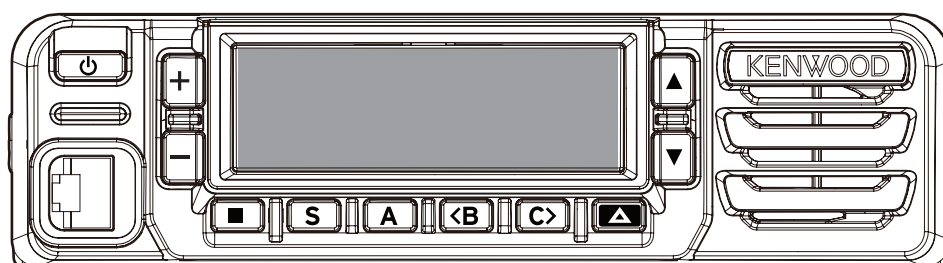


KENWOOD

SERVICE MANUAL

VHF TRANSCEIVER, UHF TRANSCEIVER

**NX-1700HN, NX-1700HNV, NX-1700N,
NX-1700HD, NX-1700HDV, NX-1700D,
NX-1700HA, NX-1700HAV, NX-1700A,
NX-1800HN, NX-1800HNU, NX-1800N,
NX-1800HD, NX-1800HDU, NX-1800D,
NX-1800HA, NX-1800HAU, NX-1800A**



REVISED

This service manual has been revised to add the following models.

NX-1800HN, NX-1800HNU, NX-1800HD, NX-1800HDU, NX-1800HA, NX-1800HAU (Type K2)

NX-1800N, NX-1800D, NX-1800A (Type E) NX-1800N, NX-1800D (Type E2)

This product complies with the **RoHS** directive for the European market.



This product uses Lead Free solder.

TABLE OF CONTENTS

1	PRECAUTION	1-8
2	SPECIFIC SERVICE INSTRUCTIONS	1-8
2.1	SYSTEM SET-UP	1-8
2.2	REALIGNMENT	1-9
2.3	INSTALLATION	1-14
2.4	CIRCUIT DESCRIPTION	1-18
2.5	SEMICONDUCTOR DATA	1-25
2.6	COMPONENTS DESCRIPTION	1-27
2.7	TERMINAL FUNCTION	1-28
3	DISASSEMBLY	1-32
3.1	Disassembly Procedure	1-32
3.2	Precautions for Reassembly	1-33
3.3	Assembly Information (Non-reusable parts)	1-34
4	ADJUSTMENT	1-35
4.1	NX-1700H series [K] type	1-35
4.2	NX-1700 series [E] type	1-49
4.3	NX-1800H series [K2] type	1-65
4.4	NX-1800 series [E, E2] type	1-79
5	TROUBLESHOOTING	1-95
5.1	Fault Diagnosis of the MPU/DSP IC	1-95
5.2	Failure diagnosis of the VCO section	1-96
5.3	Replacing MAIN Unit	1-100

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Transceivers containing AMBE+2™ Vocoder:

The AMBE+2™ voice coding technology is embedded in the firmware under the license of Digital Voice Systems, Inc.

Service Manual List

Manual number	Model name	Type	Serial number	MAIN unit number	Remarks
No.RA089 <Rev.001>	NX-1700HN, NX-1700HNV, NX-1700HD, NX-1700HDV, NX-1700HA, NX-1700HAV	K	-	XC1-353K-00 (J7C-0395-00)	First edition
	NX-1700N, NX-1700D, NX-1700A	E	-		
No.RA089 <Rev.002>	NX-1700HN	K	C2810301~	XC1-353K-00 (J7C-0395-00)	Revised This service manual
	NX-1700HNV	K	C2810591~		
	NX-1700HD	K	C2810561~		
	NX-1700HDV	K	C2810521~		
	NX-1700HA	K	C2810381~		
	NX-1700HAV	K	C2810651~		
	NX-1700N	E	C2510101~ (First lot)		
	NX-1700D	E	C2510051~ (First lot)		
	NX-1700A	E	C2510001~ (First lot)		
	NX-1800HN, NX-1800HNU, NX-1800HD, NX-1800H DU, NX-1800HA, NX-1800HAU	K2	First lot	XC1-353K-01 (J7C-0395-00)	
	NX-1800N, NX-1800D, NX-1800A	E	First lot		
	NX-1800N, NX-1800D	E2	First lot	XC1-353E-01 (J7C-0395-00)	

SPECIFICATION

NX-1700H series (K type)

GENERAL		
Frequency Range		136 ~ 174 MHz
Max. Channels per Radio		260 channels
Number of Zones		128 zones
Max. Channels per Zone		250 channels
Channel Spacing	Analog	12.5 / 25 *1 kHz
	Digital	6.25 / 12.5 kHz
Operating Voltage		13.6V DC $\pm$ 15 %
Operating Temperature		-22°F to +140°F (-30°C to +60°C)
Frequency Stability (-30°C to + 60°C; +25°C Ref.)		$\pm$ 0.5 ppm
Antenna Impedance		50 Ω
Dimensions (W x H x D)	Projections not included *2	6.30 x 1.69 x 5.42 in (160 x 43 x 137.7 mm)
	Projections included	6.34 x 1.69 x 6.62 in (161 x 43 x 168.2 mm)
Weight (net)		2.7 lbs (1.21 kg)
RECEIVER		
Sensitivity	NXDN @ 6.25 kHz 3 % BER	0.18 μ V
	NXDN @ 12.5 kHz 3 % BER	0.22 μ V
	DMR Digital 5% BER	0.18 μ V
	Analog (12 dB SINAD) @ 12.5 / 25 kHz	0.20 / 0.24 μ V
Selectivity	Analog @ 12.5 / 25 kHz	65 / 75 dB
Intermodulation	Analog	73 dB
Spurious Response	Analog	75 dB
Audio Distortion		Less than 3 %
Audio Output	Rated	4 W / 4 Ω
	Maximum	6 W / 4 Ω
TRANSMITTER		
RF Power Output (High / Mid / Low)		50 / 25 / 5 W
Spurious Emission		73 dB
FM Hum & Noise	Analog @ 12.5 / 25 kHz	40 / 45 dB
Audio Distortion		Less than 3 %
Emission Designator		16K0F3E *3, 11K0F3E *3, 8K30F1E, 8K30F1D, 8K30F7W, 4K00F1E, 4K00F1D, 4K00F7W, 4K00F2D, 7K60FXE, 7K60FXD, 7K60FXW, 7K60F1E, 7K60F1D, 7K60F1W

Specifications are measured according to applicable standards. Specifications shown are typical.

Specifications are included for digital mode as Analog models (NX-1700HAV/1700HA) are available to be converted as the Digital Transceiver by additional license.

For specification items divided by "Analog", "Digital", "NXDN" or "DMR", only specification items listed as "Analog" are applicable to the Analog models (NX-1700HAV/1700HA).

JVCKENWOOD Corporation reserves the right to change specifications without prior notice or obligation.

*1 25 kHz is not included in the models sold in the USA or US territories.

*2 Refer to the dimensions of "2.3 INSTALLATION - External View".

*3 Analog models (NX-1700HAV/1700HA) are applicable.

NX-1700 series (E type)

GENERAL		
Frequency Range		136 ~ 174 MHz
Max. Channels per Radio		260 channels
Number of Zones		128 zones
Max. Channels per Zone		250 channels
Channel Spacing	Analog	12.5 / 20 / 25 kHz
	Digital	6.25 / 12.5 kHz
Operating Voltage		13.2 V DC (10.8 ~ 15.6 V DC)
Operating Temperature		-30°C to +60°C
Frequency Stability (-30°C to + 60°C; +25°C Ref.)		±0.5 ppm
Antenna Impedance		50 Ω
Dimensions (W x H x D)	Projections not included *1	160 x 43 x 137.7 mm
	Projections included	161 x 43 x 168.2 mm
Weight (net)		1.21 kg
RECEIVER		
Sensitivity	NXDN @ 6.25 kHz 1 % BER	0.24 μV
	NXDN @ 6.25 kHz 3 % BER	0.19 μV
	NXDN @ 12.5 kHz 1 % BER	0.30 μV
	NXDN @ 12.5 kHz 3 % BER	0.24 μV
	DMR Digital 1% BER	0.28 μV
	DMR Digital 5% BER	0.20 μV
	Analog (12 dB SINAD) @ 12.5 / 20 / 25 kHz	0.22 / 0.27 / 0.26 μV
	Analog (20 dB SINAD) @ 12.5 / 20 / 25 kHz	0.33 / 0.33 / 0.32 μV
Selectivity	Analog @ 12.5 / 20 / 25 kHz	65 / 73 / 75 dB
Intermodulation	Analog	65 dB
Spurious Rejection	Analog	75 dB
Audio Distortion		Less than 3 %
Audio Output	Rated	4 W / 4 Ω
	Maximum	6 W / 4 Ω
TRANSMITTER		
RF Power Output (High / Low)		25 / 5 W
Spurious Emission		< 1 GHz ≤ -36 dBm, 1 GHz ~ 4 GHz ≤ -30 dBm
FM Hum & Noise	Analog @ 12.5 / 20 / 25 kHz	40 / 43 / 45 dB
Audio Distortion		Less than 3 %
Emission Designator		16K0F3E *2, 14K0F2D, 14K0F3E, 12K0F2D, 11K0F3E *2, 8K50F3E, 7K50F2D, 8K30F1E, 8K30F1D, 8K30F7W, 7K60FXE, 7K60FXD, 7K60FXW, 7K60F1E, 7K60F1D, 7K60F1W, 4K00F1E, 4K00F1D, 4K00F7W, 4K00F2D

Specifications are measured according to applicable standards. Specifications shown are typical.

Specifications are included for digital mode as Analog model (NX-1700A) are available to be converted as the Digital Transceiver by additional license. For specification items divided by "Analog", "Digital", "NXDN" or "DMR", only specification items listed as "Analog" are applicable to the Analog model (NX-1700A).

JVCKENWOOD Corporation reserves the right to change specifications without prior notice or obligation.

*1 Refer to the dimensions of "2.3 INSTALLATION - External View".

*2 Analog model (NX-1700A) are applicable.

NX-1800H series (K2 type)

GENERAL		
Frequency Range		400 ~ 470 MHz
Max. Channels per Radio		260 channels
Number of Zones		128 zones
Max. Channels per Zone		250 channels
Channel Spacing	Analog	12.5 / 25 *1 kHz
	Digital	6.25 / 12.5 kHz
Operating Voltage		13.6V DC $\pm$ 15 %
Operating Temperature		-22°F to +140°F (-30°C to +60°C)
Frequency Stability (-30°C to + 60°C; +25°C Ref.)		$\pm$ 0.5 ppm
Antenna Impedance		50 Ω
Dimensions (W x H x D)	Projections not included *2	6.30 x 1.69 x 5.42 in (160 x 43 x 137.7 mm)
	Projections included	6.34 x 1.69 x 6.62 in (161 x 43 x 168.2 mm)
Weight (net)		2.7 lbs (1.21 kg)
RECEIVER		
Sensitivity	NXDN @ 6.25 kHz 3 % BER	0.18 μ V
	NXDN @ 12.5 kHz 3 % BER	0.22 μ V
	DMR Digital 5% BER	0.20 μ V
	Analog (12 dB SINAD) @ 12.5 / 25 kHz	0.20 / 0.24 μ V
Selectivity	Analog @ 12.5 / 25 kHz	65 / 75 dB
Intermodulation	Analog	73 dB
Spurious Response	Analog	75 dB
Audio Distortion		Less than 3 %
Audio Output	Rated	4 W / 4 Ω
	Maximum	6 W / 4 Ω
TRANSMITTER		
RF Power Output (High / Mid / Low)		45 / 25 / 5 W
Spurious Emission		75 dB
FM Hum & Noise	Analog @ 12.5 / 25 kHz	40 / 45 dB
Audio Distortion		Less than 3 %
Emission Designator		16K0F3E *3, 11K0F3E *3, 8K30F1E, 8K30F1D, 8K30F7W, 4K00F1E, 4K00F1D, 4K00F7W, 4K00F2D, 7K60FXE, 7K60FXD, 7K60FXW, 7K60F1E, 7K60F1D, 7K60F1W

Specifications are measured according to applicable standards. Specifications shown are typical.

Specifications are included for digital mode as Analog models (NX-1800HAU/1800HA) are available to be converted as the Digital Transceiver by additional license.

For specification items divided by "Analog", "Digital", "NXDN" or "DMR", only specification items listed as "Analog" are applicable to the Analog models (NX-1800HAU/1800HA).

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*1 25 kHz is not included in the models sold in the USA or US territories.

*2 Refer to the dimensions of "2.3 INSTALLATION - External View".

*3 Analog models (NX-1800HAU/1800HA) are applicable.

NX-1800 series (E, E2 types)

GENERAL		
Frequency Range	E	400 ~ 470 MHz
	E2	450 ~ 520 MHz
Max. Channels per Radio		260 channels
Number of Zones		128 zones
Max. Channels per Zone		250 channels
Channel Spacing	Analog	12.5 / 20 / 25 kHz
	Digital	6.25 / 12.5 kHz
Operating Voltage		13.2 V DC (10.8 ~ 15.6 V DC)
Operating Temperature		-30°C to +60°C
Frequency Stability (-30°C to + 60°C; +25°C Ref.)		±0.5 ppm
Antenna Impedance		50 Ω
Dimensions (W x H x D)	Projections not included *1	160 x 43 x 137.7 mm
	Projections included	161 x 43 x 168.2 mm
Weight (net)		1.21 kg
RECEIVER		
Sensitivity	NXDN @ 6.25 kHz 1 % BER	0.24 μV
	NXDN @ 6.25 kHz 3 % BER	0.19 μV
	NXDN @ 12.5 kHz 1 % BER	0.30 μV
	NXDN @ 12.5 kHz 3 % BER	0.24 μV
	DMR Digital 1% BER	0.28 μV
	DMR Digital 5% BER	0.20 μV
	Analog (12 dB SINAD) @ 12.5 / 20 / 25 kHz	0.22 / 0.27 / 0.26 μV
	Analog (20 dB SINAD) @ 12.5 / 20 / 25 kHz	0.33 / 0.33 / 0.32 μV
Selectivity	Analog @ 12.5 / 20 / 25 kHz	65 / 73 / 75 dB
Intermodulation	Analog	65 dB
Spurious Rejection	Analog	75 dB
Audio Distortion		Less than 3 %
Audio Output	Rated	4 W / 4 Ω
	Maximum	6 W / 4 Ω
TRANSMITTER		
RF Power Output (High / Low)		25 / 5 W
Spurious Emission	E	< 1 GHz ≤ -36 dBm, 1 GHz ~ 4 GHz ≤ -30 dBm
	E2	< 1 GHz ≤ -36 dBm, 1 GHz ~ 12.75 GHz ≤ -30 dBm
FM Hum & Noise	Analog @ 12.5 / 20 / 25 kHz	40 / 43 / 45 dB
Audio Distortion		Less than 3 %
Emission Designator		16K0F3E *2, 14K0F2D, 14K0F3E, 12K0F2D, 11K0F3E *2, 8K50F3E, 7K50F2D, 8K30F1E, 8K30F1D, 8K30F7W, 7K60FXE, 7K60FXD, 7K60FXW, 7K60F1E, 7K60F1D, 7K60F1W, 4K00F1E, 4K00F1D, 4K00F7W, 4K00F2D

Specifications are measured according to applicable standards. Specifications shown are typical.

Specifications are included for digital mode as Analog model (NX-1800A) are available to be converted as the Digital Transceiver by additional license. For specification items divided by "Analog", "Digital", "NXDN" or "DMR", only specification items listed as "Analog" are applicable to the Analog model (NX-1800A).

JVCKENWOOD Corporation reserves the right to change specifications without prior notice or obligation.

*1 Refer to the dimensions of "2.3 INSTALLATION - External View".

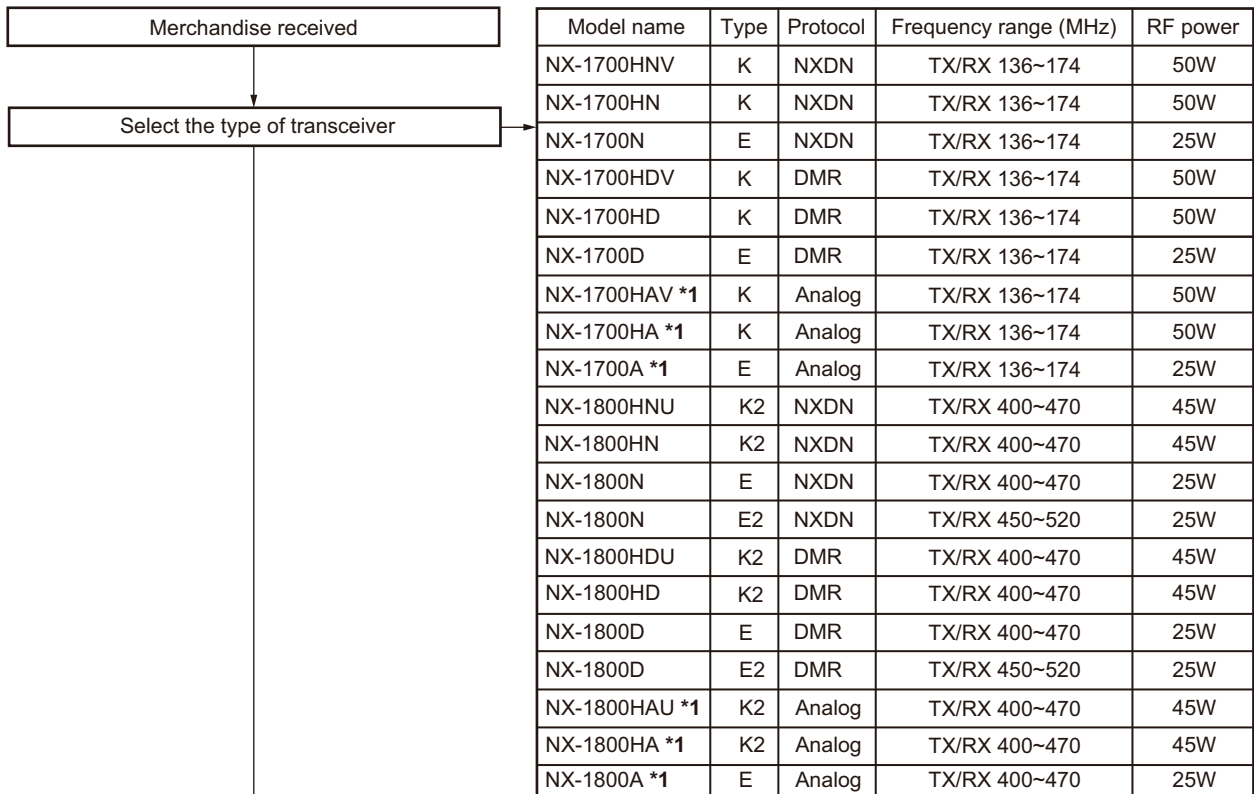
*2 Analog model (NX-1800A) are applicable.

SECTION 1 PRECAUTION

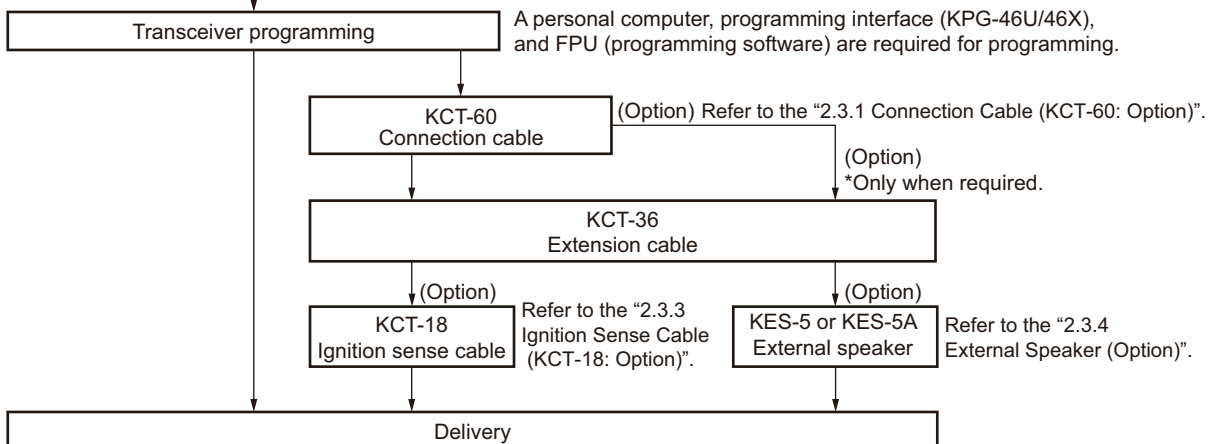
This service manual does not describe PRECAUTION.

SECTION 2 SPECIFIC SERVICE INSTRUCTIONS

2.1 SYSTEM SET-UP

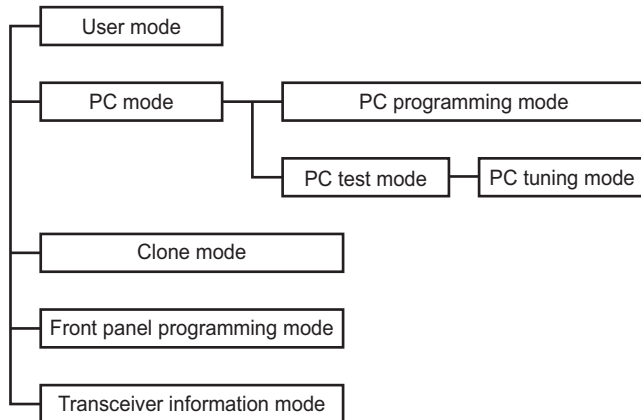


*1: With additional licenses (KWD-1200CA or KWD-1300CA), Analog models are available to be converted as the Digital Transceiver.



2.2 REALIGNMENT

2.2.1 Modes



Mode	Function
User mode	For normal use.
PC mode	Used for communication between the transceiver and PC.
PC programming mode	Used to read and write frequency data and other features to and from the transceiver.
PC test mode	Used to check the transceiver using the PC. This feature is included in the FPU.
PC tuning mode	Used to tune the transceiver using the PC.
Clone mode	Used to transfer programming data from one transceiver to another.
Front panel programming mode	Used when setting some functions with the key operation for the transceiver only.
Transceiver information mode	Used to confirm the transceiver firmware version and checksum information.

2.2.2 How to Enter Each Mode

Mode	Operation
User mode	Power ON
PC mode	Received commands from PC
Clone mode	[<B] + Power ON (Two seconds)
Front panel programming mode	[C>] + Power ON (Two seconds)
Transceiver information mode	[+] + Power ON (Two seconds)

2.2.3 PC mode

2.2.3.1 Preface

The transceiver is programmed by using a personal computer (PC), a USB programming cable (KPG-46U/46X) and a Programming software (FPU).

The programming software can be used with a PC. Fig.1 shows the setup of a PC for programming.

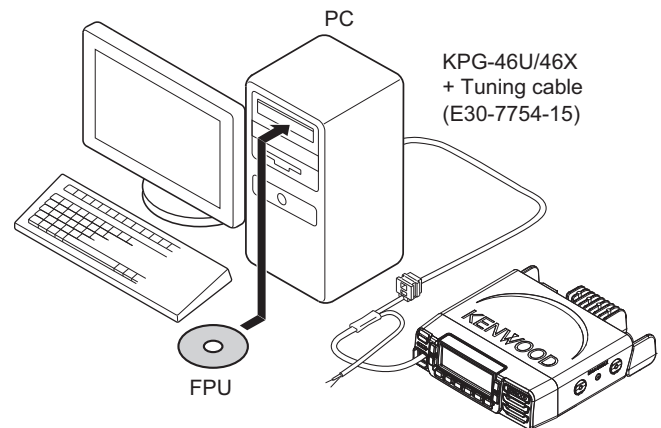


Fig.1

2.2.3.2 Connection procedure

- (1) Connect the transceiver to the PC using the USB programming interface cable (KPG-46U/46X).

Note:

You must install the KPG-46U or KPG-46X driver in the PC to use the USB programming interface cable (KPG-46U/46X).

- (2) When the POWER is switched on, you can immediately enter user mode.
When PC sends command the transceiver enter PC mode, and "PROGRAM" is displayed on the LCD.
When data transmitted from the transceiver, the red LED lights.
When data received by the transceiver, the green LED lights.

2.2.3.3 KPG-46U/46X description

(USB programming interface cable: Option)

The KPG-46U/46X is a cable which connects to a USB port on a PC.

When using the KPG-46U/46X, install the supplied CD (with driver software) in the PC.

The KPG-46U/46X driver runs under Windows 8.1 or 10.

The latest version of the USB driver is available for download from the following URL:

<https://www.kenwood.com/usb-com/>

(This URL may change without notice.)

2.2.3.4 Programming software KPG-D6/D6N (Ver. 3.00 or later) description

The FPU is the programming software for the transceiver supplied on a CD.

This software runs under Windows 8.1, 10 or 11.

The data can be input to or read from the transceiver and edited on the screen.

Note:

The KPG-D6N is for USA and US territories.

2.2.4 Clone mode

2.2.4.1 Outline

"Clone mode" copies the transceiver data to another transceiver.

The dealer can copy the transceiver data to another transceiver even without the use of a PC.

2.2.4.2 Example

The transceiver programming data can be copied from transceiver to other transceivers through the cloning cable.

2.2.4.3 Operation

The following data cannot be cloned.

- ESN (Electronic Serial Number) data
- Model name
- Tuning data
- Backup data
- Embedded Message with Password

- (1) In the source transceiver, press and hold the [] button for two seconds while turning the transceiver power ON and enter the Clone mode.

The transceiver displays "CLONE".

- (2) In the target transceiver, turning the transceiver power ON.
- (3) Connecting the cloning cable to the modular microphone jacks on the source and target.

- (4) Press the [S] button on the source while the source displays "CLONE".

The data of the source is sent to the target.

While the target is receiving the data, the green LED lights and "PROGRAM" is displayed.

- (5) When cloning of the data is completed, the source displays "CLN END", and the target automatically operates in the User mode.

The target can then be operated by the same program as the source.

If data transmission failed while cloning, the target displays "CLN ERR".

If the cloning fails, no data will be available in the target when it is returned to User mode.

- (6) The other target can be continuously cloned.

When the [S] button on the source is pressed while the source displays "CLN END", the source displays "CLONE". Carry out the operation in step (2) to (5).

Note:

- a) If the Clone Mode of the transceiver is configured as disabled in the FPU optional features window, the transceiver cannot enter Clone mode.
- b) If the transceiver is in Error mode, Clone mode cannot be entered.
- c) The conditions and operations when Clone becomes impossible are as follows.
 - The Password (Write) is set to the target transceiver.
 - Between transceivers where the data with different Model Name, Frequency and Features.

- The Radio Feature setting is enabled on the source side but the same Radio Feature License setting is disabled on the target side.
 - If the Disable Reading Key Data is enabled through the FPU.
- d) The source transceiver and the target transceiver must have same model name data.
 - e) Once transceiver is set to be the source, it cannot be a target after all data has been transmitted. This is to protect the data in the source transceiver.

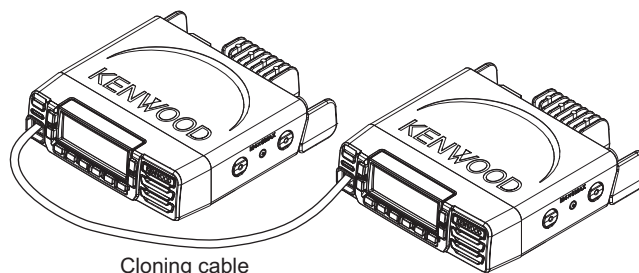


Fig.2

2.2.5 Front panel programming mode

With the Front panel programming mode, the frequency or other data of the conventional channel are rewritable only by the transceiver.

Moreover, the conventional channel can be added.

The following setup items can be changed or added by using the Front panel programming mode.

- RX frequency
- TX frequency
- Channel type *1
- TX mode
- RX signaling (QT/ DQT/ OFF)
- TX signaling (QT/ DQT/ OFF)
- RX RAN *1
- TX RAN *1
- Color code *1
- Channel spacing (Analog)
- Channel spacing (Digital) *1
- Slot selection *1
- TX power
- Selcall on PTT *1
- Own ID *1

*1 Those setup items are skipped with the Analog models (NX-1700HAV/1700HA/1700A, NX-1800HAU/1800HA/1800A).

Note:

If the Front panel programming mode is configured as disabled in the FPU optional features window, the transceiver cannot enter the Front panel programming mode.

2.2.5.1 Enter to the Front panel programming mode

Press and hold the [C>] button for two seconds while turning the transceiver power ON to enter the Front panel programming mode.

There is no password set to the transceiver, "PANEL PG" is displayed on the LCD.

If the Transceiver Password is set to the transceiver, "PANEL PG" is displayed on the LCD when the correct password is entered while "PASSWORD" is displayed.

■Button guide to enter the Transceiver password on the Front panel programming mode

With the Password input mode, enter the password to refer the following Button guide.

[S] button: Confirm the entry password

[A] button: Delete the latest digit from the current password number (Press and hold to delete all password numbers)

[<B] button: Enter the password and decrement a digit

[C>] button: Enter the password and increment a digit

2.2.5.2 Data Writing

Before moving to next Zone, "SAVE Y/N" appears on the LCD by pressing [A] button, and the new data is written into the Transceiver by pressing [S] button.

If the current Zone/Channel is changed without pressing [S] button, the new data would not be written; and a new data programmed will be erased.

2.2.5.3 Channel setup item programming

In the Front panel programming mode, the setup item as follows can be selected by pressing [S] button.

And program the selected setup item to refer the Button operation and the Front panel programming flowchart.

■The channel setup items for Front panel programming mode

No.	Setup item	Display	Remarks
1	RX frequency	Rx FREQ	Receive Frequency *2
2	TX frequency	Tx FREQ	Transmit Frequency *2
3	Channel type	CH TYPE	ANALOG / DMR / NXDN / MIXED
4	TX mode	Tx MODE	Analog: TX MOD A / Digital: TX MOD D
5	RX signaling	Rx SIG	QT / DQT N / DQT I / OFF *3
6	TX signaling	Tx SIG	QT / DQT N / DQT I / OFF *3
7	RX RAN	Rx RAN	None / RAN 1 ~ 63 *3
8	TX RAN	Tx RAN	None / RAN 1 ~ 63 *3
9	Color code	Rx / Tx CC	CC 0 ~ CC 15
10	Channel spacing (Analog)	CH SP A	12.5 / 20 *4 / 25kHz
11	Channel spacing (Digital)	CH SP D	6.25 / 12.5kHz
12	Slot selection	SLOT NUM	SLOT 1 / SLOT 2 / AUTO
13	TX power	Tx POWER	K type series: LOW / MEDIUM / HIGH E type series: LOW / HIGH
14	Selcall on PTT	PTT ID	PTT OFF / IND xxx / GRP xxx *5
15	Own ID	OWN ID	Fixed

*2 A frequency step size as follows can be changed by [▲] or [▼] button.

NX-1700/1700H series frequency step size:

2.50k / 3.125k / 5.00k / 6.25k / 7.50k / 100k / 1.00M

NX-1800/1800H series frequency step size:

3.125k / 5.00k / 6.25k / 100k / 1.00M

*3 A signaling type, RAN setting or call type (PTT ID) can be changed by [▲] or [▼] button.

*4 20kHz is only for E type series.

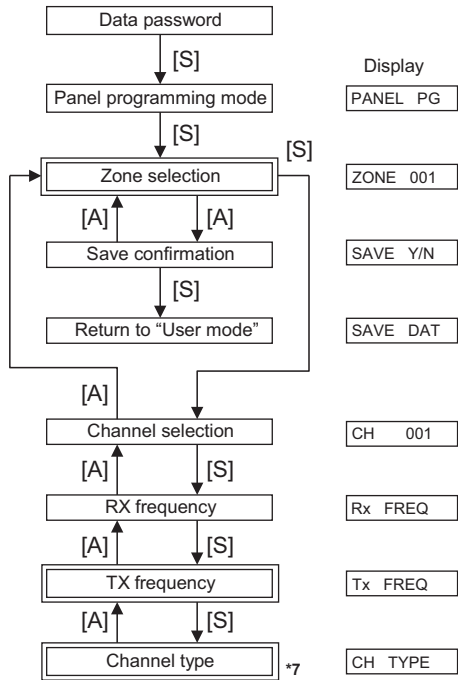
*5 PTT ID is selected by the Individual or Group list number.

■Button operation

Button	Function
[▲]	Change a channel step size, a signaling type, a RAN setting or a call type (PTT ID).
[▼]	Change a channel step size, a signaling type, a RAN setting or a call type (PTT ID).
■	No function
[S]	Store the current settings and go to the Item Selection mode.
[A]	Abort the current settings and return to the Item Selection mode without backup.
[<B]	Toggle/ Decrease the selected item.
[C>]	Toggle/ Increase the selected item.
[△ (AUX)]	No function
[+]	No function
[-]	No function

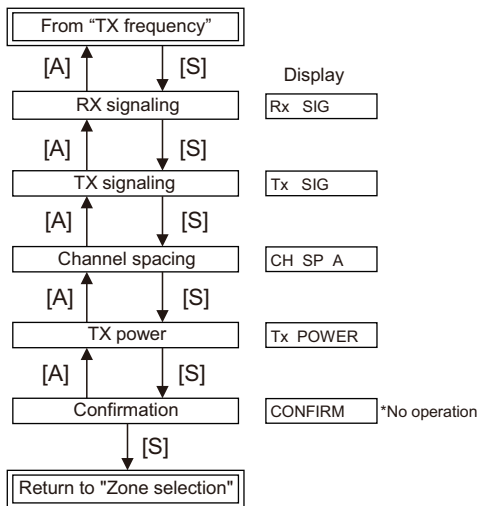
■Front panel programming mode flowchart

- Main flowchart

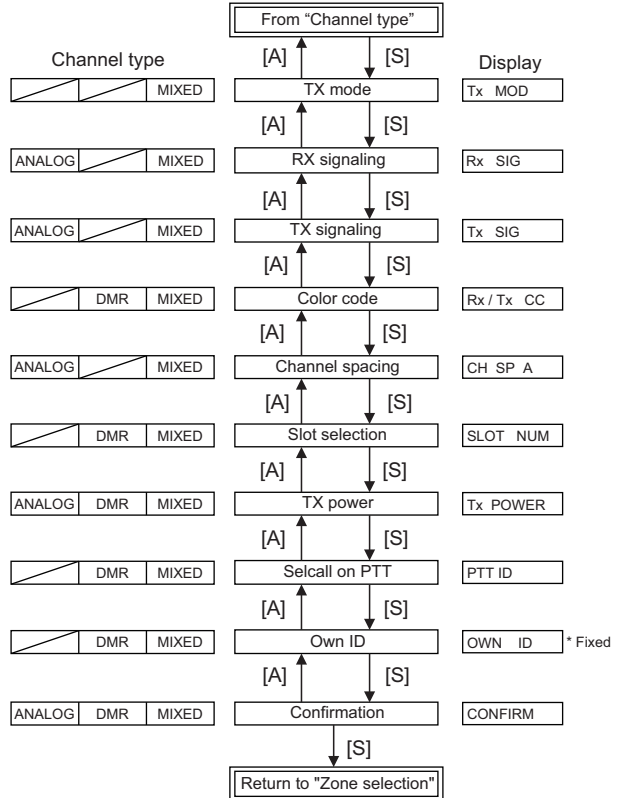


*7 Channel type is skipped for Analog models (NX-1700HAV/1700HA/1700A, NX-1800HAU/1800HA/1800A).

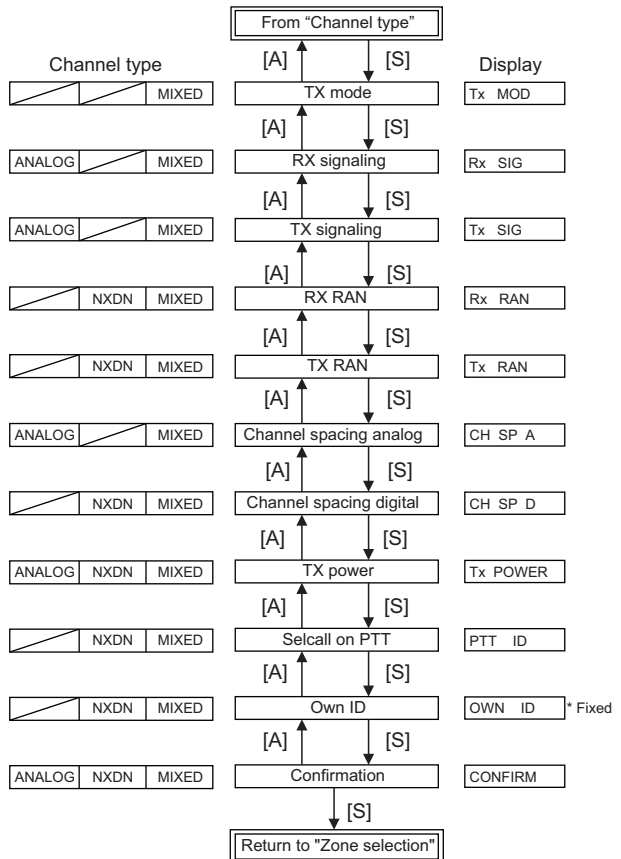
- Sub flowchart for Analog model (NX-1700HAV/1700HA/1700A, NX-1800HAU/1800HA/1800A)



- Sub flowchart for DMR model (NX-1700HDV/1700HD/1700D, NX-1800H DU/1800HD/1800D)



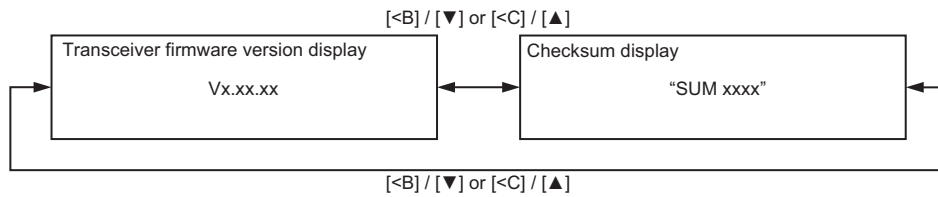
- Sub flowchart for NXDN model (NX-1700HNV/1700HN/1700N, NX-1800HNU/1800HN/1800N)



2.2.6 Transceiver information mode

Use this function to confirm the transceiver firmware version and checksum information.

- (1) Press and hold the [+] button for two seconds while turning the transceiver power ON.
- (2) The transceiver firmware version appears on the LCD.
- (3) Use the [<B] / [▼] or [<C] / [▲] buttons to select the confirmation items.



- (4) To exit the transceiver information mode, turn the transceiver power OFF.

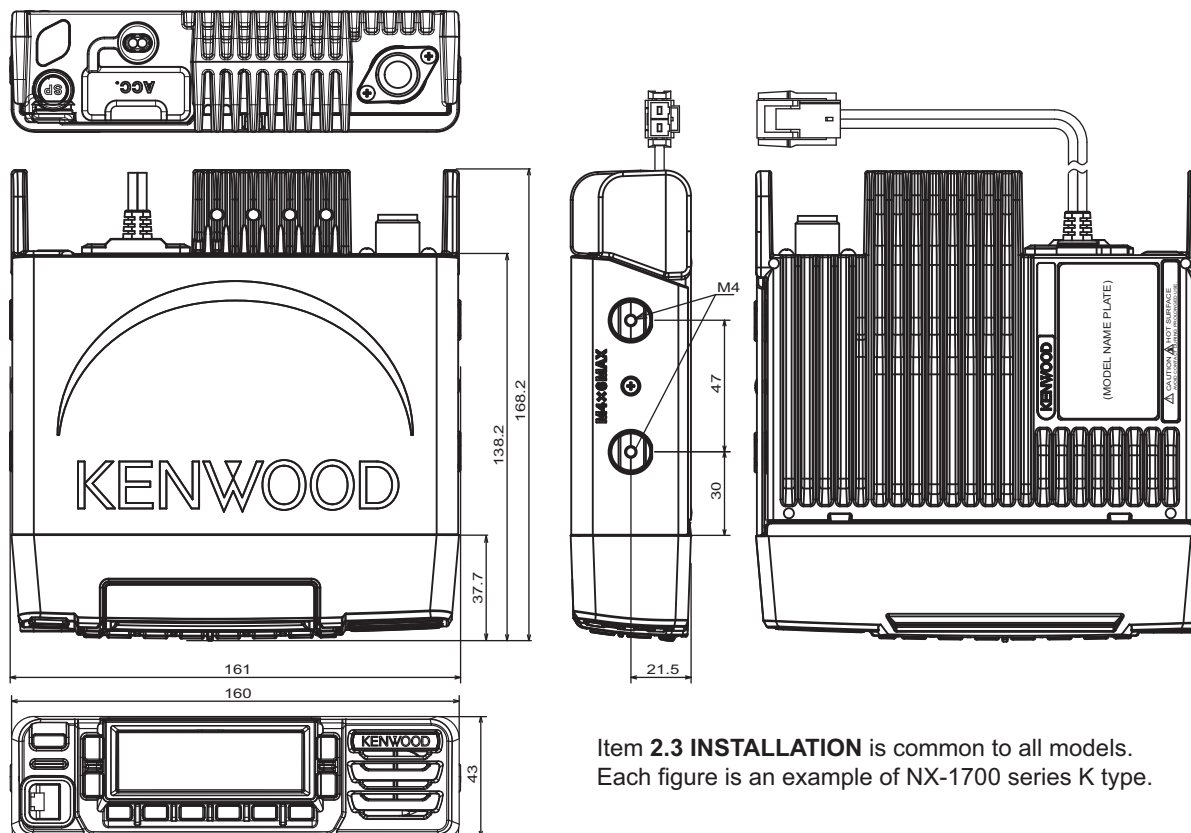
2.2.7 Firmware Update

When updating the transceiver firmware, use the updater.

Connect the KPG-46U/46X and execute the updater.

2.3 INSTALLATION

■External View



Item **2.3 INSTALLATION** is common to all models.
Each figure is an example of NX-1700 series K type.

2.3.1 Connection Cable (KCT-60: Option)

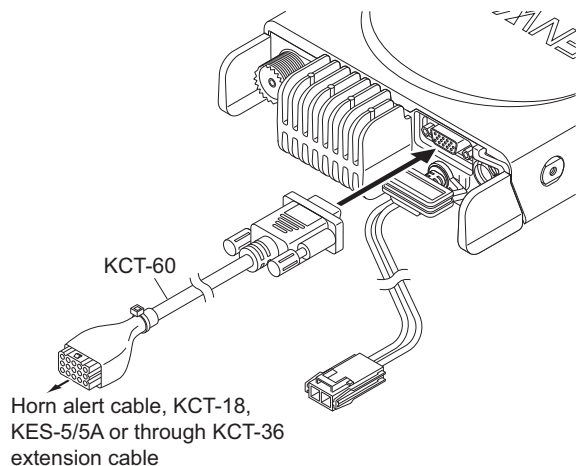
The KCT-60 connection cable kit is used to connect the transceiver to a Horn alert cable, KCT-18 (Ignition sense cable), KES-5/5A (External speaker), or through the KCT-36 extension cable.

2.3.1.1 Installing the KCT-60 (Connection cable) in the transceiver

- (1) Remove the ACC. cap on the rear of the transceiver.
- (2) Connect the D-sub connector of the KCT-60 to the D-sub 15-pin terminal of the transceiver.
- (3) Connect the 15-pin connector of the KCT-60 to a Horn alert cable, KCT-18, KES-5/5A, or through a KCT-36 extension cable.

Note:

You must set up using the KPG-D6/D6N.



2.3.1.2 Terminal function

D-sub 15-pin Pin No.	Name	Molex 15-pin Pin No.
1	SB	1
2	IGN	2
3	PA or EXT-SP+	12
4	AFO (DEO)	4
5	MI2 (DI)	5
6	FNC1	9
7	FNC2	11
8	FNC3	7
9	FNC4	6
10	FNC5	8
11	FNC6 (PA or EXT-SP-)	10
12	5DSUB	NC
13	HR1	13
14	HR2	14
15	GND	3

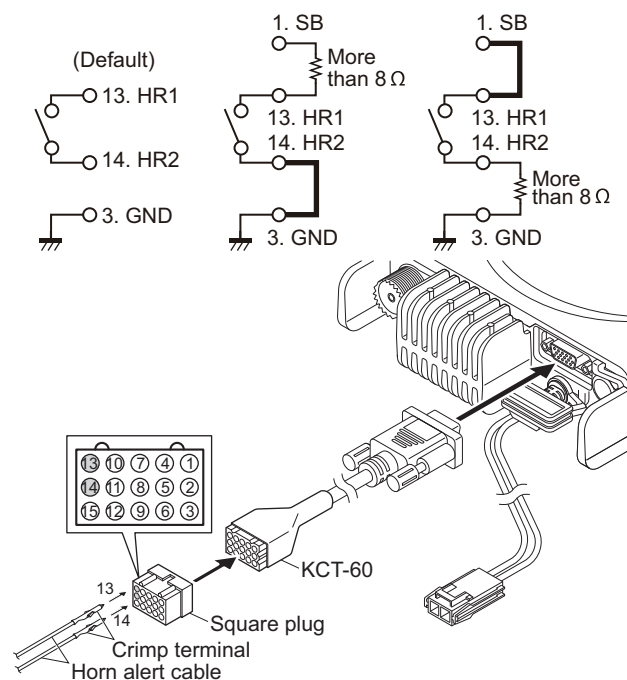
2.3.2 Horn Alert Function

The Horn alert function (max. 2A drive) is enabled by installing the KCT-60 in the transceiver.

2.3.2.1 Installation Procedure

- (1) Remove the ACC. cap on the rear of the transceiver.
- (2) Connect the D-sub connector of the KCT-60 to the D-sub 15-pin terminal of the transceiver.
- (3) Insert the two crimp terminals of the Horn alert cable to pins 13 and 14 of the square plug.
- (4) Connect the square plug to the 15-pin connector of the KCT-60.
- (5) Connect the remaining two Horn alert cables to your car Horn alert signal control.

The internal FET switch can be controlled by turning the HA function on/off and by using a signaling decode output. The maximum current of HA is 2A. This FET switch is the open drain circuit. Therefore, a DC power supply is necessary to use the HR1. The voltage range is from 5V to 16V.



2.3.3 Ignition Sense Cable (KCT-18: Option)

The KCT-18 is an optional cable for enabling the ignition function. The ignition function lets you turn the transceiver power on and off with the car ignition key.

2.3.3.1 Installing the KCT-18 (Ignition sense cable) in the transceiver

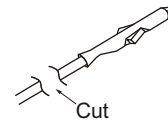
- (1) The KCT-18 can be installed in the transceiver by the following two methods (Method A, Method B).

Method A: The KCT-18 is soldered to the "IGN" pad on the Main unit.

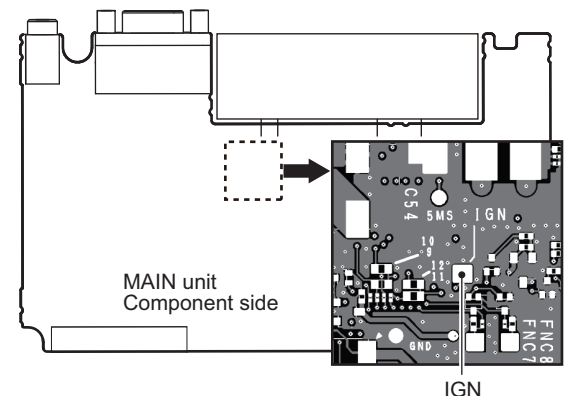
Method B: The KCT-18 is connected to the 15-pin connector of the KCT-60 connected to the transceiver.

■Installation Procedure: Method A

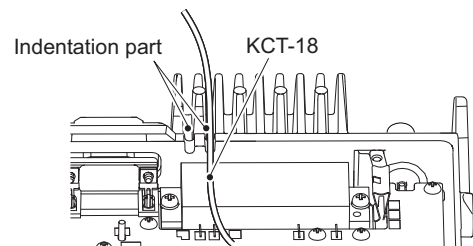
- (1) Remove the two screws on both the right and left sides of the transceiver, then remove the cabinet and top packing from the transceiver.
- (2) Cut the crimp terminal side of the KCT-18 using a pair of nippers or similar tool.



- (3) Solder the cable side cut in the above step 3 to the "IGN" pad on the Main unit.

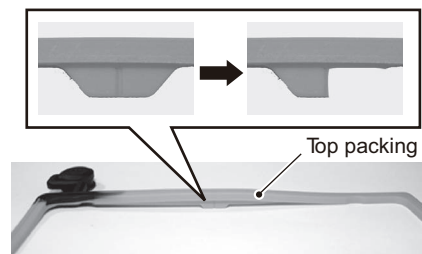


- (4) Dress the KCT-18 cable as shown in the figure. The KCT-18 cable needs to pass through one of two indentations located on the rear panel of the transceiver.



- (5) Cut off the projection of the top packing using a pair of nippers or similar tool.

If the KCT-18 cable is dressed to be routed through the indentations on the right side in step 5, the right side of the projection needs to be cut off. If the KCT-18 cable is dressed to be routed through the indentations on the left side, the left side of the projection needs to be cut off. Following is a figure presenting an example for when the right side of the projection is cut off.



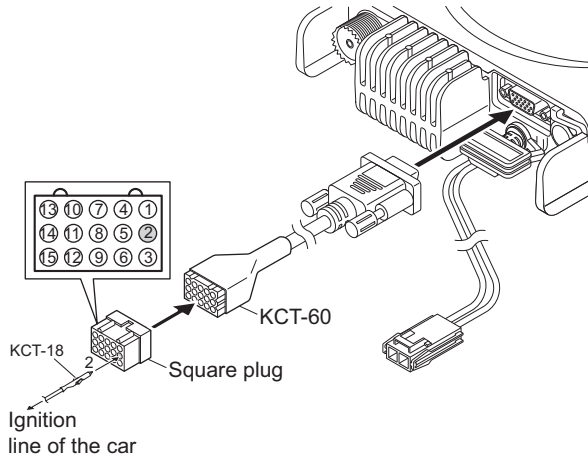
- (6) Reinstall the top packing. Check the correct fitting of the top packing, then reinstall the cabinet and two screws for the right and left sides.
- (7) Connect the other side of the KCT-18 to the ignition line of the car.

■Installation Procedure: Method B

- (1) Remove the ACC. cap on the rear of the transceiver.
- (2) Connect the D-sub connector of the KCT-60 to the D-sub 15-pin terminal of the transceiver.
- (3) Insert the crimp terminal side of the KCT-18 to pin 2 of the square plug.
- (4) Connect the square plug to the 15-pin connector of the KCT-60.
- (5) Connect the other side of the KCT-18 to the ignition line of the car.

Note:

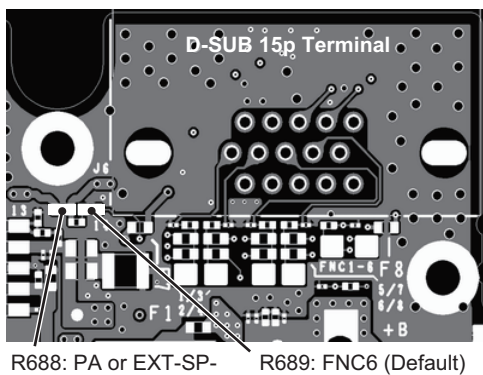
You must set up using the KPG-D6/D6N.



2.3.4 External Speaker (Option)

2.3.4.1 KES-5/5A

External speaker KES-5/5A can be installed for KCT-60. When using KES-5/5A, the chip jumper needs to be changed. External speaker output of this transceiver is BTL. But the chip jumper needs to be changed since PA or EXT-SP- is shared with FNC6, and pin 11 of D-sub 15-pin connector is configured at the FNC6 as the default value. Remove the R689 chip jumper and solder the chip jumper to R688.

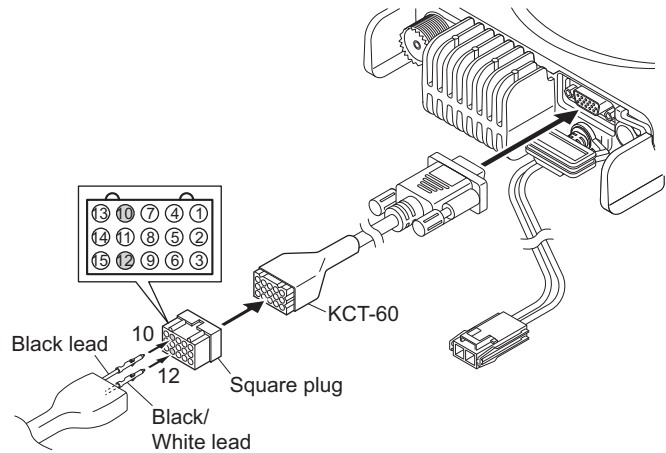


■Connection procedure

- (1) Remove the ACC. cap on the rear of the transceiver.
- (2) Connect the D-sub connector of the KCT-60 to the D-sub 15-pin terminal of the transceiver.
- (3) Insert the two crimp terminals of the KES-5/5A to pins 10 and 12 of the square plug.
- (4) Connect the square plug to the 15-pin connector of the KCT-60.

Note:

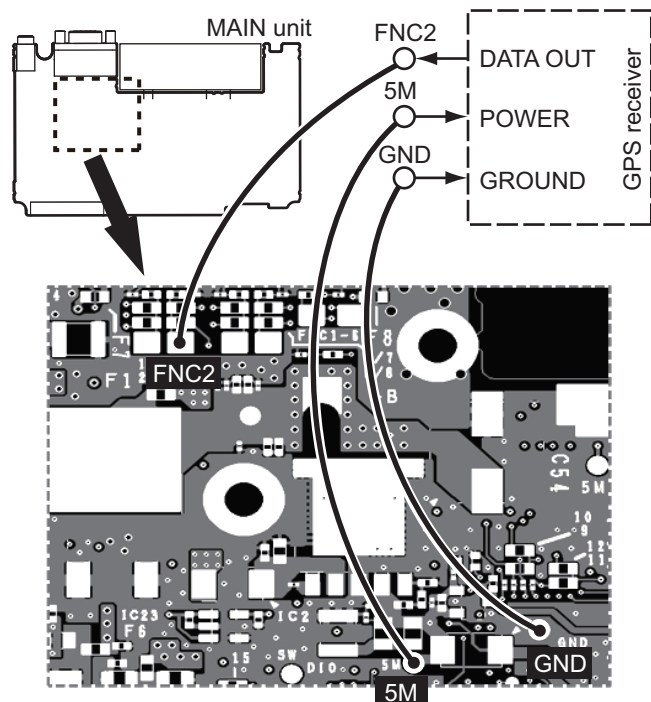
- You must set up using the KPG-D6/D6N. Before the external speaker can be used, you must assign one of the keys as "External Speaker", using the KPG-D6/D6N.
- This also applicable to public address provide you must assign one of the keys as "Public Address", using the KPG-D6/D6N.



2.3.5 GPS Receiver Connection

2.3.5.1 Connecting the GPS receiver

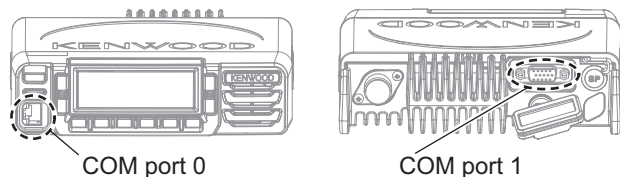
- (1) Soldering position



- (2) Refer to FNC2 (RXD) of "2.3.7 Changing Serial Port Level".

2.3.6 Extended Function: COM port 0 and COM port 1

Location of COM port 0 and COM port 1 of the transceiver is shown below.



You must configure the transceiver COM port 0 and COM port 1 using the KPG-D6/D6N.

When you set COM port 1 as "Data", the Function port 1 and 2 will be automatically fixed as Input ports.

The reason for this is because function port 1 (TXD) and 2 (RXD) share the same circuit path of TXD and RXD line.

2.3.7 Changing Serial Port Level

2.3.7.1 Change FNC1 (TXD) and FNC2 (RXD) of D-sub 15-pin connector from TTL level to RS-232C level

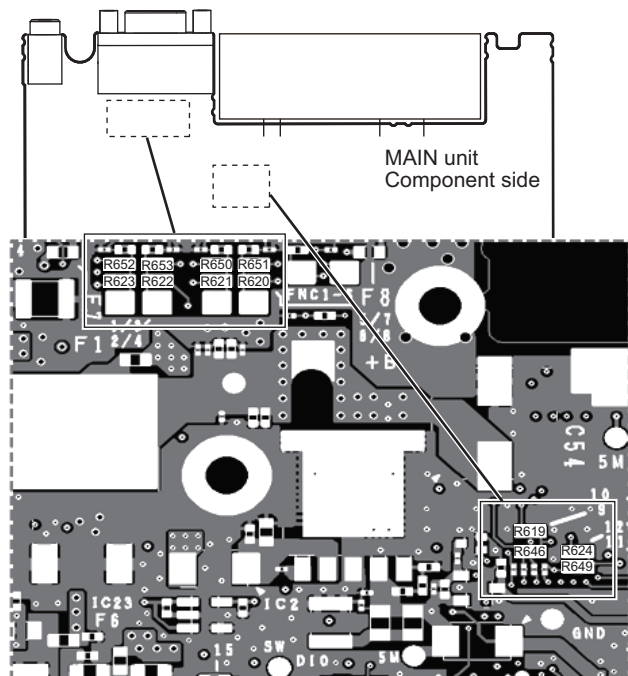
FNC1 (TXD /pin 6) and FNC2 (RXD /pin 7) of D-sub 15-pin connector are configured at the TTL level as the default value. But you can change these serial port level to RS-232C level through the RS-232C level converter IC (IC601) by configuring the port.

Remove the R652, R653 and R646 chip jumpers and solder the chip jumpers to R619, R622 and R623.

2.3.7.2 Change FNC1 (TXD), FNC2 (RXD), FNC3 (RTS) and FNC4 (CTS) of D-sub 15-pin connector from TTL level to RS-232C level

FNC1 (TXD /pin 6), FNC2 (RXD /pin 7), FNC3 (RTS /pin 8) and FNC4 (CTS /pin 9) of D-sub 15-pin connector are configured at the TTL level as the default value. But you can change these serial port level to RS-232C level through the RS-232C level converter IC (IC601) by configuring the port.

Remove the R646, R649, R650, R651, R652 and R653 chip jumpers and solder the chip jumpers to R619, R620, R621, R622, R623 and R624.



■In the case of 2.3.7.1

	TTL level	RS-232C level
R652, R653, R646	0Ω chip jumper	open
R619, R622, R623	open	0Ω chip jumper

■In the case of 2.3.7.2

	TTL level	RS-232C level
R646, R649, R650, R651, R652, R653	0Ω chip jumper	open
R619, R620, R621, R622, R623, R624	open	0Ω chip jumper

2.3.8 Changing of Signal Type

2.3.8.1 Change signal output of D-sub connector from AFO to DEO

The output (pin 4) of D-sub 15-pin connector is configured at the AFO as the default value.

There is no chip jumper.

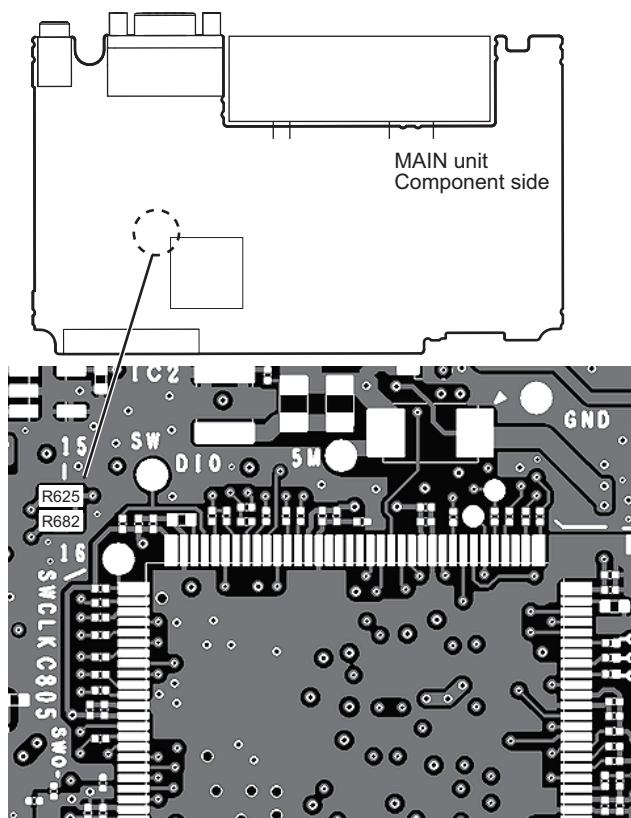
You must set up from AFO to DEO as the "Audio Line" using the KPG-D6/D6N.

2.3.8.2 Change signal input of D-sub connector from MI2 to DI

The input (pin 5) of D-sub 15-pin connector is configured at the MI2 as the default value.

Remove the R682 chip jumper and solder the chip jumper to R625.

You must set up from MI2 to DI as the "Modulation Line" using the KPG-D6/D6N.



2.4 CIRCUIT DESCRIPTION

2.4.1 Overview

• NX-1700/1700H series

The NX-1700/1700H series is a VHF Analog FM & Digital Mobile transceiver designed to operate in the frequency range of 136 to 174MHz.

Transmit RF power range is 5 to 25W (NX-1700 series) and 5 to 50W (NX-1700H series).

The MAIN unit consists of a Transceiver IC, a receiver circuit, a transmitter circuit, a phase-locked loop frequency synthesizer circuit, a digital control circuit, an audio circuit and a power supply circuit. The SUB unit consists of a LCD driver, a LED indicator circuit and a LED backlight circuit.

• NX-1800/1800H series

The NX-1800/1800H series is a UHF Analog FM & Digital Mobile transceiver designed to operate in the frequency range of 450 to 520MHz (E2 type), or 400 to 470MHz (K2, E types).

Transmit RF power range is 5 to 25W (NX-1800 series) and 5 to 45W (NX-1800H series).

The MAIN unit consists of a Transceiver IC, a receiver circuit, a transmitter circuit, a phase-locked loop frequency synthesizer circuit, a digital control circuit, an audio circuit and a power supply circuit. The SUB unit consists of a LCD driver, a LED indicator circuit and a LED backlight circuit.

2.4.2 Frequency Configuration

The Receiver System uses the direct conversion system. Incoming signals from the antenna (ANT) are mixed in the Transceiver IC with the local signal from the VCO/PLL circuit and converted to the baseband signal.

The transmit signal frequency is generated by the VCO and PLL circuits and is modulated by the signal from the MPU/DSP. It is then amplified and is fed to the antenna (ANT).

The internal reference frequency is generated by 19.2MHz and 16.8MHz TCXOs. The reference 19.2MHz signal is fed to the MPU/DSP, and the reference 16.8MHz signal is fed to the PLL IC.

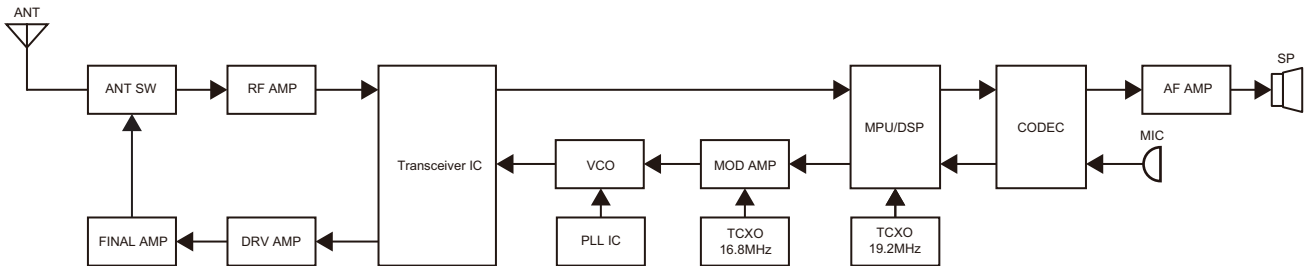


Fig.1 Frequency configuration

2.4.3 Receiver System

2.4.3.1 RF circuit

The receive signal from the antenna switch (ANT SW: D309, D310, D311, D312, D313 and D316 *D316 is only used in the NX-1800/1800H series (K2, E types).) passes through the band-pass filter (BPF: D403 and D404) to remove unwanted signals, and that receive signal is amplified by the RF amplifier (RF AMP: Q401). The amplified signal passes through another band-pass filter (BPF: D405 and D406) to remove unwanted signals. Then that signal is amplified again by the RF AMP (incorporated in the Transceiver IC (IC450)) and is fed to the MIXER (incorporated in the Transceiver IC) and is converted to the baseband signal (RXIP/RXIN and RXQP/RXQN).

2.4.3.2 Baseband circuit

The baseband signals (RXIP/RXIN and RXQP/RXQN) pass through I/Q amplifiers (IQ AMP: IC451 and IC452). Then the signal is sent to the MPU/DSP (IC501).

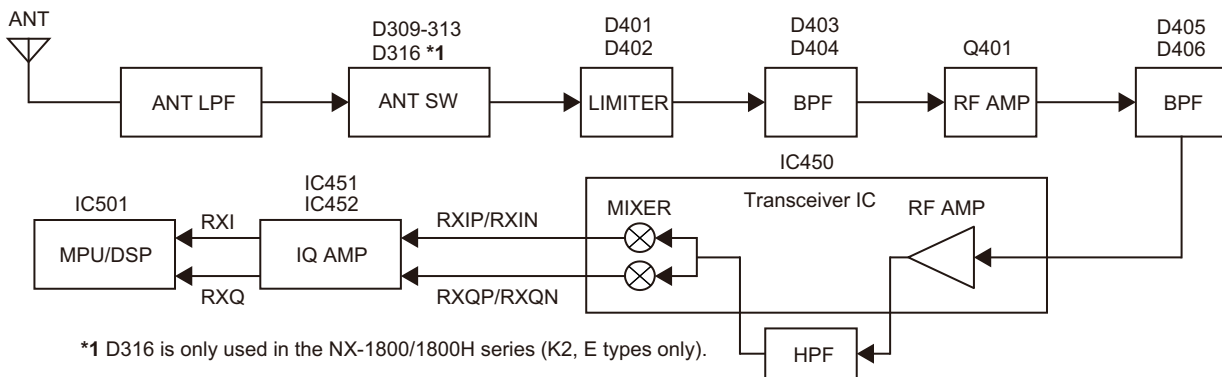


Fig.2 RF and Baseband circuit

2.4.3.3 Audio circuit

Audio signals (high-pass filter, low-pass filter, de-emphasized and so on) in analog FM mode and the decoded signal in digital mode are processed by the MPU/DSP (IC501). I2S signal from MPU/DSP is converted to audio signal by the CODEC (IC708). Each audio signal is amplified through the Audio pre-amplifier (AF PRE AMP: IC802) and the BTL Audio power amplifier (AF AMP: IC804) and goes to the internal speaker (or 3.5D Jack) and the external speaker (D-SUB 15-pin) respectively.

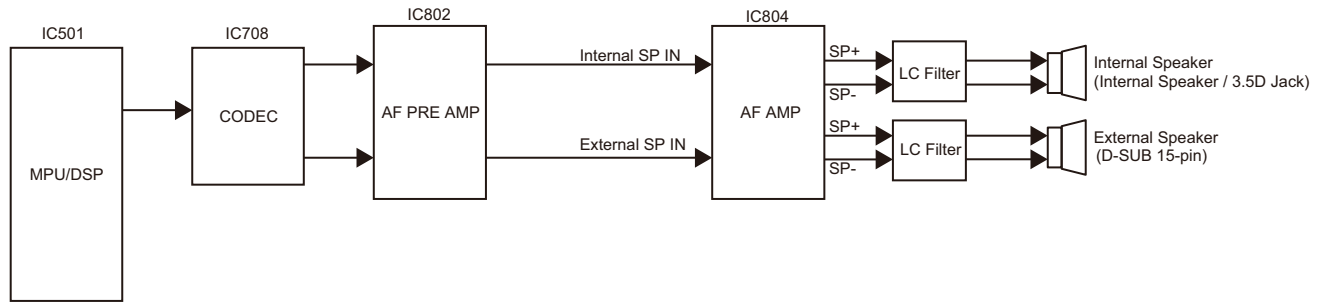


Fig.3 Audio amplifier circuit

2.4.4 Transmitter System

2.4.4.1 Audio band circuit

The signal from a microphone (MIC) is amplified and converted to the digital signal by the CODEC (IC708). The CODEC includes AGC function. The converted in digital signal is transferred to the MPU/DSP (IC501) for audio processing.

