KENWOOD

NX-1200 series
NX-1300 series
Function List
(Function Reference)

Version:	1.00
Last Updated:	October 07, 2019
Language:	English
Type:	K

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1 Object Models

Table 1-1 Object Models

Protocol	Frequency	Model Name	Model Type	Remark
NXDN/ ANALOG[*1]	136 MHz – 174 MHz	NX-1200 N K2	Standard[*3]	
		NX-1200 N K	Basic[*4]	
	400 MHz – 470 MHz	NX-1300 N K5	Standard[*3]	
		NX-1300 N K4	Basic[*4]	
DMR/ ANALOG[*2]	136 MHz – 174 MHz	NX-1200 D K2	Standard[*3]	
		NX-1200 D K	Basic[*4]	
	400 MHz – 470 MHz	NX-1300 D K5	Standard[*3]	
		NX-1300 D K4	Basic[*4]	

Table 1-2 Object Models (U.S.A only)

Protocol	Frequency	Model Name	Model Type	Remark
NXDN/ ANALOG[*1]	136 MHz – 174 MHz	NX-1200 NV K2	Standard[*3]	
		NX-1200 NV K	Basic[*4]	
	400 MHz – 470 MHz	NX-1300 NU K5	Standard[*3]	
		NX-1300 NU K4	Basic[*4]	
DMR/ ANALOG[*2]	136 MHz – 174 MHz	NX-1200 DV K2	Standard[*3]	
		NX-1200 DV K	Basic[*4]	
	400 MHz – 470 MHz	NX-1300 DU K5	Standard[*3]	
		NX-1300 DU K4	Basic[*4]	

[*1] Firmware base on "NXDN/ ANALOG". When use as DMR, it is necessary to rewrite the firmware and activate software option.
[*2] Firmware base on "DMR/ ANALOG". When use as NXDN, it is necessary to rewrite the firmware and activate software option.
[*3] Standard Model:
With LCD and Front 7 Buttons
Zone/ Channel Number: 128 zones/ 250 channels per zone, 260 channels per transceiver
[*4] Basic Model:
No LCD and No Front Button
Zone/ Channel Number: 4 zones/ 16 channels per zone, 64 channels per transceiver

1.1 Firmware Version

Table 1-3 Firmware Version

Item	Specifications	Remark
Firmware Version of the Transceiver	1.00.00	
Version of KPG-D6/ KPG-D6N[*1]	V1.00	

[*1] KPG-D6N is the programming software to configure functions for the transceiver to be used in the U.S.A.

The following Radio Feature License is required to use the functions described in this manual.

Table 1-4 Radio Feature License

Function Name	Radio Feature License	Remark
ENHANCED ENCRYPTION	KWD-1500EE	40bit ARC4 (DMR)
REMOTE CONTROL	KWD-1501RC	(DMR/NXDN)

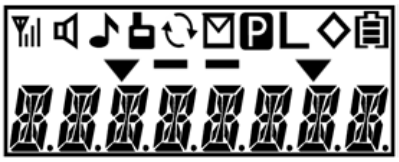
2 Specifications

Table 2-1 Specifications List

DMR Mode	NXDN Mode	ANALOG Mode
・ DMR Digital Air Interface ・ Channel Spacing 12.5 kHz (Narrow) ・ VOX ・ Over-the-Air Alias ・ Late Entry ・ Auto Slot Select ・ Individual Call ・ Paging Call ・ Group Call & Broadcast Call ・ Status Message ・ Short Message ・ Unaddressed Call ・ Call Interruption ・ GPS Combination ・ Remote Control ・ Remote Stun/ Kill ・ Remote Monitor ・ Site Roaming ・ Emergency Call ・ Bit Scramble Encryption ・ Single Scan ・ Multi Scan ・ Priority Scan	・ NXDN Digital Air Interface ・ Channel Spacing 6.25 kHz (Very Narrow) 12.5 kHz (Narrow) ・ VOX ・ Over-the-Air Alias ・ Late Entry ・ Individual Call ・ Paging Call ・ Group Call ・ Status Message ・ Short Message ・ GPS Combination ・ Remote Control ・ Remote Stun/ Kill ・ Remote Monitor ・ Site Roaming ・ Emergency Call ・ Bit Scramble Encryption ・ Single Scan ・ Multi Scan ・ Priority Scan	General ・ Channel Spacing 12.5 kHz (Narrow) 25.0 kHz (Wide) ・ FleetSync, MDC-1200 ・ 2-tone/ DTMF ・ VOX ・ Single Scan ・ Multi Scan ・ Priority Scan FleetSync ・ PTT ID/ Caller ID ・ Selective/ Group Call ・ Paging Call ・ Status Message ・ Emergency, Short Message MDC-1200 ・ PTT ID/ Caller ID ・ Selective/ Group Call ・ Emergency Response ・ Radio Check, Radio Inhibit/ Radio Uninhibit

3 DMR function

Displaying the Voltage Value of a Battery When the Transceiver Is Turned ON (**Power-on (Battery Voltage)**)

Type	■ Standard model ☐ Basic model	
Description	**Battery Voltage** is the function to display the voltage value of a battery when the transceiver is turned ON.	
Operating the transceiver		• Turn the [Power/Volume Knob] clockwise from the power-off position. Transceiver behavior : • The transceiver is turned on. • Power-on Tone sounds. • All LCD segments and icons light up for a minimum of 500ms or until the Power-on Tone has finished sounding, whichever is longer.
		Transceiver behavior : • The voltage value is displayed after the “BATT”. (The detected voltage value is 7.00V)
Note	-	
Configuration using FPU	**Battery Voltage** : Edit > Optional Features > Optional Features 1 > Common 2 > Power-on	

Displaying the LED When the Transceiver Is Turned ON (**Power-on (LED)**)

Type	■ Standard model ■ Basic model	
Description	Setting the color of the LED that lights up when the power is on, for example, groups can be color coded when grouping is necessary. Setting the color of the LED that lights up for about 2 seconds at startup. ・ Yellow ・ Purple ・ Blue ・ Light Blue ・ Red ・ Green ・ White	
Operating the transceiver	-	-
Note	For Basic Model, LED Blinking Color of Error Mode are summarize as below.	
Configuration using FPU	**LED** : Edit > Optional Features > Optional Features 1 > Common 2 > Power-on	

LED Blinking Color of Error Mode

Error	Blinking Color	
Kill	Yellow	Purple
Unprogramming mode	Yellow	Blue
Key Fail	Yellow	Green
Data Error	Yellow	Light Blue
Voice Data Error	Yellow	-
ESN Error	Red	Purple
Feature Error	Red	Blue

Using Function Buttons (**Mode Reset Timer**)

Type	■ Standard model ■ Basic model	
Description	**Mode Reset Timer** is the timer for canceling the standby status of further key entry in Function Mode, and for canceling the function activation status of 2nd Function. By using this function, Function Mode does not need to be disabled manually. The function also helps by canceling the Function Mode automatically so as not to remain in Function Mode for too long. If no button is pressed before the amount of time configured in **Mode Reset Timer** expires, the transceiver returns to the previous mode. If a **Function** button is pressed, the transceiver waits for a function configured for 2nd Function to be activated, and then **Mode Reset Timer** starts counting down. If no button is pressed before the amount of time configured in **Mode Reset Timer** expires, the transceiver cancels waiting for the function to be activated. **Mode Reset Timer** can be extended by button operation. **Mode Reset Timer** is used for the following Function Modes. • 2-tone Mode • Autodial Mode • Autodial Programming Mode • Channel Entry Mode • External Mic Sense Mode*1 • External Speaker Mode • Fixed Volume Mode*1 • Group Call Mode • Individual Call Mode • Maintenance Display Mode • Menu Mode • Mic Sense Mode*1 • Microphone Type Mode*1 • OST Mode (OST List) • Priority-channel Select Mode • Radio Check Mode*1 • Radio Inhibit Mode*1 • Radio Uninhibit Mode*1 • Remote Control Mode • RX Audio Equalizer Mode*1 • RX Audio Gain Control Mode*1 • Scrambler/Encryption Code Mode • Selcall Mode • Short Message Mode • Speaker Type Mode*1 • Squelch Level Mode • Stack Mode • Status Mode • Transceiver Password Mode*2 • TX Audio Equalizer Mode*1 • VOX Gain Level Mode *1 Modes entered only from Menu Mode. *2 “PASSWORD” reappears on the display when the duration configured in **Mode Reset Timer** elapses.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Mode Reset Timer** : Edit > Optional Features > Optional Features 1 > Common 1	

Locking the Transceiver Buttons (**Button Lock/ Auto Button Lock Timer**)

Type	■ Standard model ■ Basic model	
Description	**Button Lock** is the function to disable the transceiver button operation. This function prevents the incorrect operation of the transceiver by physical contact while carrying the transceiver, such as around the waist. **Auto Button Lock Timer** is the function to automatically enable the Button Lock when no button is operated after the Button Lock is disabled.	
Operating the transceiver	-	-
Note	Buttons assigned with the following functions can be used even while the Button Lock is enabled: ・ Emergency ・ Backlight ・ Battery Status ・ Call Response ・ Clear ・ Function ・ Button Lock ・ Monitor ・ Monitor Momentary ・ Squelch Off ・ Squelch Off Momentary ・ Save Log Data If no button is operated for the amount of time configured in Auto Button Lock Timer after the Button Lock is disabled, the Button Lock is automatically enabled.	
Configuration using FPU	**Front Buttons** : Edit > Button Assignment > General > Button Lock **Side Buttons** : Edit > Button Assignment > General > Button Lock **PTT Switch** : Edit > Button Assignment > General > Button Lock **Selector** : Edit > Button Assignment > General > Button Lock **Volume Control** : Edit > Button Assignment > General > Button Lock **Auto Button Lock Timer** : Edit > Optional Features > Optional Features 1 > Common 1	

Display Functions of the Display (**Display Format**)

Type	■ Standard model ☐ Basic model	
Description	**Display Format** is the function to display the Channel Name or both the zone number and channel number on the display. **Display Format** Configuration: Channel Name — Displays the Channel Name. Configuration: Zone-Channel Number — Displays both the zone number and channel number.	
Operating the transceiver	-	-
Note	• Refer to [Display Format] button assignment for details on how to change the Display Format.	
Configuration using FPU	**Display Format** : Edit > Optional Features > Optional Features 1 > Common 1	

Lighting the Backlight (**Auto Backlight**)

Type	■ Standard model ☐ Basic model	
Description	The backlight is equipped on the back side of the LCD on the transceiver. By lighting the backlight, the LCD can be viewed in dark places or at night. Pressing the **Backlight** button toggles the backlight between On and Off. **Auto Backlight** is enabled, the backlight lights when operating any button of the transceiver, or when receiving a call.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Backlight Timer**, **PTT Press**, **Any Operation**, **Call/Message Receive** : Edit > Optional Features > Optional Features 1 > Common 1 > Auto Backlight	

Reducing the Influence of the Internal Beat (**Beat Shift**)

Type	■ Standard model ■ Basic model	
Description	**Beat Shift** can be used to eliminate the influences of heterodyning in the transceiver caused by internal oscillators. Due to the transceiver's circuit configuration, the harmonics of the oscillators may interfere with reception depending on the receive frequency. The interference to reception can be avoided by slightly shifting the frequency of the oscillator. **Beat Shift** can be configured for each channel.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Beat Shift** : Edit > Zone Information > Channel Edit > General	

Changing the Zone-channel (**Rollover/End Stop**)

Type	■ Standard model ■ Basic model	
Description	**Rollover/End Stop** is the method to configure how a zone or channel migrates when changing the zone or channel using the PF buttons or Selector on the transceiver. **Rollover/End Stop** Configuration: Rollover — A Rollover Tone (1 beep) sounds from the transceiver and the transceiver migrates to the zone or channel having the lowest number when attempting to increase the zone or channel number while the zone or channel having the largest number is selected. The transceiver migrates to the zone or channel having the largest number when attempting to decrease the zone or channel number while the zone or channel having the lowest number is selected. Configuration: End Stop — The zone or channel in the range between the highest and lowest numbers can be selected. The zone or channel number is not looped. A Stop Tone (1 beep) sounds from the transceiver and the transceiver does not migrate to a different zone or channel when attempting to increase the zone or channel number while the zone or channel having the largest number is selected. Also, a Stop Tone (1 beep) sounds from the transceiver and the transceiver does not migrate to a different zone or channel when attempting to decrease the zone or channel number while the zone or channel having the lowest number is selected.	
Operating the transceiver	-	-
Note	• For Basic model, [Selector] cannot be locked by Button Lock.	
Configuration using FPU	**Rollover/End Stop** : Edit > Optional Features > Optional Features 1 > Common 1	

Transmit and Receive (**Transmit Power**)

Type	■ Standard model ■ Basic model	
Description	**Transmit Power** is the transmission power of the transceiver. A user can use the transceiver by switching the transmission power to high power, medium power or low power. • When High Transmit Power is on, transceiver operates at High Transmit Power (5W). • When Medium Transmit Power is on, transceiver operates at Medium Transmit Power (4W). • When Low Transmit Power is on, transceiver operates at Low Transmit Power (1W).	
Operating the transceiver	-	-
Note	• There is icon (L) about Low Transmit Power only. In other cases, the transmit power icon is not displayed. • Refer to the user manual for instructions on how to configure the transceiver about PF Button.	
Configuration using FPU	**Transmit Power** : Edit > Zone Information > Channel Edit > General	

Transmit and Receive (**Channel Spacing**)

Type	■ Standard model ■ Basic model	
Description	**Channel Spacing** is the channel spacing used by the transceiver to transmit and receive. Channel spacing is the spacing of frequencies between adjacent channels. In a DMR Conventional system, the channel spacing is fixed at 12.5 kHz.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**RX Frequency**, **TX Frequency** : Edit > Zone Information > Channel Edit > General	

Configuring Audio Profile (**Digital Audio Offset**)

Type	■ Standard model ■ Basic model	
Description	**Digital Audio Offset** is the function to enable the transceiver to function after the offset value configured in **Digital Audio Offset** is added to or deleted from the configuration values in **Microphone Sense** and **External Microphone Sense**. This function is used when the microphone level used on digital channels and the microphone level used on analog channels are to be configured separately. The configuration range of **Digital Audio Offset** is between -10 dB and +6 dB. On a digital channel, the transceiver functions with the combined value of the configuration value in **Microphone Sense** or **External Microphone Sense** and the configuration value in **Digital Audio Offset**.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Digital Audio Offset** : Edit > Optional Features > Optional Features 1 > Common 1 > Microphone Sense	

Configuring Audio Profile (Audio Profile) (**Microphone Type**)

Type

■ Standard model ■ Basic model

Description

Microphone Type is the function to configure the type of external microphone to be connected to the transceiver and keep the audio quality in optimum condition.
The external microphones to be connected to the transceiver have different audio characteristics. Use of this function equalizes audio characteristics and corrects the condition to be optimum for digitalization.

