

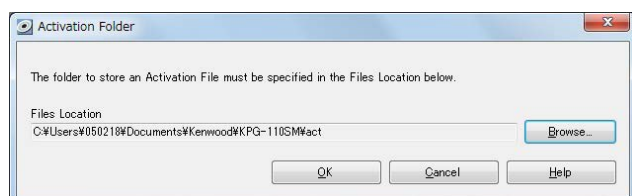


Figure 11-3 Activation Folder Dialog Box

Follow the procedure below to specify the folder in which the Activation File is stored:

1. Click the “Browse” button.

The **Browse For Folder** dialog box opens.

2. Specify the folder in which the Activation File is stored, and then click the “OK” button.

The path for the selected folder appears in the **Files Location** edit box.

3. Click the “OK” button.

The confirmation message box appears.

4. Click the “OK” button.

The configuration data is stored, and then the configurations becomes enabled when KPG-110SM runs next time.

Note:

- ◆ The **Activation Folder** dialog box opens if KPG-110SM runs for the first time after installation of KPG-110SM. (Refer to: [2.3.1 Starting KPG-110SM on page 11](#))
- ◆ Until the Activation Folder is specified and until a valid Activation File is stored in the selected folder, KPG-110SM cannot be started.
- ◆ The following is the default of the Activation Folder:
My Documents\Kenwood\KPG-110SM\act

11.3 User Account Dialog Box

In the **User Account** dialog box, a field engineer can configure the Management Password used to discriminate a Management User and a Monitor User for use with KPG-110SM. If Management Password is configured, KPG-110SM can be activated through either the Management User or Monitor User account. Available functions vary depending on the account type as follows:

■ Management User

This is a normal user account where available functions are not restricted. All functions of KPG-110SM can be used. A field engineer can configure functions of each repeater in a site and network information, monitor the operation status of the system, and perform operations relevant to the system log.

■ Monitor User

This is a user account used to monitor the operation status of the system. A field engineer can use functions necessary for monitoring the operation status of the system using KPG-110SM.

Monitor User can use the following functions only:

File > Open

Tools > Management User

Tools > Monitor User

Tools > Option

Monitor > System Overview

Monitor > Channel State

Monitor > Channel Load

Monitor > System Log > System*

Monitor > System Log > Hardware*

Setup > Communication Port

* However, the System Log cannot be deleted.

The Management Password can be configured or revised with the following procedure.

1. Select “User Account” from the **Setup** pulldown menu.

The **User Account** dialog box opens.

2. Enter a password.

A maximum of 12 alphanumeric characters and symbols can be entered in each edit box.

Old Password	Enter the currently configured password. Leave the edit box blank if no password is configured.
New Password	Enter a new password.
Confirmation	Enter the same password as the password entered in the New Password edit box to confirm the password.

3. Click the “OK” button.

If the password has been configured, “Management User” and “Monitor User” appear in the **Tools** pulldown menu. KPG-110SM can be activated through one of the user accounts.

Note:

- ◆ The following are the characters and symbols that can be entered in the **Old Password**, **New Password** and **Confirmation** edit boxes:

Range	A maximum of 12 alphanumeric characters and symbols
Available Characters	(space) ! " # \$ % & ' () ~ + - , . / : ; < = > / @ [\] ^ _ { } * 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
Default	Blank

- ◆ The warning icon appears next to the **Confirmation** edit box if the password in the **New Password** edit box does not match the password entered in the **Confirmation** edit box.
- ◆ The password can be changed only if KPG-110SM becomes active through the Management User account.
- ◆ To clear the configured Management Password, enter the password in the **Old Password** edit box in step 2, clear other edit boxes, and then click the “OK” button. If the entered password matches the password preconfigured for a PC, the Management Password will be cleared. After the Management Password is cleared, the configuration for user account becomes disabled, and displays of “Management User” and “Monitor User” in the **Tools** pulldown menu disappears.

11.4 Restricted User Dialog Box

In the **Restricted User** dialog box, a field engineer can configure a user name and a password for a system administrator and a restricted user. Also, the available functions for a restricted user being registered can be restricted.

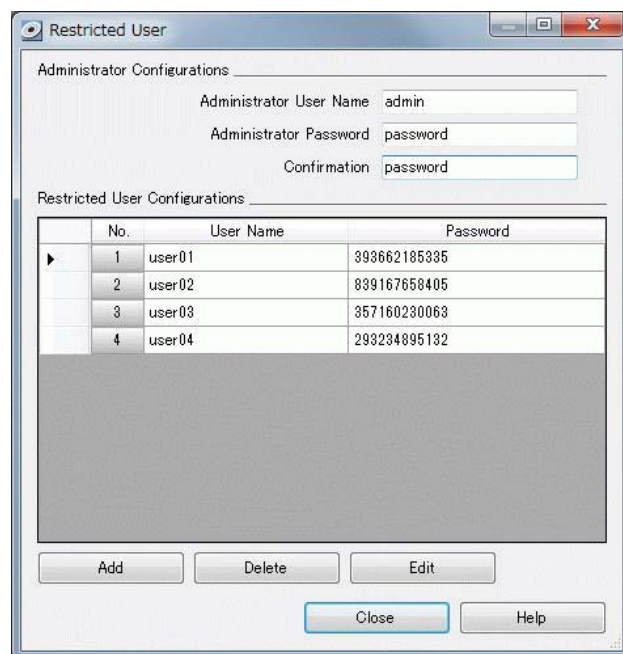


Figure 11-4 Restricted User Dialog Box

Restricted User is the function to distinguish a system administrator from other users so as to configure the system or monitor the operation status of the system by multiple users using KPG-110SM. A system administrator can use all functions available in KPG-110SM by logging in to KPG-110SM using the user account for a system administrator. Any user other than a system administrator can use KPG-110SM subject to certain restrictions by logging in to KPG-110SM using the user account for a restricted user.

Follow the procedure shown below to configure a user account.

1. Click the “Add” button to add a restricted user.
 - A maximum of 32 restricted users can be configured.
 - The default value of the user name is “user_n”. (“n” is the user number.)
 - The default value of the password is a 12-digit random number.
 - The **Administrator User Name** and **Administrator Password** edit boxes become activated if one or more restricted users are configured.

2. Select a restricted user, and then click the “Edit” button.

The **Restricted User Edit** dialog box opens. The restrictions for various functions can be configured in the **Restricted User Edit** dialog box. (Refer to: [11.5 Restricted User Edit Dialog Box on page 203](#))

3. Enter the user name for a system administrator in the **Administrator User Name** edit box.
 - The default value of Administrator User Name is “admin”.
 - A maximum of 8 alphanumeric characters can be entered in Administrator User Name. No distinction is made between upper and lowercase.
4. Enter the password for a system administrator in the **Administrator Password** edit box.
 - The default value of Administrator Password is a 12-digit random alphanumeric character.
 - A maximum of 50 alphanumeric characters can be entered in Administrator Password. There is distinction between upper and lowercase.
5. Enter the password for a system administrator again in the **Confirmation** edit box.

Note:

- ◆ Clicking the “Delete” button after selecting the restricted user to be deleted deletes the selected restricted user.
- ◆ If a Fleet with Range of GID and Range of UID not configured exists, a user account cannot be configured in the **Restricted User** dialog box. To configure a user account in the **Restricted User** dialog box, Range of GID and Range of UID needs to be configured in all Fleets. (Refer to: [7.15.3 General Tab on page 115](#))
- ◆ This function can be used only by a repeater having firmware version 2.50.00 or later.

11.4.1 Login

The **Login** dialog box opens during the startup of KPG-110SM if Restricted User has been specified. Logging in to KPG-110SM with the user name and password for a system administrator or restricted user enables to use KPG-110SM with the user account.

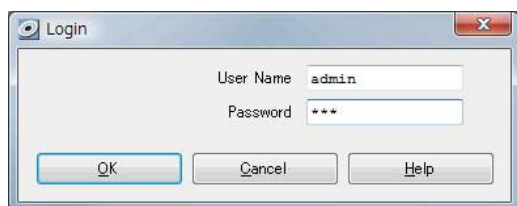


Figure 11-5 Login Dialog Box

If the entered user name and password match the user name and password configured in the configuration data file, KPG-110SM starts up with Restricted User Mode. (Refer to: [11.4.2 About Restricted User Mode on this page](#))

Note:

- ◆ The **Login** dialog box also opens when opening the configuration data file where a restricted user is configured.

11.4.2 About Restricted User Mode

Opening the configuration data file where Restricted User Mode is configured starts up KPG-110SM with Restricted User Mode.

Table 11-1 Restricted User Mode Status

Restricted User Mode	User Type
Status when logged in to KPG-110SM using the user account of a system administrator	System Administrator
Status when logged in to KPG-110SM using the user account of a restricted user	Restricted user: No. 1 to No. 32

■ System Administrator

If logged in to KPG-110SM with the user account for a system administrator, “Login (Restricted User Mode)” and “Logout (Restricted User Mode)” appear in the **Tools** pulldown menu, and the status of Restricted User Mode can be switched.

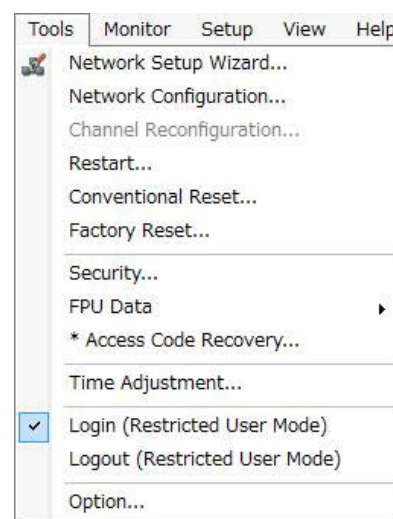


Figure 11-6 Tools Pulldown Menu

Clicking “Login (Restricted User Mode)” resulting a tick mark placed activates Restricted User Mode. The “Communication Port” menu in the **Setup** pulldown menu becomes inactive in this state. “LAN” is automatically configured for Communication Mode, and the configuration cannot be changed.

Clicking “Logout (Restricted User Mode)” to add a check mark deactivates Restricted User Mode. All functions can be used in this state.

■ Restricted User

The available functions can be restricted depending on the configuration in the **Restricted User Edit** dialog box if logged in to KPG-110SM using a Restricted User account. (Refer to: [11.5 Restricted User Edit Dialog Box on this page](#))

Note:

- ◆ Because Communication Mode is fixed to LAN while Restricted User Mode is in the active state, there are functions that cannot be utilized while “COM” is configured for Communication Mode; for instance, the function to configure a new IP address for a repeater to add a channel. In such a case, a system administrator needs to make the Restricted User Mode disabled after logging out, and then change the Communication Mode to COM when performing maintenance on the system. Also, the system administrator needs to log in immediately after finishing the system maintenance to make the Restricted User Mode enabled.

11.5 Restricted User Edit Dialog Box

In the **Restricted User Edit** dialog box, a field engineer can configure whether to restrict the use of a menu for each restricted user. Also, the available Fleets and Class of Services (CoS) can be configured for each restricted user.

The **Restricted User Edit** dialog box consists of the following tabs:

- **Restriction Menu** tab
- **Fleet/CoS** tab

Note:

- ◆ This function can be used only by a repeater having firmware version 2.50.00 or later.

11.5.1 User Name

In User Name, the restricted user name selected in the **Restricted User** dialog box appears.

11.5.2 Restriction Menu Tab

In the **Restriction Menu** tab, a field engineer can configure whether to restrict the use of each menu in the **Edit** and **Monitor** pulldown menus.

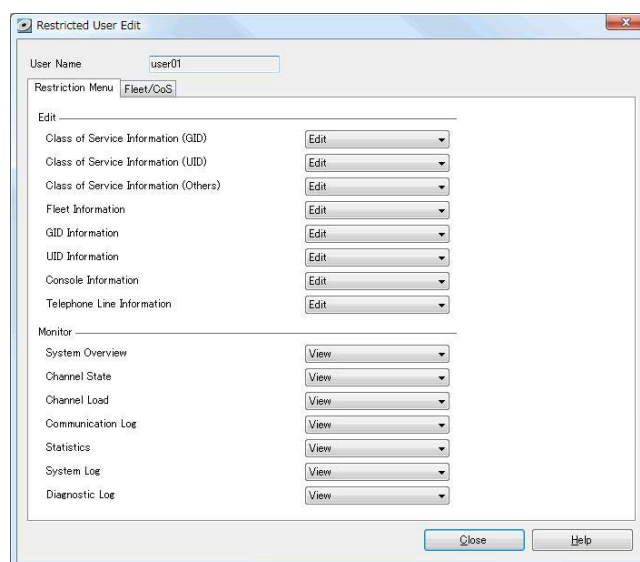


Figure 11-7 Restriction Menu Tab

Following are the menus that can be restricted to use:

■ Edit Pulldown Menu

- Class of Service Information (GID)
- Class of Service Information (UID)
- Class of Service Information (Others)
- Fleet Information
- GID Information
- UID Information
- Console Information
- Telephone Line Information

Either one of the following restriction items can be selected from the dropdown list in each menu.

Range	Edit	Select the menu to appear the window where parameters for the various functions can be configured.
	View	Select the menu to appear the window where parameters for the various functions can be viewed. Parameters for the various functions cannot be configured.
	Disable	The menu becomes inactive, and cannot be selected.
Default	Edit	

■ Monitor Pulldown Menu

- System Overview
- Channel State
- Channel Load
- Communication Log
- Statistics
- System Log
- Diagnostic Log

Either one of the following restriction items can be selected from the dropdown list in each menu.

Range	View	Select the menu to appear the dialog box where the various information can be monitored.
	Disable	The menu becomes inactive, and cannot be selected.
Default	Edit	

Note: A restricted user cannot use the following menus as the menus become inactive regardless of the configurations in the **Restriction Menu** tab.

Table 11-2 Inactivated Menus

Menu
File > Save* ¹
File > Save As
File > Print* ¹
File > Print Preview
Edit > System Configuration
Program > Firmware Update
Tools > Network Setup Wizard* ¹
Tools > Network Configuration
Tools > Channel Reconfiguration
Tools > Restart
Tools > Conventional Reset
Tools > Factory Reset
Tools > Security
Tools > FPU Data
Tools > Time Adjustment
Monitor > Backup (Call Detail)
Monitor > Restore (Call Detail)
Setup > Communication Port* ²
Setup > Restricted User

*¹ The button on the toolbar is also becomes inactive.

*² "LAN" is configured for Communication Mode.

11.5.3 Fleet/CoS Tab

In the **Fleet/CoS** tab, a field engineer can configure Fleet, GID Class of Service and UID Class of Service that can be used for each restricted user.

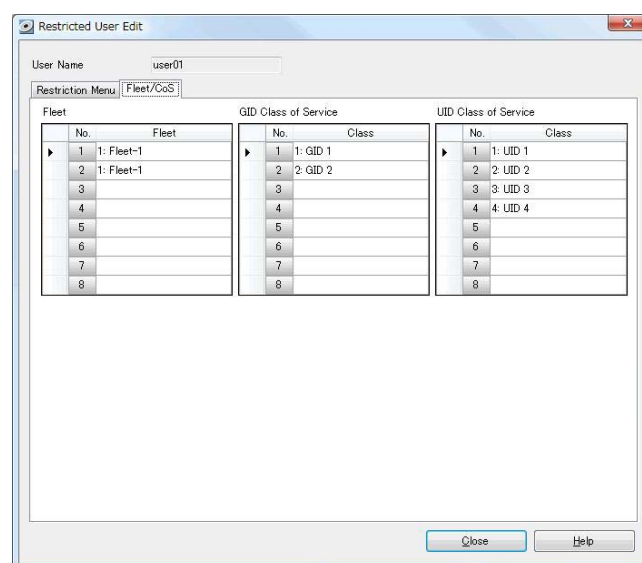


Figure 11-8 Fleet/CoS Tab

■ Fleet

The Fleet table allows a field engineer to configure a maximum of 8 Fleets that can be used.

Range	Blank, 1 to 5000 (Fleet numbers configured in the system)
Default	Blank

■ GID Class of Service

In the GID Class of Service table, a field engineer can configure a maximum of 8 GID Class of Services that can be used.

Range	Blank, 1 to 127
Default	Blank

■ UID Class of Service

In the UID Class of Service table, a field engineer can configure a maximum of 8 UID Class of Services that can be used.

Range	Blank, 1 to 127
Default	Blank

11.6 Language Dialog Box

In the **Language** dialog box, a field engineer can select from the **Language** dropdown list a language for the user interface to be used in KPG-110SM.



Figure 11-9 Language Dialog Box

Range	K-type: English, Spanish, French E-type: English, Spanish, French, German, Italian, Dutch
Default	English

Note: After a desired language is selected, the language selected in the **Language** dialog box becomes reflected to all the function names in KPG-110SM.

12 VIEW MENU

12.1 Tree View Window

A field engineer can display or hide the Tree View window by selecting “Tree View” from the View pulldown menu.

The Edit pulldown menu list appears in the Tree View window. Double-clicking each item opens a window for the selected item being activated.

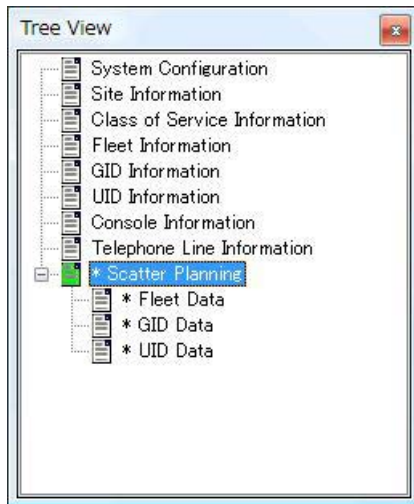


Figure 12-1 Tree View Window

12.2 Toolbar

A field engineer can display or hide the toolbar by selecting “Toolbar” from the View pulldown menu.
(Refer to: [3.1.2 Toolbar on page 13](#))

12.3 Status Bar

A field engineer can display or hide the status bar by selecting “Status Bar” from the View pulldown menu.
(Refer to: [3.1.3 Status Bar on page 14](#))

13 WINDOW MENU

The Window pulldown menu appears if any window activated by selecting a corresponding task in the Edit pulldown menu is open. The Window pulldown menu allows a field engineer to rearrange and close the open windows all at one time.

13.1 Cascade

Selecting “Cascade” causes open windows to be diagonally overlapped (cascaded).

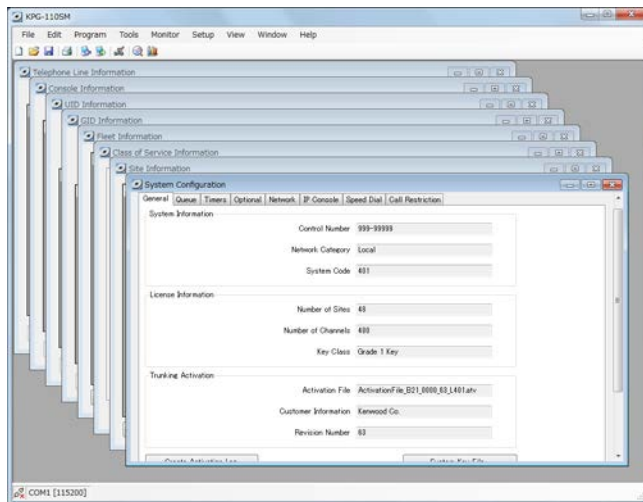


Figure 13-1 Cascade

13.2 Horizontal Tile

Selecting “Horizontal Tile” rearrange open windows to be horizontal tiles.

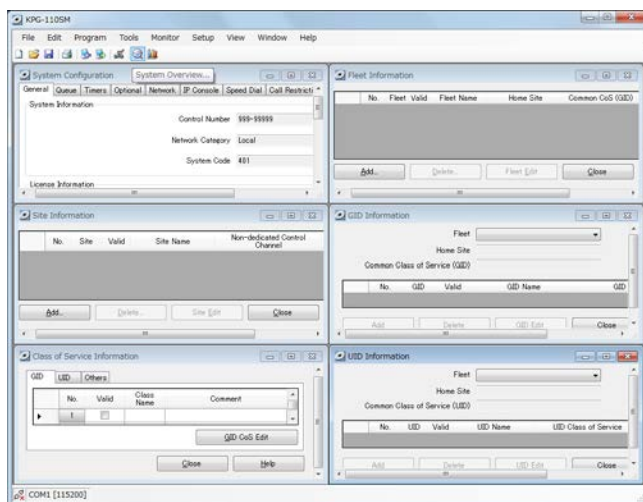


Figure 13-2 Horizontal Tile

13.3 Vertical Tile

Selecting “Vertical Tile” rearrange open windows to be vertical tiles.

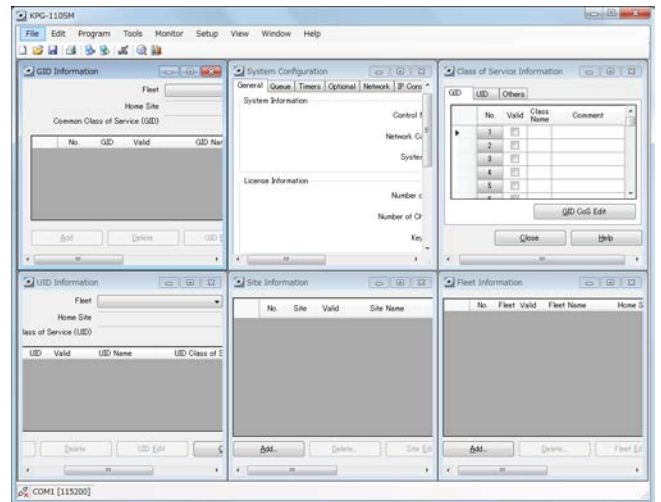


Figure 13-3 Vertical Tile

13.4 Arrange Icons

Selecting “Arrange Icons” rearranges icons of minimized windows.

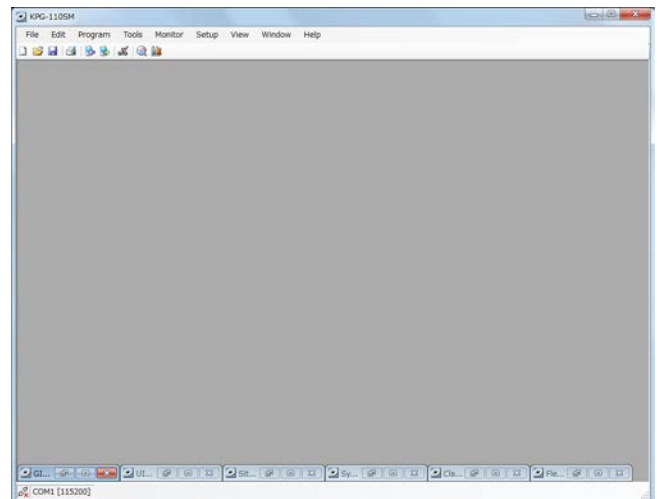


Figure 13-4 Arrange Icons

13.5 Close All Windows

Selecting “Close All Windows” close all open windows.

13.6 Opened Window List

Lists all titles of the open windows. Clicking the window title opens the selected window at the frontmost on the display.

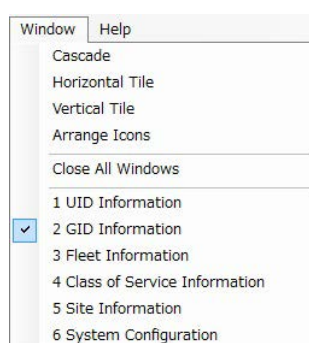


Figure 13-5 Opened Window List

14 HELP MENU

14.1 Help Topics

The **KPG-110SM HTML Help** window opens by selecting “KPG-110SM help” from the **Help** pulldown menu. In the **KPG-110SM HTML Help** window, a field engineer can search for help topics regarding the operation and functions of KPG-110SM.

The **KPG-110SM HTML Help** window consists of the following tabs:

- **Contents** tab
- **Index** tab
- **Search** tab

14.1.1 Contents Tab

A help topic can be searched from the table of contents consisting of the items contained on the menu bar (File, Edit, Program, Tools, Setup, View, Window).

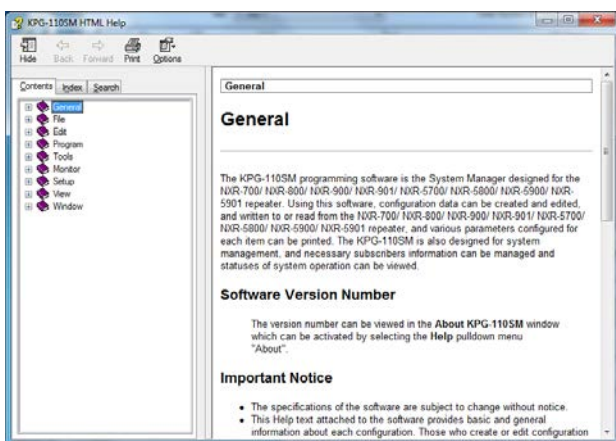


Figure 14-1 Contents Tab

The text of a help topic appears in the right frame of the **KPG-110SM HTML Help** window by clicking the “?” or “” icon for the help topic in the table of contents. Double-clicking the “” icon or clicking the “+” mark changes the appearance of the icon to “”. The detailed list of help topics appears.

14.1.2 Index Tab

A help topic can be searched from the Keyword list. Entering a keyword in the edit box causes the target keywords to appear, and then double-clicking a displayed target keyword or clicking the “Display” button activates the help text.

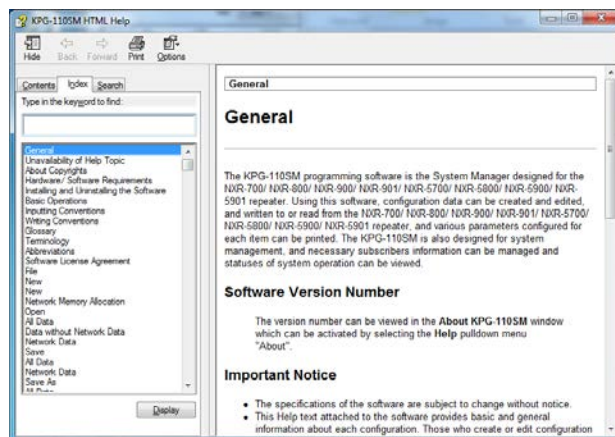


Figure 14-2 Index Tab

14.1.3 Search Tab

A help topic can be searched by a word or a phrase included in the text of help topics. Entering a keyword in the edit box causes the target keywords to appear, and then double-clicking a displayed target keyword or clicking the “Display” button activates the help text.

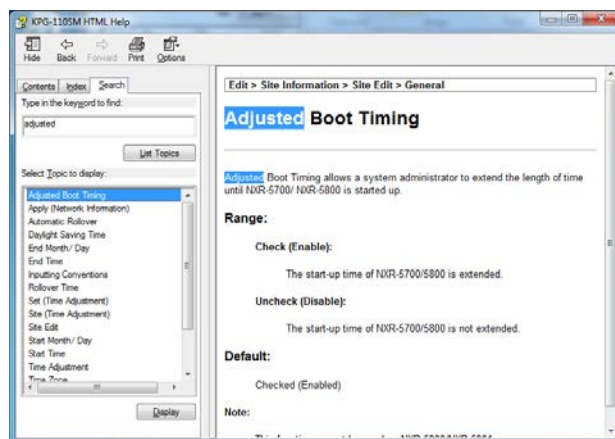


Figure 14-3 Search Tab

14.2 About KPG-110SM Dialog Box

In the **About KPG-110SM** dialog box, information about KPG-110SM appears.

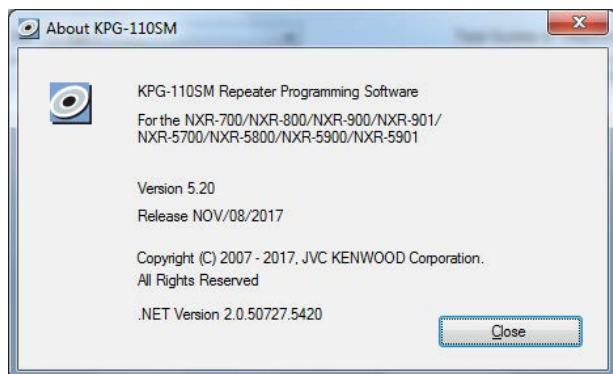


Figure 14-4 About KPG-110SM Dialog Box

Clicking the "Close" button closes the **About KPG-110SM** dialog box.

15 MENU LIST

Following are the class structure and functions in the **Edit**, **Tools**, **Monitor** and **Setup** pulldown menus.