As audio processing in analog mode, voice signals (the converted in digital signal) of 300Hz or lower and that signals of 3kHz or higher are cut off and an audio range 300Hz to 3kHz is extracted as audio signal. The audio signal is then pre-emphasized in FM mode and synthesized with the signaling, such as QT and DQT, as required, and is transferred to the VCO circuit and the TCXO (X240) through the Audio D/A converter (DAC: IC707) and the modulation amplifier (MOD AMP: IC702). DTMF and MSK baseband signals are also generated by the MPU/DSP.

In digital mode, the voice signal (the converted in digital signal) is converted to the 4-Level FSK baseband signal and is transferred to the VCO circuit.

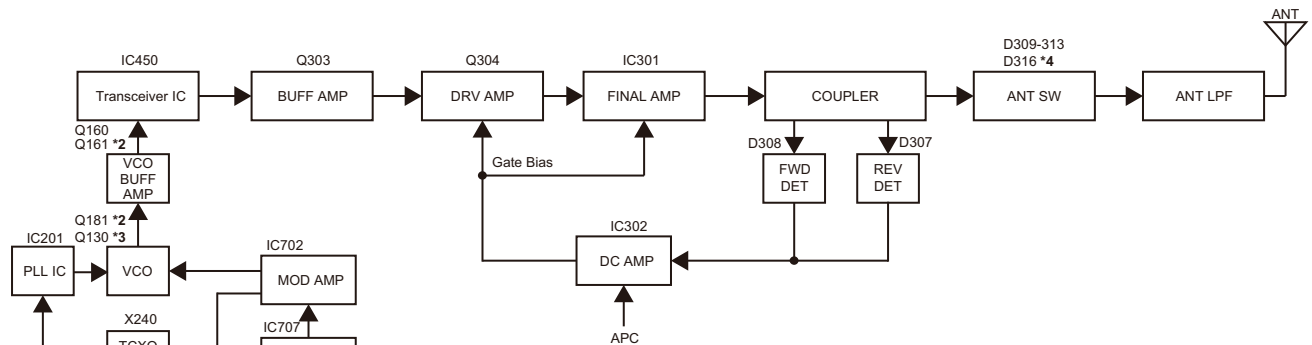
2.4.4.2 Drive and Final amplifier

The RF signal from the Transceiver IC (IC450) is amplified by the Buffer amplifier (BUFF AMP: Q303). The output from the Buffer amplifier is amplified by the Drive amplifier (DRV AMP: Q304) and the RF power module (FINAL AMP: IC301) to the specific power (Refer to transmit power in SPECIFICATION sheet.). The output of the RF power module is then passed through the coupler, the antenna switch (ANT SW: D309, D310, D311, D312, D313 and D316 *D316 is only used in the NX-1800/1800H series (K2, E types).) and the low-pass filter (ANT LPF) remove unwanted high-frequency harmonic components and applied to the antenna terminal (ANT).

2.4.4.3 APC circuit

The automatic transmit power control (APC) circuit controls the transmit output power in the adjusted value by monitoring it with the coupler to detect the forward power by the diode (FWD DET: D308) and the reverse power by the diode (REV DET: D307), and the detected voltage applies to the DC amplifier (DC AMP: IC302) for APC operation. This DC amplifier compares the APC control voltage generated by the MPU/DSP (IC501) with the detection output voltage.

The APC circuit generates the voltage to control the gate bias voltage of the Drive amplifier (DRV AMP: Q304) and the RF power module (FINAL AMP: IC301) and then stabilizes transmit power output. The APC circuit is configured to protect over current of the Drive amplifier and the RF power module due to fluctuations of the load at the antenna end and to stabilize the transmit power output at the voltage and temperature variations.



*2 Q161 and Q181 are only used in the NX-1700/1700H series.

*3 Q130 is only used in the NX-1800/1800H series.

*4 D316 is only used in the NX-1800/1800H series (K2, E types only).

Fig.4 Drive and Final amplifier and APC circuit

2.4.5 PLL Frequency Synthesizer

2.4.5.1 TCXO

TCXO (X240) generates a reference frequency of 16.8MHz for the PLL frequency synthesizer. And this reference signal is distributed to the PLL IC (IC201). The oscillation frequency is adjusted TCXO directly by controlled the D/A converter (DAC: IC709) through the modulation amplifier (MOD AMP: IC702).

2.4.5.2 VCO circuit

• NX-1700/1700H series

The VCO circuit is a single VCO that contains both TX VCO and RX VCO.

The VCO (Q181) generates the carrier for the transmitter and the receiver. The VCO oscillation frequency range is 272 to 348MHz. The transmit frequency range is same as the receiver frequency range. The local signal frequency range is also 272 to 348MHz. The oscillation frequency is divided into two by the Transceiver IC (IC450), and it becomes the operating frequency.

The VCO oscillation frequency is determined by the voltage control terminals "CPoUTRF" and "ASSIST". The voltage control terminal "CPoUTRF" is controlled by the PLL IC (IC201). The voltage control terminal "ASSIST" is controlled by the control voltage from the MPU/DSP (IC501).

By the modulation input terminal "VCO_MOD" from the modulation amplifier (MOD AMP: IC702), the output frequency of VCO changes according to the applied voltage. This is used to modulate the VCO output.

• NX-1800/1800H series

The VCO circuit is a single VCO that contains both TX VCO and RX VCO.

The VCO (Q130) generates the carrier for the transmitter and the receiver. The VCO oscillation frequency range is 900 to 1040MHz (E2 type), or 800 to 940MHz (K2, E types).

The transmit frequency range is same as the receiver frequency range. The local signal frequency range is also 900 to 1040MHz (E2 type), or 800 to 940MHz (K2, E types). The oscillation frequency is divided into two by the transceiver IC (IC450), and it becomes the operating frequency.

The VCO oscillation frequency is determined by the voltage control terminals "CPoUTRF" and "ASSIST". The voltage control terminal "CPoUTRF" is controlled by the PLL IC (IC201). The voltage control terminal "ASSIST" is controlled by the control voltage from the MPU/DSP (IC501).

By the modulation input terminal "VCO_MOD" from the modulation amplifier (MOD AMP: IC702), the output frequency of VCO changes according to the applied voltage. This is used to modulate the VCO output.

2.4.5.3 PLL circuit

The PLL IC (IC201) compares the difference in phases of the VCO oscillation signal and the TCXO (X240) reference frequency. And it returns the difference voltage to the "CPoUTRF" terminal and realizes the "Phase Locked Loop". This allows the VCO oscillation frequency to accurately match (lock) the desired frequency.

When the frequency is controlled by the PLL IC, the frequency convergence time increases as the frequency difference increases when the set frequency is changed. To supplement this, the assist voltage from the MPU/DSP (IC501) is used before control by the PLL IC to bring the VCO oscillation frequency close to the desired frequency. As a result, the VCO charge pump voltage does not change and is always stable at approximately 1.65V.

The desired frequency is set for the PLL IC by the MPU/DSP through the 3-line "PLL_LE", "PLL_DATA" and "PLL_CLK" serial bus. The MPU/DSP monitors through the "PLL_LD" whether the PLL IC is locked or not. If the VCO does not lock to desired frequency (unlock), the "PLL_LD" logic is low.

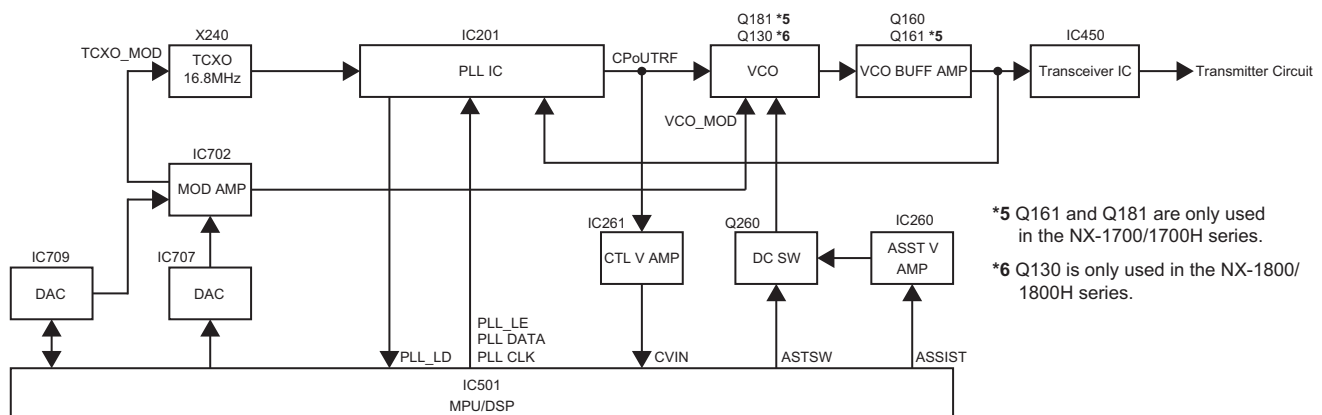


Fig.5 PLL frequency synthesizer circuit

2.4.6 Control circuit

The control circuit consists of the MPU/DSP (IC501) and its peripheral circuits. The MPU/DSP mainly performs the following.

- (1) Switching between transmission and reception by PTT signal input.
- (2) Reading system, zone, frequency, and the program data from the memory circuit.
- (3) Sending the frequency program data to the PLL IC (IC201).

2.4.6.1 MPU/DSP

The MPU/DSP (IC501) operates at 168MHz (MAX) clock and 3.3V DC.

The MPU controls the flash memory, the receiver circuit, the transmitter circuit, the control circuit and the display circuit, and transfers data to or from external devices.

The DSP processes the baseband signal and operates the I/O section operates at 3.3V. The DSP carries out the following processes.

- 4-Level FSK processing
- Analog FM pre-emphasis / de-emphasis
- Vocoder processing between audio and modulation/demodulation
- CAI processing, such as error correction encoding
- QT/DQT encoding / decoding
- DTMF encoding / decoding
- MSK encoding / decoding
- 2-tone / 5-tone encoding/decoding
- Compressor/expander processing
- Voice scrambler processing
- Transmit/receive audio filtering processing
- Audio mute processing
- Modulation level processing
- Active noise reduction
- Voice announcement processing

2.4.6.2 Memory circuit

The memory circuit consists of the MPU/DSP (IC501) and the flash memory (FLASH: IC503). The flash memory has capacity of 16Mbit that contains the transceiver control program for the MPU/DSP and stores the data. It also stores the data for the transceiver channels and the operating parameter that are written by the FPU. This program can be easily written from external devices.

Note:

The flash memory (IC503) stores the data that is written by the FPU, the tuning data (Deviation, Squelch, etc.) and the firmware program (User mode, Test mode, Tuning mode, ESN, etc.). If changing the flash memory, please contact our service center.

2.4.6.3 LCD circuit

The LCD is controlled by the LCD driver (IC1) of the SUB unit using parallel interface from the MPU/DSP (IC501) through a flexible cable between the interface connector (CN610) of the MAIN unit and the interface connector (CN1) of the SUB unit.

The MPU/DSP controls the LCD display and LEDs. When power is on, the MPU/DSP will use the "MBL" line and the "BLC" line to control the Button backlight LEDs and LCD backlight LEDs. In busy mode, the green LED lights after "GLED" line goes high. In transmit mode, the red LED lights after "RLED" line goes high. When "BLED" is set high by the function select (FPU setting) is on, the blue LED lights. The LCD driver controls the functions of the LCD through the "LCDDI", "LCDDO", "LCCL", "LCCE" lines from the MPU/DSP.

2.4.6.4 KEY matrix circuit

The front panel has function buttons. Their button presses are detected by each cross point of each matrix of "KI1 to 4" and "KS4 to 6" ports of the LCD driver (LCD DRV: IC1) of the SUB unit.

2.4.6.5 D-SUB interface circuit

The control I/O for the function ports works for interface between external devices. This interface circuit consists of the D-SUB 15-pin connector (J6), the 5V level shifter (5V LV SFT: IC604), the 3.3V level shifter (3.3V LV SFT: IC605), the RS232C driver (RS232C DRV: IC601), the I/O expander (I/O EXP: IC603) and DC switches (DC SW: Q600 and Q601) for horn alert function.

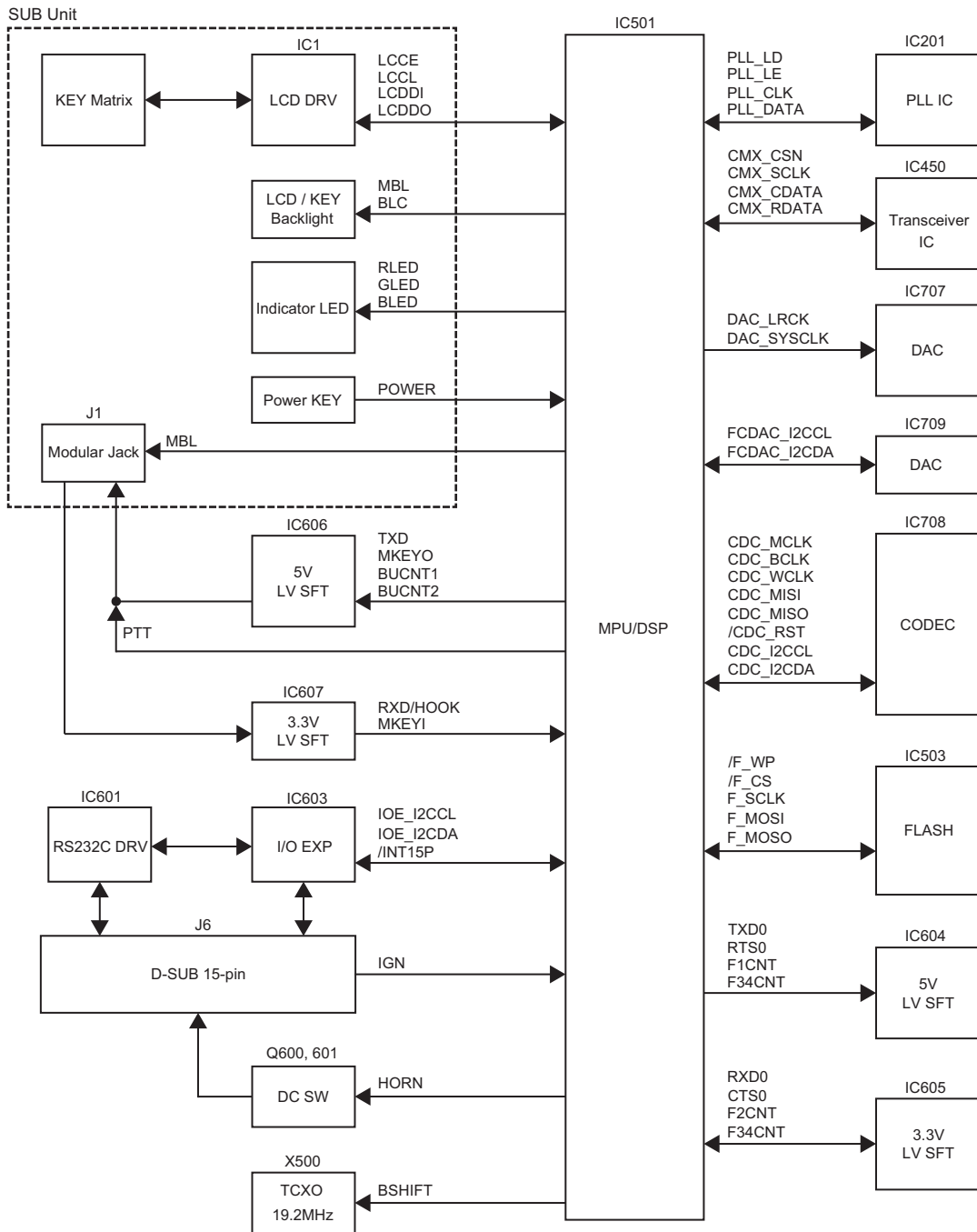


Fig.6 Control circuit

2.4.7 Power Supply Circuit

The DC voltage (+B) is supplied to RF power module (IC301). Also, the DC voltage (+B) through the 5A fuse (F1) is supplied to the battery INT detection IC (V DET: IC3), the SB switch (DC SW: Q12) and the 5V regulator for "5M" (5.0 AVR: IC2).

As for the battery INT detection, the battery INT detection IC monitors the DC voltage (+B). If the DC voltage (+B) becomes less than about 8.5V, the MPU/DSP (IC501) will send the backup data to the flash memory (FLASH: IC503) and go into the stop mode. If DC voltage (+B) becomes about 18V or higher, this voltage turns the overvoltage detection circuit (D1, Q6, Q7) on and sets the "BATT_INT" signal of the battery INT detection IC (IC3) to low. As a result, the "SBC" signal goes low, and turns the SB switch off.

As for SB, when the power switch on the SUB unit is pressed, the "POWER" signal on the SUB unit goes low, then "SBC" signal goes high, and the SB switch turns on. And the switched battery (SB) voltage is supplied to the 9V regulator for "90C" (9.0V AVR: IC1) and "9VCO" (9.0V AVR *7, 5.0V AVR *8: IC5). And 90C is supplied to the 5V regulator for "5D-sub" (5.0V AVR: IC23).

As for 5M, it is the supply source for each of 5V, 3.3V and 1.8V. It is supplied to the 5MS switch (DC SW: Q8), the 5C switch (DC SW: Q9), the 3.3V regulators (3.3V AVR: IC6, IC7, IC11, IC13, IC21 and IC22) and the 1.8V regulator (1.8V AVR: IC25).

*7 9.0V AVR is only used in the NX-1700/1700H series.

*8 5.0V AVR is only used in the NX-1800/1800H series.

<Main supply destination of each DC supply voltage>

[+B]

- RF power module (IC301)

[SB]

- SB (DC SW: Q12): SUB unit / BTL Audio power amplifier (IC804) through the 5A fuse (F6) / D-SUB 15-pin connector (J6) through the 2.5A fuse (F7)

[9V]

- 90C (9.0V AVR: IC1): Transmitter circuit (Q303, Q304 and IC302) / Antenna switch (D309 to D313, D316 *9)
- 9VCO (9.0V AVR *10, 5.0V AVR *11: IC5): VCO circuit (Q130 *12, Q160, Q161 *13 and Q181 *13)

[5V]

- 5M (5.0V AVR: IC2): 5V level shifter (5V LV SFT: IC604) / Surge protection diode (D603 to D613)
- 5C (DC SW: Q9): 20V DC/DC converter (20V DC/DC: IC12) / Control voltage amplifier (IC261) / APC_TV amplifier (IC453) / Audio D/A converter (IC707) / Audio pre-amplifier (IC802) / AFO_DEO amplifier (IC701)
- 5MS (DC SW: Q8): SUB unit / RS232C driver (IC601) / I/O expander (IC603)
- 5D-sub (5.0V AVR: IC23): D-SUB 15-pin connector (J6)

[3.3V]

- 33B (3.3V AVR: IC11): Transceiver IC (IC450)
- 33R (3.3V AVR: IC6): Receiver circuit (Q401, IC450, IC451 and IC452)
- 33C (3.3V AVR: IC13): 16.8MHz TCXO (X240) / PLL IC (IC201) / PLL_LD buffer amplifier (IC202)
- 33A (3.3V AVR: IC7): Modulation amplifier (IC702) / CODEC (IC708) / D/A converter (IC709)
- 33M (3.3V AVR: IC21): MPU/DSP (IC501) / Flash memory (IC503) / Ignition switch (IC600) / 3.3V level shifter (IC605)
- 33MS (IC22): 19.2MHz TCXO (X500) / CODEC (IC708) / LCD driver (IC1) of the SUB unit

[1.8V]

- 18M (1.8V AVR: IC25): CODEC (IC708)

*9 D316 is only used in the NX-1800/1800H series (K2, E types only).

*10 9.0V AVR is only used in the NX-1700/1700H series.

*11 5.0V AVR is only used in the NX-1800/1800H series.

*12 Q130 is only used in the NX-1800/1800H series.

*13 Q161 and Q181 are only used in the NX-1700/1700H series.

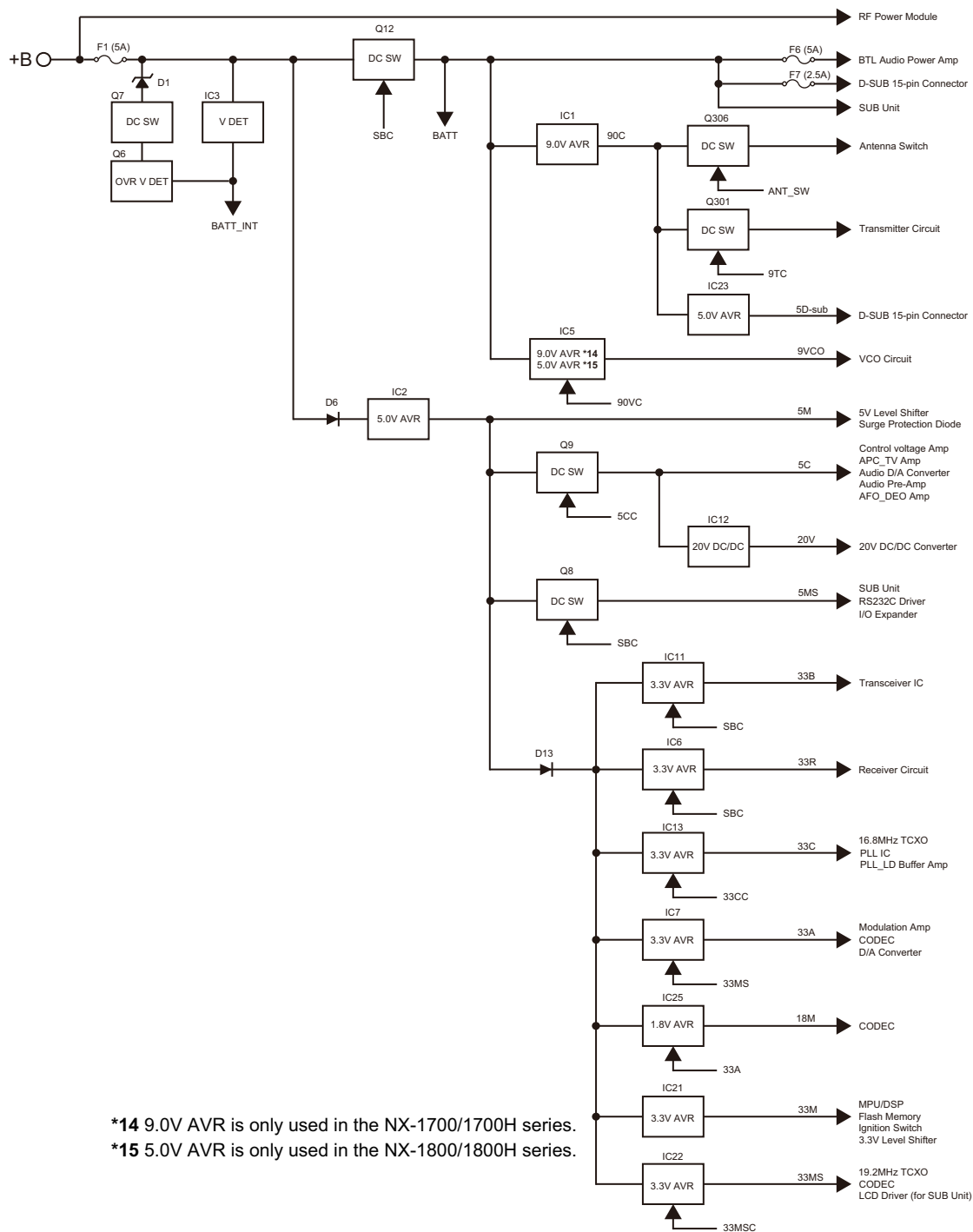


Fig.7 Power supply circuit

2.4.8 Signaling circuit

2.4.8.1 Encode (QT/DQT/DTMF/2-tone/5-tone/MSK)

Each signaling data of QT, DQT, DTMF, 2-tone, 5-tone and MSK is generated by the MPU/DSP (IC501), and they are superposed on a modulation signal and output to the VCO circuit and the TCXO (X240).

2.4.8.2 Decode (QT/DQT/DTMF/2-tone/5-tone/MSK)

The audio signal and each signaling data of QT, DQT, DTMF, 2-tone, 5-tone and MSK are separated by the MPU/DSP (IC501). Then the MPU/DSP decodes the signaling data.

2.5 SEMICONDUCTOR DATA

2.5.1 MPU/DSP (MAIN unit IC501)

Pin No.	Name	I/O	Function
1	PE2	O	Red LED control (RLED)
2	PE3	O	Green LED control (GLED)
3	PE4	O	Blue LED control (BLED)
4	PE5	O	LCD backlight control (BLC)
5	PE6	O	MIC backlight control (MBL_CN)
6	VBAT	I	33M
7	PC13	I	Force flash load mode (FLDM)
8	PC14	-	No connection
9	PC15	-	No connection
10	PF0	I/O	I2C serial data for frequency control DAC (FCDAC_I2CDA)
11	PF1	I/O	I2C serial clock for frequency control DAC (FCDAC_ISCCL)
12	PF2	-	No connection
13	PF3	O	19.2MHz TCXO clock frequency shift (BSHIFT)
14	PF4	I	Switched battery voltage detection (BATT)
15	PF5	O	Analog mixing control for Audio DAC (MOD_MUTE)
16	VSS1	-	GND
17	VDD1	-	33M
18	PF6	O	Chip select for transceiver IC (CMX_CSN)
19	PF7	O	Serial clock for transceiver IC (CMX_SCLK)
20	PF8	I	Reply data input for transceiver IC (CMX_RDATA)
21	PF9	O	Command data output for transceiver IC (CMX_CDATA)
22	PF10	-	No connection
23	PH0	I	19.2MHz TCXO clock (XIN)
24	PH1	-	No connection
25	NRST	O	RST for debug and firmware (/RST)
26	PC0	I	Reverse power voltage detection (REV)
27	PC1	I	Forward power voltage detection (FWD)
28	PC2	I	Ramp offset voltage monitor (RAMP_OFS)
29	PC3	I	Temperature detection for TX (TEMP_1)
30	VDD2	-	33M
31	VSSA	-	GND
32	VREF+	-	33M
33	VDDA	-	33M
34	PA0	I	Temperature detection of 16.8MHz TCXO (TEMP_3)
35	PA1	I	VCO lock voltage input (CVIN)

Pin No.	Name	I/O	Function
36	PA2	O	3.3V control for RX circuit (3RC)
37	PA3	I	Temperature detection for TX (TEMP_2)
38	VSS2	-	GND
39	VDD3	-	33M
40	PA4	O	APC/TV voltage control (APC_TV)
41	PA5	O	Assist voltage control (ASSIST)
42	PA6	I	RX Q signal detection (RXQ)
43	PA7	-	No connection
44	PC4	-	No connection
45	PC5	-	No connection
46	PB0	I	RX I signal detection (RXI)
47	PB1	O	33MS control (33MSC)
48	PB2	-	GND
49	PF11	O	TX/RX switch (TX/RX)
50	PF12	O	High/Low power switch (/H_L)
51	VSS3	-	GND
52	VDD4	-	33M
53	PF13	O	APC voltage discharge switch (/DSW)
54	PF14	O	Assist switch (ASTSW)
55	PF15	-	No connection
56	PG0	-	No connection
57	PG1	I	Ignition sense (/IGN)
58	PE7	O	SB control (SBC)
59	PE8	O	Antenna switch (ANT_SW)
60	PE9	O	9V control for TX circuit (9TC)
61	VSS4	-	GND
62	VDD5	-	33M
63	PE10	I	Lock detection for PLL IC (PLL_LD)
64	PE11	O	Chip select for PLL IC (PLL_LE)
65	PE12	O	Clock for PLL IC (PLL_CLK)
66	PE13	-	No connection
67	PE14	O	Data output for PLL IC (PLL_DATA)
68	PE15	O	9VCO control (90VC)
69	PB10	O	Drive amplifier control switch (DRV_SW)
70	PB11	O	5C control (5CC)
71	VCAP_1	-	2.2uF
72	VDD6	-	33M
73	PB12	O	L-channel and R-channel audio data latch enable for Audio DAC (DAC_LRCK)
74	PB13	O	Audio data bit clock for Audio DAC (DAC_BCK)
75	PB14	-	No connection
76	PB15	O	Audio data output for Audi DAC (DAC_DATA)
77	PD8	O	Serial data output of function port 1 (TXD0)

Pin No.	Name	I/O	Function
78	PD9	I	Serial data input of function port 2 (RXD0)
79	PD10	O	33C control (33CC)
80	PD11	I	Serial data output of function port 4 (CTS0)
81	PD12	O	Serial data input of function port 3 (RTS0)
82	PD13	I	Battery voltage detection (BATT_INT)
83	VSS5	-	GND
84	VDD7	-	33M
85	PD14	O	PTT/TXD buffer control (BUCNT2)
86	PD15	O	DTMF MIC buffer control (BUCNT1)
87	PG2	O	Horn alert switch (HORN)
88	PG3	O	Function port 2 (RXD0) control (F2CNT)
89	PG4	I	Interrupt for I/O expander (/INT15P)
90	PG5	-	No connection
91	PG6	-	No connection
92	PG7	-	No connection
93	PG8	-	No connection
94	VSS6	-	GND
95	VDD8	-	33M
96	PC6	O	System clock for Audio DAC (DAC_SYSCK)
97	PC7	O	Master clock for CODEC (CDC_MCLK)
98	PC8	O	Function port 1 (TXD0) control (F1CNT)
99	PC9	I/O	I2C serial data for I/O expander (IOE_I2CDA)
100	PA8	I/O	I2C serial clock for I/O expander (IOE_I2CCL)
101	PA9	O	PTT/TXD serial data output (TXD)
102	PA10	I	RXD/HOOK serial data input (RXD/HOOK)
103	PA11	O	Function port 3 and 4 (RTS0/CTS0) control (F34CNT)
104	PA12	I	RXD/HOOK serial data input (RXD/HOOK)
105	PA13	I/O	SWDIO for debug and firmware (SWDIO)
106	VCAP_2	-	2.2uF
107	VSS7	-	GND
108	VDD9	-	33M
109	PA14	O	SWCLK for debug and firmware (SWCLK)
110	PA15	O	Audio serial data bus word clock for CODEC (CDC_WCLK)
111	PC10	O	Audio serial data bus bit clock for CODEC (CDC_BCLK)
112	PC11	I	Audio serial data bus data input for CODEC (CDC_MISO)

Pin No.	Name	I/O	Function
113	PC12	O	Audio serial data bus data output for CODEC (CDC_MOSI)
114	PD0	O	Reset for CODEC (/CDC_RST)
115	PD1	O	DTMF MIC key output (MKEYO)
116	PD2	I	DTMF MIC key input (MKEYI)
117	PD3	I	PTT input (PTT)
118	PD4	O	LCD chip enable (/LCD_CE)
119	PD5	O	LCD data output (LCD_MOSI)
120	VSS8	-	GND
121	VDD10	-	33M
122	PD6	I	LCD data input (LCD_MISO)
123	PD7	O	LCD clock (LCD_CL)
124	PG9	O	Audio amplifier shut down (/AMP_SHDN)
125	PG10	O	Chip select for flash memory (/F_CS)
126	PG11	O	Write protect for flash memory (/F_WP)
127	PG12	I	Data input for flash memory (F_MISO)
128	PG13	O	Clock for flash memory (F_SCLK)
129	PG14	O	Data output for flash memory (F_MOSI)
130	VSS9	-	GND
131	VDD11	-	33M
132	PG15	I	Power key input (POWER)
133	PB3	O	SWO for debug and firmware (SWO)
134	PB4	-	No connection
135	PB5	-	No connection
136	PB6	O	External speaker mute switch (ESP_MUTE)
137	PB7	O	Internal speaker mute switch (ISP_MUTE)
138	BOOT0	I	Enable bootloader
139	PB8	I/O	I2C serial clock for CODEC (CDC_I2CCL)
140	PB9	I/O	I2C serial data for CODEC (CDC_I2CDA)
141	PE0	I	UART_RX for test (TEST_RX)
142	PE1	O	UART_TX for test (TEST_TX)
143	PDR_ON	I	33M
144	VDD12	-	33M

2.6 COMPONENTS DESCRIPTION

2.6.1 MAIN Unit (XC1-353K-00, XC1-353K-01, XC1-353E-01)

Ref. No.	Part Name	Use / Function
IC1	IC	Voltage regulator (90C) [9.0V AVR]
IC2	IC	Voltage regulator (5M) [5.0V AVR]
IC3	IC	Voltage detection (BATT_INT) [V DET]
IC5	IC	Voltage regulator (9VCO) [9.0V AVR] [5.0V AVR] * [9.0V AVR] is only used in XC1-353K-00 * [5.0V AVR] is only used in XC1-353K-01, XC1-353E-01
IC6	IC	Voltage regulator (33R) [3.3V AVR]
IC7	IC	Voltage regulator (33A) [3.3V AVR]
IC11	IC	Voltage regulator (33B) [3.3V AVR]
IC12	IC	DC-DC converter (20V) [20V DC/DC]
IC13	IC	Voltage regulator (33C) [3.3V AVR]
IC21	IC	Voltage regulator (33M) [3.3V AVR]
IC22	IC	Voltage regulator (33MS) [3.3V AVR]
IC23	IC	Voltage regulator (5D-sub) [5.0V AVR]
IC25	IC	Voltage regulator (18M) [1.8V AVR]
IC201	IC	PLL IC
IC202	IC	Buffer amplifier (PLL_LD) [BUFF AMP]
IC260	IC	Assist voltage amplifier [ASST V AMP]
IC261	IC	Control voltage amplifier (VCO_CV) [CTL V AMP]
IC301	IC	TX final amplifier (Power module) [FINAL AMP]
IC302	IC	DC amplifier (APC) [DC AMP]
IC450	IC	Transceiver IC [TRX IC]
IC451, 452	IC	IQ amplifier [IQ AMP]
IC453	IC	DC amplifier (APC/TV) [DC AMP]
IC501	IC	MPU/DSP
IC502	IC	Clock buffer amplifier (MPU clock) [CLK BUFF AMP]
IC503	IC	Flash memory [FLASH]
IC600	IC	Ignition switch [IGN SW]
IC601	IC	RS-232C driver [RS232C DRV]
IC603	IC	I/O expander [I/O EXP]
IC604, 606	IC	Level shifter (5V) [5V LV SHIFT]
IC605, 607	IC	Level shifter (3.3V) [3.3V LV SHIFT]
IC608	IC	Buffer amplifier (MBL_CN) [BUFF AMP]
IC702	IC	Modulation amplifier [MOD AMP]

Ref. No.	Part Name	Use / Function
IC704	IC	Voltage reference [V REF]
IC707	IC	D/A converter (Audio) [DAC]
IC708	IC	CODEC
IC709	IC	D/A converter (Frequency control) [DAC]
IC802	IC	Audio pre-amplifier [AF PRE AMP]
IC804	IC	Audio amplifier [AF AMP]
Q5	TRANSISTOR	DC switch (5C control) [DC SW]
Q6	TRANSISTOR	Over voltage detection [OVR V DET]
Q7	TRANSISTOR	DC switch (Over voltage detection) [DC SW]
Q8	FET	DC switch (5MS) [DC SW]
Q9	FET	DC switch (5C) [DC SW]
Q11	TRANSISTOR	DC switch (SB control) [DC SW]
Q12	FET	DC switch (SB) [DC SW]
Q13	TRANSISTOR	DC switch (5MS control) [DC SW]
Q130	TRANSISTOR	VCO oscillation[VCO] * Q130 is only used in XC1-353K-01, XC1-353E-01
Q160, 161	TRANSISTOR	VCO buffer amplifier [VCO BUFF AMP] *Q161 is only used in XC1-353K-00
Q180	TRANSISTOR	Ripple filter [RIPL FLT]
Q181	FET	VCO oscillation [VCO] *Q181 is only used in XC1-353K-00
Q260	FET	DC switch (Assist filter) [DC SW]
Q301	FET	DC switch (9T) [DC SW]
Q302	TRANSISTOR	DC switch (9T control) [DC SW]
Q303	TRANSISTOR	TX buffer amplifier [BUFF AMP]
Q304	FET	TX drive amplifier [DRV AMP]
Q305	TRANSISTOR	DC switch (ANT control) [DC SW]
Q306	FET	DC switch (ANT) [DC SW]
Q309	TRANSISTOR	DC switch (TX control voltage) [DC SW]
Q310	FET	DC switch (TX high/low power) [DC SW]
Q401	TRANSISTOR	RX front-end low noise amplifier [RF AMP]
Q402	FET	DC switch (APC/TV) [DC SW]
Q403	FET	DC switch (LNA) [DC SW] * Q403 is only used in XC1-353K-01, XC1-353E-01
Q600	TRANSISTOR	DC switch (Horn alert control) [DC SW]
Q601	FET	DC switch (Horn alert) [DC SW]
D1, 2	ZENER DIODE	Over voltage protection [OVR V PRTCT]
D3	ZENER DIODE	Surge protection / Reverse voltage protection [SRG PRTCT/REV V PRTCT]

Ref. No.	Part Name	Use / Function
D5	DIODE	Speed up [SPD UP]
D6	DIODE	Reverse current prevention [REV CURR PREV]
D9	DIODE	DC-DC converter (20V) [20V DC/DC]
D13	DIODE	Reverse current prevention [REV CURR PREV]
D101	VARIABLE CAPACITANCE DIODE	VCO frequency control [VCO f CTL]
D102-105	VARIABLE CAPACITANCE DIODE	VCO assist tuning [VCO ASST TUN] * D102 only used in XC1-353K-00
D106	VARIABLE CAPACITANCE DIODE	TX modulation [TX MOD] * D106 only used in XC1-353K-00
D130	VARIABLE CAPACITANCE DIODE	VCO frequency control [VCO f CTL] * D130 is only used in XC1-353K-01, XC1-353E-01
D131-133	VARIABLE CAPACITANCE DIODE	VCO assist tuning [VCO ASST TUN] * D131-D133 is only used in XC1-353K-01, XC1-353E-01
D134	VARIABLE CAPACITANCE DIODE	TX modulation tuning [TX MOD TUN] * D134 is only used in XC1-353E-01
D180	DIODE	Speed up [SPD UP]
D260	ZENER DIODE	Over voltage protection [OVR V PRTCT]
D301	ZENER DIODE	Over voltage protection [OVR V PRTCT]
D306	DIODE	Reverse power detection [REV PWR DET]
D307	DIODE	Power rectifier (Reverse) [REV DET]
D308	DIODE	Power rectifier (Forward) [FWD DET]
D309-313	DIODE	Antenna switch [ANT SW]
D316	DIODE	Antenna switch [ANT SW] * D316 is only used in XC1-353K-01
D401, 402	DIODE	Over voltage protection [OVR V PRTCT]
D403-406	VARIABLE CAPACITANCE DIODE	RX band-pass filter tuning [BPF TUN]
D600	ZENER DIODE	Over voltage protection [OVR V PRTCT]
D601, 602	DIODE	Reverse current prevention [REV CURR PREV]
D603-613	DIODE	Surge protection [SRG PRTCT]
D614	DIODE	Reverse current prevention [REV CURR PREV]
D615	DIODE	Over voltage protection [OVR V PRTCT]

Ref. No.	Part Name	Use / Function
D616, 617	VARISTOR	Surge protection [SRG PRTCT]
D618	DIODE	Reverse current prevention [REV CURR PREV]
D619	ZENER DIODE	Over voltage protection [OVR V PRTCT]
D620	DIODE	Reverse current prevention [REV CURR PREV]
D751, 752	DIODE	Surge protection [SRG PRTCT]

2.6.2 SUB Unit (XC3-098K-00)

Ref. No.	Part Name	Use / Function
IC1	IC	LCD driver [LCD DRV]
Q2	TRANSISTOR	DC switch (Blue LED) [DC SW]
Q3	TRANSISTOR	DC switch (Busy/Green LED) [DC SW]
Q4	TRANSISTOR	DC switch (TX/Red LED) [DC SW]
Q7	TRANSISTOR	DC switch (KEY backlight) [DC SW]
Q8	TRANSISTOR	DC switch (KEY backlight control) [DC SW]
Q9	TRANSISTOR	DC switch (LCD backlight control) [DC SW]
Q10	TRANSISTOR	DC switch (LCD backlight) [DC SW]
D1	ZENER DIODE	Over voltage protection [OVR V PRTCT]
D2	DIODE	Over voltage protection [OVR V PRTCT]
D3	LED	LED (TX/Busy/Function indicator) [LED]
D5-9	LED	LED (KEY backlight) [LED]
D10	DIODE	Over voltage protection [OVR V PRTCT]
D11-21	LED	LED (LCD backlight) [LED]
D24	LED	LED (LCD backlight) [LED]
D28	VARISTOR	Surge protection [SRG PRTCT]

2.7 TERMINAL FUNCTION

2.7.1 MAIN Unit (XC1-353K-XX, XC1-353E-01)

Pin No.	Name	I/O	Function
J7			
1	EXT1_SP+	O	Speaker output +
2	INT_SP+	I	Speaker input +
3	INT_SP-	O	Speaker output +
CN610			
1	SB	O	Battery voltage DC supply

Pin No.	Name	I/O	Function
2	SB	O	Battery voltage DC supply
3	INT_SP+	O	Speaker output +
4	INT_SP+	O	Speaker output +
5	INT_SP-	O	Speaker output -
6	INT_SP-	O	Speaker output -
7	BLC	O	LCD backlight control signal output
8	MBL	O	MIC backlight control signal output
9	RLED	O	Red LED control signal output
10	GLED	O	Green LED control signal output
11	BLED	O	Blue LED control signal output
12	33MS	O	3.3V DC power supply
13	NC	-	No connection
14	GND	-	GND
15	GND	-	GND
16	GND	-	GND
17	NC	-	No connection
18	5MS	O	5V DC power supply
19	LCD_MOSI	O	LCD data output
20	/LCD_CE	O	LCD enable output
21	LCD_CL	O	LCD clock output
22	LCD_MISO	I	LCD data input
23	GND	-	GND
24	GND	-	GND
25	MIC	I	MIC signal input
26	ME	-	MIC GND
27	RXD_HOOK	I	HOOK detection / Serial data input
28	PTT/TXD	I/O	PTT input / Serial data output
29	MKEY	I/O	MIC data detection
30	POWER	I	Detection input of power switch

2.7.2 SUB Unit (XC3-098K-00)

Pin No.	Name	I/O	Function
CN1			
1	POWER	O	Detection output of power switch
2	MKEY	I/O	MIC data detection
3	PTT/TXD	I/O	PTT output / Serial data input
4	RXD_HOOK	O	HOOK detection / Serial data output
5	ME	-	MIC GND
6	MIC	O	MIC signal output
7	GND	-	GND
8	GND	-	GND
9	LCD_MISO	O	LCD data output
10	LCD_CL	I	LCD clock input
11	/LCD_CE	I	LCD enable input
12	LCD_MOSI	I	LCD data input

Pin No.	Name	I/O	Function
13	5MC	I	5V DC power supply
14	NC	-	No connection
15	GND	-	GND
16	GND	-	GND
17	GND	-	GND
18	NC	-	No connection
19	33MS	I	3.3V DC power supply
20	BLED	I	Blue LED control signal input
21	GLED	I	Green LED control signal input
22	RLED	I	Red LED control signal input
23	MBL	I	MIC backlight control signal input
24	BLC	I	LCD backlight control signal input
25	INT_SP-	I	Speaker input -
26	INT_SP-	I	Speaker input -
27	INT_SP+	I	Speaker input +
28	INT_SP+	I	Speaker input +
29	SB	I	Battery voltage DC supply
30	SB	I	Battery voltage DC supply

J1

1	MBL	O	Backlight of MIC
2	SB	O	Battery voltage DC supply
3	GND	-	GND
4	PTT	I/O	PTT input / Serial data output
5	ME	-	MIC GND
6	MIC	I	MIC signal input
7	HOOK	I	HOOK detection / Serial data input
8	DM	I/O	MIC data detection

2.7.3 Function Port Assignment

	GPS (NMEA)	
	Name	I/O
FNC1	None	O
FNC2	GPS (NMEA input)	I
FNC3	-	-
FNC4	-	-
FNC5	-	-
FNC6	-	-
FNC7	-	-
FNC8	-	-

2.7.4 D-SUB 15-pin Connector

Pin No.	Pin Name	I/O	Modification	Signal Type	Function	Rating and Condition				
						Parameter	Min	Typ	Max	Unit
1	SB	-	No	Power	Battery voltage DC supply	Voltage	It depends on battery voltage			
						Supply Current	-	-	2.0	A
2	IGN	I	No	Digital	Ignition sense input	Input Voltage Range	0	-	30	V
						Threshold High	6.0	-	-	V
						Threshold Low	-	5.0	-	V
3	PA or EXT-SP+	O	No	Analog	External/ Public Address speaker output	Audio Output at 4Ω (3% Distortion)	-	4.0	-	W
						RL	4	-	-	Ω
						Coupling Capacitor	DC Coupled			
4	AFO	O	No (Selectable by FPU)	Analog	RX audio output	Output Level	-	0.6	-	Vp-p
						Coupling Capacitor	-	10	-	uF
						Allowable Load	-	600	-	Ω
						Output Impedance	-	100	-	Ω
						Allowable Frequency	300	-	3000	Hz
	DEO	O		Analog	FM detector output	Output Level	-	0.28	-	Vp-p
						Coupling Capacitor	-	10	-	uF
						Allowable Load	-	600	-	Ω
						Output Impedance	-	100	-	Ω
5	M2	I	Yes	Analog	External MIC audio input	Input Voltage Range	-	5.0	-	mVrms
						Input Impedance	-	600	-	Ω
						Allowable Frequency	300	-	3000	Hz
	DI	I		Analog	External modulation signal input	Input Voltage range	-	0.5	-	Vp-p
						Input Impedance	-	45	-	kΩ
6	FNC1	I/O	Yes	Digital	Programmable I/O	VIH	4.0	-	5.2	V
						VIL	-0.5	-	1.0	V
						VOH(Io=-1.5mA)	4.0	-	5.2	V
						VOL(Io=1.5mA)	-	-	1.1	V
	TXD (RS232C)	O		Digital	RS232C serial port (TXD)	Voltage swing	±5.0	±5.4	-	V
						Baud Rate	-	-	19200	bps
						CL	-	100	-	pF
7	FNC2	I/O	Yes	Digital	Programmable I/O	VIH	4.0	-	5.2	V
						VIL	-0.5	-	1.0	V
						VOH(Io=-1.5mA)	4.0	-	5.2	V
						VOL(Io=1.5mA)	-	-	1.1	V
	RXD (RS232C)	I		Digital	RS232C serial port (RXD)	Input Voltage Range	-25	-	+25	V
						Threshold Low	0.8	1.5	-	V
						Threshold High	-	1.8	2.4	V
						Baud Rate	-	-	19200	bps
CL	-	100	-	pF						
8	FNC3	I/O	Yes	Digital	Programmable I/O	VIH	4.0	-	5.2	V
						VIL	-0.5	-	1.0	V
						VOH(Io=-1.5mA)	4.0	-	5.2	V
						VOL(Io=1.5mA)	-	-	1.1	V
	RTS (RS232C)	O		Digital	RS232C serial port (RTS)	Voltage swing	±5.0	±5.4	-	V

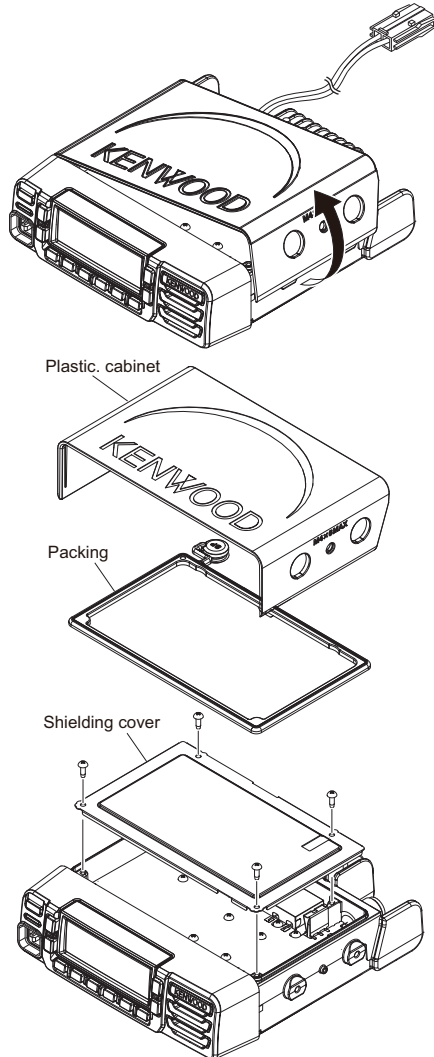
Pin No.	Pin Name	I/O	Modification	Signal Type	Function	Rating and Condition				
						Parameter	Min	Typ	Max	Unit
9	FNC4	I/O	Yes	Digital	Programmable I/O	VIH	4.0	-	5.2	V
						VIL	-0.5	-	1.0	V
						VOH(Io=-1.5mA)	4.0	-	5.2	V
						VOL(Io=1.5mA)	-	-	1.1	V
	CTS (RS232C)	I	Digital	RS232C serial port (CTS)	Input Voltage Range	-25	-	+25	V	
					Threshold Low	0.8	1.5	-	V	
					Threshold High	-	1.8	2.4	V	
10	FNC5	I/O	No	Digital	Programmable I/O	VIH	4.0	-	5.2	V
						VIL	-0.5	-	1.0	V
						VOH(Io=-1.5mA)	4.0	-	5.2	V
						VOL(Io=1.5mA)		-	1.1	V
11	FNC6	I/O	No	Digital	Programmable I/O	VIH	4.0	-	5.2	V
						VIL	-0.5	-	1.0	V
						VOH(Io=-1.5mA)	4.0	-	5.2	V
						VOL(Io=1.5mA)	-	-	1.1	V
	PA or EXT-SP-	O	Analog	External/ Public Address speaker output	Audio Output at 4Ω (3% Distortion)	-	4.0	-	W	
					RL	4		-	Ω	
					Coupling Capacitor	DC Coupled				
12	5D-sub	O	No	Power	5V DC power supply	Switched 5M(5V)	-	-	-	
						Output Voltage	-	5.0	-	V
						Allowable current value	-	-	100	mA
13	HR1	I	No	Analog	Horn alert signal input	Input Voltage	5	-	16	V
						Allowable current value	-	-	2.0	A
14	HR2	O	No	Analog	Horn alert signal output	Output Voltage	It depends on HR1			
						Allowable current value	-	-	2.0	A
15	GND	-	No	-	GND		-	-	-	

SECTION 3 DISASSEMBLY

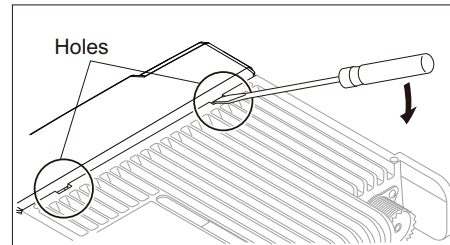
Each illustration and picture shows for NX-1700 series K type. The disassembly and reassembly procedures for NX-1800 series are almost the same as for NX-1700 series.

3.1 Disassembly Procedure

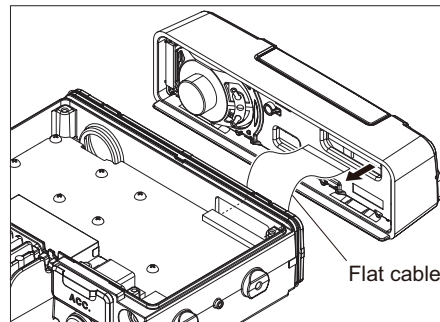
- (1) Remove the screws on both sides of the plastic cabinet and remove the plastic cabinet, top packing and shield plate.



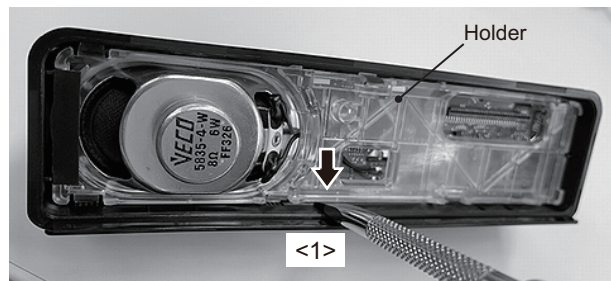
- (2) To remove the PANEL ASSY, first turn the transceiver upside down. Then, insert a flat-head screwdriver into the holes of the chassis and tilt it in the direction as shown by the arrow.



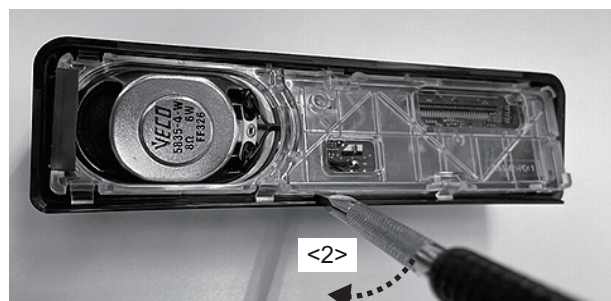
- (3) Disconnect the flat cable from connector of the PANEL ASSY.



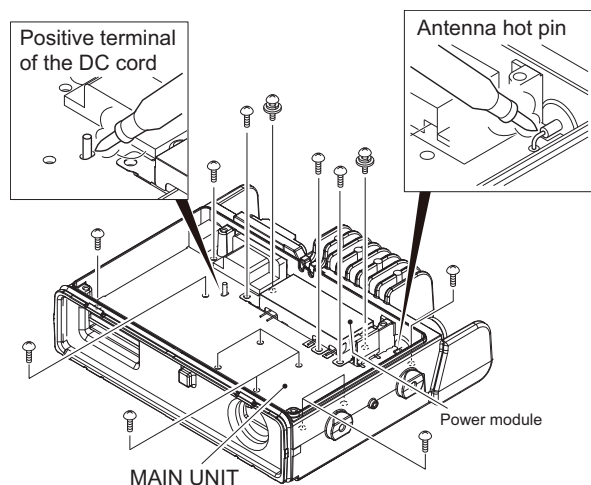
- (4) Insert a flat-head screwdriver in the holder. <1>



Tilt the screwdriver in the figure direction <2>, then remove the holder from the PANEL ASSY.

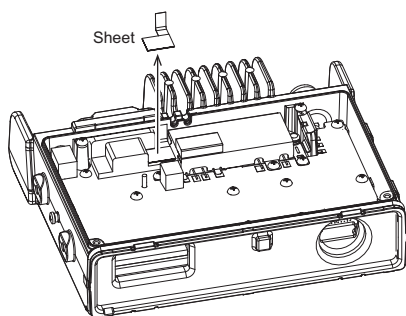


- (5) When removing the MAIN UNIT, then remove the solder of the antenna hot pin and positive terminal of the DC cord. Remove the 15 screws from the MAIN UNIT, power module.

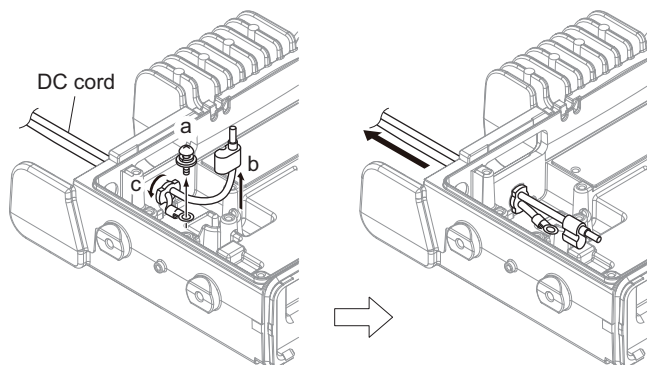


For NX-1800 series E type

When removing the MAIN UNIT from the chassis, remove the sheet attached between the D-sub terminal and the chassis.

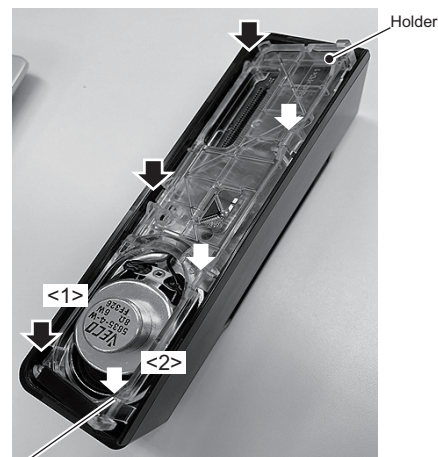


- (6) Pull it out behind the chassis by rotating the bush <c> of the DC cord 90 degrees in the direction of the arrow after the screw <a> in the negative terminal is removed, and the positive terminal is removed from the chassis.



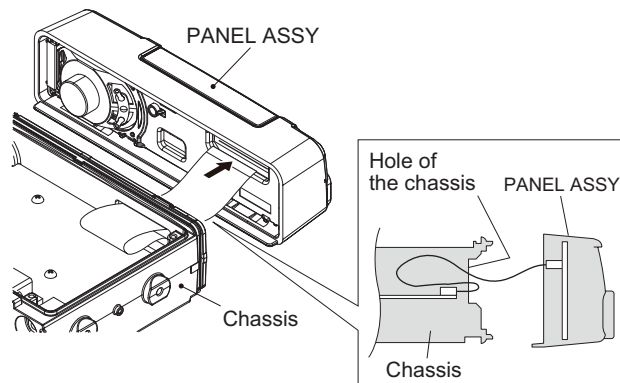
3.2 Precautions for Reassembly

- (1) Push the upper tabs of holder (stamped mark <1> side) into the PANEL ASSY first. Then push the lower tabs (stamped mark <2> side) into the PANEL ASSY.

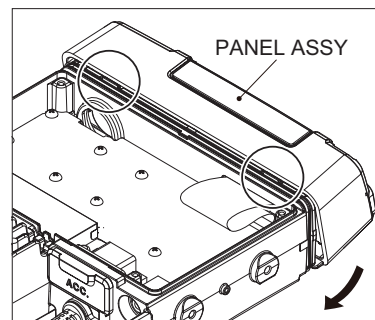


There are stamped marks <1> or <2> on the four corners of the holder.

- (2) When mounting the PANEL ASSY, pass the flat cable through the hole of the chassis as shown below then connect the flat cable to connector of the PANEL ASSY.



- (3) Fit the PANEL ASSY into the two tabs of the chassis top side first. Then, fit the PANEL ASSY into the two tabs of the chassis bottom side by turning the PANEL ASSY.



3.3 Assembly Information (Non-reusable parts)

When "Main Parts" is changed (ordered), "non-reusable parts" should also be changed (ordered) together.
The Sticker and Sheet etc. are non-reusable parts. It requires the new one to get the transceiver's performance after repairs.

NX-1700 series

Main Parts		Non-reusable parts		
Part Name	Part Number	Part Name	Part Number	Remarks
MAIN UNIT	XCA-085K-00S	CONDUCTIVE SHEET	F1C-0063-00	
	XCA-085E-01S			
	XCA-090K-00S	SHEET	G11-4611-04	
	XCA-090E-01S			
	XCA-091K-00S			
	XCA-091E-01S			
SUB UNIT	XC3-098K-01S	SHEET	G1B-0502-00	
CHASSIS	A1A-0055-00	CAUTION STICKER	B41-1837-04	
		SHEET	G11-4578-04	
PANEL ASSY	A6C-0181-00	CAUTION STICKER	B4B-0008-00	Type K only
		STANDARD LABEL	B4C-0913-00	NX-1700D type E only
SHIELDING COVER	F1B-0010-00	CUSHION	G1D-0164-00	
HOLDER	J19-5542-12	CUSHION	G13-2363-04	
MOUNTING	J21-8629-03	SHEET	G1B-0504-00	

NX-1800 series

Main Parts		Non-reusable parts		
Part Name	Part Number	Part Name	Part Number	Remarks
MAIN UNIT	XCA-092E-01S	CONDUCTIVE SHEET	F1C-0063-00	
	XCA-092E-02S			
	XCA-092K-00S	SHEET	G11-4611-04	
	XCA-093E-01S			
	XCA-093E-02S	SHEET	G1B-0495-10	NX-1800N, NX-1800D, NX-1800A type E only
	XCA-093K-00S			
	XCA-094E-01S			
	XCA-094K-00S			
SUB UNIT	XC3-098K-01S	SHEET	G1B-0502-00	
CHASSIS	A1A-0055-00	CAUTION STICKER	B41-1837-04	
		SHEET	G11-4578-04	
PANEL ASSY	A6C-0181-00	CAUTION STICKER	B4B-0008-00	Type K only
SHIELDING COVER	F1B-0010-00	CUSHION	G1D-0164-00	
		CONDUCTIVE CUSHION	G13-2451-14	NX-1800N, NX-1800D, NX-1800A type E only
HOLDER	J19-5542-12	CUSHION	G13-2363-04	
MOUNTING	J21-8629-03	SHEET	G1B-0504-00	
SHIELDING COVER	F10-3140-13	CONDUCTIVE CUSHION	G13-2153-24	NX-1800N, NX-1800D, NX-1800A type E only
		CONDUCTIVE CUSHION	G1D-0522-00	NX-1800N, NX-1800D, NX-1800A type E only

SECTION 4 ADJUSTMENT

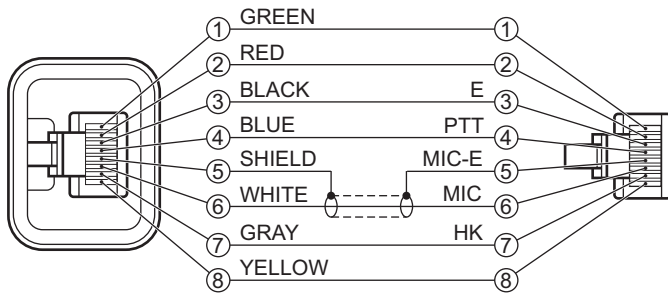
4.1 NX-1700H series [K] type

4.1.1 Test Equipment Required for Alignment

Test Equipment	Major Specifications	
1. Standard Signal Generator (SSG)	Frequency Range	100 to 520MHz
	Modulation	Frequency modulation and external modulation
	Output	-127dBm/0.1μV to greater than -20dBm/22.4mV
2. Power Meter	Input Impedance	50Ω
	Operation Frequency	100 to 520MHz
	Measuring Range	Vicinity of 100W
3. Deviation Meter	Frequency Range	100 to 520MHz
4. Digital Volt Meter (DVM)	Measuring Range	10mV to 20V DC
	Input Impedance	High input impedance for minimum circuit loading
5. Oscilloscope		DC through 30MHz
6. High Sensitivity Frequency Counter	Frequency Range	10Hz to 1000MHz
	Frequency Stability	0.2ppm or less
7. Ammeter		20A
8. AF Volt Meter (AF VM)	Frequency Range	50Hz to 10kHz
	Voltage Range	1mV to 10V
9. Audio Generator (AG)	Frequency Range	50Hz to 5kHz or more
	Output	0 to 1V
10. Distortion Meter	Capability	3% or less at 1kHz
	Input Level	50mV to 10Vrms
11. 4Ω Dummy Load		Approx. 4Ω, 10W
12. Regulated Power Supply		9V to 17V, approx. 20A Useful if ammeter equipped

*The test equipment which is not used for adjustment is contained in this table.

■Test cable for microphone input (E30-3360-38)

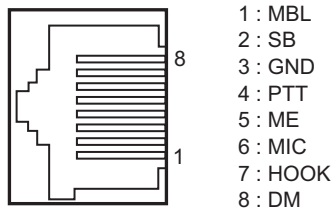


■Tuning cable (E30-7754-15)

Adapter cable (E30-7754-15) is required for injecting an audio if PC tuning is used.

See "PC Mode" section for the connection.

■MIC connector (Front panel view)



■Test cable for speaker output

[Caution]

Since the RX Audio output is a BTL output, there is a DC component.

To check the RX Audio output, it of 3.5D Phone Jack should be used and be isolated with capacitors as shown in the Fig.1.

[Proper Method]

For proper audio measurement, please use the Balanced Input on the Radio Communication Tester as possible.

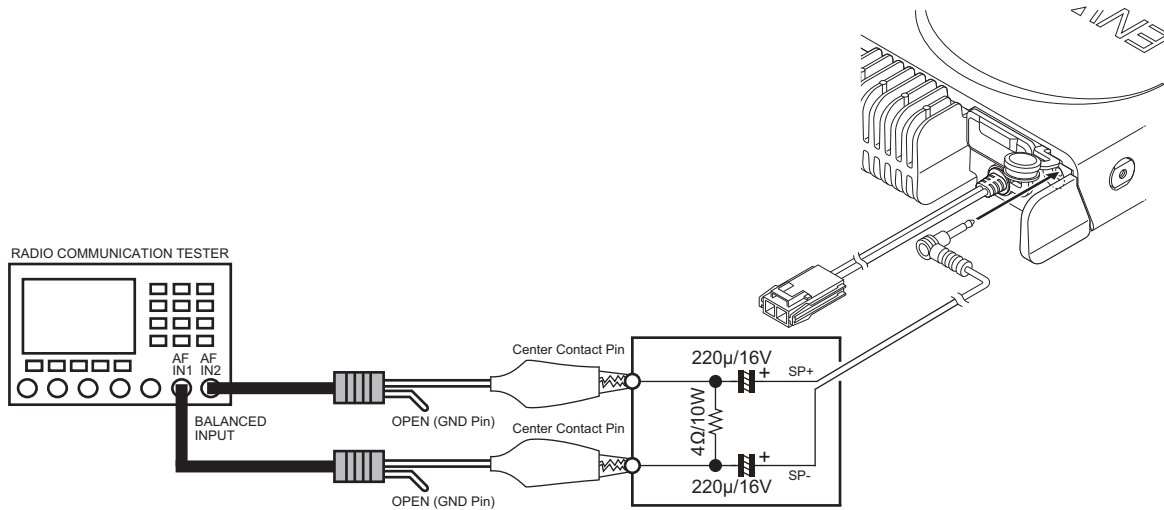


Fig.1

[Simple Method]

Some Radio Communication Tester does not equip the Balanced Input, in this case, please use the Un-balanced Input and refer the simple measurement method as shown in the Fig.2.

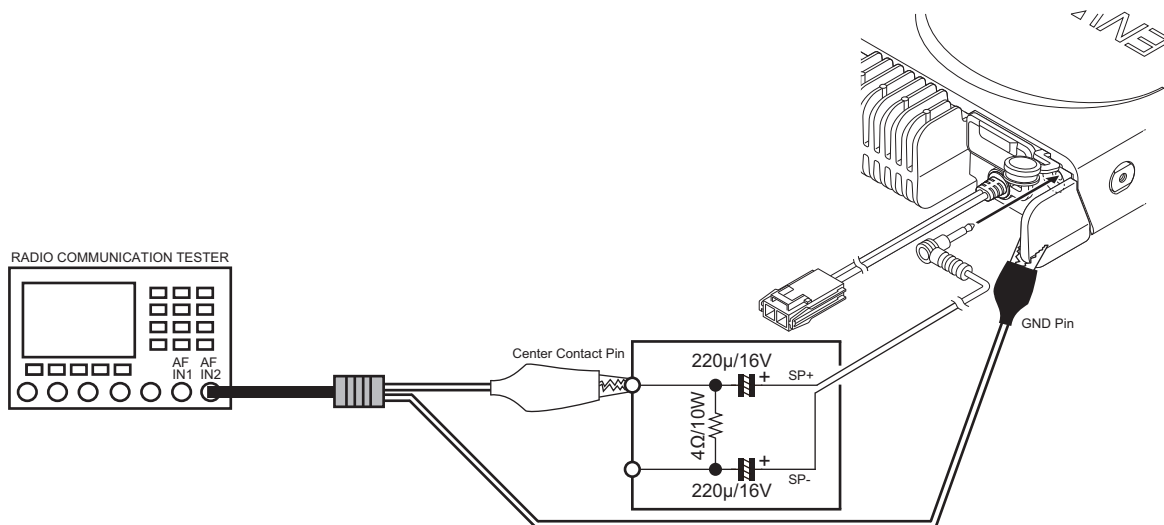


Fig.2

In the simple measurement, the Radio Communication Tester will display half of the actual audio voltage. Once need to adjust the RX audio level, set it to half of the specified audio level.