Microphone Type

Microphone Type	Description
None	Disables the capability to adjust audio characteristics. This configuration is used when not wanting to change the audio characteristics.
Microphone 1	KMC-45D
Microphone 2	KMC-48GPS*
Microphone 3	KMC-21
Microphone 4	KHS-7, KHS-8, KHS-22, KHS-25, KHS-26, KHS-27, KHS-31
Microphone 5	KHS-23, KHS-35F
Microphone 6	KHS-10
Microphone 7	EMC-11, EMC-12
Microphone 8	Reserved. Audio quality is same as None.
Microphone 9	KHS-29F
Microphone 10	Reserved. Audio quality is same as None.
Microphone 11	KHS-8NC

*Not support for DMR.

Operating the transceiver

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Note

- Burst noise may occur if an external microphone other than KMC-45D is used.
- If using an external microphone unlisted in the table above, configuring “None” in **Microphone Type** is recommended.

Configuration using FPU

Microphone Type : Edit > DMR > Conventional 2 > Audio > TX Audio Response

PF_BTN[Menu]
Edit > Button Assignment > Menu

Configuring Audio Profile (Audio Profile) (**Speaker Type**)

Type	■ Standard model ■ Basic model
Description	**Speaker Type** is the function to configure the type of external speaker to be connected to the transceiver and keep the audio in optimum condition. The external speakers to be connected to the transceiver have different audio characteristics. Using this function equalizes audio characteristics that differ for each speaker, and can correct the demodulated sound when a digital signal is received.

Speaker Type

Speaker Type	Description
None	Disables the capability to adjust audio characteristics. This configuration is used when not wanting to change the audio characteristics.
Speaker 1	KMC-45D
Speaker 2	KMC-48GPS
Speaker 3	KMC-21
Speaker 4	KHS-7, KHS-8, KHS-22, KHS-25, KHS-26, KHS-27, KHS-31
Speaker 5	KHS-23, KHS-35F
Speaker 6	KHS-10
Speaker 7	EMC-11, EMC-12
Speaker 8	Reserved. Audio quality is same as None.
Speaker 9	KHS-29F
Speaker 10	KEP-2
Speaker 11	KHS-8NC

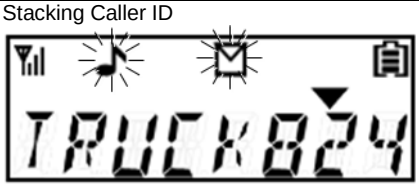
Operating the transceiver	-	-
Note	• If using an external speaker unlisted in the table above, configuring “None” in Speaker Type is recommended.	
Configuration using FPU	**Speaker Type** : Edit > DMR > Conventional 2 > Audio > RX Audio Response PF_BTN[Menu] Edit > Button Assignment > Menu	

Viewing the Receive History (Stack) (**Retain Stacked Message**)

Type	■ Standard model ☐ Basic model
Description	In Stack Mode, the incoming call history (Caller ID) can be viewed. In an analog system (FleetSync), an NXDN system, or a DMR system, in addition to the incoming call history, received Status Messages and Short Messages can be viewed in Stack Mode. Received IDs and messages are stored in the stack memory of the transceiver. In order to store the received IDs and various messages in the stack memory of the transceiver, Caller ID Stack, Status Message Stack, or Short Message Stack needs to be individually enabled by using KPG-D6/ D6N. The “ ✉ ” icon appears if messages are stored in the transceiver. If there is an unread message, the “ ✉ ” icon blinks. Pressing the PF_BTN[Stack] places the transceiver in Stack Mode. Or, the transceiver can also be placed in Stack Mode by selecting “Stack” after placing the transceiver in Menu Mode by pressing the PF_BTN[Menu]. **Retain Stacked Message** is the function to retain the stored Caller IDs, Status Messages, or Short Messages in the stack memory of the transceiver even after the transceiver is turned OFF.

Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Short Message Stack**, **Retain Stacked Message** : Edit > Optional Features > Optional Features 1 > Common 4 > Stack Condition	

The function to store IDs of callers in the stack memory (**Caller ID Stack**)

Type	■ Standard model ☐ Basic model
Description	**Caller ID Stack** is the function to store IDs of callers in the stack memory. The transceiver can store a maximum of 64 Caller IDs. **Caller ID Stack** Configuration: None — The Caller ID is not stored even if a call is received. Configuration: Individual Call, — Only the Caller ID of an Individual Call or Paging Call is stored. Configuration: Any Call — The Caller IDs of all calls are stored. However, the Caller IDs of Unaddressed Calls and Broadcast Group Calls are not stored in a DMR Conventional system.
Operating the transceiver	Stacking Caller ID  Transceiver behavior : • When the transceiver receives a call, ☑ icon blinks to indicate that the Caller ID is being stacked.
Note	-
Configuration using FPU	**Caller ID Stack** : Edit > Optional Features > Optional Features 1 > Common 4 > Stack Condition **Call ID for Message**, **Channel Name**, **Stack Order** : Edit > Optional Features > Optional Features 1 > Common 4 > Message Display **Status Hold** : Edit > Optional Features > Optional Features 1 > Common 4

Viewing the Receive History (Stack) (**Clear Caller ID Stack on Reply**)

Type	■ Standard model ☐ Basic model
Description	**Clear Caller ID Stack on Reply** is the function to clear a Caller ID from the stack memory of the transceiver if the Caller ID stored in the stack memory is selected and called back. Also, the Caller ID of the calling party is stored in the stock memory when the transceiver receives a call, but the Caller ID is cleared from the stack memory if a response is initiated while the Auto Reset Timer is counting down. Subsequently, the Caller ID is not stored in the stack memory even if a call from the same party is received while the Auto Reset Timer is counting down. If this function is disabled, a Caller ID is not cleared from the stack memory of the transceiver even if the Caller ID stored in the stack memory is selected and called back.
Operating the transceiver	- / -
Note	-
Configuration using FPU	**Clear Caller ID Stack on Reply** : Edit > DMR > General **Caller ID Stack** : Edit > Optional Features > Optional Features 1 > Common 4 > Stack Condition

Indication and Display (**Selective Call Alert LED**)

Type	■ Standard model ■ Basic model
Description	Selective Call Alert LED is the function to make the LED flash when the transceiver receives a call using a DMR ID. A user can notice by the LED that the transceiver is receiving a call. One of the 7 colors can be used to make the LED flash, and the flashing color can be configured for each type of call. • Yellow • Purple • Blue • Light Blue • Red • Green • White
Operating the transceiver	- / -
Note	-
Configuration using FPU	**Selective Call Alert LED** : Edit > DMR > Conventional 3 **Individual Call**, **Group Call**, **Broadcast Group Call**, **Paging Call** : Edit > DMR > Conventional 3 > Selective Call Alert LED > LED Color

Indication and Display (**Optional Signaling LED**)

Type	■ Standard model ■ Basic model	
Description	**Optional Signaling LED** is the function to make the LED flash yellow when the Optional Signaling matches. A user can notice by the LED that the transceiver is receiving a call. If the matching state of Optional Signaling is disabled when the buttons on the transceiver are pressed, or when the time configured in **Auto Reset Timer** elapses, the LED is turned off. However, if **Selective Call Alert LED** is enabled, the LED flashes according to the configuration in Selective Call Alert LED even if **Optional Signaling LED** is enabled.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Optional Signaling LED** : Edit > DMR > Conventional 3	

Configuring the Alert Tone Pattern (**Special Alert Tone**)

Type	■ Standard model ■ Basic model	
Description	This tone sounds from the transceiver when the transceiver receives various types of calls, Status Message, or Short Message. A maximum of 8 types of tones can be arbitrarily configured or changed. An Alert Tone sounds from the transceiver such as when the transceiver receives a call using an Individual Call or a Group Call, a Status Message, or a Short Message and notifies the user of the reception. The Alert Tone pattern can be configured by selecting from 8 types of tones configured in **Special Alert Tone**. Alert Tone is the alert tone pattern when receiving a call with the optional signaling. An Alert Tone that is suitable for a user's environment can be selected. Alert Tone can be used to select from 8 patterns of Alert Tones. An Alert Tone pattern consists of 16 tones. Alert Tone can be configured by using KPG-D6/ D6N. The following table shows the configuration items.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Cycle**, **Interval Time**, **Frequency**, **Length** : Edit > Special Alert Tone	

Alert Tone

Configuration	Description
Cycle	This function can be used to configure the number of times for the Alert Tone that sounds from the transceiver. A number from 1 to 255 can be configured. The Alert Tone sounds from the transceiver until it is manually stopped if "Infinite" is configured. If it is intended for the Alert Tone to sound multiple times, the Alert Tone does not sound from the transceiver while the transceiver unmutes the speaker. Or, if the matching state of Optional Signaling is reset, Alert Tone will also be disabled.
Interval Time	This function can be used to configure the timing to repeat the Alert Tone that sounds from the transceiver. A time between 0 s and 255 s can be configured in steps of 1 s.
Frequency	The tone frequency can be configured. A frequency between 400 Hz and 2500 Hz can be configured in steps of 10 Hz. Gap can be configured if "None" is selected.
Length	The tone length can be configured. A tone length between 0 ms and 2500 ms can be configured in steps of 10 ms. No tone sounds if 0 ms is configured.

Restricting an Alert Tone When Consecutively Receiving a Call (**Alert Tone Inhibit from 2nd Call**)

Type	■ Standard model ■ Basic model	
Description	**Alert Tone Inhibit from 2nd Call** is the function that disables the functions such as the storing of a Caller ID in the transceiver stack memory and the activation of various alerts, if the transceiver consecutively receives an Individual Call from the transceiver having the same Individual ID, or receives a Group Call with the same Group ID after the transceiver receives an Individual Call or a Group Call. For instance, emitting an Alert Tone from the transceiver every time the transceiver repeatedly and frequently receives a call from the same party may be annoying. In that case, this function can be used to disable the Alert Tone for sounding from the transceiver even if the transceiver receives a call from the same party in succession.	
Operating the transceiver	-	-
Note	• If **Alert Tone Inhibit from 2nd Call** is enabled, various functions such as Alert Tone will not be activated upon the reception of the second and subsequent calls from the same transceiver even if “Off” is configured in **Auto Reset Timer**. • If “0” configured in **Auto Reset Time**r, **Alert Tone Inhibit from 2nd Call** will not be activated.	
Configuration using FPU	**Alert Tone Inhibit from 2nd Call** : Edit > DMR > General **Auto Reset Timer**, **LCD**, **LED**, **Alert Tone** : Edit > DMR > Conventional 2 > Auto Reset > Voice **Auto Reset Timer**, **LCD**, **Alert Tone** : Edit > DMR > Conventional 2 > Auto Reset > Message	

Using Voice Guidance (**Voice Announcement**)

Type	■ Standard model ■ Basic model	
Description	**Voice Announcement** is the function to notify the following contents by voice. • The selected Zone-channel number when the transceiver is turned ON and the new Zone-channel number when the Zone-channel is changed. • The function status and transceiver status when the PF button is operated. ・Encryption ・Scrambler ・VOX Function ・Home Channel ・Button Lock ・Low Transmit Power ・Scan ・Send the GPS Data ・Speaker Attenuation ・Talk Around	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Zone-Channel Guide**, **Function Guide** : Edit > Optional Features > Optional Features 1 > Common 1 > Voice Announcement	

Reducing Battery Consumption (**Battery Saver**)

Type	■ Standard model ■ Basic model
Description	**Battery Save**r allows the transceiver to reduce power consumption by receiving intermittently. The transceiver receives intermittently when there is no carrier and no button is pressed for 5 sec or more, or when the transceiver is in the following states. When there is a carrier, but the Color Code does not match the code preconfigured for the transceiver and no button is pressed for 5 sec or more Extension of the intervals for intermittent reception may reduce the battery consumption; however, interruptions to introductory parts of received audio may occur. To use **Battery Saver** effectively, there are systemic issues to consider, for instance, the duration from when the transceiver starts transmitting until the transceiver starts sending audio. Intervals for intermittent reception are as follows. **Duration of the Battery Saver**

Save	No Carrier	Inconsistent Status of Color Code
Off	Off	Off
Short	200 ms	Off
Medium	400 ms	800 ms
Long	800 ms	1600 ms

Operating the transceiver	-	-
Note	• Battery Saver does not function in Scan Mode and Site Roaming Mode.	
Configuration using FPU	**Battery Saver**, **Battery Indicator, Battery Warning**, **Battery Warning Tone**, **Battery Level Tone** : Edit > Optional Features > Optional Features 1 > Common 3 > Battery	

Password for Transceiver Operation (**Transceiver Password**)

Type	■ Standard model ■ Basic model	
Description	**Transceiver Password** protects the transceiver from unauthorized usage. Placing the transceiver in Transceiver Password Mode prevents the transceiver from being used. The transceiver exits Transceiver Password Mode and becomes available if a password is entered and the password is correct.	
Operating the transceiver	-	-
Note	• Refer to the user manual for instructions on how to operate the transceiver in Transceiver Password Mode.	
Configuration using FPU	**Transceiver Password** : Edit > Optional Features > Optional Features 1 > Common 1	