Table 15-1 Edit Pulldown Menu

System Configuration	
General	
	Control Number
	Network Category
	System Code
	Number of Sites
	Number of Channels
	Key Class
	System Key File
	License ID
	System Name
	Range of GID
	Range of UID
Queue	
	Level
	Number of Queues
Timers	
	Trunking Type
	Traffic Channel by Voice Call
	Occupation Timer (Broadcast Call)
	Hold Timer (Conference Call)
	Occupation Timer (Conference Call)
	Hold Timer (Individual Call)
	Occupation Timer (Individual Call)
	Traffic Channel by Data Call
	Occupation Timer (Broadcast Call)
	Hold Timer (Conference Call)
	Occupation Timer (Conference Call)
	Hold Timer (Individual Call)
	Occupation Timer (Individual Call)
	Time-out Timer in Failsoft Mode
Optional	
	Cross-busy
	Control Channel Burst
	Control Channel Active Timer
	Control Channel Wait Timer
	Traffic Channel Release Delay Timer
	Location Registration
	Group Registration
	Group Registration Reset Time
	NXDN ESN Validation
	NXDN ESN Validation Reset Time

Manufacturer Limitation
Manufacturer Code 1 to Manufacturer Code 8
Transmit Interval Time of Adjacent Site Information
Network Failure Information

Network

Maximum Jitter Buffer Size
Minimum Jitter Buffer Size
Multicast Group Call
Maximum Number of Group Calls

IP Console

IP Console

Speed Dial

Phone number

Call Restriction

Call Restriction Table Number
Minimum Number of Digits
Maximum Number of Digits
Telephone Number
Valid

Site Information**Site Edit****General**

Valid
Site Name
Non-dedicated Control Channel
Automatic Rollover
Rollover Time
Storage Location
Channel
Size
Remote System Standby
Setup Code
Cancellation Code
External Trigger
Power-on Standby
Station ID Inhibit
Adjusted Boot Timing

Channel**Channel Edit**

Channel
Valid
Frequency No.
Channel Type

Station ID

Station ID

Channel

Station ID

Transmit Interval Time

Type

Cross-busy Input Trigger

Failsoft Mode

Multicast IP Address

Channel Allocation

Voice Call

Long Data Call

Emergency Call

IP Console Call

Telephone Call

General

Adjacency

Site (Adjacent Control Channels)

Frequency No. (Adjacent Control Channels)

Site (Additional Control Channels)

Frequency No. (Additional Control Channels)

Site (Delete Control Channels)

Frequency No. (Delete Control Channels)

Session

Route Name

Maximum Session

Route

Graph

Add

Delete

Class of Service Information**GID****GID Class of Service Edit**

Class

General

Valid

Class Name

Comment

Late Entry

Priority Monitor

Time-out Timer

Call Type

Voice Call

Status Call

Short Data Call

Long Data Call**Intersite**

Intersite Call

Busy System Wait

Group Refusal

Valid

Dynamic Allocation**Telephone**

Incoming Call from Telephone Line**UID****UID Class of Service Edit**

Class**General**

Valid

Class Name

Comment

Late Entry

Queue Level

Time-out Timer

Individual Call Response Type (Voice)

Individual Call Response Type (Data)**Call Type**

Group Call

Individual Call

Voice Call

Status Call

Short Data Call

Long Data Call

All Groups Call**Telephone**

Incoming Call from Telephone Line

Outgoing Call to Telephone Line

Call Restriction Table Number**Others****All Groups Call****General**

Late Entry

Priority Monitor

Time-out Timer**Call Type**

Voice Call

Status Call

Short Data Call

Long Data Call

Intersite

Intersite Call

Busy System Wait

Valid

Telephone

Incoming Call from Telephone Line

Secondary GID Class of Service**General**

Late Entry

Priority Monitor

Time-out Timer

Call Type

Voice Call

Status Call

Short Data Call

Long Data Call

Secondary UID Class of Service**General**

Late Entry

Queue Level

Time-out Timer

Individual Call Response Type (Voice)

Individual Call Response Type (Data)

Call Type

Group Call

Individual Call

Voice Call

Status Call

Short Data Call

Long Data Call

All Groups Call

Telephone

Incoming Call from Telephone Line

Outgoing Call to Telephone Line

Call Restriction Table Number

Telephone Call**General**

Time-out Timer

Fleet Information**Fleet Edit**

General

Valid

Fleet Name

Home Site

Common Class of Service (GID)

Range of GID

Edit GID Range

Common Class of Service (UID)

Range of UID

Edit UID Range

Customer

Customer Name

Address

Customer Phone

GID Information

UID Information

Add

Delete

GID Information

Fleet

Home Site

Common Class of Service (GID)

GID Edit

GID

Valid

GID Name

GID Class of Service

Associated GID

Add

Delete

UID Information

Fleet

Home Site

Common Class of Service (UID)

UID Edit

UID

Valid

UID Name

UID Class of Service

NXDN ESN

Add

Delete

Console Information

Site

UID

Valid

Fleet Name

UID Name

UID Class of Service

Console Edit

UID

Valid

UID Name

UID Class of Service

Talkpath

Site

Add

Delete

Telephone Line Information

Site

UID

Valid

Fleet

UID Name

Telephone Line Edit

UID

Valid

UID Name

Bi-directional Use

Add

Delete

Table 15-2 Tools Pulldown Menu**Network Setup Wizard****Network Configuration****IP Address**

Site

Channel

Auto

Manual

IP Address

Subnet mask

Gateway

Write

System Recognition

Site

Apply

Multi-site Apply

Start

Site Map

Get

Site

List of Sites and Channel 1 to Channel 30

Others

Read

Site

Channel

Reset

Channel Reconfiguration

Conventional Reset

Network Information

System Information

Restart

Conventional Reset

Factory Reset

Security

FPU Data

Read Data from the Repeater

Write Data to the Repeater

Time Adjustment

Site

Time Zone

Daylight Saving Time

Management User

Monitor User

Login (Restricted User Mode)

Logout (Restricted User Mode)

Option

Auto Save/ Load

Temperature Units

Delay Connection Release

Update Rate

Table 15-3 Monitor Pulldown Menu

System Overview

Site

Network**Hardware****Channel State**

Channel State (Table)

Site Change

Channel Load

Channel Load (Graph)

Clear

Read

Communication Log

Communication Log (Table)

Extract

Read

Clear

Statistics**Airtime Accumulation**

Source File Name

Core Time

Airtime Accumulation (Table)

Save

Backup (Call Detail)**Restore (Call Detail)****System Log****System**

Information

Notice

Warning

Error

Emergency

System (Table)

Save

Clear

Hardware

Information

Notice

Warning
Error
Emergency
Hardware (Table)
Save
Clear

Diagnostic Log**Table 15-4 Setup Pulldown Menu****Communication Port**

Communication Mode
Port
Port Device
Baud Rate

Phone Book

Dial using
Extra Settings
Phone number

Activation Folder**User Account**

Old Password
New Password
Confirmation

Restricted User

Administrator User Name
Administrator Password
User Name
Password

Restricted User Edit**Restriction Menu**

Class of Service Information (GID)
Class of Service Information (UID)
Class of Service Information (Others)
Fleet Information
GID Information
UID Information
Console Information
Telephone Line Information
System Overview
Channel State
Channel Load

- Communication Log
- Statistics
- System Log
- Diagnostic Log

Fleet/Cos

- Fleet
- GID Class of Service
- UID Class of Service

- Add
- Delete

Language

16.1 Overview of Telephone Interconnect Gateway

KPG-1014GW (Telephone Interconnect Gateway) is the software to perform voice communications between subscriber units and telephones in a NEXEDGE 1st Generation Trunking System.

The KPG-1014GW software behaves on a PC Server.

KPG-1014GW is the software that replaces the existing telephone connection device (KTI-4).

With KTI-4, the connection to an analog line was intended. By replacing KTI-4 with KPG-1014GW, the current mainstream IP-PBX can be supported.

16.1.1 System Structure

This section describes the system structure of when Telephone Interconnect Gateway is used in a NEXEDGE 1st Generation Trunking System.

Connection is made to a telephone via Asterisk of the SIP Phone Server by connecting Telephone Interconnect Gateway on a PC server to a site in a NEXEDGE 1st Generation Trunking System. By configuring an NXDN Telephone Line UID in Telephone Interconnect Gateway, the SIP User ID for connecting to the corresponding telephone is linked, and the connection to the telephone is configured. Communication between a subscriber unit in a NEXEDGE 1st Generation Trunking System and a telephone is performed by using these functions. The Web Tool is used to configure Telephone Interconnect Gateway on a PC server, and the KPG-110SM system manager is used for the configuration of a NEXEDGE 1st Generation Trunking System.

Also, connection is made to a telephone by connecting Asterisk of the SIP Phone Server to Telephone Interconnect Gateway. In this case, whether Asterisk of the SIP Phone Server coexists in the same server or uses a dedicated PC server as a separate server can be selected.

In Telephone Interconnect Gateway, only Asterisk is supported as the SIP Phone Server.

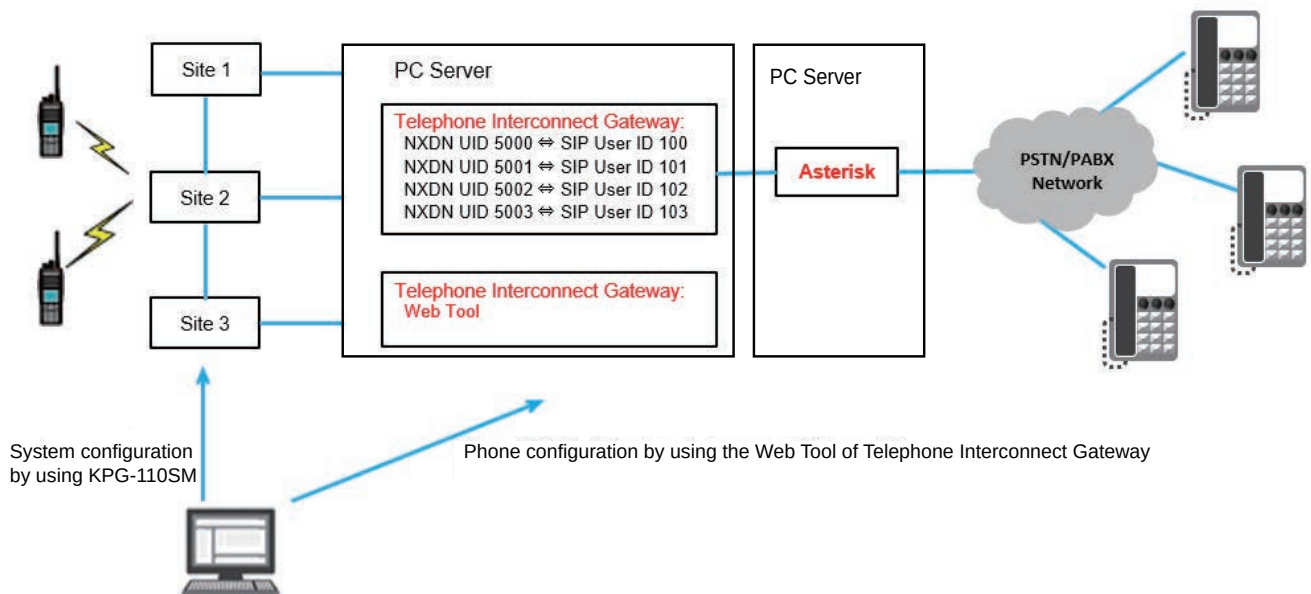


Figure 16-1 System Structure of Telephone Interconnect Gateway

The applications supported by Telephone Interconnect Gateway are shown in the following table:

Table 16-1 Supported Applications

Applications	Description
KPT-300LMC	License Authentication Software
Asterisk	SIP Phone Server

16.1.2 Terms

The terms in this manual are explained.

Table 16-2 Terms

Terms	Description
Telephone Interconnect Gateway	Indicates KPG-1014GW in this manual.
“xxx”	“xxx” indicates a button on the Web Tool. By “Save”, the Save button on the Web Tool is indicated.
OSS	This is the abbreviation for Open Source Software.
Asterisk	This is the open source IP-PBX software developed and published by Sangoma Technologies of Canada. In this manual, SIP Phone Server indicates Asterisk.
SIP Phone	This is the telephone to make a call by using the VoIP function. The hardware type and the software type exist.
PSTN	This is the public switched telephone network (outside line) that provides voice call services.
PABX	This is the private automatic branch exchange (extension).

The following abbreviations are used in this in-depth manual. Refer to the abbreviation table below.

Table 16-3 Abbreviation Table

Abbreviation	Full Spelling or Meaning
RTP	Realtime Transport Protocol
SIP	Session Initiation Protocol
SSH	Secure Shell
SSL	Secure Sockets Layer
TLS	Transport Layer Security
UDP	User Datagram Protocol

16.1.3 Telephone Interconnect Gateway Command List

Telephone Interconnect Gateway can perform the various configurations of a server by connecting from a PC via an IP network, but configuration changes cannot be done via an IP network if the IP address is not known.

In this case, the confirmation and change of the IP address of a server and the initialization of configuration data can be performed by directly logging in to the PC server.

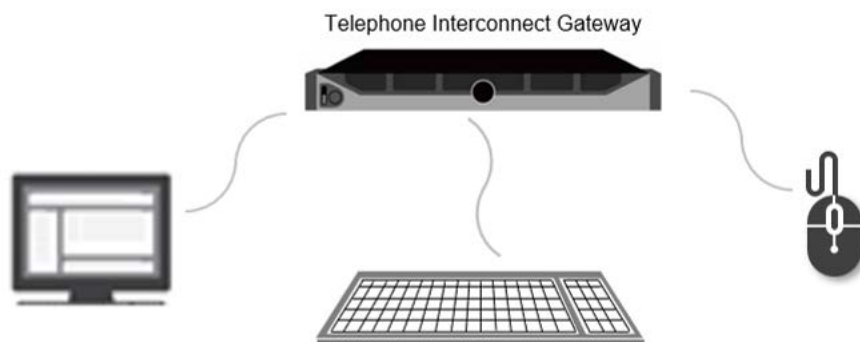


Figure 16-2 Telephone Interconnect Gateway System

Log in to the PC server by entering a login ID and login password when the monitor, keyboard, and mouse are connected to a PC server and the login screen appears.

(The login ID and login password are obtained from the place of purchase of this system.)

After logging in, the terminal is opened by clicking the terminal icon.

Note:

- ◆ Refer to Initial Setting Guide for details on logging in to the PC server.

Required operations can be performed by entering the following Commands:

Table 16-4 Input Command List

Command	Option	Remarks
nx-ipset	"IP Address" "Subnet Mask" "Default Gateway"	Configures IP Address. A command is entered from a Console by arbitrarily specifying "IP Address" "Subnet Mask", or "Default Gateway".
nx-ipview	None	Confirms IP Address. The current IP address information is displayed when "nx-ipview" is entered from the command prompt.
nx-freset	None	"Are you sure? (yes/no)" appears on the prompt when "nx-freset" is entered from the command prompt. Factory Reset occurs when Return is pressed after "yes" is entered. Refer to the chapter Factory Reset for the details of Factory Reset.

Note:

- ◆ The server may be damaged If a command is executed erroneously. Operate with care by only using a command described above.

16.1.4 Main Features of KPG-1014GW

- The KPG-1014GW software behaves on the Linux OS.
- Performs a call to a SIP Phone by connecting to the SIP Phone Server.
- Uses the standard SIP/ RTP for communication with the SIP Phone Server.
- Voice communication with the SIP Phone Server is available by supporting G.711 (μ -law, A-law) for the audio codec.
- Uses NXIP Interface for communication to a NEXEDGE 1st Generation Trunking System.
- The KPG-1014GW software supports license authentication by the Software Upgrade License (KWD-1014SP). By executing license authentication, up to 10 calls are available at the same time for each SIP license.
- A maximum of 10 SIP licenses can be installed.
- Supports the redundancy (Local Redundancy) that uses open source software.
- Supports various configurations, firmware update, and remote control using the Web Tool.
- Supports the screen display and help text of the Web Tool in 6 languages (English, Spanish, French, German, Italian, and Dutch).
- Supports HTTP communication (https) that uses SSL encryption.
- Supports the log function (System Log/ Communication Log/ Log for failure analysis).

Note:

- ◆ Telephone Interconnect Gateway cannot be used along with KTI-4.
- ◆ A device for an analog telephone such as a Telephone Patch used for KTI-4 connection cannot be connected.

16.1.5 Capacity

Table 16-5 Capacity

Items	NXEDGE 1st Generation Trunking System
The Maximum Number of Configurable SIP User IDs ^{*1}	100
The Maximum Number of Calls	100
The Number of Communication Log Records	Depends on the HDD storage size. (No restriction on the number of items)
The Number of System Log Records	200,000 items

^{*1} The registration of up to 10 SIP User IDs is available for each license. Also, a maximum of 10 licenses can be installed.

16.1.6 License Key

Authentication is performed by using the license file generated by License Management Client (KPT-300LMC). The Software License handled by Telephone Interconnect Gateway is as follows:

Table 16-6 Software License

License	Type	Description
KWD-1014SP	Software Upgrade License	- Up to 10 calls are available at the same time for a call using a SIP Phone. - Additional installation is available. - The maximum number of installations: 10

16.1.7 Hardware

Telephone Interconnect Gateway is the software that behaves on a PC server with the Linux OS installed. Hardware can be used by installing the Telephone Interconnect Gateway application.

■ System Requirements

Refer to Initial Setting Guide for the required specifications, supported OS, and operation confirmed models of the PC server used as Telephone Interconnect Gateway.

■ OS Install/ Base Install

OS Install installs the OS and Linux modules.

Base Install installs the middleware and Telephone Interconnect Gateway firmware.

Refer to Initial Setting Guide for the detailed procedures.

16.2 Basic Behaviors

16.2.1 Communication Function

Telephone Interconnect Gateway supports a call between a subscriber unit and telephone.

As basic behaviors of Telephone Interconnect Gateway, the following calls between a subscriber unit and telephone are supported:

Table 16-7 Communication Supported by Telephone Interconnect Gateway

Call	Receive	Communication
Telephone	Subscriber Unit	Group Call and Individual Call (extension)
Telephone	Subscriber Unit	Group Call and Individual Call (outside line)
Subscriber Unit	Telephone	Individual Call (extension)
Subscriber Unit	Telephone	Individual Call (outside line)

Refer to [16.4.5 SIP Phone on page 247](#) for how to initiate a call.

Note:

- ◆ An Interconnect Call made from a subscriber unit only corresponds to an Individual Call.
- ◆ An Individual Call and Group Call are supported for an Interconnect Call made from the telephone.
- ◆ A call to a Null Group ID is not supported for a call by the telephone.
- ◆ A call using Scrambler and AES/DES Encryption is not supported.

16.2.2 Local Redundancy

Local Redundancy is the function to minimize the downtime of Telephone Interconnect Gateway when the PC server that operates Telephone Interconnect Gateway fails, by automatically switching to a backup PC server after the detection by the redundancy using Open Source Software (OSS).

Local Redundancy behaves by associating 2 real PC server devices by the redundancy using OSS.

With one server prepared as the active server (Primary Server) and another one as the standby server (Secondary Server), the servers are added to the connection to a Public LAN as Telephone Interconnect Gateway, and the connection of a Private LAN for the mutual monitoring between the PC servers needs to be performed. The main features of Local Redundancy are as follows:

- Automatically switches from the Primary Server to the Secondary Server.
- The configuration and log information, etc. of immediately before the Primary Server goes down are taken over.
- The call status of immediately before the Primary Server goes down and during the downtime are not taken over.
- Because the virtual IP address to connect to a Public LAN is the same for the Primary Server and Secondary Server, changes to the connection devices (such as switching cables) are not required when the switch of service occurs.

Refer to Local Redundancy Setting Guide for the behavior conditions and configuration of Local Redundancy.

Note:

- ◆ Local Redundancy is for real PC server devices, and a virtual PC server is not supported.
- ◆ A switch does not automatically occur when the Primary Server recovers while the Secondary Server behaves. Downtime may occur during the switch.
- ◆ The Primary Server and Secondary Server cannot be allocated over a router because the virtual IP addresses are the same.
- ◆ Depending on the failure status of the network, the inconsistency of data may occur after both PC servers become active. This is called split-brain. This state mainly occurs when both Private LANs go down at the same time. Refer to the operation manual of the redundant system (Redundancy Setting Guide) for the symptom confirmation and recovery methods.
- ◆ Local Redundancy does not guarantee the 100% switch of service.
- ◆ The switch of service does not occur If split brain occurs, or if a failure occurs again when operation is continued without clearing the failure history when the recovery occurs after service is switched because of a failure.
- ◆ Local Redundancy not only connects to a Public LAN as Telephone Interconnect Gateway, but also needs to execute the connection to a Private LAN for the mutual monitoring of PC servers. Therefore, a direct connection between the PC servers by using a LAN cable or the preparation of a connection via the second switching HUB is required.
- ◆ If operation is done with a service other than Telephone Interconnect Gateway behaving in the backup PC server, the warranty does not apply.

16.3 Overview of Web Tool

16.3.1 Web Tool Access Procedure

The Web Tool is a web interface to perform the configuration of Telephone Interconnect Gateway. The Web Tool can be used by accessing Telephone Interconnect Gateway from the web browser of a client PC, and the configuration of Telephone Interconnect Gateway can be performed via a network.

Table 16-8 Web Tool Access Procedure

Step No.	Description	Remarks
1	Access the Web Tool A web browser is opened, and the Web Tool is accessed by entering the IP address of Telephone Interconnect Gateway as a URL. The first time you access the Web Tool, a warning appears, such as Your connection is not private (Web browser: Google Chrome). Perform the following steps: 1. Click the "Advanced" button. 2. Click the location where (Unsafe) appears.	Recommended web browsers: Google Chrome: Ver. 89 or later Microsoft Edge: Ver. 89 or later
2	Click the "Login" button after entering the User Name and Password notified by an administrator. By accessing the Web Tool, the Login screen is displayed. The User Name and Password are entered on the Login screen. When the admin password is not configured such as during access for the first time, the screen that prompts for the configuration of the admin password is displayed by clicking the "Login" button after only the User Name is entered as "admin". Refer to ■ User Password for the details of password entry. When the password is configured, the state of being logged in occurs. From the next time onwards, logging in is done by entering the configured password.	-
3	The Home screen of the Web Tool appears The Home screen of the Web Tool is displayed when a correct User Name and Password are entered, and the configuration can be viewed and edited according to the User Level configured for each user. Refer to 16.6.2 User Levels on page 295 for details.	-

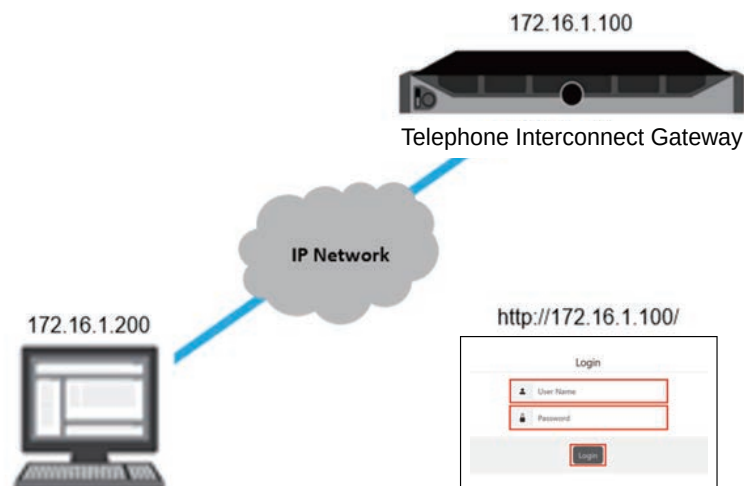


Figure 16-3 Reference Figure of Step 1

Note:

- ◆ The configuration of Asterisk cannot be performed by using the Web Tool. To configure Asterisk, use a generic SSH console, etc. Also, Asterisk can be configured directly if a keyboard and monitor are connected to a PC server.

Configuration using Web Tool

- Configuring **User List** (See: Administration > Administrators > User List)
- Configuring **User Level** (See: Administration > Administrators > User (Edit) > User Information > User Level)
- Configuring **User Password** (See: Administration > Administrators > User Password > User Password)

16.3.2 Basic Screen Layout of the Web Tool

The basic screen layout of the Web Tool is as follows:

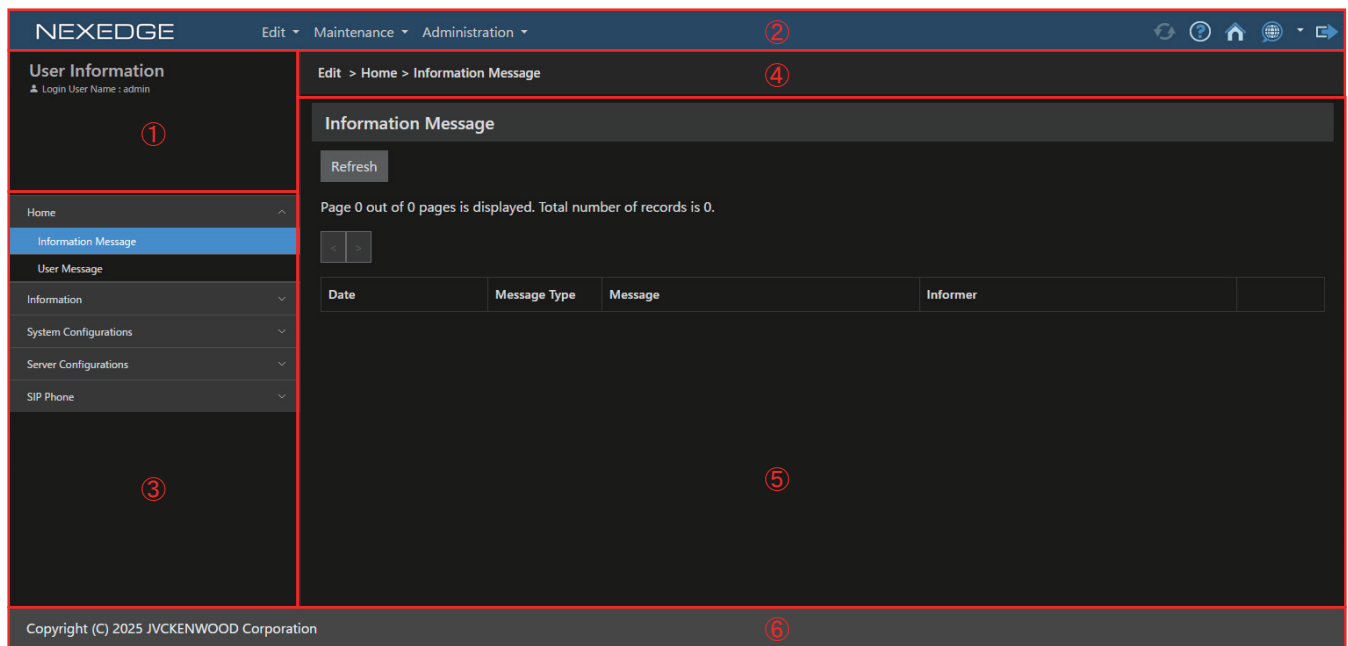


Figure 16-4 Basic Screen Layout of the Web Tool

Table 16-9 Basic Screen Layout of the Web Tool

No.	Name	Function
①	User information	Login information and update information of each configuration page are displayed.
②	Header	This field is commonly displayed in every page. Links to main configuration menus, etc. are displayed.
③	Navigation	Links to detailed menus related to the displayed page are displayed.
④	Main window	The hierarchy is displayed sequentially from the top page to the displayed page.
⑤	Main text	This field displays the main text of each page.
⑥	Footer	This field is commonly displayed in every page. The copyrights appear.

16.3.3 User Information

In User Information, the login information and the updated information of each configuration screen are displayed.

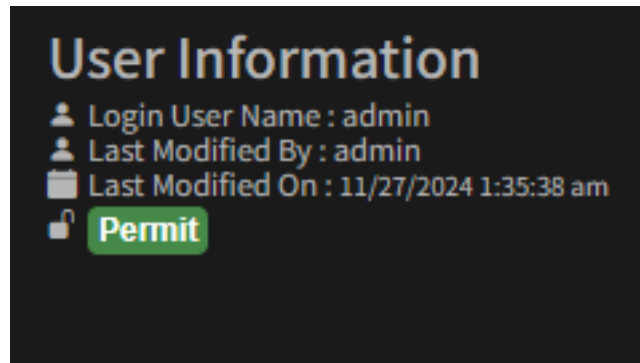


Figure 16-5 User Information (Example)

Table 16-10 User Information

Name	Description
Login User Name	The name of a logged-in user is displayed.
Created By	The name of the user to save the current screen configuration is displayed by using the "Add" button.
Created On	The time when the current screen configuration is saved is displayed by using the "Add" button.
Last Modified By	The name of the latest user to edit and save the current screen is displayed.
Last Modified On	The latest time of when the current screen is edited and saved is displayed.
Record Status	The update status of the current screen is displayed, and the following statuses are indicated: - Editing is available. - Edited by a logged-in user - Edited by a user other than a logged-in user

■ Login User Name

The **Login User Name** of a user logged in to the Web Tool is displayed.