NX-1700H series (K) type

4.1.2 Frequency and Signaling

The transceiver has been adjusted for the frequencies shown in the following table. When required, readjust them following the adjustment procedure to obtain the frequencies you want in actual operation.

■Test frequency

CH	RX (MHz)	TX (MHz)
1	155.050000	155.100000
2	136.050000	136.100000
3	173.850000	173.900000
4	155.000000	155.000000
5	155.200000	155.200000
6	155.400000	155.400000
7~16	-	-

■Analog mode signaling

No.	RX	TX
1	None	None
2	None	150Hz Square Wave
3	QT 67.0Hz	QT 67.0Hz
4	QT 151.4Hz	QT 151.4Hz
5	QT 210.7Hz	QT 210.7Hz
6	QT 254.1Hz	QT 254.1Hz
7	DQT D023N	DQT D023N
8	DQT D754I	DQT D754I
9	DTMF Decode (Code: 159D)	DTMF Encode (Code: 159D)
10	None	DTMF (Code: 9)
11	None	MSK (1010..)
12	FleetSync: 100-1000	FleetSync: 100-1000
13	None	Single Tine: 1000Hz
14	2-tone Decode: A: 304.7Hz B: 3106.0Hz	2-tone Encode: A: 304.7Hz B: 3106.0Hz
15	None	DTMF Tone: 1477Hz
16	Single Tone: 979.9Hz	Single Tone: 979.9Hz
17	None	MSK PN9
18	None	DTMF (Code: 3)

■NXDN mode signaling

No.	RX	TX
1	RAN 1	RAN 1
2	None	PN9
3	RAN 1	Maximum Deviation Pattern
4	FSW + PN9	FSW + PN9
5	Tone Pattern (1031Hz)	Tone Pattern (1031Hz)

RAN: Radio Access Number
PN9: Pseudo-Random Pattern

■DMR mode signaling

No.	RX	TX
1	CC 00 Burst	CC 00 Burst
2	PN9 Continuous Pattern	PN9 Continuous Pattern
3	CC 00 Burst	Maximum Deviation Continuous Pattern
5	CC 00 Burst	0 Continuous Pattern
6	SYNC (Each slot) + PN9 Burst Pattern	SYNC (Each slot) + PN9 Burst Pattern

PN9: Pseudo-Random Pattern

4.1.3 PC Tuning mode

4.1.3.1 Preparations for Tuning the Transceiver

Before attempting to tune the transceiver, connect the unit to a suitable power supply.

Whenever the transmitter is tuned, the unit must be connected to a suitable dummy load (i.e. power meter).

The speaker output connector must be terminated with a 4Ω dummy load and connected to an AC voltmeter and an audio distortion meter or a SINAD measurement meter at all times during tuning.

Note:

The items listed below has been adjusted in the production because this series has a function to be converted as the Digital transceiver by additional licenses.

If there is no additional license as the Digital transceiver, those adjustment items can be skipped.

- (1) Maximum Deviation (NXDN): Transmitter Section 8
- (2) Maximum Deviation (DMR): Transmitter Section 9
- (3) CW ID Deviation (NXDN): Transmitter Section 10
- (4) Open Squelch (5) (NXDN): Receiver Section 6
- (5) Open Squelch (5) (DMR): Receiver Section 7

4.1.3.2 The adjustment frequency list

■5 points adjustment frequency

Tuning point	RX (MHz)	TX (MHz)
Low1	136.050000	136.100000
Low3	145.550000	145.600000
Center2	155.050000	155.100000
High1	164.550000	164.600000
High3	173.950000	173.900000

■9 points adjustment frequency

Tuning point	RX (MHz)	TX (MHz)
Low1	136.050000	136.100000
Low2	140.800000	140.850000
Low3	145.550000	145.600000
Center1	150.300000	150.350000
Center2	155.050000	155.100000
Center3	159.800000	159.850000
High1	164.550000	164.600000
High2	169.300000	169.350000
High3	173.950000	173.900000

4.1.4 Adjustment item supplement

NX-1700H series (K) type	
Adjustment Item	Description
Assist Voltage	The lock voltage of VCO is adjusted. This item must be adjusted before all adjustment items.
DC Offset	Adjust this item to calibrate RF IC DC voltage within an optimal range.
Frequency	The Transmit Frequency is adjusted.
Ramp Offset	Adjust this item to the optimal Ramp voltage.
High Transmit Power	High Transmit Power is adjusted.
Medium Transmit Power	Medium Transmit Power is adjusted.
Low Transmit Power	Low Transmit Power is adjusted.
DQT Balance (DQT Balance 1/ DQT Balance 2)	The transmit audio frequency response is adjusted. This item is adjusted so that the deviation of 2kHz becomes the same deviation of 150Hz. This item must be adjusted before all adjustment items for deviations are adjusted.
Maximum Deviation (Analog Wide/ Narrow)	Maximum Deviation of Analog (Wide/ Narrow) is adjusted. This item must be adjusted before all adjustment items for tone deviations are adjusted.
Maximum Deviation (NXDN Narrow/ Very Narrow)	Maximum Deviation of NXDN (Narrow/Very Narrow) is adjusted.
Maximum Deviation (DMR Narrow)	Maximum Deviation of DMR is adjusted.
CW ID Deviation (NXDN Very Narrow)	CW ID Deviation of NXDN Very Narrow is adjusted.
DQT Deviation (Analog Wide/ Narrow)	DQT tone deviation (Wide/Narrow) is adjusted.

NX-1700H series (K) type	
Adjustment Item	Description
QT Deviation (Analog Wide/ Narrow)	QT tone deviation (Wide/Narrow) is adjusted.
DTMF Deviation (Analog Wide/ Narrow)	DTMF deviation (Wide/Narrow) is adjusted.
Single Tone Deviation (Analog Wide/ Narrow)	The deviation of Single Tone used in "2-tone" is adjusted.
MSK Deviation (Analog Wide/ Narrow)	MSK deviation (Wide/Narrow) is adjusted.
Receive Sensitivity	Band-Pass Filter is adjusted. The performance of Receive Sensitivity is improved. This item must be adjusted before all squelch items are adjusted.
LNA OFF AGC Calibration	Adjust this item to set AGC gain when LNA is off.
Open Squelch (5) (Analog Wide/ Narrow)	The squelch level at level "5" for Analog Wide / Narrow is adjusted.
Open Squelch (5) (NXDN Narrow/ Very Narrow)	The squelch level for NXDN Narrow / Very Narrow is adjusted.
Open Squelch (5) (DMR Narrow)	The squelch level for DMR is adjusted.
Tight Squelch (Analog Wide/ Narrow)	The squelch level at level "9" for Analog Wide / Narrow is adjusted.
Low RSSI (Analog Narrow)	RSSI display level is adjusted. Both "Low RSSI" and "High RSSI" must be adjusted. (The curve data of RSSI level is applied.)
High RSSI (Analog Narrow)	

4.1.5 Adjustment item

NX-1700H series (K) type							
Order	Adjustment item	Aw (Analog Wide)	An (Analog Narrow)	Nn (NXDN Narrow)	Nv (NXDN Very Narrow)	Dn (DMR)	Adjust item Number
Adjustment range							
1	Assist Voltage	9 point Automatic ADJ 1 ~ 4096					Common Section 2
2	DC Offset	1 point Automatic ADJ 1 ~ 4096					Common Section 3
3	Frequency	1 point ADJ 1 ~ 1024					Common Section 4
4	Ramp Offset	5 point Automatic ADJ 1 ~ 1024					Transmitter Section 1

NX-1700H series (K) type							
Order	Adjustment item	Aw (Analog Wide)	An (Analog Narrow)	Nn (NXDN Narrow)	Nv (NXDN Very Narrow)	Dn (DMR)	Adjust item Number
		Adjustment range					
5	High Transmit Power	-	5	-	-	-	Transmitter Section 2
		1 ~ 1024					
6	Medium Transmit Power	-	5	-	-	-	Transmitter Section 3
		1 ~ 1024					
7	Low Transmit Power	-	5	-	-	-	Transmitter Section 4
		1 ~ 1024					
8	DQT Balance	-	9	-	-	-	Transmitter Section 5, 6
		1 ~ 1024					
9	Maximum Deviation (Analog)	9	9	-	-	-	Transmitter Section 7
		1 ~ 1024					
10	Maximum Deviation (NXDN)	-	-	9	9	-	Transmitter Section 8
		1 ~ 1024					
11	Maximum Deviation (DMR)	-	-	-	-	9	Transmitter Section 9
		1 ~ 1024					
12	CW ID Deviation (NXDN)	-	-	-	5	-	Transmitter Section 10
		1 ~ 1024					
13	DQT Deviation	5	5	-	-	-	Transmitter Section 11
		1 ~ 1024					
14	QT Deviation	5	5	-	-	-	Transmitter Section 12
		1 ~ 1024					
15	DTMF Deviation	5	5	-	-	-	Transmitter Section 13
		1 ~ 1024					
16	Single Tone Deviation	5	5	-	-	-	Transmitter Section 14
		1 ~ 1024					
17	MSK Deviation	5	5	-	-	-	Transmitter Section 15
		1 ~ 1024					
18	Receive Sensitivity	-	5	-	-	-	Receiver Section 2, 3
		1 ~ 1024					
19	LNA OFF AGC Calibration	-	1	-	-	-	Receiver Section 4
		1 ~ 4096					
20	Open Squelch (5) (Analog)	5	5	-	-	-	Receiver Section 5
		1 ~ 1024					
21	Open Squelch (5) (NXDN)	-	-	5	5	-	Receiver Section 6
		1 ~ 1024					
22	Open Squelch (5) (DMR)	-	-	-	-	5	Receiver Section 7
		1 ~ 1024					
23	Low RSSI	-	5	-	-	-	Receiver Section 8
		1 ~ 1024					
24	High RSSI	-	5	-	-	-	Receiver Section 9
		1 ~ 1024					
25	Tight Squelch	5	5	-	-	-	Receiver Section 10
		1 ~ 1024					

4.1.6 Transceiver check Section

NX-1700H Series (K) type					
Item	Condition	Measurement	Adjustment		Specifications/ Remarks
	PC test mode		Point	Method	
1. Frequency check	1) Test Channel: 1 Test Signaling Mode: Analog, Signaling: 1 2) PTT: Press [Transmit] button.	f. counter -ANT		Check	155.099923~ 155.100077MHz (±0.5ppm@155.1MHz)
2. High power check	1) Test Channel: 1 Test Signaling Mode: Analog, Signaling: 1 2) PTT: Press [Transmit] button.	Power meter -ANT Ammeter		Check	45.0~55.0W 13A or less
	1) Test Channel: 2 Test Signaling Mode: Analog, Signaling: 1 2) PTT: Press [Transmit] button.	Power meter -ANT Ammeter		Check	45.0~55.0W 13A or less
	1) Test Channel: 3 Test Signaling Mode: Analog, Signaling: 1 2) PTT: Press [Transmit] button.	Power meter -ANT Ammeter		Check	45.0~55.0W 13A or less
3. Medium power check	1) Test Channel: 1 Test Signaling Mode: Analog, Signaling: 1 2) PTT: Press [Transmit] button.	Power meter -ANT Ammeter		Check	20.0~30.0W 10A or less
	1) Test Channel: 2 Test Signaling Mode: Analog, Signaling: 1 2) PTT: Press [Transmit] button.	Power meter -ANT Ammeter		Check	20.0~30.0W 10A or less
	1) Test Channel: 3 Test Signaling Mode: Analog, Signaling: 1 2) PTT: Press [Transmit] button.	Power meter -ANT Ammeter		Check	20.0~30.0W 10A or less
4. Low power check	1) Test Channel: 1 Test Signaling Mode: Analog, Signaling: 1 2) PTT: Press [Transmit] button.	Power meter -ANT Ammeter		Check	3.5~6.5W 7.0A or less
	1) Test Channel: 2 Test Signaling Mode: Analog, Signaling: 1 2) PTT: Press [Transmit] button.	Power meter -ANT Ammeter		Check	3.5~6.5W 7.0A or less
	1) Test Channel: 3 Test Signaling Mode: Analog, Signaling: 1 2) PTT: Press [Transmit] button.	Power meter -ANT Ammeter		Check	3.5~6.5W 7.0A or less
5. MIC sensitivity check	1) Test Channel: 1 Test Signaling Mode: Analog, Signaling: 1 2) AG: 1kHz 3) PTT: Press [Transmit] button.	Deviation meter Power meter -ANT AG, AF VM Oscilloscope -MIC		Adjust AG input to get a standard MOD.	5.0mV ± 1.0mV
6. Sensitivity check	1) Test Channel: 1 Test Signaling Mode: Analog, Signaling: 1 2) SSG output Wide: -116dBm (0.35μV) (MOD: 1kHz/±3kHz) Narrow: -115dBm (0.40μV) (MOD: 1kHz/±1.5kHz)	SSG -ANT Distortion meter 4Ω Dummy load AF VM Oscilloscope -SP output		Check	12dB SINAD or more

4.1.7 Common Section

NX-1700H Series (K) type					
Item	Condition	Measurement	Adjustment		Specifications/ Remarks
	PC tuning mode		Point	Method	
1. Setting	1) DC voltage:13.6V 2) SSG standard modulation [Wide] MOD: 1kHz/DEV:3kHz [Narrow] MOD: 1kHz/ DEV1.5kHz				
2. Assist Voltage	1) Adj item: [Assist Voltage] 2) Adj point: 9 points [Low1], [Low2], [Low3], [Center1], [Center2], [Center3], [High1], [High2], [High3]		FPU [<],[>]	[Automatic Adjustment] -PC Test mode- Press [Tune Assist Voltage] button. [Manual Adjustment] [V] indicator on the PC window shows VCO lock voltage. Change the adjustment value to get VCO lock voltage within the specified voltage.	1.55~1.75V Press [OK] button to store the adjustment value after all adjustment point have been adjusted.
Note: Confirm the VCO lock voltage approximately 3 seconds after the adjustment value is changed.					
3. DC Offset	<PC test mode> 1) Test Channel: 1 Test Signaling Mode: Analog Signaling: 1 2) Adjust with no RF input.		FPU	Press [DC Offset] button. It will pop up a window after adjustment is completed.	Press [OK] button to store the adjustment value.
4. Frequency	1) Adj item: [Frequency] 2) Adj point: 1 point Test Channel: 1 Test Signaling Mode: Analog Signaling: 1 Transmit power: Low 3) PTT: Press [Transmit] button.	f. counter -ANT	FPU [<],[>]	155.100000MHz	155.099970~ 155.100030MHz Press [OK] button to store the adjustment value.

4.1.8 Transmitter Section

NX-1700H Series (K) type					
Item	Condition	Measurement	Adjustment		Specifications/Remarks
	PC tuning mode		Point	Method	
1. Ramp Offset	1) Adj item: [Ramp Offset] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Press [Transmit] button.	Power meter -ANT	FPU [<],[>]	1. Set the adjustment data value to "1", and press [Transmit] button to put it in the transmission state. 2. Next, increase the adjustment value slowly while monitoring the offset monitor value. 3. Set the adjustment data value when the offset monitor value exceeds the threshold value.	Threshold value: 383±10 Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
2. High Transmit Power	1) Adj item: [High Transmit Power] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Press [Transmit] button.	Power meter -ANT Power supply Ammeter	FPU [<],[>]	50.0W	±1.0W 13A or less Press [OK] button to store the adjustment value after all adjustment points have been adjusted.

NX-1700H Series (K) type					
Item	Condition	Measurement	Adjustment		Specifications/Remarks
	PC tuning mode		Point	Method	
3. Medium Transmit Power	1) Adj item: [Medium Transmit Power] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Press [Transmit] button.	Power meter -ANT Power supply Ammeter	FPU [<],[>]	25.0W	±1.0W 10A or less Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
4. Low Transmit Power	1) Adj item: [Low Transmit Power] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Press [Transmit] button.	Power meter -ANT Power supply Ammeter	FPU [<],[>]	5.0W	±0.5W 7.0A or less Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
5. DQT Balance 1 *1 *2	1) Adj item: [DQT Balance 1] 2) Adj point: 9 points [Low1], [Low2], [Low3], [Center1], [Center2], [Center3], [High1], [High2], [High3] 3) Deviation meter: LPF: 3kHz/HPF: OFF 4) Press [Transmit] button.	Oscilloscope -Deviation meter demodulation wave Deviation meter Power meter -ANT	FPU [<],[>]	Make the demodulation wave into square wave.	 Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
6. DQT Balance 2 *1 *2	1) Adj item: [DQT Balance 2] 2) Adj point: 9 points [Low1], [Low2], [Low3], [Center1], [Center2], [Center3], [High1], [High2], [High3] 3) Deviation meter: LPF: 3kHz/HPF: OFF 4) Press [Transmit] button. 5) Check "2kHz Sine Wave" Check box to change 2kHz.	Deviation meter Power meter -ANT Oscilloscope	FPU [<],[>]	The Deviation of 150Hz frequency is fixed. Change the 2kHz adjustment value to become the same deviation of 150Hz within the specified range.	2kHz Tone deviation is within ±1.0% of 150Hz tone deviation. Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
*1: Refer to the "4.1.8.1 Necessary Deviation adjustment item for each signaling and mode" table. Balance adjustment is common with the adjustment of all signaling deviations. *2: Only one DQT Balance needs to be adjusted (either DQT Balance 1 or DQT Balance 2).					
7. Maximum Deviation (Analog) *3	1) Adj item: [Maximum Deviation (Analog Wide)] 2) Adj point: 9 points [Low1], [Low2], [Low3], [Center1], [Center2], [Center3], [High1], [High2], [High3] 3) Deviation meter: LPF: 15kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter -ANT Oscilloscope	FPU [<],[>]	Adjust to "4200Hz".	4150~4250Hz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
	1) Adj item: [Maximum Deviation (Analog Narrow)] 2) Adj point: 9 points [Low1], [Low2], [Low3], [Center1], [Center2], [Center3], [High1], [High2], [High3] 3) Deviation meter: LPF: 15kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter -ANT Oscilloscope	FPU [<],[>]	Adjust to "2100Hz".	2050~2150Hz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.

NX-1700H Series (K) type					
Item	Condition	Measurement	Adjustment		Specifications/Remarks
	PC tuning mode		Point	Method	
8. Maximum Deviation (NXDN) *3	1) Adj item: [Maximum Deviation (NXDN Very Narrow)] 2) Adj point: 9 points [Low1], [Low2], [Low3], [Center1], [Center2], [Center3], [High1], [High2], [High3] 3) Deviation meter: LPF: 3kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter -ANT Oscilloscope	FPU [<],[>]	Adjust to "1337Hz".	1311~1363Hz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
	1) Adj item: [Maximum Deviation (NXDN Narrow)] 2) Adj point: 9 points [Low1], [Low2], [Low3], [Center1], [Center2], [Center3], [High1], [High2], [High3] 3) Deviation meter: LPF: 3kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter -ANT Oscilloscope	FPU [<],[>]	Adjust to "3056Hz".	2995~3117Hz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
9. Maximum Deviation (DMR) *3	1) Adj item: [Maximum Deviation (DMR)] 2) Adj point: 9 points [Low1], [Low2], [Low3], [Center1], [Center2], [Center3], [High1], [High2], [High3] 3) Deviation meter: LPF: 3kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter -ANT Oscilloscope	FPU [<],[>]	Adjust to "2749Hz".	2695~2803Hz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
10. CW ID Deviation (NXDN) *3	1) Adj item: [CW ID Deviation (NXDN Very Narrow)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Deviation meter: LPF: 15kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter -ANT Oscilloscope	FPU [<],[>]	Write the reference value "486" for each adjustment points.	900~1100Hz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
11. DQT Deviation *3	1) Adj item: [DQT Deviation (Analog Wide)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Deviation meter: LPF: 3kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter -ANT Oscilloscope	FPU [<],[>]	Write the reference value "146" for each adjustment points.	0.75kHz±0.05kHz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
	1) Adj item: [DQT Deviation (Analog Narrow)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Deviation meter: LPF: 3kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter -ANT Oscilloscope	FPU [<],[>]	Write the reference value "140" for each adjustment points.	0.35kHz±0.05kHz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.

NX-1700H Series (K) type					
Item	Condition	Measurement	Adjustment		Specifications/Remarks
	PC tuning mode		Point	Method	
12. QT Deviation *3	1) Adj item: [QT Deviation (Analog Wide)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Deviation meter: LPF: 3kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter -ANT Oscilloscope	FPU [<],[>]	Write the reference value "193" for each adjustment points.	0.75kHz ± 0.05kHz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
	1) Adj item: [QT Deviation (Analog Narrow)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Deviation meter: LPF: 3kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter -ANT Oscilloscope	FPU [<],[>]	Write the reference value "184" for each adjustment points.	0.35kHz ± 0.05kHz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
13. DTMF Deviation *3	1) Adj item: [DTMF Deviation (Analog Wide)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Deviation meter: LPF: 15kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter -ANT Oscilloscope	FPU [<],[>]	Write the reference value "150" for each adjustment points.	2.50kHz±0.05kHz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
	1) Adj item: [DTMF Deviation (Analog Narrow)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Deviation meter: LPF: 15kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter -ANT Oscilloscope	FPU [<],[>]	Write the reference value "153" for each adjustment points.	1.25kHz±0.05kHz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
14. Single Tone Deviation *3	1) Adj item: [Single Tone Deviation (Analog Wide)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Deviation meter: LPF: 15kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter -ANT Oscilloscope	FPU [<],[>]	Write the reference value "724" for each adjustment points.	3.00kHz±0.05kHz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
	1) Adj item: [Single Tone Deviation (Analog Narrow)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Deviation meter: LPF: 15kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter -ANT Oscilloscope	FPU [<],[>]	Write the reference value "732" for each adjustment points.	1.50kHz±0.05kHz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.

NX-1700H Series (K) type					
Item	Condition	Measurement	Adjustment		Specifications/Remarks
	PC tuning mode		Point	Method	
15. MSK Deviation *3	1) Adj item: [MSK Deviation (Analog Wide)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Deviation meter: LPF: 15kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter Power meter -ANT	FPU [<],[>]	Write the reference value "715" for each adjustment points.	3.00kHz±0.05kHz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
	1) Adj item: [MSK Deviation (Analog Narrow)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Deviation meter: LPF: 15kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter Power meter -ANT	FPU [<],[>]	Write the reference value "724" for each adjustment points.	1.50kHz±0.05kHz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
*3: Refer to the "4.1.8.1 Necessary Deviation adjustment item for each signaling and mode" table.					

4.1.8.1 Necessary Deviation adjustment item for each signaling and mode

The following shows the necessary adjustment items for each signaling deviation. Please read the following table like the following example. In the case of the signaling "QT (Analog Wide)", this signaling is composed of three elements [Balance, Maximum Deviation (Analog Wide) and QT Deviation (Analog Wide)]. Please adjust Balance and Maximum Deviation (Analog Wide) before adjusting QT Deviation (Analog Wide).

NX-1700H Series (K) type				
Mode	Signaling	Necessary adjustment and order		
		Wide	Narrow	Very Narrow
Analog	Audio	1. Balance 2. Maximum Deviation [Analog Wide]	1. Balance 2. Maximum Deviation [Analog Narrow]	-
	DQT	1. Balance 2. Maximum Deviation [Analog Wide] 3. DQT Deviation [Analog Wide]	1. Balance 2. Maximum Deviation [Analog Narrow] 3. DQT Deviation [Analog Narrow]	-
	QT	1. Balance 2. Maximum Deviation [Analog Wide] 3. QT Deviation [Analog Wide]	1. Balance 2. Maximum Deviation [Analog Narrow] 3. QT Deviation [Analog Narrow]	-
	Single Tone	1. Balance 2. Maximum Deviation [Analog Wide] 3. Single Tone Deviation [Analog Wide]	1. Balance 2. Maximum Deviation [Analog Narrow] 3. Single Tone Deviation [Analog Narrow]	-
	DTMF	1. Balance 2. Maximum Deviation [Analog Wide] 3. DTMF Deviation [Analog Wide]	1. Balance 2. Maximum Deviation [Analog Narrow] 3. DTMF Deviation [Analog Narrow]	-
	MSK	1. Balance 2. Maximum Deviation [Analog Wide] 3. MSK Deviation [Analog Wide]	1. Balance 2. Maximum Deviation [Analog Narrow] 3. MSK Deviation [Analog Narrow]	-
DMR	Audio	-	1. Balance 2. Maximum Deviation [DMR Narrow]	-
NXDN	Audio	-	1. Balance 2. Maximum Deviation [NXDN Narrow]	1. Balance 2. Maximum Deviation [NXDN Very Narrow]
	CW ID	-	-	1. Balance 2. Maximum Deviation [NXDN Very Narrow] 3. CW ID Deviation [NXDN Very Narrow]

- Balance is common with all the above deviation adjustments. If Balance (Transmitter Section 5, 6) has already adjusted, please skip Step 1 and adjust from Step 2.
- Maximum Deviation (Analog Wide/Analog Narrow) is common with all the analog signaling deviations. If Balance and Maximum Deviation (Analog Wide/Analog Narrow) (Transmitter Section 7) have already adjusted, please skip Step 2 and adjust from Step 3.

4.1.9 Receiver Section

NX-1700H Series (K) type					
Item	Condition	Measurement	Adjustment		Specifications/ Remarks
	PC tuning mode		Point	Method	
1. AF level setting	<PC test mode> 1) Test Channel: 1 Test Signaling Mode: Analog Signaling: 1 Wide/Narrow: Narrow Beat Shift: Uncheck Compander: Uncheck 2) SSG output: -47dBm (1mV) (MOD:1kHz/±1.5kHz)	SSG -ANT AF VM 4Ω Dummy load -SP output	FPU [<],[>]	Adjust the volume on Test Mode window to obtain 1.4V AF output. (0.5W@4Ω Load)	1.4V±0.1V
2. Receive Sensitivity *4	1) Adj item: [Receive Sensitivity] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) SSG output: -120.5dBm (0.21uV) MOD:1kHz/±1.5kHz	SSG -ANT Distortion meter Oscilloscope -SP output	FPU [<],[>]	Increase the adjustment value to get the highest SINAD level.	Press [OK] button to store the adjustment value.
3. Receive Sensitivity (Semiautomatic) *4	1) Adj item: [Receive Sensitivity (Semiautomatic)] 2) Adj points: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) SSG output: -90dBm (7.08uV) MOD:1kHz/±1.5kHz	SSG -ANT Distortion meter Oscilloscope -SP output	FPU [<],[>]	Input signal from SSG, press [Start] button, and after that press [OK] button to store the adjustment value.	
*4: Only one Receive Sensitivity needs to be adjusted (either Receive Sensitivity or Receive Sensitivity (Semiautomatic)). If the result of the RX Sensitivity [Low1] adjustment is "1", set it to the fixed value "5". If the result of the RX Sensitivity [High3] adjustment is "1024", set it to the fixed value "1020".					
4. LNA OFF AGC Calibration	1) Adj item: [LNA OFF AGC Calibration] 2) Adj point: 1 point Test Channel: 1 Test Signaling Mode: Analog Signaling: 1 3) SSG output: -26dBm (11mV) MOD:1kHz/±1.5kHz	SSG -ANT Distortion meter Oscilloscope -SP output	FPU	Input signal from SSG, press [Start] button to adjust, and after that press [OK] button to store the adjustment value.	
5. Open Squelch (5) (Analog)	1) Adj item: [Open Squelch (5) (Analog Wide)] 2) Adj points: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) SSG output: -120dBm (0.22uV) MOD:1kHz/±3.0kHz	SSG -ANT Distortion meter Oscilloscope -SP output	FPU	Input signal from SSG, press [Start] button to adjust, and after that press [OK] button to store the adjustment value.	
	1) Adj item: [Open Squelch (5) (Analog Narrow)] 2) Adj item: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) SSG output: -120dBm (0.22uV) MOD:1kHz/±1.5kHz	SSG -ANT Distortion meter Oscilloscope -SP output	FPU	Input signal from SSG, press [Start] button to adjust, and after that press [OK] button to store the adjustment value.	

NX-1700H Series (K) type					
Item	Condition	Measurement	Adjustment		Specifications/ Remarks
	PC tuning mode		Point	Method	
6. Open Squelch (5) (NXDN)	1) Adj item: [Open Squelch (5) (NXDN Narrow)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) SSG output: -123.5dBm (0.15uV) / No modulation	SSG -ANT Distortion meter Oscilloscope -SP output	FPU	Input signal from SSG, press [Start] button to adjust, and after that press [OK] button to store the adjustment value.	
	1) Adj item: [Open Squelch (5) (NXDN Very Narrow)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) SSG output: -125.0dBm (0.125uV) / No modulation	SSG -ANT Distortion meter Oscilloscope -SP output	FPU	Input signal from SSG, press [Start] button to adjust, and after that press [OK] button to store the adjustment value.	
7. Open Squelch (5) (DMR)	1) Adj item: [Open Squelch (5) (DMR)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) SSG output: -123.5dBm (0.15uV) / No modulation	SSG -ANT Distortion meter Oscilloscope -SP output	FPU	Input signal from SSG, press [Start] button to adjust, and after that press [OK] button to store the adjustment value.	
8. Low RSSI *5	1) Adj item: [Low RSSI (Analog Narrow)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) SSG output: -120dBm (0.22uV) MOD:1kHz/±1.5kHz	SSG -ANT Distortion meter Oscilloscope -SP output	FPU	Input signal from SSG, press [Start] button to adjust, and after that press [OK] button to store the adjustment value.	
*5: Due to "Low RSSI (Analog Narrow)" adjustment is shared with Analog Wide, NXDN Narrow, NXDN Very Narrow, and DMR, therefore there are no individual adjustments for each.					
9. High RSSI *6	1) Adj item: [High RSSI (Analog Narrow)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) SSG output: -80dBm (22.4uV) MOD:1kHz/±1.5kHz	SSG -ANT Distortion meter Oscilloscope -SP output	FPU	Input signal from SSG, press [Start] button to adjust, and after that press [OK] button to store the adjustment value.	
*6: Due to "High RSSI (Analog Narrow)" adjustment is shared with Analog Wide, NXDN Narrow, NXDN Very Narrow, and DMR, therefore there are no individual adjustments for each.					
10. Tight Squelch	1) Adj item: [Tight Squelch (Analog Wide)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) SSG output: -116dBm (0.35uV) MOD:1kHz/±3kHz	SSG -ANT Distortion meter Oscilloscope -SP output	FPU	Input signal from SSG, press [Start] button to adjust, and after that press [OK] button to store the adjustment value.	
	1) Adj item: [Tight Squelch (Analog Narrow)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) SSG output: -116dBm (0.35uV) MOD:1kHz/±1.5kHz	SSG -ANT Distortion meter Oscilloscope -SP output	FPU	Input signal from SSG, press [Start] button to adjust, and after that press [OK] button to store the adjustment value.	

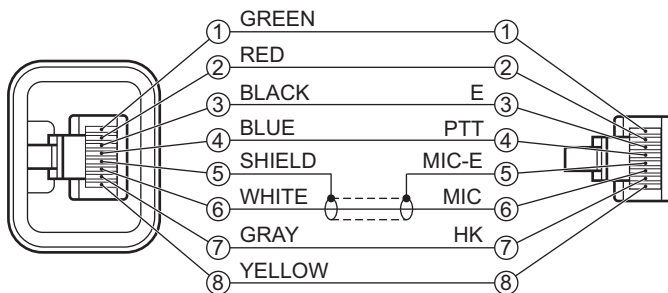
4.2 NX-1700 series [E] type

4.2.1 Test Equipment Required for Alignment

Test Equipment	Major Specifications	
1. Standard Signal Generator (SSG)	Frequency Range	100 to 520MHz
	Modulation	Frequency modulation and external modulation
	Output	-127dBm/0.1μV to greater than -20dBm/22.4mV
2. Power Meter	Input Impedance	50Ω
	Operation Frequency	100 to 520MHz
	Measuring Range	Vicinity of 100W
3. Deviation Meter	Frequency Range	100 to 520MHz
4. Digital Volt Meter (DVM)	Measuring Range	10mV to 20V DC
	Input Impedance	High input impedance for minimum circuit loading
5. Oscilloscope		DC through 30MHz
6. High Sensitivity Frequency Counter	Frequency Range	10Hz to 1000MHz
	Frequency Stability	0.2ppm or less
7. Ammeter		20A
8. AF Volt Meter (AF VM)	Frequency Range	50Hz to 10kHz
	Voltage Range	1mV to 10V
9. Audio Generator (AG)	Frequency Range	50Hz to 5kHz or more
	Output	0 to 1V
10. Distortion Meter	Capability	3% or less at 1kHz
	Input Level	50mV to 10Vrms
11. 4Ω Dummy Load		Approx. 4Ω, 10W
12. Regulated Power Supply		9V to 17V, approx. 20A Useful if ammeter equipped

*The test equipment which is not used for adjustment is contained in this table.

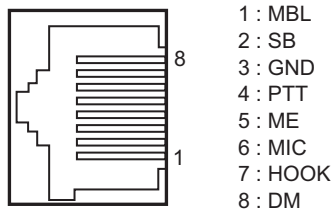
■Test cable for microphone input (E30-3360-38)



■Tuning cable (E30-7754-15)

Adapter cable (E30-7754-15) is required for injecting an audio if PC tuning is used.
See "PC Mode" section for the connection.

■MIC connector (Front panel view)



■Test cable for speaker output

[Caution]

Since the RX Audio output is a BTL output, there is a DC component.

To check the RX Audio output, it of 3.5D Phone Jack should be used and be isolated with capacitors as shown in the Fig.1.

[Proper Method]

For proper audio measurement, please use the Balanced Input on the Radio Communication Tester as possible.

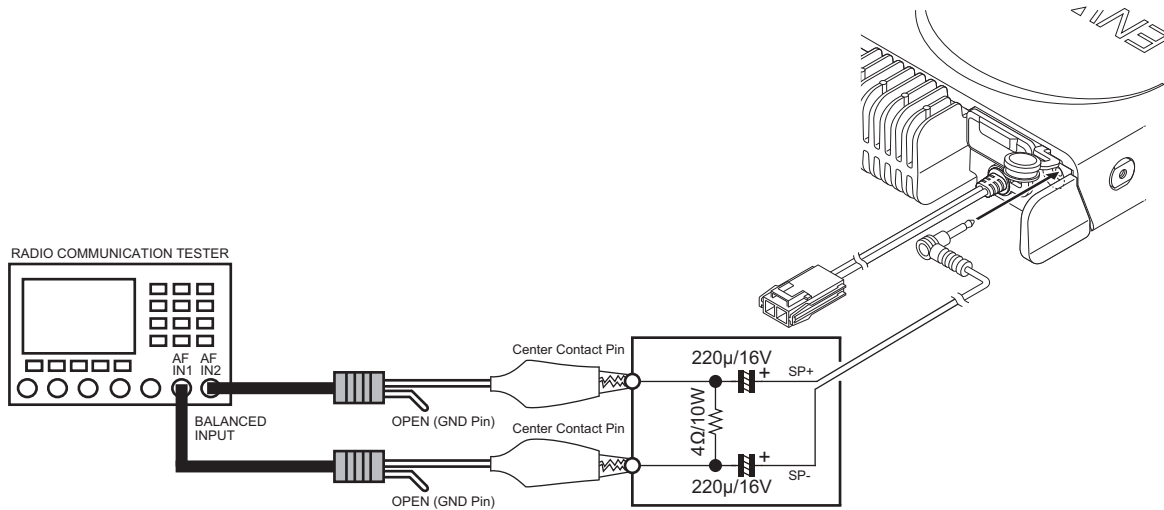


Fig.1

[Simple Method]

Some Radio Communication Tester does not equip the Balanced Input, in this case, please use the Un-balanced Input and refer the simple measurement method as shown in the Fig.2.

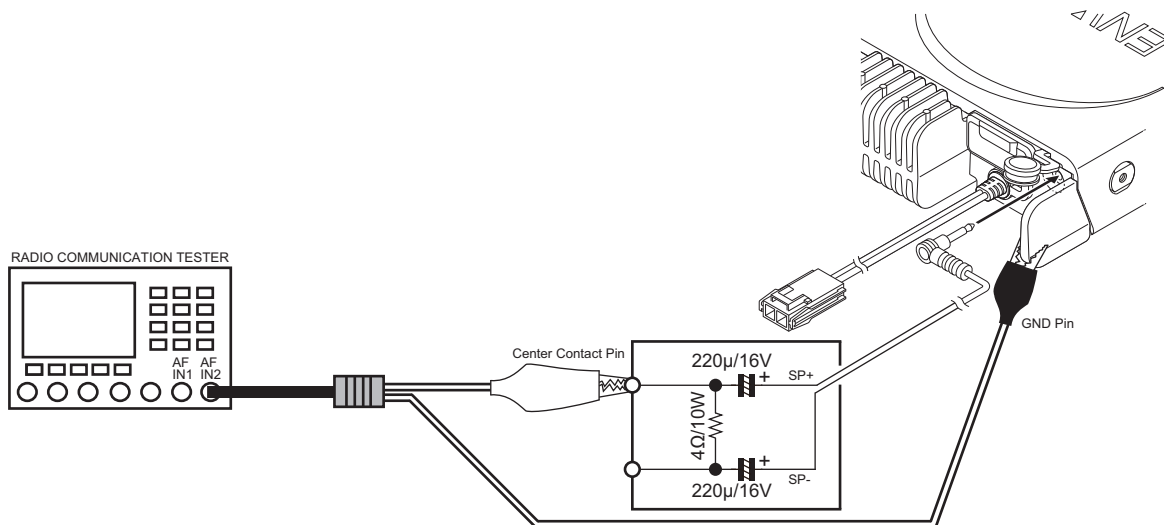


Fig.2

In the simple measurement, the Radio Communication Tester will display half of the actual audio voltage. Once need to adjust the RX audio level, set it to half of the specified audio level.

NX-1700 Series (E) type

4.2.2 Frequency and Signaling

The transceiver has been adjusted for the frequencies shown in the following table. When required, readjust them following the adjustment procedure to obtain the frequencies you want in actual operation.

■Test frequency

CH	RX (MHz)	TX (MHz)
1	155.050000	155.100000
2	136.050000	136.100000
3	173.850000	173.900000
4	155.000000	155.000000
5	155.200000	155.200000
6	155.400000	155.400000
7~16	-	-

■Analog mode signaling

No.	RX	TX
1	None	None
2	None	150Hz Square Wave
3	QT 67.0Hz	QT 67.0Hz
4	QT 151.4Hz	QT 151.4Hz
5	QT 210.7Hz	QT 210.7Hz
6	QT 254.1Hz	QT 254.1Hz
7	DQT D023N	DQT D023N
8	DQT D754I	DQT D754I
9	DTMF Decode (Code: 159D)	DTMF Encode (Code: 159D)
10	None	DTMF (Code: 9)
11	None	MSK (1010..)
12	FleetSync: 100-1000	FleetSync: 100-1000
13	None	Single Tone: 1000Hz
15	None	DTMF Tone: 1477Hz
16	Single Tone: 979.9Hz	Single Tone: 979.9Hz
17	None	MSK PN9
18	None	DTMF (Code: 3)
19	Single Tone: 1200Hz	Single Tone: 1200Hz
20	5-tone (CCIR12345)	5-tone (CCIR12345)

■NXDN mode signaling

No.	RX	TX
1	RAN 1	RAN 1
2	None	PN9
3	RAN 1	Maximum Deviation Pattern
4	FSW + PN9	FSW + PN9
5	Tone Pattern (1031Hz)	Tone Pattern (1031Hz)

RAN: Radio Access Number
PN9: Pseudo-Random Pattern

■DMR mode signaling

No.	RX	TX
1	CC 00 Burst	CC 00 Burst
2	PN9 Continuous Pattern	PN9 Continuous Pattern
3	CC 00 Burst	Maximum Deviation Continuous Pattern
5	CC 00 Burst	0 Continuous Pattern
6	SYNC (Each slot) + PN9 Burst Pattern	SYNC (Each slot) + PN9 Burst Pattern

PN9: Pseudo-Random Pattern

4.2.3 PC Tuning mode

4.2.3.1 Preparations for Tuning the Transceiver

Before attempting to tune the transceiver, connect the unit to a suitable power supply.

Whenever the transmitter is tuned, the unit must be connected to a suitable dummy load (i.e. power meter).

The speaker output connector must be terminated with a 4Ω dummy load and connected to an AC voltmeter and an audio distortion meter or a SINAD measurement meter at all times during tuning.

4.2.3.2 The adjustment frequency list

■5 points adjustment frequency

Tuning point	RX (MHz)	TX (MHz)
Low1	136.050000	136.100000
Low3	145.550000	145.600000
Center2	155.050000	155.100000
High1	164.550000	164.600000
High3	173.950000	173.900000

■9 points adjustment frequency

Tuning point	RX (MHz)	TX (MHz)
Low1	136.050000	136.100000
Low2	140.800000	140.850000
Low3	145.550000	145.600000
Center1	150.300000	150.350000
Center2	155.050000	155.100000
Center3	159.800000	159.850000
High1	164.550000	164.600000
High2	169.300000	169.350000
High3	173.950000	173.900000

4.2.4 Adjustment item supplement

NX-1700 Series (E) type	
Adjustment Item	Description
Assist Voltage	The lock voltage of VCO is adjusted. This item must be adjusted before all adjustment items.
DC Offset	Adjust this item to calibrate RF IC DC voltage within an optimal range.
Frequency	The Transmit Frequency is adjusted.

NX-1700 Series (E) type	
Adjustment Item	Description
High Transmit Power	High Transmit Power is adjusted.
Low Transmit Power	Low Transmit Power is adjusted.
DQT Balance (DQT Balance 1 / DQT Balance 2)	The transmit audio frequency response is adjusted. This item is adjusted so that the deviation of 2kHz becomes the same deviation of 150Hz. This item must be adjusted before all adjustment items for deviations are adjusted.
Maximum Deviation (Analog Wide 5k / Wide 4k / Narrow)	Maximum Deviation of Analog (Wide 5k / Wide 4k / Narrow) is adjusted. This item must be adjusted before all adjustment items for tone deviations are adjusted.
Maximum Deviation (NXDN Narrow / Very Narrow)	Maximum Deviation of NXDN (Narrow/Very Narrow) is adjusted.
Maximum Deviation (DMR Narrow)	Maximum Deviation of DMR is adjusted.
CW ID Deviation (NXDN Very Narrow)	CW ID Deviation of NXDN Very Narrow is adjusted.
DQT Deviation (Analog Wide 5k / Wide 4k / Narrow)	DQT tone deviation (Wide 5k / Wide 4k / Narrow) is adjusted.
QT Deviation (Analog Wide 5k / Wide 4k / Narrow)	QT tone deviation (Wide 5k / Wide 4k / Narrow) is adjusted.
DTMF Deviation (Analog Wide 5k / Wide 4k / Narrow)	DTMF deviation (Wide 5k / Wide 4k / Narrow) is adjusted.

NX-1700 Series (E) type	
Adjustment Item	Description
Single Tone Deviation (Analog Wide 5k / Wide 4k / Narrow)	The deviation of Single Tone used in "2-tone" and "5-tone" is adjusted.
MSK Deviation (Analog Wide 5k / Wide 4k / Narrow)	MSK deviation (Wide 5k / Wide 4k / Narrow) is adjusted.
Receive Sensitivity	Band-Pass Filter is adjusted. The performance of Receive Sensitivity is improved. This item must be adjusted before all squelch items are adjusted.
LNA OFF AGC Calibration	Adjust this item to set AGC gain when LNA is off.
Open Squelch (5) (Analog Wide 5k / Wide 4k / Narrow)	The squelch level at level "5" for Analog Wide 5k / Wide 4k / Narrow is adjusted.
Open Squelch (5) (NXDN Narrow / Very Narrow)	The squelch level for NXDN Narrow / Very Narrow is adjusted.
Open Squelch (5) (DMR Narrow)	The squelch level for DMR is adjusted.
Tight Squelch (Analog Wide 5k / Wide 4k / Narrow)	The squelch level at level "9" for Analog Wide 5k / Wide 4k / Narrow is adjusted.
Low RSSI (Analog Narrow)	RSSI display level is adjusted. Both "Low RSSI" and "High RSSI" must be adjusted. (The curve data of RSSI level is applied.)
High RSSI (Analog Narrow)	

4.2.5 Adjustment item

NX-1700 Series (E) type								
Order	Adjustment item	Aw (Analog Wide 5k)	Aw (Analog Wide 4k)	An (Analog Narrow)	Nn (NXDN Narrow)	Nv (NXDN Very Narrow)	Dn (DMR)	Adjust item Number
Adjustment range								
1	Assist Voltage	9 point Automatic ADJ 1 ~ 4096						Common Section 2
2	DC Offset	1 point Automatic ADJ 1 ~ 4096						Common Section 3
3	Frequency	1 point ADJ 1 ~ 1024						Common Section 4
4	Ramp Offset	5 point Automatic ADJ 1 ~ 1024						Transmitter Section 1
5	High Transmit Power	-	-	5	-	-	-	Transmitter Section 2
		1 ~ 1024						

NX-1700 Series (E) type								
Order	Adjustment item	Aw (Analog Wide 5k)	Aw (Analog Wide 4k)	An (Analog Narrow)	Nn (NXDN Narrow)	Nv (NXDN Very Narrow)	Dn (DMR)	Adjust item Number
		Adjustment range						
6	Low Transmit Power	-	-	5	-	-	-	Transmitter Section 3
		1 ~ 1024						
7	DQT Balance	-	-	9	-	-	-	Transmitter Section 4, 5
		1 ~ 1024						
8	Maximum Deviation (Analog)	9	9	9	-	-	-	Transmitter Section 6
		1 ~ 1024						
9	Maximum Deviation (NXDN)	-	-	-	9	9	-	Transmitter Section 7
		1 ~ 1024						
10	Maximum Deviation (DMR)	-	-	-	-	-	9	Transmitter Section 8
		1 - 1024						
11	CW ID Deviation	-	-	-	-	5	-	Transmitter Section 9
		1 - 1024						
12	DQT Deviation	5	5	5	-	-	-	Transmitter Section 10
		1 ~ 1024						
13	QT Deviation	5	5	5	-	-	-	Transmitter Section 11
		1 ~ 1024						
14	DTMF Deviation	5	5	5	-	-	-	Transmitter Section 12
		1 - 1024						
15	Single Tone Deviation	5	5	5	-	-	-	Transmitter Section 13
		1 ~ 1024						
16	MSK Deviation	5	5	5	-	-	-	Transmitter Section 14
		1 ~ 1024						
17	Receive Sensitivity	-	-	5	-	-	-	Receiver Section 2, 3
		1 ~ 1024						
18	LNA OFF AGC Calibration	-	-	1	-	-	-	Receiver Section 4
		1 ~ 4096						
19	Open Squelch (5) (Analog)	5	5	5	-	-	-	Receiver Section 5
		1 ~ 1024						
20	Open Squelch (5) (NXDN)	-	-	-	5	5	-	Receiver Section 6
		1 ~ 1024						
21	Open Squelch (5) (DMR)	-	-	-	-	-	5	Receiver Section 7
		1 ~ 1024						
22	Low RSSI	-	-	5	-	-	-	Receiver Section 8
		1 ~ 1024						
23	High RSSI	-	-	5	-	-	-	Receiver Section 9
		1 ~ 1024						
24	Tight Squelch	5	5	5	-	-	-	Receiver Section 10
		1 ~ 1024						

4.2.6 Transceiver check Section

NX-1700 Series (E) type					
Item	Condition	Measurement	Adjustment		Specifications/ Remarks
	PC test mode		Point	Method	
1. Frequency check	1) Test Channel: 1 Test Signaling Mode: Analog, Signaling: 1 2) PTT: Press [Transmit] button.	f. counter -ANT		Check	155.099923~ 155.100077MHz (±0.5ppm@155.1MHz)
2. High power check	1) Test Channel: 1 Test Signaling Mode: Analog, Signaling: 1 2) PTT: Press [Transmit] button.	Power meter -ANT Ammeter		Check	20.0~30.0W 10A or less
	1) Test Channel: 2 Test Signaling Mode: Analog, Signaling: 1 2) PTT: Press [Transmit] button.	Power meter -ANT Ammeter		Check	20.0~30.0W 10A or less
	1) Test Channel: 3 Test Signaling Mode: Analog, Signaling: 1 2) PTT: Press [Transmit] button.	Power meter -ANT Ammeter		Check	20.0~30.0W 10A or less
3. Low power check	1) Test Channel: 1 Test Signaling Mode: Analog, Signaling: 1 2) PTT: Press [Transmit] button.	Power meter -ANT Ammeter		Check	3.5~6.5W 7.0A or less
	1) Test Channel: 2 Test Signaling Mode: Analog, Signaling: 1 2) PTT: Press [Transmit] button.	Power meter -ANT Ammeter		Check	3.5~6.5W 7.0A or less
	1) Test Channel: 3 Test Signaling Mode: Analog, Signaling: 1 2) PTT: Press [Transmit] button.	Power meter -ANT Ammeter		Check	3.5~6.5W 7.0A or less
4. MIC sensitivity check	1) Test Channel: 1 Test Signaling Mode: Analog, Signaling: 1 2) AG: 1kHz 3) PTT: Press [Transmit] button.	Deviation meter Power meter -ANT AG, AF VM Oscilloscope -MIC		Adjust AG input to get a standard MOD.	5.0mV ± 1.0mV
5. Sensitivity check	1) Test Channel: 1 Test Signaling Mode: Analog, Signaling: 1 2) SSG output Wide 5k: -116dBm (0.35μV) (MOD: 1kHz/±3kHz) Wide 4k: -116dBm (0.35μV) (MOD: 1kHz/±2.4kHz) Narrow: -115dBm (0.40μV) (MOD: 1kHz/±1.5kHz)	SSG -ANT Distortion meter 4Ω Dummy load AF VM Oscilloscope -SP output		Check	12dB SINAD or more

4.2.7 Common Section

NX-1700 Series (E) type					
Item	Condition	Measurement	Adjustment		Specifications/ Remarks
	PC tuning mode		Point	Method	
1. Setting	1) DC voltage:13.2V 2) SSG standard modulation [Wide 5k] MOD:1kHz/DEV:3kHz [Wide 4k] MOD:1kHz/DEV:2.4kHz [Narrow] MOD:1kHz/DEV:1.5kHz				
2. Assist Voltage	1) Adj item: [Assist Voltage] 2) Adj point: 9 points [Low1], [Low2], [Low3], [Center1], [Center2], [Center3], [High1], [High2], [High3]		FPU [<],[>]	[Automatic Adjustment] -PC Test mode- Press [Tune Assist Voltage] button. [Manual Adjustment] [V] indicator on the PC window shows VCO lock voltage. Change the adjustment value to get VCO lock voltage within the specified voltage.	1.55~1.75V Press [OK] button to store the adjustment value after all adjustment point have been adjusted.
Note: Confirm the VCO lock voltage approximately 3 seconds after the adjustment value is changed.					
3. DC Offset	<PC test mode> 1) Test Channel: 1 Test Signaling Mode: Analog, Signaling: 1 2) Adjust with no RF input.		FPU [<],[>]	Press [DC Offset] button. It will pop up a window after adjustment is completed.	Press [OK] button to store the adjustment value.
4. Frequency	1) Adj item: [Frequency] 2) Adj point: 1 point Test Channel: 1 Test Signaling Mode: Analog Signaling: 1 Transmit power: Low 3) PTT: Press [Transmit] button.	f. counter -ANT	FPU [<],[>]	155.100000MHz	155.099970~ 155.100030MHz Press [OK] button to store the adjustment value.

4.2.8 Transmitter Section

NX-1700 Series (E) type					
Item	Condition	Measurement	Adjustment		Specifications/Remarks
	PC tuning mode		Point	Method	
1. Ramp Offset	1) Adj item: [Ramp Offset] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Press [Transmit] button.	Power meter -ANT	FPU [<],[>]	1. Set the adjustment data value to "1", and press [Transmit] button to put it in the transmission state. 2. Next, increase the adjustment value slowly while monitoring the offset monitor value. 3. Set the adjustment data value when the offset monitor value exceeds the threshold value.	Threshold value: 383±10 Press [OK] button to store the adjustment value after all adjustment points have been adjusted.

NX-1700 Series (E) type					
Item	Condition	Measurement	Adjustment		Specifications/Remarks
	PC tuning mode		Point	Method	
2. High Transmit Power	1) Adj item: [High Transmit Power] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Press [Transmit] button.	Power meter -ANT Power supply Ammeter	FPU [<],[>]	25.0W	±1.0W 10A or less Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
3. Low Transmit Power	1) Adj item: [Low Transmit Power] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Press [Transmit] button.	Power meter -ANT Power supply Ammeter	FPU [<],[>]	5.0W	±0.5W 7.0A or less Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
4. DQT Balance 1 *1 *2	1) Adj item: [DQT Balance 1] 2) Adj point: 9 points [Low1], [Low2], [Low3], [Center1], [Center2], [Center3], [High1], [High2], [High3] 3) Deviation meter: LPF: 3kHz/HPF: OFF 4) Press [Transmit] button.	Oscilloscope -Deviation meter demodulation wave Deviation meter Power meter -ANT	FPU [<],[>]	Make the demodulation wave into square wave.	 Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
5. DQT Balance 2 *1 *2	1) Adj item: [DQT Balance 2] 2) Adj point: 9 points [Low1], [Low2], [Low3], [Center1], [Center2], [Center3], [High1], [High2], [High3] 3) Deviation meter: LPF: 3kHz/HPF: OFF 4) Press [Transmit] button. 5) Check "2kHz Sine Wave" Check box to change 2kHz.	Deviation meter Power meter -ANT Oscilloscope	FPU [<],[>]	The Deviation of 150Hz frequency is fixed. Change the 2kHz adjustment value to become the same deviation of 150Hz within the specified range.	2kHz Tone deviation is within ±1.0% of 150Hz tone deviation. Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
*1: Refer to the "4.2.8.1 Necessary Deviation adjustment item for each signaling and mode" table. Balance adjustment is common with the adjustment of all signaling deviations. *2: Only one DQT Balance needs to be adjusted (either DQT Balance 1 or DQT Balance 2).					

NX-1700 Series (E) type					
Item	Condition	Measurement	Adjustment		Specifications/Remarks
	PC tuning mode		Point	Method	
6. Maximum Deviation (Analog) *3	1) Adj item: [Maximum Deviation (Analog Wide 5k)] 2) Adj point: 9 points [Low1], [Low2], [Low3], [Center1], [Center2], [Center3], [High1], [High2], [High3] 3) Deviation meter: LPF: 15kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter -ANT Oscilloscope	FPU [<],[>]	Adjust to "4200Hz".	4150~4250Hz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
	1) Adj item: [Maximum Deviation (Analog Wide 4k)] 2) Adj point: 9 points [Low1], [Low2], [Low3], [Center1], [Center2], [Center3], [High1], [High2], [High3] 3) Deviation meter: LPF: 15kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter -ANT Oscilloscope	FPU [<],[>]	Adjust to "3300Hz".	3250~3350Hz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
	1) Adj item: [Maximum Deviation (Analog Narrow)] 2) Adj point: 9 points [Low1], [Low2], [Low3], [Center1], [Center2], [Center3], [High1], [High2], [High3] 3) Deviation meter: LPF: 15kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter -ANT Oscilloscope	FPU [<],[>]	Adjust to "2100Hz".	2050~2150Hz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
7. Maximum Deviation (NXDN) *3	1) Adj item: [Maximum Deviation (NXDN Very Narrow)] 2) Adj point: 9 points [Low1], [Low2], [Low3], [Center1], [Center2], [Center3], [High1], [High2], [High3] 3) Deviation meter: LPF: 3kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter -ANT Oscilloscope	FPU [<],[>]	Adjust to "1337Hz".	1311~1363Hz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
	1) Adj item: [Maximum Deviation (NXDN Narrow)] 2) Adj point: 9 points [Low1], [Low2], [Low3], [Center1], [Center2], [Center3], [High1], [High2], [High3] 3) Deviation meter: LPF: 3kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter -ANT Oscilloscope	FPU [<],[>]	Adjust to "3056Hz".	2995~3117Hz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.

NX-1700 Series (E) type					
Item	Condition	Measurement	Adjustment		Specifications/Remarks
	PC tuning mode		Point	Method	
8. Maximum Deviation (DMR) *3	1) Adj item: [Maximum Deviation (DMR)] 2) Adj point: 9 points [Low1], [Low2], [Low3], [Center1], [Center2], [Center3], [High1], [High2], [High3] 3) Deviation meter: LPF: 3kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter -ANT Oscilloscope	FPU [<],[>]	Adjust to "2749Hz".	2695~2803Hz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
9. CW ID Deviation (NXDN) *3	1) Adj item: [CW ID Deviation (NXDN Very Narrow)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Deviation meter: LPF: 15kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter -ANT Oscilloscope	FPU [<],[>]	Write the reference value "486" for each adjustment points.	900~1100Hz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
10. DQT Deviation *3	1) Adj item: [DQT Deviation (Analog Wide 5k)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Deviation meter: LPF: 3kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter -ANT Oscilloscope	FPU [<],[>]	Write the reference value "146" for each adjustment points.	0.75kHz±0.05kHz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
	1) Adj item: [DQT Deviation (Analog Wide 4k)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Deviation meter: LPF: 3kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter -ANT Oscilloscope	FPU [<],[>]	Write the reference value "150" for each adjustment points.	0.60kHz±0.05kHz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
	1) Adj item: [DQT Deviation (Analog Narrow)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Deviation meter: LPF: 3kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter -ANT Oscilloscope	FPU [<],[>]	Write the reference value "140" for each adjustment points.	0.35kHz±0.05kHz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.

NX-1700 Series (E) type					
Item	Condition	Measurement	Adjustment		Specifications/Remarks
	PC tuning mode		Point	Method	
11. QT Deviation *3	1) Adj item: [QT Deviation (Analog Wide 5k)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Deviation meter: LPF: 3kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter -ANT Oscilloscope	FPU [<],[>]	Write the reference value "193" for each adjustment points.	0.75kHz ± 0.05kHz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
	1) Adj item: [QT Deviation (Analog Wide 4k)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Deviation meter: LPF: 3kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter -ANT Oscilloscope	FPU [<],[>]	Write the reference value "199" for each adjustment points.	0.60kHz ± 0.05kHz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
	1) Adj item: [QT Deviation (Analog Narrow)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Deviation meter: LPF: 3kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter -ANT Oscilloscope	FPU [<],[>]	Write the reference value "184" for each adjustment points.	0.35kHz ± 0.05kHz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
12. DTMF Deviation *3	1) Adj item: [DTMF Deviation (Analog Wide 5k)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Deviation meter: LPF: 15kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter -ANT Oscilloscope	FPU [<],[>]	Write the reference value "150" for each adjustment points.	2.50kHz±0.05kHz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
	1) Adj item: [DTMF Deviation (Analog Wide 4k)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Deviation meter: LPF: 15kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter -ANT Oscilloscope	FPU [<],[>]	Write the reference value "154" for each adjustment points.	2.00kHz±0.05kHz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
	1) Adj item: [DTMF Deviation (Analog Narrow)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Deviation meter: LPF: 15kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter -ANT Oscilloscope	FPU [<],[>]	Write the reference value "153" for each adjustment points.	1.25kHz±0.05kHz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.

NX-1700 Series (E) type					
Item	Condition	Measurement	Adjustment		Specifications/Remarks
	PC tuning mode		Point	Method	
13. Single Tone Deviation *3	1) Adj item: [Single Tone Deviation (Analog Wide 5k)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Deviation meter: LPF: 15kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter -ANT Oscilloscope	FPU [<],[>]	Write the reference value "724" for each adjustment points.	3.00kHz±0.05kHz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
	1) Adj item: [Single Tone Deviation (Analog Wide 4k)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Deviation meter: LPF: 15kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter -ANT Oscilloscope	FPU [<],[>]	Write the reference value "742" for each adjustment points.	2.40kHz±0.05kHz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
	1) Adj item: [Single Tone Deviation (Analog Narrow)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Deviation meter: LPF: 15kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter -ANT Oscilloscope	FPU [<],[>]	Write the reference value "732" for each adjustment points.	1.50kHz±0.05kHz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
14. MSK Deviation *3	1) Adj item: [MSK Deviation (Analog Wide 5k)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Deviation meter: LPF: 15kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter Power meter -ANT	FPU [<],[>]	Write the reference value "715" for each adjustment points.	3.00kHz±0.05kHz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
	1) Adj item: [MSK Deviation (Analog Wide 4k)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Deviation meter: LPF: 15kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter Power meter -ANT	FPU [<],[>]	Write the reference value "732" for each adjustment points.	2.40kHz±0.05kHz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
	1) Adj item: [MSK Deviation (Analog Narrow)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Deviation meter: LPF: 15kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter Power meter -ANT	FPU [<],[>]	Write the reference value "724" for each adjustment points.	1.50kHz±0.05kHz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
*3: Refer to the "4.2.8.1 Necessary Deviation adjustment item for each signaling and mode" table.					

4.2.8.1 Necessary Deviation adjustment item for each signaling and mode

The following shows the necessary adjustment items for each signaling deviation. Please read the following table like the following example. In the case of the signaling "QT (Analog Wide 5k)", this signaling is composed of three elements [Balance, Maximum Deviation (Analog Wide 5k) and QT Deviation (Analog Wide 5k)]. Please adjust Balance and Maximum Deviation (Analog Wide 5k) before adjusting QT Deviation (Analog Wide 5k).

NX-1700 Series (E) type					
Mode	Signaling	Necessary adjustment and order			
		Wide 5k	Wide 4k	Narrow	Very Narrow
Analog	Audio	1. Balance 2. Maximum Deviation [Analog Wide 5k]	1. Balance 2. Maximum Deviation [Analog Wide 4k]	1. Balance 2. Maximum Deviation [Analog Narrow]	-
	DQT	1. Balance 2. Maximum Deviation [Analog Wide 5k] 3. DQT Deviation [Analog Wide 5k]	1. Balance 2. Maximum Deviation [Analog Wide 4k] 3. DQT Deviation [Analog Wide 4k]	1. Balance 2. Maximum Deviation [Analog Narrow] 3. DQT Deviation [Analog Narrow]	-
	QT	1. Balance 2. Maximum Deviation [Analog Wide 5k] 3. QT Deviation [Analog Wide 5k]	1. Balance 2. Maximum Deviation [Analog Wide 4k] 3. QT Deviation [Analog Wide 4k]	1. Balance 2. Maximum Deviation [Analog Narrow] 3. QT Deviation [Analog Narrow]	-
	Single Tone	1. Balance 2. Maximum Deviation [Analog Wide 5k] 3. Single Tone Deviation [Analog Wide 5k]	1. Balance 2. Maximum Deviation [Analog Wide 4k] 3. Single Tone Deviation [Analog Wide 4k]	1. Balance 2. Maximum Deviation [Analog Narrow] 3. Single Tone Deviation [Analog Narrow]	-
	DTMF	1. Balance 2. Maximum Deviation [Analog Wide 5k] 3. DTMF Deviation [Analog Wide 5k]	1. Balance 2. Maximum Deviation [Analog Wide 4k] 3. DTMF Deviation [Analog Wide 4k]	1. Balance 2. Maximum Deviation [Analog Narrow] 3. DTMF Deviation [Analog Narrow]	-
	MSK	1. Balance 2. Maximum Deviation [Analog Wide 5k] 3. MSK Deviation [Analog Wide 5k]	1. Balance 2. Maximum Deviation [Analog Wide 4k] 3. MSK Deviation [Analog Wide 4k]	1. Balance 2. Maximum Deviation [Analog Narrow] 3. MSK Deviation [Analog Narrow]	-
DMR	Audio	-	-	1. Balance 2. Maximum Deviation [DMR Narrow]	-
NXDN	Audio	-	-	1. Balance 2. Maximum Deviation [NXDN Narrow]	1. Balance 2. Maximum Deviation [NXDN Very Narrow]
	CW ID	-	-	-	1. Balance 2. Maximum Deviation [NXDN Very Narrow] 3. CW ID Deviation [NXDN Very Narrow]

- Balance is common with all the above deviation adjustments. If Balance (Transmitter Section 4, 5) has already adjusted, please skip Step 1 and adjust from Step 2.
- Maximum Deviation (Analog Wide 5k / Analog Wide 4k / Analog Narrow) is common with all the analog signaling deviations. If Balance and Maximum Deviation (Analog Wide 5k / Analog Wide 4k / Analog Narrow) (Transmitter Section 6) have already adjusted, please skip Step 2 and adjust from Step 3.

4.2.9 Receiver Section

NX-1700 Series (E) type					
Item	Condition	Measurement	Adjustment		Specifications/ Remarks
	PC tuning mode		Point	Method	
1. AF level setting	<PC test mode> 1) Test Channel: 1 Test Signaling Mode: Analog Signaling: 1 Wide/Narrow: Narrow Beat Shift: Uncheck Compander: Uncheck 2) SSG output: -47dBm (1mV) (MOD:1kHz/±1.5kHz)	SSG -ANT AF VM 4Ω Dummy load -SP output	FPU [<],[>]	Adjust the volume on Test Mode window to obtain 1.4V AF output. (0.5W@4Ω Load)	1.4V±0.1V
2. Receive Sensitivity (Semiautomatic) *4	1) Adj item: [Receive Sensitivity (Semiautomatic)] 2) Adj points: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) SSG output: -90dBm (7.08uV) MOD:1kHz/±1.5kHz	SSG -ANT Distortion meter Oscilloscope -SP output	FPU [<],[>]	Input signal from SSG, press [Start] button, and after that press [OK] button to store the adjustment value.	
3. Receive Sensitivity *4	1) Adj item: [Receive Sensitivity] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) SSG output: -120.5dBm (0.21uV) MOD:1kHz/±1.5kHz	SSG -ANT Distortion meter Oscilloscope -SP output	FPU [<],[>]	Increase the adjustment value to get the 12dB SINAD level.	Press [OK] button to store the adjustment value.
*4: Receive Sensitivity must be adjusted after Receive Sensitivity (Semiautomatic) is adjusted.					
4. LNA OFF AGC Calibration	1) Adj item: [LNA OFF AGC Calibration] 2) Adj point: 1 point Test Channel: 1 Test Signaling Mode: Analog Signaling: 1 3) SSG output: -26dBm (11mV) MOD:1kHz/±1.5kHz	SSG -ANT Distortion meter Oscilloscope -SP output	FPU	Input signal from SSG, press [Start] button to adjust, and after that press [OK] button to store the adjustment value.	
5. Open Squelch (5) (Analog)	1) Adj item: [Open Squelch (5) (Analog Wide 5k)] 2) Adj points: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) SSG output: -120dBm (0.22uV) MOD:1kHz/±3.0kHz	SSG -ANT Distortion meter Oscilloscope -SP output	FPU	Input signal from SSG, press [Start] button to adjust, and after that press [OK] button to store the adjustment value.	
	1) Adj item: [Open Squelch (5) (Analog Wide 4k)] 2) Adj points: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) SSG output: -120dBm (0.22uV) MOD:1kHz/±2.4kHz	SSG -ANT Distortion meter Oscilloscope -SP output	FPU	Input signal from SSG, press [Start] button to adjust, and after that press [OK] button to store the adjustment value.	
	1) Adj item: [Open Squelch (5) (Analog Narrow)] 2) Adj item: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) SSG output: -120dBm (0.22uV) MOD:1kHz/±1.5kHz	SSG -ANT Distortion meter Oscilloscope -SP output	FPU	Input signal from SSG, press [Start] button to adjust, and after that press [OK] button to store the adjustment value.	