Password When Reading Configuration Data in a PC (**Password (Read)**)

Type	■ Standard model ■ Basic model	
Description	**Password (Read)** is the function to protect the configuration data, such as the operating frequencies, from being read by unauthorized persons if the transceiver should ever be stolen. To read data using KPG-D6/ D6N from the transceiver with **Password (Read)** configured, a password needs to be entered on a PC. The configuration data in the transceiver cannot be read unless the correct password is entered. **Password (Read)** can be configured for the transceiver using KPG-D6/ D6N. A password can be arbitrarily configured using a maximum of 16 alphanumeric characters. If the password authentication fails consecutively for the number of times configured in **Password Entry Limit**, the transceiver enters Transceiver Lockout Mode, and then "LOCKOUT" appears on the display. Also, for Basic Model, the LED lights switching between red and light blue. In Transceiver Lockout Mode, the transceiver cannot be operated. Writing configuration data to the transceiver by using KPG-D6/ D6N, the transceiver exits Transceiver Lockout Mode. Also, a failure in Password (Write) authentication counts as a failure in the password authentication. The number of failures in the password authentication is cleared by one of the following conditions: ・ When the transceiver is turned OFF and then turned ON again ・ When the correct password is entered ・ When configuration data is written to the transceiver by using KPG-D6/ D6N	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Password** : Edit > Optional Features > Optional Features 1 > Common 1 > Data Password > Read **Password Entry Limit** : Edit > Optional Features > Optional Features 1 > Common 1 > Data Password	

Password for Writing Configuration Data (**Password (Write)**)

Type	■ Standard model ■ Basic model	
Description	**Password (Write)** is the function to protect the configuration data from being overwritten by unauthorized persons if the transceiver should ever be stolen. To write data using KPG-D6/ D6N to the transceiver with **Password (Write)** configured, a password needs to be entered on a PC. **Password (Write)** can be configured for the transceiver using KPG-D6/ D6N. A password can be arbitrarily configured using a maximum of 16 alphanumeric characters.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Password**, **Confirmation** : Edit > Optional Features > Optional Features 1 > Common 1 > Data Password > Write **Password Entry Limit** : Edit > Optional Features > Optional Features 1 > Common 1 > Data Password	

Copying the Configuration Data to Another Transceiver (**Clone Mode**)

Type	■ Standard model ■ Basic model	
Description	**Clone Mode** can be used to copy the data configured for the transceiver to another transceiver.	
Operating the transceiver		• Turn the transceiver ON while pressing and holding the [Side 2] button. Transceiver behavior : • The transceiver enters Clone Mode.
		• Press the **PTT** switch. Transceiver behavior : • Tone A sounds from the transceiver and copying the data starts. • The LED lights red. Transceiver behavior : • Copy the data. • Copying the data ends. • The LED is turned off.
Note	• The following data cannot be copied in Clone Mode: ・Tuning Data ・Embedded Message with Password ・KENWOOD ESN Data ・Model Name ・Backup Data • If the data is copied to a transceiver having a different firmware version number, this may result in an error or a failure of the transceiver to function correctly. In such a case, the cloned transceiver operation must be verified prior to using this transceiver on a regular basis. • Refer to the service manual for instructions on how to operate the transceiver in Clone Mode, and for details on the Clone function.	
Configuration using FPU	**Clone** : Edit > Optional Features > Optional Features 1 > Common 2 > Mode	

Changing the Configuration of the Transceiver (Front Panel Programming Mode)

Type	■ Standard model ☐ Basic model	
Description	This mode can be used to change data, such as the frequency on a Conventional Channel, and to add a Conventional Channel in the transceiver only. Even if no KPG-D6/ D6N and PC is available, required data can be configured by using only the transceiver.	
Operating the transceiver		Transceiver behavior : • Press and hold [PTT]+[Side 1] during power on the transceiver will enter into Front Panel Programming mode with display of “PANEL PG”. • Press [S] to next stage.
	 Press [<B] 	Transceiver behavior : • Zone-Channel Selection stage. • “ZONE XXX” will be displayed to indicate zone number going to be configured in next stage where XXX is the zone number.
Note	• Pressing the **PTT** Switch and [Side 1] button places the transceiver in Front Panel Programming Mode. • Refer to the service manual for instructions on how to operate the transceiver in Front Panel Programming Mode.	
Configuration using FPU	**Front Panel Programming** : Edit > Optional Features > Optional Features 1 > Common 2 > Mode	

Checking the Firmware Version (**Transceiver Information**)

Type	■ Standard model ☐ Basic model	
Description	Transceiver Information Mode is the function to display the version of the firmware written in the transceiver and the corresponding checksum.	
Operating the transceiver	-	-
Note	• For Basic Model, **Transceiver Information** can be checked in the following FPU. **Transceiver Information** : Tools > Transceiver Information	
Configuration using FPU	**Transceiver Information** : Edit > Optional Features > Optional Features 1 > Common 2 > Mode	

Testing or Adjusting the Transmit and Receive Capabilities of the Transceiver (PC Test Mode)

Type	■ Standard model ■ Basic model	
Description	PC Test Mode can be used to test transmit and receive capabilities of the transceiver by using KPG-D6/ D6N. To test or adjust the transceiver in each mode, the transceiver and a PC with KPG-D6/ D6N installed need to be connected by using the programming cable.	
Operating the transceiver		• Enter Test Mode using the FPU. Transceiver behavior : • Test Mode is entered.
Note	• Refer to the service manual for operating the transceiver in PC Test Mode, and instructions on how to adjust transmit and receive capabilities.	
Configuration using FPU	-	

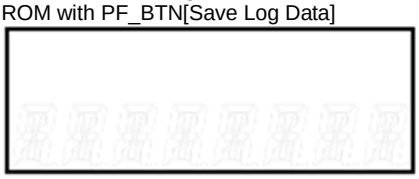
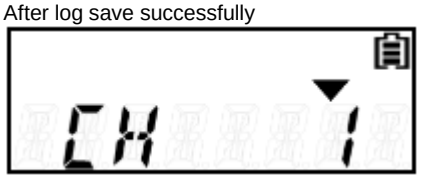
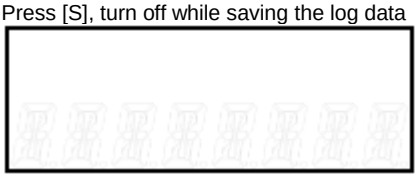
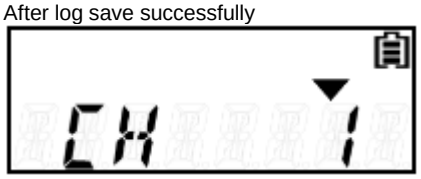
Testing or Adjusting the Transmit and Receive Capabilities of the Transceiver (PC Tuning Mode)

Type	■ Standard model ■ Basic model	
Description	PC Tuning Mode can be used to adjust transmit and receive capabilities of the transceiver by using KPG-D6/ D6N. To test or adjust the transceiver in each mode, the transceiver and a PC with KPG-D6/ D6N installed need to be connected by using the programming cable.	
Operating the transceiver		• Select a tuning item from the list of tuning items. Transceiver behavior : • Tuning Mode is entered.
Note	• Refer to the service manual for operating the transceiver in PC Tuning Mode, and instructions on how to adjust transmit and receive capabilities.	
Configuration using FPU	-	

Using VOX (VOX Function)

Type	■ Standard model ■ Basic model
Description	**VOX** is the function to transmit audio just by speaking into a microphone without pressing the **PTT** switch. This function can be used when a user cannot press the **PTT** switch, for instance, when a user is using both hands for other tasks. • **VOX Type** If **VOX Function Preset** is enabled, you can select either "VOX" or "Semi-VOX". **VOX** : ・ The transceiver automatically detects an audio signal from the microphone. ・ When the voice level from the microphone is higher than the reference level (VOX Gain Level), the transceiver automatically starts transmission. **Semi-VOX** : ・ Transmission is started by pressing PTT and transmission continues even after PTT is released. If **VOX Function Preset** is disabled, you cannot select the **VOX Type**. • **VOX Gain Level** **VOX Gain Level** is the input sensitivity of the microphone for activating VOX. This function is used to adjust the VOX to work properly based on the user's voice tone or the surrounding noise when a user transmits by speaking into a microphone. • **VOX Delay Time** **VOX Delay Time** is the duration for which the transceiver retains the transmission after VOX transmission. If the transceiver reverts to receive mode too quickly after a user pauses speaking, the last part of the speech may not be transmitted. To avoid this situation, VOX Delay Time needs to be configured so that the whole speech is transmitted and that the transmission retention time is not too long. Upon the elapse of the time configured in **VOX Delay Time** after no audio is inputted to the microphone, the transceiver terminates VOX transmission. VOX transmission is terminated. If audio is inputted to the microphone while **VOX Delay Time** is counting down, **VOX Delay Time** is reset and the audio transmission continues. • **Cancel by PTT** **Cancel by PTT** is the function to disable VOX by pressing the **PTT** switch when VOX is enabled. If VOX is disabled by **Cancel by PTT**, VOX is enabled by pressing and holding the PF_BTN[VOX Function] or by executing "VOX" after entering Menu Mode by pressing the PF_BTN[Menu] . If the PF_BTN[VOX Function] button is not configured and "VOX" is not configured in Menu Mode, VOX can be enabled by turning the transceiver OFF and ON again. • **VOX Proceed Tone** **VOX Proceed Tone** is the tone that sounds from the transceiver to notify that the audio transmission becomes available after the transmission is started by using VOX. If **VOX Proceed Tone** is enabled, a VOX Proceed Tone that notifies that the audio transmission becomes available sounds from the transceiver after the transmission is started by using VOX. • **Transmit Inhibit while Receiving** **Transmit Inhibit while Receiving** is the function to restrict the VOX transmission while the speaker of the transceiver is unmuted. This function can be used to prevent VOX from being activated by audio emitted from the speaker. If **Transmit Inhibit while Receiving** is enabled, the VOX transmission cannot be done while the speaker is unmuted. If **Transmit Inhibit while Receiving** is disabled, the VOX transmission can be done even while the speaker is unmuted.
Operating the transceiver	 • Press PF_BTN[VOX] to execute PF_BTN[VOX Function]. Transceiver behavior : • VOX is turned on. • ▬ icon is displayed. • If Function Guide is enabled, "VOX On" is announced and Tone A does not sound. • If Function Guide is disabled, only Tone A sounds. • Press PF_BTN[VOX] to execute PF_BTN[VOX Function]. Transceiver behavior : • VOX is turned off. • Tone B sounds and ▬ icon is turned off.
Note	• The following functions do not work when **VOX Type** is set to "Semi-VOX". **Cancel by PTT**, **VOX Proceed Tone**, **Transmit Inhibit while Receiving**
Configuration using FPU	**VOX Function Preset**, **VOX Type**, **VOX Gain Level**, **VOX Delay Time**, **Cancel by PTT**, **VOX Proceed Tone**, **Transmit Inhibit while Receiving** : Edit > Optional Features > Optional Features 2 > Conventional > VOX

Reading the Log Information of the Transceiver (Field Support) (**Save Log Data**)

Type	■ Standard model ■ Basic model	
Description	The transceiver always records the hardware failure information and the software status. This function saves the operation and communication logs of this transceiver.	
Operating the transceiver	Save transceiver log data into external Flash ROM with PF_BTN[Save Log Data] 	• Press and hold PF_BTN[Save Log Data]. Transceiver behavior : • Reset the transceiver software and save hardware errors history to Flash ROM. No tone sound at this time.
	After log save successfully 	
	Save transceiver log data into external Flash ROM in Menu Mode 	• Select [Save Log Data] from Menu mode. Transceiver behavior : • Reset the transceiver software and save hardware errors history to Flash ROM. No tone sound at this time.
	Press [S], turn off while saving the log data 	
	After log save successfully 	
Note	• This function depends on support.	
Configuration using FPU	PF_BTN[Save Log Data] Edit > Button Assignment > Front PF_BTN[Menu] Edit > Button Assignment > Menu	

Initiating Voice Communications (Basic Transmission and Reception) (Own ID)

Type	■ Standard model ■ Basic model	
Description	To initiate various communications using DMR, a Unit ID, the identification code of a transceiver, needs to be configured for the transceiver.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Unit ID**, **Global ID**, **Unit ID Name**, **Global ID Name** : Edit > Zone Information > Zone Edit - Conventional Group > ID (Own) > DMR	

Initiating Voice Communications (Basic Transmission and Reception) (**Auto Reset Timer**)

Type

■ Standard model ■ Basic model

Description

Auto Reset Timer is the amount of time from when the received Unit ID or Group ID matches the Unit ID or Group ID preconfigured for the transceiver until the LCD, blinking of LED and emission of Alert Tone will automatically be reset.

By using KPG-D6/ D6N, **Auto Reset Timer** can be configured. Also, how the transceiver behaves after the length of time configured in **Auto Reset Timer** elapses can be configured.

Auto Reset Timer

Configuration		Description
Auto Reset Timer (Voice or Message)	Off	**Auto Reset Timer** will not be activated.
	0 sec to 300 sec	After the configured time elapses, the matching state of the Unit ID or Group ID is automatically reset.
LCD (Voice or Message)		While this function is enabled, the display will change from one of the following displays to the previous channel display if the amount of time configured for **Auto Reset Timer** elapses. • ID display after receiving an Individual Call or Group Call • Status Message display after receiving a Status Message • Short Message display after receiving a Short Message
LED (Voice only)		If this function is enabled, the flashing Busy LED for the **Selective Call Alert LED** turns off when the length of time configured in **Auto Reset Timer** elapses.
Alert Tone (Voice or Message)		If this function is enabled, the intermittently emitted Alert Tone stops when the length of time configured in **Auto Reset Timer** elapses.