Telephone Interconnect Gateway permits the login of multiple users (at the same time). Additionally, while logged in, if logging in as the same user is attempted from another browser or another PC, a warning of already being logged in is made, and the logging in cannot be done. A warning is also made related to access if the acceptable maximum number of logins is exceeded, and the logging in cannot be done.

Forcible logging out occurs according to the configuration in **Operation Timeout Timer** if the Web Tool is left without operation while being logged in.

Forcible logging out occurs if a firmware update, IP address change, subnet mask change, or default gateway change, etc. occurs.

Configuration using Web Tool

Configuring **Operation Timeout Timer** (See: Maintenance > Setting > Timer > Auto Logout)

■ Created By

Created By displays the user name of the user who first created the configuration data.

Created By is displayed in the edit screen of Administrators > User List only.

■ Created On

Created On displays the date and time of when the configuration data is first created the configuration data.

The display format of Created On follows the configuration in Date format and Time format.

Created On is displayed in the edit screen of Administrators > User List only.

Configuration using Web Tool

Configuring **Date** or **Time** in Formats (See: Maintenance > Setting > Formats> Date or Time)

■ Last Modified By

Last Modified By displays the user name of the user who last edited the configuration data.

■ Last Modified On

Last Modified On displays the date and time of when the configuration data is last edited.

The display format of Last Modified On follows the configuration in Date format and Time format.

Configuration using Web Tool

Configuring **Date** or **Time** in Formats (See: Maintenance > Setting > Formats> Date or Time)

■ Record Status

Record Status displays the update status for each page which can be edited.

Record Status is displayed in the edit screen. For the configuration to migrate to the edit screen by "Edit", **Record Status** can be displayed by clicking the "Edit" button.

Record Status is displayed as three images.

permit () Icon

Indicates that no user has edited and saved the current page.

All users can edit data on the page which displays this icon.

permit () Icon

Indicates that the own user is editing and saving the current page.

Only a user who is editing can edit data on the page which displays this icon.

forbid () Icon

Indicates that another user is editing and saving the current page.

A page which displays this icon cannot be edited.

16.3.4 Header

Each function of the header is described.



Figure 16-6 Header Screen

■ Menu

Menu is the main configuration menu commonly displayed on all pages. Because each menu is linked to various pages, clicking each menu allows a migration from the current page to the target page.

Clicking the menu displayed at the top of the page allows a migration to the corresponding page.

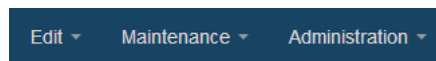
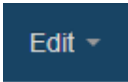
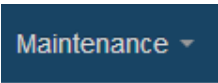
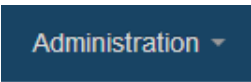


Figure 16-7 Menu (Header)

Table 16-11 Menu (Header)

Name		Description
Menu	Edit 	Edit is the entrance to view and edit the following functions: • Home • Information • System Configurations • Server Configurations • SIP Phone
	Maintenance 	Maintenance is the entrance to view and edit the following functions: • Log • System • Setting • Field Support
	Administration 	Administration is the entrance to view and edit the following functions: • Administrators • User Levels
Update 		Update reflects the data saved by clicking the “Save” button in anything other than the Maintenance menu and Administration menu to Telephone Interconnect Gateway. Clicking the “Update” button displayed at the upper right of each page reflects to Telephone Interconnect Gateway the data saved as configuration items which require updates.
Help 		Help displays the help text for the function of the displayed page. The search for an intended item from the contents of the help text is also available. Clicking “Help” at the upper right of each page displays the help text for the function of the displayed page in a new window. A table of contents is displayed at the left of the help screen, and migration occurs to the help text of a topic by selecting the topic.
Home 		Home is the function to migrate from the current page to the Home screen by clicking the “Home” button displayed at the upper right of each page. Refer to 16.4.1 Home on page 235 for details of the Home screen.

Name	Description
Language 	Language is the function to switch the Web Tool notation to the selected language by selecting the desired language. By clicking the “Language” switch button displayed at the upper right (the part framed in red), a pulldown list for switching languages is displayed. The language configuration selected in Language is retained for each user. The language which can be selected is one language from among English, Spanish, French, German, Italian, and Dutch.
Logout 	Logout is used to close the Web Tool. Clicking the “Logout” button displayed at the upper right of each page completes the logging out. Execute from the login operation when the Web Tool is used again.

16.3.5 Navigation

■ Menu

A detailed menu for the menu item selected by the header or navigation is displayed. Clicking the menu displayed at the left of each page allows a migration to the selected page. Because each menu is linked to various pages, migration from the current page to the target page is enabled.

16.3.6 Main Window

■ State

The hierarchy is displayed lined up sequentially from the top page to the currently displayed page.

The position for which page is currently displayed can be grasped.

16.3.7 Footer

■ Copyright

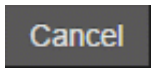
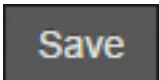
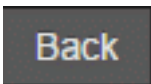
The copyrights are displayed. The copyrights are displayed at the position of the lower left of the screen.

16.3.8 Basic Operation Keys

In the basic operation keys, the following buttons are described:

- “Cancel” button
- “Save” button
- “Back” button
- “Delete” button
- Page Access Bar

Table 16-12 Basic Operation Keys

Button	Function
Cancel 	Clicking the “Cancel” button discards the changes added to the displayed page and restores the previously saved state. Depending on the configuration item, a warning is displayed for confirmation on whether a change can be discarded.
Save 	Clicking the “Save” button saves and writes to Telephone Interconnect Gateway the changes added to the displayed page. In the Maintenance menu and Administration menu, clicking the “Save” button saves and reflects the data in Telephone Interconnect Gateway. In this case, clicking the “Update” button is not required. In the Edit menu, although the changes added to the displayed page are saved by clicking the “Save” button, clicking the “Update” button is required to reflect in Telephone Interconnect Gateway. However, clicking the “Update” button is not required in Edit > Home > User Message because clicking only the “Save” button saves and reflects the data in Telephone Interconnect Gateway. Clicking the “Save” button without entering the required entry items causes an entry error and the added changes cannot be saved. While multiple users are logged in and accessing the same configuration page, if one user changes the configuration and saves, the other users cannot save the changed contents until the saved contents of the user who first changed the configuration are updated. If the “Save” button is clicked while the saved contents of the user who first changed the configuration are not updated, an error is displayed.
Back 	Clicking the “Back” button discards the changes added to the displayed page and restores the previous page.
Delete 	Clicking the “Delete” button deletes the corresponding item. A warning is displayed for confirmation on whether a deletion can be executed.

■ Page Access Bar

Page Access Bar is a key for easily moving to another page of a configuration list spanning multiple pages.

A maximum of 5 pages from the current page can be directly indicated by using the “|<<” button, “<” button, “>” button, and “>>|” button.

The displayed page number is displayed at the center.

For example, if there are 10 pages in total, pages 3 to 8 are displayed at the center, page 1 is displayed to the far left, and page 10 is displayed to the far right.

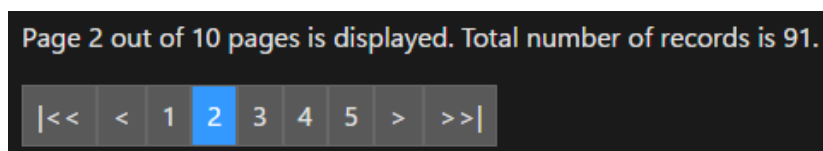


Figure 16-8 Example of Page Access Bar

Table 16-13 Page Access Bar

Button	Function
“ <<”	Allows a jump to the first page among the pages of the displayed configuration list.
“<”	Allows a jump to the previous page among the pages of the displayed configuration list.
“>”	Allows a jump to the next page among the pages of the displayed configuration list.
“>> ”	Allows a jump to the last page among the pages of the displayed configuration list.
“(page number)”	Allows a jump to the selected page number among the pages of the displayed configuration list.

16.4 Various Web Tool Functions (Edit)

16.4.1 Home

■ Information Message

Information Message is the function to communicate information among Web Tool users. By writing the information to be notified in User Message, such as the notification of configuration changes or of maintenance hours, each user can confirm the information when logging in to the Web Tool.

Information Message displays the message written in User Message.

Messages are displayed in order from the latest one, and a maximum of 1000 messages can be recorded. A message is deleted in order from the oldest message if 1000 messages are exceeded.

- A message is color-coded according to the information color of the recorded message, and displayed.
- When a SIP User ID/ Telephone Line UID that failed in Registration exists in the SIP Phone Server or a NEXEDGE 1st Generation Trunking System, a message indicating the Registration failure is displayed. Refer to [■ Registration Status](#) for details.

The screenshot shows the NEXEDGE web interface. The top navigation bar includes 'Edit', 'Maintenance', and 'Administration'. The left sidebar lists 'User Information' (Login User Name: admin), 'Home', 'Information Message' (selected), 'User Message', 'Information', 'System Configurations', 'Server Configurations', and 'SIP Phone'. The main content area is titled 'Edit > Home > Information Message' and contains a 'Refresh' button. Below this, it states 'Page 9 out of 10 pages is displayed. Total number of records is 91.' and shows pagination controls. A table displays the following messages:

Date	Message Type	Message	Informer	
11/17/2024 3:26:55 am	Important	Input the sample message3.	admin	Delete
11/17/2024 3:26:49 am	Priority	Input the sample message3.	admin	Delete
11/17/2024 3:26:44 am	Normal	Input the sample message3.	admin	Delete
11/17/2024 3:26:30 am	Urgent	Input the sample message2.	admin	Delete
11/17/2024 3:26:24 am	Important	Input the sample message2.	admin	Delete
11/17/2024 3:26:17 am	Priority	Input the sample message2.	admin	Delete
11/17/2024 3:25:54 am	Normal	Input the sample message2.	admin	Delete
11/17/2024 3:25:12 am	Important	Input the sample message.	admin	Delete
11/17/2024 3:24:51 am	Priority	Input the sample message.	admin	Delete
11/17/2024 3:24:18 am	Urgent	Input the sample message.	admin	Delete

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Figure 16-9 Information Message (Example)

In the Information Message screen, the following operations can be done:

Table 16-14 Information Message

Items	Description
Date	Displays the date and time of when a message was written. The order of latest arrival of messages can be determined by the written dates and times. The display format follows the Date format and Time format.
Message Type	Displays the type of message. The urgency and importance of a message can be confirmed. The Message Type characters are color-coded and displayed depending on the type of message. The displayed colors for Message Type are as follows: • Urgent ^{*1}: Red • Important: Green • Priority: Blue • Normal: White/ Black ^{*2} ^{*1} A message indicating the Registration failure is displayed as Urgent. ^{*2} Depending on the Color format, the displayed color is white when "Dark" is configured in Color , and black when "Light" is configured in Color .
Message	Displays the message entered by a user. The information, etc. to be shared among users can be confirmed. A maximum of 1000 messages can be recorded, and a message is deleted in order from the oldest message if 1000 messages are exceeded. A message indicating the Registration failure is displayed.
Informer	Displays the name of the user that wrote a message. The name of the user that wrote a message can be confirmed. • The name of the Web Tool user that wrote a message is displayed. • The Informer information is retained even if the user that wrote a message is cleared. NEXEDGE 1st Generation Trunking System appears for a message indicating the Registration failure.
"Delete" Button	A user can delete a message written by the user. This is used to stop the transmission of information. • The target message is deleted by clicking the "Delete" button. • A deleted message cannot be restored. • A user with Admin privileges can also delete the message written by another user. • A "Delete" button is allocated to each message, and is in the active state for only the user that wrote the message.
"Refresh" Button	Updates the indicated contents of Information Message to the latest status. This is used when confirmation of the latest information is required, such as when multiple users are logged in. Clicking the "Refresh" button reads the latest message information written by a user, and the message information is displayed again.
Page Access Bar	Page Access Bar is a key for easily moving to another page of a configuration list spanning multiple pages. A maximum of 5 pages from the current page can be directly indicated by using the " <<" button, "<" button, ">" button, and ">> " button.

Configuration using Web Tool

- Configuring **Registration Status** (See: Edit > Home > Information Message > Information Message)
- Configuring **Color** in Formats (See: Maintenance > Setting > Formats > Color)

■ User Message

In User Message, the message to be notified to a user can be written.

A message written in User Message is displayed in Information Message.

Figure 16-10 User Message

In the User Message screen, the following operations can be done:

Table 16-15 User Message

Items	Description
Message Type	Configures the type of message. The urgency and importance of a message can be confirmed by configuring the Message Type characters displayed in Information Message color-coded depending on the type of message. The configured colors for Message Type are as follows: • Urgent: Red • Important: Green • Priority: Blue • Normal ^{*1}: White/ Black ^{*2} ^{*1} Always becomes Normal immediately after migration to the User Message screen. ^{*2} Depending on the Color format, the displayed color is white when "Dark" is configured in Color, and black when "Light" is configured in Color.
User Message	The message to be shared is entered. In User Message, the information to be shared with other Web Tool users is entered.
"Save" Button	Records the message entered in User Message.

Configuration using Web Tool

Configuring **Color** in Formats (See: Maintenance > Setting > Formats > Color)

16.4.2 Information

■ Information

In **Information**, the unique information of a PC server and the functions with license authentication can be confirmed, and the license authentication can be executed. Because the license file used for license authentication is supplied and managed by JVCKENWOOD, the charge for the software and unauthorized use of the license file can be prevented.

- In Server Information, the unique information of a PC server is displayed.
- In License Information, the function authorized by the license is displayed.
- In License Activation, license authentication by using the license file can be done.

The screenshot shows the NEXEDGE web interface. The top navigation bar includes 'Edit', 'Maintenance', and 'Administration'. The left sidebar lists navigation options: 'Home', 'Information' (selected), 'SSL Certificate', 'System Configurations', 'Server Configurations', and 'SIP Phone'. The main content area is titled 'Edit > Information' and contains several sections:

- Server Information:** Displays the 'Device ID' as '*1LW XHSQ ZPK5 BABH' with a 'Copy' button.
- License Information:** Contains a table with columns 'License' and 'Description'.
- License Activation:** Includes 'Browse...' and 'Activate' buttons, followed by another table with columns 'License' and 'Description'.
- Software License Agreement:** Includes a 'View' button.

The footer of the interface states: 'Copyright (C) 2025 JVCKENWOOD Corporation'.

Figure 16-11 Information

In the Information screen, the following operations can be done:

Table 16-16 Information

Name	Items	Description
Server Information	Device ID	This is the unique information of a PC server. This is required to request the issuance of a license file. If this matches a Device ID registered in a license file, the license authentication succeeds.
	"Copy" Button	Copies a Device ID to the clipboard.
License Information	License	Displays the names of the functions with license authentication. The names of the functions permitted for use can be confirmed.
	Description	Displays the descriptions of the functions with license authentication. The descriptions about the functions permitted for use can be confirmed.
License Activation	License	Displays the names of the functions registered in the license file. The names of the functions to permit for use can be confirmed. Clicking the "Browse..." button displays the names of the functions registered in the selected license file.
	Description	Displays the descriptions of the functions registered in the license file. The descriptions about the functions to permit for use can be confirmed. Clicking the "Browse..." button displays the descriptions about the functions registered in the selected license file.
	"Browse..." Button	This is the function to select the license file. Clicking the "Browse" button and selecting the license file displays in License/Description the license information registered in the license file. If the unique information of a PC server and a Device ID registered in the license file do not match, or if the license file is corrupt, an error message appears. Clicking the "Activate" button is required to perform license authentication.
	"Activate" Button	This is the function to execute license authentication. The function succeeded in license authentication can be configured by using the Web Tool. Clicking the "Activate" button executes license authentication by using the selected license file. An error message appears when authentication fails. When a license file is selected by using the "Browse..." button, the "Activate" button is activated. A message indicating success appears when license authentication succeeds.
Software License Agreement	"View" Button	Displays the license articles related to Telephone Interconnect Gateway. Clicking the "View" button displays the following licenses: • License agreement of Telephone Interconnect Gateway • License articles of the OSS used in Telephone Interconnect Gateway • Important announcements related to the software of Telephone Interconnect Gateway

■ SSL Certificate

SSL Certificate is the function to display the information on the server certificate registered in Telephone Interconnect Gateway.

If **Apply CA Certificate** is not enabled, the Device ID of Telephone Interconnect Gateway is displayed as the Common Name.

If the server certificate is uploaded to Telephone Interconnect Gateway by using CA Certificate Install and Apply CA Certificate is enabled, the content of the uploaded server certificate is displayed.

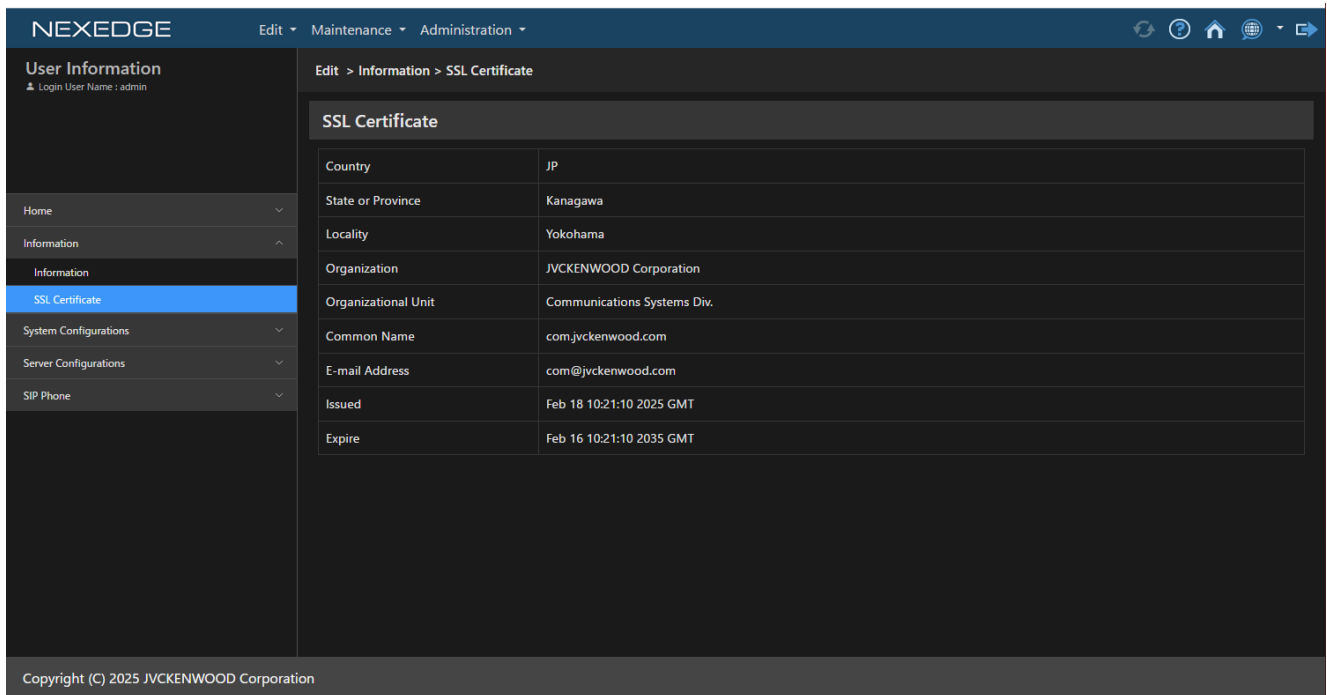


Figure 16-12 SSL Certificate

In the SSL Certificate screen, the two pieces of information below are displayed.

The following is the information specified by the user in the request (Certificate Signing Request) issued for acquiring a server certificate from the certificate authority:

Table 16-17 Certificate (Certificate Signing Request)

Items	Description
Country	Normally, the location (country name) of the site administration organization is specified.
State or Province	Normally, the location (state name or prefecture name) of the site administration organization is specified.
Locality	Normally, the location (city name) of the site administration organization is specified.
Organization	Normally, the site administration organization name is specified.
Organizational Unit	Normally, the department name, etc. of the site administration organization is specified.
Common Name	Normally, the URL domain name notified to a site visitor is specified.
E-mail Address	Normally, the email address of the site administration organization is specified.

The following is the information to be added when the certificate authority issues a server certificate:

Table 16-18 SSL Certificate (Information Added When Issued)

Items	Description
Issued	The issued date of the applied server certificate is displayed.
Expire	The expiration date of the applied server certificate is displayed.

16.4.3 System Configurations

■ General

In General, the various information to connect Telephone Interconnect Gateway to a NEXEDGE 1st Generation Trunking System is configured.

The system information of the System to be connected to Telephone Interconnect Gateway needs to be configured.

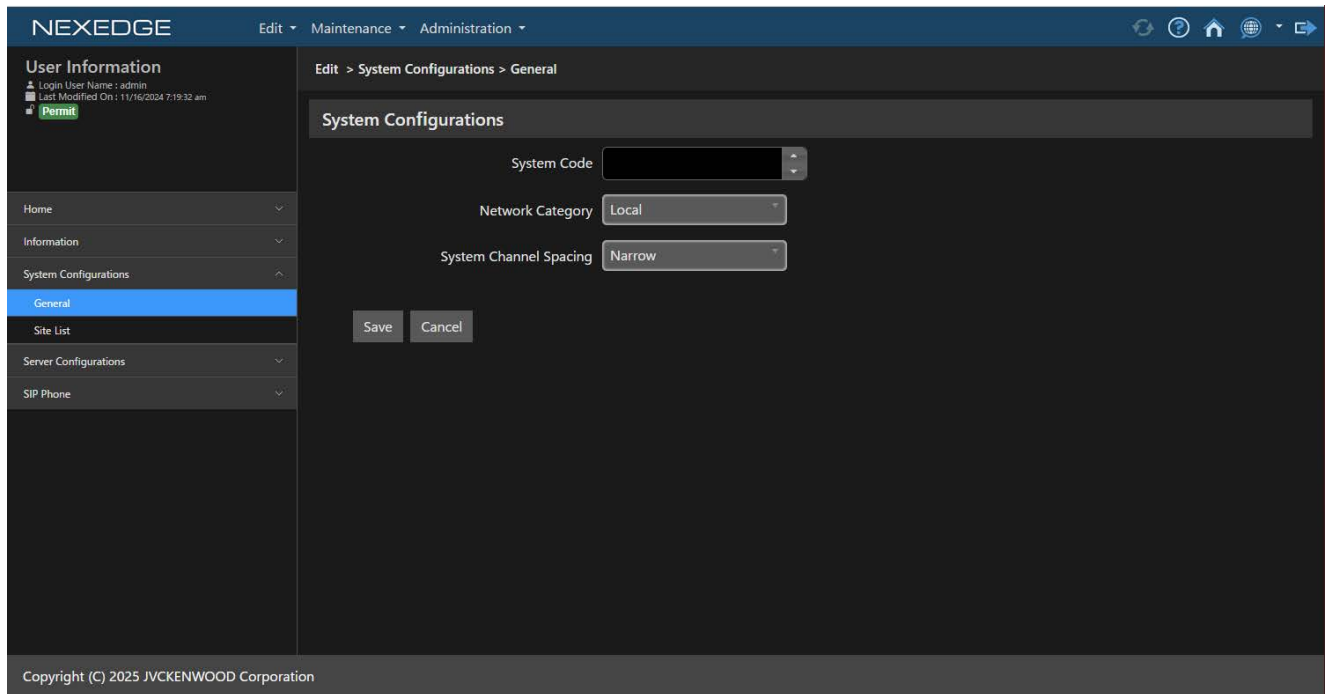


Figure 16-13 System Configurations

In the System Configurations screen, the following operations can be done:

Table 16-19 System Configurations

Items	Description
System Code	Configures the system unique number of a System to connect. Refer to ■ General > System Code for details.
Network Category	Configures the scale of the network that can be expanded for a System to connect. Refer to ■ General > Network Category for details.
System Channel Spacing	Configures the channel bandwidth of a System to connect.

Note:

- ◆ Saving cannot be done while another user is editing Site List or SIP User ID List.

■ General > System Code

In System Code, the system unique number of a NEXEDGE 1st Generation Trunking System to connect is configured. JVCKENWOOD specifies and manages it individually. For this number, a unique number is assigned by JVCKENWOOD, and managed globally. For that, the system information of a System to connect needs to be configured.

In System Code, Range varies according to the Network Category.

System Code is the number unique to a system.

Table 16-20 Network Category (System Code)

Network Category	Location ID			Remarks
	Category BIT	System Code	Site Number	
Regional	10	1 to 16382 (14 bit)	1 to 254 (8 bit)	Connection to a maximum of 48 sites is supported.
Local	01	1 to 131070 (17 bit)	1 to 30 (5 bit)	Connection to a maximum of 30 sites is supported.

Configuration using Web Tool

Configuring **Network Category** (See: Edit > System Configurations > General > System Configurations > Network CatGeneral > Network Category)

■ General > Network Category

In Network Category, the scale of the network that can be expanded for a System to connect is configured. The maximum number of sites that can be connected varies for each category in Network Category. For that, the system information of a System to connect needs to be configured.

In Network Category, there are 2 types of configuration items ("Regional" and "Local"), and the maximum number of sites that can be connected varies.

Configuration using Web Tool

- Configuring **System Code** (See: Edit > System Configurations > General > System Configurations > System Code)
- Configuring **Site Number** in Site List (See: Edit > System Configurations > Site List > Site List > Site Number)
- Configuring **Site Number** in SIP User ID List (See: Edit > SIP Phone > SIP User ID List > SIP User ID List > Site Number)

■ General > System Channel Spacing

In System Channel Spacing, the channel bandwidth of a NEXEDGE 1st Generation Trunking System to connect is configured. Select from the following two items according to the transmit and receive frequencies available for a System to connect:

- Very Narrow
- Narrow

Transmission and reception is performed on each channel according to the configured bandwidth.

Configuration using Web Tool

Configuring **System Channel Spacing** (See: Edit > System Configurations > General > System Configurations > System Channel Spacing)

■ Site List

In Site List, all site data is displayed in a list. A system administrator can confirm every site data in operation. Also, the site data can be added, deleted, and edited. For that, the site information of the System to be connected to Telephone Interconnect Gateway needs to be configured. In Site List, the following items are displayed:

The screenshot shows the NEXEDGE web interface. The top navigation bar includes 'Edit', 'Maintenance', and 'Administration'. The left sidebar shows 'User Information' and a list of navigation items: Home, Information, System Configurations, General, Site List (highlighted), Server Configurations, and SIP Phone. The main content area is titled 'Edit > System Configurations > Site List'. It features a 'Site List' section with an 'Edit' button and a search input. Below this, it states 'Page 1 out of 1 pages is displayed. Total number of records is 1.' A table displays the site information:

No.	Site Number	Valid	Site Name	IP Address
1	1	ON	Site 1	192.168.1.1

The footer of the interface indicates 'Copyright (C) 2025 JVCKENWOOD Corporation'.

Figure 16-14 Site List

In the Site List screen, the following operations can be done:

Table 16-21 Site List

Items	Description
No.	The number indicating the order of a configured site is displayed.
Site Number	In Site Number , the number of a site can be displayed and configured. The configuration must match the Site Number of the NEXEDGE 1st Generation Trunking System to connect. The valid range of the Site Number varies according to the Network Category. - For Regional in Network Category: The Site Number range is from 1 to 48. - For Local in Network Category: The Site Number range is from 1 to 30.
Valid	Valid is the function to select the availability of Interconnect Call in the configured site. For a system administrator to temporarily suspend the use of Interconnect Call in the site, the temporary suspension of the use of Interconnect Call in the site can be realized without deleting the configuration of the site by disabling Valid . Valid configuration: OFF Telephone Interconnect Gateway prohibits the use of Interconnect Call in the site. Valid configuration: ON Telephone Interconnect Gateway permits the use of Interconnect Call in the site. Note: ◆ The Warning screen appears and ON cannot be enabled if the Site Number of the site to be changed from OFF to ON in Valid exceeds the range available to enable Valid. ◆ The range of the Site Numbers for which Valid can be enabled varies according to the configuration in Network Category.
Site Name	Site Name is the function to configure the name of a site. To identify the site easier, an arbitrary name is configured. - A maximum of 32 characters can be configured in Site Name. - The name configured for each site is displayed in a list in Site List.
IP Address	IP Address is the function to configure the IP address of the site to connect. In a NEXEDGE 1st Generation Trunking System, the IP address of the site is the IP address of the repeater which is the lowest channel number in the site.
"Edit" Button	A user with the Modify privileges can edit the site data configuration.
"Add" Button	A user with Modify privileges can add new site data.
"Search" Button	A user with the View privileges can search site data.
"Save" Button	The editing of site data is saved, and the Site List list screen is restored.
"Cancel" Button	The editing of site data is discarded, and the Site List list screen is restored.
"Delete" Button	A user with Modify privileges can delete site data.
Page Access Bar	Page Access Bar is a key for easily moving to another page of a configuration list spanning multiple pages.

The "Edit" button and "Search" button are placed at the top of the Site List list screen.