NX-1700 Series (E) type					
Item	Condition	Measurement	Adjustment		Specifications/ Remarks
	PC tuning mode		Point	Method	
6. Open Squelch (5) (NXDN)	1) Adj item: [Open Squelch (5) (NXDN Narrow)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) SSG output: -122.0dBm (0.18uV) / No modulation	SSG -ANT Distortion meter Oscilloscope -SP output	FPU	Input signal from SSG, press [Start] button to adjust, and after that press [OK] button to store the adjustment value.	
	1) Adj item: [Open Squelch (5) (NXDN Very Narrow)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) SSG output: -123.5dBm (0.15uV) / No modulation	SSG -ANT Distortion meter Oscilloscope -SP output	FPU	Input signal from SSG, press [Start] button to adjust, and after that press [OK] button to store the adjustment value.	
7. Open Squelch (5) (DMR)	1) Adj item: [Open Squelch (5) (DMR)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) SSG output: -122.0dBm (0.18uV) / No modulation	SSG -ANT Distortion meter Oscilloscope -SP output	FPU	Input signal from SSG, press [Start] button to adjust, and after that press [OK] button to store the adjustment value.	
8. Low RSSI *5	1) Adj item: [Low RSSI (Analog Narrow)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) SSG output: -120.0dBm (0.22uV) MOD:1kHz±1.5kHz	SSG -ANT Distortion meter Oscilloscope -SP output	FPU	Input signal from SSG, press [Start] button to adjust, and after that press [OK] button to store the adjustment value. If the result of the Low RSSI adjustment is "30" or less, set it to the fixed value "31".	
*5: Due to "Low RSSI (Analog Narrow)" adjustment is shared with Analog Wide 5k, Analog Wide 4k, NXDN Narrow, NXDN Very Narrow, and DMR, therefore there are no individual adjustments for each.					
9. High RSSI *6	1) Adj item: [High RSSI (Analog Narrow)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) SSG output: -80.0dBm (22.4uV) MOD:1kHz±1.5kHz	SSG -ANT Distortion meter Oscilloscope -SP output	FPU	Input signal from SSG, press [Start] button to adjust, and after that press [OK] button to store the adjustment value.	
*6: Due to "High RSSI (Analog Narrow)" adjustment is shared with Analog Wide 5k, Analog Wide 4k, NXDN Narrow, NXDN Very Narrow, and DMR, therefore there are no individual adjustments for each.					

NX-1700 Series (E) type					
Item	Condition	Measurement	Adjustment		Specifications/ Remarks
	PC tuning mode		Point	Method	
10. Tight Squelch	1) Adj item: [Tight Squelch (Analog Wide 5k)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) SSG output: -116dBm (0.35uV) MOD:1kHz/±3.0kHz	SSG -ANT Distortion meter Oscilloscope -SP output	FPU	Input signal from SSG, press [Start] button to adjust, and after that press [OK] button to store the adjustment value.	
	1) Adj item: [Tight Squelch (Analog Wide 4k)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) SSG output: -116dBm (0.35uV) MOD:1kHz/±2.4kHz	SSG -ANT Distortion meter Oscilloscope -SP output	FPU	Input signal from SSG, press [Start] button to adjust, and after that press [OK] button to store the adjustment value.	
	1) Adj item: [Tight Squelch (Analog Narrow)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) SSG output: -116dBm (0.35uV) MOD:1kHz/±1.5kHz	SSG -ANT Distortion meter Oscilloscope -SP output	FPU	Input signal from SSG, press [Start] button to adjust, and after that press [OK] button to store the adjustment value.	

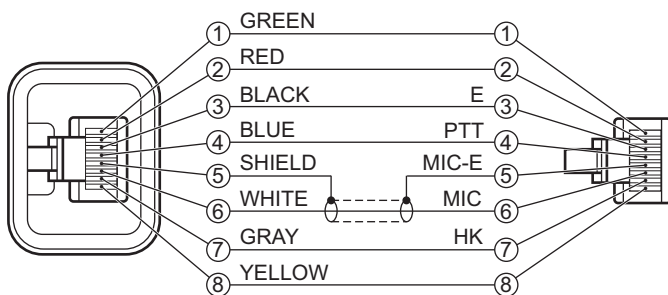
4.3 NX-1800H series [K2] type

4.3.1 Test Equipment Required for Alignment

Test Equipment	Major Specifications	
1. Standard Signal Generator (SSG)	Frequency Range	100 to 520MHz
	Modulation	Frequency modulation and external modulation
	Output	-127dBm/0.1μV to greater than -20dBm/22.4mV
2. Power Meter	Input Impedance	50Ω
	Operation Frequency	100 to 520MHz
	Measuring Range	Vicinity of 100W
3. Deviation Meter	Frequency Range	100 to 520MHz
4. Digital Volt Meter (DVM)	Measuring Range	10mV to 20V DC
	Input Impedance	High input impedance for minimum circuit loading
5. Oscilloscope		DC through 30MHz
6. High Sensitivity Frequency Counter	Frequency Range	10Hz to 1000MHz
	Frequency Stability	0.2ppm or less
7. Ammeter		20A
8. AF Volt Meter (AF VM)	Frequency Range	50Hz to 10kHz
	Voltage Range	1mV to 10V
9. Audio Generator (AG)	Frequency Range	50Hz to 5kHz or more
	Output	0 to 1V
10. Distortion Meter	Capability	3% or less at 1kHz
	Input Level	50mV to 10Vrms
11. 4Ω Dummy Load		Approx. 4Ω, 10W
12. Regulated Power Supply		9V to 17V, approx. 20A Useful if ammeter equipped

*The test equipment which is not used for adjustment is contained in this table.

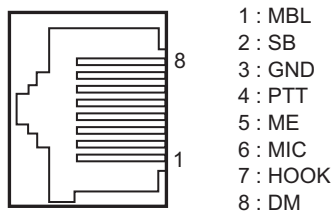
■Test cable for microphone input (E30-3360-38)



■Tuning cable (E30-7754-15)

Adapter cable (E30-7754-15) is required for injecting an audio if PC tuning is used.
See "PC Mode" section for the connection.

■MIC connector (Front panel view)



■Test cable for speaker output

[Caution]

Since the RX Audio output is a BTL output, there is a DC component.

To check the RX Audio output, it of 3.5D Phone Jack should be used and be isolated with capacitors as shown in the Fig.1.

[Proper Method]

For proper audio measurement, please use the Balanced Input on the Radio Communication Tester as possible.

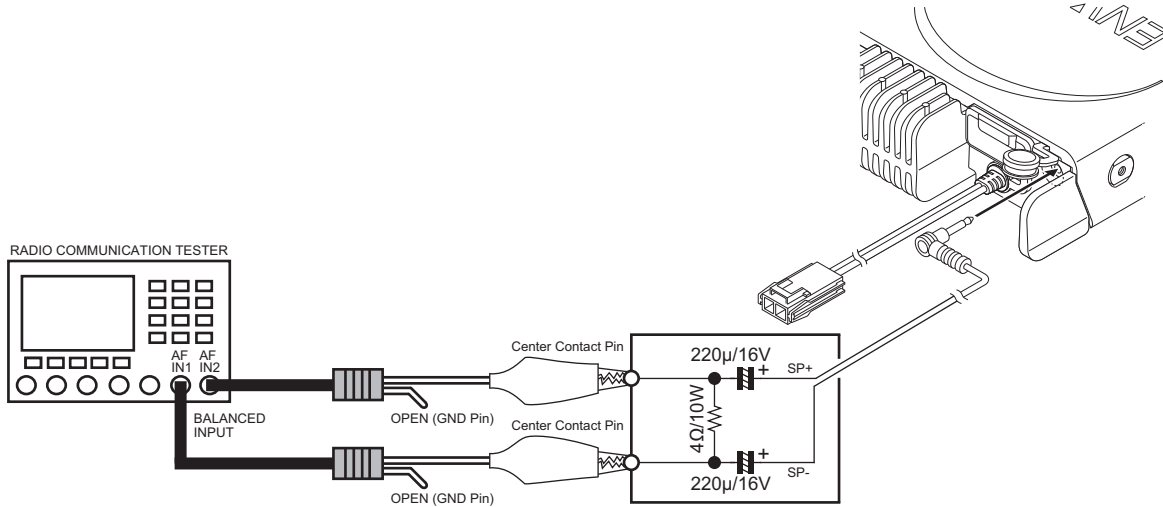


Fig.1

[Simple Method]

Some Radio Communication Tester does not equip the Balanced Input, in this case, please use the Un-balanced Input and refer the simple measurement method as shown in the Fig.2.

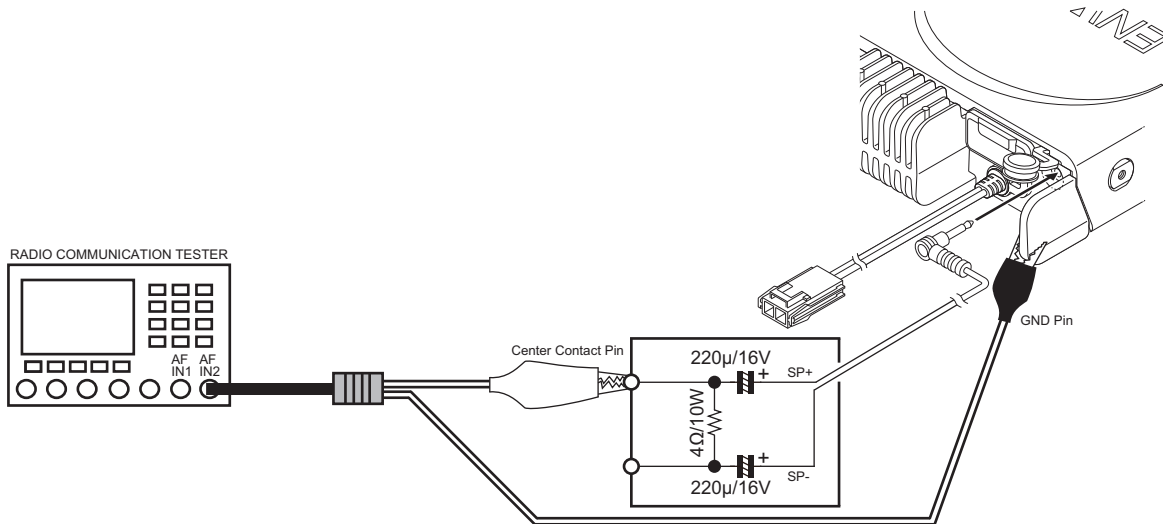


Fig.2

In the simple measurement, the Radio Communication Tester will display half of the actual audio voltage. Once need to adjust the RX audio level, set it to half of the specified audio level.

NX-1800H series (K2) type

4.3.2 Frequency and Signaling

The transceiver has been adjusted for the frequencies shown in the following table. When required, readjust them following the adjustment procedure to obtain the frequencies you want in actual operation.

■Test frequency

CH	RX (MHz)	TX (MHz)
1	435.050000	435.100000
2	400.050000	400.100000
3	469.950000	469.900000
4	435.000000	435.000000
5	435.200000	435.200000
6	435.400000	435.400000
7~16	-	-

■Analog mode signaling

No.	RX	TX
1	None	None
2	None	150Hz Square Wave
3	QT 67.0Hz	QT 67.0Hz
4	QT 151.4Hz	QT 151.4Hz
5	QT 210.7Hz	QT 210.7Hz
6	QT 254.1Hz	QT 254.1Hz
7	DQT D023N	DQT D023N
8	DQT D754I	DQT D754I
9	DTMF Decode (Code: 159D)	DTMF Encode (Code: 159D)
10	None	DTMF (Code: 9)
11	None	MSK (1010..)
12	FleetSync: 100-1000	FleetSync: 100-1000
13	None	Single Tine: 1000Hz
14	2-tone Decode: A: 304.7Hz B: 3106.0Hz	2-tone Encode: A: 304.7Hz B: 3106.0Hz
15	None	DTMF Tone: 1477Hz
16	Single Tone: 979.9Hz	Single Tone: 979.9Hz
17	None	MSK PN9
18	None	DTMF (Code: 3)

■NXDN mode signaling

No.	RX	TX
1	RAN 1	RAN 1
2	None	PN9
3	RAN 1	Maximum Deviation Pattern
4	FSW + PN9	FSW + PN9
5	Tone Pattern (1031Hz)	Tone Pattern (1031Hz)

RAN: Radio Access Number
PN9: Pseudo-Random Pattern

■DMR mode signaling

No.	RX	TX
1	CC 00 Burst	CC 00 Burst
2	PN9 Continuous Pattern	PN9 Continuous Pattern
3	CC 00 Burst	Maximum Deviation Continuous Pattern
5	CC 00 Burst	0 Continuous Pattern
6	SYNC (Each slot) + PN9 Burst Pattern	SYNC (Each slot) + PN9 Burst Pattern

PN9: Pseudo-Random Pattern

4.3.3 PC Tuning mode

4.3.3.1 Preparations for Tuning the Transceiver

Before attempting to tune the transceiver, connect the unit to a suitable power supply.

Whenever the transmitter is tuned, the unit must be connected to a suitable dummy load (i.e. power meter).

The speaker output connector must be terminated with a 4Ω dummy load and connected to an AC voltmeter and an audio distortion meter or a SINAD measurement meter at all times during tuning.

Note:

The items listed below has been adjusted in the production because this series has a function to be converted as the Digital transceiver by additional licenses.

If there is no additional license as the Digital transceiver, those adjustment items can be skipped.

- (1) Maximum Deviation (NXDN): Transmitter Section 8
- (2) Maximum Deviation (DMR): Transmitter Section 9
- (3) CW ID Deviation (NXDN): Transmitter Section 10
- (4) Open Squelch (5) (NXDN): Receiver Section 6
- (5) Open Squelch (5) (DMR): Receiver Section 7

4.3.3.2 The adjustment frequency list

■5 points adjustment frequency

Tuning point	RX (MHz)	TX (MHz)
Low1	400.050000	400.100000
Low3	417.550000	417.600000
Center2	435.050000	435.100000
High1	452.550000	452.600000
High3	469.950000	469.900000

■9 points adjustment frequency

Tuning point	RX (MHz)	TX (MHz)
Low1	400.050000	400.100000
Low2	408.850000	408.900000
Low3	417.550000	417.600000
Center1	426.350000	426.400000
Center2	435.050000	435.100000
Center3	443.850000	443.900000
High1	452.550000	452.600000
High2	461.350000	461.400000
High3	469.950000	469.900000

4.3.4 Adjustment item supplement

NX-1800H series (K2) type	
Adjustment Item	Description
Assist Voltage	The lock voltage of VCO is adjusted. This item must be adjusted before all adjustment items.
DC Offset	Adjust this item to calibrate RF IC DC voltage within an optimal range.
Frequency	The Transmit Frequency is adjusted.
Ramp Offset	Adjust this item to the optimal Ramp voltage.
High Transmit Power	High Transmit Power is adjusted.
Medium Transmit Power	Medium Transmit Power is adjusted.
Low Transmit Power	Low Transmit Power is adjusted.
DQT Balance (DQT Balance 1/ DQT Balance 2)	The transmit audio frequency response is adjusted. This item is adjusted so that the deviation of 2kHz becomes the same deviation of 150Hz. This item must be adjusted before all adjustment items for deviations are adjusted.
Maximum Deviation (Analog Wide/ Narrow)	Maximum Deviation of Analog (Wide/ Narrow) is adjusted. This item must be adjusted before all adjustment items for tone deviations are adjusted.
Maximum Deviation (NXDN Narrow/ Very Narrow)	Maximum Deviation of NXDN (Narrow/Very Narrow) is adjusted.
Maximum Deviation (DMR Narrow)	Maximum Deviation of DMR is adjusted.
CW ID Deviation (NXDN Very Narrow)	CW ID Deviation of NXDN Very Narrow is adjusted.
DQT Deviation (Analog Wide/ Narrow)	DQT tone deviation (Wide/Narrow) is adjusted.

NX-1800H series (K2) type	
Adjustment Item	Description
QT Deviation (Analog Wide/ Narrow)	QT tone deviation (Wide/Narrow) is adjusted.
DTMF Deviation (Analog Wide/ Narrow)	DTMF deviation (Wide/Narrow) is adjusted.
Single Tone Deviation (Analog Wide/ Narrow)	The deviation of Single Tone used in "2-tone" is adjusted.
MSK Deviation (Analog Wide/ Narrow)	MSK deviation (Wide/Narrow) is adjusted.
Receive Sensitivity	Band-Pass Filter is adjusted. The performance of Receive Sensitivity is improved. This item must be adjusted before all squelch items are adjusted.
LNA OFF AGC Calibration	Adjust this item to set AGC gain when LNA is off.
Open Squelch (5) (Analog Wide/ Narrow)	The squelch level at level "5" for Analog Wide / Narrow is adjusted.
Open Squelch (5) (NXDN Narrow/ Very Narrow)	The squelch level for NXDN Narrow / Very Narrow is adjusted.
Open Squelch (5) (DMR Narrow)	The squelch level for DMR is adjusted.
Tight Squelch (Analog Wide/ Narrow)	The squelch level at level "9" for Analog Wide / Narrow is adjusted.
Low RSSI (Analog Narrow)	RSSI display level is adjusted. Both "Low RSSI" and "High RSSI" must be adjusted. (The curve data of RSSI level is applied.)
High RSSI (Analog Narrow)	

4.3.5 Adjustment item

NX-1800H series (K2) type							
Order	Adjustment item	Aw (Analog Wide)	An (Analog Narrow)	Nn (NXDN Narrow)	Nv (NXDN Very Narrow)	Dn (DMR)	Adjust item Number
Adjustment range							
1	Assist Voltage	9 point Automatic ADJ 1 ~ 4096					Common Section 2
2	DC Offset	1 point Automatic ADJ 1 ~ 4096					Common Section 3
3	Frequency	1 point ADJ 1 ~ 1024					Common Section 4
4	Ramp Offset	5 point Automatic ADJ 1 ~ 1024					Transmitter Section 1

NX-1800H series (K2) type							
Order	Adjustment item	Aw (Analog Wide)	An (Analog Narrow)	Nn (NXDN Narrow)	Nv (NXDN Very Narrow)	Dn (DMR)	Adjust item Number
		Adjustment range					
5	High Transmit Power	-	5	-	-	-	Transmitter Section 2
		1 ~ 1024					
6	Medium Transmit Power	-	5	-	-	-	Transmitter Section 3
		1 ~ 1024					
7	Low Transmit Power	-	5	-	-	-	Transmitter Section 4
		1 ~ 1024					
8	DQT Balance	-	9	-	-	-	Transmitter Section 5, 6
		1 ~ 1024					
9	Maximum Deviation (Analog)	9	9	-	-	-	Transmitter Section 7
		1 ~ 1024					
10	Maximum Deviation (NXDN)	-	-	9	9	-	Transmitter Section 8
		1 ~ 1024					
11	Maximum Deviation (DMR)	-	-	-	-	9	Transmitter Section 9
		1 ~ 1024					
12	CW ID Deviation (NXDN)	-	-	-	5	-	Transmitter Section 10
		1 ~ 1024					
13	DQT Deviation	5	5	-	-	-	Transmitter Section 11
		1 ~ 1024					
14	QT Deviation	5	5	-	-	-	Transmitter Section 12
		1 ~ 1024					
15	DTMF Deviation	5	5	-	-	-	Transmitter Section 13
		1 ~ 1024					
16	Single Tone Deviation	5	5	-	-	-	Transmitter Section 14
		1 ~ 1024					
17	MSK Deviation	5	5	-	-	-	Transmitter Section 15
		1 ~ 1024					
18	Receive Sensitivity	-	5	-	-	-	Receiver Section 2, 3
		1 ~ 1024					
19	LNA OFF AGC Calibration	-	1	-	-	-	Receiver Section 4
		1 ~ 4096					
20	Open Squelch (5) (Analog)	5	5	-	-	-	Receiver Section 5
		1 ~ 1024					
21	Open Squelch (5) (NXDN)	-	-	5	5	-	Receiver Section 6
		1 ~ 1024					
22	Open Squelch (5) (DMR)	-	-	-	-	5	Receiver Section 7
		1 ~ 1024					
23	Low RSSI	-	5	-	-	-	Receiver Section 8
		1 ~ 1024					
24	High RSSI	-	5	-	-	-	Receiver Section 9
		1 ~ 1024					
25	Tight Squelch	5	5	-	-	-	Receiver Section 10
		1 ~ 1024					

4.3.6 Transceiver check Section

NX-1800H Series (K2) type					
Item	Condition	Measurement	Adjustment		Specifications/ Remarks
	PC test mode		Point	Method	
1. Frequency check	1) Test Channel: 1 Test Signaling Mode: Analog, Signaling: 1 2) PTT: Press [Transmit] button.	f. counter -ANT		Check	435.099892~ 435.100108MHz (±0.25ppm@435.1MHz)
2. High power check	1) Test Channel: 1 Test Signaling Mode: Analog, Signaling: 1 2) PTT: Press [Transmit] button.	Power meter -ANT Ammeter		Check	40.0~50.0W 13A or less
	1) Test Channel: 2 Test Signaling Mode: Analog, Signaling: 1 2) PTT: Press [Transmit] button.	Power meter -ANT Ammeter		Check	40.0~50.0W 13A or less
	1) Test Channel: 3 Test Signaling Mode: Analog, Signaling: 1 2) PTT: Press [Transmit] button.	Power meter -ANT Ammeter		Check	40.0~50.0W 13A or less
3. Medium power check	1) Test Channel: 1 Test Signaling Mode: Analog, Signaling: 1 2) PTT: Press [Transmit] button.	Power meter -ANT Ammeter		Check	20.0~30.0W 10A or less
	1) Test Channel: 2 Test Signaling Mode: Analog, Signaling: 1 2) PTT: Press [Transmit] button.	Power meter -ANT Ammeter		Check	20.0~30.0W 10A or less
	1) Test Channel: 3 Test Signaling Mode: Analog, Signaling: 1 2) PTT: Press [Transmit] button.	Power meter -ANT Ammeter		Check	20.0~30.0W 10A or less
4. Low power check	1) Test Channel: 1 Test Signaling Mode: Analog, Signaling: 1 2) PTT: Press [Transmit] button.	Power meter -ANT Ammeter		Check	3.5~6.5W 7.0A or less
	1) Test Channel: 2 Test Signaling Mode: Analog, Signaling: 1 2) PTT: Press [Transmit] button.	Power meter -ANT Ammeter		Check	3.5~6.5W 7.0A or less
	1) Test Channel: 3 Test Signaling Mode: Analog, Signaling: 1 2) PTT: Press [Transmit] button.	Power meter -ANT Ammeter		Check	3.5~6.5W 7.0A or less
5. MIC sensitivity check	1) Test Channel: 1 Test Signaling Mode: Analog, Signaling: 1 2) AG: 1kHz 3) PTT: Press [Transmit] button.	Deviation meter Power meter -ANT AG, AF VM Oscilloscope -MIC		Adjust AG input to get a standard MOD.	5.0mV ± 1.0mV
6. Sensitivity check	1) Test Channel: 1 Test Signaling Mode: Analog, Signaling: 1 2) SSG output Wide: -116dBm (0.35μV) (MOD: 1kHz/±3kHz) Narrow: -115dBm (0.40μV) (MOD: 1kHz/±1.5kHz)	SSG -ANT Distortion meter 4Ω Dummy load AF VM Oscilloscope -SP output		Check	12dB SINAD or more

4.3.7 Common Section

NX-1800H Series (K2) type					
Item	Condition	Measurement	Adjustment		Specifications/Remarks
	PC tuning mode		Point	Method	
1. Setting	1) DC voltage:13.6V 2) SSG standard modulation [Wide] MOD: 1kHz/DEV:3kHz [Narrow] MOD: 1kHz/ DEV1.5kHz				
2. Assist Voltage	1) Adj item: [Assist Voltage] 2) Adj point: 9 points [Low1], [Low2], [Low3], [Center1], [Center2], [Center3], [High1], [High2], [High3]		FPU [<],[>]	[Automatic Adjustment] -PC Test mode- Press [Tune Assist Voltage] button. [Manual Adjustment] [V] indicator on the PC window shows VCO lock voltage. Change the adjustment value to get VCO lock voltage within the specified voltage.	1.55~1.75V Press [OK] button to store the adjustment value after all adjustment point have been adjusted.
Note: Confirm the VCO lock voltage approximately 3 seconds after the adjustment value is changed.					
3. DC Offset	<PC test mode> 1) Test Channel: 1 Test Signaling Mode: Analog Signaling: 1 2) Adjust with no RF input.		FPU	Press [DC Offset] button. It will pop up a window after adjustment is completed.	Press [OK] button to store the adjustment value.
4. Frequency	1) Adj item: [Frequency] 2) Adj point: 1 point Test Channel: 1 Test Signaling Mode: Analog Signaling: 1 Transmit power: Low 3) PTT: Press [Transmit] button.	f. counter -ANT	FPU [<],[>]	435.100000MHz	435.099950~ 435.100050MHz Press [OK] button to store the adjustment value.

4.3.8 Transmitter Section

NX-1800H Series (K2) type					
Item	Condition	Measurement	Adjustment		Specifications/Remarks
	PC tuning mode		Point	Method	
1. Ramp Offset	1) Adj item: [Ramp Offset] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Press [Transmit] button.	Power meter -ANT	FPU [<],[>]	1. Set the adjustment data value to "1", and press [Transmit] button to put it in the transmission state. 2. Next, increase the adjustment value slowly while monitoring the offset monitor value. 3. Set the adjustment data value when the offset monitor value exceeds the threshold value.	Threshold value: 295±10 Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
2. High Transmit Power	1) Adj item: [High Transmit Power] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Press [Transmit] button.	Power meter -ANT Power supply Ammeter	FPU [<],[>]	45.0W	±1.0W 13A or less Press [OK] button to store the adjustment value after all adjustment points have been adjusted.

NX-1800H Series (K2) type					
Item	Condition	Measurement	Adjustment		Specifications/Remarks
	PC tuning mode		Point	Method	
3. Medium Transmit Power	1) Adj item: [Medium Transmit Power] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Press [Transmit] button.	Power meter -ANT Power supply Ammeter	FPU [<],[>]	25.0W	±1.0W 10A or less Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
4. Low Transmit Power	1) Adj item: [Low Transmit Power] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Press [Transmit] button.	Power meter -ANT Power supply Ammeter	FPU [<],[>]	5.0W	±0.5W 7.0A or less Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
5. DQT Balance 1 *1 *2	1) Adj item: [DQT Balance 1] 2) Adj point: 9 points [Low1], [Low2], [Low3], [Center1], [Center2], [Center3], [High1], [High2], [High3] 3) Deviation meter: LPF: 3kHz/HPF: OFF 4) Press [Transmit] button.	Oscilloscope -Deviation meter demodulation wave Deviation meter Power meter -ANT	FPU [<],[>]	Make the demodulation wave into square wave.	 Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
6. DQT Balance 2 *1 *2	1) Adj item: [DQT Balance 2] 2) Adj point: 9 points [Low1], [Low2], [Low3], [Center1], [Center2], [Center3], [High1], [High2], [High3] 3) Deviation meter: LPF: 3kHz/HPF: OFF 4) Press [Transmit] button. 5) Check "2kHz Sine Wave" Check box to change 2kHz.	Deviation meter Power meter -ANT Oscilloscope	FPU [<],[>]	The Deviation of 150Hz frequency is fixed. Change the 2kHz adjustment value to become the same deviation of 150Hz within the specified range.	2kHz Tone deviation is within ±1.0% of 150Hz tone deviation. Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
*1: Refer to the "4.3.8.1 Necessary Deviation adjustment item for each signaling and mode" table. Balance adjustment is common with the adjustment of all signaling deviations. *2: Only one DQT Balance needs to be adjusted (either DQT Balance 1 or DQT Balance 2).					
7. Maximum Deviation (Analog) *3	1) Adj item: [Maximum Deviation (Analog Wide)] 2) Adj point: 9 points [Low1], [Low2], [Low3], [Center1], [Center2], [Center3], [High1], [High2], [High3] 3) Deviation meter: LPF: 15kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter -ANT Oscilloscope	FPU [<],[>]	Adjust to "4200Hz".	4150~4250Hz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
	1) Adj item: [Maximum Deviation (Analog Narrow)] 2) Adj point: 9 points [Low1], [Low2], [Low3], [Center1], [Center2], [Center3], [High1], [High2], [High3] 3) Deviation meter: LPF: 15kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter -ANT Oscilloscope	FPU [<],[>]	Adjust to "2100Hz".	2050~2150Hz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.

NX-1800H Series (K2) type					
Item	Condition	Measurement	Adjustment		Specifications/Remarks
	PC tuning mode		Point	Method	
8. Maximum Deviation (NXDN) *3	1) Adj item: [Maximum Deviation (NXDN Very Narrow)] 2) Adj point: 9 points [Low1], [Low2], [Low3], [Center1], [Center2], [Center3], [High1], [High2], [High3] 3) Deviation meter: LPF: 3kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter -ANT Oscilloscope	FPU [<],[>]	Adjust to "1337Hz".	1311~1363Hz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
	1) Adj item: [Maximum Deviation (NXDN Narrow)] 2) Adj point: 9 points [Low1], [Low2], [Low3], [Center1], [Center2], [Center3], [High1], [High2], [High3] 3) Deviation meter: LPF: 3kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter -ANT Oscilloscope	FPU [<],[>]	Adjust to "3056Hz".	2995~3117Hz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
9. Maximum Deviation (DMR) *3	1) Adj item: [Maximum Deviation (DMR)] 2) Adj point: 9 points [Low1], [Low2], [Low3], [Center1], [Center2], [Center3], [High1], [High2], [High3] 3) Deviation meter: LPF: 3kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter -ANT Oscilloscope	FPU [<],[>]	Adjust to "2749Hz".	2695~2803Hz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
10. CW ID Deviation (NXDN) *3	1) Adj item: [CW ID Deviation (NXDN Very Narrow)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Deviation meter: LPF: 15kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter -ANT Oscilloscope	FPU [<],[>]	Write the reference value "484" for each adjustment points.	900~1100Hz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
11. DQT Deviation *3	1) Adj item: [DQT Deviation (Analog Wide)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Deviation meter: LPF: 3kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter -ANT Oscilloscope	FPU [<],[>]	Write the reference value "164" for each adjustment points.	0.75kHz±0.05kHz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
	1) Adj item: [DQT Deviation (Analog Narrow)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Deviation meter: LPF: 3kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter -ANT Oscilloscope	FPU [<],[>]	Write the reference value "154" for each adjustment points.	0.35kHz±0.05kHz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.

NX-1800H Series (K2) type					
Item	Condition	Measurement	Adjustment		Specifications/Remarks
	PC tuning mode		Point	Method	
12. QT Deviation *3	1) Adj item: [QT Deviation (Analog Wide)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Deviation meter: LPF: 3kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter -ANT Oscilloscope	FPU [<],[>]	Write the reference value "197" for each adjustment points.	0.75kHz ± 0.05kHz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
	1) Adj item: [QT Deviation (Analog Narrow)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Deviation meter: LPF: 3kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter -ANT Oscilloscope	FPU [<],[>]	Write the reference value "185" for each adjustment points.	0.35kHz ± 0.05kHz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
13. DTMF Deviation *3	1) Adj item: [DTMF Deviation (Analog Wide)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Deviation meter: LPF: 15kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter -ANT Oscilloscope	FPU [<],[>]	Write the reference value "154" for each adjustment points.	2.50kHz±0.05kHz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
	1) Adj item: [DTMF Deviation (Analog Narrow)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Deviation meter: LPF: 15kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter -ANT Oscilloscope	FPU [<],[>]	Write the reference value "154" for each adjustment points.	1.25kHz±0.05kHz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
14. Single Tone Deviation *3	1) Adj item: [Single Tone Deviation (Analog Wide)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Deviation meter: LPF: 15kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter -ANT Oscilloscope	FPU [<],[>]	Write the reference value "732" for each adjustment points.	3.00kHz±0.05kHz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
	1) Adj item: [Single Tone Deviation (Analog Narrow)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Deviation meter: LPF: 15kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter -ANT Oscilloscope	FPU [<],[>]	Write the reference value "731" for each adjustment points.	1.50kHz±0.05kHz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.

NX-1800H Series (K2) type					
Item	Condition	Measurement	Adjustment		Specifications/Remarks
	PC tuning mode		Point	Method	
15. MSK Deviation *3	1) Adj item: [MSK Deviation (Analog Wide)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Deviation meter: LPF: 15kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter Power meter -ANT	FPU [<],[>]	Write the reference value "731" for each adjustment points.	3.00kHz±0.05kHz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
	1) Adj item: [MSK Deviation (Analog Narrow)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Deviation meter: LPF: 15kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter Power meter -ANT	FPU [<],[>]	Write the reference value "732" for each adjustment points.	1.50kHz±0.05kHz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
*3: Refer to the "4.3.8.1 Necessary Deviation adjustment item for each signaling and mode" table.					

4.3.8.1 Necessary Deviation adjustment item for each signaling and mode

The following shows the necessary adjustment items for each signaling deviation. Please read the following table like the following example. In the case of the signaling "QT (Analog Wide)", this signaling is composed of three elements [Balance, Maximum Deviation (Analog Wide) and QT Deviation (Analog Wide)]. Please adjust Balance and Maximum Deviation (Analog Wide) before adjusting QT Deviation (Analog Wide).

NX-1800H Series (K2) type				
Mode	Signaling	Necessary adjustment and order		
		Wide	Narrow	Very Narrow
Analog	Audio	1. Balance 2. Maximum Deviation [Analog Wide]	1. Balance 2. Maximum Deviation [Analog Narrow]	-
	DQT	1. Balance 2. Maximum Deviation [Analog Wide] 3. DQT Deviation [Analog Wide]	1. Balance 2. Maximum Deviation [Analog Narrow] 3. DQT Deviation [Analog Narrow]	-
	QT	1. Balance 2. Maximum Deviation [Analog Wide] 3. QT Deviation [Analog Wide]	1. Balance 2. Maximum Deviation [Analog Narrow] 3. QT Deviation [Analog Narrow]	-
	Single Tone	1. Balance 2. Maximum Deviation [Analog Wide] 3. Single Tone Deviation [Analog Wide]	1. Balance 2. Maximum Deviation [Analog Narrow] 3. Single Tone Deviation [Analog Narrow]	-
	DTMF	1. Balance 2. Maximum Deviation [Analog Wide] 3. DTMF Deviation [Analog Wide]	1. Balance 2. Maximum Deviation [Analog Narrow] 3. DTMF Deviation [Analog Narrow]	-
	MSK	1. Balance 2. Maximum Deviation [Analog Wide] 3. MSK Deviation [Analog Wide]	1. Balance 2. Maximum Deviation [Analog Narrow] 3. MSK Deviation [Analog Narrow]	-
DMR	Audio	-	1. Balance 2. Maximum Deviation [DMR Narrow]	-
NXDN	Audio	-	1. Balance 2. Maximum Deviation [NXDN Narrow]	1. Balance 2. Maximum Deviation [NXDN Very Narrow]
	CW ID	-	-	1. Balance 2. Maximum Deviation [NXDN Very Narrow] 3. CW ID Deviation [NXDN Very Narrow]

- Balance is common with all the above deviation adjustments. If Balance (Transmitter Section 5, 6) has already adjusted, please skip Step 1 and adjust from Step 2.
- Maximum Deviation (Analog Wide/Analog Narrow) is common with all the analog signaling deviations. If Balance and Maximum Deviation (Analog Wide/Analog Narrow) (Transmitter Section 7) have already adjusted, please skip Step 2 and adjust from Step 3.

4.3.9 Receiver Section

NX-1800H Series (K2) type					
Item	Condition	Measurement	Adjustment		Specifications/ Remarks
	PC tuning mode		Point	Method	
1. AF level setting	<PC test mode> 1) Test Channel: 1 Test Signaling Mode: Analog Signaling: 1 Wide/Narrow: Narrow Beat Shift: Uncheck Companer: Uncheck 2) SSG output: -47dBm (1mV) (MOD:1kHz/±1.5kHz)	SSG -ANT AF VM 4Ω Dummy load -SP output	Volume	Turn the Volume knob to obtain 1.4V AF output. (0.5W@4Ω Load)	1.4V±0.1V
2. Receive Sensitivity *4	1) Adj item: [Receive Sensitivity] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) SSG output: -120.5dBm (0.21uV) MOD:1kHz/±1.5kHz	SSG -ANT Distortion meter Oscilloscope -SP output	FPU [<],[>]	Increase the adjustment value to get the highest SINAD level.	Press [OK] button to store the adjustment value.
3. Receive Sensitivity (Semiautomatic) *4	1) Adj item: [Receive Sensitivity (Semiautomatic)] 2) Adj points: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) SSG output: -90dBm (7.08uV) MOD:1kHz/±1.5kHz	SSG -ANT Distortion meter Oscilloscope -SP output	FPU [<],[>]	Input signal from SSG, press [Start] button, and after that press [OK] button to store the adjustment value.	
*4: Only one Receive Sensitivity needs to be adjusted (either Receive Sensitivity or Receive Sensitivity (Semiautomatic)). If the result of the RX Sensitivity [High3] adjustment is "1024", set it to the fixed value "1020".					
4. LNA OFF AGC Calibration	1) Adj item: [LNA OFF AGC Calibration] 2) Adj point: 1 point Test Channel: 1 Test Signaling Mode: Analog Signaling: 1 3) SSG output: -26dBm (11mV) MOD:1kHz/±1.5kHz	SSG -ANT Distortion meter Oscilloscope -SP output	FPU	Input signal from SSG, press [Start] button to adjust, and after that press [OK] button to store the adjustment value.	
5. Open Squelch (5) (Analog)	1) Adj item: [Open Squelch (5) (Analog Wide)] 2) Adj points: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) SSG output: -120dBm (0.22uV) MOD:1kHz/±3.0kHz	SSG -ANT Distortion meter Oscilloscope -SP output	FPU	Input signal from SSG, press [Start] button to adjust, and after that press [OK] button to store the adjustment value.	
	1) Adj item: [Open Squelch (5) (Analog Narrow)] 2) Adj item: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) SSG output: -120dBm (0.22uV) MOD:1kHz/±1.5kHz	SSG -ANT Distortion meter Oscilloscope -SP output	FPU	Input signal from SSG, press [Start] button to adjust, and after that press [OK] button to store the adjustment value.	

NX-1800H Series (K2) type					
Item	Condition	Measurement	Adjustment		Specifications/ Remarks
	PC tuning mode		Point	Method	
6. Open Squelch (5) (NXDN)	1) Adj item: [Open Squelch (5) (NXDN Narrow)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) SSG output: -123.5dBm (0.15uV) / No modulation	SSG -ANT Distortion meter Oscilloscope -SP output	FPU	Input signal from SSG, press [Start] button to adjust, and after that press [OK] button to store the adjustment value.	
	1) Adj item: [Open Squelch (5) (NXDN Very Narrow)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) SSG output: -125.0dBm (0.125uV) / No modulation	SSG -ANT Distortion meter Oscilloscope -SP output	FPU	Input signal from SSG, press [Start] button to adjust, and after that press [OK] button to store the adjustment value.	
7. Open Squelch (5) (DMR)	1) Adj item: [Open Squelch (5) (DMR)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) SSG output: -123.5dBm (0.15uV) / No modulation	SSG -ANT Distortion meter Oscilloscope -SP output	FPU	Input signal from SSG, press [Start] button to adjust, and after that press [OK] button to store the adjustment value.	
8. Low RSSI *5	1) Adj item: [Low RSSI (Analog Narrow)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) SSG output: -120dBm (0.22uV) MOD:1kHz/±1.5kHz	SSG -ANT Distortion meter Oscilloscope -SP output	FPU	Input signal from SSG, press [Start] button to adjust, and after that press [OK] button to store the adjustment value.	
*5: Due to "Low RSSI (Analog Narrow)" adjustment is shared with Analog Wide, NXDN Narrow, NXDN Very Narrow, and DMR, therefore there are no individual adjustments for each.					
9. High RSSI *6	1) Adj item: [High RSSI (Analog Narrow)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) SSG output: -80dBm (22.4uV) MOD:1kHz/±1.5kHz	SSG -ANT Distortion meter Oscilloscope -SP output	FPU	Input signal from SSG, press [Start] button to adjust, and after that press [OK] button to store the adjustment value.	
*6: Due to "High RSSI (Analog Narrow)" adjustment is shared with Analog Wide, NXDN Narrow, NXDN Very Narrow, and DMR, therefore there are no individual adjustments for each.					
10. Tight Squelch	1) Adj item: [Tight Squelch (Analog Wide)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) SSG output: -116dBm (0.35uV) MOD:1kHz/±3.0kHz	SSG -ANT Distortion meter Oscilloscope -SP output	FPU	Input signal from SSG, press [Start] button to adjust, and after that press [OK] button to store the adjustment value.	
	1) Adj item: [Tight Squelch (Analog Narrow)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) SSG output: -116dBm (0.35uV) MOD:1kHz/±1.5kHz	SSG -ANT Distortion meter Oscilloscope -SP output	FPU	Input signal from SSG, press [Start] button to adjust, and after that press [OK] button to store the adjustment value.	

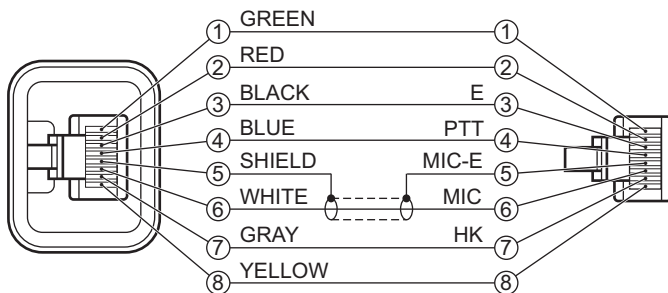
4.4 NX-1800 series [E, E2] type

4.4.1 Test Equipment Required for Alignment

Test Equipment	Major Specifications	
1. Standard Signal Generator (SSG)	Frequency Range	100 to 520MHz
	Modulation	Frequency modulation and external modulation
	Output	-127dBm/0.1μV to greater than -20dBm/22.4mV
2. Power Meter	Input Impedance	50Ω
	Operation Frequency	100 to 520MHz
	Measuring Range	Vicinity of 100W
3. Deviation Meter	Frequency Range	100 to 520MHz
4. Digital Volt Meter (DVM)	Measuring Range	10mV to 20V DC
	Input Impedance	High input impedance for minimum circuit loading
5. Oscilloscope		DC through 30MHz
6. High Sensitivity Frequency Counter	Frequency Range	10Hz to 1000MHz
	Frequency Stability	0.2ppm or less
7. Ammeter		20A
8. AF Volt Meter (AF VM)	Frequency Range	50Hz to 10kHz
	Voltage Range	1mV to 10V
9. Audio Generator (AG)	Frequency Range	50Hz to 5kHz or more
	Output	0 to 1V
10. Distortion Meter	Capability	3% or less at 1kHz
	Input Level	50mV to 10Vrms
11. 4Ω Dummy Load		Approx. 4Ω, 10W
12. Regulated Power Supply		9V to 17V, approx. 20A Useful if ammeter equipped

*The test equipment which is not used for adjustment is contained in this table.

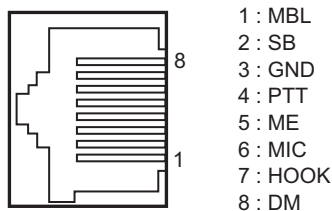
■Test cable for microphone input (E30-3360-38)



■Tuning cable (E30-7754-15)

Adapter cable (E30-7754-15) is required for injecting an audio if PC tuning is used.
See "PC Mode" section for the connection.

■MIC connector (Front panel view)



■Test cable for speaker output

[Caution]

Since the RX Audio output is a BTL output, there is a DC component.

To check the RX Audio output, it of 3.5D Phone Jack should be used and be isolated with capacitors as shown in the Fig.1.

[Proper Method]

For proper audio measurement, please use the Balanced Input on the Radio Communication Tester as possible.

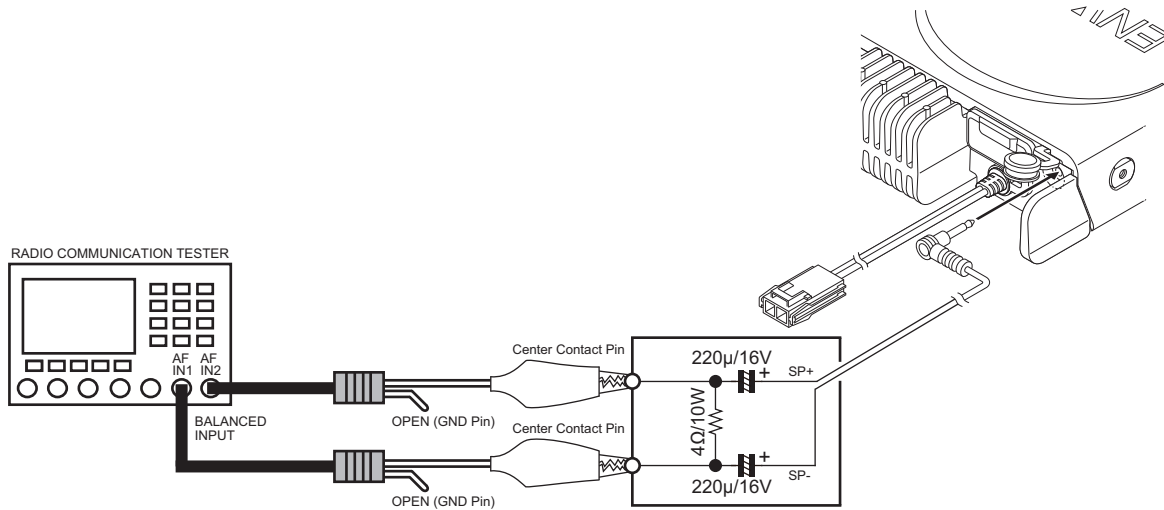


Fig.1

[Simple Method]

Some Radio Communication Tester does not equip the Balanced Input, in this case, please use the Un-balanced Input and refer the simple measurement method as shown in the Fig.2.

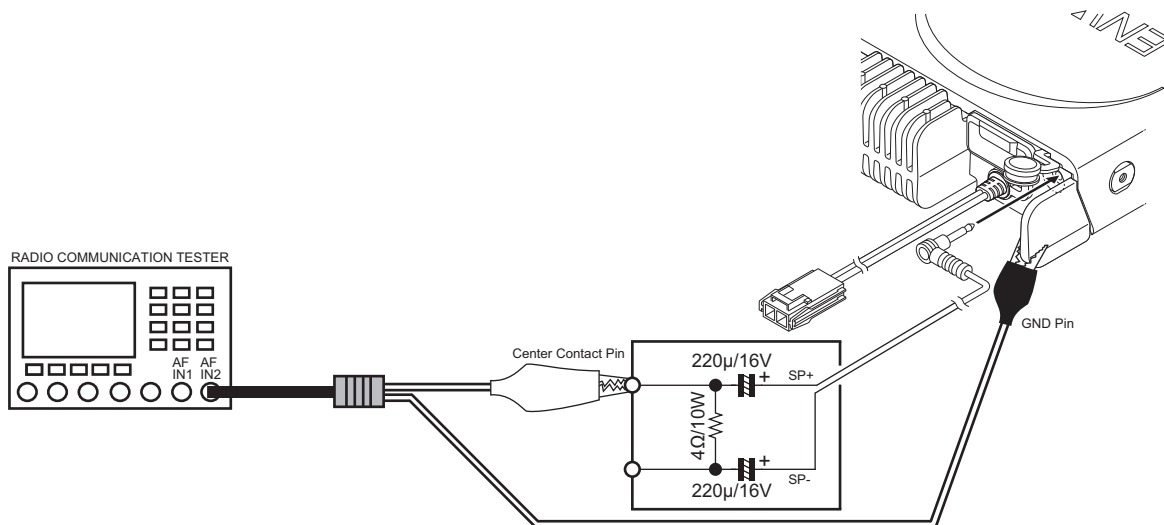


Fig.2

In the simple measurement, the Radio Communication Tester will display half of the actual audio voltage. Once need to adjust the RX audio level, set it to half of the specified audio level.

NX-1800 Series (E, E2) type

4.4.2 Frequency and Signaling

The transceiver has been adjusted for the frequencies shown in the following table. When required, readjust them following the adjustment procedure to obtain the frequencies you want in actual operation.

■Test frequency : NX-1800 series (E) type

CH	RX (MHz)	TX (MHz)
1	435.050000	435.100000
2	400.050000	400.100000
3	469.950000	469.900000
4	435.000000	435.000000
5	435.200000	435.200000
6	435.400000	435.400000
7~16	-	-

■Test frequency : NX-1800 series (E2) type

CH	RX (MHz)	TX (MHz)
1	485.050000	485.100000
2	450.050000	450.100000
3	519.950000	519.900000
4	485.000000	485.000000
5	485.200000	485.200000
6	485.400000	485.400000
7~16	-	-

■Analog mode signaling

No.	RX	TX
1	None	None
2	None	150Hz Square Wave
3	QT 67.0Hz	QT 67.0Hz
4	QT 151.4Hz	QT 151.4Hz
5	QT 210.7Hz	QT 210.7Hz
6	QT 254.1Hz	QT 254.1Hz
7	DQT D023N	DQT D023N
8	DQT D754I	DQT D754I
9	DTMF Decode (Code: 159D)	DTMF Encode (Code: 159D)
10	None	DTMF (Code: 9)
11	None	MSK (1010..)
12	FleetSync: 100-1000	FleetSync: 100-1000
13	None	Single Tone: 1000Hz
15	None	DTMF Tone: 1477Hz
16	Single Tone: 979.9Hz	Single Tone: 979.9Hz
17	None	MSK PN9
18	None	DTMF (Code: 3)
19	Single Tone: 1200Hz	Single Tone: 1200Hz
20	5-tone (CCIR12345)	5-tone (CCIR12345)

■NXDN mode signaling

No.	RX	TX
1	RAN 1	RAN 1
2	None	PN9
3	RAN 1	Maximum Deviation Pattern
4	FSW + PN9	FSW + PN9
5	Tone Pattern (1031Hz)	Tone Pattern (1031Hz)

RAN: Radio Access Number

PN9: Pseudo-Random Pattern

■DMR mode signaling

No.	RX	TX
1	CC 00 Burst	CC 00 Burst
2	PN9 Continuous Pattern	PN9 Continuous Pattern
3	CC 00 Burst	Maximum Deviation Continuous Pattern
5	CC 00 Burst	0 Continuous Pattern
6	SYNC (Each slot) + PN9 Burst Pattern	SYNC (Each slot) + PN9 Burst Pattern

PN9: Pseudo-Random Pattern

4.4.3 PC Tuning mode

4.4.3.1 Preparations for Tuning the Transceiver

Before attempting to tune the transceiver, connect the unit to a suitable power supply.

Whenever the transmitter is tuned, the unit must be connected to a suitable dummy load (i.e. power meter).

The speaker output connector must be terminated with a 4Ω dummy load and connected to an AC voltmeter and an audio distortion meter or a SINAD measurement meter at all times during tuning.

4.4.3.2 The adjustment frequency list

■5 points adjustment frequency: NX-1800 series (E) type

Tuning point	RX (MHz)	TX (MHz)
Low1	400.050000	400.100000
Low3	417.550000	417.600000
Center2	435.050000	435.100000
High1	452.550000	452.600000
High3	469.950000	469.900000

■5 points adjustment frequency: NX-1800 series (E2) type

Tuning point	RX (MHz)	TX (MHz)
Low1	450.050000	450.100000
Low3	467.550000	467.600000
Center2	485.050000	485.100000
High1	502.550000	502.600000
High3	519.950000	519.900000

■ 9 points adjustment frequency: NX-1800 series (E) type

Tuning point	RX (MHz)	TX (MHz)
Low1	400.050000	400.100000
Low2	408.850000	408.900000
Low3	417.550000	417.600000
Center1	426.350000	426.400000
Center2	435.050000	435.100000
Center3	443.850000	443.900000
High1	452.550000	452.600000
High2	461.350000	461.400000
High3	469.950000	469.900000

■ 9 points adjustment frequency: NX-1800 series (E2) type

Tuning point	RX (MHz)	TX (MHz)
Low1	450.050000	450.100000
Low2	458.850000	458.900000
Low3	467.550000	467.600000
Center1	476.350000	476.400000
Center2	485.050000	485.100000
Center3	493.850000	493.900000
High1	502.550000	502.600000
High2	511.350000	511.400000
High3	519.950000	519.900000

4.4.4 Adjustment item supplement

NX-1800 Series (E, E2) type	
Adjustment Item	Description
Assist Voltage	The lock voltage of VCO is adjusted. This item must be adjusted before all adjustment items.
DC Offset	Adjust this item to calibrate RF IC DC voltage within an optimal range.
Frequency	The Transmit Frequency is adjusted.
High Transmit Power	High Transmit Power is adjusted.
Low Transmit Power	Low Transmit Power is adjusted.
DQT Balance (DQT Balance 1 / DQT Balance 2)	The transmit audio frequency response is adjusted. This item is adjusted so that the deviation of 2kHz becomes the same deviation of 150Hz. This item must be adjusted before all adjustment items for deviations are adjusted.
Maximum Deviation (Analog Wide 5k / Wide 4k / Narrow)	Maximum Deviation of Analog (Wide 5k / Wide 4k / Narrow) is adjusted. This item must be adjusted before all adjustment items for tone deviations are adjusted.
Maximum Deviation (NXDN Narrow/ Very Narrow)	Maximum Deviation of NXDN (Narrow/Very Narrow) is adjusted.
Maximum Deviation (DMR Narrow)	Maximum Deviation of DMR is adjusted.

NX-1800 Series (E, E2) type	
Adjustment Item	Description
CW ID Deviation (NXDN Very Narrow)	CW ID Deviation of NXDN Very Narrow is adjusted.
DQT Deviation (Analog Wide 5k / Wide 4k / Narrow)	DQT tone deviation (Wide 5k / Wide 4k / Narrow) is adjusted.
QT Deviation (Analog Wide 5k / Wide 4k / Narrow)	QT tone deviation (Wide 5k / Wide 4k / Narrow) is adjusted.
DTMF Deviation (Analog Wide 5k / Wide 4k / Narrow)	DTMF deviation (Wide 5k / Wide 4k / Narrow) is adjusted.
Single Tone Deviation (Analog Wide 5k / Wide 4k / Narrow)	The deviation of Single Tone used in "2-tone" and "5-tone" is adjusted.
MSK Deviation (Analog Wide 5k / Wide 4k / Narrow)	MSK deviation (Wide 5k / Wide 4k / Narrow) is adjusted.
Receive Sensitivity	Band-Pass Filter is adjusted. The performance of Receive Sensitivity is improved. This item must be adjusted before all squelch items are adjusted.
LNA OFF AGC Calibration	Adjust this item to set AGC gain when LNA is off.
Open Squelch (5) (Analog Wide 5k / Wide 4k / Narrow)	The squelch level at level "5" for Analog Wide 5k / Wide 4k / Narrow is adjusted.
Open Squelch (5) (NXDN Narrow/ Very Narrow)	The squelch level for NXDN Narrow / Very Narrow is adjusted.
Open Squelch (5) (DMR Narrow)	The squelch level for DMR is adjusted.
Tight Squelch (Analog Wide 5k / Wide 4k / Narrow)	The squelch level at level "9" for Analog Wide 5k / Wide 4k / Narrow is adjusted.
Low RSSI (Analog Narrow)	RSSI display level is adjusted. Both "Low RSSI" and "High RSSI" must be adjusted. (The curve data of RSSI level is applied.)
High RSSI (Analog Narrow)	

4.4.5 Adjustment item

NX-1800 Series (E, E2) type								
Order	Adjustment item	Aw (Analog Wide 5k)	Aw (Analog Wide 4k)	An (Analog Narrow)	Nn (NXDN Narrow)	Nv (NXDN Very Narrow)	Dn (DMR)	Adjust item Number
		Adjustment range						
1	Assist Voltage	9 point Automatic ADJ						Common Section 2
		1 ~ 4096						
2	DC Offset	1 point Automatic ADJ						Common Section 3
		1 ~ 4096						
3	Frequency	1 point ADJ						Common Section 4
		1 ~ 1024						
4	Ramp Offset	5 point Automatic ADJ						Transmitter Section 1
		1 ~ 1024						
5	High Transmit Power	-	-	5	-	-	-	Transmitter Section 2
		1 ~ 1024						
6	Low Transmit Power	-	-	5	-	-	-	Transmitter Section 3
		1 ~ 1024						
7	DQT Balance	-	-	9	-	-	-	Transmitter Section 4, 5
		1 ~ 1024						
8	Maximum Deviation (Analog)	9	9	9	-	-	-	Transmitter Section 6
		1 ~ 1024						
9	Maximum Deviation (NXDN)	-	-	-	9	9	-	Transmitter Section 7
		1 ~ 1024						
10	Maximum Deviation (DMR)	-	-	-	-	-	9	Transmitter Section 8
		1 - 1024						
11	CW ID Deviation	-	-	-	-	5	-	Transmitter Section 9
		1 - 1024						
12	DQT Deviation	5	5	5	-	-	-	Transmitter Section 10
		1 ~ 1024						
13	QT Deviation	5	5	5	-	-	-	Transmitter Section 11
		1 ~ 1024						
14	DTMF Deviation	5	5	5	-	-	-	Transmitter Section 12
		1 - 1024						
15	Single Tone Deviation	5	5	5	-	-	-	Transmitter Section 13
		1 ~ 1024						
16	MSK Deviation	5	5	5	-	-	-	Transmitter Section 14
		1 ~ 1024						
17	Receive Sensitivity	-	-	5	-	-	-	Receiver Section 2, 3
		1 ~ 1024						
18	LNA OFF AGC Calibration	-	-	1	-	-	-	Receiver Section 4
		1 ~ 4096						
19	Open Squelch (5) (Analog)	5	5	5	-	-	-	Receiver Section 5
		1 ~ 1024						
20	Open Squelch (5) (NXDN)	-	-	-	5	5	-	Receiver Section 6
		1 ~ 1024						
21	Open Squelch (5) (DMR)	-	-	-	-	-	5	Receiver Section 7
		1 ~ 1024						

NX-1800 Series (E, E2) type								
Order	Adjustment item	Aw (Analog Wide 5k)	Aw (Analog Wide 4k)	An (Analog Narrow)	Nn (NXDN Narrow)	Nv (NXDN Very Narrow)	Dn (DMR)	Adjust item Number
		Adjustment range						
22	Low RSSI	-	-	5	-	-	-	Receiver Section 8
		1 ~ 1024						
23	High RSSI	-	-	5	-	-	-	Receiver Section 9
		1 ~ 1024						
24	Tight Squelch	5	5	5	-	-	-	Receiver Section 10
		1 ~ 1024						

4.4.6 Transceiver check Section

NX-1800 Series (E, E2) type					
Item	Condition	Measurement	Adjustment		Specifications/ Remarks
	PC test mode		Point	Method	
1. Frequency check	1) Test Channel: 1 Test Signaling Mode: Analog, Signaling: 1 2) PTT: Press [Transmit] button.	f. counter -ANT		Check	(E) type 435.099892~ 435.100108MHz (±0.25ppm@435.1MHz) (E2) type 485.099879~ 485.100121MHz (±0.25ppm@485.1MHz)
2. High power check	1) Test Channel: 1 Test Signaling Mode: Analog, Signaling: 1 2) PTT: Press [Transmit] button.	Power meter -ANT Ammeter		Check	20.0~30.0W 10A or less
	1) Test Channel: 2 Test Signaling Mode: Analog, Signaling: 1 2) PTT: Press [Transmit] button.	Power meter -ANT Ammeter		Check	20.0~30.0W 10A or less
	1) Test Channel: 3 Test Signaling Mode: Analog, Signaling: 1 2) PTT: Press [Transmit] button.	Power meter -ANT Ammeter		Check	20.0~30.0W 10A or less
3. Low power check	1) Test Channel: 1 Test Signaling Mode: Analog, Signaling: 1 2) PTT: Press [Transmit] button.	Power meter -ANT Ammeter		Check	3.5~6.5W 7.0A or less
	1) Test Channel: 2 Test Signaling Mode: Analog, Signaling: 1 2) PTT: Press [Transmit] button.	Power meter -ANT Ammeter		Check	3.5~6.5W 7.0A or less
	1) Test Channel: 3 Test Signaling Mode: Analog, Signaling: 1 2) PTT: Press [Transmit] button.	Power meter -ANT Ammeter		Check	3.5~6.5W 7.0A or less
4. MIC sensitivity check	1) Test Channel: 1 Test Signaling Mode: Analog, Signaling: 1 2) AG: 1kHz 3) PTT: Press [Transmit] button.	Deviation meter Power meter -ANT AG, AF VM Oscilloscope -MIC		Adjust AG input to get a standard MOD.	5.0mV ± 1.0mV

NX-1800 Series (E, E2) type					
Item	Condition	Measurement	Adjustment		Specifications/ Remarks
	PC test mode		Point	Method	
5. Sensitivity check	1) Test Channel: 1 Test Signaling Mode: Analog, Signaling: 1 2) SSG output Wide 5k: -116dBm (0.35μV) (MOD: 1kHz/±3kHz) Wide 4k: -116dBm (0.35μV) (MOD: 1kHz/±2.4kHz) Narrow: -115dBm (0.40μV) (MOD: 1kHz/±1.5kHz)	SSG -ANT Distortion meter 4Ω Dummy load AF VM Oscilloscope -SP output		Check	12dB SINAD or more

4.4.7 Common Section

NX-1800 Series (E, E2) type					
Item	Condition	Measurement	Adjustment		Specifications/ Remarks
	PC tuning mode		Point	Method	
1. Setting	1) DC voltage:13.2V 2) SSG standard modulation [Wide 5k] MOD:1kHz/DEV:3kHz [Wide 4k] MOD:1kHz/DEV:2.4kHz [Narrow] MOD:1kHz/DEV:1.5kHz				
2. Assist Voltage	1) Adj item: [Assist Voltage] 2) Adj point: 9 points [Low1], [Low2], [Low3], [Center1], [Center2], [Center3], [High1], [High2], [High3]		FPU [<],[>]	[Automatic Adjustment] -PC Test mode- Press [Tune Assist Voltage] button. [Manual Adjustment] [V] indicator on the PC window shows VCO lock voltage. Change the adjustment value to get VCO lock voltage within the specified voltage.	1.55~1.75V Press [OK] button to store the adjustment value after all adjustment point have been adjusted.
Note: Confirm the VCO lock voltage approximately 3 seconds after the adjustment value is changed.					
3. DC Offset	<PC test mode> 1) Test Channel: 1 Test Signaling Mode: Analog, Signaling: 1 2) Adjust with no RF input.		FPU [<],[>]	Press [DC Offset] button. It will pop up a window after adjustment is completed.	Press [OK] button to store the adjustment value.
4. Frequency	1) Adj item: [Frequency] 2) Adj point: 1 point Test Channel: 1 Test Signaling Mode: Analog Signaling: 1 Transmit power: Low 3) PTT: Press [Transmit] button.	f. counter -ANT	FPU [<],[>]	(E) type: 435.100000MHz (E2) type: 485.100000MHz	(E) type 435.099950 ~ 435.100050MHz (E2) type 485.099950~ 485.100050MHz Press [OK] button to store the adjustment value.

4.4.8 Transmitter Section

NX-1800 Series (E, E2) type					
Item	Condition	Measurement	Adjustment		Specifications/Remarks
	PC tuning mode		Point	Method	
1. Ramp Offset	1) Adj item: [Ramp Offset] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Press [Transmit] button.	Power meter -ANT	FPU [<],[>]	1. Set the adjustment data value to "1", and press [Transmit] button to put it in the transmission state. 2. Next, increase the adjustment value slowly while monitoring the offset monitor value. 3. Set the adjustment data value when the offset monitor value exceeds the threshold value.	(E) type Threshold value: 295±10 (E2) type Threshold value: 440±10 Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
2. High Transmit Power	1) Adj item: [High Transmit Power] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Press [Transmit] button.	Power meter -ANT Power supply Ammeter	FPU [<],[>]	25.0W	±1.0W 10A or less Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
3. Low Transmit Power	1) Adj item: [Low Transmit Power] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Press [Transmit] button.	Power meter -ANT Power supply Ammeter	FPU [<],[>]	5.0W	±0.5W 7.0A or less Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
4. DQT Balance 1 *1 *2	1) Adj item: [DQT Balance 1] 2) Adj point: 9 points [Low1], [Low2], [Low3], [Center1], [Center2], [Center3], [High1], [High2], [High3] 3) Deviation meter: LPF: 3kHz/HPF: OFF 4) Press [Transmit] button.	Oscilloscope -Deviation meter demodulation wave Deviation meter Power meter -ANT	FPU [<],[>]	Make the demodulation wave into square wave.	 Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
5. DQT Balance 2 *1 *2	1) Adj item: [DQT Balance 2] 2) Adj point: 9 points [Low1], [Low2], [Low3], [Center1], [Center2], [Center3], [High1], [High2], [High3] 3) Deviation meter: LPF: 3kHz/HPF: OFF 4) Press [Transmit] button. 5) Check "2kHz Sine Wave" Check box to change 2kHz.	Deviation meter Power meter -ANT Oscilloscope	FPU [<],[>]	The Deviation of 150Hz frequency is fixed. Change the 2kHz adjustment value to become the same deviation of 150Hz within the specified range.	2kHz Tone deviation is within ±1.0% of 150Hz tone deviation. Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
*1: Refer to the "4.4.8.1 Necessary Deviation adjustment item for each signaling and mode" table. Balance adjustment is common with the adjustment of all signaling deviations.					
*2: Only one DQT Balance needs to be adjusted (either DQT Balance 1 or DQT Balance 2).					

NX-1800 Series (E, E2) type					
Item	Condition	Measurement	Adjustment		Specifications/Remarks
	PC tuning mode		Point	Method	
6. Maximum Deviation (Analog) *3	1) Adj item: [Maximum Deviation (Analog Wide 5k)] 2) Adj point: 9 points [Low1], [Low2], [Low3], [Center1], [Center2], [Center3], [High1], [High2], [High3] 3) Deviation meter: LPF: 15kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter -ANT Oscilloscope	FPU [<],[>]	Adjust to "4200Hz".	4150~4250Hz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
	1) Adj item: [Maximum Deviation (Analog Wide 4k)] 2) Adj point: 9 points [Low1], [Low2], [Low3], [Center1], [Center2], [Center3], [High1], [High2], [High3] 3) Deviation meter: LPF: 15kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter -ANT Oscilloscope	FPU [<],[>]	Adjust to "3300Hz".	3250~3350Hz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
	1) Adj item: [Maximum Deviation (Analog Narrow)] 2) Adj point: 9 points [Low1], [Low2], [Low3], [Center1], [Center2], [Center3], [High1], [High2], [High3] 3) Deviation meter: LPF: 15kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter -ANT Oscilloscope	FPU [<],[>]	Adjust to "2100Hz".	2050~2150Hz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
7. Maximum Deviation (NXDN) *3	1) Adj item: [Maximum Deviation (NXDN Very Narrow)] 2) Adj point: 9 points [Low1], [Low2], [Low3], [Center1], [Center2], [Center3], [High1], [High2], [High3] 3) Deviation meter: LPF: 3kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter -ANT Oscilloscope	FPU [<],[>]	Adjust to "1337Hz".	1311~1363Hz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
	1) Adj item: [Maximum Deviation (NXDN Narrow)] 2) Adj point: 9 points [Low1], [Low2], [Low3], [Center1], [Center2], [Center3], [High1], [High2], [High3] 3) Deviation meter: LPF: 3kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter -ANT Oscilloscope	FPU [<],[>]	Adjust to "3056Hz".	2995~3117Hz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.

NX-1800 Series (E, E2) type

Item	Condition	Measurement	Adjustment		Specifications/Remarks
	PC tuning mode		Point	Method	
8. Maximum Deviation (DMR) *3	1) Adj item: [Maximum Deviation (DMR)] 2) Adj point: 9 points [Low1], [Low2], [Low3], [Center1], [Center2], [Center3], [High1], [High2], [High3] 3) Deviation meter: LPF: 3kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter -ANT Oscilloscope	FPU [<],[>]	Adjust to "2749Hz".	2695~2803Hz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
9. CW ID Deviation (NXDN) *3	1) Adj item: [CW ID Deviation (NXDN Very Narrow)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Deviation meter: LPF: 15kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter -ANT Oscilloscope	FPU [<],[>]	Write the reference value "484" for each adjustment points.	900~1100Hz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
10. DQT Deviation *3	1) Adj item: [DQT Deviation (Analog Wide 5k)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Deviation meter: LPF: 3kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter -ANT Oscilloscope	FPU [<],[>]	Write the reference value "164" for each adjustment points.	0.75kHz±0.05kHz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
	1) Adj item: [DQT Deviation (Analog Wide 4k)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Deviation meter: LPF: 3kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter -ANT Oscilloscope	FPU [<],[>]	Write the reference value "168" for each adjustment points.	0.60kHz±0.05kHz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
	1) Adj item: [DQT Deviation (Analog Narrow)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Deviation meter: LPF: 3kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter -ANT Oscilloscope	FPU [<],[>]	Write the reference value "154" for each adjustment points.	0.35kHz±0.05kHz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.