Operating the transceiver	-	-
Note	• Respective Auto Reset Timer can be configured for each voice communication (Voice) and data communication (Message). • Basic Model has no LCD setting.	
Configuration using FPU	**Auto Reset Timer**, **LCD**, **LED**, **Alert Tone** : Edit > DMR > Conventional 2 > Auto Reset > Voice **Auto Reset Timer**, **LCD**, **Alert Tone** : Edit > DMR > Conventional 2 > Auto Reset > Message	

Initiating Voice Communications (Basic Transmission and Reception) (**Over-the-Air Alias**)

Type

■ Standard model ■ Basic model

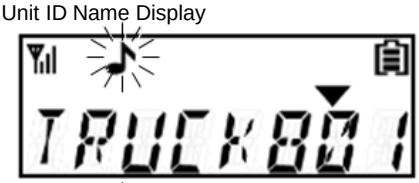
Description

Over-the-Air Alias allows the receiving transceiver to display the ID Name of the transmitting transceiver when receiving a call even if the ID Name of the transmitting transceiver is not configured for the receiving transceiver.

Using this function, Unit ID Name of the added unit does not need to be configured such as when a unit is added to the system in service.

Operating the transceiver

Unit ID Name Display



Transceiver behavior :
- When Individual Call is received, display Unit ID Name stored in received frame.

Transceiver behavior :
- If the caller's Unit ID is not registered in Unit ID List when the call is received, Unit ID No. is displayed.

Display when ID Name is not registered (when Group Call is received)

Transceiver behavior :
- If the caller's Unit ID is not registered in Unit ID List when the call is received, Unit ID No. is displayed.

If Unit ID Name is received while ID number is being displayed, the received Unit ID Name will be displayed.

after 500 ms

after 1.5 sec

(2 sec)

Note

If **Over-the-Air Alias** is enabled, the transceiver does not execute the Call Interruption reception behavior.

When Lookback is being executed during Priority Scan, Unit ID Name may not be displayed depending on the configuration in Lookback Time.

If Caller ID Stack is enabled, received Unit ID Name also is stored in the transceiver stack memory. The stored Unit ID Name is also reflected to ID Name with Individual ID List selected.

The Unit ID Name (Own) configured for the current system is used for the Unit ID Name to be transmitted.

The following is the time required for receiving signals to receive and display the text string of Over-the-Air Alias: The received text string does not appear if the communication time is shorter than the time listed below. Also, if the transceiver participates in an on-going call by Late Entry, or if the transmitting transceiver sends the GPS data, it may take longer to display a text string depending on the signal strength.

Date Format and Time Needed for Over-the-Air Alias Reception

Data Format	Approximately 1 sec	Approximately 2 sec	Approximately 2.5 sec	Approximately 3 sec
7-bit	7 characters	14 characters	23 characters	31 characters

Configuration using FPU

Over-the-Air Alias, Unit ID Name :
Edit > Zone Information > Zone Edit – Conventional Group > ID (Own) > DMR

Participating in an On-going Voice Call Midway Through the Call (**Late Entry**)

Type	■ Standard model ■ Basic model	
Description	The transceiver can participate in an on-going voice call even if the transceiver receives this call midway through. The transceiver in a DMR Conventional system can participate in an on-going voice call by decoding control data always sent along with audio data, even if the transceiver receives a voice call midway through the call.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	-	

Restricting the Continuous Transmission Duration (**Time-out Timer (TOT)**)

Type	■ Standard model ■ Basic model	
Description	**Time-out Timer (TOT)** is the function to restrict the duration for the transceiver to continuously transmit. This function is used to prevent a user from occupying a repeater or frequency which is shared with other users. The transceiver automatically stops transmitting and releases the channel if it continuously transmits longer than the configured time. **Time-out Timer** can be configured for each zone. Also, timers, such as **TOT Pre-alert**, **TOT Rekey Time**, and **TOT Reset Time**, relevant to **Time-out Timer** can be configured. • **TOT Pre-alert** **TOT Pre-alert** is the function to notify a user that a continuous transmission is about to end by the **Time-out Timer**. A TOT Pre-alert Tone (3 beeps) sounds from the transceiver before the transceiver stops the continuous transmission by the **Time-out Timer**. • **TOT Rekey Time** **TOT Rekey Time** is the amount of time from when the transceiver stops the transmission by the **Time-out Timer** until transmission becomes possible again. • **TOT Reset Time** **TOT Reset Time** is the time required to initialize and reset the elapsed time for **Time-out Timer**.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Time-out Timer (TOT), TOT Pre-alert**, **TOT Rekey Time**, **TOT Reset Time** : Edit > Zone Information > Zone Edit - Conventional Group	

Avoiding Interference with Other Communications (**Busy Channel Lockout**)

Type

■ Standard model ■ Basic model

Description

Busy Channel Lockout is the function to automatically restrict the transmission so as not to interfere with other communications.
If an attempt is made to transmit on a channel that is already being used by other groups, the transceiver automatically restricts the transmission.
If the **PTT** switch is pressed while **Busy Channel Lockout** is enabled, the transceiver cannot transmit with "BUSY" appearing on the display and a Warning Tone A (continuous beep) sounding from the transceiver at the same time. The Warning Tone A (continuous beep) sounds from the transceiver until the **PTT** switch is released.

The following are conditions to disable transmission by Busy Channel Lockout:

Busy Channel Lockout

Configuration	Description
No	**Busy Channel Lockout** is disabled. Transmission is not restricted even if the channel on which the transceiver attempts to transmit is busy.
Carrier Only	The transceiver cannot transmit while the transceiver is receiving a carrier.
Correct CC	The transceiver cannot transmit if the transceiver receives a carrier and the received Color Code matches the Color Code preconfigured for the transceiver.

The transceiver transmits according to the configurations in **Busy Channel Lockout** and **In-call Busy Channel Lockout**.
In-call Busy Channel Lockout is configured when audio can be emitted for a received call.
The following are the conditions to transmit and receive by **In-call Busy Channel Lockout**:

In-call Busy Channel Lockout

Configuration	Description
Allow TX	If the **PTT** switch is pressed during a call, transmission is not restricted regardless of the configuration in **Busy Channel Lockout**. However, if "Carrier Only" or "Correct CC" is configured in **Busy Channel Lockout** and when the following occurs, Busy Channel Lockout functions: • When a call is started by a different type of call from the current incoming call • When a call is started with an ID that is different from the call ID used for the current incoming call
Follow BCL	If the **PTT** switch is pressed during a call, transmission is restricted according to the configuration in **Busy Channel Lockout**.
Interrupt CALL	The current incoming call can be interrupted by pressing the **PTT** switch to respond (Talkback) while the transceiver is receiving an Individual Call, Group Call, or Unaddressed Call to the own transceiver.

Operating the transceiver	-	-

Note

- **Busy Channel Lockout** cannot be activated in Emergency Mode.

Configuration using FPU

Busy Channel Lockout : Edit > Zone Information > Channel Edit > DMR
In-call Busy Channel Lockout : Edit > Zone Information > Channel Edit > DMR

Using a Channel Being Used by Other Parties (**BCL Override**)

Type

■ Standard model ■ Basic model

Description

BCL Override is the function to transmit on a busy channel even if **Busy Channel Lockout** is activated and transmission is restricted.

Operating the transceiver	-	• Press the **PTT** switch while transmission is restricted by **Busy Channel Lockout**. • Release the **PTT** switch, then press the **PTT** switch again within 500 ms. Busy Channel Lockout is temporarily disabled, and the transceiver starts transmitting.

Note

- This function also works while the transceiver is transmitting using the VOX function.
  For a transmission using VOX, **Busy Channel Lockout** is temporarily disabled and the transceiver can transmit if audio is input within 500 ms after audio input terminates.

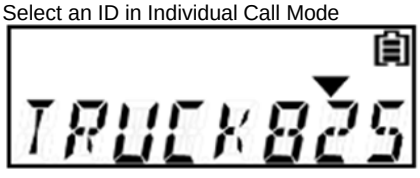
Configuration using FPU

BCL Override : Edit > Zone Information > Zone Edit - Conventional Group

Initiating Voice Communications (Basic Transmission and Reception) (**Auto Slot Select**)

Type	■ Standard model ■ Basic model
Description	**Auto Slot Select** is a function that automatically selects a slot or switches the slot according to the communication status of the transceiver. Allowing transceivers to make use of vacant slots helps to reduce communication traffic and achieve communication with little delay. **Slot Selection Configuration (Auto Slot Select)** Configuration: Auto — Auto Slot Select is enabled. Configuration: 1 or 2 — Auto Slot Select is disabled. Communicates only with the selected slot number.
Operating the transceiver	- / -
Note	• **Auto Slot Select** runs only in the Repeater Mode. It does not function in the Direct Mode. **Auto Slot Select** functions even when only the receive frequency is configured in the Repeater Mode. • Using Auto Slot Select allows communication to be carried out by two communication lines at a single frequency.
Configuration using FPU	**Slot Selection** : Edit > Zone Information > Channel Edit > DMR

Making an Individual Call (**Individual Call**)

Type	■ Standard model ■ Basic model	
Description	**Individual Call** can be used to initiate a call to a target transceiver individually to establish voice calls. By specifying a Unit ID, the transceiver can initiate a call to the transceiver having the Unit ID. Individual Call can be started by one of the following methods: **Individual Call Mode (Standard Model Only):** While the transceiver is in Individual Call Mode, the transceiver can initiate an Individual Call by a user selecting a Group ID configured in the Group ID List and then pressing the **PTT** switch. **Individual Call from Selcall on PTT:** The transceiver initiates an Individual Call when the **PTT** switch is pressed on a channel where “Individual Call” is configured for **Call Type**. The Group ID of the target transceiver can be configured by selecting one Group ID from the Group ID List by using KPG-D6/ D6N.	
Operating the transceiver	Enter Individual Call Mode (Standard Model Only) Press PF_BTN[Individual] Select an ID in Individual Call Mode  Individual Call from Selcall on PTT 	• Press PF_BTN[Individual]/PF_BTN[Individual + Status]/PF_BTN[Individual + Short Message]. Transceiver behavior : • The ID List is displayed when Individual Call Mode is entered. • The last called Unit ID is displayed. • Press [<B]/[C>]. Transceiver behavior : • ID is decremented/incremented.
Note	-	
Configuration using FPU	**ID**, **ID Name**, **Type**, **Alert Tone (Individual, Paging)**, **Alert LED (Individual, Paging)** : Edit > DMR > Unit ID List **Call Type** : Edit > Zone Information > Channel Edit > DMR > Selcall on PTT	

Making an Individual Call (**Unit ID List**)

Type	■ Standard model ■ Basic model
Description	If making Individual Calls, the desired Unit IDs need to be preconfigured in the transceiver using KPG-D6/ D6N prior to use of the transceiver. A maximum of 1,000 Unit IDs can be configured for **Unit ID List**.

Unit ID List

Configuration	Description
ID	A Unit ID can be configured in the range between 1 and 16776415.
ID Name	The caller's ID Name is configured. A maximum of 8 characters can be configured for the ID Name. If the ID Name of the transmitting transceiver is registered in the Individual ID List, the ID Name appears when the transceiver receives a call. After that, the received Unit ID Name appears upon receipt of the Unit ID Name by Over-the-Air Alias while receiving a call. If the transceiver cannot receive the Unit ID Name, the stored ID Name appears if the ID Name is stored for the Unit ID stored in the transceiver. The Unit ID number appears if the above conditions are not satisfied.
Type	The permission or inhibition of transmission of the receiving party can be configured. An ID for which "Receive Only" is configured for **Type** does not appear on the ID selection display in Individual Call Mode, and a user cannot select the ID in Individual Call Mode. If the transceiver receives a call from an ID for which "Receive Only" is configured for **Type**, the caller's ID Name appears. In this case, a user cannot initiate a call to the party even if the user attempts to respond by pressing the **PTT** switch.
Alert Tone (Individual)	The type of tone sounding from the transceiver can be configured for an Individual Call from the Unit IDs registered in the Unit ID List.
Alert Tone (Paging)	The type of tone sounding from the transceiver can be configured for a Paging Call from the Unit IDs configured in the Unit ID List.
Alert LED (Individual)	The color of flashing LED can be configured for an Individual Call from the Unit IDs configured in the Unit ID List.
Alert LED (Paging)	The color of flashing LED can be configured for a Paging Call from the Unit IDs configured in the Unit ID List.