By clicking the "Edit" button to move to the edit screen, the "Delete" button is placed for each site in Site List, and the "Add" button, "Save" button, and "Cancel" button are placed at the top.

If you move to another screen without clicking the "Save" button, or you click the "Cancel" button, a Warning screen is displayed.

Configuration using Web Tool

Configuring **Network Category** (See: Edit > System Configurations > General > System Configurations > Network Category)

16.4.4 Server Configurations

In Server Configurations, the following items can be configured:

- Jitter Buffer
- SNMP Interface

The Server Configurations > Network screen is as follows:

The screenshot displays the NEXEDGE web interface. The top navigation bar includes 'Edit', 'Maintenance', and 'Administration'. The left sidebar shows 'User Information' (Login User Name: admin, Last Modified On: 11/16/2024 7:19:32 am, Permit) and a menu with 'Home', 'Information', 'System Configurations', 'Server Configurations', 'Network' (highlighted), and 'SIP Phone'. The main content area is titled 'Edit > Server Configurations > Network'. It contains two sections: 'Jitter Buffer' and 'SNMP Interface'. The 'Jitter Buffer' section has two input fields: 'Maximum Jitter Buffer Size [ms]' with a value of 400 and 'Minimum Jitter Buffer Size [ms]' with a value of 80. The 'SNMP Interface' section has a toggle switch for 'SNMP Interface' set to 'Off', a 'Community Name' text field, and four 'Trap Destination Address' text fields (1 through 4). At the bottom of the main area are 'Save' and 'Cancel' buttons. The footer of the interface states 'Copyright (C) 2025 JVCKENWOOD Corporation'.

Figure 16-15 Server Configurations > Network

■ Jitter Buffer

The Jitter Buffer is a buffer memory that absorbs the phenomenon of packets arriving at different intervals (jitter) in the network. To absorb the jitter, Telephone Interconnect Gateway holds the received packets in the Jitter Buffer and forwards the packets held in the Jitter Buffer at regular intervals. This action reduces the jitter when Telephone Interconnect Gateway relays the voice packets and prevents the receiving transceiver from experiencing sound interruptions.

Maximum Jitter Buffer Size/Minimum Jitter Buffer Size allows you to adjust the maximum and minimum number of packets retained in the jitter buffer.

Increasing the Jitter Buffer Size increases the delay of audio but reduces the chance of audio breaks.

Reducing the Jitter Buffer Size increases the chance of audio breaks but reduces the delay of audio.

Maximum Jitter Buffer Size/Minimum Jitter Buffer Size allows you to adjust the maximum and minimum number of packets retained in the jitter buffer for a specified time. Telephone Interconnect Gateway retains the number of packets in the jitter buffer for the specified time.

When Telephone Interconnect Gateway retains received packets in the jitter buffer and exceeds the Minimum Jitter Buffer Size, it starts forwarding the packets retained in the jitter buffer. If there are no packets to be forwarded in the jitter buffer after the start of forwarding, the voice packets are not forwarded, resulting in a sound break in the receiving transceiver.

When Telephone Interconnect Gateway retains received packets in the jitter buffer and exceeds the Maximum Jitter Buffer Size, it discards the received packets. When the received packets are discarded, a sound break occurs in the receiving transceiver.

Note:

- ◆ For the configuration value of Jitter Buffer, refer to the KPG-1014GW Web Tool help topics.

■ SNMP Interface

SNMP Interface is the function to configure whether to permit or prohibit the monitoring of Telephone Interconnect Gateway by using SNMP (Simple Network Management Protocol). The operation status of Telephone Interconnect Gateway can be confirmed by SNMP Interface. The following monitoring items are supported by Telephone Interconnect Gateway. Also, the described MIB OIDs are the OIDs of the subtree. The objects under the subtree are supported.

Table 16-22 Polling

Item Name	Subtree OID	Supported SNMP Ver.	
		v1	v2c
Memory Usage	1.3.6.1.4.1.2021.4	Yes	Yes
Disk Usage	1.3.6.1.4.1.2021.9.1	Yes	Yes
CPU Usage Rate	1.3.6.1.4.1.2021.10.1	Yes	Yes
System Operating Time	1.3.6.1.2.1.25.1.1	Yes	Yes
System Date and Time	1.3.6.1.2.1.25.1.2	Yes	Yes
Interface Information	1.3.6.1.2.1.2.2.1	Yes	Yes

Yes: Supported

No: Not supported

Table 16-23 Trap

Item Name	Subtree OID	Supported SNMP Ver.	
		v1	v2c
Generic Trap Specified in RFC 1157	1.3.6.1.6.3.1.1.5	Yes	Yes
SNMP Notification Information	1.3.6.1.4.1.8072.4.0	Yes	Yes
corosync	1.3.6.1.4.1.35488	No	Yes
Pacemaker	1.3.6.1.4.1.32723	No	Yes
NEXEDGE System Registration Failure	1.3.6.1.4.1.46861.1.1.1.4.9.2	No	Yes
SIP Phone Server Registration Failure	1.3.6.1.4.1.46861.1.1.1.4.8.2	No	Yes

Yes: Supported

No: Not supported

Telephone Interconnect Gateway responds to SNMP requests (polling) and notifies of state changes (trap).

SNMP Interface configuration: ON

Responds to polling. Also, trap notification is performed.

SNMP Interface configuration: OFF

Does not respond to polling. Also, trap notification is not performed.

Refer to Local Redundancy Setting Guide for the trap notification configuration by corosync and Pacemaker.

Configuration using Web Tool

- Configuring **SNMP Interface** to be enabled or disabled (See: Edit > Server Configurations > Network > SNMP Interface > SNMP Interface)
- Configuring **Community Name** (See: Edit > Server Configurations > Network > SNMP Interface > Community Name)
- Configuring **Trap Destination Address** (See: Edit > Server Configurations > Network > SNMP Interface > Trap Destination Address 1, Trap Destination Address 2, Trap Destination Address 3, Trap Destination Address 4)

■ SNMP Interface > Community Name

Community Name is the password required for information acquisition by SNMP. Also, the Community Name is added when the generic trap specified in RFC 1157 and SNMP notification information are notified.

If the Community Name added to an SNMP request matches **Community Name** configured for Telephone Interconnect Gateway, Telephone Interconnect Gateway returns the requested MIB information as a response.

If a polling that does not match the Community Name is received, Telephone Interconnect Gateway returns the generic trap “authenticationFailure” specified in RFC 1157.

If the Community Name of Telephone Interconnect Gateway is blank and a polling is received, Telephone Interconnect Gateway returns the generic trap “authenticationFailure” specified in RFC 1157.

Refer to Local Redundancy Setting Guide for the Community Name configuration of the trap by corosync and Pacemaker.

■ SNMP Interface > Trap Destination Address

In Trap Destination Address, up to 4 trap destination addresses (the IP Address or host name) can be configured.

For Trap Destination Address, a trap is notified to the configured Trap Destination Address when a failure value occurs.

Trap Destination Address is the destination for the generic trap specified in RFC 1157 and SNMP notification information.

Refer to Local Redundancy Setting Guide for the trap destination by corosync and Pacemaker.

16.4.5 SIP Phone

By connecting Telephone Interconnect Gateway to the SIP Phone Server, calls to PABX/ PSTN phones can be made.

To connect to the SIP Phone Server with Telephone Interconnect Gateway, license authentication is required. Refer to the [16.1.6 License Key on page 225](#) chapter for details.

A call between a subscriber unit and the telephone is described. The terms used in the description are as follows:

Table 16-24 SIP Phone Terms

Terms	Description
SIP User ID	This is an extension number configured for Asterisk. When a call request to a SIP User ID is received, Asterisk initiates a call to the corresponding extension number or external number.
Telephone Line UID	This is a UID of the Telephone Line used by NEXEDGE 1st Generation Trunking System for an Interconnect Call.
PSTN Phone Number	PSTN Phone Number shall refer to the telephone number obtained from PSTN service subscription in this explanation.
Ring Back Tone	Ring Back Tone is the calling tone and sounds for the caller.
Ring Tone	Ring Tone is the incoming call tone and sounds for the recipient.
Busy Tone	Busy Tone is the busy tone and sounds for the caller.

Table 16-25 In the Case of a Transceiver Call to PABX

Transmit Operation	Auto Dial	Entry: Extension number
Destination	Extension number	
	A NEXEDGE 1st Generation Trunking System assigns the currently available Telephone Line UID. Telephone Interconnect Gateway notifies Asterisk of a call request with the SIP User ID that corresponds to a Telephone Line UID notified from the System.	
	SIP User ID that corresponds to a Telephone Line UID	
	Asterisk calls the extension number to the notified from the SIP User ID. A SIP User ID and extension number are linked in the Asterisk configuration.	
Ring Back Tone	Sounds	Sounds according to the Asterisk indications.conf "country" configuration.
Ring Tone	Sounds	Depends on the telephone specifications (Telephone Interconnect Gateway notifies Asterisk of INVITE.)
Busy Tone	Selectable	Selectable whether to sound according to the Asterisk "Busy" configuration
Receive Operation	The receive operation is performed by using a telephone.	
Remarks	The relationship of a SIP User ID and extension number is one-to-one. Telephone Interconnect Gateway notifies the System of the caller ID of an audio signal from a telephone as FFF1.	

Table 16-26 In the Case of a Transceiver Call to PSTN

Transmit Operation	Auto Dial	Entry: External number
Destination	External number	
	A NEXEDGE 1st Generation Trunking System assigns the currently available Telephone Line UID. Telephone Interconnect Gateway notifies Asterisk of a call request with the SIP User ID that corresponds to a Telephone Line UID notified from the System.	
	SIP User ID that corresponds to a Telephone Line UID	
	Asterisk calls the external number to the notified from the PSTN Phone Number. However, if there are multiple PSTN Phone Numbers, the available number is automatically assigned. A SIP User ID and PSTN Phone Number are linked in the Asterisk configuration	
Ring Back Tone	Sounds	Sounds according to the Asterisk indications.conf "country" configuration.
Ring Tone	Sounds	Depends on the telephone specifications (Telephone Interconnect Gateway notifies Asterisk of INVITE.)
Busy Tone	Selectable	Selectable whether to sound according to the Asterisk "Busy" configuration
Receive Operation	The receive operation is performed by using a telephone.	
Remarks	Telephone Interconnect Gateway notifies the System of the caller ID of an audio signal from a telephone as FFF1.	

To change the tone, edit the indications.conf file by using the vi editor.

The following is the sample:

(omitted)

[general]

;country=us ; default location (Disable the configuration by prefixing ";;".)

country=it ; Italy (Configure the tone by changing to the desired country.)

(omitted)

Table 16-27 In the Case of telephone to PABX

Transmit Operation	Dialing operation	Entry: SIP User ID + Call Type & NXDN ID
Destination	NXDN ID	
	After the SIP User ID is entered by the dialing operation, Asterisk makes the request to enter the Call Type and NXDN ID of the destination by IVR. Based on the notified SIP User ID, Asterisk notifies Telephone Interconnect Gateway of a call request according to the configuration. Telephone Interconnect Gateway notifies the System of a call request with the Telephone Line UID corresponding to the SIP User ID notified by Asterisk.	
Ring Back Tone	Individual Sounds	Sounds according to the Asterisk indications.conf "country" configuration
	Group Does not sound.	Does not sound.
Ring Tone	Individual Sounds	Sounds according to the transceiver's own configuration, although the called transceiver remains on the control channel.
	Group Sounds	Sounds according to the transceiver's own configuration.
Busy Tone	Individual Does not sound.	Depends on the telephone specifications (Telephone Interconnect Gateway notifies Asterisk of an error response.)
	Group Does not sound.	Depends on the telephone specifications (Telephone Interconnect Gateway notifies Asterisk of an error response.)
Receive Operation	Individual	PTT is pressed on the transceiver.
	Group	No receive operation
Remarks	Telephone Interconnect Gateway notifies the System of the caller ID of an audio signal from a telephone as FFF1. The configuration of Asterisk is required for notification.	

Table 16-28 In the Case of Telephone to PSTN

Transmit Operation	Dialing operation	Entry: PSTN Phone Number + Call Type & NXDN ID
Destination	NXDN ID	
	After the PSTN Phone Number is entered by the dialing operation, Asterisk makes the request to enter the Call Type and NXDN ID of the destination by IVR. Based on the notified PSTN Phone Number, Asterisk automatically assigns the currently available SIP User ID, and notifies Telephone Interconnect Gateway of a call request. The PSTN Phone Number and SIP User ID are assigned in the Asterisk configuration. Telephone Interconnect Gateway notifies the System of a call request with the Telephone Line UID corresponding to the SIP User ID notified by Asterisk.	
Ring Back Tone	Individual Sounds	Sounds according to the Asterisk indications.conf "country" configuration.
	Group Does not sound.	Does not sound.
Ring Tone	Individual Sounds	Sounds according to the transceiver's own configuration, although the called transceiver remains on the control channel.
	Group Sounds	Sounds according to the transceiver's own configuration.
Busy Tone	Individual Does not sound.	Depends on the telephone specifications (Telephone Interconnect Gateway notifies Asterisk of an error response.)
	Group Does not sound.	Depends on the telephone specifications (Telephone Interconnect Gateway notifies Asterisk of an error response.)
Receive Operation	Individual	PTT is pressed on the transceiver.
	Group	No receive operation
Remarks	Telephone Interconnect Gateway notifies the System of the caller ID of an audio signal from a telephone as FFF1. The configuration of Asterisk is required for notification.	

Note:

- ◆ Entering 0 for the ID entry can make an All Group Call from a telephone.
- ◆ A call using Null Group ID is not supported.
- ◆ A call using Scrambler and AES/DES Encryption is not supported.
- ◆ To make a call to a telephone on the PSTN side, the SIP User ID corresponding to the telephone number obtained by PSTN service subscription must be configured in Asterisk. The SIP session between Asterisk and the PSTN network is connected by this SIP User ID.

■ SIP Phone Server

In SIP Phone Server, the configuration required for connection to a SIP Phone Server and the configuration related to communication with a SIP Phone Server are done.

The screenshot displays the NEXEDGE web interface for configuring the SIP Phone Server. The left sidebar shows the navigation menu with 'SIP Phone Server' highlighted. The main content area is titled 'Edit > SIP Phone > SIP Phone Server' and contains several configuration sections:

- SIP Phone Server:** Includes fields for 'Address', 'Port' (set to 5060), and a toggle for 'Enable TLS' (set to OFF).
- SIP Phone Timers:** Includes a field for 'Expires [s]' (set to 1800).
- Tone:** Includes a field for 'Proceed Tone [ms]' (set to 80).
- VOX:** Includes fields for 'VOX Gain Level' (set to 5) and 'VOX Delay Time [s]' (set to 1.0).

At the bottom of the configuration area are 'Save' and 'Cancel' buttons. The footer of the interface indicates 'Copyright (C) 2025 JVCKENWOOD Corporation'.

Figure 16-16 SIP Phone Server

In the SIP Phone Server screen, the following operations can be done:

Table 16-29 SIP Phone Server

Name	Items	Description
SIP Phone Server	Address	Address is the function to configure the address (the IP Address or host name) of the SIP Phone Server to connect.
	Port	Port is the function to configure the receive port and call control port of the SIP Phone Server to connect.
	Enable TLS	This is the function to switch the session between the SIP Phone Server and Telephone Interconnect Gateway to TLS. TLS is a mechanism which can use communications between various server clients using TCP/ IP as secure communication paths. By enabling Enable TLS, Telephone Interconnect Gateway can encrypt the SIP session to a SIP Phone Server. This allows information such as the unique ID used for connection to the SIP Phone Server to be concealed. Enable TLS configuration: ON TLS is enabled and the SIP session is encrypted. Enable TLS configuration: OFF A normal SIP session is used.
SIP Phone Timers	Expires	The registration expiration date of a SIP User ID for the SIP Phone Server of Telephone Interconnect Gateway is configured. Before the validity period expires, Registration to a SIP Phone Server is performed by Telephone Interconnect Gateway.
Tone	Proceed Tone	The length of the tone that sounds from the telephone when a subscriber unit ends transmission can be configured. By hearing this tone, the user of the telephone can know that transmission of the subscriber unit has finished and can determine the timing of starting the call. When the subscriber unit becomes PTT OFF, a tone is output to the phone for the duration configured in Proceed Tone. Note: ◆ A tone does sound if 0 ms is configured in Proceed Tone.
VOX	VOX Gain Level	The input sensitivity of telephone audio for the VOX behavior during a Group Call is configured. This function is used to determine that there is no audio input from the telephone. The input sensitivity of telephone audio for the VOX behavior during a Group Call is configured between 1 (low sensitivity) to 10 (high sensitivity).
	VOX Delay Time	The retained duration of transmission after the telephone stops receiving audio when VOX behaves during a Group Call is configured. This function is used to prevent interruption of transmitted audio. The transmission is retained for the duration configured in VOX Delay Time after the telephone stops receiving audio when VOX behaves during a Group Call.

Note:

- ◆ VOX is the function to determine that there is no audio input from the telephone.

■ SIP User ID List

SIP User ID List displays the configured SIP User IDs in a list. A system administrator can confirm every SIP User ID in operation. Also, the SIP User ID can be added, deleted, and edited. The ID information of a SIP Phone Server and of NEXEDGE 1st Generation Trunking System to be connected to Telephone Interconnect Gateway needs to be configured.

A list of User IDs to perform SIP connection to a SIP Phone Server by Telephone Interconnect Gateway is displayed.

The screenshot displays the NEXEDGE web interface for managing SIP User IDs. The main content area shows a table with the following data:

No.	Valid	SIP User ID	SIP User ID Name	Comment	Site Number	Telephone Line UID	SIP Authentication Password	
1	ON	1	User 1		1-Site 1	1		Refresh Delete
2	ON	2	User 2		1-Site 1	2		Refresh Delete

The interface also includes an 'Add' button, a search bar, and 'Save' and 'Cancel' buttons. The left sidebar shows the navigation menu with 'SIP User ID List (KPG)' selected. The footer indicates 'Copyright (C) 2025 IWCKENWOOD Corporation'.

Figure 16-17 SIP User ID List

In the SIP User ID List screen, the following operations can be executed:

Table 16-30 SIP User ID List

Items	Description
No.	The number indicating the order of a SIP User ID is displayed.
Valid	Valid is the function to select the availability of a SIP User ID. To temporarily suspend the use of a specific SIP User ID, the temporary suspension of the use of a specific SIP User ID can be realized without deleting the configuration of the SIP User ID by disabling Valid. Valid configuration: ON The use of SIP User ID is permitted by Telephone Interconnect Gateway. Valid configuration: OFF The use of SIP User ID is prohibited by Telephone Interconnect Gateway.
SIP User ID	SIP User ID is the ID to perform SIP connection to a SIP Phone Server by Telephone Interconnect Gateway. By using a configured SIP User ID, Registration to a SIP Phone Server is performed by Telephone Interconnect Gateway. Therefore, the same ID as the SIP User ID needs to be registered beforehand for the SIP Phone Server.
SIP User ID Name	SIP User ID Name is the name that indicates a SIP User ID. For SIP User ID Name, an arbitrary name can be configured. By configuring SIP User ID Name, a SIP User ID can be identified and managed. The name of the SIP User ID configured for each SIP User ID is displayed.
Comment	Comment is a comment related to the registered SIP User ID. The information related to a SIP User ID can be recorded. An arbitrary text message can be entered to easily confirm a SIP User ID in the Web Tool.
Site Number	The number that corresponds to a Telephone Line UID is displayed. In Site Number, the site number of a System that corresponds to a Telephone Line UID can be displayed and configured. The configuration must match the Site Number of the System. The valid range of the Site Number varies according to the Network Category. - For Regional in Network Category: The Site Number range is from 1 to 48. - For Local in Network Category: The Site Number range is from 1 to 30. Note: - Only the Site Numbers registered in the Site List can be selected. - The Site Name corresponding to the Site Number registered in the Site List can also be selected.
Telephone Line UID	In Telephone Line UID , the Telephone Line UID of the System that corresponds to a SIP User ID can be displayed and configured. The configuration must match the UID in the Telephone Line List of the System.
SIP Authentication Password	The connection password configured for a SIP User ID is displayed.
Page Access Bar	Page Access Bar is a key for easily moving to another page of a configuration list spanning multiple pages. A maximum of 5 pages from the current page can be directly indicated by using the “ <<” button, “<” button, “>” button, and “>> ” button.
“Edit” Button	A user with the Modify privileges can edit the SIP User ID List.
“Password” Button	A user with the Modify privileges can edit the password of a SIP User ID.
“Add” Button	A user with Modify privileges can add a new SIP User ID. For the maximum number of SIP User IDs that can be registered, refer to 16.1.5 Capacity on page 225 .
“Delete” Button	A user with Modify privileges can delete a SIP User ID.
“Search” Button	A user with the View privileges can search SIP User IDs.
“Save” Button	The editing of a SIP User ID List is saved, and the SIP User ID List list screen is restored.
“Cancel” Button	The editing of a SIP User ID List is discarded, and the SIP User ID List list screen is restored.

The “Edit” button and “Search” button are placed at the top of the SIP User ID List list screen.

If SIP User ID List is not configured, SIP User ID List is blank.

If SIP User ID List is configured, the “Password” button is placed for each SIP User ID.

By clicking the “Edit” button to move to the SIP User ID List edit screen, the “Add” button, “Save” button, and “Cancel” button are placed at the top, and the “Delete” button is placed for each SIP User ID.

If you move to another screen without clicking the “Save” button, or you click the “Cancel” button, a Warning screen is displayed.

Configuration using Web Tool

- Configuring **Site List** (See: Edit > System Configurations > Site List > Site List)
- Configuring **Network Category** (See: Edit > System Configurations > General > System Configurations > Network Category)

■ SIP Authentication Password

This is the password for the session connection between the SIP Phone Server and Telephone Interconnect Gateway.

Configure and use the same value as the password linked to the SIP User ID of Telephone Interconnect Gateway configured for the SIP Phone Server. The use of a password to connect sessions depends on the configuration of the SIP Phone Server. In the connection of a session, Telephone Interconnect Gateway performs session connection that uses the configured password when the request for a password is received from the SIP Phone Server.

Password configuration: Disabled

This is used if a password is not used for the session connection to a SIP Phone Server.

A password is not applied to the REGISTER and INVITE methods.

Password configuration: Enabled

The session connection by using the configured password is performed when the request for a password is received from a SIP Phone Server.

The password is applied to the REGISTER and INVITE methods.

The text box is read-only.

If no password is currently configured, the field is blank.

If a password is currently configured, ● is displayed.

Configuration using Web Tool

Configuring **SIP Authentication Password** (See: Edit > SIP Phone > SIP User ID List > SIP User ID List)

■ New Password/ New Password (Confirm)

In New Password, the password of a SIP User ID is entered.

In New Password(Confirm), whether the new password is correct can be confirmed by entering the password of a SIP User ID again.

By clicking the “Password” button from the SIP User ID list, the password can be edited.

The password can be saved as blank. At this time, the password is deleted.

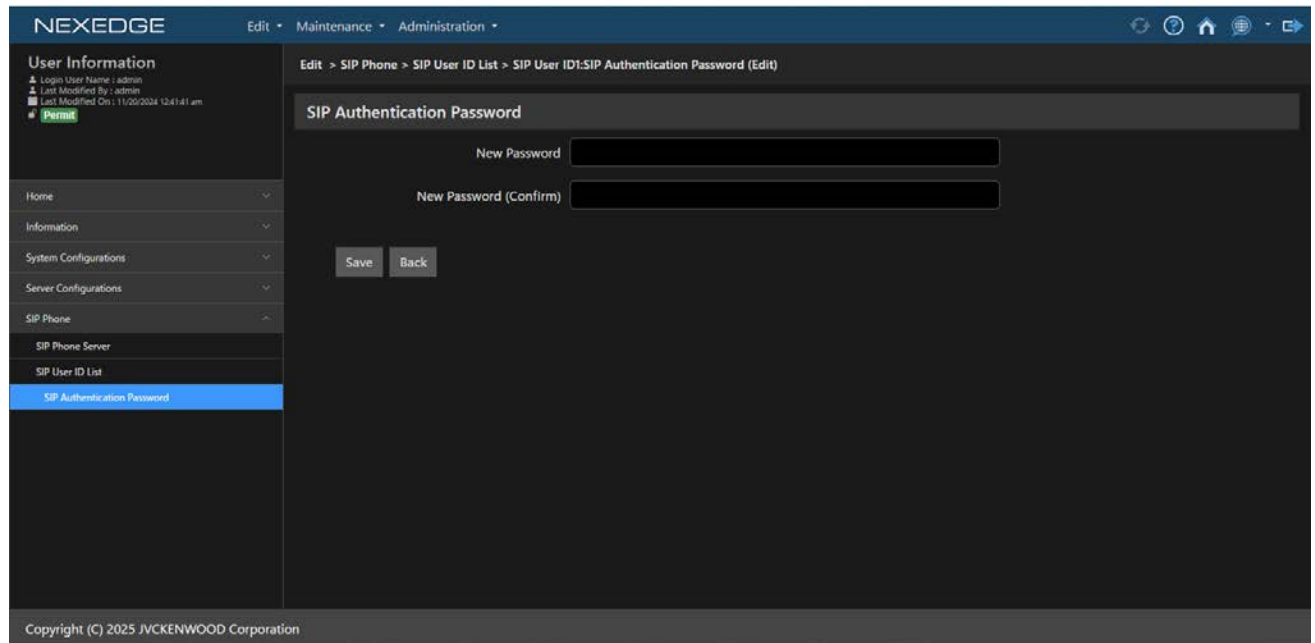


Figure 16-18 SIP Authentication Password (Edit)

Table 16-31 New Password/ New Password (Confirm)

Items	Description
New Password	The password of each SIP User ID is entered.
New Password (Confirm)	The password of each SIP User ID is entered again.

The entered password is displayed with “●” and masked to make it unreadable.

When the password is saved, the SIP User ID List list screen is restored.

Configuration using Web Tool

Configuring **SIP User ID List** (See: Edit > SIP Phone > SIP User ID List > SIP User ID List)

16.5 Various Web Tool Functions (Maintenance)

16.5.1 Log

■ Communication Log

Communication Log is the record of a voice call or data communication that occurs in a system.

Communication Log can be acquired as a CSV file, and the details of the communication can be confirmed.

Telephone Interconnect Gateway records the communication that occurs in the system after the communication ends.

Communication Log is stored in a dedicated area (Communication Log area) of the HDD.

The size of the Communication Log area depends on the HDD storage size of Telephone Interconnect Gateway.

The number of communications that can be recorded for each HDD storage size of Telephone Interconnect Gateway is shown below as a guide:

Table 16-32 Approximate Number of Communication Logs That Can Be Recorded (Local Redundancy Not Supported)

HDD Full Capacity	Capacity of the Communication Log Area	Number of Records (Recording Period)
500 GB	Approximately 115 GB	Approximately 658.36 million (Approximately 127 years)
1 TB	Approximately 253 GB	Approximately 1,456.70 million (Approximately 281 years)

Table 16-33 Approximate Number of Communication Logs That Can Be Recorded (Local Redundancy Supported)

HDD Full Capacity	Capacity of the Communication Log Area	Number of Records (Recording Period)
500 GB	Approximately 107 GB	Approximately 611.71 million (Approximately 118 years)
1 TB	Approximately 247 GB	Approximately 1,420.41 million (Approximately 274 years)

The basis for calculating the number of records is as follows:

- Assuming approximately 600 records per hour, $600 \text{ (records/ hour)} \times 24 \text{ (hours)} = 14,400 \text{ (records/ day)}$
- Assuming a log size of 75 MB per month, $75 \text{ (MB/ 30 days)} \times 12 \text{ (months)} = 0.9 \text{ (GB/ 1 year)}$

If the disk usage of the Communication Log area exceeds 90%, a record is overwritten in order from the oldest.

A Communication Log is cleared by **Factory Reset** and **Clear**.