NX-1800 Series (E, E2) type					
Item	Condition	Measurement	Adjustment		Specifications/Remarks
	PC tuning mode		Point	Method	
11. QT Deviation *3	1) Adj item: [QT Deviation (Analog Wide 5k)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Deviation meter: LPF: 3kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter -ANT Oscilloscope	FPU [<],[>]	Write the reference value "197" for each adjustment points.	0.75kHz ± 0.05kHz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
	1) Adj item: [QT Deviation (Analog Wide 4k)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Deviation meter: LPF: 3kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter -ANT Oscilloscope	FPU [<],[>]	Write the reference value "201" for each adjustment points.	0.60kHz ± 0.05kHz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
	1) Adj item: [QT Deviation (Analog Narrow)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Deviation meter: LPF: 3kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter -ANT Oscilloscope	FPU [<],[>]	Write the reference value "185" for each adjustment points.	0.35kHz ± 0.05kHz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
12. DTMF Deviation *3	1) Adj item: [DTMF Deviation (Analog Wide 5k)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Deviation meter: LPF: 15kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter -ANT Oscilloscope	FPU [<],[>]	Write the reference value "154" for each adjustment points.	2.50kHz±0.05kHz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
	1) Adj item: [DTMF Deviation (Analog Wide 4k)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Deviation meter: LPF: 15kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter -ANT Oscilloscope	FPU [<],[>]	Write the reference value "157" for each adjustment points.	2.00kHz±0.05kHz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
	1) Adj item: [DTMF Deviation (Analog Narrow)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Deviation meter: LPF: 15kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter -ANT Oscilloscope	FPU [<],[>]	Write the reference value "154" for each adjustment points.	1.25kHz±0.05kHz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.

NX-1800 Series (E, E2) type					
Item	Condition	Measurement	Adjustment		Specifications/Remarks
	PC tuning mode		Point	Method	
13. Single Tone Deviation *3	1) Adj item: [Single Tone Deviation (Analog Wide 5k)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Deviation meter: LPF: 15kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter -ANT Oscilloscope	FPU [<],[>]	Write the reference value "732" for each adjustment points.	3.00kHz±0.05kHz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
	1) Adj item: [Single Tone Deviation (Analog Wide 4k)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Deviation meter: LPF: 15kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter -ANT Oscilloscope	FPU [<],[>]	Write the reference value "745" for each adjustment points.	2.40kHz±0.05kHz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
	1) Adj item: [Single Tone Deviation (Analog Narrow)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Deviation meter: LPF: 15kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter -ANT Oscilloscope	FPU [<],[>]	Write the reference value "731" for each adjustment points.	1.50kHz±0.05kHz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
14. MSK Deviation *3	1) Adj item: [MSK Deviation (Analog Wide 5k)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Deviation meter: LPF: 15kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter Power meter -ANT	FPU [<],[>]	Write the reference value "731" for each adjustment points.	3.00kHz±0.05kHz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
	1) Adj item: [MSK Deviation (Analog Wide 4k)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Deviation meter: LPF: 15kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter Power meter -ANT	FPU [<],[>]	Write the reference value "744" for each adjustment points.	2.40kHz±0.05kHz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
	1) Adj item: [MSK Deviation (Analog Narrow)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) Deviation meter: LPF: 15kHz/HPF: OFF 4) Press [Transmit] button.	Deviation meter Power meter -ANT	FPU [<],[>]	Write the reference value "732" for each adjustment points.	1.50kHz±0.05kHz Press [OK] button to store the adjustment value after all adjustment points have been adjusted.
*3: Refer to the "4.4.8.1 Necessary Deviation adjustment item for each signaling and mode" table.					

4.4.8.1 Necessary Deviation adjustment item for each signaling and mode

The following shows the necessary adjustment items for each signaling deviation. Please read the following table like the following example. In the case of the signaling "QT (Analog Wide 5k)", this signaling is composed of three elements [Balance, Maximum Deviation (Analog Wide 5k) and QT Deviation (Analog Wide 5k)]. Please adjust Balance and Maximum Deviation (Analog Wide 5k) before adjusting QT Deviation (Analog Wide 5k).

NX-1800 Series (E, E2) type					
Mode	Signaling	Necessary adjustment and order			
		Wide 5k	Wide 4k	Narrow	Very Narrow
Analog	Audio	1. Balance 2. Maximum Deviation [Analog Wide 5k]	1. Balance 2. Maximum Deviation [Analog Wide 4k]	1. Balance 2. Maximum Deviation [Analog Narrow]	-
	DQT	1. Balance 2. Maximum Deviation [Analog Wide 5k] 3. DQT Deviation [Analog Wide 5k]	1. Balance 2. Maximum Deviation [Analog Wide 4k] 3. DQT Deviation [Analog Wide 4k]	1. Balance 2. Maximum Deviation [Analog Narrow] 3. DQT Deviation [Analog Narrow]	-
	QT	1. Balance 2. Maximum Deviation [Analog Wide 5k] 3. QT Deviation [Analog Wide 5k]	1. Balance 2. Maximum Deviation [Analog Wide 4k] 3. QT Deviation [Analog Wide 4k]	1. Balance 2. Maximum Deviation [Analog Narrow] 3. QT Deviation [Analog Narrow]	-
	Single Tone	1. Balance 2. Maximum Deviation [Analog Wide 5k] 3. Single Tone Deviation [Analog Wide 5k]	1. Balance 2. Maximum Deviation [Analog Wide 4k] 3. Single Tone Deviation [Analog Wide 4k]	1. Balance 2. Maximum Deviation [Analog Narrow] 3. Single Tone Deviation [Analog Narrow]	-
	DTMF	1. Balance 2. Maximum Deviation [Analog Wide 5k] 3. DTMF Deviation [Analog Wide 5k]	1. Balance 2. Maximum Deviation [Analog Wide 4k] 3. DTMF Deviation [Analog Wide 4k]	1. Balance 2. Maximum Deviation [Analog Narrow] 3. DTMF Deviation [Analog Narrow]	-
	MSK	1. Balance 2. Maximum Deviation [Analog Wide 5k] 3. MSK Deviation [Analog Wide 5k]	1. Balance 2. Maximum Deviation [Analog Wide 4k] 3. MSK Deviation [Analog Wide 4k]	1. Balance 2. Maximum Deviation [Analog Narrow] 3. MSK Deviation [Analog Narrow]	-
DMR	Audio	-	-	1. Balance 2. Maximum Deviation [DMR Narrow]	-
NXDN	Audio	-	-	1. Balance 2. Maximum Deviation [NXDN Narrow]	1. Balance 2. Maximum Deviation [NXDN Very Narrow]
	CW ID	-	-	-	1. Balance 2. Maximum Deviation [NXDN Very Narrow] 3. CW ID Deviation [NXDN Very Narrow]

- Balance is common with all the above deviation adjustments. If Balance (Transmitter Section 4, 5) has already adjusted, please skip Step 1 and adjust from Step 2.
- Maximum Deviation (Analog Wide 5k / Analog Wide 4k / Analog Narrow) is common with all the analog signaling deviations. If Balance and Maximum Deviation (Analog Wide 5k / Analog Wide 4k / Analog Narrow) (Transmitter Section 6) have already adjusted, please skip Step 2 and adjust from Step 3.

4.4.9 Receiver Section

NX-1800 Series (E, E2) type					
Item	Condition	Measurement	Adjustment		Specifications/ Remarks
	PC tuning mode		Point	Method	
1. AF level setting	<PC test mode> 1) Test Channel: 1 Test Signaling Mode: Analog Signaling: 1 Wide/Narrow: Narrow Beat Shift: Uncheck Compander: Uncheck 2) SSG output: -47dBm (1mV) (MOD:1kHz/±1.5kHz)	SSG -ANT AF VM 4Ω Dummy load -SP output	Volume	Turn the Volume knob to obtain 1.4V AF output. (0.5W@4Ω Load)	1.4V±0.1V
2. Receive Sensitivity (Semiautomatic) *4	1) Adj item: [Receive Sensitivity (Semiautomatic)] 2) Adj points: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) SSG output: -90dBm (7.08uV) MOD:1kHz/±1.5kHz	SSG -ANT Distortion meter Oscilloscope -SP output	FPU [<],[>]	Input signal from SSG, press [Start] button, and after that press [OK] button to store the adjustment value.	
3. Receive Sensitivity *4	1) Adj item: [Receive Sensitivity] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) SSG output: -120.5dBm (0.21uV) MOD:1kHz/±1.5kHz	SSG -ANT Distortion meter Oscilloscope -SP output	FPU [<],[>]	Decrease the adjustment value to get the 12dB SINAD level.	Press [OK] button to store the adjustment value.
*4: Receive Sensitivity must be adjusted after Receive Sensitivity (Semiautomatic) is adjusted.					
4. LNA OFF AGC Calibration	1) Adj item: [LNA OFF AGC Calibration] 2) Adj point: 1 point Test Channel: 1 Test Signaling Mode: Analog Signaling: 1 3) SSG output: -26dBm (11mV) MOD:1kHz/±1.5kHz	SSG -ANT Distortion meter Oscilloscope -SP output	FPU	Input signal from SSG, press [Start] button to adjust, and after that press [OK] button to store the adjustment value.	
5. Open Squelch (5) (Analog)	1) Adj item: [Open Squelch (5) (Analog Wide 5k)] 2) Adj points: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) SSG output: -120dBm (0.22uV) MOD:1kHz/±3.0kHz	SSG -ANT Distortion meter Oscilloscope -SP output	FPU	Input signal from SSG, press [Start] button to adjust, and after that press [OK] button to store the adjustment value.	
	1) Adj item: [Open Squelch (5) (Analog Wide 4k)] 2) Adj points: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) SSG output: -120dBm (0.22uV) MOD:1kHz/±2.4kHz	SSG -ANT Distortion meter Oscilloscope -SP output	FPU	Input signal from SSG, press [Start] button to adjust, and after that press [OK] button to store the adjustment value.	
	1) Adj item: [Open Squelch (5) (Analog Narrow)] 2) Adj item: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) SSG output: -120dBm (0.22uV) MOD:1kHz/±1.5kHz	SSG -ANT Distortion meter Oscilloscope -SP output	FPU	Input signal from SSG, press [Start] button to adjust, and after that press [OK] button to store the adjustment value.	

NX-1800 Series (E, E2) type					
Item	Condition	Measurement	Adjustment		Specifications/ Remarks
	PC tuning mode		Point	Method	
6. Open Squelch (5) (NXDN)	1) Adj item: [Open Squelch (5) (NXDN Narrow)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) SSG output: -122.0dBm (0.18uV) / No modulation	SSG -ANT Distortion meter Oscilloscope -SP output	FPU	Input signal from SSG, press [Start] button to adjust, and after that press [OK] button to store the adjustment value.	
	1) Adj item: [Open Squelch (5) (NXDN Very Narrow)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) SSG output: -123.5dBm (0.15uV) / No modulation	SSG -ANT Distortion meter Oscilloscope -SP output	FPU	Input signal from SSG, press [Start] button to adjust, and after that press [OK] button to store the adjustment value.	
7. Open Squelch (5) (DMR)	1) Adj item: [Open Squelch (5) (DMR)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) SSG output: -122.0dBm (0.18uV) / No modulation	SSG -ANT Distortion meter Oscilloscope -SP output	FPU	Input signal from SSG, press [Start] button to adjust, and after that press [OK] button to store the adjustment value.	
8. Low RSSI *5	1) Adj item: [Low RSSI (Analog Narrow)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) SSG output: -120.0dBm (0.22uV) MOD:1kHz±1.5kHz	SSG -ANT Distortion meter Oscilloscope -SP output	FPU	Input signal from SSG, press [Start] button to adjust, and after that press [OK] button to store the adjustment value. If the result of the Low RSSI adjustment is "30" or less, set it to the fixed value "31".	
*5: Due to "Low RSSI (Analog Narrow)" adjustment is shared with Analog Wide 5k, Analog Wide 4k, NXDN Narrow, NXDN Very Narrow, and DMR, therefore there are no individual adjustments for each.					
9. High RSSI *6	1) Adj item: [High RSSI (Analog Narrow)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) SSG output: -80.0dBm (22.4uV) MOD:1kHz±1.5kHz	SSG -ANT Distortion meter Oscilloscope -SP output	FPU	Input signal from SSG, press [Start] button to adjust, and after that press [OK] button to store the adjustment value.	
*6: Due to "High RSSI (Analog Narrow)" adjustment is shared with Analog Wide 5k, Analog Wide 4k, NXDN Narrow, NXDN Very Narrow, and DMR, therefore there are no individual adjustments for each.					

NX-1800 Series (E, E2) type					
Item	Condition	Measurement	Adjustment		Specifications/ Remarks
	PC tuning mode		Point	Method	
10. Tight Squelch	1) Adj item: [Tight Squelch (Analog Wide 5k)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) SSG output: -116dBm (0.35uV) MOD:1kHz/±3.0kHz	SSG -ANT Distortion meter Oscilloscope -SP output	FPU	Input signal from SSG, press [Start] button to adjust, and after that press [OK] button to store the adjustment value.	
	1) Adj item: [Tight Squelch (Analog Wide 4k)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) SSG output: -116dBm (0.35uV) MOD:1kHz/±2.4kHz	SSG -ANT Distortion meter Oscilloscope -SP output	FPU	Input signal from SSG, press [Start] button to adjust, and after that press [OK] button to store the adjustment value.	
	1) Adj item: [Tight Squelch (Analog Narrow)] 2) Adj point: 5 points [Low1], [Low3], [Center2], [High1], [High3] 3) SSG output: -116dBm (0.35uV) MOD:1kHz/±1.5kHz	SSG -ANT Distortion meter Oscilloscope -SP output	FPU	Input signal from SSG, press [Start] button to adjust, and after that press [OK] button to store the adjustment value.	

SECTION 5 TROUBLESHOOTING

5.1 Fault Diagnosis of the MPU/DSP IC

■Overview

A flowchart for determining whether or not the transceiver can be powered on (the LCD does not function even if the power switch is turned on) due to broken MPU/DSP (IC501).

- Checking power supply voltage

Check the voltage
Points to be checked
- 33M IC21 (pin 5): Normal voltage 3.3V
Power supply is connected through the coils.
33M: L500, L502

Fail

Checking for an abnormal point

33M has an abnormal voltage.
Remove L500 and L502 to check the voltage of the 33M.

If the voltage becomes normal, the MPU/DSP is broken.

If the voltage is not corrected, there is a problem other than the MPU/DSP.

Pass

- Checking the clock

Check the clock.
Points to be checked
-33MS IC22 (pin 5): Normal voltage 3.3V
-MPU/DSP side R525: Clock frequency 19.2MHz
Power supply is connected through the coil.
33MS: L501

Fail

The MPU/DSP is not broken.

Pass

- Checking the Control signal

Checking the control signal input to the MPU/DSP.
Points to be checked
- BATT_INT IC3 (pin 4): Normal voltage 3.3V
- BATT C77: Normal voltage 1.2V

Fail

Pass

Checking the MPU/DSP input switch signal.
The POWER key is pressed and held.
Points to be checked
- POWER MPU/DSP side R642: Confirmed voltage
- ON: 3.3V, OFF: 3.3V → 0V
The ignition key is kept ON.
- /IGN IC600(pin 1): Confirmed voltage
- ON: 3.3V, OFF: 3.3V → 0V

Fail

Pass

- Checking the output signal from the MPU/DSP.

Checking the control signal output from the MPU/DSP
Point to be checked
- /F_CS IC503 (pin 1): Confirmed voltage
* After power-on, and 3.3V → 0V → 3.3V, 3.3V fixed later.

Fail

The MPU/DSP or Flash memory may be broken.

Pass

Points to be checked
- SBC MPU/DSP side R21

Normal voltage
3.3V

Fail

Remove R21 to check the voltage of the SBC.
If the MPU/DSP side is 0V, the MPU/DSP or Flash memory may be broken.

Pass

- The LCD displays control

Points to be checked
- 33MS R643
- 5MS R668

Normal voltage
3.3V
5.0V

Fail

The MPU/DSP is not broken.
Remove the FFC of MAIN unit between SUB unit.
If the voltage becomes normal, the FFC or SUB unit is broken.

Pass

- The LCD displays control

Point to be checked
- /LCD_CE R632: Confirmed voltage
*After power-on, and 3.3V→ 0V → 3.3V, 3.3V fixed later.

Fail

/LCD_CE has an abnormal voltage.
Check each of the following items.
*Check to see the terminal of R632 and C613.
*Remove the FFC of MAIN unit between SUB unit.
As a result, if it is still abnormal, the MPU/DSP or Flash memory may be broken.

Pass

It is unlikely that the MPU/DSP is broken.

- When an error display appears on the LCD

The LCD displays "NO SYS".

Enforce the firmware overwriting mode, and forcibly overwrite the transceiver firmware.

■ Descriptions of signal names

1) BATT_INT	:Battery voltage interrupt	HIGH → LOW (Power OFF)
2) BATT	:Battery voltage detection	HIGH (Correct Battery voltage)
3) POWER	:Power key detection	HIGH → LOW (Push the POWER switch)
4) /IGN	:Ignition sense detection	LOW → HIGH (Power ON), HIGH → LOW (Power OFF)
5) SBC	:Switched battery control	LOW (OFF), HIGH (ON)
6) /F_CS	:Chip select for flash memory	LOW active
7) /LCD_CE	:LCD driver chip enable	LOW active

5.2 Failure diagnosis of the VCO section

5.2.1 Overview

The VCO circuit is mounted inside a BLS. BLS stands for "Board Level Shield".

This BLS has no lid and provides high shielding performance. Because BLS is not removable from circuit board by hand solder, the components inside the BLS is unable to solder.

When there is problem within VCO circuit, the VCO cannot be repaired.

If the VCO function doesn't work, use this flowchart to identify the problem.

The following is explained about the failure diagnosis of VCO circuit inside a BLS <E101>.

5.2.2 BLS

BLS is shielding case.

BLS for VCO area is integrated type and cannot be removed.

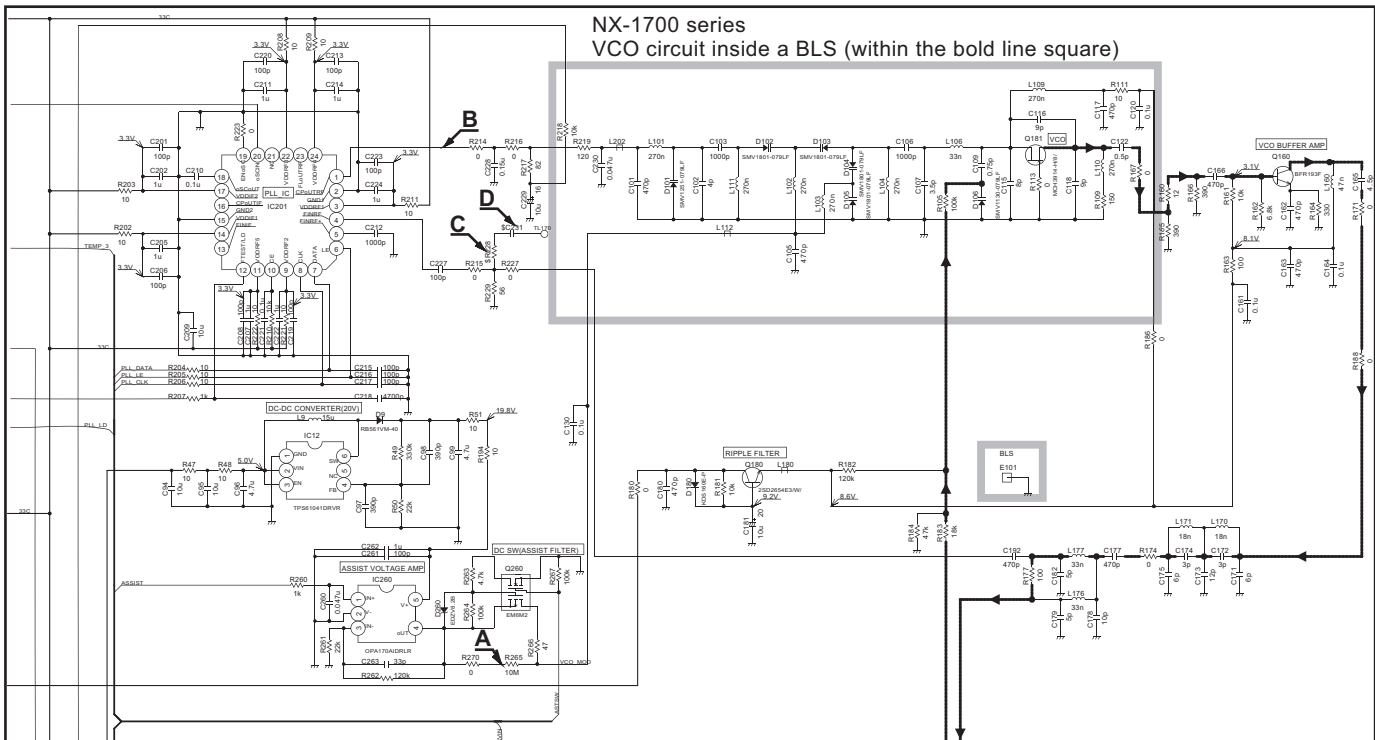
When the parts in the BLS is problematic, it is necessary to replace the printed circuit board by the service unit in service.

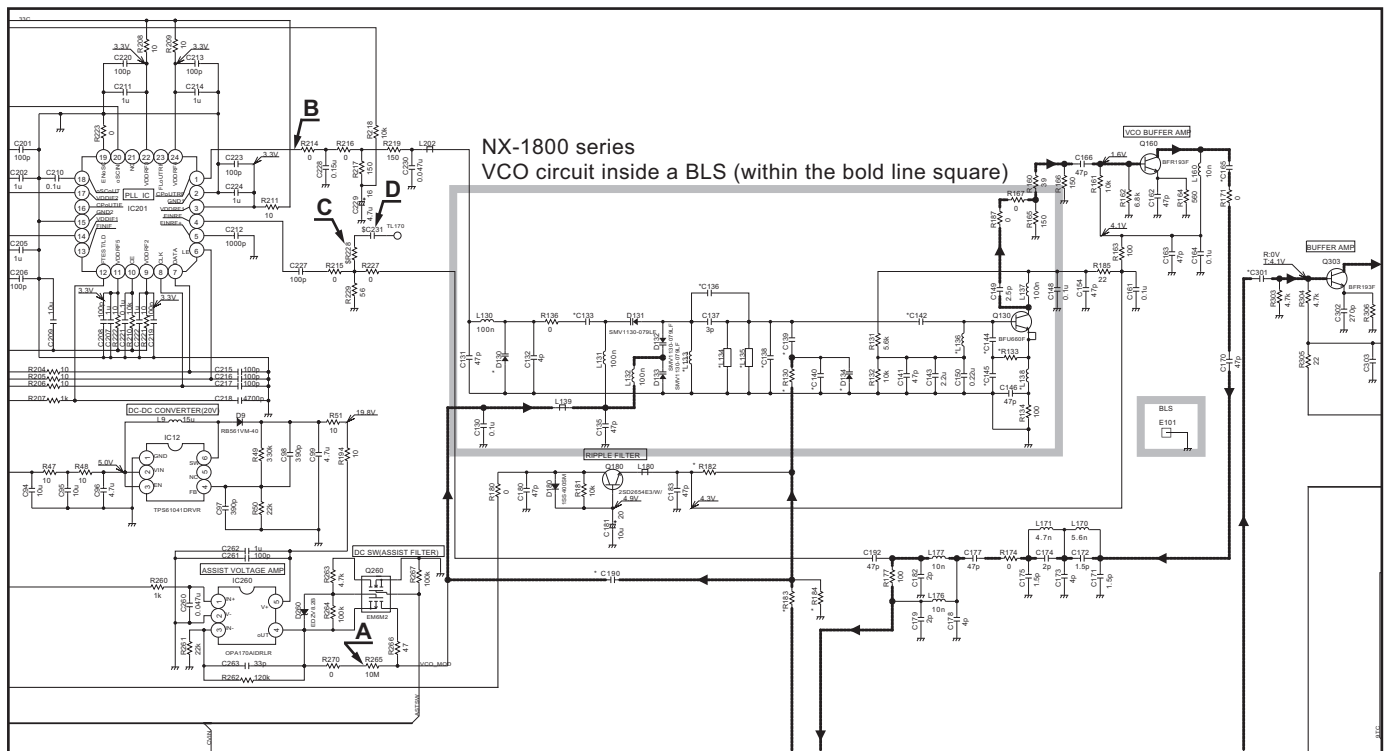
5.2.3 Prediction problem related to the VCO circuit

- PLL Unlock
 - <Transceiver state>
 - Unlock beep sound
 - VCO Assist voltage adjustment is impossible
 - <Cause>
 - VCO control voltage is abnormal
 - VCO assist voltage is abnormal
 - VCO power supply voltage is abnormal
 - VCO signal output is abnormal

5.2.4 VCO circuit inside BLS <E101> and Check point in the circuit diagram

- Unlock [Unlock beep sound / VCO assist adjustment is impossible] * Including modulation problems

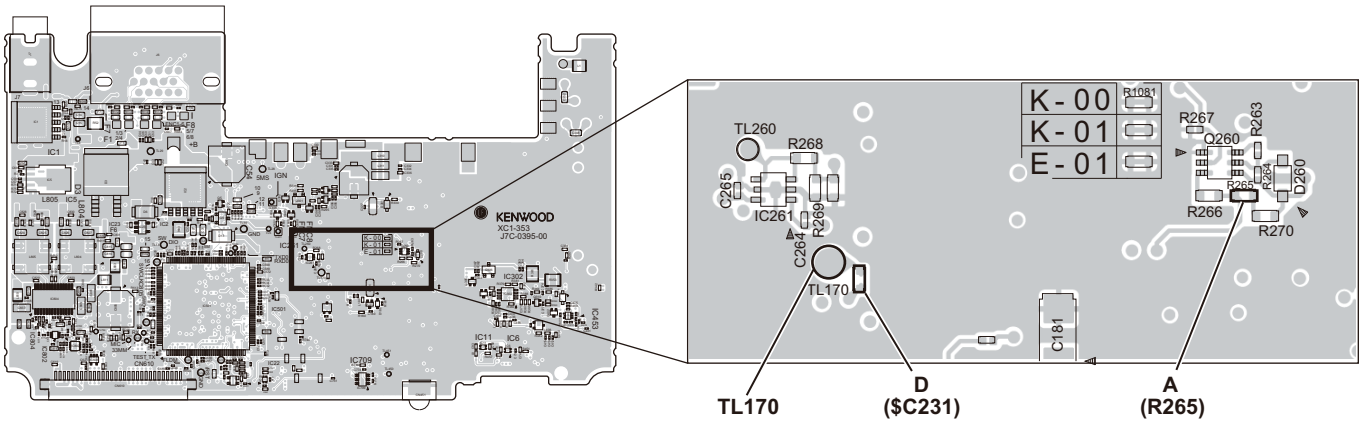




5.2.5 Check point, Test point and Modification parts in the NX-1700/1800 series PCB

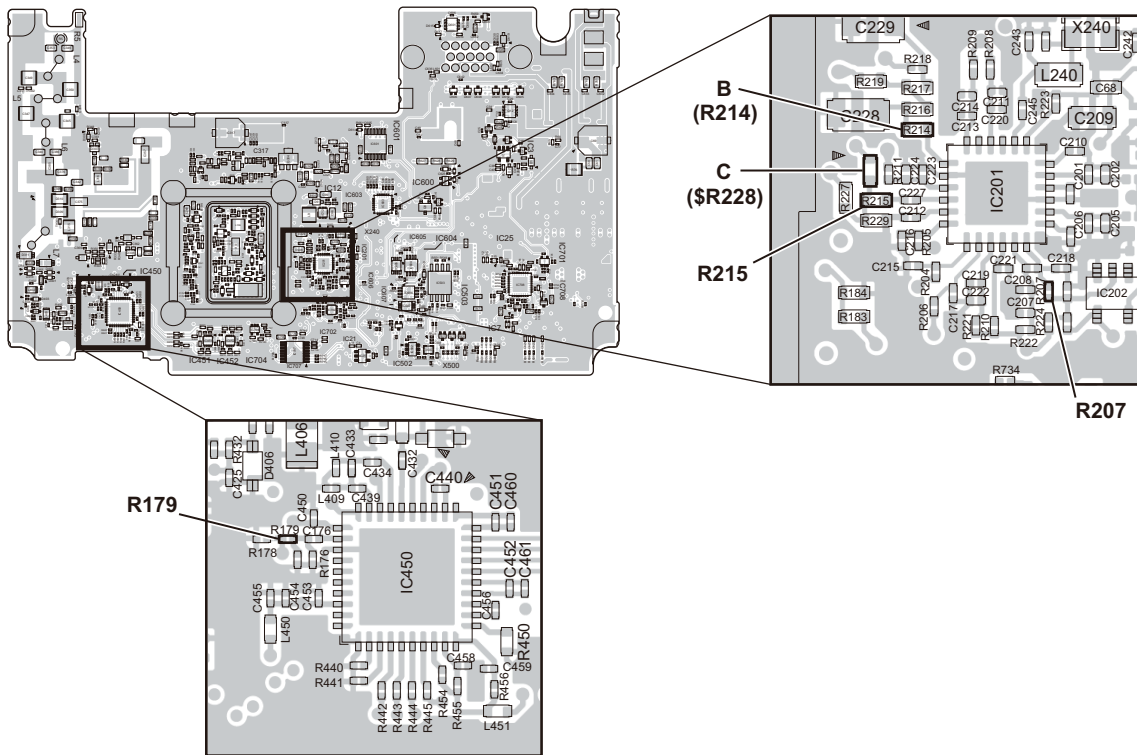
<MAIN Unit Side A:>

- Check point: "A", "D"
- Test point: "TL170"
- Modification part: "R265"

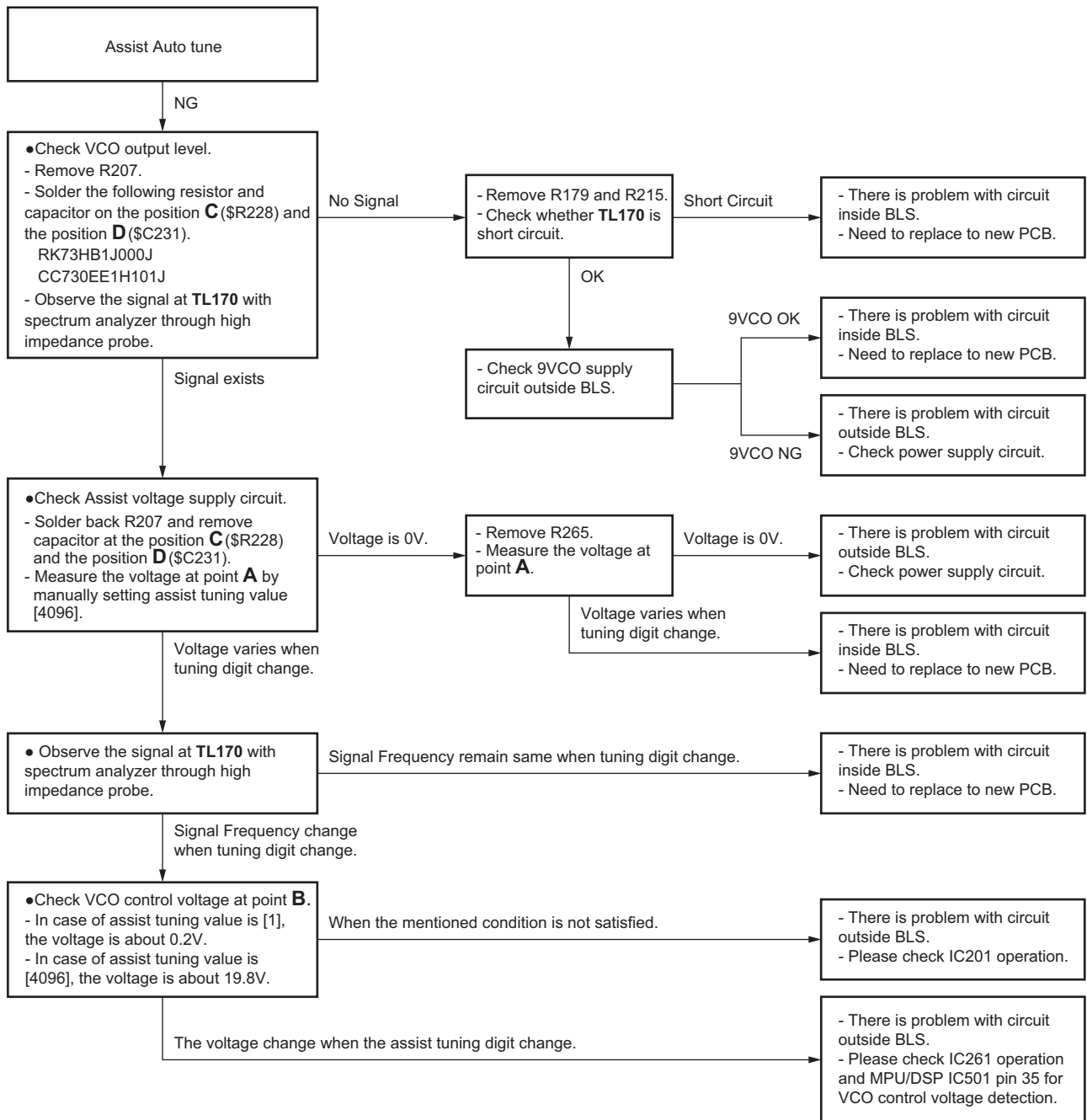


<MAIN Unit Side B:>

- Check point: "B", "C"
- Modification parts: "R179", "R207", "R215"



5.2.6 Inspection Procedure

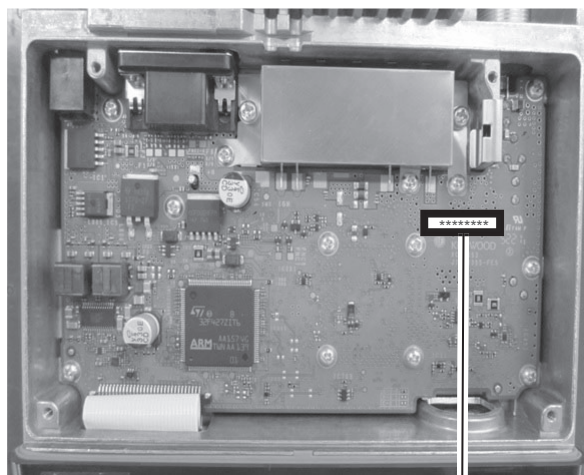


5.3 Replacing MAIN Unit

■MAIN unit Information

Model Name	Service MAIN unit (Indication of marking seal)	Original MAIN unit
NX-1700HN (K)	XCA-085K-00S (XCA-085K-00)	XC1-353K-00
NX-1700HNV (K)		
NX-1700N (E)	XCA-085E-01S (XCA-085E-01)	
NX-1700HD (K)	XCA-090K-00S (XCA-090K-00)	
NX-1700HDV (K)		
NX-1700D (E)	XCA-090E-01S (XCA-090E-01)	
NX-1700HA (K)	XCA-091K-00S (XCA-091K-00)	
NX-1700HAV (K)		
NX-1700A (E)	XCA-091E-01S (XCA-091E-01)	XC1-353K-01
NX-1800HN (K2)	XCA-092K-00S (XCA-092K-00)	
NX-1800HNU (K2)		
NX-1800N (E)	XCA-092E-01S (XCA-092E-01)	XC1-353E-01
NX-1800N (E2)	XCA-092E-02S (XCA-092E-02)	
NX-1800HD (K2)	XCA-093K-00S (XCA-093K-00)	XC1-353K-01
NX-1800HDU (K2)		
NX-1800D (E)	XCA-093E-01S (XCA-093E-01)	XC1-353E-01
NX-1800D (E2)	XCA-093E-02S (XCA-093E-02)	
NX-1800HA (K2)	XCA-094K-00S (XCA-094K-00)	XC1-353K-01
NX-1800HAU (K2)		
NX-1800A (E)	XCA-094E-01S (XCA-094E-01)	

■Method of confirming “Original MAIN unit” and “Service MAIN unit”



The marking seal printed with the "Service MAIN unit number" is affixed on the service MAIN unit.

■Supplied Accessories of “Service MAIN unit”

Item (Including Parts Number)	Quantity
MAIN Unit (XC1-353)	1
KENWOOD ESN/ NXDN Label	1

■“Service MAIN unit” Data

The following data is written into the Service MAIN unit.

Data Type	Description
KENWOOD ESN	* In case of XCA-085K-00S for NX-1700HN/1700HNV Service MAIN unit Model Name: NX-1700HNS Model Type: K KENWOOD ESN: The same number of the attached label is written. * In case of XCA-092K-00S for NX-1800HN/1800HNU Service MAIN unit. Model Name: NX-1800HNS Model Type: K2 KENWOOD ESN: The same number of the attached label is written.
NXDN ESN	The same number of the attached label is written.

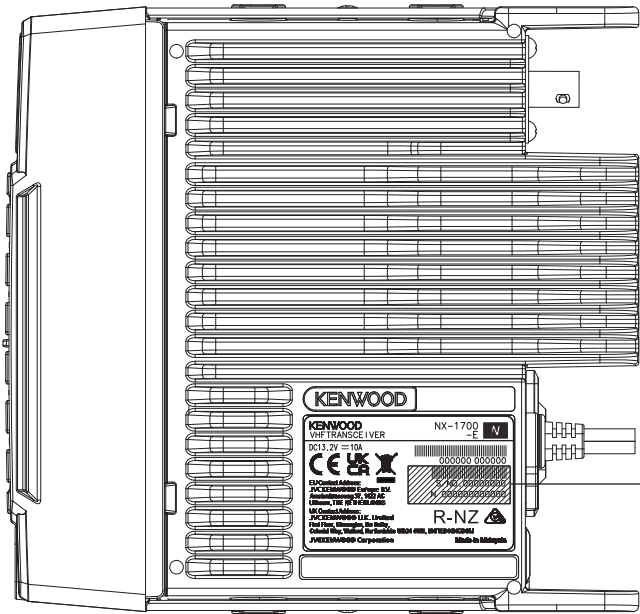
■After Changing the PCB

- (1) Using the KPG-D6/ KPG-D6N, select your desired item (Model Name and Frequency) from the Model> Product Information menu, then use Program> Write Configuration to write the FPU data (PC Programming mode). When writing to the transceiver, a Warning Message, corresponding to the item selected, appears. Click [OK] to continue writing the data.
- (2) Enter Program> Test Mode, then adjust the various adjustment data (PC Test Mode) as described in the “SECTION 4 ADJUSTMENT”.
- (3) Stick the new labels corresponding to the new printed circuit board. (Refer to the next layout image for the label sticking position.)
- (4) If necessary, write the FPU data used by the customer with the KPG-D6/ KPG-D6N.

Note:

- When a new printed circuit board is used, the KENWOOD ESN changes, as does the Transceiver Information display of the KPG-D6/ KPG-D6N, but this does not have any effect on the operation of the transceiver.
- If changing to the original ESN, please contact our service center.

■ESN Label Layout



The figure shows NX-1700N type E.

ESN Label

(BAR CODE)	
S/NO.	00000000
N	000000000000

Note:
For types E and E2, cut the ESN Label at dotted line.

Type: E, E2

(BAR CODE)	
S/NO.	00000000
N	000000000000

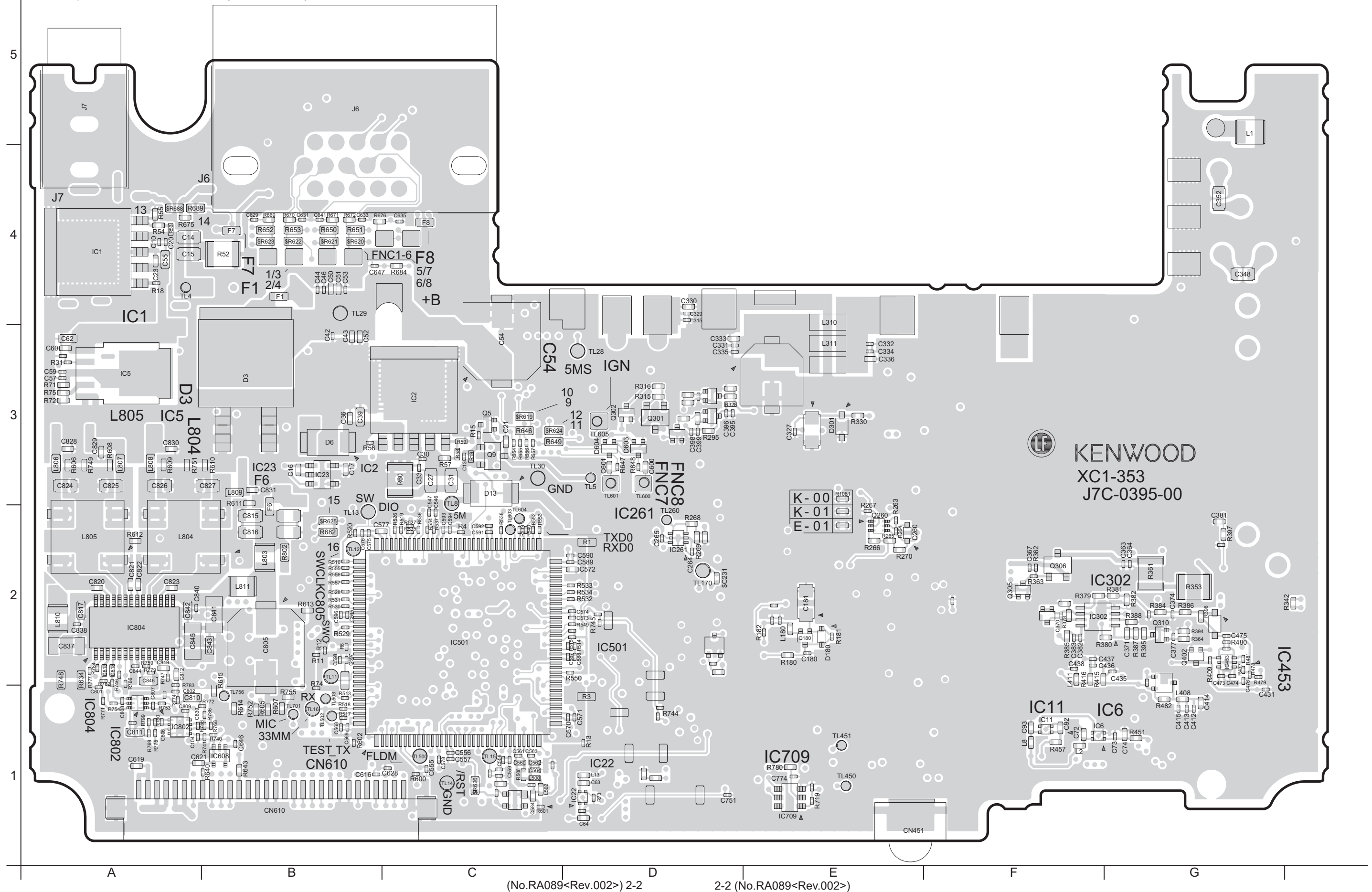
Type: K, K2

(BAR CODE)	
S/NO.	00000000
N	000000000000

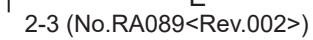
PRECAUTIONS ON SCHEMATIC DIAGRAMS

- * Due to the improvement in performance, some part numbers shown in the circuit diagrams may not agree with those indicated in the Parts List.
- * The parts numbers, values and rated voltage etc. in the Schematic Diagrams are for reference only.
- * Since the circuit diagrams are standard ones, the circuits and circuit constants may be subject to change for improvement without any notice.
- * The parts of the symbol with " * " may vary depending on model. Refer to the parts list for details.
- * The parts of the symbol with " \$ " are unmounted parts.

--- Component side view/Side A (J7C-0395-00) ---

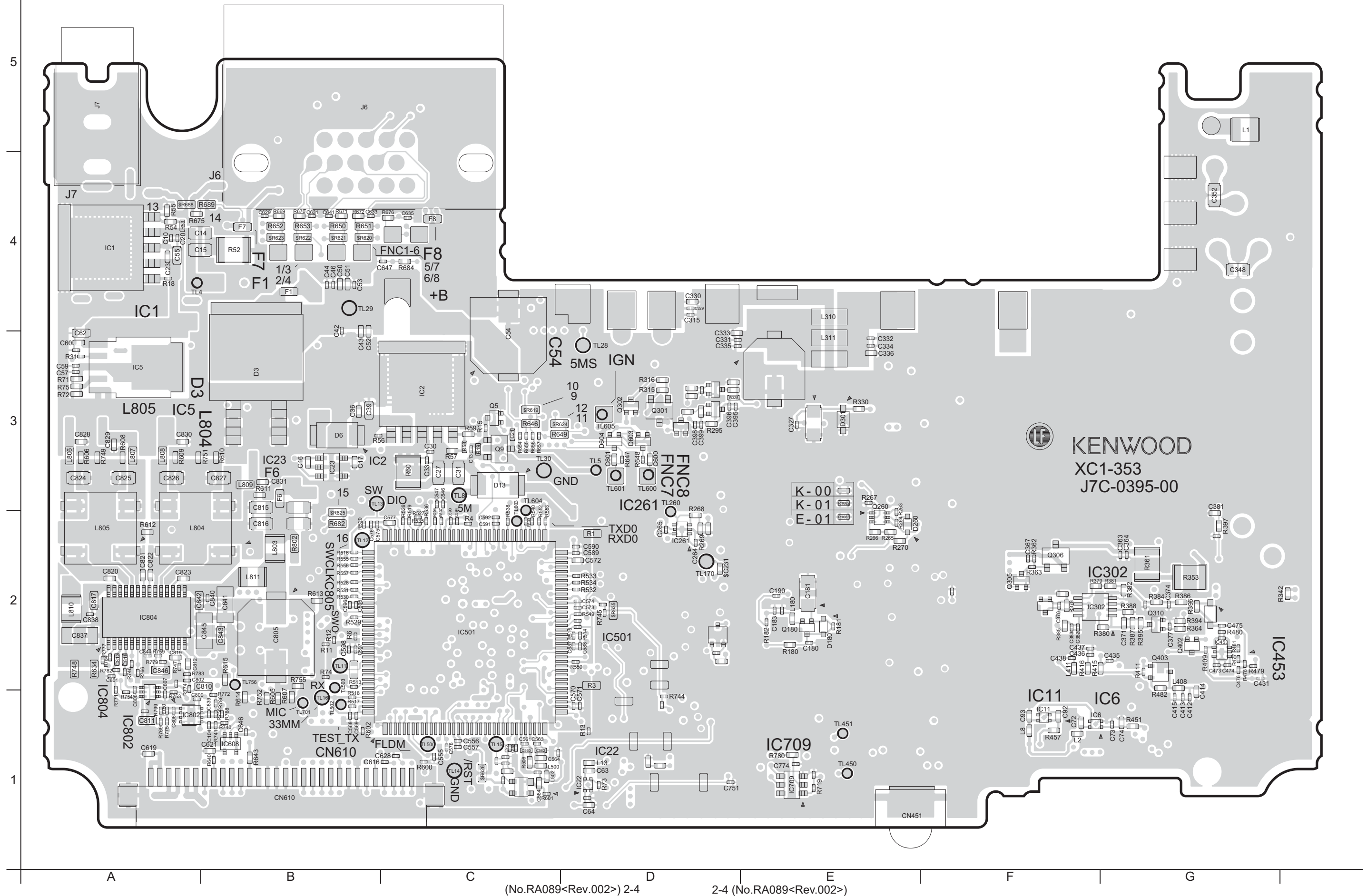


--- Foil side view/Side B (J7C-0395-00) ---



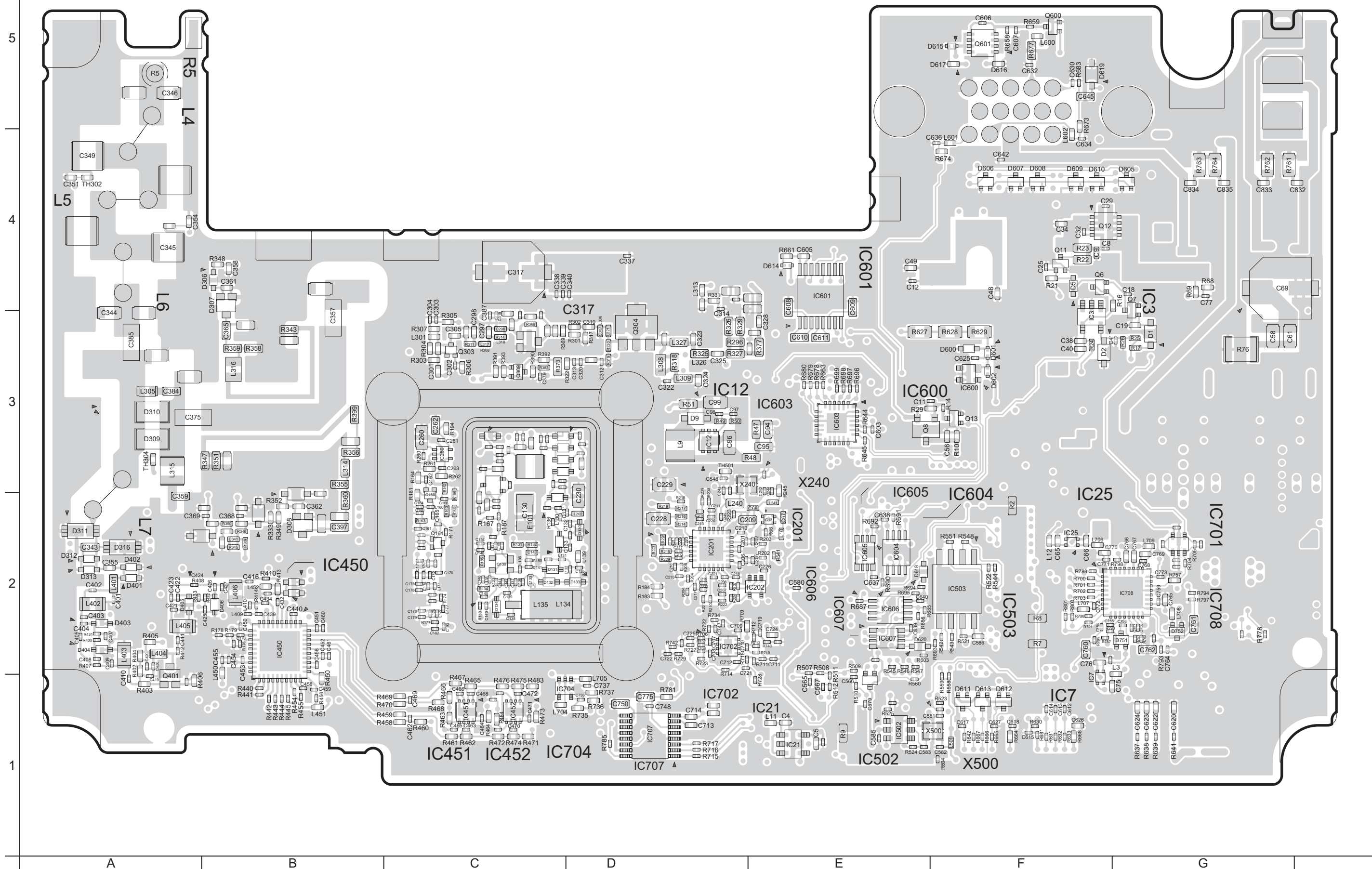
■ MAIN UNIT (XC1-353K-01 (NX-1800/1800H Series K2, E type), XC1-353E-01 (NX-1800 Series E2 type))

--- Component side view/Side A (J7C-0395-00) ---



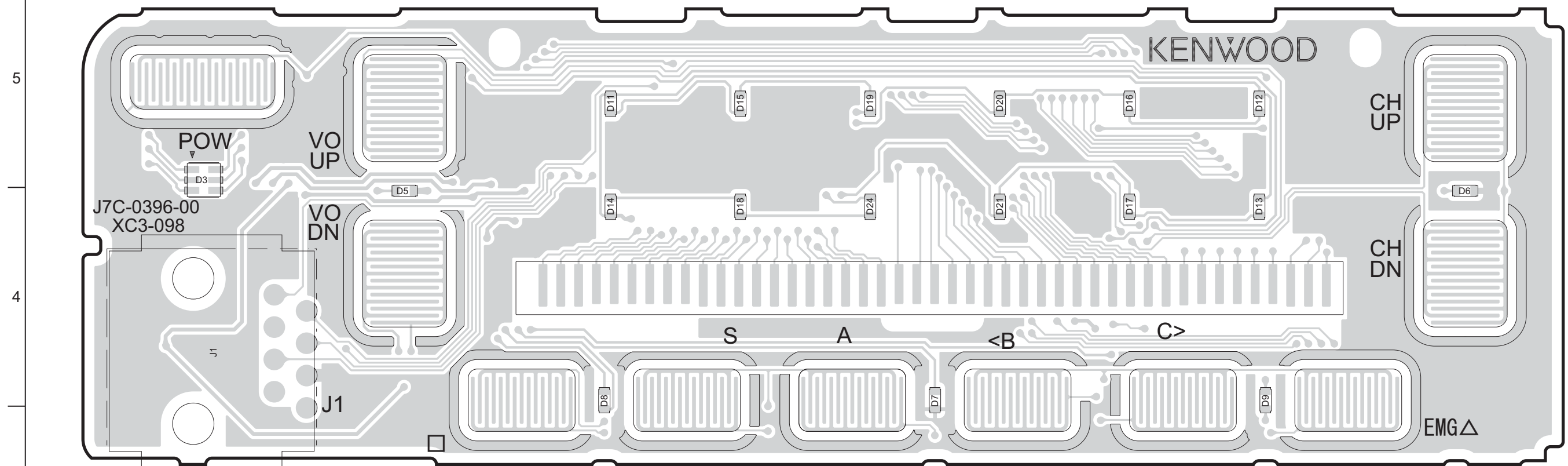
■ MAIN UNIT (XC1-353K-01 (NX-1800/1800H Series K2, E type), XC1-353E-01 (NX-1800 Series E2 type))

--- Foil side view/Side B (J7C-0395-00) ---

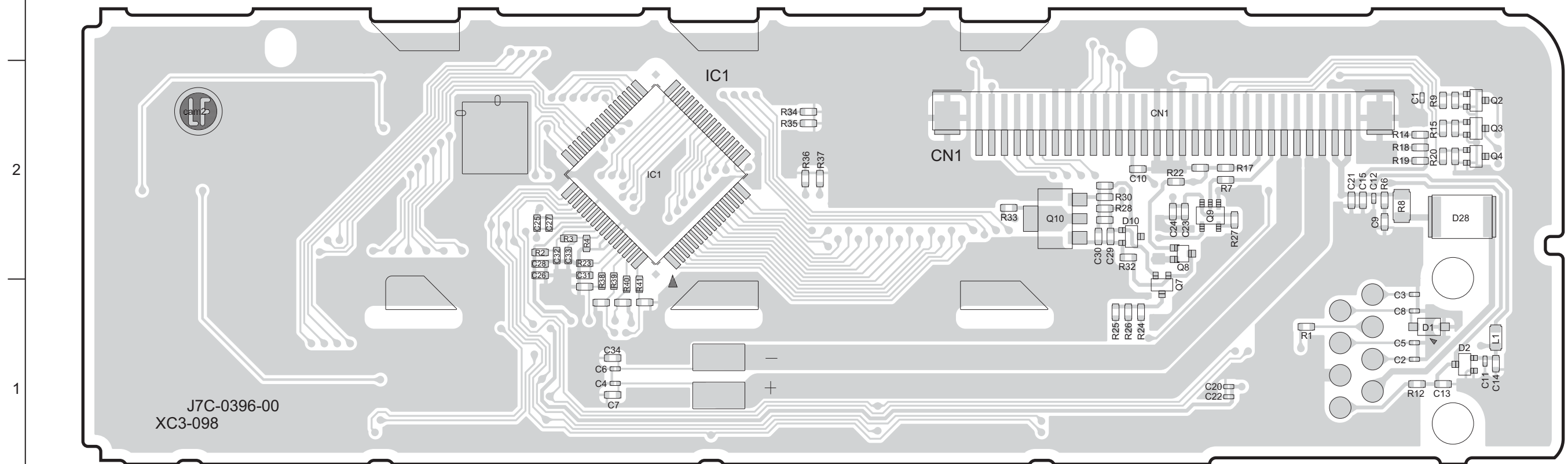


■ SUB UNIT (XC3-098K-00)

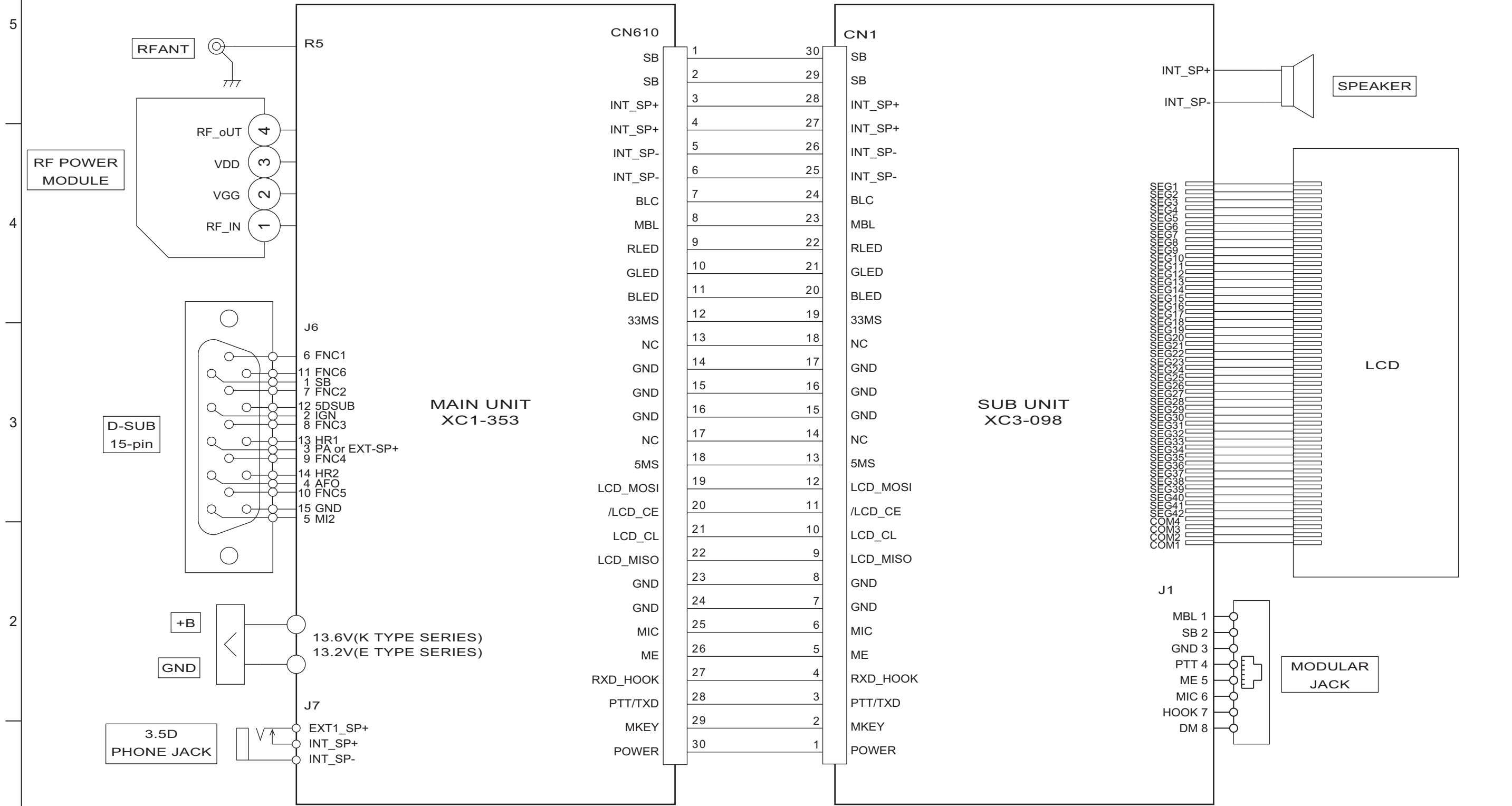
--- Component side view/Side A (J7C-0396-00) ---



--- Foil side view/Side B (J7C-0396-00) ---



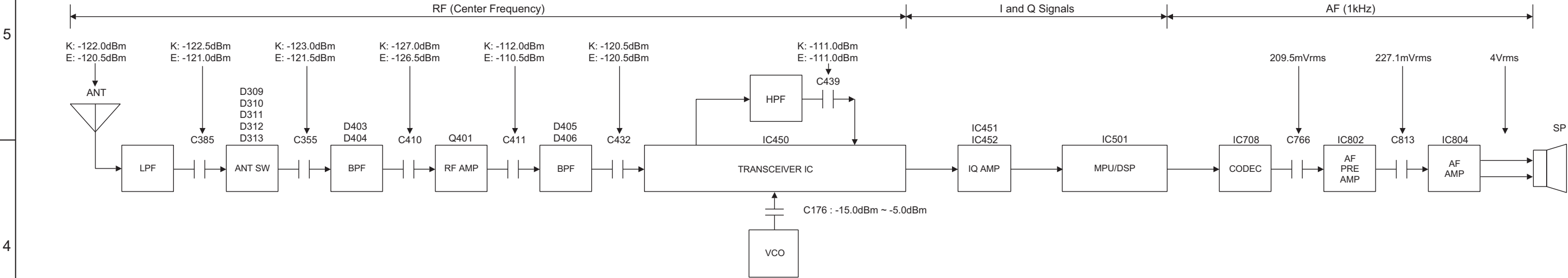
INTERCONNECTION DIAGRAM



LEVEL DIAGRAM

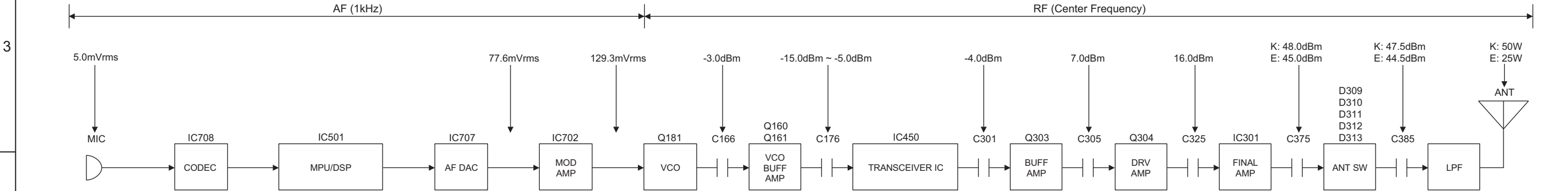
MAIN Unit (NX-1700/1700H Series)

Receiver Section



To make measurements in the AF section, connect the AC level meter.
(ANT input: -53dBm, 1kHz FM, 1.5kHz DEV (Narrow). SP output: 4W@4Ω Load)
In the RF section, use 1000pF coupling capacitor.
(The display shows the SSG input value required to obtain 12dB SINAD.)