Operating the transceiver	-	-
Note	-	
Configuration using FPU	**ID**, **ID Name**, **Type**, **Alert Tone (Individual, Paging)**, **Alert LED (Individual, Paging)** : Edit > DMR > Unit ID List	

Using DMR ID to Initiate a Selective Call (Paging Call)

Type	■ Standard model ■ Basic model	
Description	Paging Call is the function to initiate a call to a target party. Use it when you want to call a target transceiver without communicating.	
Operating the transceiver	Paging Call from Individual Call Mode (Standard model Only) Press the PF_BTN[Call 1] to PF_BTN[Call 6]	• Enter Individual Call Mode, select the ID from ID List or manual input the ID that want to perform a paging call. • Press [Side 2]. Transceiver behavior : • "PAGING" displayed, and then Paging Call is transmitting to the selected ID. Transceiver behavior : • When ACK is received, "COMPLETE" is displayed, and Complete Tone is sounded to complete Paging Call. After 1 second, it returns to channel display.
Note	-	
Configuration using FPU	PF_BTN[Call 1~6] Edit > Button Assignment > Side, Front	

Sending the Received Unit ID from the Communication Port (**Serial Output**)

Type	■ Standard model ■ Basic model	
Description	**Serial Output** allows the transceiver to send the received Unit ID etc. from its communication port when the transceiver receives the PTT ID etc... • **Unit ID (Serial Output)** allows the transceiver to send the received Unit ID from its communication port when the transceiver receives the PTT ID. • **Transparent Header (Serial Output)** is the function to send the KENWOOD proprietary sentence to an application which is used during data communications using Transparent. The Header is sent for data sent first. Transparent Data is sent after sending the Header. The application software may be able to recognize from where the data is sent by analyzing this Header information. **COM Port 0** The transceiver can make data communications if “Data”, “GPS”, or “Transparent” is assigned to its communication port. • **Status Message (Serial Output)** allows the transceiver to send the Status and the Unit ID of the transmitting transceiver from its communication port when the transceiver receives a Status Message. • **Short Message (Serial Output)** allows the transceiver to send a Short Message and the Unit ID of the transmitting transceiver from the transceiver’s communication port when the transceiver receives a Short Message.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Unit ID**, **Transparent Header**, **Status Message**, **Short Message** : Edit > External Device > Serial Output **COM port 0** : Edit > External Device > COM port 0 > Function	

Initiating an Individual Call After Ensuring That the Target Party Is Available for Communications (**Individual Call Acknowledge Request**)

Type	■ Standard model ■ Basic model	
Description	**Individual Call Acknowledge Request** is the function that allows a user to distinguish whether or not the receiving transceiver is available to communicate so as to initiate an Individual Call in a DMR Conventional system.	
Operating the transceiver		• Select the ID to be called from the Unit ID List or Stack Mode.
		• Press [PTT] or [Side 2]. Transceiver behavior : • ACK Request message is sent to the selected ID. At this time, “CALLING” are displayed.
		Transceiver behavior : • When ACK is received from the called party, if Call in Progress Tone is enabled, Call in Progress Tone will sound, “CALLING” display will be cleared, and Individual Call transmission will be possible. • When ACK is received while [PTT] is pressed, if PTT Proceed Tone is enabled, PTT Proceed Tone will sound, and Individual Call transmission is started.
Note	• If **Optional Signaling LED** is enabled, yellow LED will blink.	
Configuration using FPU	**Individual Call Acknowledge Request**, **Call Request Tone**, **Call in Progress Tone** : Edit > DMR > Conventional 3 > Individual Call Acknowledge Request **Call Processing Tone**, **Call Processing Tone Delay Time** : Edit > DMR > Conventional 3 > Individual Call Acknowledge Request > Call Processing Tone **Optional Signaling LED** : Edit > DMR > Conventional 3	

Making a Group Call (Group Call)

Type	■ Standard model ■ Basic model	
Description	Group Call can be used to engage in 2-way group voice calls by initiating a call to a group. The transceiver can initiate a call to the transceivers having the same Group ID by specifying the Group ID. The transceiver can also initiate a call to all transceivers by specifying the Group ID for which “ALL” is configured. Group Call can be started by one of the following methods: **Group Call Mode (Standard Model Only):** While the transceiver is in Group Call Mode, the transceiver can initiate a Group Call by a user selecting a Group ID configured in the Group ID List and then pressing the **PTT** switch. **Group Call from Selcall on PTT:** The transceiver initiates a Group Call when the **PTT** switch is pressed on a channel where “Group Call” is configured for **Call Type**. The Group ID of the target transceiver can be configured by selecting one Group ID from the Group ID List by using KPG-D6/ D6N.	
Operating the transceiver	Enter to Group Call Mode (Standard Model Only) Group call from ID List Group Call from Selcall on PTT 	• Press PF_BTN[Group]/PF_BTN[Group + Status]/PF_BTN[Group + Short Message]. Transceiver behavior : • The Group ID List is displayed when Group Call Mode is entered. • Press [<B]/[C>]. Transceiver behavior : • ID is decremented/incremented. • Press [PTT]. Transceiver behavior : • Group Call to the selected ID. • Select the Channel which “Group Call” is configured in **Call Type**. • Press [PTT].
Note	-	
Configuration using FPU	**ID**, **ID Name**, **Type**, **Alert Tone**, **Alert LED** : Edit > DMR > Group ID List **Call Type** : Edit > Zone Information > Channel Edit > DMR > Selcall on PTT	

Making a Group Call (**Group ID List**)

Type	■ Standard model ■ Basic model
Description	The transceiver uses a Group ID configured in the Group ID List to initiate a Group Call in a DMR Conventional system. The desired Group IDs must be preconfigured using KPG-D6/ D6N for the transceiver to initiate a Group Call. A maximum of 1,000 Group IDs can be configured in the Group ID List.

Group ID List

Configuration	Description
ID	A Group ID can be configured in the range between 1 and 16776415, or in the range of ALL. ALL allows initiation of a call to all IDs.
ID Name	The caller's ID Name is configured. A maximum of 8 characters can be configured for the ID Name. If the ID Name of the group is configured in the Group ID List, the ID Name appears when the transceiver receives a call. If the ID Name is not configured in the Group ID List, the Group ID List number appears.
Type	The permission or inhibition of transmission of the receiving party can be configured. An ID for which "Receive Only" is configured for **Type** does not appear on the ID selection display in Group Call Mode, and a user cannot select the ID in Group Call Mode. If the transceiver receives a call from an ID for which "Receive Only" is configured for **Type**, the caller's ID Name appears. In this case, a user cannot initiate a call to the party even if the user attempts to respond by pressing the **PTT** switch.
Alert Tone	The tone type sounding from the transceiver can be configured for a Group Call from the Group IDs registered in the Group ID List.
Alert LED Color	The color of flashing LED can be configured for a Group Call from the Group IDs registered in the Group ID List.

Operating the transceiver	-	-
Note	• To use Alert LED Color, **Selective Call Alert LED** needs to be enabled.	
Configuration using FPU	**ID**, **ID Name**, **Type**, **Alert Tone**, **Alert LED** : Edit > DMR > Group ID List	

Making a Group Call (**Group ID Scan**)

Type	■ Standard model ■ Basic model	
Description	**Group ID Scan** is the function to standby to receive a Group Call from all Group IDs in a DMR Conventional system. If this function is enabled, the transceiver is on standby to receive a Group Call from all Group IDs configured for Group ID List. If this function is disabled, the transceiver is on standby to receive only the Group Calls from the Group IDs configured for **Call Type** or for **Persistent Group ID (DMR)**.	
Operating the transceiver	-	-
Note	This function can be used only if "Group Call" is configured for **Call Type**.	
Configuration using FPU	**Group ID Scan** : Edit > Zone Information > Channel Edit > DMR **Group ID** : Edit > DMR **Call Type** : Edit > Zone Information > Channel Edit > DMR > Selcall on PTT **Persistent Group ID (DMR)** : Edit > Zone Information > Zone Edit - Conventional Group	

Preventing the Functions Working with Group Call Reception from Activating (**Group Call Alert Inhibit**)

Type	■ Standard model ■ Basic model	
Description	**Group Call Alert Inhibit** is the function that disables the Alert Tone, Selective Call Alert LED, and Caller ID Stack functions when the transceiver receives a Group Call.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Group Call Alert Inhibit** : Edit > DMR > General	

Preventing Reception of a Group Call While the Transceiver Is Receiving an Individual Call (**Ignore Group Call during Individual Call**)

Type	■ Standard model ■ Basic model	
Description	**Ignore Group Call during Individual Call** is the function that prevents receipt of a Group Call if receiving an Individual Call. This function is used to prioritize the receipt of Individual Calls. If this function is enabled, the transceiver cannot receive a Group Call (including data communications) while receiving an Individual Call and the Auto Reset Timer is counting down.	
Operating the transceiver	-	-
Note	Even if this function is enabled, the following Group Calls can be received. • A Group Call using All Group ID • A Group Call for Emergency	
Configuration using FPU	**Ignore Group Call during Individual Call** : Edit > DMR > General	

Making an Informative Group Call (Broadcast Group Call) (**Broadcast Group Call**)

Type	■ Standard model ■ Basic model	
Description	Broadcast Group Call can be used to engage in one-way informative group voice calls by initiating a call to a group. The transceiver can initiate a call to the transceivers having the same Group ID by specifying the Group ID.	
Operating the transceiver	Broadcast Group Call 	• Press the PF_BTN[Broadcast] or enter the Menu Mode by pressing the PF_BTN[Menu], then turn on broadcast. Transceiver behavior : • Tone A sounds, display “BCST ON” for 1 sec and Broadcast Group Call will be On. • Enter the Group Call Mode, select the ID to send from the Group ID List. • Press [PTT]. Transceiver behavior: • Broadcast Group Call for the selected ID.
Note	• This Function is DMR only.	
Configuration using FPU	PF_BTN[Broadcast] : Edit > Button Assignment > Side, Front, Menu PF_BTN[Menu] : Edit > Button Assignment > Side, Front, Menu	

Common Functions for Data Communications (Data Communications)

Type	■ Standard model ■ Basic model	
Description	The following functions are used in common for data communications such as Status Call and Short Data Call: ・Number of Retries ・Transmit Busy Wait Time ・Maximum ACK Wait Time ・Preamble Length If the transceiver does not receive the acknowledgment after the transceiver sends data and the time configured for **Maximum ACK Wait Time** elapses, the transceiver resends data. **Number of Retries** is the number of times for the transceiver to resend data. The transceiver confirms that the traffic channel is available before sending data and then starts sending data when the channel is available. **Transmit Busy Wait Time** is the duration to wait for the traffic channel to become available. A transmission is canceled when the channel is busy and the **Transmit Busy Wait Time** elapses. **Preamble Length** is the function to extend the duration for sending a preamble when the DMR frame is sent.	
Operating the transceiver	-	-
Note	• The receiving transceiver stands by to receive the next data for the time configured for Maximum ACK Wait Time after receiving the previous data. • Extending the time for sending a preamble at the beginning of transmission makes the receiving transceiver easier to receive a call and reduces missing of the beginning of the audio during the scan.	
Configuration using FPU	**Number of Retries**, **Transmit Busy Wait Time**, **Maximum ACK Wait Time**, **Preamble Length** : Edit > DMR > General > Parameters	

Sending and Receiving a Status Message (Status Call)

Type	■ Standard model ■ Basic model	
Description	**Status Call** is a simple messaging system that allows a user to send and receive a status (Status Message). Since the message is replaced by status, communications can take place quickly and communication traffic can be reduced.	
Operating the transceiver	Enter Status Mode (Standard Model Only) 	• Press PF_BTN[Status] to send Status to the Base ID. • Press PF_BTN[Individual + Status] to select Unit ID or Manual input. Then, press [S] to send Status with Individual Call. • Press PF_BTN[Group + Status] to select Group ID. Then, press [S] to send Status with Conventional Group Call. Transceiver behavior : • The Status List is displayed when Status Mode is entered
	 	• Press [<B]/[C>]. Transceiver behavior : • The Status is decremented/incremented.
	Send Status Message 	• Select the Status List or enter manually the status. • Press [PTT] or [Side 2]. Transceiver behavior : • "SEND DAT" will be displayed when Status Message is start sending. • When the TX LED is set, the red LED will light up during transmission.
	 	Transceiver behavior : • Complete Tone is played and “COMPLETE” indication is displayed for 1 second when ACK is received. Then, transmission is completed. • Transmission is completed without receiving an ACK for cases other than Individual Call,
	Press the PF_BTN[Call 1] to PF_BTN[Call 6]	Set “DMR (Status)” to **Call 1** to **Call 6** by KPG-D6/D6N and PF_BTN[Call 1] to PF_BTN[Call 6] is pressed to Active. Sends the selected Status Message.
Note	-	
Configuration using FPU	**Status Message Stack** : Edit > Optional Features > Optional Features 1 > Common 4 > Stack Condition **Emergency Status Response** : Edit > DMR > General **Emergency Alarm Response (LCD, Alert Tone)** : Edit > DMR > General > Emergency Alarm Response PF_BTN[Call 1~6] Edit > Button Assignment > Side, Front **Call 1** to **Call 6** : Edit > Button Assignment	

Sending and Receiving a Status Message (Status Call) (**Status List**)

Type	■ Standard model ■ Basic model
Description	To use a Status Message, the status to be sent must be preconfigured in the transceiver by using KPG-D6/ D6N prior to the transmission. A maximum of 1024 statuses can be configured in the Status List.

Status List

Configuration	Description
Status	The status number can be configured. It can be configured in the range from 0 to 1023.
Status Name	The status number can be configured. It is not easy to recognize the meaning of a status only by viewing a status number. In this case, a user can link the status number to a short message; hence, it can be easily understood. A maximum of 8 characters can be configured. If the status number is configured in the Status List, the Status Name appears when the transceiver receives a Status Message. If the transceiver receives a status that is not configured in the Status List, the status number appears on the transceiver display.
Transmit Inhibit	The permission or inhibition of transmission of status can be configured. Status for which **Transmit Inhibit** has been enabled does not appear on the Status selection display in Status Mode. In this case, a user cannot select status for which **Transmit Inhibit** has been enabled, in Status Mode.
Alert Tone	The type of tone sounding from the transceiver can be configured for a received status number from the status numbers registered in the Status List.

Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Status**, **Status Name**, **Transmit Inhibit**, **Alert Tone** : Edit > DMR > Status List	

Transceiver Behavior When the Transceiver Receives an Emergency Status (**Emergency Status (DMR)**)

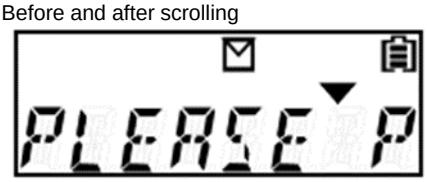
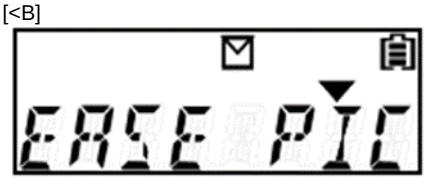
Type	■ Standard model ■ Basic model
Description	The following status IDs that are sent when automatic transmission in Emergency Mode is started can be configured for each factor that activates Emergency Mode (Emergency Button, Lone Worker, Man-down, Stationary, or Motion): The corresponding fixed text string appears if the received status ID matches the status ID configured in below.