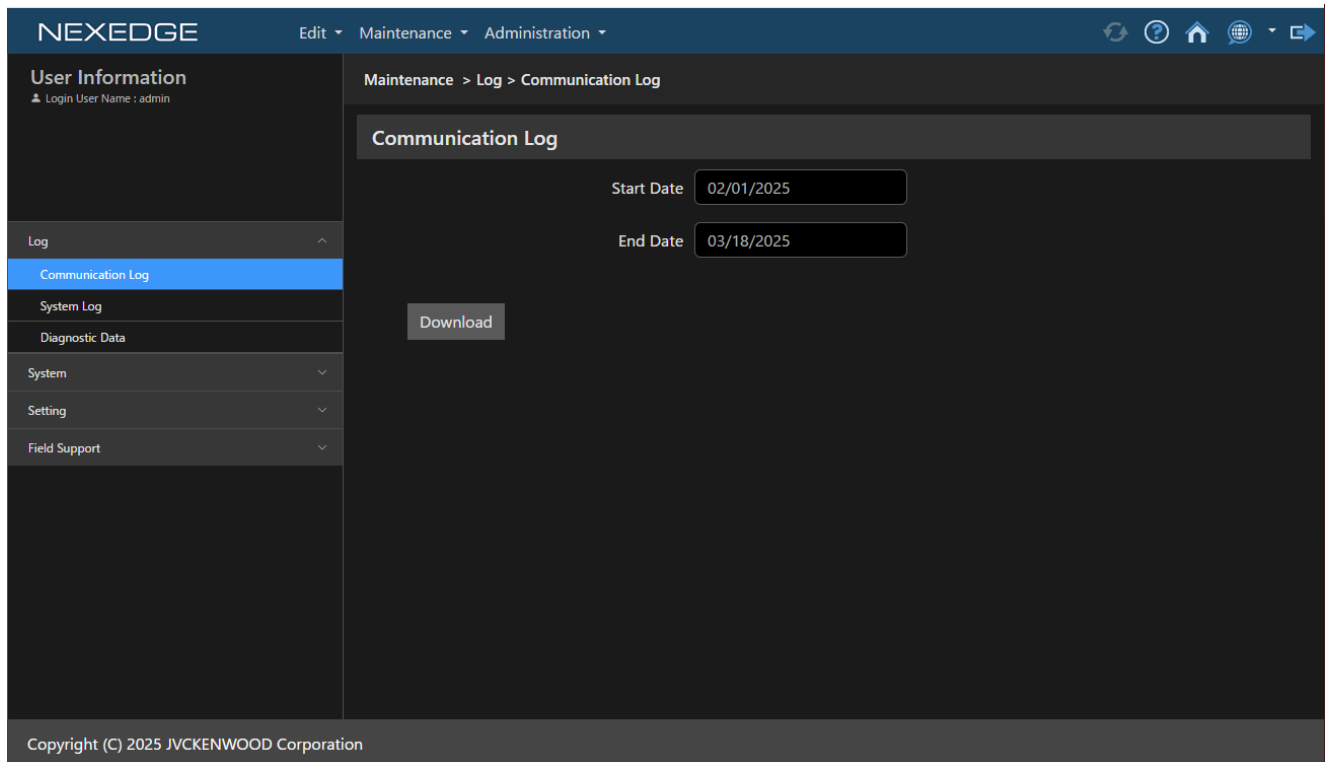


Figure 16-19 Communication Log

In the Communication Log screen, the following operations can be done:

Table 16-34 Start Date/ End Date (Communication Log)

Items	Description
Start Date	In Start Date and End Date , the year, month, and day to start acquiring Communication Log and the year, month, and day to finish acquiring can be entered.
End Date	Clicking the year, month, and day in Start Date and End Date display the calendar, and the year, month, and day to start acquiring and the year, month, and day to finish acquiring can be selected. By specifying Start Date and End Date, Communication Log of the period to be acquired can be downloaded.
"Download" Button	Clicking the "Download" button downloads Communication Log to a PC. By downloading a Communication Log, the contents of the record of a voice call or data communication that occurs in a system can be confirmed. While Communication Log is being downloaded, the progress status is displayed. The downloading of Communication Log can be stopped by clicking the "Cancel" button.

The display format of the year, month, and day follows the configuration in Date format.

If a year, month, and day later than **End Date** is entered in **Start Date**, the "Download" button cannot be clicked, and the download cannot be executed.

Note:

- ◆ If the specified range of Start Date and End Date is configured wide, the number of Communication Log records also increases, which increases the downloading time. Downloading for a limited period is recommended.

- Clicking the “Reset” button of **Factory Reset** (See: Maintenance > System > Factory Reset > Factory Reset)
- Clicking the “Clear” button In the Clear screen (See: Maintenance > System > Clear > Log)
- Configuring **Date** in Formats (See: Maintenance > Setting > Formats > Date)
- Configuring **Start Date** (See: Maintenance > Log > Communication Log > Communication Log > Start Date)
- Configuring **End Date** (See: Maintenance > Log > Communication Log > Communication Log > Start Date)

- Communication Log items
- Communication Log Telephone Interconnect Gateway Cause

Items	Description	Recorded Contents
record_date	Date when the log was recorded	YYYY-MM-DD
record_time	Time when the log was recorded	HH:MM:SS
start_date	Date when the communication started	YYYY-MM-DD
start_time	Time when the communication started	HH:MM:SS
end_date	Date when the communication ended	YYYY-MM-DD
end_time	Time when the communication ended	HH:MM:SS
talk_time	Communication time	HH:MM:SS 00:00:00: Not used
record_type	Record type code	“LR”: Location Registration “LC”: Location Registration Clear “GR”: Group Registration “GC”: Group Registration Clear “VC”: Voice Call “SR”: SIP Phone Server Registration “SC”: SIP Phone Server Registration Clear
call_type	Communication type code	“I”: Individual Call “C”: Conference Call “P”: Interconnect Call “*”: Not used
calling_id	Calling NXDN unique number	1 to 60000, 65521 (PSTN/ PABX) 0: Not used
called_id_type	Destination communication type	“U”: Unit ID “G”: Group ID “*”: Not used
called_id	Destination NXDN unique number	1 to 60000, 65521 (PSTN/ PABX), 65535 (All Groups Call) 0: Not used
telephone_number	Telephone number	A maximum of 32 characters “unused”: Not used
sip_user_id	ID configured for the SIP Phone Server	1 to 99999999999999999999999999999999 0: Not used
telephone_line_uid	UID configured in the Telephone Line List of the System	1 to 60000 0: Not used
site_number	Site number configured for the Telephone Line UID	1 to 30 (Local) 1 to 48 (Regional) 0: Not used
call_cause	Communication result	Refer to the Telephone Interconnect Gateway Cause list.

16 ABOUT TELEPHONE INTERCONNECT GATEWAY (KPG-1014GW)

Table 16-36 Communication Log Telephone Interconnect Gateway Cause

REG	VC	Remarks
Call Disconnect Class		
-	301	Disconnection from the subscriber unit of the System
-	302	Disconnection from the SIP Phone
-	304	Other disconnection
Registration Class		
501	-	Unit/Group Registration success
502	-	SIP Phone Server Registration success
511	-	Authentication failure for the Telephone Line UID (SIP Phone Server side) (401 After Unauthorized reception and REGISTER transmission, OK not received for 200)
512	-	Authentication failure for the Telephone Line UID (SIP Phone Server side) (403 Forbidden reception)
513	-	(SIP Phone Server side) (404 Not Found reception)
514	-	(SIP Phone Server side) (408 Request Timeout reception)
515	-	(SIP Phone Server side) (423 Interval Too Brief reception)
516	-	(SIP Phone Server side) (480 Temporarily Unavailable reception)
547	-	Problem with the request content (SIP Phone Server side) (4xx reception)
548	-	Server error (SIP Phone Server side) (5xx reception)
549	-	Global error (SIP Phone Server side) (6xx reception)
552	-	(System side) (403 Forbidden reception)
553	-	System Code, Site Code, and Network Code are different from those on the System side. (System side) (404 Not Found reception)
554	-	(System side) (408 Request Timeout reception)
555	-	(System side) (423 Interval Too Brief reception)
556	-	(System side) (480 Temporarily Unavailable reception)
587	-	Problem with the request content (System side) (4xx reception)
588	-	Server error (System side) (5xx reception)
589	-	Global error (System side) (6xx reception)

16 ABOUT TELEPHONE INTERCONNECT GATEWAY (KPG-1014GW)

REG	VC	Remarks
Call Error On Gateway Class (Call Error Caused by the Gateway Class)		
-	401	Concurrent calls exceeded due to SIP PHONE LICENSE The acceptable number of SIP PHONE LICENSE has been exceeded.
Call Connect Error Class (Response Reception of Connection Error When Making a Call Class)		
-	601	Authentication failure for the Telephone Line UID (SIP Phone Server side) (401 Unauthorized received 3 times)
-	602	Authentication failure for the Telephone Line UID (SIP Phone Server side) (403 Forbidden reception)
-	603	Destination UID or GID is not available. (SIP Phone Server side) (404 Not Found reception)
-	606	(SIP Phone Server side) (487 Request Terminated reception)
-	608	(SIP Phone Server side) (CANCEL reception)
-	637	Problem with the request content (SIP Phone Server side) (4xx reception)
-	638	Server error (SIP Phone Server side) (5xx reception)
-	639	Global error (SIP Phone Server side) (6xx reception)
-	642	"Incoming Call from Telephone Line" of the System is unchecked. (System side) (403 Forbidden reception)
-	643	Destination UID or GID is not available. (System side) (404 Not Found reception)
-	644	Rejection response from the subscriber unit (System side) (603 Decline reception)
-	645	The subscriber unit does not exist. (System side) (604 Does Not Exist Anywhere reception)
-	646	The subscriber unit does not respond. (System side) (487 Request Terminated reception)
-	647	Channel Spacing is different from that on the System side. (System side) (488 Not Acceptable Here reception)
-	648	Call cancellation from the SIP Phone (System side) (CANCEL reception)
-	677	Problem with the request content (System side) (4xx reception)
-	678	Server error (System side) (5xx reception)

16 ABOUT TELEPHONE INTERCONNECT GATEWAY (KPG-1014GW)

REG	VC	Remarks
-	679	Global error (System side) (6xx reception)
Common Error Class (Voice/ Registration)		
701	701	Temporary failure
702	702	Device congestion
703	703	Other errors

■ System Log

System Log is the record of the status changes and user operations of Telephone Interconnect Gateway.

System Log can be acquired as a CSV file, and the status of Telephone Interconnect Gateway can be confirmed.

The System Log is a record that is intended to enable early detection in the event of a system malfunction due to a failure or misconfiguration.

Telephone Interconnect Gateway records events, such as Telephone Interconnect Gateway status changes, user operations, and startup and shutdown.

The number of events that can be recorded as the System Log is 200,000.

If the maximum number of records is exceeded, the record is overwritten in order from the oldest.

A System Log is cleared by **Factory Reset** and **Clear**.

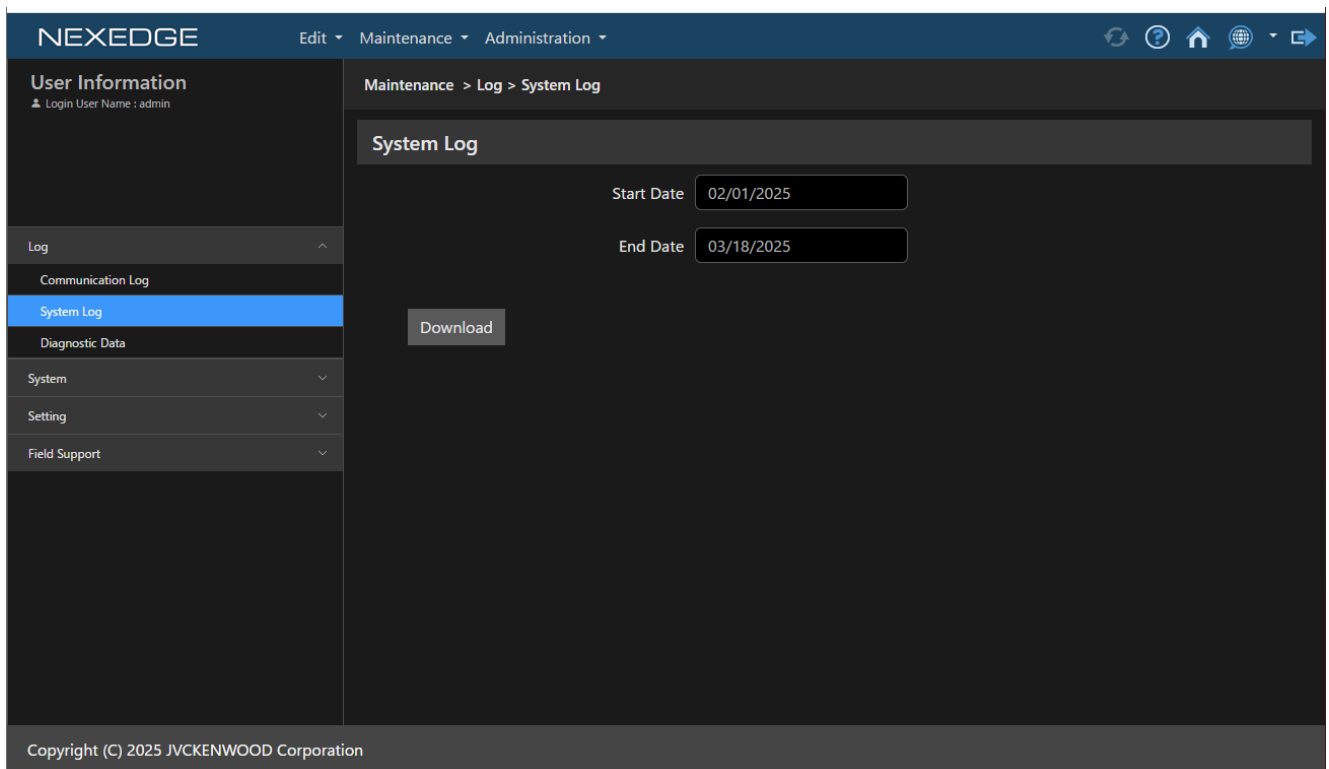


Figure 16-20 System Log

In the System Log screen, the following operations can be done:

Table 16-37 Start Date/ End Date (System Log)

Items	Description
Start Date	In Start Date and End Date , the year, month, and day to start acquiring System Log and the year, month, and day to finish acquiring can be entered.
End Date	Clicking the year, month, and day in Start Date and End Date display the calendar, and the year, month, and day to start acquiring and the year, month, and day to finish acquiring can be selected. By specifying Start Date and End Date, System Log of the period to be acquired can be downloaded.
"Download" Button	Clicking the "Download" button downloads System Log to a PC. By downloading a System Log, the contents of the record of a voice call or data communication that occurs in a system can be confirmed. While System Log is being downloaded, the progress status is displayed. The downloading of System Log can be stopped by clicking the "Cancel" button.

The display format of the year, month, and day follows the configuration in Date format.

If a year, month, and day later than **End Date** is entered in **Start Date**, the "Download" button cannot be clicked, and the download cannot be executed.

Configuration using Web Tool

- Clicking the "Reset" button of **Factory Reset** (See: Maintenance > System > Factory Reset > Factory Reset)
- Clicking the "Clear" button In the Clear screen (See: Maintenance > System > Clear > Log)
- Configuring **Date** in Formats (See: Maintenance > Setting > Formats > Date)
- Configuring **Start Date** (See: Maintenance > Log > System Log > System Log > Start Date)
- Configuring **End Date** (See: Maintenance > Log > System Log > System Log > Start Date)

The following information can be acquired by the System Log download:

Table 16-38 System log Items

Items	Description	Recorded Contents
record_date_time	Date and time of log recording	YYYY-MM-DD HH:MM:SS
message	Log contents	(message)

16 ABOUT TELEPHONE INTERCONNECT GATEWAY (KPG-1014GW)

The following messages (log contents) are recorded in the System Log:

Table 16-39 System log Message

Event	Event details	Message
Telephone Interconnect Gateway Behavior Related		
Startup	Normal	Normal Start Up.
Regular Connection Check	Succeeded	Network Connection Recovery.[xxx] ^{*1}
	Failed	Network Disconnection.[xxx] ^{*1}
Jitter Buffer	Error	Jitter Buffer Size exceeds the Maximum Jitter Buffer Size (System).[xxx] ^{*2}
	Error	Jitter Buffer Size exceeds the Maximum Jitter Buffer Size (SIP Phone Server).[xxx] ^{*3}
Disconnection due to Network	Error	A call ends due to the network failure (System, cause 1).[xxx] ^{*2}
	Error	A call ends due to the network failure (System, cause 2).[xxx] ^{*2}
	Error	A call ends due to the network failure (SIP Phone Server, cause 1).[xxx] ^{*3}
Limit Exceeded of SIP PHONE LICENSE Concurrent Calls	Error	The acceptable number of SIP PHONE LICENSE has been exceeded.
Web Tool Operations Related		
Login	Start	User xxx Login started. ^{*4}
	Succeeded	User xxx Login succeeded. ^{*4}
	Failed	User xxx Login failed. ^{*4}
Logged Out	Start	User xxx Manual Logout started. ^{*4}
	Start (Auto)	User xxx Automatic Logout started. ^{*4}
	Succeeded	User xxx Logout succeeded. ^{*4}
Update	Start	User xxx Manual update started. ^{*4}
	Succeeded	Update succeeded.
	Failed	Update failed.
License Activation (Browse)	Start	User xxx License Activation (Browse) started. ^{*4}
	Succeeded	User xxx License Activation (Browse) succeeded. ^{*4}
	Failed	User xxx License Activation (Browse) failed. ^{*4}
License Activation	Start	License Activation started. (xxx) ^{*4}
	Succeeded	License Activation succeeded. (xxx) ^{*4}
	Failed	License Activation failed. (xxx) ^{*4}
License Agreement Open	-	User xxx Software License Agreement screen was opened. ^{*4}
Communication Log Download	Start	User xxx Communication Log Download started. ^{*4}
	Succeeded	User xxx Communication Log Download succeeded. ^{*4}
	Failed	User xxx Communication Log Download failed. ^{*4}
	Canceled	User xxx Communication Log Download is canceled. ^{*4}
System Log Download	Start	User xxx System Log Download started. ^{*4}
	Succeeded	User xxx System Log Download succeeded. ^{*4}
	Failed	User xxx System Log Download failed. ^{*4}
	Canceled	User xxx System Log Download is canceled. ^{*4}

16 ABOUT TELEPHONE INTERCONNECT GATEWAY (KPG-1014GW)

Event	Event details	Message
Diagnostic Data Download	Start	User xxx Diagnostic Data Download started. ^{*4}
	Succeeded	User xxx Diagnostic Data Download succeeded. ^{*4}
	Failed	User xxx Diagnostic Data Download failed. ^{*4}
	Canceled	User xxx Diagnostic Data Download is canceled. ^{*4}
Reboot	Start	User xxx Reboot started. ^{*4}
	Succeeded	User xxx Reboot succeeded. ^{*4}
	Failed	User xxx Reboot failed. ^{*4}
Restart	Start	User xxx Restart started. ^{*4}
	Succeeded	User xxx Restart succeeded. ^{*4}
	Failed	User xxx Restart failed. ^{*4}
Redundancy Status Check	Start	User xxx Redundancy Status Check started. ^{*4}
	Succeeded	User xxx Redundancy Status Check succeeded. ^{*4}
	Failed	User xxx Redundancy Status Check failed. ^{*4}
Registration Status Refresh	Start	User xxx Registration Status Refresh started. ^{*4}
	Succeeded	User xxx Registration Status Refresh succeeded. ^{*4}
	Failed	User xxx Registration Status Refresh failed. ^{*4}
Firmware Update Browse	Start	User xxx Firmware Update (Browse) started. ^{*4}
	Succeeded	User xxx Firmware Update (Browse) succeeded. ^{*4}
	Failed	User xxx Firmware Update (Browse) failed. ^{*4}
Firmware Update	Start	User xxx Firmware Update started. (xxx) ^{*5}
	Succeeded	User xxx Firmware Update succeeded. (xxx) ^{*5}
	Failed	User xxx Firmware Update failed. (xxx) ^{*5}
Backup	Start	User xxx Backup started. ^{*4}
	Succeeded	User xxx Backup succeeded. ^{*4}
	Failed	User xxx Backup failed. ^{*4}
Restore Browse	Start	User xxx Restore (Browse) started. ^{*4}
	Succeeded	User xxx Restore (Browse) succeeded. ^{*4}
	Failed	User xxx Restore (Browse) failed. ^{*4}
Restore	Start	User xxx Restore (Restore) started. ^{*4}
	Succeeded	User xxx Restore (Restore) succeeded. ^{*4}
	Failed	User xxx Restore (Restore) failed. ^{*4}
Factory Reset	Start	User xxx Factory Reset started. ^{*4}
	Succeeded	User xxx Factory Reset succeeded. ^{*4}
	Failed	User xxx Factory Reset failed. ^{*4}
Clear	Start	User xxx Clear started. ^{*4}
	Succeeded	User xxx Clear succeeded. ^{*4}
	Failed	User xxx Clear failed. ^{*4}
TimeAdjustment Set	Start	User xxx Time Adjustment Set started. ^{*4}
	Succeeded	User xxx Time Adjustment Set succeeded. ^{*4}
	Failed	User xxx Time Adjustment Set failed. ^{*4}
TimeAdjustment Synchronize	Start	User xxx Synchronize started. ^{*4}
	Succeeded	User xxx Synchronize succeeded. ^{*4}
	Failed	User xxx Synchronize failed. ^{*4}

16 ABOUT TELEPHONE INTERCONNECT GATEWAY (KPG-1014GW)

Event	Event details	Message
IP Configuration Reset	Start	User xxx IP Configuration Reset started. ^{*4}
	Succeeded	User xxx IP Configuration Reset succeeded. ^{*4}
	Failed	User xxx IP Configuration Reset failed. ^{*4}
Self-Signed Certificate Generate	Start	User xxx Self-Signed Certificate Generate started. ^{*4}
	Succeeded	User xxx Self-Signed Certificate Generate succeeded. ^{*4}
	Failed	User xxx Self-Signed Certificate Generate failed. ^{*4}
CA Certificate Install Browse	Start	User xxx CA Certificate (Browse) started. ^{*4}
	Succeeded	User xxx CA Certificate (Browse) succeeded. ^{*4}
	Failed	User xxx CA Certificate (Browse) failed. ^{*4}
CA Certificate Install Update	Start	CA Certificate Update started.
	Succeeded	CA Certificate Update succeeded.
	Failed	CA Certificate Update failed.
Apply CA Certificate Save	Start	User xxx Apply CA Certificate Data Save started. ^{*4}
	Succeeded	User xxx Apply CA Certificate Data Save succeeded. ^{*4}
	Failed	User xxx Apply CA Certificate Data Save failed. ^{*4}
HTTP Save	Start	User xxx HTTP Data Save started. ^{*4}
	Succeeded	User xxx HTTP Data Save succeeded. ^{*4}
	Failed	User xxx HTTP Data Save failed. ^{*4}
Packet Download	Start	User xxx Packet Download started. ^{*4}
	Succeeded	User xxx Packet Download succeeded. ^{*4}
	Failed	User xxx Packet Download failed. ^{*4}
	Canceled	User xxx Packet Download is canceled. ^{*4}
Syslog Check	Start	User xxx Syslog Check started. ^{*4}
	Succeeded	User xxx Syslog Check succeeded. ^{*4}
	Failed	User xxx Syslog Check failed. ^{*4}
Syslog Change	Start	User xxx Syslog Change started. ^{*4}
	Succeeded	User xxx Syslog Change succeeded. ^{*4}
	Failed	User xxx Syslog Change failed. ^{*4}
Data Save	Start	User xxx [xxx] Data Save started. ^{*6}
	Succeeded	User xxx [xxx] Data Save succeeded. ^{*6}
	Failed	User xxx [xxx] Data Save failed. ^{*6}
Delete	Start	User xxx [xxx] Delete started. ^{*6}
	Succeeded	User xxx [xxx] Delete succeeded. ^{*6}
	Failed	User xxx [xxx] Delete failed. ^{*6}

^{*1} xxx = Site/ GW IP Address

^{*2} xxx = Calling Telephone Line UID

^{*3} xxx = Calling SIP User ID

^{*4} xxx = Web Tool user name

^{*5} xxx (xxx) = Web Tool user name (Firmware Version)

^{*6} xxx [xxx] = Web Tool user name [Screen parameters]

■ Diagnostic Data

Diagnostic Data is the record of the internal information (configuration data, various logs, etc.) of Telephone Interconnect Gateway.

Diagnostic Data is the information intended for problem analysis in the event of failure and is used by JVCKENWOOD.

To acquire Syslog, Syslog needs to be configured.

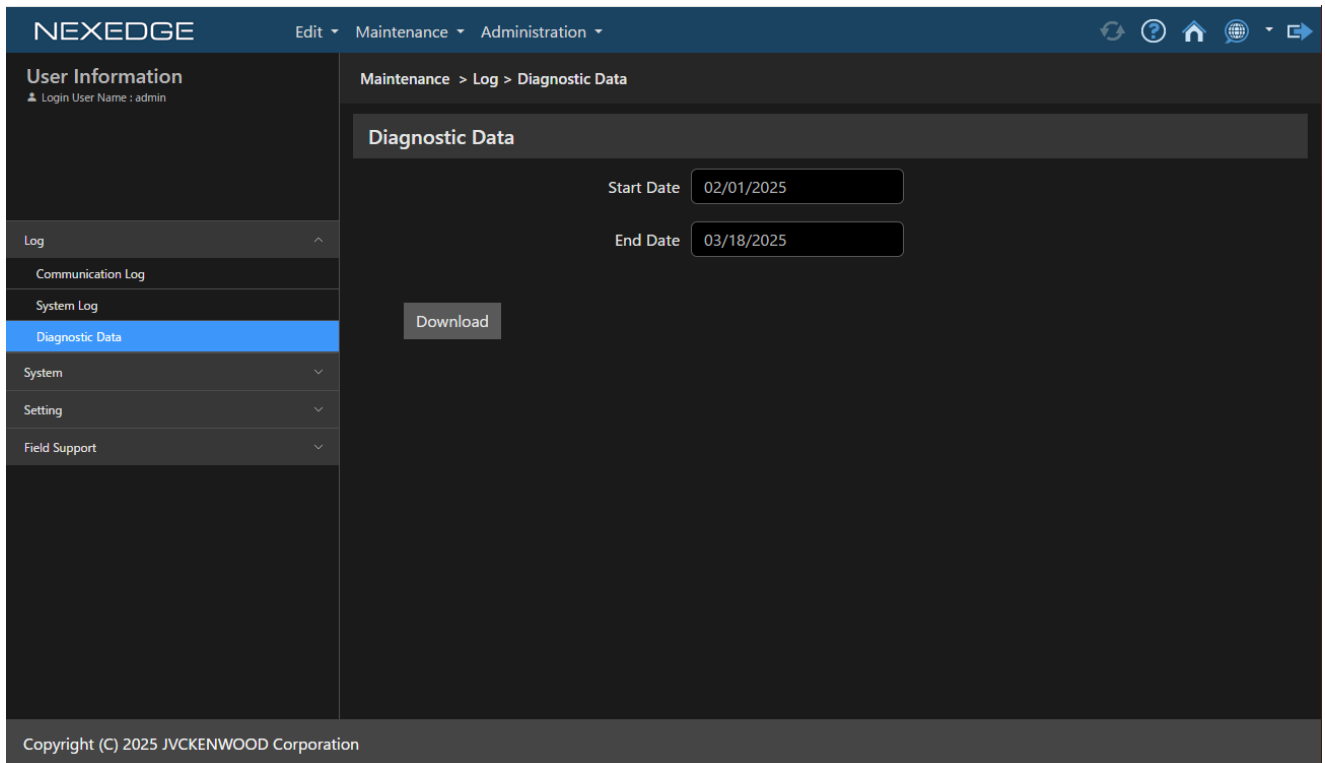


Figure 16-21 Diagnostic Data

In the Diagnostic Data screen, the following operations can be done:

Table 16-40 Start Date/ End Date (Diagnostic Data)

Items	Description
Start Date	In Start Date and End Date , the year, month, and day to start acquiring Diagnostic Data and the year, month, and day to finish acquiring can be entered. Clicking the year, month, and day in Start Date and End Date display the calendar, and the year, month, and day to start acquiring and the year, month, and day to finish acquiring can be selected. By specifying Start Date and End Date, Diagnostic Data of the period to be acquired can be downloaded.
End Date	
"Download" Button	Clicking the "Download" button downloads Diagnostic Data to a PC. The contents of internal information (configuration data, various logs, etc.) of Telephone Interconnect Gateway can be confirmed by downloading Diagnostic Data. While Diagnostic Data is being downloaded, the progress status is displayed. The downloading of Diagnostic Data can be stopped by clicking the "Cancel" button.

The display format of the year, month, and day follows the configuration in Date format.

If a year, month, and day later than **End Date** is entered in **Start Date**, the "Download" button cannot be clicked, and the download cannot be executed.

Configuration using Web Tool

- Configuring **Syslog** (See: Maintenance > Field Support > Syslog > Syslog)
- Configuring **Date** in Formats (See: Maintenance > Setting > Formats > Date)
- Configuring **Start Date** (See: Maintenance > Log > Diagnostic Data > Diagnostic Data > Start Date)
- Configuring **End Date** (See: Maintenance > Log > Diagnostic Data > Diagnostic Data > Start Date)

16.5.2 System

■ Remote Control

Remote Control is the function to remotely control a PC server and Telephone Interconnect Gateway.

It can be used if the PC server or Telephone Interconnect Gateway becomes unstable, or if you try to restart the program.