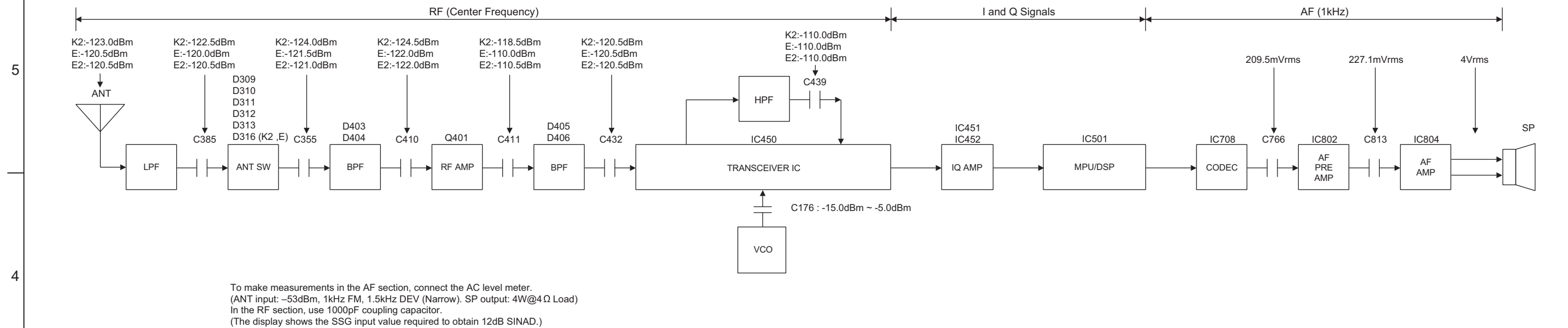
Transmitter Section



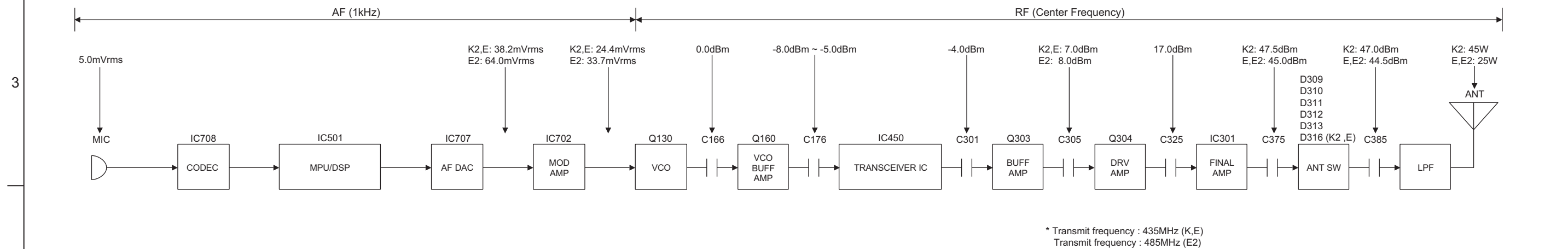
* Transmit Frequency: 155MHz

■ MAIN Unit (NX-1800/1800H Series)

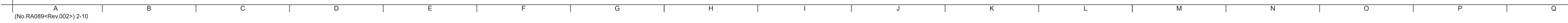
■ Receiver Section



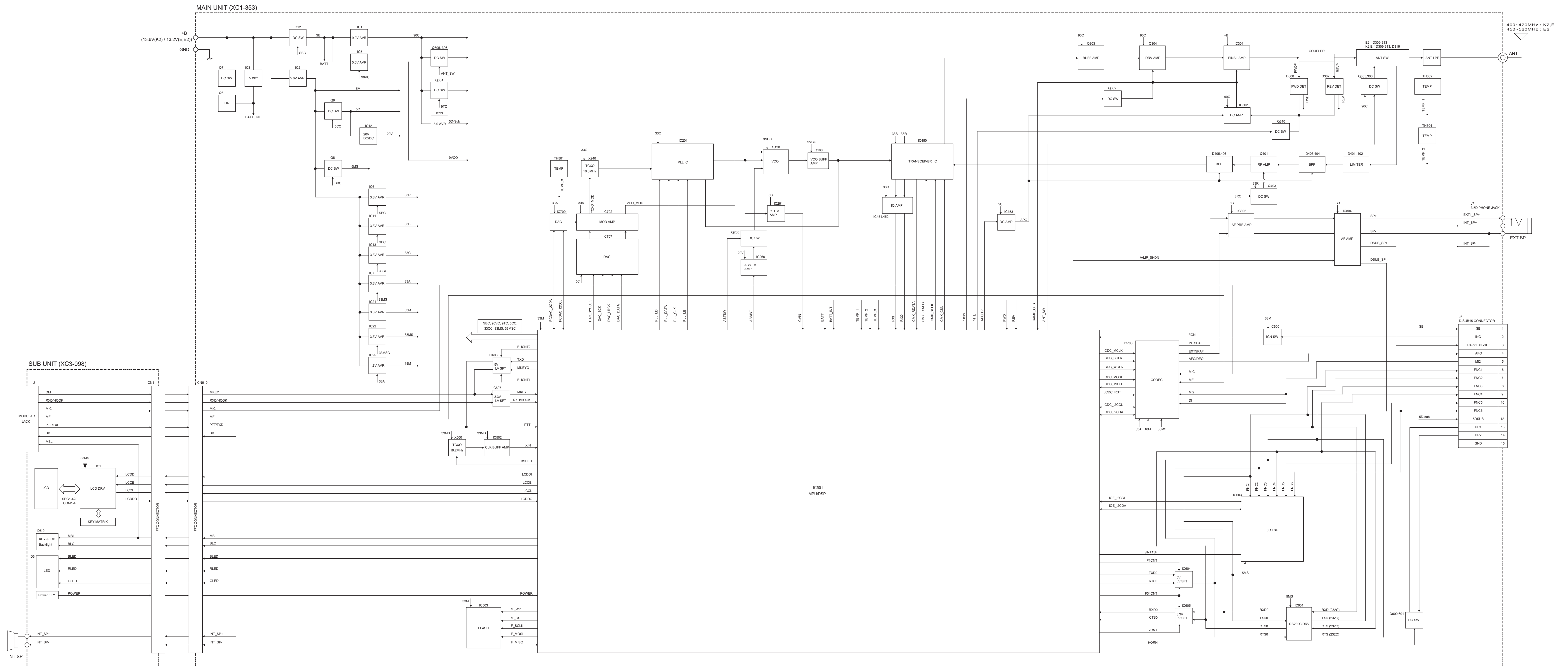
■ Transmitter Section



■ MAIN UNIT, SUB UNIT (NX-1700 Series)

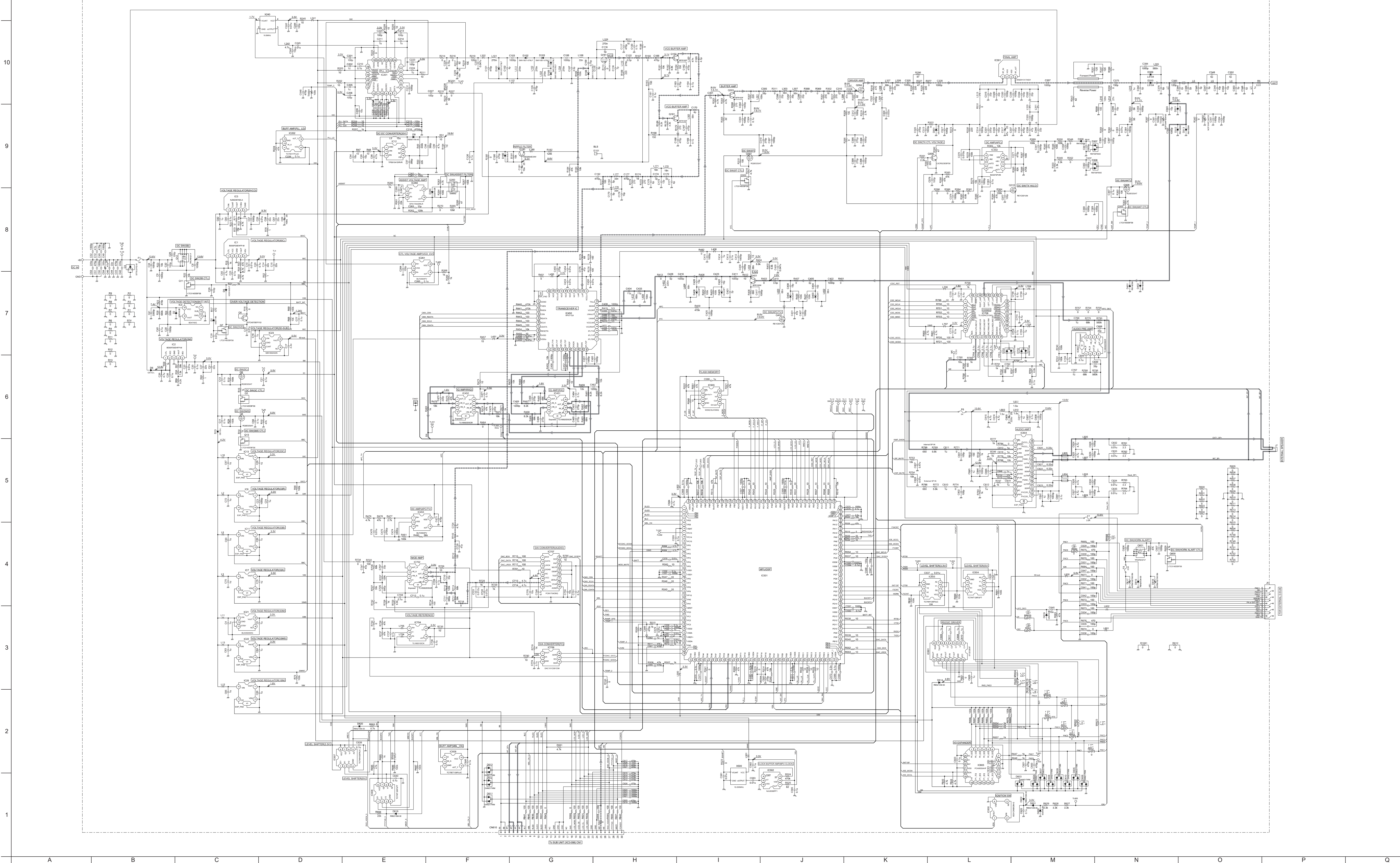


■ MAIN UNIT, SUB UNIT (NX-1800 Series)

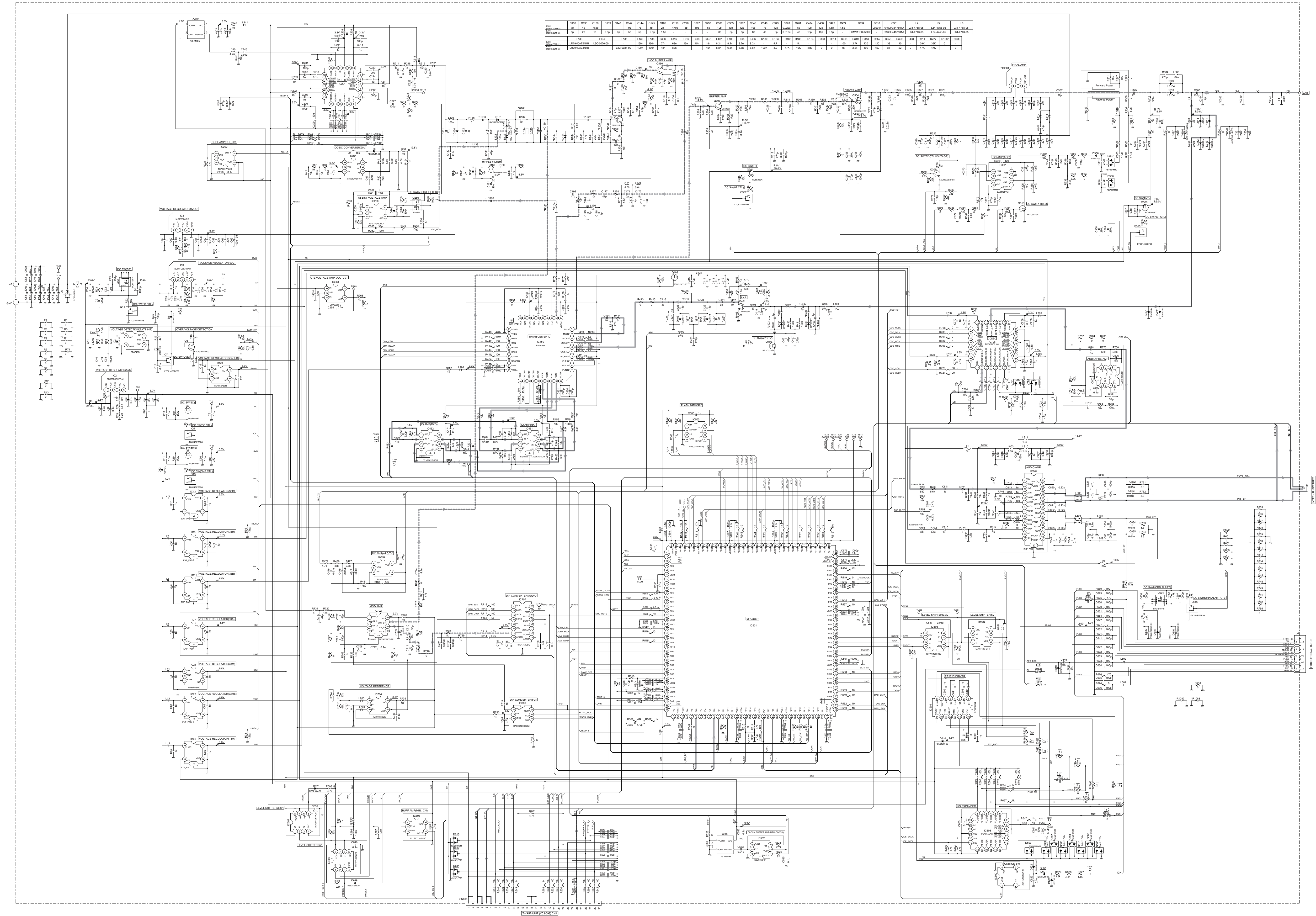


SCHEMATIC DIAGRAM

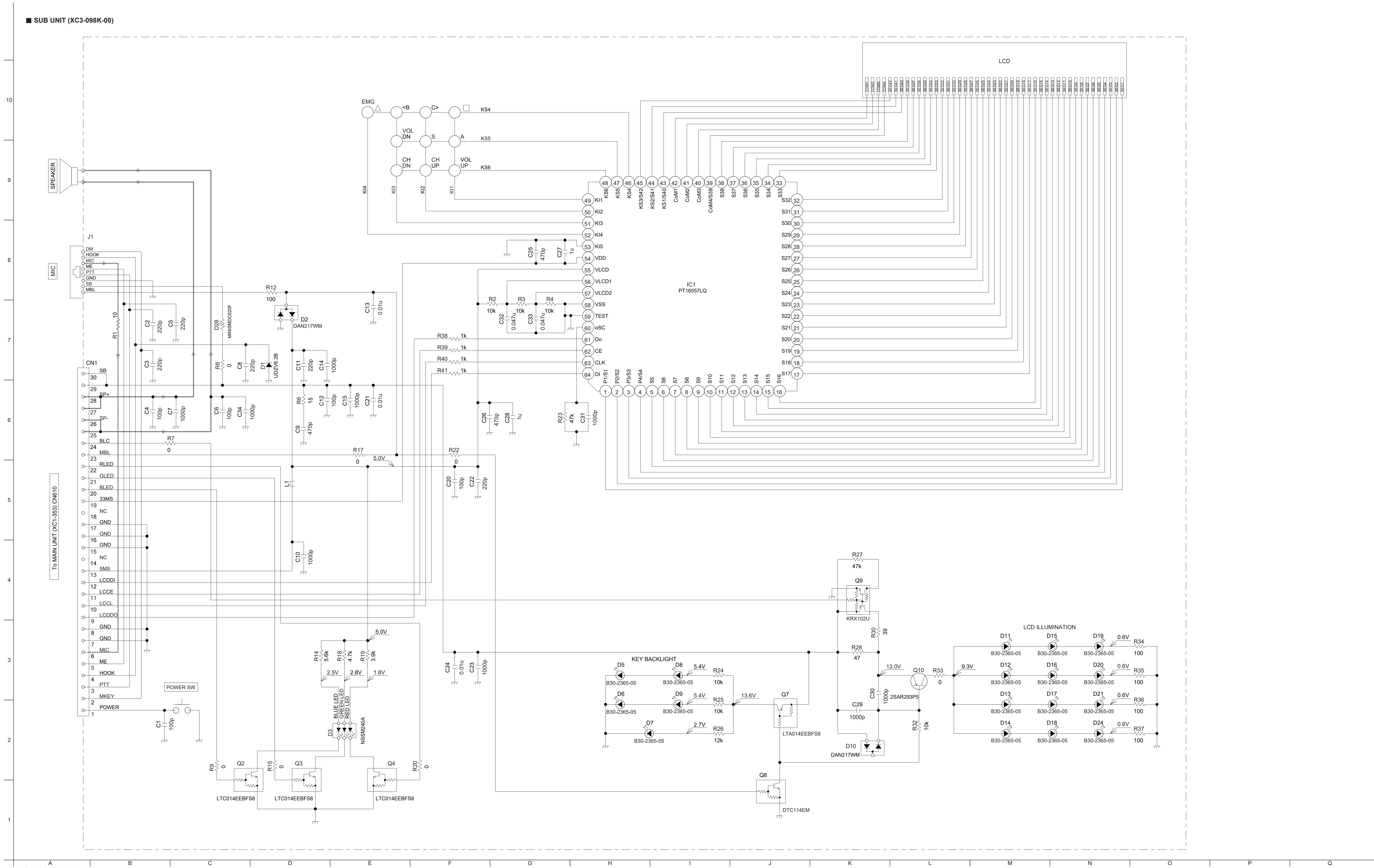
■ MAIN UNIT (XC1-353K-00 (NX-1700/1700H Series))



■ MAIN UNIT (XC1-353K-01 (NX-1800/1800H Series K2, E type), XC1-353E-01 (NX-1800 Series E2 type))



■ SUB UNIT (XC3-098K-00)



PARTS LIST

[NX-1700HN, NX-1700HNV, NX-1700N,
NX-1700HD, NX-1700HDV, NX-1700D,
NX-1700HA, NX-1700HAV, NX-1700A,
NX-1800HN, NX-1800HNU, NX-1800N,
NX-1800HD, NX-1800HDU, NX-1800D,
NX-1800HA, NX-1800HAU, NX-1800A]

* SAFETY PRECAUTION

Parts identified by the $\triangle$ symbol are critical for safety. Replace only with specified part numbers.

* BEWARE OF BOGUS PARTS

Parts that do not meet specifications may cause trouble in regard to safety and performance. We recommend that genuine parts be used.

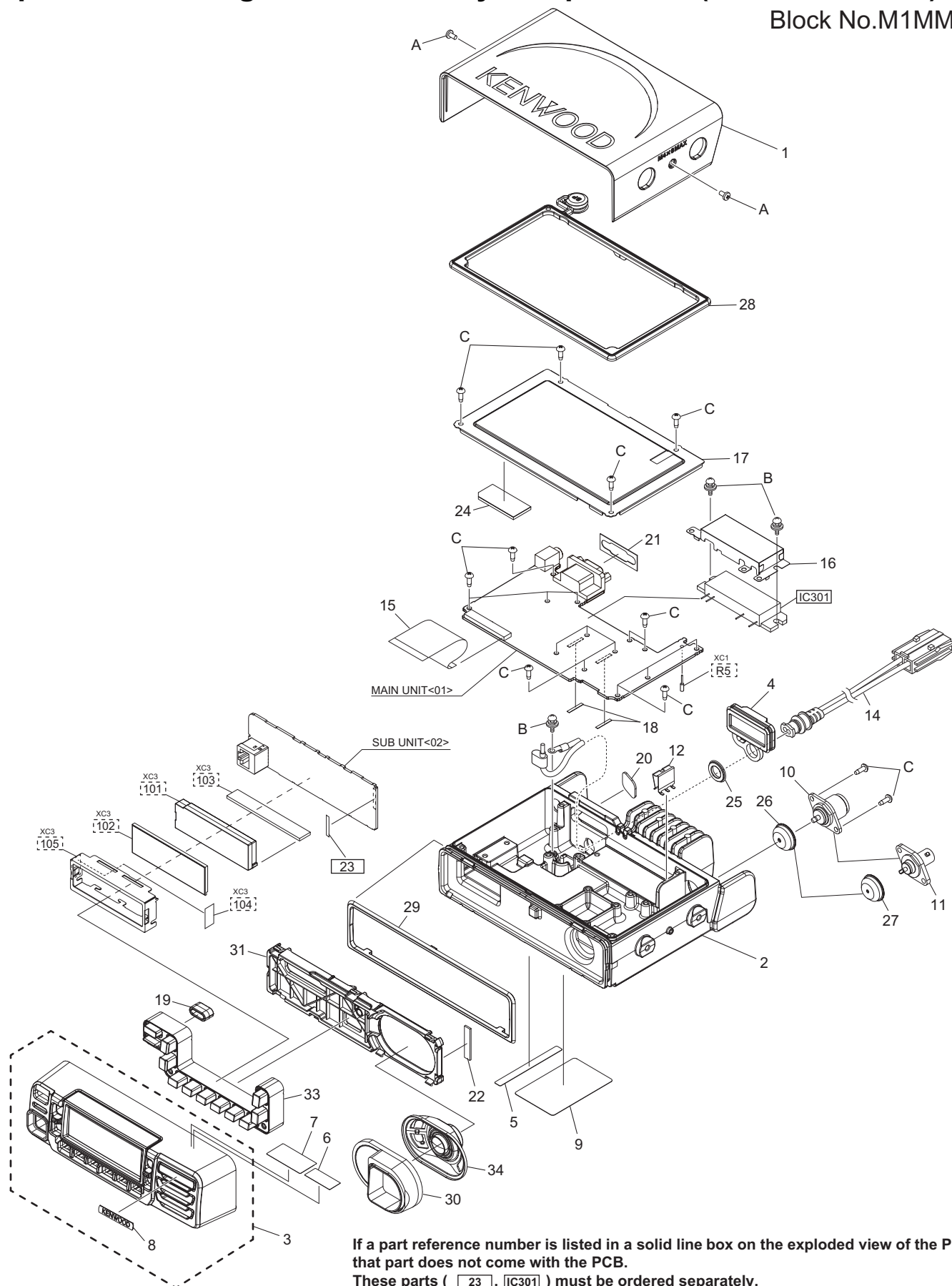
* (x_) in a description column shows the number of the used part.

- Contents -

Exploded view of general assembly and parts list (NX-1700 Series)	3-2
Exploded view of general assembly and parts list (NX-1800 Series)	3-4
Electrical parts list	3-6
Packing materials and accessories parts list (NX-1700 Series)	3-27
Packing materials and accessories parts list (NX-1800 Series)	3-28

Exploded view of general assembly and parts list (NX-1700 Series)

Block No.M1MM



General assembly (NX-1700 Series)

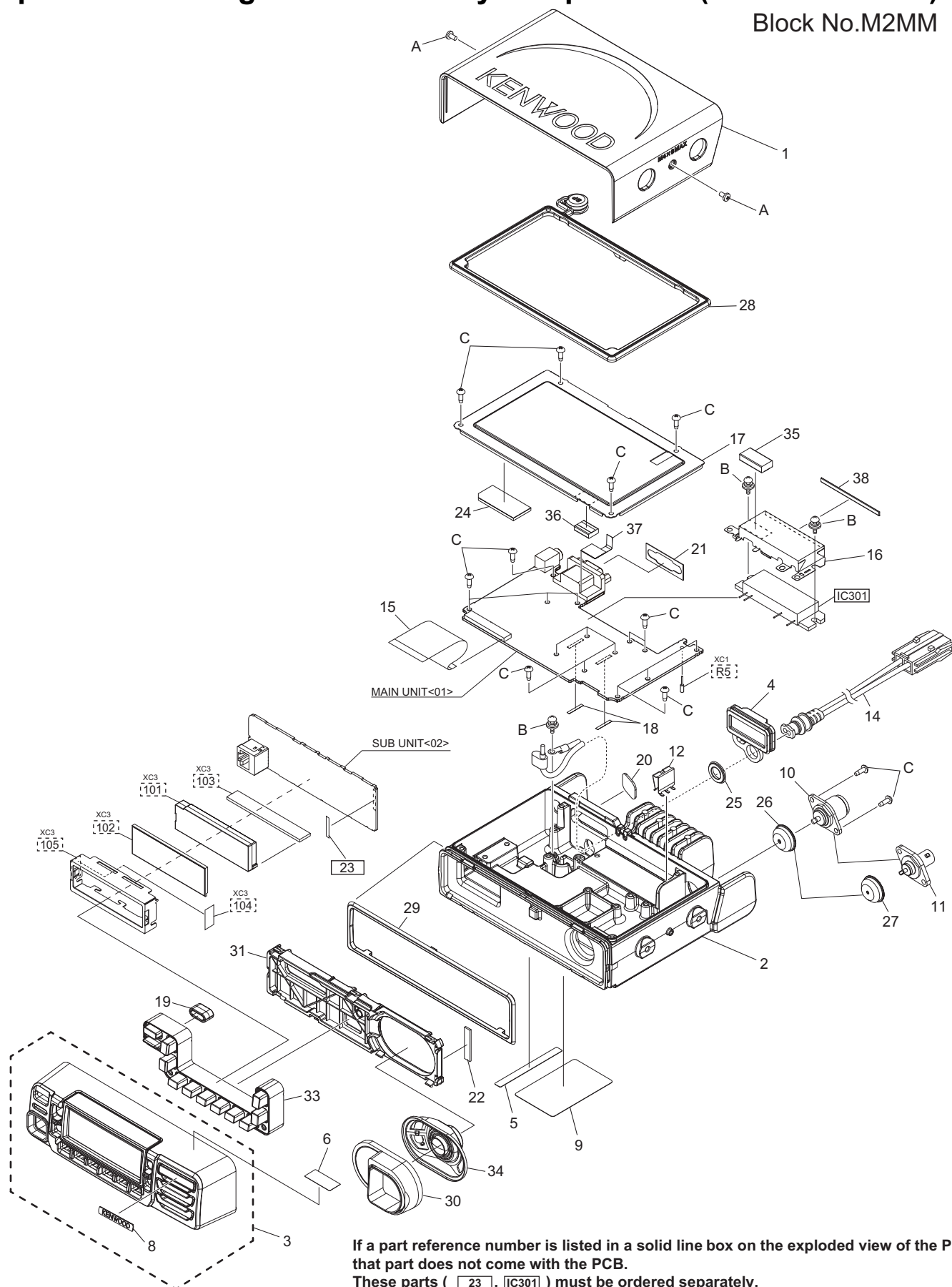
Block No. [M][1][M][M]

△ Symbol No.	Part No.	Part Name	Description	Local
1	A02-4073-51	PLASTIC CABINET		
2	A1A-0055-00	CHASSIS	Note 1	
3	A6C-0181-00	PANEL ASSY	Note 1	
4	B09-0732-03	CAP	D-SUB	
5	B41-1837-04	CAUTION STICKER	HOT SURFACE	
6	B4B-0008-00	CAUTION STICKER	FCC PANEL	17HNK, 17HNVK, 17HDK, 17HDVK, 17HAK, 17HAVK
7	B4C-0913-00	STANDARD LABEL	ADDRESS(UKCA)	17DE
8	B4D-0044-20	KENWOOD BADGE		
9	-----	NAME-PLATE		
10	E04-0167-15	C.RECEPTACLE-M		17HNK, 17HNVK, 17HDK, 17HDVK, 17HAK, 17HAVK
11	E04-0454-15	C.RECEPTACLE-BN		17NE, 17DE, 17AE
12	E23-1346-04	GROUND TERMINAL	CLIP	
14	E30-7684-35	DC CORD		
15	E37-1461-05	FLAT CABLE	30P	
16	F10-3183-13	SHIELDING CASE	PM	
17	F1B-0010-00	SHIELDING COVER	TOP Note 1	
18	F1C-0063-00	CONDUCT SHEET	VCO(x2)	
19	F1E-0074-00	SHADE	TXBUSY	
20	G11-4578-04	SHEET	w/o GPS	
21	G11-4611-04	SHEET	D-SUB	
22	G13-2363-04	CUSHION	HOLDER	
23	G1B-0502-00	SHEET	SUB UNIT	
24	G1D-0164-00	CUSHION	F1B-0010	
25	G53-1643-04	PACKING	DC CORD	
26	G53-1662-04	PACKING	M	17HNK, 17HNVK, 17HDK, 17HDVK, 17HAK, 17HAVK
27	G53-1675-04	PACKING	BNC	17NE, 17DE, 17AE
28	G53-1819-21	PACKING	CHASSIS	
29	G53-1820-03	PACKING	PANEL	
30	G5D-0127-00	PACKING	SP	
31	J19-5542-12	HOLDER	SP,PCB Note 1	
33	K2K-0650-00	KEY TOP		
34	T07-0785-15	SPEAKER	6W	
A	N35-2605-43	BI.HEAD M.SCREW	ENCLOSURE(x2)	
B	N67-3010-48	P.H.SEMS SCREW	PM,DC/-(x3)	
C	N87-2608-48	BR.HEAD T.SCREW	PCB,ANT,TOP(x19)	
-	XCA-085E-01S	MAIN UNIT	SERVICE UNIT Note 1	17NE
-	XCA-085K-00S	MAIN UNIT	SERVICE UNIT Note 1	17HNK, 17HNVK
-	XCA-090E-01S	MAIN UNIT	SERVICE UNIT Note 1	17DE
-	XCA-090K-00S	MAIN UNIT	SERVICE UNIT Note 1	17HDK, 17HDVK
-	XCA-091E-01S	MAIN UNIT	SERVICE UNIT Note 1	17AE
-	XCA-091K-00S	MAIN UNIT	SERVICE UNIT Note 1	17HAK, 17HAVK
-	XC3-098K-01S	SUB UNIT	DISPLAY Note 1	

Note 1: When ordering this part, refer to “3.3 Assembly Information (Non-reusable parts)”

Exploded view of general assembly and parts list (NX-1800 Series)

Block No.M2MM



General assembly (NX-1800 Series)

Block No. [M][2][M][M]

△ Symbol No.	Part No.	Part Name	Description	Local
1	A02-4073-51	PLASTIC CABINET		
2	A1A-0055-00	CHASSIS	Note 1	
3	A6C-0181-00	PANEL ASSY	Note 1	
4	B09-0732-03	CAP	D-SUB	
5	B41-1837-04	CAUTION STICKER	HOT SURFACE	
6	B4B-0008-00	CAUTION STICKER	FCC PANEL	18HNK2, 18HNUK2, 18HDK2, 18HDUK2, 18HAK2, 18HAUK2
8	B4D-0044-20	KENWOOD BADGE		
9	-----	NAME-PLATE		
10	E04-0167-15	C.RECEPTACLE-M		18HNK2, 18HNUK2, 18HDK2, 18HDUK2, 18HAK2, 18HAUK2
11	E04-0454-15	C.RECEPTACLE-BN		18NE, 18NE2, 18DE, 18DE2, 18AE
12	E23-1346-04	GROUND TERMINAL	CLIP	
14	E30-7684-35	DC CORD		
15	E37-1461-05	FLAT CABLE	30P	
16	F10-3140-13	SHIELDING CASE	PM Note 1	
17	F1B-0010-00	SHIELDING COVER	TOP Note 1	
18	F1C-0063-00	CONDUCT SHEET	VCO(x2)	
19	F1E-0074-00	SHADE	TXBUSY	
20	G11-4578-04	SHEET	w/o GPS	
21	G11-4611-04	SHEET	D-SUB	
22	G13-2363-04	CUSHION	HOLDER	
23	G1B-0502-00	SHEET	SUB UNIT	
24	G1D-0164-00	CUSHION	F1B-0010	
25	G53-1643-04	PACKING	DC CORD	
26	G53-1662-04	PACKING	M	18HNK2, 18HNUK2, 18HDK2, 18HDUK2, 18HAK2, 18HAUK2
27	G53-1675-04	PACKING	BNC	18NE, 18NE2, 18DE, 18DE2, 18AE
28	G53-1819-21	PACKING	CHASSIS	
29	G53-1820-03	PACKING	PANEL	
30	G5D-0127-00	PACKING	SP	
31	J19-5542-12	HOLDER	SP,PCB Note 1	
33	K2K-0650-00	KEY TOP		
34	T07-0785-15	SPEAKER	6W	
35	G13-2153-24	CONDUCT CUSHION		18NE, 18DE, 18AE
36	G13-2451-14	CONDUCT CUSHION		18NE, 18DE, 18AE
37	G1B-0495-10	SHEET		18NE, 18DE, 18AE
38	G1D-0522-00	CONDUCT CUSHION		18NE, 18DE, 18AE
A	N35-2605-43	BI.HEAD M.SCREW	ENCLOSURE(x2)	
B	N67-3010-48	P.H.SEMS SCREW	PM,DC/(x3)	
C	N87-2608-48	BR.HEAD T.SCREW	PCB,ANT,TOP(x19)	
-	XCA-092E-01S	MAIN UNIT	SERVICE UNIT Note 1	18NE
-	XCA-092E-02S	MAIN UNIT	SERVICE UNIT Note 1	18NE2
-	XCA-092K-00S	MAIN UNIT	SERVICE UNIT Note 1	18HNK2, 18HNUK2
-	XCA-093E-01S	MAIN UNIT	SERVICE UNIT Note 1	18DE
-	XCA-093E-02S	MAIN UNIT	SERVICE UNIT Note 1	18DE2
-	XCA-093K-00S	MAIN UNIT	SERVICE UNIT Note 1	18HDK2, 18HDUK2
-	XCA-094E-01S	MAIN UNIT	SERVICE UNIT Note 1	18AE
-	XCA-094K-00S	MAIN UNIT	SERVICE UNIT Note 1	18HAK2, 18HAUK2
-	XC3-098K-01S	SUB UNIT	DISPLAY Note 1	

Note 1: When ordering this part, refer to “3.3 Assembly Information (Non-reusable parts)”

Electrical parts list

MAIN UNIT (NX-1700 Series)

XC1-353K-00

Note 2: This part cannot be replaced.
Therefore, this part is not supplied as a service part.

Block No. [0][1]

△ Symbol No.	Part No.	Part Name	Description	Local
IC1	BD00FD0EHFP-M	ANALOG IC		
IC2	BD00FD0EHFP-M	ANALOG IC		
IC3	BD4740G	MOS IC		
IC5	NJM2387ADL3	BIPOLAR IC		
IC6	-----	MOS IC	Note 2	
IC7	-----	MOS IC	Note 2	
IC11	-----	MOS IC	Note 2	
IC12	TPS61041DRVR	ANALOG IC		
IC13	-----	MOS IC	Note 2	
IC21	BU33SD5WG	MOS IC		
IC22	-----	MOS IC	Note 2	
IC23	MM1856A50N	BIPOLAR IC		
IC25	-----	MOS IC	Note 2	
IC201	-----	MOS IC	Note 2	
IC202	TC7SH17FUJC	MOS IC		
IC260	OPA170AIDRLR	MOS IC		
IC261	BU7295HFV	MOS IC		
IC301	RA60H1317A501	MOS IC	VHF/PM	
IC302	BA3472FVM	BIPOLAR IC		
IC450	RP571Q4	MOS IC		
IC451	TLV9062IDSGR	MOS IC		
IC452	TLV9062IDSGR	MOS IC		
IC453	BU7295HFV	MOS IC		
IC501	-----	MPU IC	Note 2	
IC502	NJU6368PF1	MOS IC		
IC503	W25Q16JVSSIQ	ROM IC		
IC600	XC61CN5002N-G	MOS IC		
IC601	ST3232EBT	ANALOG IC		
IC603	PCA9555AHF	MOS IC		
IC604	TC7WT126FUFT	MOS IC		
IC605	TC7WH126FKJC	MOS IC		
IC606	TC7WT126FUFT	MOS IC		
IC607	TC7WH126FKJC	MOS IC		
IC608	TC7SET126FUJC	MOS IC		
IC702	TLV9062IDSGR	MOS IC		
IC704	TLV9001IDCK	MOS IC		
IC707	PCM1754DBQ	ANALOG IC		
IC708	TLV32AIC3104I	MOS IC		
IC709	DAC101C081CIM	MOS IC		
IC802	TLV9062IDSGR	MOS IC		
IC804	-----	MOS IC	Note 2	
Q5	LTC014EEBFS8	DIGI TRANSISTOR		
Q6	KTC4075EP/YG/	TRANSISTOR		
Q7	LTC014EEBFS8	DIGI TRANSISTOR		
Q8	RQ5E025AT	FET		
Q9	RQ5E025AT	FET		
Q11	LTC014EEBFS8	DIGI TRANSISTOR		
Q12	TPCP8107-F	FET		
Q13	LTC014EEBFS8	DIGI TRANSISTOR		
Q160	BFR193F	TRANSISTOR		
Q161	BFR193F	TRANSISTOR		
Q180	2SD2654E3/W/	TRANSISTOR		
Q181	MCH3914-H/8/	FET		

△ Symbol No.	Part No.	Part Name	Description	Local
Q260	EM6M2	FET		
Q301	RQ5E025AT	FET		
Q302	LTC014EEBFS8	DIGI TRANSISTOR		
Q303	BFR193F	TRANSISTOR		
Q304	RFM01U7PF	FET		
Q305	LTC014EEBFS8	DIGI TRANSISTOR		
Q306	RQ5E025AT	FET		
Q309	LSCR523EBFS8	TRANSISTOR		
Q310	RE1C001UN	FET		
Q401	BFR193W	TRANSISTOR		
Q402	RE1C001UN	FET		
Q600	LTC014EEBFS8	DIGI TRANSISTOR		
Q601	TPCP8107-F	FET		
D1	UDZV18B	ZENER DIODE		
D2	UDZV8.2B	ZENER DIODE		
D3	ST70-27FZ-51	ZENER DIODE		
D5	1SS400SM	DIODE		
D6	GS1G-L	DIODE		
D9	RB561VM-40	SCHOTTKY DIODE		
D13	GS1G-L	DIODE		
D101	SMV1251-079LF	VARI CAP DIODE		
D102	SMV1801-079LF	VARI CAP DIODE		
D103	SMV1801-079LF	VARI CAP DIODE		
D104	SMV1801-079LF	VARI CAP DIODE		
D105	SMV1801-079LF	VARI CAP DIODE		
D106	SMV1130-079LF	VARI CAP DIODE		
D180	1SS400SM	DIODE		
D260	EDZV8.2B	ZENER DIODE		
D301	UDZV5.6B	ZENER DIODE		
D306	RN142SM	DIODE		
D307	RB706FM40	SCHOTTKY DIODE		
D308	RB706FM40	SCHOTTKY DIODE		
D309	L8104	DIODE		
D310	L8104	DIODE		
D311	L9204F	DIODE		
D312	RN142SM	DIODE		
D313	RN142SM	DIODE		
D401	RN142SM	DIODE		
D402	RN142SM	DIODE		
D403	1SV325FT	VARI CAP DIODE		
D404	1SV325FT	VARI CAP DIODE		
D405	1SV325FT	VARI CAP DIODE		
D406	1SV325FT	VARI CAP DIODE		
D600	EDZV8.2B	ZENER DIODE		
D601	RB521CM-30	DIODE		
D602	RB521CM-30	DIODE		
D603	DAN217WM	DIODE		
D604	DAN217WM	DIODE		
D605	DAN217WM	DIODE		
D606	DAN217WM	DIODE		
D607	DAN217WM	DIODE		
D608	DAN217WM	DIODE		
D609	DAN217WM	DIODE		
D610	DAN217WM	DIODE		
D611	DAN217WM	DIODE		
D612	DAN217WM	DIODE		
D613	DAN217WM	DIODE		
D614	RB521CM-30	DIODE		
D615	RB520CM-30	SCHOTTKY DIODE		
D616	AVRM10270K10N	VARISTOR		
D617	AVRM10270K10N	VARISTOR		
D618	RB521SM-30	DIODE		
D619	UDZV5.6B	ZENER DIODE		

△ Symbol No.	Part No.	Part Name	Description	Local	△ Symbol No.	Part No.	Part Name	Description	Local
D620	RB521SM-30	DIODE			C92	CK73HB1C105K	C CAPACITOR	1uF 16V K	
D751	DAN217WM	DIODE			C93	CK73HB1C105K	C CAPACITOR	1uF 16V K	
D752	DAN217WM	DIODE			C94	CK73GXR1C106M	C CAPACITOR	10uF 16V M	
C4	CK73HB1C105K	C CAPACITOR	1uF 16V K		C95	CK73GXR1C106M	C CAPACITOR	10uF 16V M	
C5	CK73HB1C105K	C CAPACITOR	1uF 16V K		C96	CK73FXR1H475K	C CAPACITOR	4.7uF 50V K	
C8	CK73JXR1H102K	C CAPACITOR	1000pF 50V K		C97	CK73JXR1H391K	C CAPACITOR	390pF 50V K	
C9	CC730EE1H102K	C CAPACITOR	1000pF 50V K		C98	CK73JXR1H391K	C CAPACITOR	390pF 50V K	
C10	CK73JXR1C103K	C CAPACITOR	0.01uF 16V K		C99	CK73FXR1H475K	C CAPACITOR	4.7uF 50V K	
C11	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K		C101	CK73JXR1H471K	C CAPACITOR	470pF 50V K	
C12	CC730CC1H470G	C CAPACITOR	47pF 50V G		C102	CC730CC1H040B	C CAPACITOR	4pF 50V B	
C13	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K		C103	CK73JXR1H102K	C CAPACITOR	1000pF 50V K	
C14	CK73FXR1E226M	C CAPACITOR	22uF 25V M		C104	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K	
C15	CK73FXR1E226M	C CAPACITOR	22uF 25V M		C105	CK73JXR1H471K	C CAPACITOR	470pF 50V K	
C16	CK73HB1C105K	C CAPACITOR	1uF 16V K		C106	CK73JXR1H102K	C CAPACITOR	1000pF 50V K	
C17	CK73HXR1A225K	C CAPACITOR	2.2uF 10V K		C107	CC730CC1H3R5B	C CAPACITOR	3.5pF 50V B	
C18	CK73JXR1C103K	C CAPACITOR	0.01uF 16V K		C109	CC730CC1HR75B	C CAPACITOR	0.75pF 50V B	
C19	CK730PY1H103K	C CAPACITOR	0.01uF 50V K		C115	CC730CC1H080B	C CAPACITOR	8pF 50V B	
C20	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K		C116	CC730CC1H090B	C CAPACITOR	9pF 50V B	
C21	CK73HXR1H104K	C CAPACITOR	0.1uF 50V K		C117	CK73JXR1H471K	C CAPACITOR	470pF 50V K	
C23	CK73HXR1H104K	C CAPACITOR	0.1uF 50V K		C118	CC730CC1H070B	C CAPACITOR	7pF 50V B	
C25	CC73JCH1H101J	C CAPACITOR	100pF 50V J		C120	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K	
C27	CK73FXR1A226M	C CAPACITOR	22uF 10V M		C122	CC730CC1H0R5B	C CAPACITOR	0.5pF 50V B	
C29	CC73JCH1H101J	C CAPACITOR	100pF 50V J		C130	CC730AD1H104J	C CAPACITOR	0.1uF 50V J	
C30	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K		C161	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K	
C31	CK73FXR1A226M	C CAPACITOR	22uF 10V M		C162	CK73JXR1H471K	C CAPACITOR	470pF 50V K	
C32	CC73JCH1H101J	C CAPACITOR	100pF 50V J		C163	CK73JXR1H471K	C CAPACITOR	470pF 50V K	
C33	CK73JXR1C103K	C CAPACITOR	0.01uF 16V K		C164	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K	
C34	CC730EE1H102K	C CAPACITOR	1000pF 50V K		C165	CC730CC1H4R5B	C CAPACITOR	4.5pF 50V B	
C36	CK73HXR1H104K	C CAPACITOR	0.1uF 50V K		C166	CK73JXR1H471K	C CAPACITOR	470pF 50V K	
C38	CC730EE1H102K	C CAPACITOR	1000pF 50V K		C167	CK73JXR1H471K	C CAPACITOR	470pF 50V K	
C39	CK73GXR1E475K	C CAPACITOR	4.7uF 25V K		C168	CK73JXR1H471K	C CAPACITOR	470pF 50V K	
C40	CK73HXR1H104K	C CAPACITOR	0.1uF 50V K		C169	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K	
C41	CK73JXR1E332K	C CAPACITOR	3300pF 25V K		C170	CC730CC1H040B	C CAPACITOR	4pF 50V B	
C42	CC730CC1H221G	C CAPACITOR	220pF 50V G		C171	CC730CC1H060B	C CAPACITOR	6pF 50V B	
C43	CC730EE1H471K	C CAPACITOR	470pF 50V K		C172	CC730CC1H030B	C CAPACITOR	3pF 50V B	
C44	CC730CC1H220G	C CAPACITOR	22pF 50V G		C173	CC730CC1H120G	C CAPACITOR	12pF 50V G	
C46	CC730CC1H470G	C CAPACITOR	47pF 50V G		C174	CC730CC1H030B	C CAPACITOR	3pF 50V B	
C48	CC730EE1H102K	C CAPACITOR	1000pF 50V K		C175	CC730CC1H060B	C CAPACITOR	6pF 50V B	
C49	CC730EE1H471K	C CAPACITOR	470pF 50V K		C176	CC730CC1H470G	C CAPACITOR	47pF 50V G	
C50	CC730EE1H102K	C CAPACITOR	1000pF 50V K		C177	CK73JXR1H471K	C CAPACITOR	470pF 50V K	
C51	CC730EE1H471K	C CAPACITOR	470pF 50V K		C178	CC730CC1H100F	C CAPACITOR	10pF 50V F	
C52	CC730EE1H102K	C CAPACITOR	1000pF 50V K		C179	CC730CC1H050B	C CAPACITOR	5pF 50V B	
C53	CC730CC1H221G	C CAPACITOR	220pF 50V G		C180	CK73JXR1H471K	C CAPACITOR	470pF 50V K	
C54	CE32BF1E331M	E CAPACITOR	330uF 25V M		C181	CS77KBQ1D100M	TA E CAPACITOR	10uF 20V M	
C55	CK73GXR1E475K	C CAPACITOR	4.7uF 25V K		C182	CC730CC1H050B	C CAPACITOR	5pF 50V B	
C56	CK73HXR1H104K	C CAPACITOR	0.1uF 50V K		C192	CK73JXR1H471K	C CAPACITOR	470pF 50V K	
C57	CK73JXR1E102J	C CAPACITOR	1000pF 25V J		C201	CC73JCH1H101J	C CAPACITOR	100pF 50V J	
C58	CK73FXR1E226M	C CAPACITOR	22uF 25V M		C202	CK730PM1A105M	C CAPACITOR	1uF 10V M	
C59	CK73JXR1C103K	C CAPACITOR	0.01uF 16V K		C205	CK730PM1A105M	C CAPACITOR	1uF 10V M	
C60	CK73HXR1H104K	C CAPACITOR	0.1uF 50V K		C206	CC73JCH1H101J	C CAPACITOR	100pF 50V J	
C61	CK73FXR1E226M	C CAPACITOR	22uF 25V M		C207	CK730PM1A105M	C CAPACITOR	1uF 10V M	
C62	CK73GXR1H105K	C CAPACITOR	1uF 50V K		C208	CC73JCH1H101J	C CAPACITOR	100pF 50V J	
C63	CK73HB1C105K	C CAPACITOR	1uF 16V K		C209	CK73GXR1C106M	C CAPACITOR	10uF 16V M	
C64	CK73HB1C105K	C CAPACITOR	1uF 16V K		C210	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K	
C65	CK73HB1C105K	C CAPACITOR	1uF 16V K		C211	CK730PM1A105M	C CAPACITOR	1uF 10V M	
C66	CK73HB1C105K	C CAPACITOR	1uF 16V K		C212	CK73JXR1H102K	C CAPACITOR	1000pF 50V K	
C67	CK73HB1C105K	C CAPACITOR	1uF 16V K		C213	CC73JCH1H101J	C CAPACITOR	100pF 50V J	
C68	CK73HB1C105K	C CAPACITOR	1uF 16V K		C214	CK730PM1A105M	C CAPACITOR	1uF 10V M	
C69	CE32BY1V101M	E CAPACITOR	100uF 35V M		C215	CC73JCH1H101J	C CAPACITOR	100pF 50V J	
C72	CK73HB1C105K	C CAPACITOR	1uF 16V K		C216	CC73JCH1H101J	C CAPACITOR	100pF 50V J	
C73	CK73JXR1E102J	C CAPACITOR	1000pF 25V J		C217	CC73JCH1H101J	C CAPACITOR	100pF 50V J	
C74	CK73HB1C105K	C CAPACITOR	1uF 16V K		C218	CK73JXR1C472K	C CAPACITOR	4700pF 16V K	
C75	CK73HB1C105K	C CAPACITOR	1uF 16V K		C219	CC73JCH1H101J	C CAPACITOR	100pF 50V J	
C76	CK73HB1C105K	C CAPACITOR	1uF 16V K		C220	CC73JCH1H101J	C CAPACITOR	100pF 50V J	
C77	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K		C221	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K	

△ Symbol No.	Part No.	Part Name	Description	Local
C222	CK730PM1A105M	C CAPACITOR	1uF 10V M	
C223	CC73JCH1H101J	C CAPACITOR	100pF 50V J	
C224	CK730PM1A105M	C CAPACITOR	1uF 10V M	
C226	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K	
C227	CC73JCH1H101J	C CAPACITOR	100pF 50V J	
C228	CK730PP1H154K	C CAPACITOR	0.15uF 50V K	
C229	CS77PBQ1C100M	TA E CAPACITOR	10uF 16V M	
C230	CK730MY1H473K	C CAPACITOR	0.047uF 50V K	
C242	CK73JXR1C103K	C CAPACITOR	0.01uF 16V K	
C243	CC730CC1H100F	C CAPACITOR	10pF 50V F	
C244	CC73JCH1H101J	C CAPACITOR	100pF 50V J	
C245	CK73JXR1C103K	C CAPACITOR	0.01uF 16V K	
C260	CC73FSL1H473J	C CAPACITOR	0.047uF 50V J	
C261	CC73JCH1H101J	C CAPACITOR	100pF 50V J	
C262	CK73GXR1H105K	C CAPACITOR	1uF 50V K	
C263	CC730CC1H330G	C CAPACITOR	33pF 50V G	
C264	CC73JCH1H101J	C CAPACITOR	100pF 50V J	
C265	C93-1959-05	C CAPACITOR	0.1uF 16V	
C296	CC730EE1H220G	C CAPACITOR	22pF 50V G	
C297	CC730EE1H390G	C CAPACITOR	39pF 50V G	
C298	CC730EE1H220G	C CAPACITOR	22pF 50V G	
C301	CC730EE1H070B	C CAPACITOR	7pF 50V B	
C302	CK73JXR1H102K	C CAPACITOR	1000pF 50V K	
C303	CK73JXR1H102K	C CAPACITOR	1000pF 50V K	
C304	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K	
C305	CC730EE1H390G	C CAPACITOR	39pF 50V G	
C310	CC730EE1H070B	C CAPACITOR	7pF 50V B	
C312	CK73JXR1H102K	C CAPACITOR	1000pF 50V K	
C313	CK73JXR1H102K	C CAPACITOR	1000pF 50V K	
C314	CK73JXR1H102K	C CAPACITOR	1000pF 50V K	
C315	CC730CC1H220G	C CAPACITOR	22pF 50V G	
C317	CE32BY1E470M	E CAPACITOR	47uF 25V M	
C318	CC730EE1H102K	C CAPACITOR	1000pF 50V K	
C319	CK73JXR1H271K	C CAPACITOR	270pF 50V K	
C320	CK73JXR1H271K	C CAPACITOR	270pF 50V K	
C322	CK73JXR1H102K	C CAPACITOR	1000pF 50V K	
C323	CC730EE1H220G	C CAPACITOR	22pF 50V G	
C324	CK730PZ1H223K	C CAPACITOR	0.022uF 50V K	
C325	CC730EE1H102K	C CAPACITOR	1000pF 50V K	
C327	CK73JXR1H102K	C CAPACITOR	1000pF 50V K	
C328	CC730EE1H102K	C CAPACITOR	1000pF 50V K	
C329	CC730CC1H220G	C CAPACITOR	22pF 50V G	
C330	CC730EE1H102K	C CAPACITOR	1000pF 50V K	
C331	CC730CC1H221G	C CAPACITOR	220pF 50V G	
C332	CC730CC1H220G	C CAPACITOR	22pF 50V G	
C333	CC730EE1H102K	C CAPACITOR	1000pF 50V K	
C334	CC73JCH1H101J	C CAPACITOR	100pF 50V J	
C335	CC73JCH1H101J	C CAPACITOR	100pF 50V J	
C336	CC730EE1H102K	C CAPACITOR	1000pF 50V K	
C337	CC73JCH1H101J	C CAPACITOR	100pF 50V J	
C338	CK73JXR1H471K	C CAPACITOR	470pF 50V K	
C339	CC730CC1H470G	C CAPACITOR	47pF 50V G	
C340	CC730CC1H220G	C CAPACITOR	22pF 50V G	
C341	CC730EE1H102K	C CAPACITOR	1000pF 50V K	
C342	CC730DQ2E050B	C CAPACITOR	5pF 250V B	
C343	CC730EF1H100F	C CAPACITOR	10pF 50V F	
C344	CC730DQ2E020B	C CAPACITOR	2pF 250V B	
C345	CC730DF2H090C	C CAPACITOR	9pF 500V C	
C346	CC730DQ2E050B	C CAPACITOR	5pF 250V B	
C347	CC730DF2H090C	C CAPACITOR	9pF 500V C	
C348	CC730DQ2E060B	C CAPACITOR	6pF 250V B	
C349	CC730DF2H100G	C CAPACITOR	10pF 500V G	
C350	CC730DF2H100G	C CAPACITOR	10pF 500V G	
C351	CC730EE1H102K	C CAPACITOR	1000pF 50V K	
C352	CC730DQ2E040B	C CAPACITOR	4pF 250V B	

△ Symbol No.	Part No.	Part Name	Description	Local
C353	CC730DQ2E050B	C CAPACITOR	5pF 250V B	
C354	CC730EE1H102K	C CAPACITOR	1000pF 50V K	
C355	CC730EE1H102K	C CAPACITOR	1000pF 50V K	
C357	CC730DZ2J102J	C CAPACITOR	1000pF 630V J	
C358	CC730EE1H102K	C CAPACITOR	1000pF 50V K	
C359	CC730EF1H102K	C CAPACITOR	1000pF 50V K	
C361	CC730EE1H102K	C CAPACITOR	1000pF 50V K	
C362	CC730EE1H102K	C CAPACITOR	1000pF 50V K	
C363	CK73JXR1C103K	C CAPACITOR	0.01uF 16V K	
C364	CK73JXR1H102K	C CAPACITOR	1000pF 50V K	
C365	CC730EF1H102K	C CAPACITOR	1000pF 50V K	
C366	CC730EF1H150G	C CAPACITOR	15pF 50V G	
C367	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K	
C368	CK73JXR1H102K	C CAPACITOR	1000pF 50V K	
C369	CK73JXR1H102K	C CAPACITOR	1000pF 50V K	
C370	CK730PM1C153K	C CAPACITOR	0.015uF 16V K	
C371	CC730EE1H471K	C CAPACITOR	470pF 50V K	
C374	CK73JXR1H102K	C CAPACITOR	1000pF 50V K	
C375	CC730DP2J151J	C CAPACITOR	150pF 630V J	
C376	CC730DQ2E060B	C CAPACITOR	6pF 250V B	
C377	CC73JCH1H101J	C CAPACITOR	100pF 50V J	
C379	CC73JCH1H101J	C CAPACITOR	100pF 50V J	
C381	CC730EE1H102K	C CAPACITOR	1000pF 50V K	
C382	CK73JXR1H102K	C CAPACITOR	1000pF 50V K	
C383	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K	
C384	CC730EF1H102K	C CAPACITOR	1000pF 50V K	
C385	CC730DP2J121J	C CAPACITOR	120pF 630V J	
C386	CC730DQ2E020B	C CAPACITOR	2pF 250V B	
C387	CK73JXR1H102K	C CAPACITOR	1000pF 50V K	
C395	CK73JXR1H271K	C CAPACITOR	270pF 50V K	
C396	CK73JXR1H102K	C CAPACITOR	1000pF 50V K	
C397	CC730EF1H102K	C CAPACITOR	1000pF 50V K	
C398	CK73JXR1H102K	C CAPACITOR	1000pF 50V K	
C399	CK73JXR1H271K	C CAPACITOR	270pF 50V K	
C402	CK73JXR1H102K	C CAPACITOR	1000pF 50V K	
C404	CC730CC1H100F	C CAPACITOR	10pF 50V F	
C405	CC730CC1H030B	C CAPACITOR	3pF 50V B	
C407	CK73JXR1H102K	C CAPACITOR	1000pF 50V K	
C408	CC730CC1H180G	C CAPACITOR	18pF 50V G	
C410	CC730CC1H3R5B	C CAPACITOR	3.5pF 50V B	
C411	CK73JXR1H102K	C CAPACITOR	1000pF 50V K	
C412	CK73JXR1H102K	C CAPACITOR	1000pF 50V K	
C413	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K	
C414	CK73HB1C105K	C CAPACITOR	1uF 16V K	
C415	CK73JXR1H102K	C CAPACITOR	1000pF 50V K	
C416	CK73JXR1H102K	C CAPACITOR	1000pF 50V K	
C417	CK73JXR1H102K	C CAPACITOR	1000pF 50V K	
C420	CK73JXR1A473K	C CAPACITOR	0.047uF 10V K	
C421	CC730CC1H020B	C CAPACITOR	2pF 50V B	
C422	CC730CC1H160G	C CAPACITOR	16pF 50V G	
C423	CC730CC1H020B	C CAPACITOR	2pF 50V B	
C425	CK73JXR1H102K	C CAPACITOR	1000pF 50V K	
C426	CC730CC1H160G	C CAPACITOR	16pF 50V G	
C428	CC730CC1H050B	C CAPACITOR	5pF 50V B	
C430	CK73JXR1H102K	C CAPACITOR	1000pF 50V K	
C431	CC730CC1H470G	C CAPACITOR	47pF 50V G	
C432	CK73JXR1H102K	C CAPACITOR	1000pF 50V K	
C433	CC730CC1H110G	C CAPACITOR	11pF 50V G	
C434	CC730CC1H110G	C CAPACITOR	11pF 50V G	
C435	CK73JXR1C103K	C CAPACITOR	0.01uF 16V K	
C436	CC730CC1H330G	C CAPACITOR	33pF 50V G	
C437	CK73JXR1C103K	C CAPACITOR	0.01uF 16V K	
C438	CK73JXR1C103K	C CAPACITOR	0.01uF 16V K	
C439	CK73JXR1H102K	C CAPACITOR	1000pF 50V K	
C440	CK73JXR1H152K	C CAPACITOR	1500pF 50V K	

△ Symbol No.	Part No.	Part Name	Description	Local	△ Symbol No.	Part No.	Part Name	Description	Local
C450	CK73JXR1C103K	C CAPACITOR	0.01uF 16V K		C592	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K	
C451	CK73JXR1E102J	C CAPACITOR	1000pF 25V J		C593	CK73JXR1H102K	C CAPACITOR	1000pF 50V K	
C452	CK73JXR1E102J	C CAPACITOR	1000pF 25V J		C594	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K	
C453	CK73JXR1C103K	C CAPACITOR	0.01uF 16V K		C595	CK73JXR1H102K	C CAPACITOR	1000pF 50V K	
C454	CK73JXR1C103K	C CAPACITOR	0.01uF 16V K		C596	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K	
C455	CK73JXR1H271K	C CAPACITOR	270pF 50V K		C597	CK73JXR1H102K	C CAPACITOR	1000pF 50V K	
C456	CK73JXR1H152K	C CAPACITOR	1500pF 50V K		C598	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K	
C458	CK73JXR1C103K	C CAPACITOR	0.01uF 16V K		C600	CC730EE1H471K	C CAPACITOR	470pF 50V K	
C459	CK73JXR1C103K	C CAPACITOR	0.01uF 16V K		C601	CC730EE1H471K	C CAPACITOR	470pF 50V K	
C460	CK73JXR1E102J	C CAPACITOR	1000pF 25V J		C603	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K	
C461	CK73JXR1E102J	C CAPACITOR	1000pF 25V J		C605	CK73HB1C105K	C CAPACITOR	1uF 16V K	
C462	CK73JXR1H122K	C CAPACITOR	1200pF 50V K		C606	CK73JXR1H102K	C CAPACITOR	1000pF 50V K	
C463	CK73JXR1H271K	C CAPACITOR	270pF 50V K		C607	CK73JXR1H102K	C CAPACITOR	1000pF 50V K	
C464	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K		C608	CK73GXR1H105K	C CAPACITOR	1uF 50V K	
C465	CK73JXR1H271K	C CAPACITOR	270pF 50V K		C609	CK73GXR1H105K	C CAPACITOR	1uF 50V K	
C466	CK73JXR1H271K	C CAPACITOR	270pF 50V K		C610	CK73GXR1H105K	C CAPACITOR	1uF 50V K	
C468	CK73JXR1H271K	C CAPACITOR	270pF 50V K		C611	CK73GXR1H105K	C CAPACITOR	1uF 50V K	
C469	CK73JXR1H122K	C CAPACITOR	1200pF 50V K		C612	CK73JXR1H471K	C CAPACITOR	470pF 50V K	
C470	CC730CC1H221G	C CAPACITOR	220pF 50V G		C613	CK73JXR1H471K	C CAPACITOR	470pF 50V K	
C471	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K		C614	CK73JXR1H471K	C CAPACITOR	470pF 50V K	
C472	CC730CC1H221G	C CAPACITOR	220pF 50V G		C615	CK73JXR1H471K	C CAPACITOR	470pF 50V K	
C473	CK73JXR1H471K	C CAPACITOR	470pF 50V K		C616	CK73JXR1H221K	C CAPACITOR	220pF 50V K	
C474	CK73JXR1E332K	C CAPACITOR	3300pF 25V K		C617	CK73JXR1H471K	C CAPACITOR	470pF 50V K	
C475	CK73JXR1E272K	C CAPACITOR	2700pF 25V K		C618	CC73JCH1H101J	C CAPACITOR	100pF 50V J	
C476	CK73JXR1C103K	C CAPACITOR	0.01uF 16V K		C619	CC730EE1H102K	C CAPACITOR	1000pF 50V K	
C546	CC73JCH1H101J	C CAPACITOR	100pF 50V J		C620	CC730EE1H471K	C CAPACITOR	470pF 50V K	
C547	CC73JCH1H101J	C CAPACITOR	100pF 50V J		C621	CC730EE1H102K	C CAPACITOR	1000pF 50V K	
C548	CK73JXR1H471K	C CAPACITOR	470pF 50V K		C622	CC730EE1H102K	C CAPACITOR	1000pF 50V K	
C555	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K		C623	CC730EE1H102K	C CAPACITOR	1000pF 50V K	
C556	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K		C624	CC730EE1H102K	C CAPACITOR	1000pF 50V K	
C557	CK73JXR1H102K	C CAPACITOR	1000pF 50V K		C625	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K	
C558	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K		C626	CC730EE1H471K	C CAPACITOR	470pF 50V K	
C559	CK73JXR1H102K	C CAPACITOR	1000pF 50V K		C627	CK73JXR1H221K	C CAPACITOR	220pF 50V K	
C560	CK73HB1C105K	C CAPACITOR	1uF 16V K		C628	CC73JCH1H101J	C CAPACITOR	100pF 50V J	
C561	CK73JXR1C103K	C CAPACITOR	0.01uF 16V K		C629	CC73JCH1H101J	C CAPACITOR	100pF 50V J	
C562	CK73HB1C105K	C CAPACITOR	1uF 16V K		C630	CC73JCH1H101J	C CAPACITOR	100pF 50V J	
C563	CK73JXR1C103K	C CAPACITOR	0.01uF 16V K		C631	CC73JCH1H101J	C CAPACITOR	100pF 50V J	
C564	CK73HB0J475M	C CAPACITOR	4.7uF 6.3V M		C632	CC73JCH1H101J	C CAPACITOR	100pF 50V J	
C565	CK73JXR1H471K	C CAPACITOR	470pF 50V K		C633	CC73JCH1H101J	C CAPACITOR	100pF 50V J	
C566	CK73JXR1H471K	C CAPACITOR	470pF 50V K		C634	CC73JCH1H101J	C CAPACITOR	100pF 50V J	
C567	CK73JXR1H471K	C CAPACITOR	470pF 50V K		C635	CC73JCH1H101J	C CAPACITOR	100pF 50V J	
C568	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K		C636	CC73JCH1H101J	C CAPACITOR	100pF 50V J	
C569	CK73JXR1H102K	C CAPACITOR	1000pF 50V K		C637	CK73JXR1C103K	C CAPACITOR	0.01uF 16V K	
C570	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K		C638	CK73JXR1C103K	C CAPACITOR	0.01uF 16V K	
C571	CK73JXR1H102K	C CAPACITOR	1000pF 50V K		C639	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K	
C572	CK73HB0J225K	C CAPACITOR	2.2uF 6.3V K		C640	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K	
C573	CK73JXR1H102K	C CAPACITOR	1000pF 50V K		C641	CC73JCH1H101J	C CAPACITOR	100pF 50V J	
C574	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K		C642	CC73JCH1H101J	C CAPACITOR	100pF 50V J	
C575	CK73JXR1H102K	C CAPACITOR	1000pF 50V K		C645	CK73GXR1C106M	C CAPACITOR	10uF 16V M	
C576	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K		C646	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K	
C577	CK73HB0J225K	C CAPACITOR	2.2uF 6.3V K		C647	CC73JCH1H101J	C CAPACITOR	100pF 50V J	
C578	CK73JXR1C103K	C CAPACITOR	0.01uF 16V K		C707	CC73JCH1H330J	C CAPACITOR	33pF 50V J	
C579	CK73JXR1C103K	C CAPACITOR	0.01uF 16V K		C708	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K	
C580	CK73JXR1H271K	C CAPACITOR	270pF 50V K		C709	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K	
C581	CK73JXR1C103K	C CAPACITOR	0.01uF 16V K		C710	CC73JCH1H330J	C CAPACITOR	33pF 50V J	
C582	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K		C711	CK73JXR1H681K	C CAPACITOR	680pF 50V K	
C583	CK73JXR1C103K	C CAPACITOR	0.01uF 16V K		C712	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K	
C584	CK73HB0J475M	C CAPACITOR	4.7uF 6.3V M		C713	CK73HB0J475M	C CAPACITOR	4.7uF 6.3V M	
C585	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K		C714	CK73HB0J475M	C CAPACITOR	4.7uF 6.3V M	
C586	CK73HB1C105K	C CAPACITOR	1uF 16V K		C719	CC73JCH1H470J	C CAPACITOR	47pF 50V J	
C587	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K		C721	CK73JXR1A123K	C CAPACITOR	0.012uF 10V K	
C588	CK73JXR1H102K	C CAPACITOR	1000pF 50V K		C722	CK73JXR1A123K	C CAPACITOR	0.012uF 10V K	
C589	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K		C724	CK73HB0J475M	C CAPACITOR	4.7uF 6.3V M	
C590	CK73JXR1H102K	C CAPACITOR	1000pF 50V K		C725	CK73JXR1H681K	C CAPACITOR	680pF 50V K	
C591	CK73JXR1H102K	C CAPACITOR	1000pF 50V K		C736	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K	

△ Symbol No.	Part No.	Part Name	Description	Local	△ Symbol No.	Part No.	Part Name	Description	Local
C737	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K		C844	CK73JXR1H102K	C CAPACITOR	1000pF 50V K	
C747	CC73JCH1H470J	C CAPACITOR	47pF 50V J		C845	CC730AD1H104J	C CAPACITOR	0.1uF 50V J	
C748	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K		C846	CK73GXR1H105K	C CAPACITOR	1uF 50V K	
C750	CK73GXR1C106M	C CAPACITOR	10uF 16V M		R1	RK73GB2A000J	MG RESISTOR	0Ω 1/10W J	
C751	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K		R2	RK73GB2A000J	MG RESISTOR	0Ω 1/10W J	
C754	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K		R3	RK73GB2A000J	MG RESISTOR	0Ω 1/10W J	
C755	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K		R4	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J	
C756	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K		R5	R92-1061-05	C RESISTOR	0.008Ω	
C757	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K		R6	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J	
C758	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K		R7	RK73GB2A000J	MG RESISTOR	0Ω 1/10W J	
C759	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K		R8	RK73GB2A000J	MG RESISTOR	0Ω 1/10W J	
C760	CK73GXR1C106M	C CAPACITOR	10uF 16V M		R9	RK73GB2A000J	MG RESISTOR	0Ω 1/10W J	
C761	CK73GXR1C106M	C CAPACITOR	10uF 16V M		R10	RK73HB1J473J	MG RESISTOR	47kΩ 1/16W J	
C762	CK73GXR1C106M	C CAPACITOR	10uF 16V M		R11	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J	
C764	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K		R12	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J	
C765	CK73HB1C105K	C CAPACITOR	1uF 16V K		R13	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J	
C766	CK73HB1C105K	C CAPACITOR	1uF 16V K		R14	RK73JB1H102J	MG RESISTOR	1kΩ 1/20W J	
C767	CK73HB1C105K	C CAPACITOR	1uF 16V K		R15	RK73JB1H102J	MG RESISTOR	1kΩ 1/20W J	
C768	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K		R16	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
C769	CK73HB1C105K	C CAPACITOR	1uF 16V K		R17	RK73HB1J471J	MG RESISTOR	470Ω 1/16W J	
C770	CK73HB1C105K	C CAPACITOR	1uF 16V K		R18	RK73JB1H102J	MG RESISTOR	1kΩ 1/20W J	
C771	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K		R19	RK73HB1J104J	MG RESISTOR	100kΩ 1/16W J	
C772	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K		R21	RK73HB1J102J	MG RESISTOR	1kΩ 1/16W J	
C773	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K		R22	RK73GB2A103J	MG RESISTOR	10kΩ 1/10W J	
C774	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K		R23	RK73GB2A103J	MG RESISTOR	10kΩ 1/10W J	
C775	CK73GXR1C106M	C CAPACITOR	10uF 16V M		R24	RK73HB1J334J	MG RESISTOR	330kΩ 1/16W J	
C801	CC73JCH1H101J	C CAPACITOR	100pF 50V J		R25	RK73HB1J474J	MG RESISTOR	470kΩ 1/16W J	
C802	CC73JCH1H101J	C CAPACITOR	100pF 50V J		R26	RK73HB1J564J	MG RESISTOR	560kΩ 1/16W J	
C805	CA32AP1E221M	AS E CAPACITOR	220uF 25V M		R29	RK73HB1J104J	MG RESISTOR	100kΩ 1/16W J	
C806	CC73JCH1H390J	C CAPACITOR	39pF 50V J		R31	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J	
C807	CK73JXR0J474K	C CAPACITOR	0.47uF 6.3V K		R47	R92-3769-05	MG RESISTOR	10Ω 0.25W	
C808	CK73JXR0J474K	C CAPACITOR	0.47uF 6.3V K		R48	R92-3769-05	MG RESISTOR	10Ω 0.25W	
C809	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K		R49	RK73HB1J334J	MG RESISTOR	330kΩ 1/16W J	
C810	CK73GXR1H105K	C CAPACITOR	1uF 50V K		R50	RK73HB1J223J	MG RESISTOR	22kΩ 1/16W J	
C811	CK73GXR1H105K	C CAPACITOR	1uF 50V K		R51	RK73GB2A100J	MG RESISTOR	10Ω 1/10W J	
C812	CK73HB1C105K	C CAPACITOR	1uF 16V K		R52	RK73PB2H1R0J	MG RESISTOR	1.0Ω 1/2W J	
C813	CK73HB1C105K	C CAPACITOR	1uF 16V K		R53	RK73HH1J473D	MG RESISTOR	47kΩ 1/16W D	
C815	CK73FXR1H475K	C CAPACITOR	4.7uF 50V K		R54	RK73HH1J472D	MG RESISTOR	4.7kΩ 1/16W D	
C816	CK73FXR1H475K	C CAPACITOR	4.7uF 50V K		R55	RK73HH1J472D	MG RESISTOR	4.7kΩ 1/16W D	
C817	CK73GXR1H105K	C CAPACITOR	1uF 50V K		R56	RK73JB1H102J	MG RESISTOR	1kΩ 1/20W J	
C818	CK73HB1C105K	C CAPACITOR	1uF 16V K		R57	RK73HH1J393D	MG RESISTOR	39kΩ 1/16W D	
C819	CK73HB1C105K	C CAPACITOR	1uF 16V K		R58	RK73HH1J752D	MG RESISTOR	7.5kΩ 1/16W D	
C820	CK73HB1E224K	C CAPACITOR	0.22uF 25V K		R59	RK73HH1J822D	MG RESISTOR	8.2kΩ 1/16W D	
C821	CK73HB1E224K	C CAPACITOR	0.22uF 25V K		R60	RK73PB2H1R0J	MG RESISTOR	1.0Ω 1/2W J	
C822	CK73HB1E224K	C CAPACITOR	0.22uF 25V K		R66	RK73JB1H104J	MG RESISTOR	100kΩ 1/20W J	
C823	CK73HB1E224K	C CAPACITOR	0.22uF 25V K		R68	RK73HH1J103D	MG RESISTOR	10kΩ 1/16W D	
C824	CK73FXR1H475K	C CAPACITOR	4.7uF 50V K		R69	RK73HH1J104D	MG RESISTOR	100kΩ 1/16W D	
C825	CK73FXR1H475K	C CAPACITOR	4.7uF 50V K		R71	RK73HH1J153D	MG RESISTOR	15kΩ 1/16W D	
C826	CK73FXR1H475K	C CAPACITOR	4.7uF 50V K		R72	RK73HH1J472D	MG RESISTOR	4.7kΩ 1/16W D	
C827	CK73FXR1H475K	C CAPACITOR	4.7uF 50V K		R73	RK73JB1H104J	MG RESISTOR	100kΩ 1/20W J	
C828	CC730EE1H102K	C CAPACITOR	1000pF 50V K		R74	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J	
C829	CC730EE1H102K	C CAPACITOR	1000pF 50V K		R75	RK73HH1J153D	MG RESISTOR	15kΩ 1/16W D	
C830	CC730EE1H102K	C CAPACITOR	1000pF 50V K		R76	RK73PB2H1R0J	MG RESISTOR	1.0Ω 1/2W J	
C831	CC730EE1H102K	C CAPACITOR	1000pF 50V K		R105	RK73JB1H104J	MG RESISTOR	100kΩ 1/20W J	
C832	CK730PY1H103K	C CAPACITOR	0.01uF 50V K		R109	RK73HH1J221D	MG RESISTOR	220Ω 1/16W D	
C833	CK730PY1H103K	C CAPACITOR	0.01uF 50V K		R111	RK73HH1J180D	MG RESISTOR	18Ω 1/16W D	
C834	CK730PY1H103K	C CAPACITOR	0.01uF 50V K		R113	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
C835	CK730PY1H103K	C CAPACITOR	0.01uF 50V K		R160	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
C837	CC730AD1H104J	C CAPACITOR	0.1uF 50V J		R161	RK73HB1J103J	MG RESISTOR	10kΩ 1/16W J	
C838	CK73JXR1H102K	C CAPACITOR	1000pF 50V K		R162	RK73HB1J682J	MG RESISTOR	6.8kΩ 1/16W J	
C839	CC73JCH1H390J	C CAPACITOR	39pF 50V J		R163	RK73HB1J151J	MG RESISTOR	150Ω 1/16W J	
C840	CK73JXR1H102K	C CAPACITOR	1000pF 50V K		R164	RK73HB1J151J	MG RESISTOR	150Ω 1/16W J	
C841	CC730AD1H104J	C CAPACITOR	0.1uF 50V J		R167	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J	
C842	CK73GXR1H105K	C CAPACITOR	1uF 50V K		R168	RK73JB1H151J	MG RESISTOR	150Ω 1/20W J	
C843	CK73GXR1H105K	C CAPACITOR	1uF 50V K		R169	RK73JB1H822J	MG RESISTOR	8.2kΩ 1/20W J	