Emergency Status (DMR)

Configuration	Description
Emergency Call Status	The status ID that is sent when the transceiver enters Emergency Mode by pressing the Emergency button
Lone Worker Status	The status ID that is sent when the transceiver enters Emergency Mode by the Lone Worker function
Man-down Status	The status ID that is sent when the transceiver enters Emergency Mode by the Man-down function
Stationary Status	The status ID that is sent when the transceiver enters Emergency Mode by the Stationary function
Motion Status	The status ID that is sent when the transceiver enters Emergency Mode by the Motion function

Operating the transceiver	-	-
Note	• For a DMR Conventional system, to send each of the above status IDs when the automatic transmission in Emergency Mode starts, **Emergency Status (DMR)** needs to be enabled.	
Configuration using FPU	**Emergency Status (DMR)** : Edit > Emergency Information > General	

Sending and Receiving a Short Message (Short Data Call)

Type	■ Standard model ☐ Basic model	
Description	Short Data Call is the message communication function to send and receive a text string. Information which is difficult to send by voice, such as an address or a telephone number, can be reliably sent.	
Operating the transceiver	Entering Short Message Mode 	• To send Short Message to Base ID, press PF_BTN[Short Message]. • To send Short Message by Individual Call, press PF_BTN[Individual + Short Message], select or manually input the Unit ID, then press [S]. • To send Short Message by Conventional Group Call, press PF_BTN[Group + Short Message], select the Group ID, then press [S]. Transceiver behavior : • Short Message Mode is entered and Short Message List is displayed.
	 	• Press [<B]/[C>]. Transceiver behavior : • Short Message is incremented/decremented.
	(If the message is more than 8 digits) For example: Message is “PLEASE PICK ME UP AT THE OFFICE.” Before and after scrolling  [<B] [<B]  	• In Short Message List display, press [Side 2]. Transceiver behavior : • Tone A sounds and Short Message View display is entered. • Short Message is displayed on the main text.
Note	-	
Configuration using FPU	**Short Message Stack** : Edit > Optional Features > Optional Features 1 > Common 4 > Stack Condition **DMR Message Type** : Edit > DMR > General	

Sending and Receiving a Short Message (Short Data Call) (**Short Message List**)

Type	■ Standard model ☐ Basic model	
Description	To use a Short Message, the status to be sent must be preconfigured in the transceiver by using KPG-D6/ D6N prior to the transmission. A maximum of 10 lists can be configured in the **Short Message List**.	
Operating the transceiver	-	-
Note	• A maximum of 23 characters/ list	
Configuration using FPU	**Short Message** : Edit > DMR > Short Message List	

Calling All Transceivers Having the Same Color Code (**Unaddressed Call**)

Type	■ Standard model ■ Basic model	
Description	**Unaddressed Call** is the function to initiate 2-way voice communication with multiple transceivers without specifying a group. In a regular Group Call, the transceiver can communicate only with transceivers included in the Group ID specified. **Unaddressed Call** can initiate a call to all transceivers having the same Color Code on the same channel.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Color Code** : Edit > Zone Information > Channel Edit > DMR	

Terminating Voice Communications by a Transceiver Other Than the Transmitting Transceiver (**Call Interruption**)

Type	■ Standard model ■ Basic model	
Description	**Call Interruption** is the function to enable a transceiver other than the transmitting transceiver to terminate voice communications by sending and receiving the Call Interruption request message. A transceiver receiving the Call Interruption request message on the channel where the transceiver is performing voice communication terminates voice communication. By pressing the PF_BTN[Call Interruption], a Call Interruption request message can be sent. Also, a Call Interruption request message can be sent by the following functions: • **In-call Busy Channel Lockout (Interrupt CALL)** The current incoming call can be interrupted by pressing the **PTT** switch to respond (Talkback) while receiving an Individual Call or Group Call addressed to the own transceiver on the channel where “INTRPT” is configured for **In-call Busy Channel Lockout**. • **Interrupt ALL CALL** **Call Interruption** is executed and voice communication can be terminated when an All Call is initiated during voice communication (including voice communication not addressed to the own transceiver) on the selected channel. • **Interrupt Message CALL** **Call Interruption** is executed and voice communication can be terminated when transmission of a message is initiated during voice communication (including voice communication not addressed to the own station) on the channel to send the message. • **Interrupt Emergency CALL** When the transceiver enters Emergency Mode, **Call Interruption** is executed and voice communication can be terminated if voice communication (including voice communication not addressed to the own station) is performed on the channel used for Emergency Mode. To send a Call Interruption request message using these functions, **Encode (Call Interruption)** of the channel used needs to be enabled. To receive a Call Interruption request message, **Decode (Call Interruption)** of the channel used also needs to be enabled.	
Operating the transceiver	-	-
Note	• In DMR Direct Mode, Call Interruption does not function if the received Color Code does not match the Color Code configured in the transceiver, or if the slot number does not match. • In Repeater Mode, Call Interruption does not function if the received Color Code does not match the Color Code configured in the transceiver.	
Configuration using FPU	**In-call Busy Channel Lockout** : Edit > Zone Information > Channel Edit > DMR **Interrupt All Call** : Edit > DMR > General **Interrupt Message Call** : Edit > DMR > General **Interrupt Emergency CALL (DMR)** : Edit > Emergency Information > General **Encode, Decode** : Edit > Zone Information > Channel Edit > DMR > Call Interruption	

Using the GPS Function (GPS Function)

Type	■ Standard model ■ Basic model	
Description	Global Positioning System (GPS) is the system to acquire the current location information of the own transceiver by receiving signals from the Global Positioning System satellites orbiting the earth. The transceiver of the mobile station can send the acquired own location information (GPS data) to the base station. The base station can send received GPS data to the PC as serial commands.	
Operating the transceiver	 GPS Data transmission GPS data transmission completed 	Transceiver behavior : • When GPS Report Interval Time expired, or when receiving a GPS Data transmission request, it sends GPS Data. • "SEND DAT" is displayed during GPS data transmission. • When "COMPLETE" is displayed 1 second when GPS data transmission is completed. • The Transmit LED lights up while sending GPS data.
Note	-	
Configuration using FPU	**GPS Report Mode**, **Number of Times**, **GPS Time Mark**, **GPS Report Interval Time**, **GPS Message Type**, **GPS Distance Change**, **Respond to Polling ID** : Edit > Optional Features > Optional Features 2 > GPS	

Transmission Method of GPS Data (**DMR - GPS Base Station**)

Type	■ Standard model ■ Basic model	
Description	**ID (GPS** > **Base Station)** is the ID of the target transceiver used for sending GPS data. By using KPG-D6/ D6N, either Unit ID or Group ID can be configured as **ID (GPS** > **Base Station)**. The ID of the base station which is responsible for operation and administration of system is normally configured.	
Operating the transceiver	-	-
Note	• If **ID (GPS** > **Base Station)** is not configured, GPS data is sent to the **Base ID** to which data such as a Status Message and Short Message is to be sent.	
Configuration using FPU	**ID Type**, **ID** : Edit > DMR > GPS > Base Station **Base ID** : Edit > DMR > Conventional 1	

Transmission Method of GPS Data (**DMR - GPS Combination**)

Type	■ Standard model ■ Basic model	
Description	The transceiver can send GPS data by adding the GPS data to a Status Message using DMR. To use this function, **Status** for **GPS Combination** must be enabled by using KPG-D6/ D6N. The range of status numbers (**Combination Status Range**) to which GPS data can be added can be configured.	
Operating the transceiver	-	-
Note	• The GPS data added to a Status Message is sent to the ID configured for **Base ID (GPS)** or **Base ID.**	
Configuration using FPU	**Status**, **Combination Status Range**, **Emergency** : Edit > DMR > GPS > GPS Combination	

Transmission Method of GPS Data (**DMR - GPS Report with Voice**)

Type	■ Standard model ■ Basic model	
Description	The transceiver can multiplex GPS data on audio data and send the data during voice communications.	
Operating the transceiver	-	-
Note	• GPS data is multiplexed at the start of audio data transmission.	
Configuration using FPU	**Report** : Edit > DMR > GPS > GPS Report with Voice	

Remote Operation by Radio Communication (Remote Control)

Type	■ Standard model ■ Basic model	
Description	**Remote Control** is the function to remotely operate using radio communication the control of an individually specified transceiver. An individually specified transceiver can be controlled by sending various Remote Control messages and by making the transceiver receive the messages. Remote Monitor is the function to remotely operate using radio communication an individually specified transceiver to transmit continuously. Use of this function allows the base station to monitor the situation around the transceiver.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Remote Stun/Kill**, **Radio Check**, **Remote Monitor**, **Remote Monitor Timer**, **Remote Monitor Display** : Edit > DMR > Conventional 1 > Remote Control	

Migrating Automatically to the Site Providing Better Radio Environment (Site Roaming) (**Revert Channel Display (Site Roaming)**)

Type	■ Standard model ☐ Basic model	
Description	Site Roaming is the function to migrate automatically to the site (channel) providing better radio environment if the transceiver is operated in a DMR Conventional system. The transceiver receives a synchronization signal transmitted from the repeaters in multiple sites at regular time intervals, and detects the RSSI level. Therefore, the transceiver migrates automatically to the channel providing better radio environment. This function can be used by configuring the Site Roaming (DMR) channels for each zone by using KPG-D6/ D6N. **Revert Channel** is the Zone-channel which is used when the transceiver transmits by pressing the **PTT** switch during the scan. The Revert Channel is displayed according to the configuration of **Revert Channel Display**.	
Operating the transceiver	Display during Site Roaming operation (Revert Channel Display = Disable) 	• Select a Site Roaming zone. Transceiver behavior : • Site Roaming is started. • Scan icon is displayed. • “ROAMING” is displayed on the main text. • The items displayed on the icon area depend on the Revert Channel. • The LED blinks according to the Site Roaming LED setting.
	Display during Site Roaming operation (Revert Channel Display = Enable) 	Transceiver behavior : • Site Roaming is started. • Revert Channel is displayed. • Scan icon is displayed. • The LED blinks according to the Site Roaming LED setting.
Note	-	
Configuration using FPU	**Revert Channel Display** : Edit > Scan Information > Site Roaming (DMR) > Indicator	

Migrating Automatically to the Site Providing Better Radio Environment (Site Roaming) (**Site Roaming LED**)

Type	■ Standard model ■ Basic model	
Description	**Site Roaming LED** is the function to notify a user visually that the transceiver is executing Site Roaming. When the transceiver starts Site Roaming, LED can flash with one of the following 7 colors: • Yellow • Purple • Blue • Light Blue • Red • Green • White	
Operating the transceiver	-	-
Note	• The basic model is only Green.	
Configuration using FPU	**Site Roaming LED** : Edit > Scan Information > Site Roaming (DMR) > Indicator	

Migrating Automatically to the Site Providing Better Radio Environment (Site Roaming) (**Link Delay Time**)

Type	■ Standard model ■ Basic model	
Description	The length of time until the repeater in each site is activated may vary depending on the site. **Link Delay Time** is the function to configure the length of time to tolerate a variation in time of when each repeater is activated by delaying the time to start searching for a signal on other channels.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Link Delay Time** : Edit > Scan Information > Site Roaming (DMR) > Timer	

Migrating Automatically to the Site Providing Better Radio Environment (Site Roaming) (**Dropout Delay Time**)

Type	■ Standard model ■ Basic model	
Description	If the transceiver receives a synchronization signal or call from the repeater during Site Roaming, Site Roaming pauses. **Dropout Delay Time** is the length of time from when the transceiver finishes receiving signals until the transceiver resumes Site Roaming.	
Operating the transceiver	-	-
Note	• If the received signals disappear or the color code does not match, **Dropout Delay Time** is activated. After the length of time configured in Dropout Delay Time elapses, the transceiver resumes Site Roaming.	
Configuration using FPU	**Dropout Delay Time** : Edit > Scan Information > Site Roaming (DMR) > Timer	

Migrating Automatically to the Site Providing Better Radio Environment (Site Roaming) (**Dwell Time**)

Type	■ Standard model ■ Basic model	
Description	When the transceiver starts transmitting by pressing the **PTT** switch during Site Roaming, Site Roaming pauses. **Dwell Time** is the length of time from when the transceiver terminates transmission until the transceiver resumes Site Roaming. After the transceiver terminates the transmission, **Dwell Time** is activated. After the length of time configured in **Dwell Time** elapses, the transceiver resumes Site Roaming.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Dwell Time** : Edit > Scan Information > Site Roaming (DMR) > Timer	

Migrating Automatically to the Site Providing Better Radio Environment (Site Roaming) (**Quick Site Roaming Level**)

Type	■ Standard model ■ Basic model	
Description	**Quick Site Roaming** is the function to allow Site Roaming to behave faster when the transceiver is in an area with a strong signal. If the transceiver receives a signal with a level higher than the value configured in **Quick Site Roaming** during Site Roaming, the channel becomes the Revert Channel. In this case, **Link Delay Time** becomes disabled, and if the Color Code matches, the transceiver unmutes the speaker.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Quick Site Roaming** : Edit > Scan Information > Site Roaming (DMR) > Roaming Level	

Migrating Automatically to the Site Providing Better Radio Environment (Site Roaming) (**Standard Site Roaming Level**)

Type	■ Standard model ■ Basic model	
Description	**Standard Site Roaming** is the function to allow Site Roaming to behave faster when the transceiver is in an area with a strong signal. The transceiver searches for a signal with a level higher than the value configured in **Standard Site Roaming** during Site Roaming.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Standard Site Roaming** : Edit > Scan Information > Site Roaming (DMR) > Roaming Level	

Migrating Automatically to the Site Providing Better Radio Environment (Site Roaming) (**Site Roaming Resume Level**)

Type	■ Standard model ■ Basic model	
Description	**Site Roaming Resume** is the threshold value of the RSSI level used for determining whether to resume Site Roaming according to the RSSI level for the signal received by the transceiver. If the RSSI level of the received signal is lower than the level configured in **Site Roaming Resume** while the transceiver remains on the channel synchronized by Site Roaming, **Dropout Delay Time** is activated.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Site Roaming Resume** : Edit > Scan Information > Site Roaming (DMR) > Roaming Level	

Behaviors When an Asynchronous State Occurs (**Active Site Hunt**)

Type

■ Standard model ■ Basic model

Description

If the transceiver cannot detect a synchronization signal from the repeater, the transceiver sends a Wakeup message to the repeater to prompt synchronization when the transmission is on the Revert Channel or a selected channel.