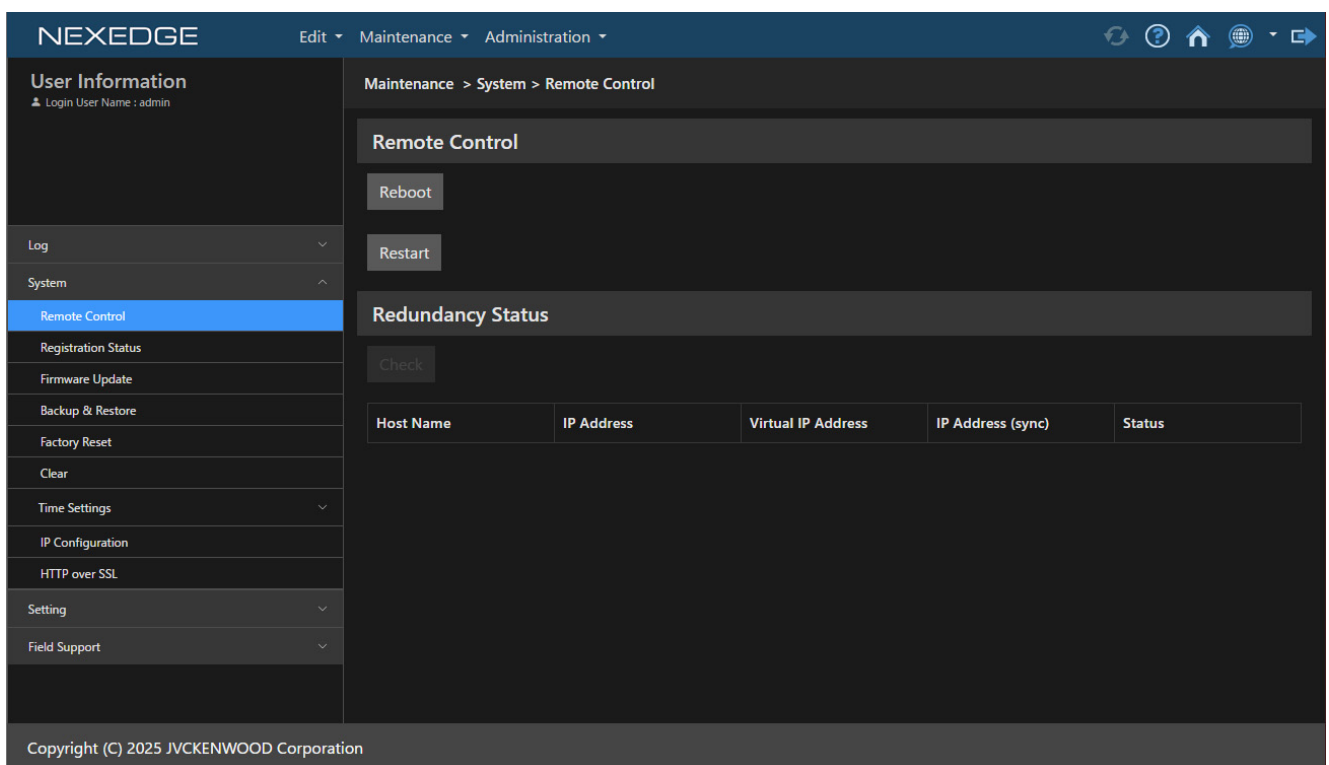


Figure 16-22 Remote Control

In the Remote Control screen, the following operations can be done:

Table 16-41 Remote Control

Name	Items	Description
Remote Control	"Reboot" Button	Clicking the "Reboot" button can reboot a PC server. It is used in the event of an error in the behavior of the devices caused by a failure such as a memory leak. Because reboot occurs at the kernel level, a PC server can be restored to the state of immediately after the power is turned on. If the reboot is successful, the Web Tool migrates to the login screen. In a system with Local Redundancy enabled for Telephone Interconnect Gateway, Telephone Interconnect Gateway is switched by rebooting.
	"Restart" Button	Temporarily stops the Telephone Interconnect Gateway process, and then restarts the behavior. Use the "Restart" button if the program is unstable, etc. If other services are activated by using Telephone Interconnect Gateway, these services are not affected even by clicking the "Restart" button. In a system with Local Redundancy enabled for Telephone Interconnect Gateway, even if restart is performed, the currently activated Telephone Interconnect Gateway is retained. Note: ◆ Compared to the "Reboot" button, the operation can be resumed in a short time; however, due to the process-level reboot, the state may not be improved depending on the status of Telephone Interconnect Gateway.
Redundancy Status	"Check" Button	The "Check" button is the function to confirm the status of the operation for the Telephone Interconnect Gateway with Local Redundancy enabled. The "Check" button can be executed if Local Redundancy is enabled.
	Host Name	Recorded ContentsIn Host Name, the individual host name configured for a redundant Telephone Interconnect Gateway is displayed.
	IP Address	An IP address of Telephone Interconnect Gateway with Local Redundancy enabled and used for monitoring can be confirmed. In IP Address, only an IP address for an active Telephone Interconnect Gateway is displayed. An IP address of a standby Telephone Interconnect Gateway is displayed as "-".
	Virtual IP Address	An IP address of Telephone Interconnect Gateway used for connecting to an external device can be confirmed. In Virtual IP Address, only a virtual IP address for an active Telephone Interconnect Gateway is displayed. A virtual IP address of a standby Telephone Interconnect Gateway is displayed as "-".
	IP Address (sync)	In IP Address (sync), the individual synchronization IP address and the resource monitoring IP address configured for a redundant Telephone Interconnect Gateway are displayed.
	Status	The status of an active Telephone Interconnect Gateway with Local Redundancy enabled can be confirmed. Status configuration: Active Indicates that Telephone Interconnect Gateway is functioning and controlling. Status configuration: Standby Indicates that Telephone Interconnect Gateway is on standby. The state of Standby is also displayed if the network connection is disconnected or has failed.

■ Registration Status

Registration Status is the function that enables to understand the Registration status from Telephone Interconnect Gateway to a SIP Phone Server and NEXEDGE 1st Generation Trunking System.

The Registration status of an ID registered in the SIP User ID List to a SIP Phone Server and NEXEDGE 1st Generation Trunking System can be confirmed. Among the IDs that are not registered, an ID is listed in ascending order of the SIP User ID.

The screenshot shows the NEXEDGE web interface. The top navigation bar includes 'Edit', 'Maintenance', and 'Administration'. The left sidebar lists various system functions, with 'Registration Status' selected. The main content area shows the 'Registration Status' page, which includes a 'Refresh' button and a message indicating that no records are currently displayed. Below this is an empty table with the following headers:

No.	SIP Phone Server Registration	System Registration	SIP User ID	SIP User ID Name	Site Number	Site Name	Telephone Line UID
Page 0 out of 0 pages is displayed. Total number of records is 0.							

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Figure 16-23 Registration Status

In the Registration Status screen, the following operations can be done:

Table 16-42 Registration Status

Items	Description
No.	The number indicating the order of an ID to be confirmed for the Registration status is displayed.
SIP Phone Server Registration	Displays whether the SIP User ID is registered to a SIP Phone Server. SIP Phone Server Registration display: Success The SIP User ID is registered to a SIP Phone Server. SIP Phone Server Registration display: Fail The SIP User ID is not registered to a SIP Phone Server. Note: ◆ Refer to the Communication Log and System Log, etc., for more information on the cause of the Fail.
System Registration	Displays whether the Telephone Line UID is registered to a NEXEDGE 1st Generation Trunking System. System Registration display: Success The Telephone Line UID is registered to NEXEDGE 1st Generation Trunking System. System Registration display: Fail The Telephone Line UID is not registered to a NEXEDGE 1st Generation Trunking System. Note: ◆ Refer to the Communication Log and System Log, etc., for more information on the cause of the Fail.
SIP User ID	In SIP User ID, the SIP User ID to confirm the Registration status to a SIP Phone Server is displayed.
SIP User ID Name	In SIP User ID Name, the name that indicates a User ID configured for an ID to confirm the Registration status is displayed.
Site Number	In Site Number, the site number that corresponds to an ID to confirm the Registration status is displayed.
Site Name	In Site Name, the site name that corresponds to an ID to confirm the Registration status is displayed.
Telephone Line UID	In Telephone Line UID, the Telephone Line UID to confirm the Registration status to a NEXEDGE 1st Generation Trunking System is displayed.
"Refresh" Button	Clicking the "Refresh" button confirms the Registration status of an ID registered in the SIP User ID List and updates the indicated contents of Registration Status to the latest status.

Note:

- ◆ If an ID that is not registered exists, a message indicating the Registration failure is displayed in Information Message. Refer to [Information Message](#) for details.

Configuration using Web Tool

- Configuring **Information Message** (See: Edit > Home > Information Message > Information Message)
- Configuring **SIP User ID List** (See: Edit > SIP Phone > SIP User ID List > SIP User ID List)

■ Firmware Update

Firmware Update is the function to confirm the firmware that is currently used on Telephone Interconnect Gateway, and to update the firmware.

If the firmware is updated by using **Firmware Update**, Telephone Interconnect Gateway stops behaving, and the firmware is overwritten.

The screenshot displays the NEXEDGE web interface. The top navigation bar includes 'Edit', 'Maintenance', and 'Administration'. The left sidebar lists various system functions, with 'Firmware Update' highlighted in blue. The main content area is titled 'Maintenance > System > Firmware Update'. It features two sections: 'Current Firmware' and 'New Firmware'. The 'Current Firmware' section has input fields for 'Version' and 'Checksum'. The 'New Firmware' section includes a 'File Name' field with a 'Browse...' button, and 'Version' and 'Checksum' input fields. An 'Update' button is located at the bottom left of the 'New Firmware' section. The footer of the interface states 'Copyright (C) 2025 JVCKENWOOD Corporation'.

Figure 16-24 Firmware Update

16 ABOUT TELEPHONE INTERCONNECT GATEWAY (KPG-1014GW)

In the Firmware Update screen, the following operations can be done:

Table 16-43 Firmware Update (Current)

Items	Description
Version	Version is the function to confirm the firmware currently used by Telephone Interconnect Gateway. The version of the firmware currently installed on Telephone Interconnect Gateway is displayed.
Checksum	Checksum is the function to confirm the checksum of the firmware currently used in Telephone Interconnect Gateway. The checksum of the firmware currently installed in Telephone Interconnect Gateway is displayed.

Table 16-44 Firmware Update (New)

Items	Description
File Name	File Name is the function to display the file name of the firmware to write. The file name of the firmware selected by using the "Browse..." button is displayed. By using this function, the overwriting of the firmware can be executed after File Name is confirmed.
Version	Version is the function to display the version of the firmware to write. The version of the firmware selected by using the "Browse..." button is displayed. By using this function, the overwriting of the firmware can be executed after Version is confirmed.
Checksum	Checksum is the function to confirm the checksum of the firmware currently used in Telephone Interconnect Gateway. The checksum of the firmware selected by using the "Browse..." button is displayed. By using this function, the overwriting of the firmware can be executed after Checksum is confirmed.
"Browse..." Button	The "Browse..." button is the function to select the file of the firmware to write. When the file of the firmware to write is selected by clicking the "Browse..." button, the file name, version and checksum of the selected firmware are displayed.
"Update" Button	The overwriting of the firmware on Telephone Interconnect Gateway is executed. The "Update" button is the function to write the firmware to Telephone Interconnect Gateway. If the "Update" button is executed, the other users of the Web Tool that are logged in are forcibly logged out. Note: ◆ If the firmware is selected by using the "Browse..." button, the "Update" button changes from the inactive state to the active state.

■ Backup & Restore

Backup & Restore is the function to read the data configured by using the Web Tool from Telephone Interconnect Gateway and save the data as a file. By saving configuration data, the configuration data can be restored when unforeseen circumstances occur, such as the hardware malfunction of Telephone Interconnect Gateway and the incorrect editing of the configuration data by a user.

Data targeted for Backup & Restore does not include the following contents of Telephone Interconnect Gateway:

- The information recorded in Telephone Interconnect Gateway (various logs, etc.)
- NTP Server configuration
- IP configuration (IP Configuration)
- Field Support configuration (Packet Capture/ Syslog)

Figure 16-25 Backup & Restore

In the Backup & Restore screen, the following operations can be done:

Table 16-45 Backup & Restore

Name	Items	Description
Backup	"Backup" Button	The configuration can be saved as a file after the configuration from Telephone Interconnect Gateway is read by clicking the "Backup" button. This file is the backup file used during a restoration, and the configuration data cannot be confirmed from the file. The other users of the Web Tool that are logged in are forcibly logged out when the "Backup" button is clicked.
	Comment	Comment is the function to add a comment such as a description of the contents when the configuration data of Telephone Interconnect Gateway is saved as a file. The entered comment is saved in the backup file, and can be confirmed when configuration data is restored by using Restore. The comment to be displayed when configuration data is restored by using Restore is entered.
Restore	File Name	File Name is the function to display the file name of a backup file. The file name of the configuration data to be restored can be confirmed before Restore is executed. In File Name, the file name of the backup file selected by using the "Browse..." button is displayed.
	Comment	Comment is the function to display the comment added to a backup file. The comment added to the configuration data to be restored can be confirmed before Restore is executed. In Comment, the comment added to the backup file selected by using the "Browse..." button is displayed.
	"Browse..." Button	The "Browse..." button is the function to select the backup file to be restored to Telephone Interconnect Gateway. When the backup file to write is selected by clicking the "Browse..." button, the file name and comment of the selected backup file are displayed.
	"Restore" Button	"Restore" button is the function to write the configuration data file to Telephone Interconnect Gateway. Configuration data can be restored by using a previously saved backup file. Click the "Restore" button after the file name and comment of a backup file are confirmed. Clicking the "Restore" button writes the configurations in the backup file to Telephone Interconnect Gateway. The other users of the Web Tool that are logged in are forcibly logged out when Restore is executed. The "Restore" button is activated by selecting a configuration data file by using the "Browse..." button. Note: ◆ The data configured by using the Web Tool is overwritten if Restore is executed.

■ Factory Reset

Factory Reset is the function to reset the configuration data of Telephone Interconnect Gateway to the default state.

If Factory Reset is executed, the configuration of Telephone Interconnect Gateway is reset to the default state. Other Web Tool users who are logged in when Factory Reset is executed are forcibly logged out.

If Factory Reset is executed, the following occurs:

- Communication Log and System Log records are cleared.
- The license authentication information is not deleted.
- The IP configuration of Telephone Interconnect Gateway is not initialized.

In the Factory Reset screen, the configuration data of Telephone Interconnect Gateway can be reset to the default state by clicking the “Reset” button.

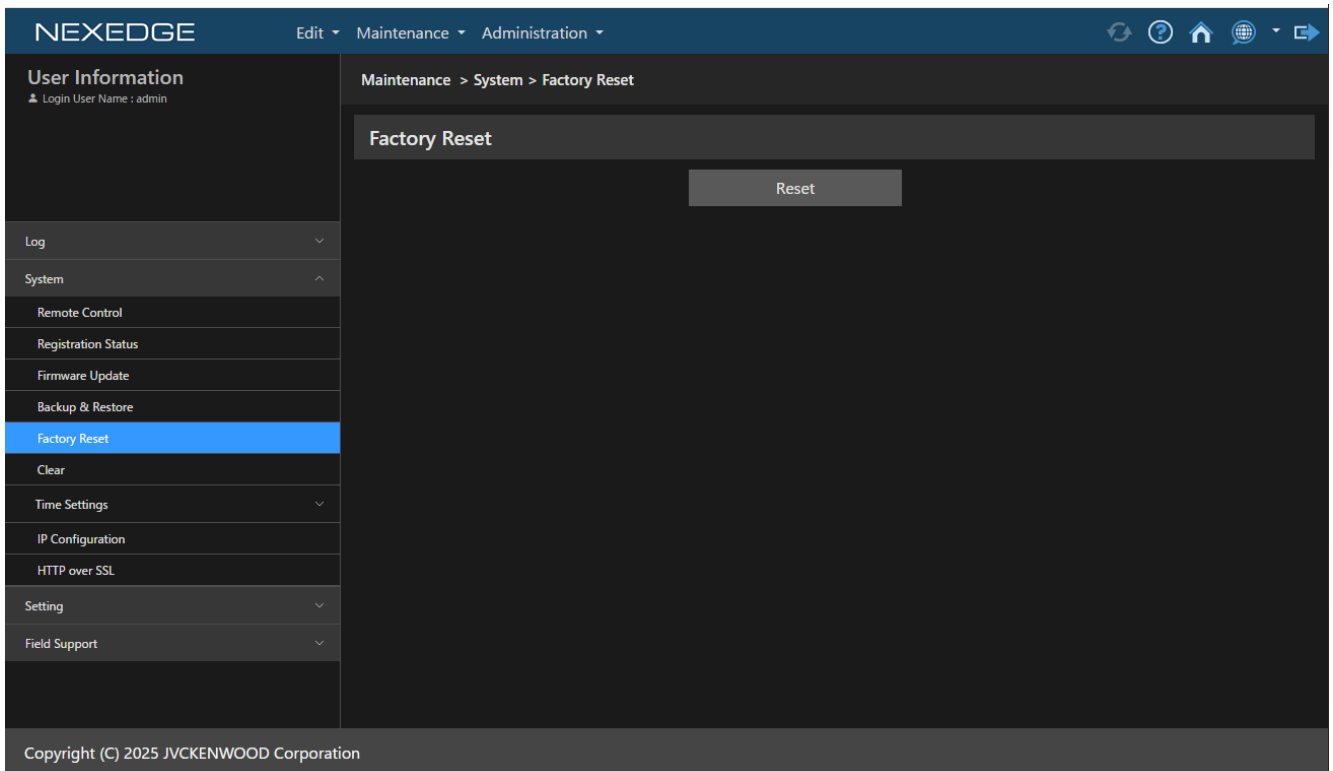


Figure 16-26 Factory Reset

■ Clear

The “Clear” button is the function to delete all of the Communication Log and System Log saved on Telephone Interconnect Gateway.

Even if **Clear** is executed, the Diagnostic Data is not deleted.

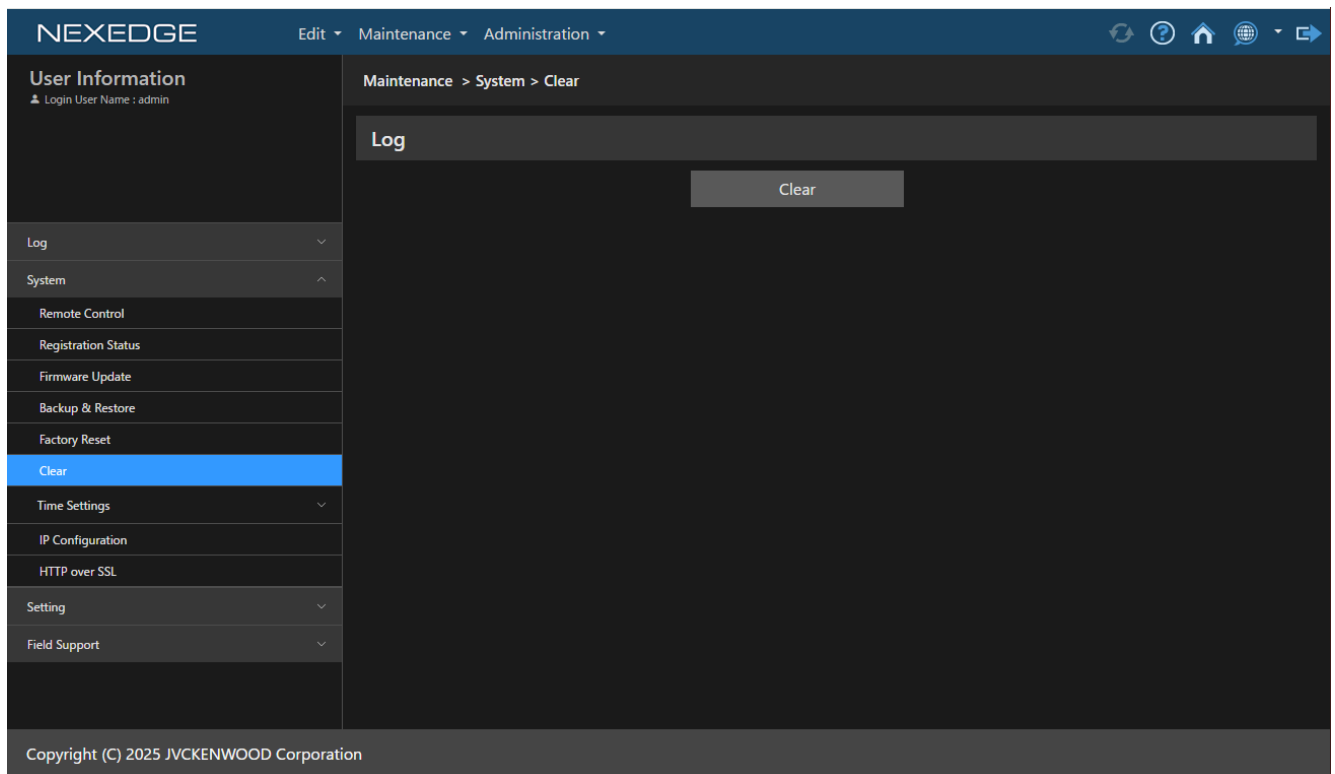


Figure 16-27 Clear

■ Time Settings

Time Settings is the function to configure the configurations related to the time for Telephone Interconnect Gateway. By configuring the NTP server to be used, the time can be automatically matched.

The screenshot displays the NEXEDGE web interface for configuring Time Settings. The left sidebar shows the navigation menu with 'Time Settings' expanded and 'General' selected. The main content area shows the 'Time Settings > General' configuration page. The page includes the following fields and controls:

- Synchronize NTP Server:** A toggle switch set to 'OFF'.
- NTP Server Address 1:** A text input field containing '1111'.
- NTP Server Address 2:** An empty text input field.
- NTP Server Address 3:** An empty text input field.
- Time Zone:** A dropdown menu set to 'UTC'.
- Daylight Saving Time:** A toggle switch set to 'OFF'.
- Start Date:** An empty date input field.
- Start Time:** An empty time input field with a ': 00' suffix.
- End Date:** An empty date input field.
- End Time:** An empty time input field with a ': 00' suffix.
- Save:** A button at the bottom left of the configuration area.

At the bottom of the page, the copyright notice reads: Copyright (C) 2025 JVCKENWOOD Corporation.

Figure 16-28 Time Settings > General

In the Time Settings > General screen, the following operations can be done:

Table 16-46 Time Settings > General

Items	Description
Synchronize NTP Server	Whether to use an NTP server can be configured. By using an NTP server, the time is acquired from the NTP server and the time can be automatically matched. Synchronize NTP Server configuration: OFF An NTP server cannot be used. Synchronize NTP Server configuration: ON The time in Telephone Interconnect Gateway is automatically updated by acquiring the time from an NTP server. Configure an NTP server in NTP Server Address.
NTP Server Address	NTP Server Address is the function to configure the address (the IP address or host name) of an NTP server. If Synchronize NTP Server is "ON", the addresses (the IP addresses or host names) of a maximum 3 NTP servers can be configured.
Time Zone	Time Zone is the function to configure the time difference between UTC and local time. The available range of configuration in Time Zone is from -12 hours to +13 hours for the difference to UTC.
Daylight Saving Time	Daylight Saving Time is the function to configure whether Daylight Saving Time (summer time) is used. Daylight Saving Time configuration: OFF Daylight Saving Time is not configured. Daylight Saving Time configuration: ON Daylight Saving Time is configured. Configure the start date and time and the end date and time of Daylight Saving Time in Start Date/ Start Time/ End Date/ End Time.
Start Date/ Start Time	If Daylight Saving Time is "ON", the start date and time of Daylight Saving Time can be configured. Start Date configuration Clicking the month and day in Start Date displays the calendar, and the start month and day can be selected. Start Time configuration The start time of Daylight Saving Time is configured.
End Date/ End Time	If Daylight Saving Time is "ON", the end date and time of Daylight Saving Time can be configured. End Date configuration Clicking the month and day in End Date displays the calendar, and the end month and day can be selected. End Time configuration The end time of Daylight Saving Time is configured.
"Save" Button	The configurations related to the time are written to Telephone Interconnect Gateway.

Configuration using Web Tool

- Configuring **Synchronize NTP Server** to be enabled or disabled (See: Maintenance > System > Time Settings > General > Time Settings > Synchronize NTP Server)
- Configuring **NTP Server Address** (See: Maintenance > System > Time Settings > General > Time Settings > NTP Server Address)
- Configuring **Time Zone** (See: Maintenance > System > Time Settings > General > Time Settings > Time Zone)
- Configuring **Daylight Saving Time** to be enabled or disabled (See: Maintenance > System > Time Settings > General > Time Settings > Daylight Saving Time)
- Configuring **Start Date/ Start Time** (See: Maintenance > System > Time Settings > General > Time Settings > Start Date/ Start Time)
- Configuring **End Date/ End Time** (See: Maintenance > System > Time Settings > General > Time Settings > End Date/ End Time)

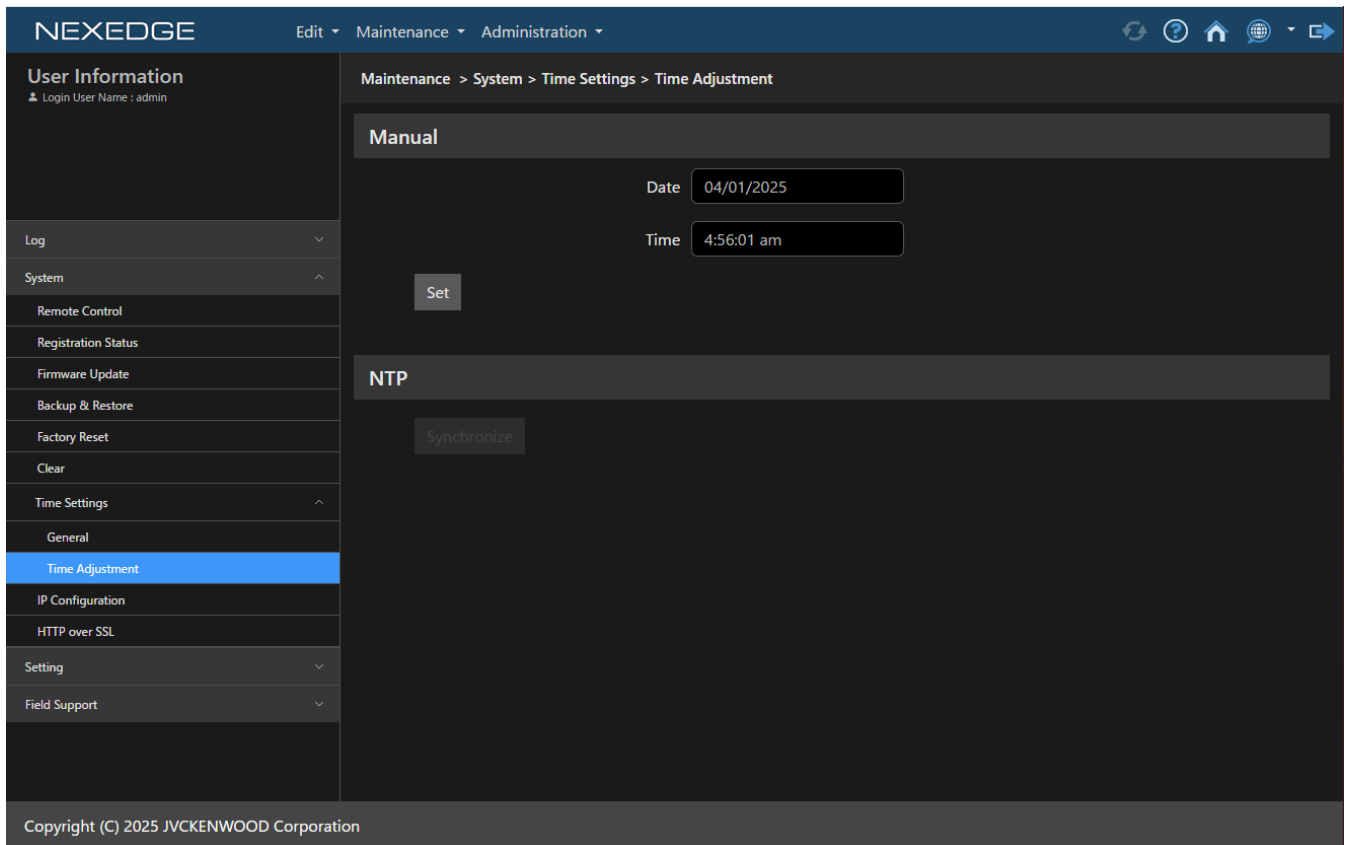


Figure 16-29 Time Settings > Time Adjustment

In the Time Settings > Time Adjustment screen, the following operations can be done:

Table 16-47 Time Settings > Time Adjustment

Items	Description
Date	Date is the function to manually configure the current date. The manually configured date is configured to the PC server by clicking the “Set” button.
Time	Time is the function to manually configure the current time. The manually configured time is configured to the PC server by clicking the “Set” button.
“Set” Button	The manually configured date and time is configured to Telephone Interconnect Gateway. The manually configured date and time is configured to the PC server by clicking the “Set” button.
“Synchronize” Button	The time in Telephone Interconnect Gateway is automatically updated by acquiring the time from the configured NTP server. Clicking the “Synchronize” button acquires the time from the NTP server, and the time in the PC server is updated. The “Synchronize” button is enabled if Synchronize NTP Server and NTP Server Address is enabled.