△ Symbol No.	Part No.	Part Name	Description	Local	△ Symbol No.	Part No.	Part Name	Description	Local
R170	RK73JB1H332J	MG RESISTOR	3.3kΩ 1/20W J		R320	RK73HB1J820J	MG RESISTOR	82Ω 1/16W J	
R172	RK73JB1H271J	MG RESISTOR	270Ω 1/20W J		R322	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R173	RK73JB1H271J	MG RESISTOR	270Ω 1/20W J		R326	RK73GB2A221J	MG RESISTOR	220Ω 1/10W J	
R174	RK73JB1H180J	MG RESISTOR	18Ω 1/20W J		R327	RK73GB2A470J	MG RESISTOR	47Ω 1/10W J	
R175	RK73JB1H271J	MG RESISTOR	270Ω 1/20W J		R328	RK73HB1J103J	MG RESISTOR	10kΩ 1/16W J	
R176	RK73JB1H101J	MG RESISTOR	100Ω 1/20W J		R329	RK73GB2A221J	MG RESISTOR	220Ω 1/10W J	
R177	RK73JB1H101J	MG RESISTOR	100Ω 1/20W J		R330	RK73HB1J221J	MG RESISTOR	220Ω 1/16W J	
R178	RK73JB1H101J	MG RESISTOR	100Ω 1/20W J		R331	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R179	RK73JB1H680J	MG RESISTOR	68Ω 1/20W J		R333	RK73HB1J332J	MG RESISTOR	3.3kΩ 1/16W J	
R180	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J		R342	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R181	RK73JB1H103J	MG RESISTOR	10kΩ 1/20W J		R343	RK73GH2A820D	MG RESISTOR	82Ω 1/10W D	
R182	RK73JB1H124J	MG RESISTOR	120kΩ 1/20W J		R345	RK73HB1J273J	MG RESISTOR	27kΩ 1/16W J	
R183	RK73HB1J183J	MG RESISTOR	18kΩ 1/16W J		R346	RK73HB1J104J	MG RESISTOR	100kΩ 1/16W J	
R184	RK73HB1J473J	MG RESISTOR	47kΩ 1/16W J		R347	RK73GH2A121D	MG RESISTOR	120Ω 1/10W D	
R186	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J		R348	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R194	RK73HB1J100J	MG RESISTOR	10Ω 1/16W J		R349	RK73HB1J222J	MG RESISTOR	2.2kΩ 1/16W J	
R202	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J		R350	RK73HB1J104J	MG RESISTOR	100kΩ 1/16W J	
R203	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J		R351	RK73GH2A121D	MG RESISTOR	120Ω 1/10W D	
R204	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J		R352	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R205	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J		R353	RK73PB2H560J	MG RESISTOR	56Ω 1/2W J	
R206	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J		R356	RK73GB2A000J	MG RESISTOR	0Ω 1/10W J	
R207	RK73JB1H102J	MG RESISTOR	1kΩ 1/20W J		R358	RK73GB2A101J	MG RESISTOR	100Ω 1/10W J	
R208	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J		R359	RK73GB2A000J	MG RESISTOR	0Ω 1/10W J	
R209	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J		R360	RK73GB2A000J	MG RESISTOR	0Ω 1/10W J	
R210	RK73JB1H103J	MG RESISTOR	10kΩ 1/20W J		R361	RK73PB2H560J	MG RESISTOR	56Ω 1/2W J	
R211	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J		R362	RK73JB1H103J	MG RESISTOR	10kΩ 1/20W J	
R214	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J		R363	RK73JB1H472J	MG RESISTOR	4.7kΩ 1/20W J	
R215	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J		R364	RK73HB1J104J	MG RESISTOR	100kΩ 1/16W J	
R216	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J		R368	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R217	RK73HB1J820J	MG RESISTOR	82Ω 1/16W J		R369	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R218	RK73JB1H103J	MG RESISTOR	10kΩ 1/20W J		R373	RK73GB2A000J	MG RESISTOR	0Ω 1/10W J	
R219	RK73HB1J121J	MG RESISTOR	120Ω 1/16W J		R377	RK73GB2A000J	MG RESISTOR	0Ω 1/10W J	
R221	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J		R378	RK73HB1J154J	MG RESISTOR	150kΩ 1/16W J	
R222	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J		R379	RK73HB1J103J	MG RESISTOR	10kΩ 1/16W J	
R223	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J		R380	RK73HB1J123J	MG RESISTOR	12kΩ 1/16W J	
R224	RK73JB1H473J	MG RESISTOR	47kΩ 1/20W J		R381	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R227	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J		R382	RK73HB1J682J	MG RESISTOR	6.8kΩ 1/16W J	
R229	RK73HB1J560J	MG RESISTOR	56Ω 1/16W J		R383	RK73HB1J473J	MG RESISTOR	47kΩ 1/16W J	
R245	RK73HB1J100J	MG RESISTOR	10Ω 1/16W J		R384	RK73HB1J183J	MG RESISTOR	18kΩ 1/16W J	
R260	RK73JB1H102J	MG RESISTOR	1kΩ 1/20W J		R385	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R261	RK73HB1J223J	MG RESISTOR	22kΩ 1/16W J		R386	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R262	RK73HB1J124J	MG RESISTOR	120kΩ 1/16W J		R387	RK73HB1J104J	MG RESISTOR	100kΩ 1/16W J	
R263	RK73JB1H472J	MG RESISTOR	4.7kΩ 1/20W J		R388	RK73HB1J474J	MG RESISTOR	470kΩ 1/16W J	
R264	RK73JB1H104J	MG RESISTOR	100kΩ 1/20W J		R389	RK73HB1J104J	MG RESISTOR	100kΩ 1/16W J	
R265	RK73HB1J106J	MG RESISTOR	10MΩ 1/16W J		R390	RK73HB1J473J	MG RESISTOR	47kΩ 1/16W J	
R266	RK73HB1J470J	MG RESISTOR	47Ω 1/16W J		R391	RK73HB1J222J	MG RESISTOR	2.2kΩ 1/16W J	
R267	RK73JB1H104J	MG RESISTOR	100kΩ 1/20W J		R392	RK73HB1J470J	MG RESISTOR	47Ω 1/16W J	
R268	RK73HH1J102D	MG RESISTOR	1kΩ 1/16W D		R393	RK73HB1J223J	MG RESISTOR	22kΩ 1/16W J	
R269	RK73HH1J102D	MG RESISTOR	1kΩ 1/16W D		R394	RK73HB1J473J	MG RESISTOR	47kΩ 1/16W J	
R270	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J		R395	RK73HB1J823J	MG RESISTOR	82kΩ 1/16W J	
R295	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J		R396	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R296	RK73GB2A470J	MG RESISTOR	47Ω 1/10W J		R397	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R301	RK73HB1J271J	MG RESISTOR	270Ω 1/16W J		R399	RK73GB2A000J	MG RESISTOR	0Ω 1/10W J	
R302	RK73HB1J180J	MG RESISTOR	18Ω 1/16W J		R401	RK73GB2A000J	MG RESISTOR	0Ω 1/10W J	
R303	RK73HH1J472D	MG RESISTOR	4.7kΩ 1/16W D		R402	RK73HB1J682J	MG RESISTOR	6.8kΩ 1/16W J	
R304	RK73HH1J472D	MG RESISTOR	4.7kΩ 1/16W D		R403	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R305	RK73HB1J220J	MG RESISTOR	22Ω 1/16W J		R404	RK73HB1J682J	MG RESISTOR	6.8kΩ 1/16W J	
R306	RK73HB1J271J	MG RESISTOR	270Ω 1/16W J		R405	RK73HB1J150J	MG RESISTOR	15Ω 1/16W J	
R307	RK73HB1J221J	MG RESISTOR	220Ω 1/16W J		R406	RK73HB1J681J	MG RESISTOR	680Ω 1/16W J	
R311	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J		R407	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J	
R315	RK73HB1J103J	MG RESISTOR	10kΩ 1/16W J		R408	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J	
R316	RK73HB1J472J	MG RESISTOR	4.7kΩ 1/16W J		R409	RK73JB1H474J	MG RESISTOR	470kΩ 1/20W J	
R317	RK73HB1J271J	MG RESISTOR	270Ω 1/16W J		R412	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R318	RK73GB2A471J	MG RESISTOR	470Ω 1/10W J		R413	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R319	RK73HB1J272J	MG RESISTOR	2.7kΩ 1/16W J		R415	RK73HB1J3R3J	MG RESISTOR	3.3Ω 1/16W J	

△ Symbol No.	Part No.	Part Name	Description	Local
R416	RK73HB1J3R3J	MG RESISTOR	3.3Ω 1/16W J	
R430	RK73JB1H104J	MG RESISTOR	100kΩ 1/20W J	
R431	RK73JB1H104J	MG RESISTOR	100kΩ 1/20W J	
R432	RK73JB1H104J	MG RESISTOR	100kΩ 1/20W J	
R433	RK73JB1H104J	MG RESISTOR	100kΩ 1/20W J	
R440	RK73JB1H474J	MG RESISTOR	470kΩ 1/20W J	
R441	RK73JB1H474J	MG RESISTOR	470kΩ 1/20W J	
R442	RK73JB1H101J	MG RESISTOR	100Ω 1/20W J	
R443	RK73JB1H101J	MG RESISTOR	100Ω 1/20W J	
R444	RK73JB1H101J	MG RESISTOR	100Ω 1/20W J	
R445	RK73JB1H101J	MG RESISTOR	100Ω 1/20W J	
R450	RK73HH1J103D	MG RESISTOR	10kΩ 1/16W D	
R451	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R454	RK73JB1H103J	MG RESISTOR	10kΩ 1/20W J	
R455	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R456	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R457	RK73HB1J150J	MG RESISTOR	15Ω 1/16W J	
R458	RK73HH1J103D	MG RESISTOR	10kΩ 1/16W D	
R459	RK73HH1J103D	MG RESISTOR	10kΩ 1/16W D	
R460	RK73HH1J822D	MG RESISTOR	8.2kΩ 1/16W D	
R461	RK73HH1J822D	MG RESISTOR	8.2kΩ 1/16W D	
R462	RK73HH1J683D	MG RESISTOR	68kΩ 1/16W D	
R463	RK73HH1J683D	MG RESISTOR	68kΩ 1/16W D	
R464	RK73HB1J100J	MG RESISTOR	10Ω 1/16W J	
R465	RK73HH1J683D	MG RESISTOR	68kΩ 1/16W D	
R466	RK73HH1J683D	MG RESISTOR	68kΩ 1/16W D	
R467	RK73HH1J822D	MG RESISTOR	8.2kΩ 1/16W D	
R468	RK73HH1J822D	MG RESISTOR	8.2kΩ 1/16W D	
R469	RK73HH1J103D	MG RESISTOR	10kΩ 1/16W D	
R470	RK73HH1J103D	MG RESISTOR	10kΩ 1/16W D	
R471	RK73HB1J102J	MG RESISTOR	1kΩ 1/16W J	
R472	RK73HH1J183D	MG RESISTOR	18kΩ 1/16W D	
R473	RK73HB1J100J	MG RESISTOR	10Ω 1/16W J	
R474	RK73HH1J473D	MG RESISTOR	47kΩ 1/16W D	
R475	RK73HH1J473D	MG RESISTOR	47kΩ 1/16W D	
R476	RK73HH1J183D	MG RESISTOR	18kΩ 1/16W D	
R477	RK73JB1H272J	MG RESISTOR	2.7kΩ 1/20W J	
R478	RK73JB1H473J	MG RESISTOR	47kΩ 1/20W J	
R479	RK73JB1H472J	MG RESISTOR	4.7kΩ 1/20W J	
R480	RK73JB1H563J	MG RESISTOR	56kΩ 1/20W J	
R481	RK73JB1H104J	MG RESISTOR	100kΩ 1/20W J	
R482	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R483	RK73HB1J102J	MG RESISTOR	1kΩ 1/16W J	
R484	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R506	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R507	RK73JB1H102J	MG RESISTOR	1kΩ 1/20W J	
R508	RK73JB1H473J	MG RESISTOR	47kΩ 1/20W J	
R509	RK73JB1H103J	MG RESISTOR	10kΩ 1/20W J	
R510	RK73JB1H102J	MG RESISTOR	1kΩ 1/20W J	
R511	RK73JB1H473J	MG RESISTOR	47kΩ 1/20W J	
R512	RK73JB1H102J	MG RESISTOR	1kΩ 1/20W J	
R513	RK73JB1H473J	MG RESISTOR	47kΩ 1/20W J	
R514	RK73JB1H473J	MG RESISTOR	47kΩ 1/20W J	
R515	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J	
R516	RK73JB1H103J	MG RESISTOR	10kΩ 1/20W J	
R517	RK73JB1H103J	MG RESISTOR	10kΩ 1/20W J	
R518	RK73JB1H103J	MG RESISTOR	10kΩ 1/20W J	
R519	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J	
R520	RK73JB1H103J	MG RESISTOR	10kΩ 1/20W J	
R521	RK73JB1H473J	MG RESISTOR	47kΩ 1/20W J	
R522	RK73JB1H473J	MG RESISTOR	47kΩ 1/20W J	
R523	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J	
R524	RK73JB1H474J	MG RESISTOR	470kΩ 1/20W J	
R525	RK73JB1H820J	MG RESISTOR	82Ω 1/20W J	
R526	RK73JB1H473J	MG RESISTOR	47kΩ 1/20W J	

△ Symbol No.	Part No.	Part Name	Description	Local
R527	RK73JB1H473J	MG RESISTOR	47kΩ 1/20W J	
R528	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R529	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R530	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R531	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R532	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R533	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R534	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R535	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R536	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R537	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R538	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R539	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R540	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R541	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J	
R542	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R543	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R544	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R545	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R546	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R547	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R548	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R549	RK73JB1H103J	MG RESISTOR	10kΩ 1/20W J	
R550	RK73JB1H473J	MG RESISTOR	47kΩ 1/20W J	
R551	RK73JB1H473J	MG RESISTOR	47kΩ 1/20W J	
R552	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R553	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R554	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R555	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R556	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R557	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R558	RK73JB1H472J	MG RESISTOR	4.7kΩ 1/20W J	
R559	RK73JB1H472J	MG RESISTOR	4.7kΩ 1/20W J	
R560	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R600	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J	
R601	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J	
R602	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J	
R603	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J	
R604	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J	
R605	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R606	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R607	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R608	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R609	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R610	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R611	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R612	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R613	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R614	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R615	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R627	RK73FB2B332J	MG RESISTOR	3.3kΩ 1/8W J	
R628	RK73FB2B332J	MG RESISTOR	3.3kΩ 1/8W J	
R629	RK73FB2B332J	MG RESISTOR	3.3kΩ 1/8W J	
R630	RK73JB1H101J	MG RESISTOR	100Ω 1/20W J	
R631	RK73JB1H101J	MG RESISTOR	100Ω 1/20W J	
R632	RK73JB1H101J	MG RESISTOR	100Ω 1/20W J	
R633	RK73JB1H101J	MG RESISTOR	100Ω 1/20W J	
R634	RK73GB2A000J	MG RESISTOR	0Ω 1/10W J	
R637	RK73JB1H101J	MG RESISTOR	100Ω 1/20W J	
R638	RK73JB1H101J	MG RESISTOR	100Ω 1/20W J	
R639	RK73JB1H101J	MG RESISTOR	100Ω 1/20W J	
R640	RK73JB1H101J	MG RESISTOR	100Ω 1/20W J	
R641	RK73JB1H101J	MG RESISTOR	100Ω 1/20W J	
R642	RK73JB1H101J	MG RESISTOR	100Ω 1/20W J	
R643	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	

△ Symbol No.	Part No.	Part Name	Description	Local	△ Symbol No.	Part No.	Part Name	Description	Local
R644	RK73JB1H472J	MG RESISTOR	4.7kΩ 1/20W J		R712	RK73JB1H101J	MG RESISTOR	100Ω 1/20W J	
R645	RK73JB1H472J	MG RESISTOR	4.7kΩ 1/20W J		R713	RK73JB1H683J	MG RESISTOR	68kΩ 1/20W J	
R646	RK73GB2A000J	MG RESISTOR	0Ω 1/10W J		R714	RK73JB1H101J	MG RESISTOR	100Ω 1/20W J	
R647	RK73JB1H102J	MG RESISTOR	1kΩ 1/20W J		R715	RK73JB1H101J	MG RESISTOR	100Ω 1/20W J	
R648	RK73JB1H102J	MG RESISTOR	1kΩ 1/20W J		R716	RK73JB1H101J	MG RESISTOR	100Ω 1/20W J	
R649	RK73GB2A000J	MG RESISTOR	0Ω 1/10W J		R717	RK73JB1H101J	MG RESISTOR	100Ω 1/20W J	
R650	RK73GB2A000J	MG RESISTOR	0Ω 1/10W J		R718	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J	
R651	RK73GB2A000J	MG RESISTOR	0Ω 1/10W J		R719	RK73JB1H102J	MG RESISTOR	1kΩ 1/20W J	
R652	RK73GB2A000J	MG RESISTOR	0Ω 1/10W J		R720	RK73JB1H101J	MG RESISTOR	100Ω 1/20W J	
R653	RK73GB2A000J	MG RESISTOR	0Ω 1/10W J		R721	RK73JB1H101J	MG RESISTOR	100Ω 1/20W J	
R654	RK73JB1H102J	MG RESISTOR	1kΩ 1/20W J		R722	RK73JB1H101J	MG RESISTOR	100Ω 1/20W J	
R655	RK73JB1H102J	MG RESISTOR	1kΩ 1/20W J		R723	RK73JB1H682J	MG RESISTOR	6.8kΩ 1/20W J	
R656	RK73JB1H102J	MG RESISTOR	1kΩ 1/20W J		R727	RK73JB1H393J	MG RESISTOR	39kΩ 1/20W J	
R657	RK73JB1H102J	MG RESISTOR	1kΩ 1/20W J		R728	RK73JB1H102J	MG RESISTOR	1kΩ 1/20W J	
R658	RK73JB1H473J	MG RESISTOR	47kΩ 1/20W J		R729	RK73JB1H102J	MG RESISTOR	1kΩ 1/20W J	
R659	RK73JB1H472J	MG RESISTOR	4.7kΩ 1/20W J		R734	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J	
R661	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J		R735	RK73HB1J100J	MG RESISTOR	10Ω 1/16W J	
R663	RK73JB1H104J	MG RESISTOR	100kΩ 1/20W J		R736	RK73HH1J473D	MG RESISTOR	47kΩ 1/16W D	
R664	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J		R737	RK73HH1J473D	MG RESISTOR	47kΩ 1/16W D	
R665	RK73JB1H101J	MG RESISTOR	100Ω 1/20W J		R740	RK73JB1H104J	MG RESISTOR	100kΩ 1/20W J	
R666	RK73JB1H101J	MG RESISTOR	100Ω 1/20W J		R741	RK73JB1H104J	MG RESISTOR	100kΩ 1/20W J	
R667	RK73JB1H102J	MG RESISTOR	1kΩ 1/20W J		R742	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J	
R668	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J		R743	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J	
R669	RK73HB1J101J	MG RESISTOR	100Ω 1/16W J		R744	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J	
R670	RK73HB1J101J	MG RESISTOR	100Ω 1/16W J		R745	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J	
R671	RK73HB1J101J	MG RESISTOR	100Ω 1/16W J		R746	RK73JB1H102J	MG RESISTOR	1kΩ 1/20W J	
R672	RK73HB1J101J	MG RESISTOR	100Ω 1/16W J		R747	RK73JB1H102J	MG RESISTOR	1kΩ 1/20W J	
R673	RK73HB1J101J	MG RESISTOR	100Ω 1/16W J		R748	RK73GB2A000J	MG RESISTOR	0Ω 1/10W J	
R674	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J		R749	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R675	RK73HB1J471J	MG RESISTOR	470Ω 1/16W J		R750	RK73JB1H564J	MG RESISTOR	560kΩ 1/20W J	
R676	RK73HB1J471J	MG RESISTOR	470Ω 1/16W J		R751	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R677	RK73GB2A000J	MG RESISTOR	0Ω 1/10W J		R752	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R678	RK73JB1H104J	MG RESISTOR	100kΩ 1/20W J		R753	RK73JB1H103J	MG RESISTOR	10kΩ 1/20W J	
R679	RK73JB1H104J	MG RESISTOR	100kΩ 1/20W J		R754	RK73JB1H103J	MG RESISTOR	10kΩ 1/20W J	
R680	RK73JB1H104J	MG RESISTOR	100kΩ 1/20W J		R755	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R681	RK73JB1H472J	MG RESISTOR	4.7kΩ 1/20W J		R756	RK73JB1H564J	MG RESISTOR	560kΩ 1/20W J	
R682	RK73GB2A000J	MG RESISTOR	0Ω 1/10W J		R757	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R683	RK73JB1H473J	MG RESISTOR	47kΩ 1/20W J		R759	RK73JP1H273D	MG RESISTOR	27kΩ 1/20W D	
R684	RK73HB1J101J	MG RESISTOR	100Ω 1/16W J		R761	RK73FB2B3R3J	MG RESISTOR	3.3Ω 1/8W J	
R685	RK73JB1H102J	MG RESISTOR	1kΩ 1/20W J		R762	RK73FB2B3R3J	MG RESISTOR	3.3Ω 1/8W J	
R686	RK73JB1H104J	MG RESISTOR	100kΩ 1/20W J		R763	RK73FB2B3R3J	MG RESISTOR	3.3Ω 1/8W J	
R687	RK73JB1H104J	MG RESISTOR	100kΩ 1/20W J		R764	RK73FB2B3R3J	MG RESISTOR	3.3Ω 1/8W J	
R689	RK73GB2A000J	MG RESISTOR	0Ω 1/10W J		R766	RK73JB1H103J	MG RESISTOR	10kΩ 1/20W J	
R690	RK73JB1H104J	MG RESISTOR	100kΩ 1/20W J		R768	RK73JB1H683J	MG RESISTOR	68kΩ 1/20W J	
R691	RK73JB1H104J	MG RESISTOR	100kΩ 1/20W J		R769	RK73JP1H562D	MG RESISTOR	5.6kΩ 1/20W D	
R692	RK73JB1H104J	MG RESISTOR	100kΩ 1/20W J		R771	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J	
R693	RK73JB1H472J	MG RESISTOR	4.7kΩ 1/20W J		R772	RK73JP1H562D	MG RESISTOR	5.6kΩ 1/20W D	
R694	RK73JB1H223J	MG RESISTOR	22kΩ 1/20W J		R774	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J	
R695	RK73JB1H473J	MG RESISTOR	47kΩ 1/20W J		R775	RK73JB1H683J	MG RESISTOR	68kΩ 1/20W J	
R696	RK73JB1H104J	MG RESISTOR	100kΩ 1/20W J		R777	RK73JB1H102J	MG RESISTOR	1kΩ 1/20W J	
R697	RK73JB1H104J	MG RESISTOR	100kΩ 1/20W J		R778	RK73JB1H103J	MG RESISTOR	10kΩ 1/20W J	
R698	RK73JB1H104J	MG RESISTOR	100kΩ 1/20W J		R779	RK73JP1H153D	MG RESISTOR	15kΩ 1/20W D	
R699	RK73JB1H104J	MG RESISTOR	100kΩ 1/20W J		R780	RK73HB1J100J	MG RESISTOR	10Ω 1/16W J	
R700	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J		R781	RK73HB1J100J	MG RESISTOR	10Ω 1/16W J	
R701	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J		R782	RK73JP1H102D	MG RESISTOR	1kΩ 1/20W D	
R702	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J		R783	RK73JP1H102D	MG RESISTOR	1kΩ 1/20W D	
R703	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J		R784	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J	
R704	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J		R785	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R705	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J		R786	RK73JP1H681D	MG RESISTOR	680Ω 1/20W D	
R706	RK73JB1H683J	MG RESISTOR	68kΩ 1/20W J		R787	RK73JB1H681J	MG RESISTOR	680Ω 1/20W J	
R707	RK73JB1H124J	MG RESISTOR	120kΩ 1/20W J		R788	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R708	RK73JB1H102J	MG RESISTOR	1kΩ 1/20W J		R789	RK73JB1H102J	MG RESISTOR	1kΩ 1/20W J	
R709	RK73HB1J100J	MG RESISTOR	10Ω 1/16W J		R790	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J	
R710	RK73JB1H124J	MG RESISTOR	120kΩ 1/20W J		R791	RK73JB1H102J	MG RESISTOR	1kΩ 1/20W J	
R711	RK73JB1H393J	MG RESISTOR	39kΩ 1/20W J		R792	RK73JB1H681J	MG RESISTOR	680Ω 1/20W J	

△ Symbol No.	Part No.	Part Name	Description	Local
R793	RK73JB1H682J	MG RESISTOR	6.8kΩ 1/20W J	
R794	RK73JB1H102J	MG RESISTOR	1kΩ 1/20W J	
R797	RK73JB1H104J	MG RESISTOR	100kΩ 1/20W J	
R798	RK73JB1H102J	MG RESISTOR	1kΩ 1/20W J	
R799	RK73JP1H681D	MG RESISTOR	680Ω 1/20W D	
R800	RK73JB1H472J	MG RESISTOR	4.7kΩ 1/20W J	
R801	RK73JB1H472J	MG RESISTOR	4.7kΩ 1/20W J	
R802	RK73GB2A101J	MG RESISTOR	100Ω 1/10W J	
R1081	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
L1	LR79Z0MW1R0G	CHIP INDUCTOR		
L2	LB73H0BU-002	CHIP FERRITE		
L3	LB73H0BU-002	CHIP FERRITE		
L4	L34-4903-05	AIR CORE COIL		
L5	L34-4903-05	AIR CORE COIL		
L6	L34-4903-05	AIR CORE COIL		
L7	L34-4903-05	AIR CORE COIL		
L8	LB73H0BU-002	CHIP FERRITE		
L9	LR79Z0PF150M	CHIP INDUCTOR		
L10	LB73H0BU-002	CHIP FERRITE		
L11	LB73H0BU-002	CHIP FERRITE		
L12	LB73H0BU-002	CHIP FERRITE		
L13	LB73H0BU-002	CHIP FERRITE		
L101	LF77J0AAR27H	F.C. INDUCTOR		
L102	LF77J0AAR27H	F.C. INDUCTOR		
L103	LF77J0AAR27H	F.C. INDUCTOR		
L104	LF77J0AAR27H	F.C. INDUCTOR		
L106	LR79Z0MW33NG	CHIP INDUCTOR		
L109	LF77J0AAR27H	F.C. INDUCTOR		
L110	LF77J0AAR27H	F.C. INDUCTOR		
L111	LF77J0AAR27H	F.C. INDUCTOR		
L112	LB73H0BU-004	CHIP FERRITE		
L160	LF77J0AA47NH	F.C. INDUCTOR		
L161	LF77J0AA56NH	F.C. INDUCTOR		
L170	LF77J0AA18NH	F.C. INDUCTOR		
L171	LF77J0AA18NH	F.C. INDUCTOR		
L176	LF77J0AA33NH	F.C. INDUCTOR		
L177	LF77J0AA33NH	F.C. INDUCTOR		
L180	LB73H0BU-006	CHIP FERRITE		
L202	LB73H0BU-004	CHIP FERRITE		
L240	LK73G0BB4R7K	M.CHIP INDUCTOR		
L241	LB73H0BU-003	CHIP FERRITE		
L301	LK73H0BCR10J	M.CHIP INDUCTOR		
L303	LK73H0BC56NJ	M.CHIP INDUCTOR		
L305	LR79Z0GJR56G	CHIP INDUCTOR		
L306	LK73H0BC47NJ	M.CHIP INDUCTOR		
L307	LK73H0BC56NJ	M.CHIP INDUCTOR		
L308	LR79G0GK47NG	CHIP INDUCTOR		
L309	LB73G0AM-004	CHIP FERRITE		
L310	LB73E0FT-001	CHIP FERRITE		
L311	LB73E0FT-001	CHIP FERRITE		
L313	LB73H0BU-004	CHIP FERRITE		
L314	LK73G0BG27NJ	M.CHIP INDUCTOR		
L315	LR79Z0MW1R0G	CHIP INDUCTOR		
L316	LR79Z0JHR12G	CHIP INDUCTOR		
L326	LK73G0BG39NJ	M.CHIP INDUCTOR		
L327	LK73G0BG68NJ	M.CHIP INDUCTOR		
L402	L41-6878-14	CHIP INDUCTOR		
L403	L41-6878-14	CHIP INDUCTOR		
L404	LR79G0CQ68NG	CHIP INDUCTOR		
L406	L41-6878-14	CHIP INDUCTOR		
L408	LB73H0BU-003	CHIP FERRITE		
L409	LF77J0AAR10H	F.C. INDUCTOR		
L410	LF77J0AAR18H	F.C. INDUCTOR		
L411	LB73H0BU-002	CHIP FERRITE		

△ Symbol No.	Part No.	Part Name	Description	Local
L450	LB73H0BU-002	CHIP FERRITE		
L451	LB73H0BU-002	CHIP FERRITE		
L452	LK73H0BCR22J	M.CHIP INDUCTOR		
L500	LB73H0BU-003	CHIP FERRITE		
L501	LB73H0BU-003	CHIP FERRITE		
L502	LB73H0BU-002	CHIP FERRITE		
L600	LB73H0BU-004	CHIP FERRITE		
L601	LB73H0BU-004	CHIP FERRITE		
L602	LB73H0BU-004	CHIP FERRITE		
L704	LB73H0BU-004	CHIP FERRITE		
L705	LB73H0BU-004	CHIP FERRITE		
L706	LB73H0BU-004	CHIP FERRITE		
L707	LB73H0BU-004	CHIP FERRITE		
L708	LB73H0BU-004	CHIP FERRITE		
L709	LB73H0BU-004	CHIP FERRITE		
L803	L41-1592-71	CHIP INDUCTOR		
L804	-----	LINE FILTER	Note 2	
L805	-----	LINE FILTER	Note 2	
L806	LB73G0AM-003	CHIP FERRITE		
L807	LB73G0AM-003	CHIP FERRITE		
L808	LB73G0AM-003	CHIP FERRITE		
L809	LB73G0AM-003	CHIP FERRITE		
L810	L41-1592-71	CHIP INDUCTOR		
L811	L41-1592-71	CHIP INDUCTOR		
CN451	E23-1325-05	TERMINAL		
CN610	E40-6847-05	F.C.CONNECTOR		
E101	F1B-0113-00	SHIELDING CASE		
F1	FZA10AW-5R0	FUSE (CC)	5.0A	
F6	FZA10BS-5R0	FUSE (CC)	5.0A	
F7	FZA10BH-2R5	FUSE (CC)	2.5A	
F8	FZA10BH-2R5	FUSE (CC)	2.5A	
J6	E58-0567-05	SUB SOCKET D		
J7	E1B-0001-00	3.5D PHONE JACK		
TH302	NCP15WF104F0S	N THERMISTOR		
TH304	NCP15WF104F0S	N THERMISTOR		
TH501	NCP15WF104F03	N THERMISTOR		
X240	L7H-0110-10	TCXO		
X500	L7H-0111-10	TCXO		

MAIN UNIT (NX-1800 Series)

XC1-353K-01 (K2, E type)

XC1-353E-01 (E2 type)

Note 2: This part cannot be replaced.

Therefore, this part is not supplied as a service part.

Block No. [0][2]

△ Symbol No.	Part No.	Part Name	Description	Local
IC1	BD00FD0EHFP-M	ANALOG IC		
IC2	BD00FD0EHFP-M	ANALOG IC		
IC3	BD4740G	MOS IC		
IC5	NJM2387ADL3	BIPOLAR IC		
IC6	-----	MOS IC	Note 2	
IC7	-----	MOS IC	Note 2	
IC11	-----	MOS IC	Note 2	
IC12	TPS61041DRVR	ANALOG IC		
IC13	-----	MOS IC	Note 2	
IC21	BU33SD5WG	MOS IC		

△ Symbol No.	Part No.	Part Name	Description	Local	△ Symbol No.	Part No.	Part Name	Description	Local
IC22	-----	MOS IC	Note 2		D9	RB561VM-40	SCHOTTKY DIODE		
IC23	MM1856A50N	BIPOLAR IC			D13	GS1G-L	DIODE		
IC25	-----	MOS IC	Note 2		D130	BBY58-02V	VARI CAP DIODE		
IC201	-----	MOS IC	Note 2		D131	SMV1130-079LF	VARI CAP DIODE		
IC202	TC7SH17FUJC	MOS IC			D132	SMV1130-079LF	VARI CAP DIODE		
IC260	OPA170AIDRLR	MOS IC			D133	SMV1130-079LF	VARI CAP DIODE		
IC261	BU7295HFV	MOS IC			D134	SMV1130-079LF	VARI CAP DIODE		18NE2,18DE2
IC301	RA60H3847501A	MOS IC	400-470MHz	18NE,18HNK 2,18HNUK2,1 8DE,18HDK2, 18HDUK2,18 AE,18HAK2,1 8HAUK2	D180	1SS400SM	DIODE		
IC301	RA60H4452501A	MOS IC	450-520MHz	18NE2,18DE2	D260	EDZV8.2B	ZENER DIODE		
IC302	BA3472FVM	BIPOLAR IC			D301	UDZV5.6B	ZENER DIODE		
IC450	RP571Q4	MOS IC			D306	RN142SM	DIODE		
IC451	TLV9062IDSGR	MOS IC			D307	RB706FM40	SCHOTTKY DIODE		
IC452	TLV9062IDSGR	MOS IC			D308	RB706FM40	SCHOTTKY DIODE		
IC453	BU7295HFV	MOS IC			D309	L8104	DIODE		
IC501	-----	MPU IC	Note 2		D310	L8104	DIODE		
IC502	NJU6368PF1	MOS IC			D311	L9204F	DIODE		
IC503	W25Q16JVSSIQ	ROM IC			D312	RN142SM	DIODE		
IC600	XC61CN5002N-G	MOS IC			D313	RN142SM	DIODE		
IC601	ST3232EBT	ANALOG IC			D316	L9204F	DIODE		18NE,18HNK 2,18HNUK2,1 8DE,18HDK2, 18HDUK2,18 AE,18HAK2,1 8HAUK2
IC603	PCA9555AHF	MOS IC			D401	RN142SM	DIODE		
IC604	TC7WT126FUFT	MOS IC			D402	RN142SM	DIODE		
IC605	TC7WH126FKJC	MOS IC			D403	1SV305FT	VARI CAP DIODE		
IC606	TC7WT126FUFT	MOS IC			D404	1SV305FT	VARI CAP DIODE		
IC607	TC7WH126FKJC	MOS IC			D405	1SV305FT	VARI CAP DIODE		
IC608	TC7SET126FUJC	MOS IC			D406	1SV305FT	VARI CAP DIODE		
IC702	TLV9062IDSGR	MOS IC			D600	EDZV8.2B	ZENER DIODE		
IC704	TLV9001IDCK	MOS IC			D601	RB521CM-30	DIODE		
IC707	PCM1754DBQ	ANALOG IC			D602	RB521CM-30	DIODE		
IC708	TLV32AIC3104I	MOS IC			D603	DAN217WM	DIODE		
IC709	DAC101C081CIM	MOS IC			D604	DAN217WM	DIODE		
IC802	TLV9062IDSGR	MOS IC			D605	DAN217WM	DIODE		
IC804	-----	MOS IC	Note 2		D606	DAN217WM	DIODE		
Q5	LTC014EEBFS8	DIGI TRANSISTOR			D607	DAN217WM	DIODE		
Q6	KTC4075EP/YG/	TRANSISTOR			D608	DAN217WM	DIODE		
Q7	LTC014EEBFS8	DIGI TRANSISTOR			D609	DAN217WM	DIODE		
Q8	RQ5E025AT	FET			D610	DAN217WM	DIODE		
Q9	RQ5E025AT	FET			D611	DAN217WM	DIODE		
Q11	LTC014EEBFS8	DIGI TRANSISTOR			D612	DAN217WM	DIODE		
Q12	TPCP8107-F	FET			D613	DAN217WM	DIODE		
Q13	LTC014EEBFS8	DIGI TRANSISTOR			D614	RB521CM-30	DIODE		
Q130	BFU660F	TRANSISTOR			D615	RB520CM-30	SCHOTTKY DIODE		
Q160	BFR193F	TRANSISTOR			D616	AVRM10270K10N	VARIATOR		
Q180	2SD2654E3/W/	TRANSISTOR			D617	AVRM10270K10N	VARIATOR		
Q260	EM6M2	FET			D618	RB521SM-30	DIODE		
Q301	RQ5E025AT	FET			D619	UDZV5.6B	ZENER DIODE		
Q302	LTC014EEBFS8	DIGI TRANSISTOR			D620	RB521SM-30	DIODE		
Q303	BFR193F	TRANSISTOR			D751	DAN217WM	DIODE		
Q304	RFM01U7PF	FET			D752	DAN217WM	DIODE		
Q305	LTC014EEBFS8	DIGI TRANSISTOR			C4	CK73HB1C105K	C CAPACITOR	1uF 16V K	
Q306	RQ5E025AT	FET			C5	CK73HB1C105K	C CAPACITOR	1uF 16V K	
Q309	LSCR523EBFS8	TRANSISTOR			C8	CK73JXR1H102K	C CAPACITOR	1000pF 50V K	
Q310	RE1C001UN	FET			C9	CC730EE1H102K	C CAPACITOR	1000pF 50V K	
Q401	BFR193W	TRANSISTOR			C10	CK73JXR1C103K	C CAPACITOR	0.01uF 16V K	
Q402	RE1C001UN	FET			C11	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K	
Q403	SSM3J36TUFT	FET			C12	CC730CC1H470G	C CAPACITOR	47pF 50V G	
Q600	LTC014EEBFS8	DIGI TRANSISTOR			C13	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K	
Q601	TPCP8107-F	FET			C14	CK73FXR1E226M	C CAPACITOR	22uF 25V M	
D1	UDZV18B	ZENER DIODE			C15	CK73FXR1E226M	C CAPACITOR	22uF 25V M	
D2	UDZV8.2B	ZENER DIODE			C16	CK73HB1C105K	C CAPACITOR	1uF 16V K	
D3	ST70-27FZ-51	ZENER DIODE			C17	CK73HXR1A225K	C CAPACITOR	2.2uF 10V K	
D5	1SS400SM	DIODE			C18	CK73JXR1C103K	C CAPACITOR	0.01uF 16V K	
D6	GS1G-L	DIODE							

△ Symbol No.	Part No.	Part Name	Description	Local	△ Symbol No.	Part No.	Part Name	Description	Local
C19	CK730PY1H103K	C CAPACITOR	0.01uF 50V K		C133	CC730CC1H050B	C CAPACITOR	5pF 50V B	18NE2,18DE2
C20	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K		C135	CC730CC1H470G	C CAPACITOR	47pF 50V G	18NE,18HNK 2,18HNUK2,1 8DE,18HDK2, 18HDK2,18 AE,18HAK2,1 8HAUK2
C21	CK73HXR1H104K	C CAPACITOR	0.1uF 50V K		C136	CC730CC1H040B	C CAPACITOR	4pF 50V B	18NE2,18DE2
C23	CK73HXR1H104K	C CAPACITOR	0.1uF 50V K		C136	CC730CC1H020B	C CAPACITOR	2pF 50V B	18NE2,18DE2
C25	CC73JCH1H101J	C CAPACITOR	100pF 50V J		C137	CC730CC1H030B	C CAPACITOR	3pF 50V B	18NE,18HNK 2,18HNUK2,1 8DE,18HDK2, 18HDK2,18 AE,18HAK2,1 8HAUK2
C27	CK73FXR1A226M	C CAPACITOR	22uF 10V M		C138	CC730CC1H0R5B	C CAPACITOR	0.5pF 50V B	18NE2,18DE2
C29	CC73JCH1H101J	C CAPACITOR	100pF 50V J		C138	CC730CC1H010B	C CAPACITOR	1pF 50V B	18NE2,18DE2
C30	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K		C139	CC730CC1H0R5A	C CAPACITOR	0.5pF 50V A	18NE2,18DE2
C31	CK73FXR1A226M	C CAPACITOR	22uF 10V M		C140	CC730CC1H030B	C CAPACITOR	3pF 50V B	18NE2,18DE2
C32	CC73JCH1H101J	C CAPACITOR	100pF 50V J		C141	CC730CC1H470G	C CAPACITOR	47pF 50V G	18NE,18HNK 2,18HNUK2,1 8DE,18HDK2, 18HDK2,18 AE,18HAK2,1 8HAUK2
C33	CK73JXR1C103K	C CAPACITOR	0.01uF 16V K		C142	CC730CC1H090B	C CAPACITOR	9pF 50V B	18NE,18HNK 2,18HNUK2,1 8DE,18HDK2, 18HDK2,18 AE,18HAK2,1 8HAUK2
C34	CC730EE1H102K	C CAPACITOR	1000pF 50V K		C142	CC730CC1H050B	C CAPACITOR	5pF 50V B	18NE2,18DE2
C36	CK73HXR1H104K	C CAPACITOR	0.1uF 50V K		C143	CK73HXR1A225K	C CAPACITOR	2.2uF 10V K	18NE,18HNK 2,18HNUK2,1 8DE,18HDK2, 18HDK2,18 AE,18HAK2,1 8HAUK2
C38	CC730EE1H102K	C CAPACITOR	1000pF 50V K		C144	CC730CC1H070B	C CAPACITOR	7pF 50V B	18NE,18HNK 2,18HNUK2,1 8DE,18HDK2, 18HDK2,18 AE,18HAK2,1 8HAUK2
C39	CK73GXR1E475K	C CAPACITOR	4.7uF 25V K		C144	CC730CC1H050B	C CAPACITOR	5pF 50V B	18NE2,18DE2
C40	CK73HXR1H104K	C CAPACITOR	0.1uF 50V K		C145	CC730CC1H040B	C CAPACITOR	4pF 50V B	18NE,18HNK 2,18HNUK2,1 8DE,18HDK2, 18HDK2,18 AE,18HAK2,1 8HAUK2
C41	CK73JXR1E332K	C CAPACITOR	3300pF 25V K		C145	CC730CC1H2R5B	C CAPACITOR	2.5pF 50V B	18NE2,18DE2
C42	CC730CC1H221G	C CAPACITOR	220pF 50V G		C146	CC730CC1H470G	C CAPACITOR	47pF 50V G	18NE,18HNK 2,18HNUK2,1 8DE,18HDK2, 18HDK2,18 AE,18HAK2,1 8HAUK2
C43	CC730EE1H471K	C CAPACITOR	470pF 50V K		C148	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K	18NE,18HNK 2,18HNUK2,1 8DE,18HDK2, 18HDK2,18 AE,18HAK2,1 8HAUK2
C44	CC730CC1H220G	C CAPACITOR	22pF 50V G		C149	CC730CC1H2R5B	C CAPACITOR	2.5pF 50V B	18NE2,18DE2
C46	CC730CC1H470G	C CAPACITOR	47pF 50V G		C150	CK73JXR1C224K	C CAPACITOR	0.22uF 16V K	18NE,18HNK 2,18HNUK2,1 8DE,18HDK2, 18HDK2,18 AE,18HAK2,1 8HAUK2
C48	CC730EE1H102K	C CAPACITOR	1000pF 50V K		C154	CC730CC1H470G	C CAPACITOR	47pF 50V G	18NE2,18DE2
C49	CC730EE1H471K	C CAPACITOR	470pF 50V K		C161	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K	18NE,18HNK 2,18HNUK2,1 8DE,18HDK2, 18HDK2,18 AE,18HAK2,1 8HAUK2
C50	CC730EE1H102K	C CAPACITOR	1000pF 50V K		C162	CC730CC1H470G	C CAPACITOR	47pF 50V G	18NE,18HNK 2,18HNUK2,1 8DE,18HDK2, 18HDK2,18 AE,18HAK2,1 8HAUK2
C51	CC730EE1H471K	C CAPACITOR	470pF 50V K		C163	CC730CC1H470G	C CAPACITOR	47pF 50V G	18NE,18HNK 2,18HNUK2,1 8DE,18HDK2, 18HDK2,18 AE,18HAK2,1 8HAUK2
C52	CC730EE1H102K	C CAPACITOR	1000pF 50V K		C164	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K	18NE,18HNK 2,18HNUK2,1 8DE,18HDK2, 18HDK2,18 AE,18HAK2,1 8HAUK2
C53	CC730CC1H221G	C CAPACITOR	220pF 50V G		C165	CC730CC1H020B	C CAPACITOR	2pF 50V B	18NE,18HNK 2,18HNUK2,1 8DE,18HDK2, 18HDK2,18 AE,18HAK2,1 8HAUK2
C54	CE32BF1E331M	E CAPACITOR	330uF 25V M		C165	CC730CC1H1R5B	C CAPACITOR	1.5pF 50V B	18NE2,18DE2
C55	CK73GXR1E475K	C CAPACITOR	4.7uF 25V K		C166	CC730CC1H470G	C CAPACITOR	47pF 50V G	18NE,18HNK 2,18HNUK2,1 8DE,18HDK2, 18HDK2,18 AE,18HAK2,1 8HAUK2
C56	CK73HXR1H104K	C CAPACITOR	0.1uF 50V K		C170	CC730CC1H470G	C CAPACITOR	47pF 50V G	18NE,18HNK 2,18HNUK2,1 8DE,18HDK2, 18HDK2,18 AE,18HAK2,1 8HAUK2
C57	CK73JXR1E102J	C CAPACITOR	1000pF 25V J		C171	CC730CC1H1R5B	C CAPACITOR	1.5pF 50V B	18NE,18HNK 2,18HNUK2,1 8DE,18HDK2, 18HDK2,18 AE,18HAK2,1 8HAUK2
C58	CK73FXR1E226M	C CAPACITOR	22uF 25V M		C172	CC730CC1H1R5B	C CAPACITOR	1.5pF 50V B	18NE,18HNK 2,18HNUK2,1 8DE,18HDK2, 18HDK2,18 AE,18HAK2,1 8HAUK2
C59	CK73JXR1C103K	C CAPACITOR	0.01uF 16V K		C173	CC730CC1H040B	C CAPACITOR	4pF 50V B	18NE,18HNK 2,18HNUK2,1 8DE,18HDK2, 18HDK2,18 AE,18HAK2,1 8HAUK2
C60	CK73HXR1H104K	C CAPACITOR	0.1uF 50V K		C174	CC730CC1H020B	C CAPACITOR	2pF 50V B	18NE,18HNK 2,18HNUK2,1 8DE,18HDK2, 18HDK2,18 AE,18HAK2,1 8HAUK2
C61	CK73FXR1E226M	C CAPACITOR	22uF 25V M		C175	CC730CC1H1R5B	C CAPACITOR	1.5pF 50V B	18NE,18HNK 2,18HNUK2,1 8DE,18HDK2, 18HDK2,18 AE,18HAK2,1 8HAUK2
C62	CK73GXR1H105K	C CAPACITOR	1uF 50V K		C176	CC730CC1H470G	C CAPACITOR	47pF 50V G	18NE,18HNK 2,18HNUK2,1 8DE,18HDK2, 18HDK2,18 AE,18HAK2,1 8HAUK2
C63	CK73HB1C105K	C CAPACITOR	1uF 16V K		C177	CC730CC1H470G	C CAPACITOR	47pF 50V G	18NE,18HNK 2,18HNUK2,1 8DE,18HDK2, 18HDK2,18 AE,18HAK2,1 8HAUK2
C64	CK73HB1C105K	C CAPACITOR	1uF 16V K		C178	CC730CC1H040B	C CAPACITOR	4pF 50V B	18NE,18HNK 2,18HNUK2,1 8DE,18HDK2, 18HDK2,18 AE,18HAK2,1 8HAUK2
C65	CK73HB1C105K	C CAPACITOR	1uF 16V K		C179	CC730CC1H020B	C CAPACITOR	2pF 50V B	18NE,18HNK 2,18HNUK2,1 8DE,18HDK2, 18HDK2,18 AE,18HAK2,1 8HAUK2
C66	CK73HB1C105K	C CAPACITOR	1uF 16V K		C180	CC730CC1H470G	C CAPACITOR	47pF 50V G	18NE,18HNK 2,18HNUK2,1 8DE,18HDK2, 18HDK2,18 AE,18HAK2,1 8HAUK2
C67	CK73HB1C105K	C CAPACITOR	1uF 16V K		C181	CS77KBQ1D100M	TA E CAPACITOR	10uF 20V M	18NE,18HNK 2,18HNUK2,1 8DE,18HDK2, 18HDK2,18 AE,18HAK2,1 8HAUK2
C68	CK73HB1C105K	C CAPACITOR	1uF 16V K		C182	CC730CC1H020B	C CAPACITOR	2pF 50V B	18NE,18HNK 2,18HNUK2,1 8DE,18HDK2, 18HDK2,18 AE,18HAK2,1 8HAUK2
C69	CE32BY1V101M	E CAPACITOR	100uF 35V M		C183	CC730CC1H470G	C CAPACITOR	47pF 50V G	18NE,18HNK 2,18HNUK2,1 8DE,18HDK2, 18HDK2,18 AE,18HAK2,1 8HAUK2
C72	CK73HB1C105K	C CAPACITOR	1uF 16V K						
C73	CK73JXR1E102J	C CAPACITOR	1000pF 25V J						
C74	CK73HB1C105K	C CAPACITOR	1uF 16V K						
C75	CK73HB1C105K	C CAPACITOR	1uF 16V K						
C76	CK73HB1C105K	C CAPACITOR	1uF 16V K						
C77	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K						
C92	CK73HB1C105K	C CAPACITOR	1uF 16V K						
C93	CK73HB1C105K	C CAPACITOR	1uF 16V K						
C94	CK73GXR1C106M	C CAPACITOR	10uF 16V M						
C95	CK73GXR1C106M	C CAPACITOR	10uF 16V M						
C96	CK73FXR1H475K	C CAPACITOR	4.7uF 50V K						
C97	CK73JXR1H391K	C CAPACITOR	390pF 50V K						
C98	CK73JXR1H391K	C CAPACITOR	390pF 50V K						
C99	CK73FXR1H475K	C CAPACITOR	4.7uF 50V K						
C104	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K						
C130	CC730AD1H104J	C CAPACITOR	0.1uF 50V J						
C131	CC730CC1H470G	C CAPACITOR	47pF 50V G						
C132	CC730CC1H040B	C CAPACITOR	4pF 50V B						
C133	CC730CC1H070B	C CAPACITOR	7pF 50V B	18NE,18HNK 2,18HNUK2,1 8DE,18HDK2, 18HDK2,18 AE,18HAK2,1 8HAUK2					

△ Symbol No.	Part No.	Part Name	Description	Local	△ Symbol No.	Part No.	Part Name	Description	Local
C190	CC73JCH1E471J	C CAPACITOR	470pF 25V J	18NE,18HNK 2,18HNUK2,1 8DE,18HDK2, 18HDK2,18 AE,18HAK2,1 8HAUK2	C305	CC730EE1H100F	C CAPACITOR	10pF 50V F	18NE,18HNK 2,18HNUK2,1 8DE,18HDK2, 18HDK2,18 AE,18HAK2,1 8HAUK2
C192	CC730CC1H470G	C CAPACITOR	47pF 50V G		C305	CC730EE1H080B	C CAPACITOR	8pF 50V B	18NE2,18DE2 18NE,18HNK 2,18HNUK2,1 8DE,18HDK2, 18HDK2,18 AE,18HAK2,1 8HAUK2
C201	CC73JCH1H101J	C CAPACITOR	100pF 50V J		C307	CC730EE1H120G	C CAPACITOR	12pF 50V G	18NE2,18DE2 18NE,18HNK 2,18HNUK2,1 8DE,18HDK2, 18HDK2,18 AE,18HAK2,1 8HAUK2
C202	CK730PM1A105M	C CAPACITOR	1uF 10V M		C307	CC730EE1H050B	C CAPACITOR	5pF 50V B	18NE2,18DE2
C205	CK730PM1A105M	C CAPACITOR	1uF 10V M		C310	CC730EE1H271J	C CAPACITOR	270pF 50V J	
C206	CC73JCH1H101J	C CAPACITOR	100pF 50V J		C312	CK73JXR1H471K	C CAPACITOR	470pF 50V K	
C207	CK730PM1A105M	C CAPACITOR	1uF 10V M		C313	CK73JXR1H102K	C CAPACITOR	1000pF 50V K	
C208	CC73JCH1H101J	C CAPACITOR	100pF 50V J		C314	CK73JXR1H271K	C CAPACITOR	270pF 50V K	
C209	CK73GXR1C106M	C CAPACITOR	10uF 16V M		C315	CC730CC1H220G	C CAPACITOR	22pF 50V G	
C210	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K		C317	CE32BY1E470M	E CAPACITOR	47uF 25V M	
C211	CK730PM1A105M	C CAPACITOR	1uF 10V M		C319	CK73JXR1H271K	C CAPACITOR	270pF 50V K	
C212	CK73JXR1H102K	C CAPACITOR	1000pF 50V K		C320	CK73JXR1H271K	C CAPACITOR	270pF 50V K	
C213	CC73JCH1H101J	C CAPACITOR	100pF 50V J		C322	CK73JXR1H271K	C CAPACITOR	270pF 50V K	
C214	CK730PM1A105M	C CAPACITOR	1uF 10V M		C323	CC730EE1H070B	C CAPACITOR	7pF 50V B	
C215	CC73JCH1H101J	C CAPACITOR	100pF 50V J		C324	CK730PZ1H223K	C CAPACITOR	0.022uF 50V K	
C216	CC73JCH1H101J	C CAPACITOR	100pF 50V J		C325	CC730EE1H271J	C CAPACITOR	270pF 50V J	
C217	CC73JCH1H101J	C CAPACITOR	100pF 50V J		C327	CK73JXR1H271K	C CAPACITOR	270pF 50V K	
C218	CK73JXR1C472K	C CAPACITOR	4700pF 16V K		C328	CC730EE1H271J	C CAPACITOR	270pF 50V J	
C219	CC73JCH1H101J	C CAPACITOR	100pF 50V J		C329	CC730CC1H220G	C CAPACITOR	22pF 50V G	
C220	CC73JCH1H101J	C CAPACITOR	100pF 50V J		C330	CC730EE1H271J	C CAPACITOR	270pF 50V J	
C221	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K		C331	CC730CC1H221G	C CAPACITOR	220pF 50V G	
C222	CK730PM1A105M	C CAPACITOR	1uF 10V M		C332	CC730CC1H220G	C CAPACITOR	22pF 50V G	
C223	CC73JCH1H101J	C CAPACITOR	100pF 50V J		C333	CC730EE1H271J	C CAPACITOR	270pF 50V J	
C224	CK730PM1A105M	C CAPACITOR	1uF 10V M		C334	CC73JCH1H101J	C CAPACITOR	100pF 50V J	
C226	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K		C335	CC73JCH1H101J	C CAPACITOR	100pF 50V J	
C227	CC73JCH1H101J	C CAPACITOR	100pF 50V J		C336	CC730EE1H271J	C CAPACITOR	270pF 50V J	
C228	CK730PP1H154K	C CAPACITOR	0.15uF 50V K		C337	CC73JCH1H101J	C CAPACITOR	100pF 50V J	
C229	CS77PAK1A4R7M	TA E CAPACITOR	4.7uF 10V M		C338	CK73JXR1H471K	C CAPACITOR	470pF 50V K	
C230	CK730MY1H473K	C CAPACITOR	0.047uF 50V K		C339	CC730CC1H470G	C CAPACITOR	47pF 50V G	
C242	CK73JXR1C103K	C CAPACITOR	0.01uF 16V K		C340	CC730CC1H220G	C CAPACITOR	22pF 50V G	
C243	CC730CC1H100F	C CAPACITOR	10pF 50V F		C341	CC730EE1H271J	C CAPACITOR	270pF 50V J	
C244	CC73JCH1H101J	C CAPACITOR	100pF 50V J		C343	CC730EF1H030B	C CAPACITOR	3pF 50V B	
C245	CK73JXR1C103K	C CAPACITOR	0.01uF 16V K		C344	CC730DQ2E040B	C CAPACITOR	4pF 250V B	
C260	CC73FSL1H473J	C CAPACITOR	0.047uF 50V J		C345	CC730DF2H100G	C CAPACITOR	10pF 500V G	18NE,18HNK 2,18HNUK2,1 8DE,18HDK2, 18HDK2,18 AE,18HAK2,1 8HAUK2
C261	CC73JCH1H101J	C CAPACITOR	100pF 50V J		C345	CC730DF2H080C	C CAPACITOR	8pF 500V C	18NE2,18DE2
C262	CK73GXR1H105K	C CAPACITOR	1uF 50V K		C346	CC730DQ2E070B	C CAPACITOR	7pF 250V B	18NE,18HNK 2,18HNUK2,1 8DE,18HDK2, 18HDK2,18 AE,18HAK2,1 8HAUK2
C263	CC730CC1H330G	C CAPACITOR	33pF 50V G		C346	CC730DQ2E040B	C CAPACITOR	4pF 250V B	18NE2,18DE2 18NE,18HNK 2,18HNUK2,1 8DE,18HDK2, 18HDK2,18 AE,18HAK2,1 8HAUK2
C264	CC73JCH1H101J	C CAPACITOR	100pF 50V J		C349	CC730DF2H120G	C CAPACITOR	12pF 500V G	18NE2,18DE2 18NE,18HNK 2,18HNUK2,1 8DE,18HDK2, 18HDK2,18 AE,18HAK2,1 8HAUK2
C265	C93-1959-05	C CAPACITOR	0.1uF 16V	18NE,18HNK 2,18HNUK2,1 8DE,18HDK2, 18HDK2,18 AE,18HAK2,1 8HAUK2	C349	CC730DF2H080C	C CAPACITOR	8pF 500V C	18NE2,18DE2
C296	CC730EE1H050B	C CAPACITOR	5pF 50V B	18NE,18HNK 2,18HNUK2,1 8DE,18HDK2, 18HDK2,18 AE,18HAK2,1 8HAUK2	C351	CC730EE1H271J	C CAPACITOR	270pF 50V J	
C297	CC730EE1H100F	C CAPACITOR	10pF 50V F	18NE,18HNK 2,18HNUK2,1 8DE,18HDK2, 18HDK2,18 AE,18HAK2,1 8HAUK2	C354	CC730EE1H271J	C CAPACITOR	270pF 50V J	
C298	CC730EE1H050B	C CAPACITOR	5pF 50V B	18NE,18HNK 2,18HNUK2,1 8DE,18HDK2, 18HDK2,18 AE,18HAK2,1 8HAUK2	C355	CC730EE1H271J	C CAPACITOR	270pF 50V J	
C301	CC730EE1H100F	C CAPACITOR	10pF 50V F	18NE,18HNK 2,18HNUK2,1 8DE,18HDK2, 18HDK2,18 AE,18HAK2,1 8HAUK2	C357	CC730DP2J270J	C CAPACITOR	27pF 630V J	
C301	CC730EE1H080B	C CAPACITOR	8pF 50V B	18NE2,18DE2	C358	CC730EE1H271J	C CAPACITOR	270pF 50V J	
C302	CK73JXR1H271K	C CAPACITOR	270pF 50V K		C359	CC730EF1H471J	C CAPACITOR	470pF 50V J	
C303	CK73JXR1H271K	C CAPACITOR	270pF 50V K		C361	CC730EE1H271J	C CAPACITOR	270pF 50V J	
C304	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K						

△ Symbol No.	Part No.	Part Name	Description	Local	△ Symbol No.	Part No.	Part Name	Description	Local
C362	CC730EE1H271J	C CAPACITOR	270pF 50V J						
C363	CK73JXR1C103K	C CAPACITOR	0.01uF 16V K						18NE,18HNK
C364	CK73JXR1H271K	C CAPACITOR	270pF 50V K						2,18HNUK2,1
C365	CC730EF1H471J	C CAPACITOR	470pF 50V J		C423	CC730CC1H1R5B	C CAPACITOR	1.5pF 50V B	8DE,18HDK2,18HDK2,18AE,18HAK2,18HAUK2
C367	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K						
C368	CK73JXR1H271K	C CAPACITOR	270pF 50V K		C423	CC730CC1H0R5B	C CAPACITOR	0.5pF 50V B	18NE2,18DE2
C369	CK73JXR1H271K	C CAPACITOR	270pF 50V K						
				18NE,18HNK 2,18HNUK2,1 8DE,18HDK2,18HDK2,18AE,18HAK2,18HAUK2	C424	CC730CC1H1R5B	C CAPACITOR	1.5pF 50V B	18NE,18HNK 2,18HNUK2,1 8DE,18HDK2,18HDK2,18AE,18HAK2,18HAUK2
C370	CK730PM1C223K	C CAPACITOR	0.022uF 16V K						
C370	CK730PM1C123K	C CAPACITOR	0.012uF 16V K	18NE2,18DE2	C425	CK73JXR1H271K	C CAPACITOR	270pF 50V K	
C371	CC730EE1H471K	C CAPACITOR	470pF 50V K		C426	CC730CC1H180G	C CAPACITOR	18pF 50V G	
C374	CK73JXR1H102K	C CAPACITOR	1000pF 50V K		C427	CC730CC1H040B	C CAPACITOR	4pF 50V B	
C375	CC730DP2J270J	C CAPACITOR	27pF 630V J		C430	CK73JXR1H271K	C CAPACITOR	270pF 50V K	
C377	CC73JCH1H101J	C CAPACITOR	100pF 50V J						
C379	CC73JCH1H101J	C CAPACITOR	100pF 50V J		C431	CC730CC1H470G	C CAPACITOR	47pF 50V G	
					C432	CK73JXR1H102K	C CAPACITOR	1000pF 50V K	
C381	CC730EE1H271J	C CAPACITOR	270pF 50V J		C434	CC730CC1H100F	C CAPACITOR	10pF 50V F	
C382	CK73JXR1H271K	C CAPACITOR	270pF 50V K		C435	CK73JXR1C103K	C CAPACITOR	0.01uF 16V K	
C383	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K		C436	CC730CC1H330G	C CAPACITOR	33pF 50V G	
C384	CC730EF1H471J	C CAPACITOR	470pF 50V J						
C385	CC730DP2J101J	C CAPACITOR	100pF 630V J		C437	CK73JXR1C103K	C CAPACITOR	0.01uF 16V K	
					C438	CK73JXR1C103K	C CAPACITOR	0.01uF 16V K	
C387	CK73JXR1H102K	C CAPACITOR	1000pF 50V K		C439	CK73JXR1H102K	C CAPACITOR	1000pF 50V K	
C395	CK73JXR1H271K	C CAPACITOR	270pF 50V K		C440	CK73JXR1H152K	C CAPACITOR	1500pF 50V K	
C396	CK73JXR1H102K	C CAPACITOR	1000pF 50V K		C450	CK73JXR1C103K	C CAPACITOR	0.01uF 16V K	
C397	CC730EF1H471J	C CAPACITOR	470pF 50V J						
C398	CK73JXR1H102K	C CAPACITOR	1000pF 50V K		C451	CK73JXR1E102J	C CAPACITOR	1000pF 25V J	
					C452	CK73JXR1E102J	C CAPACITOR	1000pF 25V J	
C399	CK73JXR1H271K	C CAPACITOR	270pF 50V K		C453	CK73JXR1C103K	C CAPACITOR	0.01uF 16V K	
				18NE,18HNK 2,18HNUK2,1 8DE,18HDK2,18HDK2,18AE,18HAK2,18HAUK2	C454	CK73JXR1C103K	C CAPACITOR	0.01uF 16V K	
C401	CC730CC1H050B	C CAPACITOR	5pF 50V B		C455	CK73JXR1H271K	C CAPACITOR	270pF 50V K	
				18NE2,18DE2	C456	CK73JXR1H152K	C CAPACITOR	1500pF 50V K	
C401	CC730CC1H040B	C CAPACITOR	4pF 50V B		C458	CK73JXR1C103K	C CAPACITOR	0.01uF 16V K	
C402	CK73JXR1H271K	C CAPACITOR	270pF 50V K		C459	CK73JXR1C103K	C CAPACITOR	0.01uF 16V K	
C403	CC730CC1H020B	C CAPACITOR	2pF 50V B		C460	CK73JXR1E102J	C CAPACITOR	1000pF 25V J	
					C461	CK73JXR1E102J	C CAPACITOR	1000pF 25V J	
				18NE,18HNK 2,18HNUK2,1 8DE,18HDK2,18HDK2,18AE,18HAK2,18HAUK2	C462	CK73JXR1H122K	C CAPACITOR	1200pF 50V K	
C404	CC730CC1H120G	C CAPACITOR	12pF 50V G		C463	CK73JXR1H271K	C CAPACITOR	270pF 50V K	
				18NE,18HNK 2,18HNUK2,1 8DE,18HDK2,18HDK2,18AE,18HAK2,18HAUK2	C464	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K	
C404	CC730CC1H180G	C CAPACITOR	18pF 50V G		C465	CK73JXR1H271K	C CAPACITOR	270pF 50V K	
C405	CC730CC1H030B	C CAPACITOR	8pF 50V B		C466	CK73JXR1H271K	C CAPACITOR	270pF 50V K	
C407	CK73JXR1H271K	C CAPACITOR	270pF 50V K						
				18NE,18HNK 2,18HNUK2,1 8DE,18HDK2,18HDK2,18AE,18HAK2,18HAUK2	C468	CK73JXR1H271K	C CAPACITOR	270pF 50V K	
C408	CC730CC1H120G	C CAPACITOR	12pF 50V G		C469	CK73JXR1H122K	C CAPACITOR	1200pF 50V K	
				18NE2,18DE2	C470	CC730CC1H221G	C CAPACITOR	220pF 50V G	
C408	CC730CC1H180G	C CAPACITOR	18pF 50V G		C471	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K	
C409	CC730CC1H020B	C CAPACITOR	2pF 50V B		C472	CC730CC1H221G	C CAPACITOR	220pF 50V G	
C410	CK73JXR1H271K	C CAPACITOR	270pF 50V K						
C411	CC730CC1H030B	C CAPACITOR	3pF 50V B		C473	CK73JXR1H471K	C CAPACITOR	470pF 50V K	
C412	CK73JXR1H271K	C CAPACITOR	270pF 50V K		C474	CK73JXR1E332K	C CAPACITOR	3300pF 25V K	
					C475	CK73JXR1E272K	C CAPACITOR	2700pF 25V K	
C413	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K		C476	CK73JXR1C103K	C CAPACITOR	0.01uF 16V K	
C414	CK73HB1C105K	C CAPACITOR	1uF 16V K		C546	CC73JCH1H101J	C CAPACITOR	100pF 50V J	
C415	CK73JXR1H271K	C CAPACITOR	270pF 50V K						
C416	CC730CC1H030B	C CAPACITOR	3pF 50V B		C547	CC73JCH1H101J	C CAPACITOR	100pF 50V J	
C419	CC730CC1H0R5B	C CAPACITOR	0.5pF 50V B		C548	CK73JXR1H471K	C CAPACITOR	470pF 50V K	
					C555	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K	
C420	CK73JXR1A473K	C CAPACITOR	0.047uF 10V K		C556	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K	
C421	CC730CC1H020B	C CAPACITOR	2pF 50V B		C557	CK73JXR1H102K	C CAPACITOR	1000pF 50V K	
C422	CC730CC1H180G	C CAPACITOR	18pF 50V G						
					C558	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K	
					C559	CK73JXR1H102K	C CAPACITOR	1000pF 50V K	
					C560	CK73HB1C105K	C CAPACITOR	1uF 16V K	
					C561	CK73JXR1C103K	C CAPACITOR	0.01uF 16V K	
					C562	CK73HB1C105K	C CAPACITOR	1uF 16V K	
					C563	CK73JXR1C103K	C CAPACITOR	0.01uF 16V K	
					C564	CK73HB0J475M	C CAPACITOR	4.7uF 6.3V M	
					C565	CK73JXR1H471K	C CAPACITOR	470pF 50V K	
					C566	CK73JXR1H471K	C CAPACITOR	470pF 50V K	
					C567	CK73JXR1H471K	C CAPACITOR	470pF 50V K	