The wait time until a synchronization signal is sent and the number of times for the transceiver to send the Wakeup message are determined by the configurations of **Sync Wakeup Wait Time** and **Number of Wakeup Message Retries**.

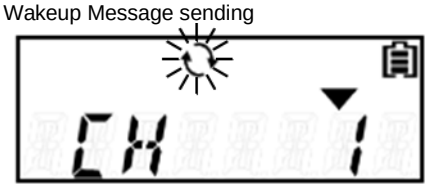
A Wakeup message is sent as follows according to the configuration of **Active Site Hunt**.

Active Site Hunt

Configuration	Description
Enabled	The transceiver searches for the repeater available for synchronization, and if there is a synchronized channel that is equal to or higher than the RSSI level set by **Standard Site Roaming** Level, the search for the repeater terminates at the time. The synchronized channel becomes the Revert Channel.
Disabled	If the transceiver cannot detect a synchronization signal from the repeater, the transceiver sends a Wakeup message to the repeater to prompt synchronization when the transmission is on the Revert Channel or a selected channel. If a response from a repeater cannot be detected after a Wakeup message is sent for the number of times configured in **Number of Wakeup Message Retries**, a Call Fail Tone (2 beeps) sounds from the speaker of the transceiver, and “OUT OF R” appears on the display for 1 sec.

Operating the transceiver

Wakeup Message sending



- During transmission while the synchronization signals cannot be detected.

Transceiver behavior :

- Send the wakeup message to the repeater from Revert Channel.
- If there is a response from the repeater and synchronization is established, transmission becomes possible.

Note

The following setting items are FPU setting items.

- To use this function, “Site Roaming (DMR)” must be configured for **Zone Type** by using KPG-D6/ D6N.
- The judgment of the RSSI level depends on setting of "Standard Site Roaming” when moving to Revert Channel in the Active Site Hunt function operation. The setting of "Quick Site Roaming" is ignored. When "Standard Site Roaming" is Off, the adjusted threshold level is used to determine the RSSI level.

Configuration using FPU

Active Site Hunt :
Edit > Scan Information > Site Roaming (DMR)
Zone Type :
Edit > Zone Information
Sync Wakeup Wait Time, **Number of Wakeup Message Retries** :
Edit > DMR > Conventional 1 > Parameters
Quick Site Roaming, **Standard Site Roaming** :
Edit > Scan information > Site Roaming (DMR) > Roaming Level

Configuration Related to Transmission and Reception in Emergency Mode (**Emergency Alarm (DMR)**)

Type	■ Standard model ■ Basic model	
Description	**Emergency Alarm** is the function to send an Emergency Alarm before the transceiver enters Emergency Mode to notify the base station that the transceiver is in an Emergency situation. Using this function can reliably notify the base station that the transceiver is in an Emergency situation.	
Operating the transceiver	-	-
Note	After sending an Emergency Alarm, if the transceiver receives no acknowledgment until the length of time configured for Maximum ACK Wait Time elapses, the transceiver resends the Emergency Alarm. If the transceiver still cannot receive an acknowledgment after sending the Emergency Alarm 5 times, the transceiver enters Emergency Mode.	
Configuration using FPU	**Emergency Alarm (DMR)** : Edit > Emergency Information > General	

Other Functions in Emergency Mode (**Emergency Channel Lock**)

Type	■ Standard model ■ Basic model	
Description	**Emergency Channel Lock** is the function to disable changing a zone or channel while the transceiver is in Emergency Mode. If this function is enabled, a zone or channel cannot be changed while the transceiver is in Emergency Mode. If this function is disabled, a zone or channel can be changed while the transceiver in Emergency Mode is not transmitting.	
Operating the transceiver	-	-
Note		
Configuration using FPU	**Emergency Channel Lock** : Edit > Emergency Information > General	

Zone-channel Functioning in Emergency Mode (**Emergency Channel Type**)

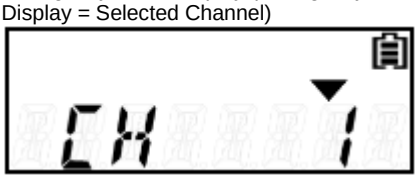
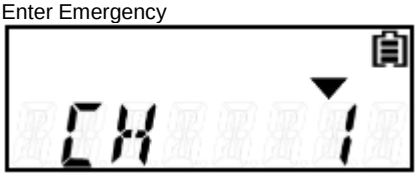
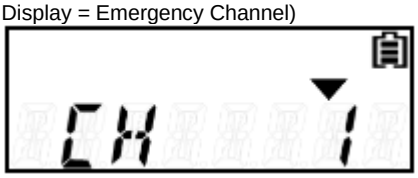
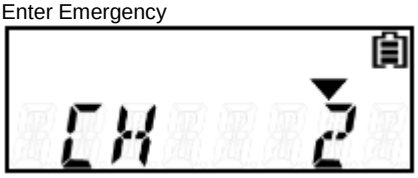
Type	■ Standard model ■ Basic model	
Description	**Emergency Channel Type** is the type of a channel used when the transceiver is placed in Emergency Mode. **Emergency Channel Type** Configuration: Selected Channel — When the transceiver enters Emergency Mode, the transceiver resets the migration state of channels, such as Home Channel, and then the transceiver executes Emergency on the previously selected channel. Configuration: Preset Channel — After entering Emergency Mode, the transceiver migrates to the Zone-channel configured in **Emergency Zone-Channel** and then executes the Emergency behavior.	
Operating the transceiver	-	-
Note	• If “Preset Channel” is configured in **Emergency Channel Type**, a channel with “Site Roaming” configured cannot be configured in **Emergency Zone-channel**.	
Configuration using FPU	**Emergency Channel Type** : Edit > Emergency Information > Profiles > Page 2 > Emergency Channel	

Automatically Transmitting and Receiving in Emergency Mode (**Emergency Cycle**)

<table>
<tr><td>Type</td><td>■ Standard model ■ Basic model</td></tr>
<tr><td>Description</td><td>Emergency Cycle is the number of times that the transceiver toggles between transmission and reception for an emergency in Emergency Mode.

Emergency Cycle
<table><tr><th>Configuration</th><th>Description</th></tr><tr><td>1 to 200</td><td>The transceiver repeats automatic transmission and automatic reception for the configured number of times, and then the transceiver exits Emergency Mode.</td></tr><tr><td>Infinite</td><td>The transceiver continues to alternate between automatic transmission and reception until the Emergency button is pressed again or the transceiver is turned OFF.</td></tr><tr><td>Off</td><td>The transceiver does not automatically transmit and receive in Emergency Mode.</td></tr></table></td></tr>
<tr><td>Operating the transceiver</td><td>-</td><td>-</td></tr>
<tr><td>Note</td><td>Automatically Transmitting and Receiving in Emergency Mode. The number of times for which the transceiver toggles between transmission and reception, or the duration for a single session of automatic transmission or reception for emergency in Emergency Mode can be configured. Also, the microphone sensitivity can be changed and the Background Tone (1 beep) can be multiplexed on the audio to be transmitted in Emergency Mode.
・ Emergency Cycle
・ Locator Tone at TX-start
・ Locator Tone at TX-end
・ Transmit Duration
・ Receive Duration
・ Emergency Microphone Sense
・ Background Tone Transmission</td></tr>
<tr><td>Configuration using FPU</td><td>Emergency Cycle ： Edit > Emergency Information > Profiles > Page 2 > Option</td></tr>
</table>

Indication and Sound in Emergency Mode (**Emergency Display**)

Type	■ Standard model ☐ Basic model
Description	**Emergency Display** is the function to display the channel configured in **Emergency Zone-channel** when in Emergency Mode or to retain the display appearance before the transceiver enters Emergency Mode. **Emergency Display** Configuration: Selected Channel — The currently selected channel is retained on the display even if the transceiver enters Emergency Mode. Configuration: Emergency Channel — A channel configured in **Emergency Zone-Channel** appears when the transceiver enters Emergency Mode.
Operating the transceiver	Emergency Mode Display (Emergency Display = Selected Channel)  Enter Emergency  ・ Press and hold PF_BTN[Emergency]. Transceiver behavior : ・ Emergency Mode is entered. ・ The currently selected channel is displayed. Emergency Mode Display (Emergency Display = Emergency Channel)  Enter Emergency  ・ Press and hold PF_BTN[Emergency]. Transceiver behavior : ・ Emergency Mode is entered. ・ The Emergency Zone-Channel is displayed.
Note	-
Configuration using FPU	**Emergency Display** : Edit > Emergency Information > General

ID Sent When Emergency Mode is Activated (**Emergency ID (DMR Conventional) (DMR ID)**)

Type	■ Standard model ■ Basic model	
Description	The **Emergency ID** can be sent each time the transceiver starts automatic transmission and reception in Emergency Mode. Emergency ID Type is the type of DMR ID used in Emergency Mode. Emergency DMR ID is the DMR ID used for transmission and reception in Emergency Mode.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**DMR ID** : Edit > Emergency Information > Profiles > Page 1 > Emergency ID (DMR Conventional)	

ID Sent When Emergency Mode is Activated (**Emergency ID (DMR Conventional) (ID Type)**)

Type	■ Standard model ■ Basic model	
Description	The Emergency ID can be sent each time the transceiver starts automatic transmission and reception in Emergency Mode. Emergency ID Type is the type of DMR ID used in Emergency Mode. Emergency DMR ID is the DMR ID used for transmission and reception in Emergency Mode.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**ID Type** : Edit > Emergency Information > Profiles > Page 1 > Emergency ID (DMR Conventional)	

Automatically Transmitting and Receiving in Emergency Mode (**Emergency Microphone Sense**)

Type	■ Standard model ■ Basic model	
Description	**Emergency Microphone Sense** is the function used to adjust the microphone input sensitivity in Emergency Mode. In **Emergency Microphone Sense**, the microphone sensitivity can be configured within the following range: 6 dB, 4 dB, 2 dB, 0 dB, -2 dB, -4 dB, -6 dB, -8 dB, -10 dB, -12 dB, -14 dB, -16 dB, -18 dB, -20 dB The appropriate level of microphone sensitivity for normal operation is 0 dB. Based on this level, the parameter of the microphone sensitivity can be configured.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Emergency Microphone Sense** : Edit > Emergency Information > General	

Emergency Mode (Placing the Transceiver in Emergency Mode Using the Lone Worker Function)

Type	■ Standard model ■ Basic model	
Description	**Lone Worker** is the function that automatically places the transceiver in Emergency Mode if the transceiver is not operated for a certain period of time. If the transceiver is placed in Lone Worker Mode while the user has a task at a dangerous place, for instance, the transceiver automatically enters Emergency Mode and notifies a base station of the emergency status because a user cannot operate the transceiver due to an accident.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Lone Worker Type**, **Lone Worker Interval**, **Duration of Lone Worker Tone** : Edit > Emergency Information > General > Lone Worker	

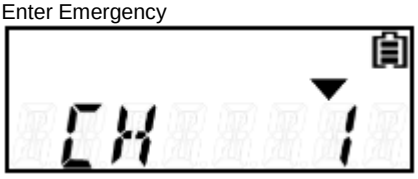
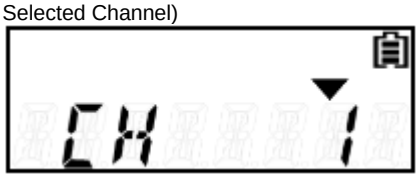
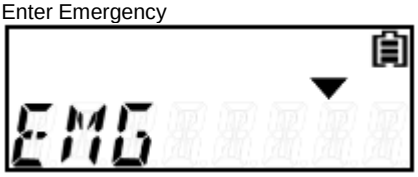
Configuration Related to Transmission and Reception in Emergency Mode (**Emergency Mode Type**)

Type	■ Standard model ■ Basic model	
Description	**Emergency Mode Type** is the function to determine whether the received audio or various tones are muted while the transceiver is in Emergency Mode. **Emergency Mode Type** Configuration / Description Silent: The transceiver mutes the received audio and various tones while in Emergency Mode. Audible: The transceiver emits the received audio and various tones in the same manner as in normal mode even while in Emergency Mode.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Emergency Mode Type** : Edit > Emergency Information > Profiles > Page 2 > Option	

Configuration Related to Transmission and Reception in Emergency Mode (**Emergency Profile**)

Type	■ Standard model ■ Basic model	
Description	The transceiver can have a maximum of 8 configurations related to transmission and reception in Emergency Mode as the Emergency Profile. By allocating **Emergency Profile** to each zone or channel, the Emergency behavior of the transceiver can vary depending on the zone or channel. The functions that can be configured as an **Emergency Profile** are as follows: ・ Emergency Channel Type ・ Emergency Zone-Channel ・ Emergency Mode Type ・ Emergency Cycle ・ Locator Tone at TX-start ・ Transmit Duration ・ Locator Tone at TX-end ・ Receive Duration ・ TX/RX LED in Emergency	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Emergency Profile Number** : Edit > Zone Information > Zone Edit - Conventional Group	

Indication and Sound in Emergency Mode (**Emergency Text / Text**)

Type	■ Standard model ☐ Basic model	
Description	**Emergency Text** is the function to display the text on the transceiver display while in Emergency Mode. If this function is enabled, the text configured in **Text** appears on the display when the transceiver enters Emergency Mode.	
Operating the transceiver	Emergency Mode Display (Emergency Text = Disable, Emergency Display = Selected Channel) Enter Emergency  Emergency Mode Display (Emergency Text = Enable, Text = “EMG”, Emergency Display = Selected Channel)  Enter Emergency  	• Press and hold PF_BTN[Emergency]. Transceiver behavior : • Emergency Mode is entered. • The currently selected channel or Emergency Zone-Channel is displayed depending on the Emergency Display setting. • Press and hold PF_BTN[Emergency]. Transceiver behavior : • Emergency Mode is entered. • The emergency text configured in “Text” is displayed. • Press and hold PF_BTN[Emergency]. Transceiver behavior : • Emergency Mode is exited. • The emergency text display will be turned off.
Note	-	
Configuration using FPU	**Emergency Text**, **Text** : Edit > Emergency Information > General	