Configuration using Web Tool

- Configuring **Synchronize NTP Server** to be enabled or disabled (See: Maintenance > System > Time Settings > General > Time Settings > Synchronize NTP Server)
- Configuring **NTP Server Address** (See: Maintenance > System > Time Settings > General > Time Settings > NTP Server Address)
- Configuring **Date** (See: Maintenance > System > Time Settings > Time Adjustment > Manual > Date)
- Configuring **Time** (See: Maintenance > System > Time Settings > Time Adjustment > Manual > Time)

■ IP Configuration

In IP Configuration, the IP address of the PC server can be confirmed and changed.

In IP Configuration, changing the configuration of the IP address of the PC server switches the IP address.

Changing the IP address restarts Telephone Interconnect Gateway. Also, by changing the IP address, the Web Tool login screen appears so as to reconnect to the changed IP address.

If Local Redundancy is enabled for Telephone Interconnect Gateway, the IP address configuration cannot be confirmed and configured on this screen.

NEXEDGE Edit Maintenance Administration

User Information
Login User Name : admin

Maintenance > System > IP Configuration

Current Setting

IP Address 172.16.0.185

Subnet Mask 255.255.252.0

Default Gateway 172.16.1.254

Primary DNS Server 172.16.1.254

Secondary DNS Server

New Configuration

IP Address

Subnet Mask

Default Gateway

Primary DNS Server

Secondary DNS Server

Save

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Figure 16-30 IP Configuration

In the IP Configuration screen, the following operations can be done:

Table 16-48 IP Configuration (Current Setting)

Items	Description
IP Address	IP Address is the function to confirm the IP address currently configured for the PC server. The IP address configured for the PC server is displayed.
Subnet Mask	Subnet Mask is the function to confirm the subnet mask currently configured for the PC server. The subnet mask currently configured for the PC server is displayed.
Default Gateway	Default Gateway is the function to confirm the default gateway currently configured for the PC server. The default gateway configured for the PC server is displayed.
Primary DNS Server	Primary DNS Server is the function to confirm the primary DNS server currently configured for the PC server. The primary DNS server currently configured for the PC server is displayed.
Secondary DNS Server	Secondary DNS Server is the function to confirm the secondary DNS server currently configured for the PC server. The secondary DNS server currently configured for the PC server is displayed.

Table 16-49 IP Configuration (New Configuration)

Items	Description
IP Address	IP Address is the function that can configure the IP address to be configured for the PC server. The IP address to be configured for the PC server is entered. Note: ◆ Forcible logging out occurs by a system if an IP address is changed.
Subnet Mask	Subnet Mask is the function that can configure the subnet mask to be configured for the PC server. The subnet mask to be configured for the PC server is entered. Note: ◆ Forcible logging out occurs by a system if a subnet mask is changed.
Default Gateway	Default Gateway is the function that can configure the default gateway to be configured for the PC server. The default gateway to be configured for the PC server is entered. Note: ◆ Forcible logging out occurs by a system if a default gateway is changed.
Primary DNS Server	Primary DNS Server is the function that can configure the primary DNS server to be configured for the PC server. The primary DNS server to be configured for the PC server is entered.
Secondary DNS Server	Secondary DNS Server is the function that can configure the secondary DNS server to be configured for the PC server. The Secondary DNS server to be configured for the PC server is entered.

Clicking the “Save” button changes the IP address of the PC server.

Configuration using Web Tool

- Configuring each item in **IP Configuration (Current Setting)** (See: Maintenance > System > IP Configuration > Current Setting)
- Configuring each item in **IP Configuration (New Configuration)** (See: Maintenance > System > IP Configuration > New Configuration)

■ HTTP over SSL

In **HTTP over SSL**, the issuance of self-signed certificates to enable HTTPS communication and appliance of certificates issued by trusted certificate authorities are enabled.

The self-signed certificate is applied in the default state.

HTTP access can also be done by enabling HTTP communication.

However, during HTTP access, the private key and server certificate issued by the external certificate authority cannot be applied.

The screenshot displays the NEXEDGE web interface for configuring HTTP over SSL. The left sidebar includes a 'User Information' section with the login user name 'admin' and a list of navigation options: Log, System, Remote Control, Registration Status, Firmware Update, Backup & Restore, Factory Reset, Clear, Time Settings, IP Configuration, HTTP over SSL (highlighted), Setting, and Field Support. The main content area shows the 'Maintenance > System > HTTP over SSL' path. It features three main sections: 'Self-Signed Certificate' with a 'Generate' button; 'CA Certificate Install' with input fields for Private Key [.pem / .key], Server Certificate [.pem / .cert], and Intermediate Certificate [.pem / .cert], each accompanied by a 'Browse...' button, and an 'Update' button; and 'Apply CA Certificate' with a 'Valid' toggle switch currently set to 'Off' and a 'Save' button. Below these is an 'HTTP' section with a 'Valid' toggle switch set to 'ON' and a 'Save' button. The footer indicates 'Copyright (C) 2025 JVCKENWOOD Corporation'.

Figure 16-31 HTTP over SSL

In the HTTP over SSL screen, the following operations can be done:

Table 16-50 HTTP over SSL

Name	Items	Description
Self-Signed Certificate	"Generate" Button	Clicking the "Generate" button reissues the self-signed certificate at the date and time configured in Telephone Interconnect Gateway and applies it. HTTPS communication with browsers is enabled by issuing the server certificate (self-signed certificate) on Telephone Interconnect Gateway itself. However, because the certificate is not a trusted certificate, ignoring a browser warning and continuing communication are needed.
CA Certificate Install	Private Key	Private Key is the function to select the private key which is generated when CSR is issued. However, a passphrase to a private key is not supported. The server certificate to be installed separately can be matched by using the private key used by the external certificate authority to issue the server certificate. Clicking the "Browse..." button displays the file name of the selected private key.
	Server Certificate	Server Certificate is the function that can select the server certificate issued by the external certificate authority. Clicking the "Browse..." button displays the file name of the selected server certificate.
	Intermediate Certificate	Intermediate Certificate is the function that can select the intermediate CA certificate issued by the external certificate authority. Clicking the "Browse..." button displays the file name of the selected intermediate CA certificate. Depending on the certificate authority that issues the server certificate, in addition to the pair of the private key and the server certificate, the intermediate CA certificate that indicates that the certificate authority is trusted may be required. If the intermediate CA certificate is issued together with the server certificate by the certificate authority, installation on Telephone Interconnect Gateway is required.
	"Update" Button	Clicking the "Update" button installs the files such as the certificates selected by the "Browse..." button to Telephone Interconnect Gateway. Selecting the Private Key and Server Certificate activates the "Update" button.
Apply CA Certificate	Valid	Apply CA Certificate is the function to enable the SSL certificate by the file such as the certificate updated by CA Certificate Install. The content of the certificate can be confirmed in SSL Certificate. Valid applies to Telephone Interconnect Gateway an externally issued certificate that is registered in CA Certificate Install. Valid configuration: OFF The CA Certificate function is disabled. Valid configuration: ON The CA Certificate function is enabled.
	"Save" Button	Clicking the "Save" button applies the configurations in Apply CA Certificate to Telephone Interconnect Gateway.
HTTP	Valid	In HTTP, whether to enable or disable HTTP communication is selected. In Valid , whether to use HTTP communication can be configured. Valid configuration: OFF HTTP communication is disabled. Valid configuration: ON HTTP communication is enabled. When the Valid configuration is "OFF", HTTP access is redirected to HTTPS for connection when the access is made with HTTP.
	"Save" Button	Clicking the "Save" button applies the configurations in HTTP to the Telephone Interconnect Gateway.

Configuration using Web Tool

- Configuring each item in **CA Certificate Install** (See: Maintenance > System > HTTP over SSL > CA Certificate Install)
- Configuring **Apply CA Certificate** > **Valid** to be enabled or disabled (See: Maintenance > System > HTTP over SSL > Apply CA Certificate > Valid)
- Configuring **HTTP** > **Valid** to be enabled or disabled (See: Maintenance > System > HTTP over SSL > HTTP > Valid)

16.5.3 Setting

The functions of the following items can be used in Setting:

- Formats
- Timer

■ Formats

Formats is the function to switch the formats of the year, month, and day, time, and color tone displayed in the Web Tool. Each display switches to the formats configured in **Formats**.

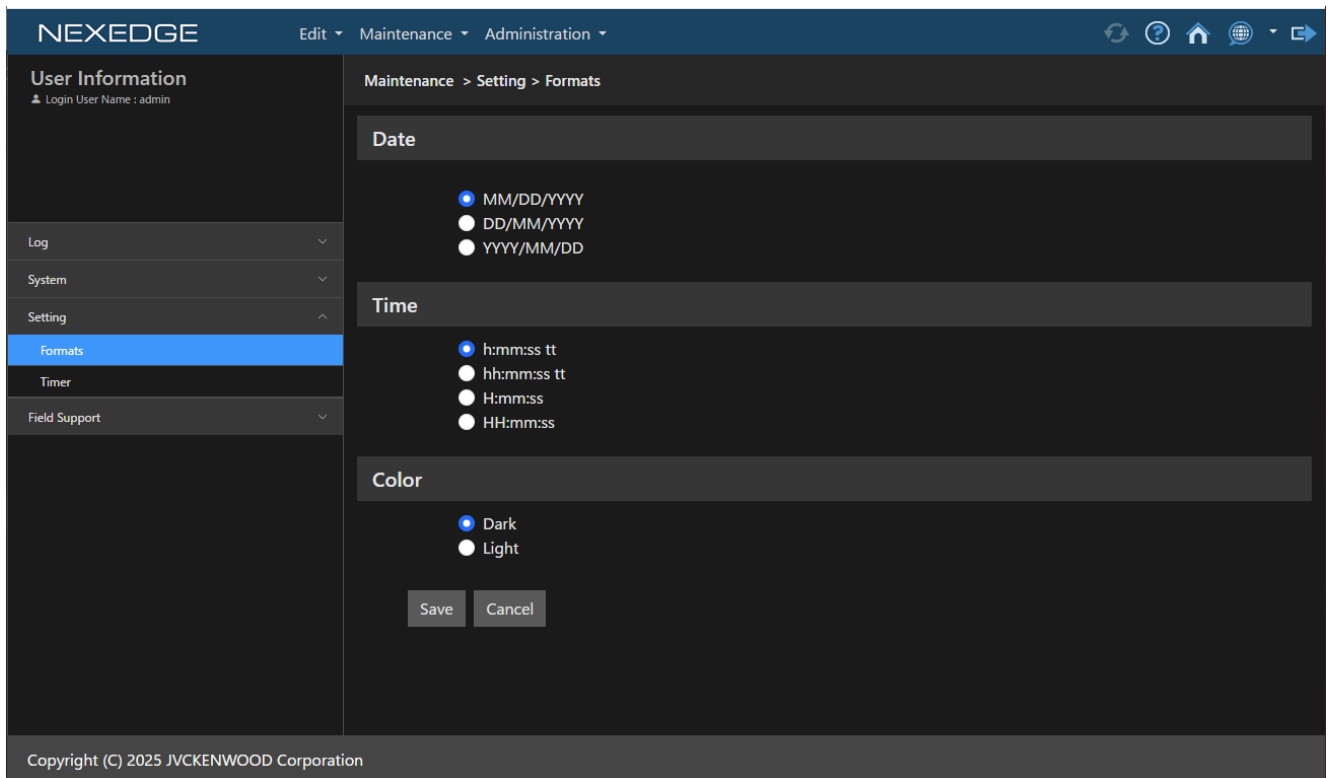


Figure 16-32 Setting > Formats

In the Formats screen, the following operations can be done:

Table 16-51 Formats

Items	Description
Date	Date is the function that can select the format of the year, month, and day displayed in the Web Tool. The year, month, and day is displayed in the configured display format from among the following: • MM/DD/YYYY • DD/MM/YYYY • YYYY/MM/DD Each character in the display format indicates the following: • YYYY: year • MM: month • DD: day
Time	Time is the function that can select the format of the time displayed in the Web Tool. The time is displayed in the configured display format from among the following: • h:mm:ss tt • hh:mm:ss tt • H:mm:ss • HH:mm:ss Each character in the display format indicates the following: • H: hour (24-hour clock) • HH: 0-padded 2-digit hour (24-hour clock) • h: hour (12-hour clock) • hh: 0-padded 2-digit hour (12-hour clock) • mm: minute • ss: second • tt: am or pm
Color	Color is the function that can select the color tone displayed in the Web Tool. The color tone is selected from among the following: • Dark • Light The selected color tone is as follows: • Dark: Displays the Web Tool screen in a dark tone. • Light: Displays the Web Tool screen in a bright tone.
"Save" Button	Clicking the "Save" button changes the display formats of year, month, and day, time, and color.
"Cancel" Button	Clicking the "Cancel" button cancels the changes of the display formats of year, month, and day, time, and color.

Configuration using Web Tool

Configuring each item in **Formats** (See: Maintenance > Setting > Formats > Date/ Time/ Color)

■ Timer

Timer is the function to configure the logout time of when the Web Tool is not operated. When the Web Tool is not operated, the Web Tool is logged out after the time configured in **Timer** has elapsed.

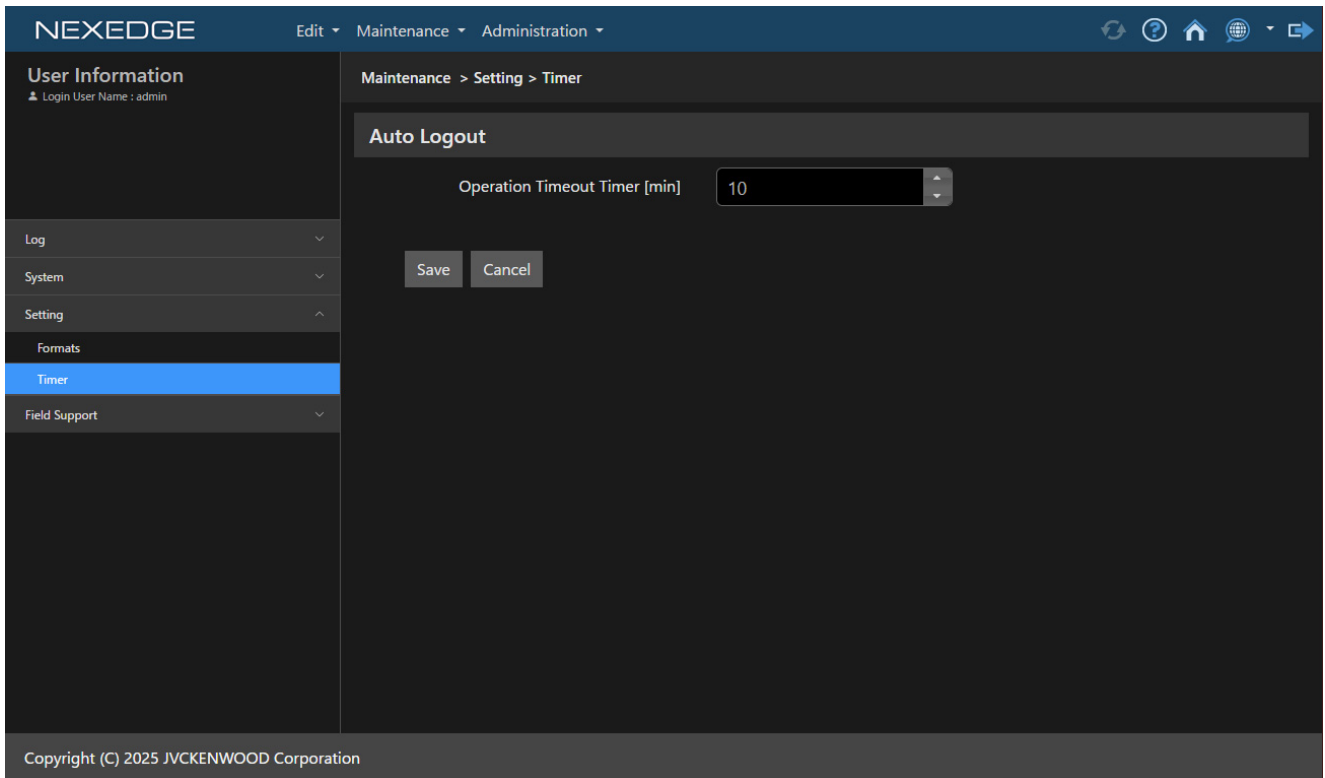


Figure 16-33 Setting > Timer

In the Timer screen, the following operations can be done:

Table 16-52 Timer

Function	Description
Operation Timeout Timer	The logout time used by the Web Tool is configured. If no operation is performed during the specified time, the Web Tool is logged out automatically. “Off” and between 1 min to 10 min in steps of 1 min can be configured
“Save” Button	Clicking the “Save” button changes the value in Timer.
“Cancel” Button	Clicking the “Cancel” button cancels the change of the value in Timer.

Configuration using Web Tool

Configuring **Timer** (See: Maintenance > Setting > Auto Logout > Timer > Operation Timeout Timer)

16.5.4 Field Support

Field Support is the function to acquire the various information intended for problem analysis in the event of failure.

The acquired information is used by JVCKENWOOD. A user can acquire (Download) the information by Field Support; however, a user cannot confirm the contents.

Field Support includes Packet Capture, Core Dump, and Syslog. Various information is accumulated as a file.

Field Support stores a file in a dedicated area (Field Support area).

In the default state of the Web Tool, only a user with Admin privileges can edit Field Support. If a user other than Admin logs in to Web Tool, the Field Support items are not displayed.

■ Packet Capture

Packet Capture is the function to capture the packets transmitted and received by Telephone Interconnect Gateway.

This function is intended for problem analysis in the event of a failure, and the acquired information is used by JVCKENWOOD.

A user can acquire the captured packets; however, a user cannot confirm the contents.

If Packet Capture is enabled, Telephone Interconnect Gateway saves packet communication with the external devices and packet communication internal to Telephone Interconnect Gateway in a file.

Figure 16-34 Field Support > Packet Capture

In the Packet Capture screen, the following operations can be done:

Table 16-53 Packet Capture

Items	Description
Packet Capture	Packet Capture is the function to configure whether to record the content of packet communication. Packet Capture configuration: OFF Telephone Interconnect Gateway does not record packet communication. Packet Capture configuration: ON Telephone Interconnect Gateway saves packet communication with the external devices and packet communication internal to Telephone Interconnect Gateway in a file. Packet capture continues even if Telephone Interconnect Gateway is restarted or rebooted.
Start Date	In Start Date , the start date for acquiring the captured packets is configured.
Start Time	In Start Time , the start time for acquiring the captured packets is configured.
End Date	In End Date , the end date for acquiring the captured packets is configured.
End Time	In End Time , the end time for acquiring the captured packets is configured.
"Download" Button	Clicking the "Download" button enables acquiring the captured packets during the period specified by Start Date/ Start Time/ End Date/ End Time. The acquired file is saved in a PC. The progress status is displayed while the packets are being acquired. Acquiring the packets can be canceled by clicking the "Cancel" button.

Note:

- ◆ The display format follows the Date format.
- ◆ If the same date and time is specified in Start Date/ Start Time and End Date/ End Time, the "Download" button cannot be executed.
- ◆ If a date and time that is later than End Date/ End Time is specified in Start Date/ Start Time, the "Download" button cannot be executed.
- ◆ If Start Date/ Start Time or End Date/ End Time is not entered, the "Download" button cannot be executed.

Configuration using Web Tool

- Configuring **Packet Capture** to be enabled or disabled (See: Maintenance > Field Support > Packet Capture > Packet Capture > Packet Capture)
- Configuring each item in **Packet Capture** (See: Maintenance > Field Support > Packet Capture > Download > Start Date/ Start Time/ End Date/ End Time)
- Configuring **Date** in Formats (See: Maintenance > Setting > Formats> Date)

■ Core Dump

Core Dump is the function to output a core file when a process terminates abnormally.

This function is intended for problem analysis in the event of a failure, and the acquired information is used by JVCKENWOOD.

A user can acquire a core file; however, a user cannot confirm the contents.

Core Dump is always enabled. The configuration is not in the Web Tool, and the Web Tool cannot disable Core Dump.

The generated core file can be acquired by the "Download" button of Diagnostic Data. Clicking the "Download" button acquires all the core files that exist at that time (a maximum of 10 files).

■ Syslog

Syslog is the function to output a log message for the debugging from the process of Telephone Interconnect Gateway.

This function is intended for problem analysis in the event of a failure, and the acquired information is used by JVCKENWOOD.

A user can acquire a log message; however, a user cannot confirm the contents.

If **Syslog** is enabled, the corresponding process of Telephone Interconnect Gateway outputs a log message to a file. The output log message file can be acquired by the "Download" button of Diagnostic Data. The log message file of within the period configured in Start Date/ End Date of Diagnostic Data can be acquired.

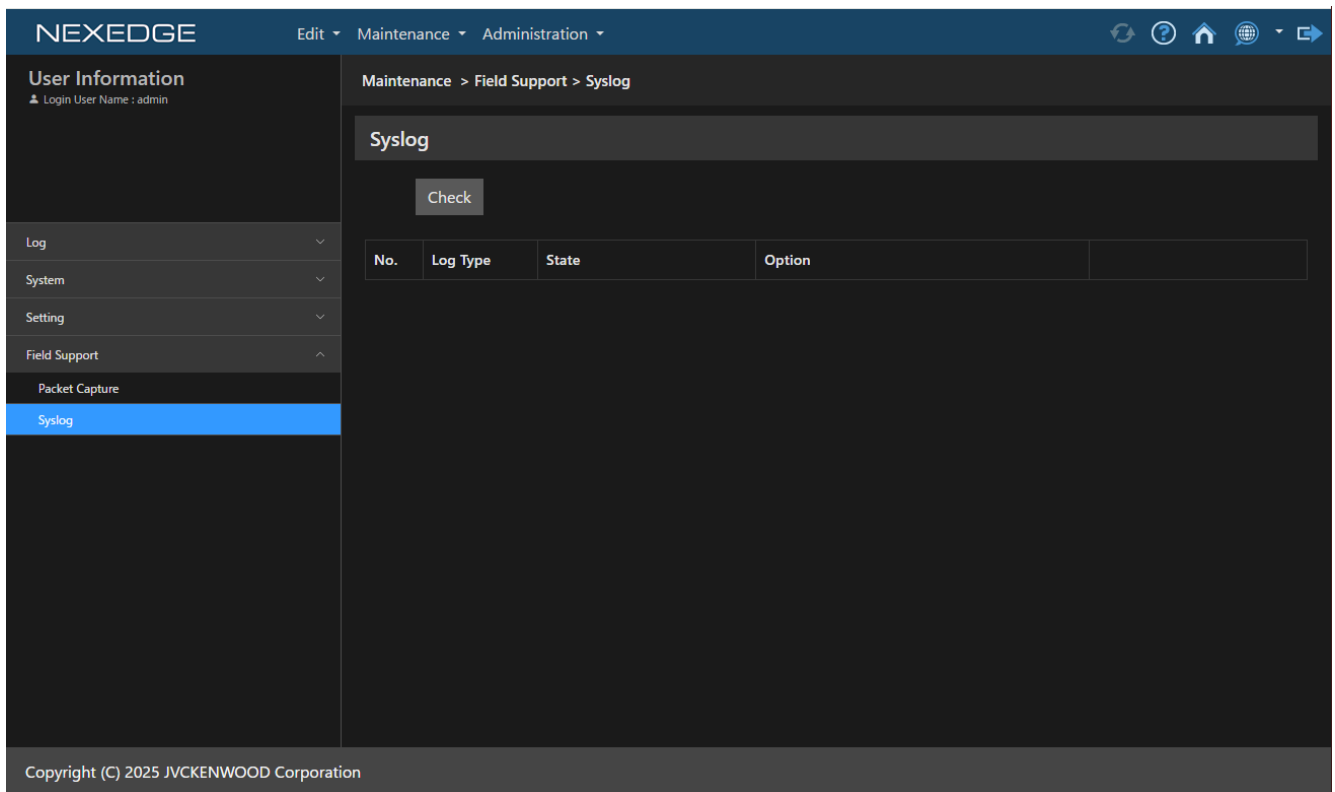


Figure 16-35 Field Support > Syslog

In the Syslog screen, the following operations can be done:

Table 16-54 Syslog

Items	Description
"Check" Button	The "Check" button is the function to confirm the current status of Syslog . Clicking the "Check" button displays the current status of the Syslog function for each log type.
Log Type	Log Type indicates the type of message that is output by the Syslog function. Telephone Interconnect Gateway enables or disables log output for each Log Type. Clicking the "Check" button displays the type of the log message.
State	State indicates the enabled or disabled state of the log message output. State configuration: OFF Telephone Interconnect Gateway does not output the log message. State configuration: ON Telephone Interconnect Gateway outputs the log message for the corresponding Log Type. A log message continues to be output even if Telephone Interconnect Gateway is restarted or rebooted. Clicking the "Check" button displays the output status of the log message for each Log Type. After clicking the "Check" button, the ON/ OFF of State can be changed. Changing the ON/ OFF of State is reflected in Telephone Interconnect Gateway by clicking the "Change" button.
Option	Option is an option for the log message output. It is used to adjust the amount of message output and to further categorize the output than Log Type when a log message is output. If the Syslog function is enabled, the repeater outputs a log message according to the configuration in Option . Clicking the "Check" button displays the option of the corresponding Log Type. Option can only be configured when State is ON.
"Change" Button	The "Change" button is the function to enable or disable the Syslog function. By clicking the "Change" button, Telephone Interconnect Gateway changes the Syslog function to be enabled or disabled. Clicking the "Change" button reflects ON/ OFF of State and the changes in Option.

Configuration using Web Tool

- Configuring **State** to be enabled or disabled (See: Maintenance > Field Support > Syslog > Syslog > State)
- Configuring **Option** (See: Maintenance > Field Support > Syslog > Syslog > Option)

16.6 Web Tool (Administration)

16.6.1 User List

In **User List**, a user who configures and operates Telephone Interconnect Gateway on the Web Tool is displayed on a list. Also, a user can be added, edited, and deleted.

A user registered in User List can configure and monitor Telephone Interconnect Gateway, and execute Remote Control for the repeater in the Web Tool.

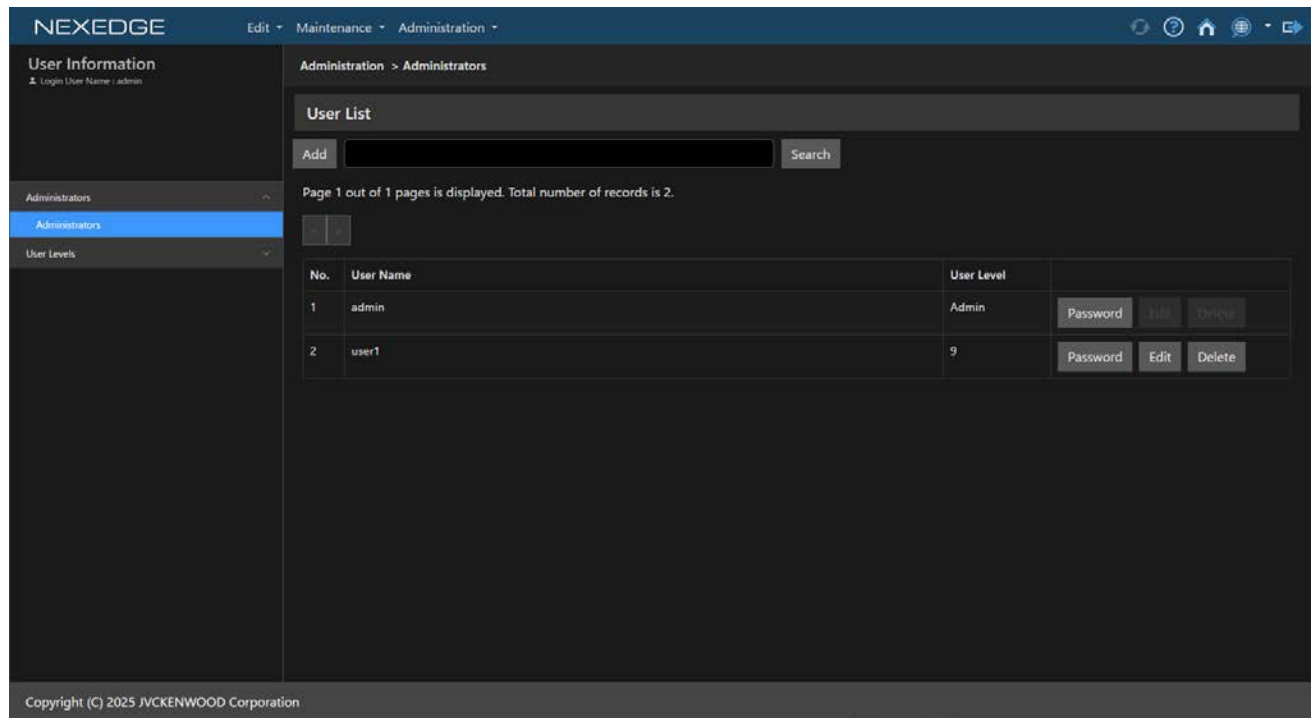


Figure 16-36 Administrators > User List

In the User List screen, the following operations can be done:

Table 16-55 User List

Items	Description
No.	The number for the user is displayed.
User Name	The name of the user is displayed.
User Level	The level of the user is displayed.
"Add" Button	A user with the Modify privileges can add a user.
"Search" Button	A user using Telephone Interconnect Gateway can search by entering a User Name, etc. Clicking the "Search" button shows the result of the text string entered as the search target.
"Page Access Bar" Key	This is the key for easily moving to another page of a configuration list spanning multiple pages.
"Details" Button	A user with the View privileges can confirm the user information.
"Password" Button	A user with the Modify privileges can change the login password for all users.
"Edit" Button	A user with the Modify privileges can edit the user information of all users.
"Delete" Button	A user with the Modify privileges can delete the user information.