△ Symbol No.	Part No.	Part Name	Description	Local	△ Symbol No.	Part No.	Part Name	Description	Local
C568	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K		C636	CC73JCH1H101J	C CAPACITOR	100pF 50V J	
C569	CK73JXR1H102K	C CAPACITOR	1000pF 50V K		C637	CK73JXR1C103K	C CAPACITOR	0.01uF 16V K	
C570	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K		C638	CK73JXR1C103K	C CAPACITOR	0.01uF 16V K	
C571	CK73JXR1H102K	C CAPACITOR	1000pF 50V K		C639	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K	
C572	CK73HB0J225K	C CAPACITOR	2.2uF 6.3V K		C640	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K	
C573	CK73JXR1H102K	C CAPACITOR	1000pF 50V K		C641	CC73JCH1H101J	C CAPACITOR	100pF 50V J	
C574	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K		C642	CC73JCH1H101J	C CAPACITOR	100pF 50V J	
C575	CK73JXR1H102K	C CAPACITOR	1000pF 50V K		C645	CK73GXR1C106M	C CAPACITOR	10uF 16V M	
C576	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K		C646	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K	
C577	CK73HB0J225K	C CAPACITOR	2.2uF 6.3V K		C647	CC73JCH1H101J	C CAPACITOR	100pF 50V J	
C578	CK73JXR1C103K	C CAPACITOR	0.01uF 16V K		C707	CC73JCH1H560J	C CAPACITOR	56pF 50V J	
C579	CK73JXR1C103K	C CAPACITOR	0.01uF 16V K		C708	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K	
C580	CK73JXR1H271K	C CAPACITOR	270pF 50V K		C709	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K	
C581	CK73JXR1C103K	C CAPACITOR	0.01uF 16V K		C710	CC73JCH1H560J	C CAPACITOR	56pF 50V J	
C582	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K		C711	CK73JXR1H681K	C CAPACITOR	680pF 50V K	
C583	CK73JXR1C103K	C CAPACITOR	0.01uF 16V K		C712	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K	
C584	CK73HB0J475M	C CAPACITOR	4.7uF 6.3V M		C713	CK73HB0J475M	C CAPACITOR	4.7uF 6.3V M	
C585	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K		C714	CK73HB0J475M	C CAPACITOR	4.7uF 6.3V M	
C586	CK73HB1C105K	C CAPACITOR	1uF 16V K		C719	CC73JCH1H470J	C CAPACITOR	47pF 50V J	
C587	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K		C721	CK73JXR1C682K	C CAPACITOR	6800pF 16V K	
C588	CK73JXR1H102K	C CAPACITOR	1000pF 50V K		C722	CK73JXR1C682K	C CAPACITOR	6800pF 16V K	
C589	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K		C724	CK73HB0J475M	C CAPACITOR	4.7uF 6.3V M	
C590	CK73JXR1H102K	C CAPACITOR	1000pF 50V K		C725	CK73JXR1H681K	C CAPACITOR	680pF 50V K	
C591	CK73JXR1H102K	C CAPACITOR	1000pF 50V K		C736	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K	
C592	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K		C737	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K	
C593	CK73JXR1H102K	C CAPACITOR	1000pF 50V K		C747	CC73JCH1H470J	C CAPACITOR	47pF 50V J	
C594	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K		C748	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K	
C595	CK73JXR1H102K	C CAPACITOR	1000pF 50V K		C750	CK73GXR1C106M	C CAPACITOR	10uF 16V M	
C596	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K		C751	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K	
C597	CK73JXR1H102K	C CAPACITOR	1000pF 50V K		C754	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K	
C598	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K		C755	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K	
C600	CC730EE1H471K	C CAPACITOR	470pF 50V K		C756	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K	
C601	CC730EE1H471K	C CAPACITOR	470pF 50V K		C757	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K	
C603	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K		C758	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K	
C605	CK73HB1C105K	C CAPACITOR	1uF 16V K		C759	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K	
C606	CK73JXR1H102K	C CAPACITOR	1000pF 50V K		C760	CK73GXR1C106M	C CAPACITOR	10uF 16V M	
C607	CK73JXR1H102K	C CAPACITOR	1000pF 50V K		C761	CK73GXR1C106M	C CAPACITOR	10uF 16V M	
C608	CK73GXR1H105K	C CAPACITOR	1uF 50V K		C762	CK73GXR1C106M	C CAPACITOR	10uF 16V M	
C609	CK73GXR1H105K	C CAPACITOR	1uF 50V K		C764	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K	
C610	CK73GXR1H105K	C CAPACITOR	1uF 50V K		C765	CK73HB1C105K	C CAPACITOR	1uF 16V K	
C611	CK73GXR1H105K	C CAPACITOR	1uF 50V K		C766	CK73HB1C105K	C CAPACITOR	1uF 16V K	
C612	CK73JXR1H471K	C CAPACITOR	470pF 50V K		C767	CK73HB1C105K	C CAPACITOR	1uF 16V K	
C613	CK73JXR1H471K	C CAPACITOR	470pF 50V K		C768	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K	
C614	CK73JXR1H471K	C CAPACITOR	470pF 50V K		C769	CK73HB1C105K	C CAPACITOR	1uF 16V K	
C615	CK73JXR1H471K	C CAPACITOR	470pF 50V K		C770	CK73HB1C105K	C CAPACITOR	1uF 16V K	
C616	CK73JXR1H221K	C CAPACITOR	220pF 50V K		C771	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K	
C617	CK73JXR1H471K	C CAPACITOR	470pF 50V K		C772	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K	
C618	CC73JCH1H101J	C CAPACITOR	100pF 50V J		C773	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K	
C619	CC730EE1H102K	C CAPACITOR	1000pF 50V K		C774	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K	
C620	CC730EE1H471K	C CAPACITOR	470pF 50V K		C775	CK73GXR1C106M	C CAPACITOR	10uF 16V M	
C621	CC730EE1H102K	C CAPACITOR	1000pF 50V K		C801	CC73JCH1H101J	C CAPACITOR	100pF 50V J	
C622	CC730EE1H102K	C CAPACITOR	1000pF 50V K		C802	CC73JCH1H101J	C CAPACITOR	100pF 50V J	
C623	CC730EE1H102K	C CAPACITOR	1000pF 50V K		C805	CA32AP1E221M	AS E CAPACITOR	220uF 25V M	
C624	CC730EE1H102K	C CAPACITOR	1000pF 50V K		C806	CC73JCH1H390J	C CAPACITOR	39pF 50V J	
C625	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K		C807	CK73JXR0J474K	C CAPACITOR	0.47uF 6.3V K	
C626	CC730EE1H471K	C CAPACITOR	470pF 50V K		C808	CK73JXR0J474K	C CAPACITOR	0.47uF 6.3V K	
C627	CK73JXR1H221K	C CAPACITOR	220pF 50V K		C809	CK73JXR1C104K	C CAPACITOR	0.1uF 16V K	
C628	CC73JCH1H101J	C CAPACITOR	100pF 50V J		C810	CK73GXR1H105K	C CAPACITOR	1uF 50V K	
C629	CC73JCH1H101J	C CAPACITOR	100pF 50V J		C811	CK73GXR1H105K	C CAPACITOR	1uF 50V K	
C630	CC73JCH1H101J	C CAPACITOR	100pF 50V J		C812	CK73HB1C105K	C CAPACITOR	1uF 16V K	
C631	CC73JCH1H101J	C CAPACITOR	100pF 50V J		C813	CK73HB1C105K	C CAPACITOR	1uF 16V K	
C632	CC73JCH1H101J	C CAPACITOR	100pF 50V J		C815	CK73FXR1H475K	C CAPACITOR	4.7uF 50V K	
C633	CC73JCH1H101J	C CAPACITOR	100pF 50V J		C816	CK73FXR1H475K	C CAPACITOR	4.7uF 50V K	
C634	CC73JCH1H101J	C CAPACITOR	100pF 50V J		C817	CK73GXR1H105K	C CAPACITOR	1uF 50V K	
C635	CC73JCH1H101J	C CAPACITOR	100pF 50V J		C818	CK73HB1C105K	C CAPACITOR	1uF 16V K	

△ Symbol No.	Part No.	Part Name	Description	Local	△ Symbol No.	Part No.	Part Name	Description	Local
C819	CK73HB1C105K	C CAPACITOR	1uF 16V K		R58	RK73HH1J752D	MG RESISTOR	7.5kΩ 1/16W D	
C820	CK73HB1E224K	C CAPACITOR	0.22uF 25V K		R59	RK73HH1J822D	MG RESISTOR	8.2kΩ 1/16W D	
C821	CK73HB1E224K	C CAPACITOR	0.22uF 25V K		R60	RK73PB2H1R0J	MG RESISTOR	1.0Ω 1/2W J	
C822	CK73HB1E224K	C CAPACITOR	0.22uF 25V K		R66	RK73JB1H104J	MG RESISTOR	100kΩ 1/20W J	
C823	CK73HB1E224K	C CAPACITOR	0.22uF 25V K		R68	RK73HH1J103D	MG RESISTOR	10kΩ 1/16W D	
C824	CK73FXR1H475K	C CAPACITOR	4.7uF 50V K		R69	RK73HH1J104D	MG RESISTOR	100kΩ 1/16W D	
C825	CK73FXR1H475K	C CAPACITOR	4.7uF 50V K		R71	RK73HH1J153D	MG RESISTOR	15kΩ 1/16W D	
C826	CK73FXR1H475K	C CAPACITOR	4.7uF 50V K		R72	RK73HH1J103D	MG RESISTOR	10kΩ 1/16W D	
C827	CK73FXR1H475K	C CAPACITOR	4.7uF 50V K		R73	RK73JB1H104J	MG RESISTOR	100kΩ 1/20W J	
C828	CC730EE1H102K	C CAPACITOR	1000pF 50V K		R74	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J	
C829	CC730EE1H102K	C CAPACITOR	1000pF 50V K		R75	RK73HH1J153D	MG RESISTOR	15kΩ 1/16W D	
C830	CC730EE1H102K	C CAPACITOR	1000pF 50V K		R76	RK73PB2H1R0J	MG RESISTOR	1.0Ω 1/2W J	
C831	CC730EE1H102K	C CAPACITOR	1000pF 50V K		R130	RK73JB1H104J	MG RESISTOR	100kΩ 1/20W J	18NE2,18DE2
C832	CK730PY1H103K	C CAPACITOR	0.01uF 50V K		R131	RK73HH1J562D	MG RESISTOR	5.6kΩ 1/16W D	
C833	CK730PY1H103K	C CAPACITOR	0.01uF 50V K		R132	RN73H0AV103D	MF RESISTOR	10kΩ D	
C834	CK730PY1H103K	C CAPACITOR	0.01uF 50V K						18NE,18HNK
C835	CK730PY1H103K	C CAPACITOR	0.01uF 50V K						2,18HNUK2,1
C837	CC730AD1H104J	C CAPACITOR	0.1uF 50V J		R133	RK73JB1H4R7J	MG RESISTOR	4.7Ω 1/20W J	8DE,18HDK2,18HDK2,18AE,18HAK2,18HAUK2
C838	CK73JXR1H102K	C CAPACITOR	1000pF 50V K						
C839	CC73JCH1H390J	C CAPACITOR	39pF 50V J						
C840	CK73JXR1H102K	C CAPACITOR	1000pF 50V K		R133	RK73JB1H8R2J	MG RESISTOR	8.2Ω 1/20W J	18NE2,18DE2
C841	CC730AD1H104J	C CAPACITOR	0.1uF 50V J						
C842	CK73GXR1H105K	C CAPACITOR	1uF 50V K		R134	RK73HH1J101D	MG RESISTOR	100Ω 1/16W D	
C843	CK73GXR1H105K	C CAPACITOR	1uF 50V K		R136	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J	
C844	CK73JXR1H102K	C CAPACITOR	1000pF 50V K		R160	RK73HB1J390J	MG RESISTOR	39Ω 1/16W J	
					R161	RK73HB1J103J	MG RESISTOR	10kΩ 1/16W J	
C845	CC730AD1H104J	C CAPACITOR	0.1uF 50V J		R162	RK73HB1J682J	MG RESISTOR	6.8kΩ 1/16W J	
C846	CK73GXR1H105K	C CAPACITOR	1uF 50V K						
R1	RK73GB2A000J	MG RESISTOR	0Ω 1/10W J		R163	RK73HB1J101J	MG RESISTOR	100Ω 1/16W J	
R2	RK73GB2A000J	MG RESISTOR	0Ω 1/10W J		R164	RK73HB1J561J	MG RESISTOR	560Ω 1/16W J	
R3	RK73GB2A000J	MG RESISTOR	0Ω 1/10W J		R165	RK73HB1J151J	MG RESISTOR	150Ω 1/16W J	
R4	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J		R166	RK73HB1J151J	MG RESISTOR	150Ω 1/16W J	
R5	R92-1061-05	C RESISTOR	0.008Ω		R167	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J	
R6	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J		R171	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J	
R7	RK73GB2A000J	MG RESISTOR	0Ω 1/10W J		R174	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J	
R8	RK73GB2A000J	MG RESISTOR	0Ω 1/10W J		R176	RK73JB1H470J	MG RESISTOR	47Ω 1/20W J	
R9	RK73GB2A000J	MG RESISTOR	0Ω 1/10W J		R177	RK73JB1H101J	MG RESISTOR	100Ω 1/20W J	
R10	RK73HB1J473J	MG RESISTOR	47kΩ 1/16W J		R178	RK73JB1H271J	MG RESISTOR	270Ω 1/20W J	
R11	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J		R179	RK73JB1H180J	MG RESISTOR	18Ω 1/20W J	
R12	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J		R180	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R13	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J		R181	RK73JB1H103J	MG RESISTOR	10kΩ 1/20W J	
R14	RK73JB1H102J	MG RESISTOR	1kΩ 1/20W J		R182	RK73JB1H473J	MG RESISTOR	47kΩ 1/20W J	18NE2,18DE2
R15	RK73JB1H102J	MG RESISTOR	1kΩ 1/20W J						18NE,18HNK
R16	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J						2,18HNUK2,1
R17	RK73HB1J471J	MG RESISTOR	470Ω 1/16W J		R183	RK73HB1J102J	MG RESISTOR	1kΩ 1/16W J	8DE,18HDK2,18HDK2,18AE,18HAK2,18HAUK2
R18	RK73JB1H102J	MG RESISTOR	1kΩ 1/20W J						
R19	RK73HB1J104J	MG RESISTOR	100kΩ 1/16W J		R183	RK73HB1J103J	MG RESISTOR	10kΩ 1/16W J	18NE2,18DE2
R21	RK73HB1J102J	MG RESISTOR	1kΩ 1/16W J		R184	RK73HB1J473J	MG RESISTOR	47kΩ 1/16W J	18NE2,18DE2
R22	RK73GB2A103J	MG RESISTOR	10kΩ 1/10W J		R185	RK73HB1J220J	MG RESISTOR	22Ω 1/16W J	
R23	RK73GB2A103J	MG RESISTOR	10kΩ 1/10W J		R187	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J	
R24	RK73HB1J334J	MG RESISTOR	330kΩ 1/16W J		R194	RK73HB1J100J	MG RESISTOR	10Ω 1/16W J	
R25	RK73HB1J474J	MG RESISTOR	470kΩ 1/16W J						
R26	RK73HB1J564J	MG RESISTOR	560kΩ 1/16W J		R202	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
					R203	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R29	RK73HB1J104J	MG RESISTOR	100kΩ 1/16W J		R204	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R31	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J		R205	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R47	R92-3769-05	MG RESISTOR	10Ω 0.25W		R206	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R48	R92-3769-05	MG RESISTOR	10Ω 0.25W		R207	RK73JB1H102J	MG RESISTOR	1kΩ 1/20W J	
R49	RK73HB1J334J	MG RESISTOR	330kΩ 1/16W J		R208	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
					R209	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R50	RK73HB1J223J	MG RESISTOR	22kΩ 1/16W J		R210	RK73JB1H103J	MG RESISTOR	10kΩ 1/20W J	
R51	RK73GB2A100J	MG RESISTOR	10Ω 1/10W J		R211	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R52	RK73PB2H1R0J	MG RESISTOR	1.0Ω 1/2W J						
R53	RK73HH1J473D	MG RESISTOR	47kΩ 1/16W D		R214	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R54	RK73HH1J472D	MG RESISTOR	4.7kΩ 1/16W D		R215	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
					R216	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R55	RK73HH1J472D	MG RESISTOR	4.7kΩ 1/16W D		R217	RK73HB1J151J	MG RESISTOR	150Ω 1/16W J	
R56	RK73JB1H102J	MG RESISTOR	1kΩ 1/20W J		R218	RK73JB1H103J	MG RESISTOR	10kΩ 1/20W J	
R57	RK73HH1J393D	MG RESISTOR	39kΩ 1/16W D						

△ Symbol No.	Part No.	Part Name	Description	Local	△ Symbol No.	Part No.	Part Name	Description	Local
R219	RK73HB1J151J	MG RESISTOR	150Ω 1/16W J		R349	RK73HB1J222J	MG RESISTOR	2.2kΩ 1/16W J	
R221	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J		R350	RK73HB1J104J	MG RESISTOR	100kΩ 1/16W J	
R222	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J		R351	RK73GH2A151D	MG RESISTOR	150Ω 1/10W D	
R223	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J		R352	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R224	RK73JB1H473J	MG RESISTOR	47kΩ 1/20W J		R353	RK73PB2H560J	MG RESISTOR	56Ω 1/2W J	
R227	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J						
R229	RK73HB1J560J	MG RESISTOR	56Ω 1/16W J						18NE, 18HNK
R245	RK73HB1J100J	MG RESISTOR	10Ω 1/16W J						2, 18HNUK2, 1
R260	RK73JB1H102J	MG RESISTOR	1kΩ 1/20W J		R355	RK73GB2A121J	MG RESISTOR	120Ω 1/10W J	8DE, 18HDK2, 18HDK2, 18AE, 18HAK2, 18HAUK2
R261	RK73HB1J223J	MG RESISTOR	22kΩ 1/16W J						18NE2, 18DE2
R262	RK73HB1J124J	MG RESISTOR	120kΩ 1/16W J		R355	RK73GB2A151J	MG RESISTOR	150Ω 1/10W J	
R263	RK73JB1H472J	MG RESISTOR	4.7kΩ 1/20W J		R356	RK73GB2A000J	MG RESISTOR	0Ω 1/10W J	
R264	RK73JB1H104J	MG RESISTOR	100kΩ 1/20W J						18NE, 18HNK
R265	RK73HB1J106J	MG RESISTOR	10MΩ 1/16W J						2, 18HNUK2, 1
R266	RK73HB1J470J	MG RESISTOR	47Ω 1/16W J		R358	RK73GB2A330J	MG RESISTOR	33Ω 1/10W J	8DE, 18HDK2, 18HDK2, 18AE, 18HAK2, 18HAUK2
R267	RK73JB1H104J	MG RESISTOR	100kΩ 1/20W J						18NE2, 18DE2
R268	RK73HH1J102D	MG RESISTOR	1kΩ 1/16W D		R358	RK73GB2A680J	MG RESISTOR	68Ω 1/10W J	
R269	RK73HH1J102D	MG RESISTOR	1kΩ 1/16W D						
R270	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J						18NE, 18HNK
R295	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J		R359	RK73GB2A100J	MG RESISTOR	10Ω 1/10W J	2, 18HNUK2, 1
R296	RK73GB2A390J	MG RESISTOR	39Ω 1/10W J						8DE, 18HDK2, 18HDK2, 18AE, 18HAK2, 18HAUK2
R301	RK73HB1J271J	MG RESISTOR	270Ω 1/16W J						18NE2, 18DE2
R302	RK73HB1J180J	MG RESISTOR	18Ω 1/16W J		R359	RK73GB2A220J	MG RESISTOR	22Ω 1/10W J	
R303	RK73HH1J472D	MG RESISTOR	4.7kΩ 1/16W D		R360	RK73GB2A000J	MG RESISTOR	0Ω 1/10W J	
R304	RK73HH1J472D	MG RESISTOR	4.7kΩ 1/16W D		R361	RK73PB2H560J	MG RESISTOR	56Ω 1/2W J	
R305	RK73HB1J220J	MG RESISTOR	22Ω 1/16W J		R362	RK73JB1H103J	MG RESISTOR	10kΩ 1/20W J	
R306	RK73HB1J221J	MG RESISTOR	220Ω 1/16W J						
R307	RK73HB1J221J	MG RESISTOR	220Ω 1/16W J		R363	RK73JB1H472J	MG RESISTOR	4.7kΩ 1/20W J	
R308	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	18NE2, 18DE2	R364	RK73HB1J104J	MG RESISTOR	100kΩ 1/16W J	
R311	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J		R368	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R314	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	18NE2, 18DE2	R369	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R315	RK73HB1J103J	MG RESISTOR	10kΩ 1/16W J		R373	RK73GB2A000J	MG RESISTOR	0Ω 1/10W J	
R316	RK73HB1J472J	MG RESISTOR	4.7kΩ 1/16W J						
R317	RK73HB1J271J	MG RESISTOR	270Ω 1/16W J		R377	RK73GB2A000J	MG RESISTOR	0Ω 1/10W J	
				18NE, 18HNK	R378	RK73HB1J154J	MG RESISTOR	150kΩ 1/16W J	
				2, 18HNUK2, 1	R379	RK73HB1J103J	MG RESISTOR	10kΩ 1/16W J	
				8DE, 18HDK2, 18HDK2, 18AE, 18HAK2, 18HAUK2	R380	RK73HB1J123J	MG RESISTOR	12kΩ 1/16W J	
R318	RK73GB2A101J	MG RESISTOR	100Ω 1/10W J		R381	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R318	RK73GB2A102J	MG RESISTOR	1kΩ 1/10W J	18NE2, 18DE2	R382	RK73HB1J682J	MG RESISTOR	6.8kΩ 1/16W J	
				18NE, 18HNK	R383	RK73HB1J473J	MG RESISTOR	47kΩ 1/16W J	
				2, 18HNUK2, 1	R384	RK73HB1J183J	MG RESISTOR	18kΩ 1/16W J	
				8DE, 18HDK2, 18HDK2, 18AE, 18HAK2, 18HAUK2	R385	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R319	RK73HB1J272J	MG RESISTOR	2.7kΩ 1/16W J		R386	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R319	RK73HB1J222J	MG RESISTOR	2.2kΩ 1/16W J	18NE2, 18DE2	R387	RK73HB1J104J	MG RESISTOR	100kΩ 1/16W J	
R320	RK73HB1J221J	MG RESISTOR	220Ω 1/16W J		R388	RK73HB1J474J	MG RESISTOR	470kΩ 1/16W J	
R322	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J		R389	RK73HB1J104J	MG RESISTOR	100kΩ 1/16W J	
					R390	RK73HB1J473J	MG RESISTOR	47kΩ 1/16W J	
					R391	RK73HB1J222J	MG RESISTOR	2.2kΩ 1/16W J	
R325	RK73GB2A000J	MG RESISTOR	0Ω 1/10W J						
R326	RK73GB2A271J	MG RESISTOR	270Ω 1/10W J		R392	RK73HB1J470J	MG RESISTOR	47Ω 1/16W J	
R327	RK73GB2A390J	MG RESISTOR	39Ω 1/10W J		R393	RK73HB1J223J	MG RESISTOR	22kΩ 1/16W J	
R328	RK73HB1J103J	MG RESISTOR	10kΩ 1/16W J		R394	RK73HB1J473J	MG RESISTOR	47kΩ 1/16W J	
R329	RK73GB2A271J	MG RESISTOR	270Ω 1/10W J		R395	RK73HB1J823J	MG RESISTOR	82kΩ 1/16W J	
					R396	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R330	RK73HB1J221J	MG RESISTOR	220Ω 1/16W J						
R331	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J		R397	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R333	RK73HB1J222J	MG RESISTOR	2.2kΩ 1/16W J		R399	RK73GB2A000J	MG RESISTOR	0Ω 1/10W J	
R342	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J		R402	RK73HB1J682J	MG RESISTOR	6.8kΩ 1/16W J	
				18NE, 18HNK	R403	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
				2, 18HNUK2, 1	R404	RK73HB1J682J	MG RESISTOR	6.8kΩ 1/16W J	
				8DE, 18HDK2, 18HDK2, 18AE, 18HAK2, 18HAUK2					
R343	RK73GH2A121D	MG RESISTOR	120Ω 1/10W D		R405	RK73HB1J150J	MG RESISTOR	15Ω 1/16W J	
					R406	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
					R407	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J	
					R408	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J	18NE2, 18DE2
					R409	RK73JB1H474J	MG RESISTOR	470kΩ 1/20W J	
R343	RK73GH2A101D	MG RESISTOR	100Ω 1/10W D	18NE2, 18DE2					
R345	RK73HB1J273J	MG RESISTOR	27kΩ 1/16W J		R410	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J	
R346	RK73HB1J104J	MG RESISTOR	100kΩ 1/16W J		R411	RK73JB1H104J	MG RESISTOR	100kΩ 1/20W J	
R347	RK73GH2A101D	MG RESISTOR	100Ω 1/10W D		R412	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R348	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J		R413	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	

△ Symbol No.	Part No.	Part Name	Description	Local
R414	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J	
R415	RK73HB1J3R3J	MG RESISTOR	3.3Ω 1/16W J	
R416	RK73HB1J3R3J	MG RESISTOR	3.3Ω 1/16W J	
R430	RK73JB1H104J	MG RESISTOR	100kΩ 1/20W J	
R431	RK73JB1H104J	MG RESISTOR	100kΩ 1/20W J	
R432	RK73JB1H104J	MG RESISTOR	100kΩ 1/20W J	
R433	RK73JB1H104J	MG RESISTOR	100kΩ 1/20W J	
R440	RK73JB1H474J	MG RESISTOR	470kΩ 1/20W J	
R441	RK73JB1H474J	MG RESISTOR	470kΩ 1/20W J	
R442	RK73JB1H101J	MG RESISTOR	100Ω 1/20W J	
R443	RK73JB1H101J	MG RESISTOR	100Ω 1/20W J	
R444	RK73JB1H101J	MG RESISTOR	100Ω 1/20W J	
R445	RK73JB1H101J	MG RESISTOR	100Ω 1/20W J	
R450	RK73HH1J103D	MG RESISTOR	10kΩ 1/16W D	
R451	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R454	RK73JB1H103J	MG RESISTOR	10kΩ 1/20W J	
R455	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R456	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R457	RK73HB1J150J	MG RESISTOR	15Ω 1/16W J	
R458	RK73HH1J103D	MG RESISTOR	10kΩ 1/16W D	
R459	RK73HH1J103D	MG RESISTOR	10kΩ 1/16W D	
R460	RK73HH1J822D	MG RESISTOR	8.2kΩ 1/16W D	
R461	RK73HH1J822D	MG RESISTOR	8.2kΩ 1/16W D	
R462	RK73HH1J683D	MG RESISTOR	68kΩ 1/16W D	
R463	RK73HH1J683D	MG RESISTOR	68kΩ 1/16W D	
R464	RK73HB1J100J	MG RESISTOR	10Ω 1/16W J	
R465	RK73HH1J683D	MG RESISTOR	68kΩ 1/16W D	
R466	RK73HH1J683D	MG RESISTOR	68kΩ 1/16W D	
R467	RK73HH1J822D	MG RESISTOR	8.2kΩ 1/16W D	
R468	RK73HH1J822D	MG RESISTOR	8.2kΩ 1/16W D	
R469	RK73HH1J103D	MG RESISTOR	10kΩ 1/16W D	
R470	RK73HH1J103D	MG RESISTOR	10kΩ 1/16W D	
R471	RK73HB1J102J	MG RESISTOR	1kΩ 1/16W J	
R472	RK73HH1J183D	MG RESISTOR	18kΩ 1/16W D	
R473	RK73HB1J100J	MG RESISTOR	10Ω 1/16W J	
R474	RK73HH1J473D	MG RESISTOR	47kΩ 1/16W D	
R475	RK73HH1J473D	MG RESISTOR	47kΩ 1/16W D	
R476	RK73HH1J183D	MG RESISTOR	18kΩ 1/16W D	
R477	RK73JB1H272J	MG RESISTOR	2.7kΩ 1/20W J	
R478	RK73JB1H473J	MG RESISTOR	47kΩ 1/20W J	
R479	RK73JB1H472J	MG RESISTOR	4.7kΩ 1/20W J	
R480	RK73JB1H563J	MG RESISTOR	56kΩ 1/20W J	
R481	RK73JB1H104J	MG RESISTOR	100kΩ 1/20W J	
R483	RK73HB1J102J	MG RESISTOR	1kΩ 1/16W J	
R484	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R506	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R507	RK73JB1H102J	MG RESISTOR	1kΩ 1/20W J	
R508	RK73JB1H473J	MG RESISTOR	47kΩ 1/20W J	
R509	RK73JB1H103J	MG RESISTOR	10kΩ 1/20W J	
R510	RK73JB1H102J	MG RESISTOR	1kΩ 1/20W J	
R511	RK73JB1H473J	MG RESISTOR	47kΩ 1/20W J	
R512	RK73JB1H102J	MG RESISTOR	1kΩ 1/20W J	
R513	RK73JB1H473J	MG RESISTOR	47kΩ 1/20W J	
R514	RK73JB1H473J	MG RESISTOR	47kΩ 1/20W J	
R515	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J	
R516	RK73JB1H103J	MG RESISTOR	10kΩ 1/20W J	
R517	RK73JB1H103J	MG RESISTOR	10kΩ 1/20W J	
R518	RK73JB1H103J	MG RESISTOR	10kΩ 1/20W J	
R519	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J	
R520	RK73JB1H103J	MG RESISTOR	10kΩ 1/20W J	
R521	RK73JB1H473J	MG RESISTOR	47kΩ 1/20W J	
R522	RK73JB1H473J	MG RESISTOR	47kΩ 1/20W J	
R523	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J	
R524	RK73JB1H474J	MG RESISTOR	470kΩ 1/20W J	
R525	RK73JB1H820J	MG RESISTOR	82Ω 1/20W J	

△ Symbol No.	Part No.	Part Name	Description	Local
R526	RK73JB1H473J	MG RESISTOR	47kΩ 1/20W J	
R527	RK73JB1H473J	MG RESISTOR	47kΩ 1/20W J	
R528	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R529	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R530	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R531	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R532	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R533	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R534	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R535	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R536	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R537	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R538	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R539	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R540	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R541	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J	
R542	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R543	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R544	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R545	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R546	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R547	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R548	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R549	RK73JB1H103J	MG RESISTOR	10kΩ 1/20W J	
R550	RK73JB1H473J	MG RESISTOR	47kΩ 1/20W J	
R551	RK73JB1H473J	MG RESISTOR	47kΩ 1/20W J	
R552	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R553	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R554	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R555	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R556	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R557	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R558	RK73JB1H472J	MG RESISTOR	4.7kΩ 1/20W J	
R559	RK73JB1H472J	MG RESISTOR	4.7kΩ 1/20W J	
R560	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J	
R600	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J	
R601	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J	
R602	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J	
R603	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J	
R604	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J	
R605	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R606	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R607	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R608	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R609	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R610	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R611	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R612	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R613	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R614	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R615	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R627	RK73FB2B332J	MG RESISTOR	3.3kΩ 1/8W J	
R628	RK73FB2B332J	MG RESISTOR	3.3kΩ 1/8W J	
R629	RK73FB2B332J	MG RESISTOR	3.3kΩ 1/8W J	
R630	RK73JB1H101J	MG RESISTOR	100Ω 1/20W J	
R631	RK73JB1H101J	MG RESISTOR	100Ω 1/20W J	
R632	RK73JB1H101J	MG RESISTOR	100Ω 1/20W J	
R633	RK73JB1H101J	MG RESISTOR	100Ω 1/20W J	
R634	RK73GB2A000J	MG RESISTOR	0Ω 1/10W J	
R637	RK73JB1H101J	MG RESISTOR	100Ω 1/20W J	
R638	RK73JB1H101J	MG RESISTOR	100Ω 1/20W J	
R639	RK73JB1H101J	MG RESISTOR	100Ω 1/20W J	
R640	RK73JB1H101J	MG RESISTOR	100Ω 1/20W J	
R641	RK73JB1H101J	MG RESISTOR	100Ω 1/20W J	
R642	RK73JB1H101J	MG RESISTOR	100Ω 1/20W J	

△ Symbol No.	Part No.	Part Name	Description	Local	△ Symbol No.	Part No.	Part Name	Description	Local
R643	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J						18NE,18HNK 2,18HNUK2,1 8DE,18HDK2, 18HDK2,18 AE,18HAK2,1 8HAUK2
R644	RK73JB1H472J	MG RESISTOR	4.7kΩ 1/20W J		R711	RK73JB1H393J	MG RESISTOR	39kΩ 1/20W J	
R645	RK73JB1H472J	MG RESISTOR	4.7kΩ 1/20W J						
R646	RK73GB2A000J	MG RESISTOR	0Ω 1/10W J		R711	RK73JB1H473J	MG RESISTOR	47kΩ 1/20W J	18NE2,18DE2
R647	RK73JB1H102J	MG RESISTOR	1kΩ 1/20W J		R712	RK73JB1H101J	MG RESISTOR	100Ω 1/20W J	
R648	RK73JB1H102J	MG RESISTOR	1kΩ 1/20W J		R713	RK73JB1H393J	MG RESISTOR	39kΩ 1/20W J	
					R714	RK73JB1H101J	MG RESISTOR	100Ω 1/20W J	
R649	RK73GB2A000J	MG RESISTOR	0Ω 1/10W J		R715	RK73JB1H101J	MG RESISTOR	100Ω 1/20W J	
R650	RK73GB2A000J	MG RESISTOR	0Ω 1/10W J						
R651	RK73GB2A000J	MG RESISTOR	0Ω 1/10W J		R716	RK73JB1H101J	MG RESISTOR	100Ω 1/20W J	
R652	RK73GB2A000J	MG RESISTOR	0Ω 1/10W J		R717	RK73JB1H101J	MG RESISTOR	100Ω 1/20W J	
R653	RK73GB2A000J	MG RESISTOR	0Ω 1/10W J		R718	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J	
					R719	RK73JB1H102J	MG RESISTOR	1kΩ 1/20W J	
R654	RK73JB1H102J	MG RESISTOR	1kΩ 1/20W J		R720	RK73JB1H101J	MG RESISTOR	100Ω 1/20W J	
R655	RK73JB1H102J	MG RESISTOR	1kΩ 1/20W J						
R656	RK73JB1H102J	MG RESISTOR	1kΩ 1/20W J		R721	RK73JB1H101J	MG RESISTOR	100Ω 1/20W J	
R657	RK73JB1H102J	MG RESISTOR	1kΩ 1/20W J		R722	RK73JB1H101J	MG RESISTOR	100Ω 1/20W J	
R658	RK73JB1H473J	MG RESISTOR	47kΩ 1/20W J		R723	RK73JB1H682J	MG RESISTOR	6.8kΩ 1/20W J	
R659	RK73JB1H472J	MG RESISTOR	4.7kΩ 1/20W J						18NE,18HNK 2,18HNUK2,1 8DE,18HDK2, 18HDK2,18 AE,18HAK2,1 8HAUK2
R661	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J		R727	RK73JB1H393J	MG RESISTOR	39kΩ 1/20W J	
R663	RK73JB1H104J	MG RESISTOR	100kΩ 1/20W J						
R664	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J						
R665	RK73JB1H101J	MG RESISTOR	100Ω 1/20W J						
R666	RK73JB1H101J	MG RESISTOR	100Ω 1/20W J		R727	RK73JB1H473J	MG RESISTOR	47kΩ 1/20W J	18NE2,18DE2
R667	RK73JB1H102J	MG RESISTOR	1kΩ 1/20W J						
R668	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J		R728	RK73JB1H102J	MG RESISTOR	1kΩ 1/20W J	
R669	RK73HB1J101J	MG RESISTOR	100Ω 1/16W J		R729	RK73JB1H102J	MG RESISTOR	1kΩ 1/20W J	
R670	RK73HB1J101J	MG RESISTOR	100Ω 1/16W J		R734	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J	
					R735	RK73HB1J100J	MG RESISTOR	10Ω 1/16W J	
R671	RK73HB1J101J	MG RESISTOR	100Ω 1/16W J		R736	RK73HH1J473D	MG RESISTOR	47kΩ 1/16W D	
R672	RK73HB1J101J	MG RESISTOR	100Ω 1/16W J						
R673	RK73HB1J101J	MG RESISTOR	100Ω 1/16W J		R737	RK73HH1J473D	MG RESISTOR	47kΩ 1/16W D	
R674	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J		R740	RK73JB1H104J	MG RESISTOR	100kΩ 1/20W J	
R675	RK73HB1J471J	MG RESISTOR	470Ω 1/16W J		R741	RK73JB1H104J	MG RESISTOR	100kΩ 1/20W J	
					R742	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J	
R676	RK73HB1J471J	MG RESISTOR	470Ω 1/16W J		R743	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J	
R677	RK73GB2A000J	MG RESISTOR	0Ω 1/10W J						
R678	RK73JB1H104J	MG RESISTOR	100kΩ 1/20W J		R744	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J	
R679	RK73JB1H104J	MG RESISTOR	100kΩ 1/20W J		R745	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J	
R680	RK73JB1H104J	MG RESISTOR	100kΩ 1/20W J		R746	RK73JB1H102J	MG RESISTOR	1kΩ 1/20W J	
					R747	RK73JB1H102J	MG RESISTOR	1kΩ 1/20W J	
R681	RK73JB1H472J	MG RESISTOR	4.7kΩ 1/20W J		R748	RK73GB2A000J	MG RESISTOR	0Ω 1/10W J	
R682	RK73GB2A000J	MG RESISTOR	0Ω 1/10W J						
R683	RK73JB1H473J	MG RESISTOR	47kΩ 1/20W J		R749	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R684	RK73HB1J101J	MG RESISTOR	100Ω 1/16W J		R750	RK73JB1H564J	MG RESISTOR	560kΩ 1/20W J	
R685	RK73JB1H102J	MG RESISTOR	1kΩ 1/20W J		R751	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
					R752	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R686	RK73JB1H104J	MG RESISTOR	100kΩ 1/20W J		R753	RK73JB1H103J	MG RESISTOR	10kΩ 1/20W J	
R687	RK73JB1H104J	MG RESISTOR	100kΩ 1/20W J						
R689	RK73GB2A000J	MG RESISTOR	0Ω 1/10W J		R754	RK73JB1H103J	MG RESISTOR	10kΩ 1/20W J	
R690	RK73JB1H104J	MG RESISTOR	100kΩ 1/20W J		R755	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R691	RK73JB1H104J	MG RESISTOR	100kΩ 1/20W J		R756	RK73JB1H564J	MG RESISTOR	560kΩ 1/20W J	
					R757	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R692	RK73JB1H104J	MG RESISTOR	100kΩ 1/20W J		R759	RK73JP1H273D	MG RESISTOR	27kΩ 1/20W D	
R693	RK73JB1H472J	MG RESISTOR	4.7kΩ 1/20W J						
R694	RK73JB1H223J	MG RESISTOR	22kΩ 1/20W J		R761	RK73FB2B3R3J	MG RESISTOR	3.3Ω 1/8W J	
R695	RK73JB1H473J	MG RESISTOR	47kΩ 1/20W J		R762	RK73FB2B3R3J	MG RESISTOR	3.3Ω 1/8W J	
R696	RK73JB1H104J	MG RESISTOR	100kΩ 1/20W J		R763	RK73FB2B3R3J	MG RESISTOR	3.3Ω 1/8W J	
					R764	RK73FB2B3R3J	MG RESISTOR	3.3Ω 1/8W J	
R697	RK73JB1H104J	MG RESISTOR	100kΩ 1/20W J		R766	RK73JB1H103J	MG RESISTOR	10kΩ 1/20W J	
R698	RK73JB1H104J	MG RESISTOR	100kΩ 1/20W J						
R699	RK73JB1H104J	MG RESISTOR	100kΩ 1/20W J		R768	RK73JB1H683J	MG RESISTOR	68kΩ 1/20W J	
R700	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J		R769	RK73JP1H562D	MG RESISTOR	5.6kΩ 1/20W D	
R701	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J		R771	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J	
					R772	RK73JP1H562D	MG RESISTOR	5.6kΩ 1/20W D	
R702	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J		R774	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J	
R703	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J						
R704	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J		R775	RK73JB1H683J	MG RESISTOR	68kΩ 1/20W J	
R705	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J		R777	RK73JB1H102J	MG RESISTOR	1kΩ 1/20W J	
R706	RK73JB1H393J	MG RESISTOR	39kΩ 1/20W J		R778	RK73JB1H103J	MG RESISTOR	10kΩ 1/20W J	
					R779	RK73JP1H153D	MG RESISTOR	15kΩ 1/20W D	
R707	RK73JB1H124J	MG RESISTOR	120kΩ 1/20W J		R780	RK73HB1J100J	MG RESISTOR	10Ω 1/16W J	
R708	RK73JB1H102J	MG RESISTOR	1kΩ 1/20W J						
R709	RK73HB1J100J	MG RESISTOR	10Ω 1/16W J		R781	RK73HB1J100J	MG RESISTOR	10Ω 1/16W J	
R710	RK73JB1H124J	MG RESISTOR	120kΩ 1/20W J						

△ Symbol No.	Part No.	Part Name	Description	Local	△ Symbol No.	Part No.	Part Name	Description	Local
R782	RK73JP1H102D	MG RESISTOR	1kΩ 1/20W D		L135	L3C-0021-00	OSC-COIL		18NE2,18DE2
R783	RK73JP1H102D	MG RESISTOR	1kΩ 1/20W D						18NE,18HNK
R784	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J						2,18HNUK2,1
R785	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J		L136	LF77J0AAR15H	F.C. INDUCTOR		8DE,18HDK2,18HDK2,18AE,18HAK2,18HAUK2
R786	RK73JP1H681D	MG RESISTOR	680Ω 1/20W D						18NE2,18DE2
R787	RK73JB1H681J	MG RESISTOR	680Ω 1/20W J		L136	LF77J0AAR10H	F.C. INDUCTOR		
R788	RK73JB1H100J	MG RESISTOR	10Ω 1/20W J		L137	LF77J0AAR10H	F.C. INDUCTOR		
R789	RK73JB1H102J	MG RESISTOR	1kΩ 1/20W J						
R790	RK73JB1H000J	MG RESISTOR	0Ω 1/20W J						
R791	RK73JB1H102J	MG RESISTOR	1kΩ 1/20W J		L138	LF77J0AAR15H	F.C. INDUCTOR		18NE,18HNK
R792	RK73JB1H681J	MG RESISTOR	680Ω 1/20W J						2,18HNUK2,1
R793	RK73JB1H682J	MG RESISTOR	6.8kΩ 1/20W J						8DE,18HDK2,18HDK2,18AE,18HAK2,18HAUK2
R794	RK73JB1H102J	MG RESISTOR	1kΩ 1/20W J		L138	LF77J0AAR10H	F.C. INDUCTOR		18NE2,18DE2
R797	RK73JB1H104J	MG RESISTOR	100kΩ 1/20W J		L139	LB73H0BU-004	CHIP FERRITE		
R798	RK73JB1H102J	MG RESISTOR	1kΩ 1/20W J		L160	LF77J0AA10NH	F.C. INDUCTOR		
R799	RK73JP1H681D	MG RESISTOR	680Ω 1/20W D						
R800	RK73JB1H472J	MG RESISTOR	4.7kΩ 1/20W J		L170	LF77J0AA5N6H	F.C. INDUCTOR		
R801	RK73JB1H472J	MG RESISTOR	4.7kΩ 1/20W J		L171	LF77J0AA4N7H	F.C. INDUCTOR		
R802	RK73GB2A101J	MG RESISTOR	100Ω 1/10W J		L176	LF77J0AA10NH	F.C. INDUCTOR		
				18NE,18HNK	L177	LF77J0AA10NH	F.C. INDUCTOR		
				2,18HNUK2,1	L180	LB73H0BU-006	CHIP FERRITE		
R1082	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	18DE,18HDK2,18AE,18HAK2,18HAUK2	L202	LB73H0BU-004	CHIP FERRITE		
				18NE2,18DE2	L240	LK73G0BB4R7K	M.CHIP INDUCTOR		
R1083	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J		L241	LB73H0BU-003	CHIP FERRITE		
					L301	LK73H0BC27NJ	M.CHIP INDUCTOR		
					L305	LR79G0GK82NG	CHIP INDUCTOR		
L1	LR79Z0MWR33G	CHIP INDUCTOR							
L2	LB73H0BU-002	CHIP FERRITE							18NE,18HNK
L3	LB73H0BU-002	CHIP FERRITE							2,18HNUK2,1
				18NE,18HNK	L308	LR79G0GK27NG	CHIP INDUCTOR		8DE,18HDK2,18HDK2,18AE,18HAK2,18HAUK2
L4	L34-4758-05	AIR CORE COIL		18DE,18HDK2,18AE,18HAK2,18HAUK2	L308	LR79G0GK18NG	CHIP INDUCTOR		18NE2,18DE2
L4	L34-4743-05	AIR CORE COIL		18NE2,18DE2	L309	LB73G0AM-004	CHIP FERRITE		
					L310	LB73E0FT-001	CHIP FERRITE		
					L311	LB73E0FT-001	CHIP FERRITE		
L5	L34-4758-05	AIR CORE COIL		18NE,18HNK	L313	LB73H0BU-004	CHIP FERRITE		
				2,18HNUK2,1	L314	LK73G0BG82NJ	M.CHIP INDUCTOR		
				8DE,18HDK2,18HDK2,18AE,18HAK2,18HAUK2	L315	LR79Z0MWR33G	CHIP INDUCTOR		18NE,18HNK
L5	L34-4743-05	AIR CORE COIL		18NE2,18DE2					2,18HNUK2,1
				18NE,18HNK	L316	LR79Z0JH68NG	CHIP INDUCTOR		8DE,18HDK2,18HDK2,18AE,18HAK2,18HAUK2
L6	L34-4758-05	AIR CORE COIL		18DE,18HDK2,18AE,18HAK2,18HAUK2	L316	LR79Z0JH82NG	CHIP INDUCTOR		18NE2,18DE2
L6	L34-4743-05	AIR CORE COIL		18NE2,18DE2					
L7	L34-4743-05	AIR CORE COIL			L317	LK73H0CK15NJ	M.CHIP INDUCTOR		18NE,18HNK
L8	LB73H0BU-002	CHIP FERRITE							2,18HNUK2,1
L9	LR79Z0PF150M	CHIP INDUCTOR							8DE,18HDK2,18HDK2,18AE,18HAK2,18HAUK2
L10	LB73H0BU-002	CHIP FERRITE							18NE,18HNK
L11	LB73H0BU-002	CHIP FERRITE			L318	LK73H0CK15NJ	M.CHIP INDUCTOR		2,18HNUK2,1
L12	LB73H0BU-002	CHIP FERRITE							8DE,18HDK2,18HDK2,18AE,18HAK2,18HAUK2
L13	LB73H0BU-002	CHIP FERRITE			L321	LK73H0BC8N2J	M.CHIP INDUCTOR		18NE,18HNK
L130	LF77J0AAR10H	F.C. INDUCTOR							2,18HNUK2,1
L131	LF77J0AAR10H	F.C. INDUCTOR							8DE,18HDK2,18HDK2,18AE,18HAK2,18HAUK2
L132	LF77J0AAR10H	F.C. INDUCTOR			L327	LK73G0BG18NJ	M.CHIP INDUCTOR		18NE2,18DE2
				18NE,18HNK					
L133	LR79H0AZ5N1B	CHIP INDUCTOR		2,18HNUK2,1	L327	LK73G0BG15NJ	M.CHIP INDUCTOR		8DE,18HDK2,18HDK2,18AE,18HAK2,18HAUK2
				18DE,18HDK2,18HDK2,18AE,18HAK2,18HAUK2	L401	L41-1575-53	CHIP INDUCTOR		18NE,18HNK
L133	LR79H0AZ4N7B	CHIP INDUCTOR		18NE2,18DE2					2,18HNUK2,1
				18NE,18HNK	L402	L41-8268-14	CHIP INDUCTOR		8DE,18HDK2,18HDK2,18AE,18HAK2,18HAUK2
L134	L3C-0020-00	OSC-COIL		2,18HNUK2,1	L402	L41-6868-14	CHIP INDUCTOR		18NE2,18DE2
				8DE,18HDK2,18HDK2,18AE,18HAK2,18HAUK2					

△ Symbol No.	Part No.	Part Name	Description	Local
L403	L41-8268-14	CHIP INDUCTOR	18NE,18HNK 2,18HNUK2,1 8DE,18HDK2, 18HDK2,18 AE,18HAK2,1 8HAUK2	
L403	L41-6868-14	CHIP INDUCTOR	18NE2,18DE2	
L404	LR79G0CQ6N8C	CHIP INDUCTOR		
L405	L41-8268-14	CHIP INDUCTOR	18NE,18HNK 2,18HNUK2,1 8DE,18HDK2, 18HDK2,18 AE,18HAK2,1 8HAUK2	
L405	L41-6868-14	CHIP INDUCTOR	18NE2,18DE2	
L406	L41-8268-14	CHIP INDUCTOR	18NE,18HNK 2,18HNUK2,1 8DE,18HDK2, 18HDK2,18 AE,18HAK2,1 8HAUK2	
L406	L41-6868-14	CHIP INDUCTOR	18NE2,18DE2	
L408	LB73H0BU-003	CHIP FERRITE		
L410	LF77J0AA27NH	F.C. INDUCTOR		
L411	LB73H0BU-002	CHIP FERRITE		
L450	LB73H0BU-002	CHIP FERRITE		
L451	LB73H0BU-002	CHIP FERRITE		
L500	LB73H0BU-003	CHIP FERRITE		
L501	LB73H0BU-003	CHIP FERRITE		
L502	LB73H0BU-002	CHIP FERRITE		
L600	LB73H0BU-004	CHIP FERRITE		
L601	LB73H0BU-004	CHIP FERRITE		
L602	LB73H0BU-004	CHIP FERRITE		
L704	LB73H0BU-004	CHIP FERRITE		
L705	LB73H0BU-004	CHIP FERRITE		
L706	LB73H0BU-004	CHIP FERRITE		
L707	LB73H0BU-004	CHIP FERRITE		
L708	LB73H0BU-004	CHIP FERRITE		
L709	LB73H0BU-004	CHIP FERRITE		
L803	L41-1592-71	CHIP INDUCTOR		
L804	-----	LINE FILTER	Note 2	
L805	-----	LINE FILTER	Note 2	
L806	LB73G0AM-003	CHIP FERRITE		
L807	LB73G0AM-003	CHIP FERRITE		
L808	LB73G0AM-003	CHIP FERRITE		
L809	LB73G0AM-003	CHIP FERRITE		
L810	L41-1592-71	CHIP INDUCTOR		
L811	L41-1592-71	CHIP INDUCTOR		
CN451	E23-1325-05	TERMINAL		
CN610	E40-6847-05	F.C.CONNECTOR		
E101	F1B-0113-00	SHIELDING CASE		
F1	FZA10AW-5R0	FUSE (CC)	5.0A	
F6	FZA10BS-5R0	FUSE (CC)	5.0A	
F7	FZA10BH-2R5	FUSE (CC)	2.5A	
F8	FZA10BH-2R5	FUSE (CC)	2.5A	
J6	E58-0567-05	SUB SOCKET D		
J7	E1B-0001-00	3.5D PHONE JACK		
TH302	NCP15WF104F0S	N THERMISTOR		
TH304	NCP15WF104F0S	N THERMISTOR		
TH501	NCP15WF104F03	N THERMISTOR		
X240	L7H-0110-10	TCXO		
X500	L7H-0111-10	TCXO		

SUB UNIT

XC3-098K-00

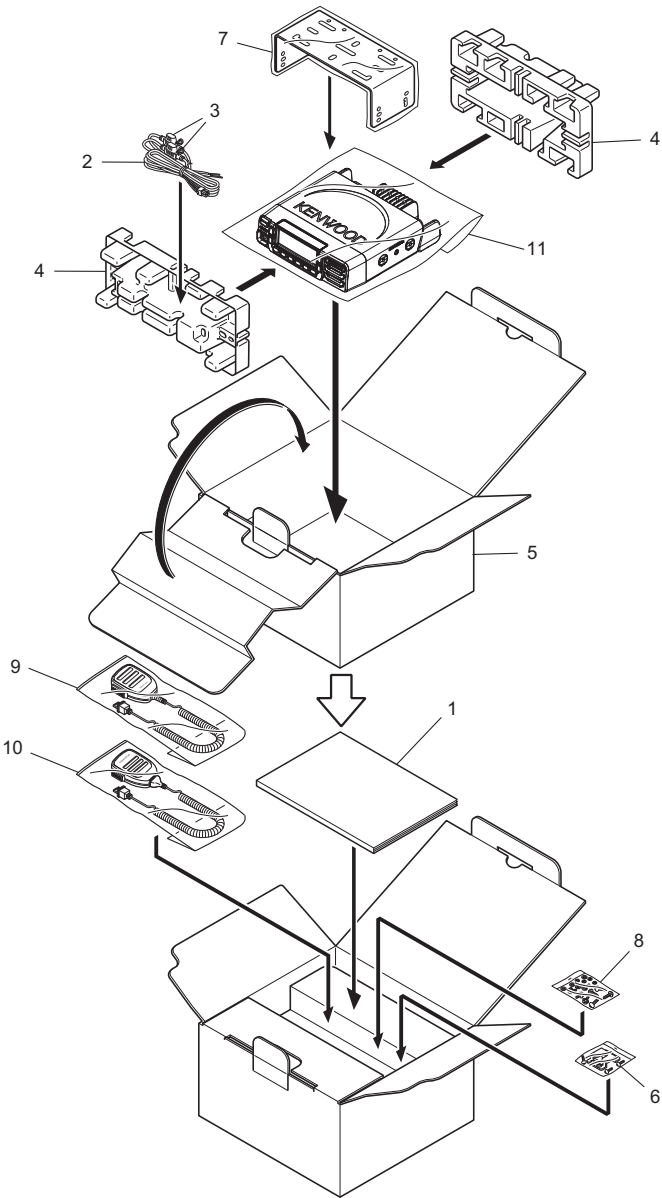
Block No. [0][3]

△ Symbol No.	Part No.	Part Name	Description	Local
IC1	PT16557LQ	MOS IC		
Q2	LTC014EEBFS8	DIGI TRANSISTOR		
Q3	LTC014EEBFS8	DIGI TRANSISTOR		
Q4	LTC014EEBFS8	DIGI TRANSISTOR		
Q7	LTA014EEBFS8	DIGI TRANSISTOR		
Q8	DTC114EM	DIGI TRANSISTOR		
Q9	KRX102U	TRANSISTOR		
Q10	2SAR293P5	TRANSISTOR		
D1	UDZV6.2B	ZENER DIODE		
D2	DAN217WM	DIODE		
D3	NSSM240A	LED		
D5	B30-2365-05	LED		
D6	B30-2365-05	LED		
D7	B30-2365-05	LED		
D8	B30-2365-05	LED		
D9	B30-2365-05	LED		
D10	DAN217WM	DIODE		
D11	B30-2365-05	LED		
D12	B30-2365-05	LED		
D13	B30-2365-05	LED		
D14	B30-2365-05	LED		
D15	B30-2365-05	LED		
D16	B30-2365-05	LED		
D17	B30-2365-05	LED		
D18	B30-2365-05	LED		
D19	B30-2365-05	LED		
D20	B30-2365-05	LED		
D21	B30-2365-05	LED		
D24	B30-2365-05	LED		
D28	MINISMDC020F	VARISTOR		
C1	CC73JCH1H101J	C CAPACITOR	100pF 50V J	
C2	CK73JXR1H221K	C CAPACITOR	220pF 50V K	
C3	CK73JXR1H221K	C CAPACITOR	220pF 50V K	
C4	CC73JCH1H101J	C CAPACITOR	100pF 50V J	
C5	CK73JXR1H221K	C CAPACITOR	220pF 50V K	
C6	CC73JCH1H101J	C CAPACITOR	100pF 50V J	
C7	CC730EE1H102K	C CAPACITOR	1000pF 50V K	
C8	CK73JXR1H221K	C CAPACITOR	220pF 50V K	
C9	CC730EE1H471K	C CAPACITOR	470pF 50V K	
C10	CC730EE1H102K	C CAPACITOR	1000pF 50V K	
C11	CK73JXR1H221K	C CAPACITOR	220pF 50V K	
C12	CC73JCH1H101J	C CAPACITOR	100pF 50V J	
C13	CK730PY1H103K	C CAPACITOR	0.01uF 50V K	
C14	CC730EE1H102K	C CAPACITOR	1000pF 50V K	
C15	CC730EE1H102K	C CAPACITOR	1000pF 50V K	
C20	CC73JCH1H101J	C CAPACITOR	100pF 50V J	
C21	CK730PY1H103K	C CAPACITOR	0.01uF 50V K	
C22	CK73JXR1H221K	C CAPACITOR	220pF 50V K	
C23	CC730EE1H102K	C CAPACITOR	1000pF 50V K	
C24	CK730PY1H103K	C CAPACITOR	0.01uF 50V K	
C25	CC730EE1H471K	C CAPACITOR	470pF 50V K	
C26	CC730EE1H471K	C CAPACITOR	470pF 50V K	
C27	CK73HB1C105K	C CAPACITOR	1uF 16V K	
C28	CK73HB1C105K	C CAPACITOR	1uF 16V K	
C29	CC730EE1H102K	C CAPACITOR	1000pF 50V K	
C30	CC730EE1H102K	C CAPACITOR	1000pF 50V K	
C31	CC730EE1H102K	C CAPACITOR	1000pF 50V K	
C32	CK730PY1E473K	C CAPACITOR	0.047uF 25V K	

△ Symbol No.	Part No.	Part Name	Description	Local
C33	CK730PY1E473K	C CAPACITOR	0.047uF 25V K	
C34	CC730EE1H102K	C CAPACITOR	1000pF 50V K	
R1	RK73HB1J100J	MG RESISTOR	10Ω 1/16W J	
R2	RK73HB1J103J	MG RESISTOR	10kΩ 1/16W J	
R3	RK73HB1J103J	MG RESISTOR	10kΩ 1/16W J	
R4	RK73HB1J103J	MG RESISTOR	10kΩ 1/16W J	
R6	RK73HB1J150J	MG RESISTOR	15Ω 1/16W J	
R7	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R8	RK73FB2B000J	MG RESISTOR	0Ω 1/8W J	
R9	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R12	RK73HB1J101J	MG RESISTOR	100Ω 1/16W J	
R14	RK73HB1J392J	MG RESISTOR	3.9kΩ 1/16W J	
R15	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R17	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R18	RK73HB1J472J	MG RESISTOR	4.7kΩ 1/16W J	
R19	RK73HB1J562J	MG RESISTOR	5.6kΩ 1/16W J	
R20	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R22	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R23	RK73HB1J473J	MG RESISTOR	47kΩ 1/16W J	
R24	RK73HB1J103J	MG RESISTOR	10kΩ 1/16W J	
R25	RK73HB1J103J	MG RESISTOR	10kΩ 1/16W J	
R26	RK73HB1J123J	MG RESISTOR	12kΩ 1/16W J	
R27	RK73HB1J473J	MG RESISTOR	47kΩ 1/16W J	
R28	RK73HB1J470J	MG RESISTOR	47Ω 1/16W J	
R30	RK73HB1J390J	MG RESISTOR	39Ω 1/16W J	
R32	RK73HB1J103J	MG RESISTOR	10kΩ 1/16W J	
R33	RK73HB1J000J	MG RESISTOR	0Ω 1/16W J	
R34	RK73HB1J101J	MG RESISTOR	100Ω 1/16W J	
R35	RK73HB1J101J	MG RESISTOR	100Ω 1/16W J	
R36	RK73HB1J101J	MG RESISTOR	100Ω 1/16W J	
R37	RK73HB1J101J	MG RESISTOR	100Ω 1/16W J	
R38	RK73HB1J102J	MG RESISTOR	1kΩ 1/16W J	
R39	RK73HB1J102J	MG RESISTOR	1kΩ 1/16W J	
R40	RK73HB1J102J	MG RESISTOR	1kΩ 1/16W J	
R41	RK73HB1J102J	MG RESISTOR	1kΩ 1/16W J	
L1	LB73G0BF-001	CHIP FERRITE		
101	B11-1885-03	ILL.GUIDE		
102	B3H-0180-00	LCD		
103	E29-1231-25	INTER CONNECTOR		
104	G1B-0504-00	SHEET	MOUNTING HARDWARE	
105	J21-8629-03	MOUNTING		
CN1	E40-6851-05	F.C.CONNECTOR		
J1	E58-0535-05	MODULAR JACK		

Packing materials and accessories parts list (NX-1700 Series)

Block No.M3MM



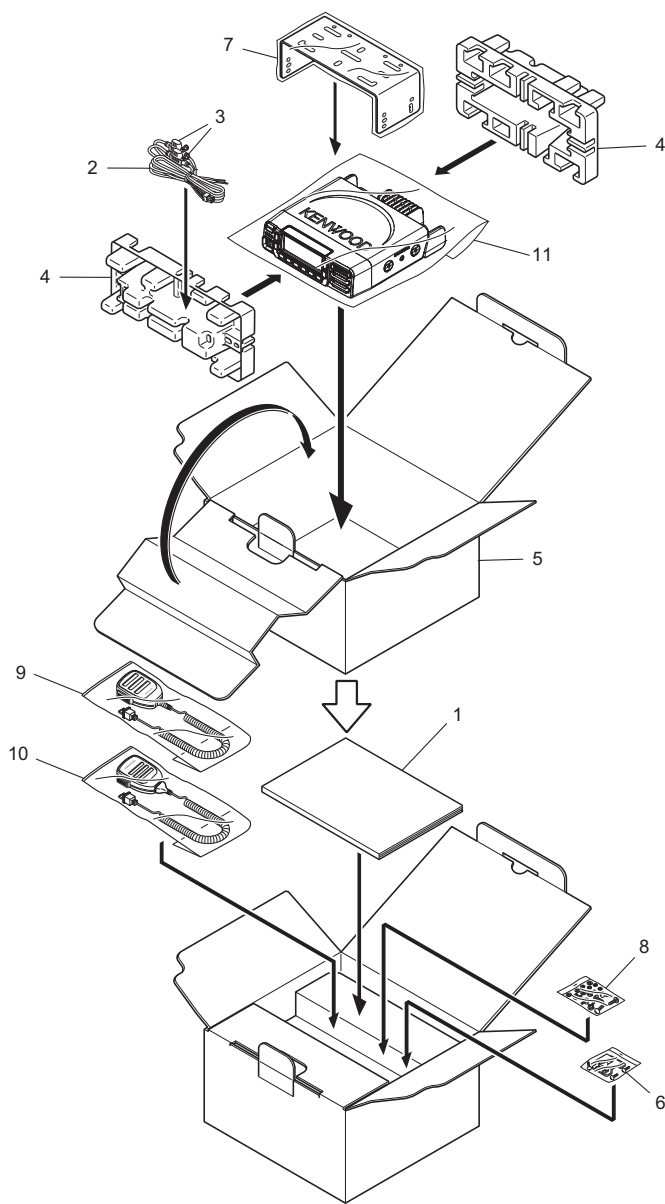
Packing and accessories

Block No. [M][3][M][M]

△ Symbol No.	Part No.	Part Name	Description	Local
1	B5A-2856-20	INST.MANUAL	A2,P2,SAFETY MANUAL	17NE,17DE,17AE
1	B5A-4029-10	INST.MANUAL	A2,P2	17NE,17DE,17AE
1	B5A-4028-00	INST.MANUAL	A2,P2	17HNK,17HNVK,17HDK,17HDVK,17HAK,17HAVK
2	E3A-0939-00	DC CORD ASSY	ACC	
3	FZB10AU-100	BLADE FUSE	ACC 10A(x2)	17NE,17DE,17AE
3	FZB10AU-150	BLADE FUSE	ACC 15A(x2)	17HNK,17HNVK,17HDK,17HDVK,17HAK,17HAVK
4	H12-3178-25	PACKING FIXTURE	(x2)	
5	H5A-0946-00	ITEM CARTON		
6	J19-1584-15	HOLDER	ACC FOR MIC	17HNK,17HNVK,17HDK,17HDVK,17HAK,17HAVK
7	J29-0726-03	BRACKET	ACC	
8	N99-2039-05	SCREW SET	ACC	
9	-----	MIC UNIT	ACC KMC-60	17HNK,17HDK,17HAK
10	-----	MIC UNIT	ACC KMC-65	17HNVK,17HDVK,17HAVK
11	-----	PROTECTION BAG	RADIO	

Packing materials and accessories parts list (NX-1800 Series)

Block No.M4MM



Packing and accessories

Block No. [M][4][M][M]

Symbol No.	Part No.	Part Name	Description	Local
1	B5A-2856-20	INST.MANUAL	A2,P2,SAFETY MANUAL	18NE,18NE2,18DE,18DE2,18AE
1	B5A-4029-10	INST.MANUAL	A2,P2	18NE,18NE2,18DE,18DE2,18AE
1	B5A-4028-00	INST.MANUAL	A2,P2	18HNK2,18HNUK2,18HDK2,18HDK2,18HAK2,18HAUK2
2	E3A-0939-00	DC CORD ASSY	ACC	
3	FZB10AU-100	BLADE FUSE	ACC 10A(x2)	18NE,18NE2,18DE,18DE2,18AE
3	FZB10AU-150	BLADE FUSE	ACC 15A(x2)	18HNK2,18HNUK2,18HDK2,18HDK2,18HAK2,18HAUK2
4	H12-3178-25	PACKING FIXTURE	(x2)	
5	H5A-0946-00	ITEM CARTON		
6	J19-1584-15	HOLDER	ACC FOR MIC	18HNK2,18HNUK2,18HDK2,18HDK2,18HAK2,18HAUK2
7	J29-0726-03	BRACKET	ACC	
8	N99-2039-05	SCREW SET	ACC	
9	-----	MIC UNIT	ACC KMC-60	18HNK2,18HDK2,18HAK2
10	-----	MIC UNIT	ACC KMC-65	18HNUK2,18HDK2,18HAUK2
11	-----	PROTECTION BAG	RADIO	



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