Note:

- ◆ Editing admin cannot be done.
- ◆ Even if a user has the Modify privileges, the user cannot create, delete, or edit a user whose User Level is higher than the user's own. Also, the logged-in user and admin cannot be deleted.
- ◆ Even if a user has the View privileges, the user information with the User Level which is higher than the user's own cannot be confirmed.

Configuration using Web Tool

Configuring **User List** (See: Administration > Administrators > User List)

■ User

User is the function to register detailed user information. Click the “Add” button in the User List screen to register detailed user information. Click the “Edit” button in the User List screen to edit detailed user information.

The screenshot displays the NEXEDGE web application interface for adding a new user. The top navigation bar shows 'Edit', 'Maintenance', and 'Administration'. The left sidebar contains 'User Information' (with a login status for 'admin'), 'Administrators', and 'User Levels'. The 'User (Add)' option is highlighted. The main content area shows the breadcrumb 'Administration > Administrators > User (Add)' and the 'User Information' form. The form fields are: User Name (text input), User Level (dropdown menu showing '9'), Password (text input), Password (Confirm) (text input), First Name (text input), Last Name (text input), Email Address (text input), and Comment (text input). At the bottom of the form are 'Save' and 'Back' buttons. The footer indicates 'Copyright (C) 2025 JVCKENWOOD Corporation'.

Figure 16-37 User (Add)

In the User (Add) screen, the following operations can be done:

Table 16-56 User (Add)

Items	Description
User Name	The name of the user who configures and operates Telephone Interconnect Gateway is configured.
User Level	The User Level assigned to the user who configures and operates Telephone Interconnect Gateway is configured.
Password	In Password, the password of the user is entered.
Password (Confirm)	In Password (Confirm), whether the new password is correct is verified by reentering the new password of the user.
First Name	The First Name of the user who configures and operates Telephone Interconnect Gateway is configured.
Last Name	The Last Name of the user who configures and operates Telephone Interconnect Gateway is configured.
Email Address	The email address of the user who configures and operates Telephone Interconnect Gateway is configured.
Comment	The comment regarding the user who configures and operates Telephone Interconnect Gateway is configured.

Configuration using Web Tool

Configuring each item in **User (Add)** (See: Administration > Administrators > User (Add) > User Information)

The screenshot shows the NEXEDGE web interface. The top navigation bar includes 'Edit', 'Maintenance', and 'Administration'. The left sidebar shows a tree view with 'Administrators' expanded, containing 'Administrators', 'User (Edit)' (highlighted), and 'User Levels'. The main content area is titled 'Administration > Administrators > user1:User (Edit)'. Below this is the 'User Information' form. The form contains the following fields:

- User Name: user1
- User Level: 9 (dropdown menu)
- First Name: (empty text field)
- Last Name: (empty text field)
- Email Address: (empty text field)
- Comment: (empty text field)

At the bottom of the form are three buttons: 'Save', 'Cancel', and 'Back'. The footer of the page reads 'Copyright (C) 2025 JVCKENWOOD Corporation'.

Figure 16-38 User (Edit)

In the User (Edit) screen, the following operations can be done:

Table 16-57 User (Edit)

Items	Description
User Name	The name of the user who configures and operates Telephone Interconnect Gateway is edited.
User Level	The User Level assigned to the user who configures and operates Telephone Interconnect Gateway is edited.
First Name	The First Name of the user who configures and operates Telephone Interconnect Gateway is configured.
Last Name	The Last Name of the user who configures and operates Telephone Interconnect Gateway is edited.
Email Address	The email address of the user who configures and operates Telephone Interconnect Gateway is edited.
Comment	The comment regarding the user who configures and operates Telephone Interconnect Gateway is edited.

Configuration using Web Tool

Configuring each item in **User (Edit)** (See: Administration > Administrators > User (Add) > User Information)

■ User Password

User Password is the function to change the password for a user using the Web Tool. Click the “Password” button in the User List screen to change the password for a user.

Only the logged-in user can change the password.

In addition, Admin can change the password for all users.

The screenshot displays the NEXEDGE web interface. The top navigation bar shows 'Edit', 'Maintenance', and 'Administration'. The sidebar on the left contains 'User Information', 'Administrators', 'User Password' (highlighted), and 'User Levels'. The main content area shows the breadcrumb 'Administration > Administrators > admin:User Password' and the 'User Password' section. It includes three input fields: 'Current Password', 'New Password', and 'New Password (Confirm)'. Below these fields are 'Save' and 'Back' buttons. The footer indicates 'Copyright (C) 2025 JVCKENWOOD Corporation'.

Figure 16-39 User Password

In the User Password screen, the following operations can be done:

Table 16-58 User Password

Items	Description
Current Password	In Current Password , the current password of the user is entered. The entered password is marked with asterisks ● and masked to make it unreadable.
New Password	In New Password , the new password of the user is entered. The entered password is marked with asterisks ● and masked to make it unreadable.
New Password (Confirm)	In New Password (Confirm) , whether the new password is correct is verified by reentering the new password of the user. The entered password is marked with asterisks ● and masked to make it unreadable.
“Save” Button	Clicking the “Save” button changes the password to the entered password.
“Back” Button	Clicking the “Back” button migrates to the User List screen.

Configuration using Web Tool

Configuring **User Password** (See: Administration > Administrators > User Password > User Password)

16.6.2 User Levels

User Levels is the function that enables to configure the permissions of the user who configures and operates Telephone Interconnect Gateway for each function.

In **User Level**, Admin and the 9 levels can be configured, and a User Level can be configured for each user.

Click the “Edit” button in the User Levels screen to configure a User Level. By clicking the “Edit” button, the migration to the User Level entry screen and the Access Permission screen (Edit/ Maintenance/ Administration) occurs.

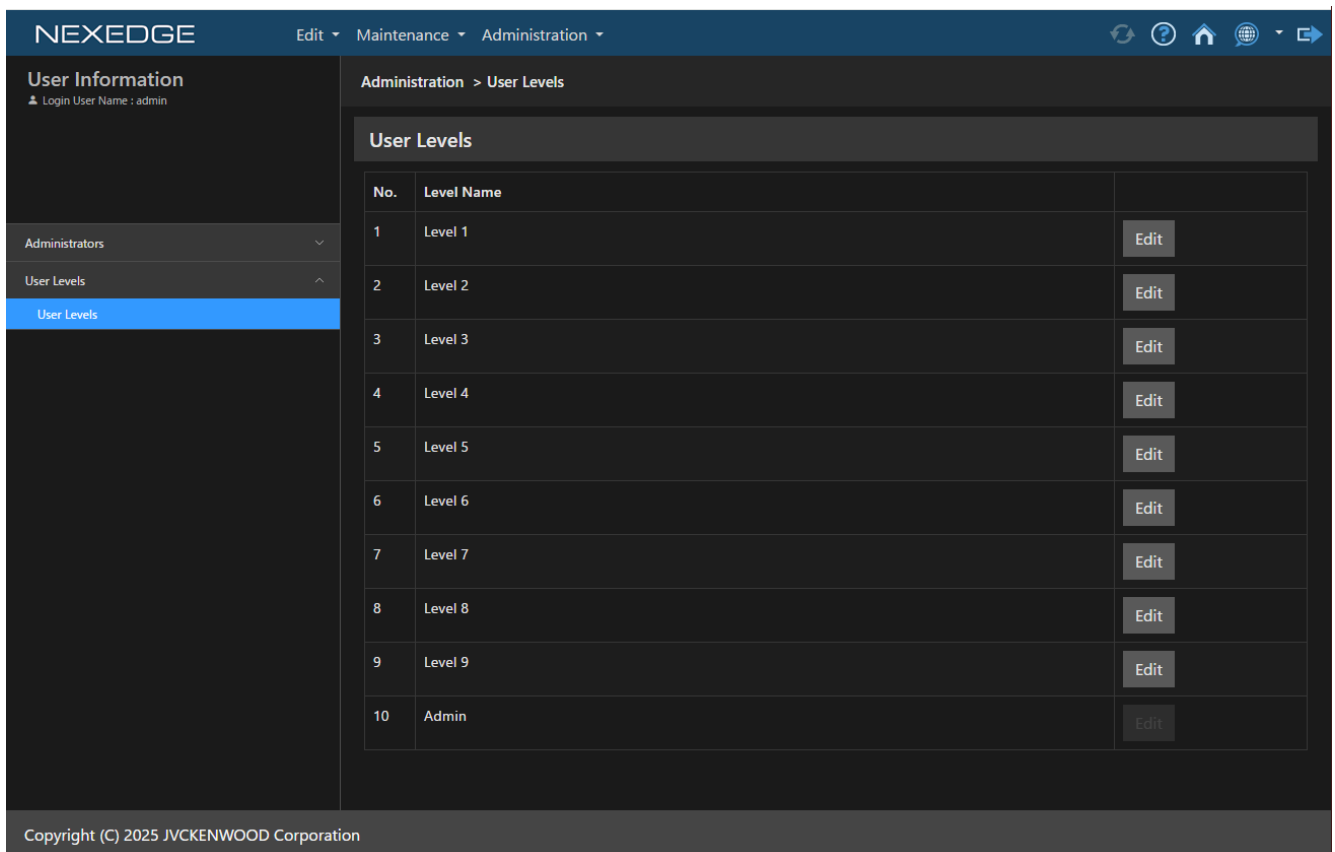


Figure 16-40 User Levels

In the User Level screen, the following operations can be done:

Table 16-59 User Level

Items	Description
No.	Displays the number for the User Level.
Level Name	Displays the name of the User Level.
"Details" Button	A user with the View privileges can confirm each User Level.
"Edit" Button	A user with the Modify privileges can edit each User Level.

補足:

- ◆ The User Level of Admin cannot be confirmed or changed.

Configuration using Web Tool

Configuring **User Levels** (See: Administration > User Levels > User Levels > User Levels)

■ Access Permission

Access Permission is the function that enables to configure the permissions of the user for each function.

By configuring the User Level permissions to match the permissions of the administrator, multiple administrators can share and use the Web Tool.

The screenshot displays the NEXEDGE web interface for configuring user levels. The left sidebar shows the navigation menu with 'User Level (Edit)' selected. The main content area is titled 'Administration > User Levels > User Level (Edit)'. It features three sections for setting permissions:

- Access Permission (Edit):** Includes dropdowns for Information, System Configurations, Server Configurations, SIP Phone Server, and SIP User ID List.
- Access Permission (Maintenance):** Includes dropdowns for Communication Log, System Log, Diagnostic Data, Remote Control, Registration Status, Firmware Update, Backup, Restore, Factory Reset, Clear, Time Settings, IP Configuration, HTTP over SSL, Timer, Packet Capture, and Syslog.
- Access Permission (Administration):** Includes dropdowns for Administrators and User Levels.

At the bottom of the form are 'Save', 'Cancel', and 'Back' buttons. The footer indicates 'Copyright (C) 2025 JVCKENWOOD Corporation'.

Figure 16-41 User Levels > User Level (Edit)

In the Access Permission screen (Edit/ Maintenance/ Administration), the following configurations can be done:

Table 16-60 Access Permission (Edit)

Items	Description
Information	Configures the permissions for configuration in Information.
System Configurations	Configures the permissions for configuration in System Configurations.
Server Configurations	Configures the permissions for configuration in Server Configurations.
SIP Phone Server	Configures the permissions for configuration in SIP Phone Server.
SIP User ID List	Configures the permissions for configuration in SIP User ID List.

Table 16-61 Access Permission (Maintenance)

Items	Description
Communication Log	Configures the permissions for Communication Log.
System Log	Configures the permissions for System Log.
Diagnostic Data	Configures the permissions for Diagnostic Data.
Remote Control	Configures the permissions for Remote Control.
Registration Status	Configures the permissions for Registration Status. (Refer to: ■ Registration Status on page 269)
Firmware Update	Configures the permissions for Firmware Update.
Backup	Configures the permissions for Backup.
Restore	Configures the permissions for Restore.
Factory Reset	Configures the permissions for Factory Reset.
Clear	Configures the permissions for Clear.
Time Settings	Configures the permissions for Time Settings.
IP Configuration	Configures the permissions for IP Configuration.
HTTP over SSL	Configures the permissions for HTTP over SSL.
Timer	Configures the permissions for Timer.
Packet Capture	Configures the permissions for Packet Capture.
Syslog	Configures the permissions for Syslog.

Table 16-62 Access Permission (Administration)

Items	Description
Administrators	Configures the permissions for Administrators.
User Levels	Configures the permissions for User Levels.

Configuration using Web Tool

- Configuring **User Level** (See: Administration > User Levels > User Levels (Edit) > User Level)
- Configuring **Access Permission** (See: Administration > User Levels > User Levels (Edit) > Access Permission (Edit/ Maintenance/ Administration))

A

About Copyright	i
About Firmware Version of a Repeater and Version of KPG-109D/ KPG-109DN/ KPG-D2/ KPG-D2N/ KPG-110SM	iii
About Keyboard Operations	18
About KPG-109DN/ KPG-D2N	ii
About KPG-110SM Dialog Box	210
About Notations	ii
About NXDN Trunking System	1
About Restricted User Mode	202
ABOUT TELEPHONE INTERCONNECT GATEWAY (KPG-1014GW)	222
About this Manual	i
About Trademarks and Patent Rights	iii
Activation File	52
Activation Folder Dialog Box	200
Add Button	71, 77, 114, 120, 124, 127, 131
Adding a Repeater Having Firmware Version Earlier Than Version 5.20.00 to a Mixed System	3
Adding NXR-5x00 to a System Structured with NXR-x00	2
Additional Control Channels	79
Address	117
Adjacency Tab	78
Adjacent Control Channels	78
Adjusted Boot Timing	76
All Groups Call	99, 111
All Groups Call Button	91
All Groups Call Window	101
Arrange Icons	207
Associated GID	122
Auto Disconnect Timer	174
Auto Save/ Load	174
Automatic Rollover	70, 73

B

Backup (Call Detail) Dialog Box	189
Basic Behaviors	226
Basic Configuration	20
Basic Operation Keys	233
Basic Screen Layout of the Web Tool	228
Baud Rate	198
Bi-directional Use	133
Busy System Wait	94, 103

C

Call Restriction Tab	67
Call Restriction Table Number	68
Call Restriction Table Number (Outgoing)	100, 112
Call Type Tab	93, 98, 102, 106, 109
Cancel Button	49
Cancellation Code	75
Capacity	225
Cascade	207
Channel	74, 76, 82, 88, 153
Channel Allocation Button	78
Channel Allocation Window	86
Channel Edit Button	78
Channel Edit Window	82
Channel Load (Graph)	181
Channel Load Dialog Box	180
Channel Reconfiguration	161
Channel State	179
Channel State Dialog Box	179
Channel Tab	76
Channel Type	77, 83
Class	91, 96
Class Name	89, 90, 92, 97
Class of Service Information Window	89
Clear	182, 186, 193, 196
Clear All Button	49
Close All Windows	208
Close Button	50
Comment	89, 90, 92, 97
Common Class of Service (GID)	116, 119
Common Class of Service (UID)	117, 123
Common CoS (GID)	113
Common CoS (UID)	114
Communication Function	226
Communication Log (Table)	183
Communication Log Dialog Box	182
Communication Mode	198
Communication Port Dialog Box	198
Configuration Procedure	27
Configuring the Communications Functions Available in the System	24
Configuring the Fleet Data	22, 30
Configuring the GID Class of Service	40
Configuring the GID Data	23, 31
Configuring the IP Console Data	33
Configuring the Network Information	21
Configuring the Parameters for Various Functions	
Determining Behaviors of the System	24
Configuring the Site Data	22, 28
Configuring the System Behavior	35

Configuring the Telephone Interconnect Data	34
Configuring the UID Class of Service	41
Configuring the UID Data	23, 32
Connecting a Repeater to a PC	12
Connecting the path for providing external reference signals	6
Consistency Evaluation for Configuration Data during Activation of Write ID Data to the System	142
Console Edit Window	128
Console Information	49
Console Information Window	126
CONTENTS	iv
Contents Tab	209
Control Channel Active Timer	61
Control Channel Burst	61
Control Channel Wait Timer	61
Control Number	52
Conventional Reset	161, 163
Core Time (Left)	187
Core Time (Right)	188
Create Activation Log Button	53
Create Button	54
Cross-busy	37, 61
Cross-busy Input Trigger	84
Customer Information	52
Customer Name	117
Customer Phone	118
Customer Tab	117

D

Date Created	72, 115, 121, 125, 132
Daylight Saving Time	173
Delete Button	71, 78, 114, 120, 124, 127, 131
Delete Control Channels	80
Diagnostic Log Dialog Box	197
Dial using	199
Dynamic Allocation	95

E

Edit Button	127, 131
Edit GID Range Button	116
Edit GID Range Dialog Box	118
Edit Menu	52
Edit Pulldown Menu	15, 204
Edit UID Range Button	117
Edit UID Range Dialog Box	118
Editing Configuration Data	19
Emergency	192, 195

Emergency Call	87
Enabling the Configured Network Information	21
End Month/ Day	173
End Time	173
Entering Conventions of Configuration Parameters	26
Error	192, 195
Error Detection for Network Connection and Configuration Data prior to Reading	141, 166
Error Detection for Network Connection and Configuration Data prior to Writing	138, 144, 167
Error Detection prior to Executing the Write Data to the System	136
Errors Detected while Reading the Configuration Data	141, 166
Errors Detected while Writing an ID	144
Errors Detected while Writing the Configuration Data	138, 167
Exit	51
Exiting KPG-110SM	11
Export	47
Exporting ID Data	47
Exporting Site Data	47
External Trigger	75
Extra Settings	199
Extract	186

F

Factory Reset	163
Failsoft Mode	84
Field Support	287
File Menu	42
File Pulldown Menu	14
Firmware Copyrights	i
Firmware Update	148
Fleet	113, 115, 119, 123, 130, 205
Fleet Edit Button	115
Fleet Edit Window	115
Fleet Information	49
Fleet Information Window	113
Fleet Name	113, 116, 127
Fleet/CoS Tab	204
Footer	232
FPU Data	165
Frequency No.	76, 83

G

Gateway	154

General	87
General Tab	52, 72, 91, 96, 101, 105, 108, 115
GID	119, 121
GID (Class of Service Information)	48
GID Class of Service	120, 121, 205
GID Class of Service Edit Window	91
GID CoS Edit Button	89
GID Edit Button	120
GID Edit Window	121
GID Information	49
GID Information Button	115
GID Information Window	119
GID Name	120, 121
GID Tab	89
Graph	82
Group Call	99, 109
Group Refusal	94
Group Registration	37, 62
Group Registration Reset Time	63

H

Hardware	225
Hardware Dialog Box	178
Header	231
Help Button	49
Help Menu	209
Help Pulldown Menu	18
Help Topics	209
Hold Timer (Traffic Channel by Data Call > Broadcast Call)	59
Hold Timer (Traffic Channel by Data Call > Conference Call)	59
Hold Timer (Traffic Channel by Data Call > Individual Call)	60
Hold Timer (Traffic Channel by Voice Call > Broadcast Call)	57
Hold Timer (Traffic Channel by Voice Call > Conference Call)	57
Hold Timer (Traffic Channel by Voice Call > Individual Call)	58
Hold Timer (Traffic Channel by Voice Call > Telephone Call)	58
Hold Timer, Occupation Timer	36
Home	235
Home Site	113, 116, 119, 123
Horizontal Tile	207
How to Structure a Site for Different Repeater Models to Coexist	2

I

Import	44
Importing ID Data	45
Importing Site Data	44
Incoming Call from Telephone Line (Incoming)	96, 100, 104, 107, 111
Index Tab	209
Individual Call	99, 110
Individual Call Response Type (Data)	98, 109
Individual Call Response Type (Voice)	98, 109
Information	191, 194, 238
Installing KPG-110SM	10
Intersite Call	94, 103
Intersite Call Table	95, 103
Intersite Tab	93, 103
IP Address	154
IP Address Tab	153
IP Console	66
IP Console Call	87
IP Console Tab	66

K

Key Class	52

L

Language Dialog Box	205
Last Update	72, 115, 121, 125, 132
Late Entry	92, 97, 101, 105, 108
Level	54
License ID	53
License Key	225
Local Redundancy	226
Location Registration	62
Log	256
Login	202
Login (Restricted User Mode)	173
Logout (Restricted User Mode)	173
Long Data Call	86, 93, 99, 103, 107, 110

M

Main Features of KPG-1014GW	224
Main Window	13, 232
Management User	200
Manufacturer Code	64

Manufacturer Limitation	64
Maximum Jitter Buffer Size	65
Maximum Number of Digits	68
Maximum Number of Group Calls	66
Maximum Session	81
Memory Used	186
Menu Bar	13
Menu Command Descriptions	14
Menu Description	13
Menu List	211
Minimum Jitter Buffer Size	65
Minimum Number of Digits	68
Monitor Menu	175
Monitor Pulldown Menu	16, 204
Monitor User	200
Multicast Group Call	38, 66
Multicast IP Address	85
Multi-site Configuration	155
Multi-site Setup Flow	152

N

Navigation	232
Network Category	52
Network Configuration	153
Network Dialog Box	177
Network Failure Information	64
Network Information	161
Network Memory Allocation Dialog Box	51
Network Setup Wizard	150
Network Tab	65
New	42
Non-dedicated Control Channel	70, 73
Notice	192, 195
Number of Channels	52
Number of Queues	55
Number of Sites	52
NXDN ESN	124
NXDN ESN Validation	38, 63
NXDN ESN Validation Reset Time	63

O

Occupation Timer (Traffic Channel by Data Call > Broadcast Call)	59
Occupation Timer (Traffic Channel by Data Call > Conference Call)	59
Occupation Timer (Traffic Channel by Data Call > Individual Call)	60

Occupation Timer (Traffic Channel by Voice Call > Broadcast Call)	57
Occupation Timer (Traffic Channel by Voice Call > Conference Call)	57
Occupation Timer (Traffic Channel by Voice Call > Individual Call)	58
Occupation Timer (Traffic Channel by Voice Call > Telephone Call)	58
OK Button	49
Open	42
Opened Window List	208
Option Dialog Box	174
Optional Tab	60
Others (Class of Service Information)	49
Others Tab	91, 159
Outgoing Call to Telephone Line (Outgoing)	100, 111
Outline of Operation on KPG-110SM	1
Overview of Telephone Interconnect Gateway	222
Overview of Web Tool	227

P

Page	50
Page Reduction Button	50
Phone Book	199
Phone Book Dialog Box	199
Phone number	67, 199
Port	198
Port Device	198
Power-on Standby	75
Preface	i
Print	48
Print Button	50
Print Preview	50
Print Preview Button	49
Print Setup Button	49
Printout List Item	48
Priority Monitor	92, 101, 105
Program Menu	134
Program Pulldown Menu	15

Q

Queue	35
Queue Level	97, 108
Queue Tab	54

R

Range of GID	116
Range of GID (Range of ID)	54
Range of UID	117
Range of UID (Range of ID)	54
Read Data from the Repeater	165
Read Data from the System	139
Read IP Configuration	159
Remote System Standby	75
Reset IP Configuration	160
Restart	162
Restore (Call Detail) Dialog Box	190
Restricted User	49
Restricted User Dialog Box	201
Restricted User Edit Dialog Box	203
Restriction Menu Tab	203
Revision History	ix
Revision Number	53
Rollover Time	74
Route	81
Route Name	80

S

Save	43, 189, 193, 196
Save As	44
Search Tab	209
Secondary GID Class of Service Window	105
Secondary GID CoS Button	91
Secondary UID Class of Service Window	107
Secondary UID CoS Button	91
Security	164
Select All Button	49
Server Configurations	245
Session Tab	80
Set	153
Setting	284
Setting up KPG-110SM	10
Setup Code	75
Setup Menu	198
Setup Pulldown Menu	17
Short Data Call	93, 99, 102, 106, 110
Shortcut Keys	18
Single Site Setup Flow	151
SIP Phone	247
Site	69, 72, 126, 130, 153
Site (Talkpath)	129
Site Change	180
Site Configuration	155

Site Connection Test	156
Site Edit Button	72
Site Edit Window	72
Site Information	48
Site Information Window	69
Site Map Tab	157
Site Name	70, 73
Size	74
Software Copyrights	i
Speed Dial	39
Speed Dial Tab	67
Start Month/ Day	173
Start Site - End Site	48
Start Time	173
Starting and Exiting KPG-110SM	11
Starting KPG-110SM	11
Startup Time of the Repeater	9
Station ID	77, 83, 88
Station ID Button	83
Station ID Inhibit	76
Station ID Window	88
Statistics - Airtime Accumulation (Table)	188
Statistics - Airtime Accumulation Dialog Box	187
Status Bar	14, 206
Status Call	93, 99, 102, 106, 110
Status of the Write ID data to the System Menu	145
Storage Location	74
Subnet mask	154
System	267
System Code	52
System Configuration	48
System Configuration Window	52
System Configurations	241
System Information	48, 162
System Key File Button	53
System Key File Dialog Box	53
System Log - Hardware (Table)	196
System Log - Hardware Dialog Box	194
System Log - System (Table)	193
System Log - System Dialog Box	191
System Log Dialog Box	191
System Name	53
System Overview Dialog Box	175
System Recognition Tab	154
System Requirements	10
System Structure	222

T

Talkpath (Talkpath)	129

Telephone Call	87
Telephone Call Button	91
Telephone Call Window	112
Telephone Interconnect Gateway Command List	223
Telephone Line Edit Window	132
Telephone Line Information	49
Telephone Line Information Window	129
Telephone Number	68
Telephone Tab	96, 100, 104, 107, 111
Temperature Units	174
Terms	223
Time Adjustment	168
Time Zone	169
Time-out Timer	92, 98, 102, 106, 108, 112
Time-out Timer in Failsoft Mode	60
Timers Tab	55
Toolbar	13, 206
Toolbar for Print Preview	50
Tools Menu	150
Tools Pulldown Menu	15
Total Number of Console	126, 130
Total Pages	49
Traffic Channel Release Delay Timer	62
Transmit Interval Time	88
Transmit Interval Time of Adjacent Site information	64
Tree View Window	206
Trunking Type	56
Type	88

U

UID	123, 125, 126, 128, 130, 132
UID (Class of Service Information)	48
UID Class of Service	123, 125, 127, 128, 205
UID Class of Service Edit Window	96
UID CoS Edit Button	90
UID Edit Button	124
UID Edit Window	125
UID Information	49
UID Information Button	115
UID Information Window	122
UID Name	123, 125, 127, 128, 130, 132
UID Tab	90
Uninstalling KPG-110SM	12
Update Rate	174
User Account Dialog Box	200
User Information	229
User Levels	295
User List	291

User Name	203

V

Valid	69, 73, 76, 82, 89, 90, 92, 95, 97, 104, 113, 116, 119, 121, 123, 125, 126, 128, 130, 132
Various Web Tool Functions (Edit)	235
Various Web Tool Functions (Maintenance)	256
Vertical Tile	207
View Menu	206
View Pulldown Menu	17
Viewing a Help Topic	25
Voice Call	86, 93, 99, 102, 106, 110

W

Warning	192, 195
Web Tool (Administration)	291
Web Tool Access Procedure	227
Window Menu	207
Window Pulldown Menu	17
Write Button	154
Write Data Result Dialog Box	139
Write Data to the Repeater	166
Write Data to the System	134
Write ID data to the System	142
Writing the Configuration Data to a Repeater	25

Z

Zoom In/ Zoom Out Button	50