Automatically Transmitting and Receiving in Emergency Mode (**Locator Tone at TX-start/ Locator Tone at TX-end**)

Type	■ Standard model ■ Basic model	
Description	**Locator Tone at TX-start** is the duration to emit an Alert Tone which notifies that the transceiver will start transmission before the transceiver starts automatic transmission in Emergency Mode. The transceiver automatically repeat transmitting and receiving in Emergency Mode. When the transceiver switches from reception to transmission, an Emergency Locator Tone (2 beeps) sounds from the transceiver for the length of the time configured for **Locator Tone at TX-start**. **Locator Tone at TX-end** is the duration to emit an Alert Tone which notifies that the transceiver has completed an automatic transmission in Emergency Mode, and starts receiving. The transceiver automatically repeat transmitting and receiving in Emergency Mode. When the transceiver switches from transmission to reception, an Emergency Locator Tone (2 beeps) sounds from the transceiver for the length of the time configured for **Locator Tone at TX-end**. • When the tone sounds, a user can easily recognize without viewing the transceiver that the transceiver is about to automatically transmit in Emergency Mode. This tone can also be used to locate a user who is in emergency situations. • When the tone sounds, a user can easily recognize without viewing the transceiver that the transceiver ends to automatically transmit in Emergency Mode. This tone can also be used to locate a user who is in emergency situations.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Locator Tone at TX-start**, **Locator Tone at TX-end** : Edit > Emergency Information > Profiles > Page 2 > Option	

Automatically Transmitting and Receiving in Emergency Mode (**Background Tone Transmission**)

Type	■ Standard model ■ Basic model	
Description	**Background Tone Transmission** is the function to multiplex a Background Tone (1 beep) on the transmitted audio when the transceiver transmits in Emergency Mode. Background Tone (1 beep) is multiplexed every second while the transceiver is transmitting audio data. The audio signal is not muted since the Background Tone is transmitted with lower deviation than normal. The receiving transceiver can easily recognize that the transmitting transceiver is in Emergency Mode if the tone is multiplexed while initiating a voice call.	
Operating the transceiver	-	-
Note	• A Background Tone is not emitted from the speaker of the transmitting transceiver.	
Configuration using FPU	**Background Tone Transmission** : Edit > Emergency Information > General	

Placing the Transceiver in Emergency Mode (**Interrupt Emergency CALL (DMR)**)

Type	■ Standard model ■ Basic model	
Description	Interrupt Emergency CALL is the function to execute Call Interruption if voice communication (including voice communication not addressed to the own transceiver) is made on a channel used in Emergency Mode when the transceiver enters Emergency Mode.	
Operating the transceiver	-	-
Note	Call Interruption is the function to enable a transceiver other than the transmitting transceiver to terminate voice communications by sending and receiving the Call Interruption request message. A transceiver receiving the Call Interruption request message on the channel where the transceiver is performing voice communication terminates voice communication.	
Configuration using FPU	**Interrupt Emergency CALL (DMR)** : Edit > Emergency Information > General	

Indication and Sound in Emergency Mode (**TX/RX LED in Emergency**)

Type	■ Standard model ■ Basic model	
Description	**TX/RX LED in Emergency** is the function to light the Transmit LED when the transceiver transmits in Emergency Mode and light the Busy LED when the transceiver receives in Emergency Mode. The transceiver behaves as follows depending on the **TX/RX LED in Emergency** configuration. • **If the TX/RX LED in Emergency is enabled:** While in Emergency Mode, the Transmit LED is on during data transmission, and the Busy LED is on during data receipt. • **If TX/RX LED in Emergency is disabled:** While in Emergency Mode, the Transmit LED is off during data transmission, and the Busy LED is off during data receipt.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**TX/RX LED in Emergency** : Edit > Emergency Information > Profiles > Page 2 > Option	

Zone-channel Functioning in Emergency Mode (**Emergency Zone-Channel**)

Type	■ Standard model ■ Basic model	
Description	**Emergency Zone-channel** is the Zone-channel used in Emergency Mode if “Preset Channel” is configured in **Emergency Channel Type**.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Zone, Channel** : Edit > Emergency Information > Profiles > Page 2 > Emergency Channel > Emergency Zone-Channel	

Automatically Transmitting and Receiving in Emergency Mode (**Receive Duration**)

Type	■ Standard model ■ Basic model	
Description	**Receive Duration** is the duration for a single session of automatic reception for emergency in Emergency Mode. The transceiver switches to automatic transmission for emergency when the time configured in **Receive Duration** elapses after the transceiver starts automatic reception for emergency.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Receive Duration** : Edit > Emergency Information > Profiles > Page 2 > Option	

Automatically Transmitting and Receiving in Emergency Mode (**Transmit Duration**)

Type	■ Standard model ■ Basic model	
Description	**Transmit Duration** is the duration of a single automatic transmission cycle in Emergency Mode. The transceiver switches to automatic reception for emergency when the time configured in Transmit Duration elapses after the transceiver starts automatic transmission for emergency. The transceiver behaves as follows when “0” is configured in **Transmit Duration**: • If “None” is configured for Emergency ID: The transceiver does not send anything during automatic transmission. • If anything other than “None” is configured for Emergency ID: The transceiver sends only an Emergency Status during automatic transmission.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Transmit Duration** : Edit > Emergency Information > Profiles > Page 2 > Option	

Indication and Sound in Emergency Mode (**Remain Surveillance Mode**)

Type	■ Standard model ☐ Basic model	
Description	**Remain Surveillance Mode** is the function to continue the Surveillance function as enabled even if the transceiver enters Emergency Mode while the Surveillance function is enabled. While the Surveillance function is enabled, the transceiver does not emit a tone or light the backlight even when the transceiver functions. The Surveillance function is used when the change of the transceiver status needs to be kept unnoticed, such as while on a Public Safety operation. The transceiver behaves as follows according to the configuration in **Remain Surveillance Mode**. • **If Remain Surveillance Mode is enabled** Even if the transceiver enters Emergency Mode while the Surveillance function is enabled, the Surveillance function remains enabled, and the transceiver does not emit a tone and the backlight and LED do not light. The Surveillance function remains enabled even if the transceiver exits Emergency Mode. • **If Remain Surveillance Mode is disabled** The Surveillance function is disabled if the transceiver enters Emergency Mode while the Surveillance function is enabled. The transceiver behaves according to the configurations in Emergency Mode when the transceiver is placed in Emergency Mode. The Surveillance function remains disabled even if the transceiver exits Emergency Mode.	
Operating the transceiver	-	-
Note	• While in Emergency Mode, the Surveillance function cannot be toggled between enabled and disabled by operating the transceiver.	
Configuration using FPU	**Remain Surveillance Mode** : Edit > Emergency Information > General	

About Communication Security (**Encryption**)

Type	■ Standard model ■ Basic model	
Description	**Encryption** is the function that enhances secrecy in communications on the DMR digital channels by encrypting voice data or user data such as a Short Message.	
Operating the transceiver	Encryption icon behavior when receiving In case of bit scramble/ARC4 In case of bit scramble In case of ARC4 	Transceiver behavior : · When carrier is not received: When the Encryption status is On, the ◇ icon lights up. (In the case of bit scrambling method/ In the case of ARC4) Transceiver behavior : · When all of the following conditions are satisfied at the time of receiving an encrypted carrier, the ◇ icon blinks when Encryption Type = Type 1 regardless of the state of Encryption. If the Encryption status is Off and Encryption Type = Type 2, the ◇ icon will not be lit. (In case of bit scramble) · When receiving the encrypted carrier, the ◇ icon blinks when all of the following conditions are satisfied. (In case of ARC 4)
Note	-	
Configuration using FPU	-	

Using Communication Security (**Bit Scramble Encryption Type**)

Type	■ Standard model ■ Basic model	
Description	The bit scramble encryption type is the Encryption function embedded in the transceiver. To transmit or receive a signal, the communication data can be encrypted or decrypted using the encryption key data configured in the transceiver. By means of bit scramble, the transceiver can encrypt audio data only. **Encryption Type** Configuration: Enabled — For audio data, regardless of the configuration for **Encryption Type** (DMR), the received audio sounds from the speaker according to the audio control conditions and the configuration in the Multi-key List. Configuration: Disabled — The following are the transceiver behaviors that may vary depending on the configuration for **Encryption Type** (DMR) (Type 1 or Type 2): • Type 1 The transceiver behaves in the same manner as a transceiver with Encryption enabled. • Type 2 No received audio sounds from the speaker.	
Operating the transceiver	-	-
Note	• When unencrypted communication data is received, the transceiver emits the received audio from the speaker according to the audio control conditions regardless of the Encryption status (enabled or disabled) or configuration for **Encryption Type** (DMR).	
Configuration using FPU	**Encryption Type** : Edit > Encryption > DMR	

Multi-key List

Type	■ Standard model ■ Basic model
Description	**Multi-key List** is the list to configure the encryption key data used for the encryption and decryption of communication data. A maximum of 16 entries of encryption key data can be configured in the Multi-key List by using KPG-D6/ D6N. However, only one of the encryption key data can be used for transmission. **Encryption Configuration of Multi-Key List** Configuration / Description: Type: For DMR, Bit scrambler and Enhanced Encryption can be mixed in the Multi-key List. • Enhanced • Scrambler Key Data: In **Key Data**, the encryption key data in the range the bellow can be configured. • Enhanced The range between 0000000001 and FFFFFFFFFE • Scrambler The range between 1 and 32767 Key ID: **Key ID** can be configured only when “Enhanced” is set in **Type**. Key Name: In **Key Name**, a name corresponding to the encryption key data can be configured by using a maximum of 8 alphanumeric characters and symbols. These can be configured for each channel as **Number on Multi-key List**.
Operating the transceiver	- / -
Note	-
Configuration using FPU	**Type**, **Key Data**, **Key ID**, **Key Name** : Edit > Encryption **Encryption**, **Number on Multi-key List** : Edit > Zone Information > Channel Edit > DMR > Encryption

Using Communication Security (**Unencrypted Call Alert Tone**)

Type	■ Standard model ■ Basic model
Description	**Unencrypted Call Alert Tone** is the function used to notify a user with a short beep that the communication data is not encrypted when the transceiver starts transmitting without communication data being encrypted.
Operating the transceiver	- / -
Note	• If both **Unencrypted Call Alert Tone** and **PTT Proceed Tone** are enabled, a Proceed Tone (3 beeps) sounds from the transceiver after an Unencrypted Call Alert Tone (1 beep) sounds. • If both **Unencrypted Call Alert Tone** and **VOX Proceed Tone** are enabled, a Proceed Tone (1 beep) sounds from the transceiver after an Unencrypted Call Alert Tone (1 beep) sounds.
Configuration using FPU	**Unencrypted Call Alert Tone** : Edit > Encryption

Using Scan (Scan)

Type	■ Standard model ■ Basic model	
Description	Scan is the function to check whether the transceiver receives a call from other transceivers. The transceiver sequentially searches for availability of signal on each channel, and the transceiver receives on the channel where the signal is detected. Two methods are available for Scan as shown below. • **Single Scan** The transceiver scans target channels in the same zone. • **Multi Scan** The transceiver scans all target channels in the target zones.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	-	

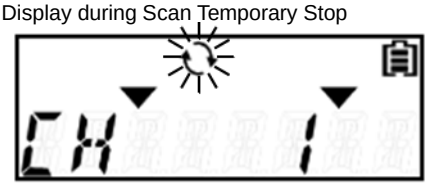
Using Scan (**Scan Type**)

Type	■ Standard model ■ Basic model	
Description	If a scan starts in the zone where “Single” is configured in **Scan Type**, Single Scan is executed. Or, if the transceiver migrates during the scan to the zone where “Single” is configured in **Scan Type**, Single Scan is executed. If a scan starts in the zone where “Multi-Zone” is configured in **Scan Type**, Multi Scan is executed. Or, if the transceiver migrates during the scan to the zone where “Multi-Zone” is configured in **Scan Type**, Multi Scan is executed.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Scan Type** : Edit > Scan Information > Scan	

Scanning in One Zone (**Single Scan**)

Type	■ Standard model ■ Basic model	
Description	The transceiver scans using Single Scan all the added channels in the zone where the transceiver starts scanning. If a scan starts in the zone where “Single” is configured in **Scan Type**, Single Scan is executed. Or, if the transceiver migrates during the scan to the zone where “Single” is configured in **Scan Type**, Single Scan is executed.	
Operating the transceiver	Display during Scan Temporary Stop Display during Scan Off 	Transceiver behavior : • The icon blinks while paused. • The Scan LED is turned off. • Press PF_BTN[Scan]. Transceiver behavior : • Tone B sounds and scan is ended. • Scan icon is turned off. • Selected channel is displayed. • The Scan LED is turned off.
Note	-	
Configuration using FPU	**Scan Type**, **Selected Channel Scan**, **Revert Channel Display**, **Scan LE**D : Edit > Scan Information > Scan PF_BTN[Scan] PF_BTN[Menu] Edit > Button Assignment > Side, Front **Scan Add** : Edit > Zone Information > Channel Edit > General	

Scanning All Target Zones for Scanning (**Multi Scan**)

Type	■ Standard model ■ Basic model	
Description	In a DMR Conventional system, by using Multi Scan, the transceiver can scan all channels to be scanned in the target zones. If a scan starts in the zone where “Multi-Zone” is configured in **Scan Type**, Multi Scan is executed. Or, if the transceiver migrates during the scan to the zone where “Multi-Zone” is configured in **Scan Type**, Multi Scan is executed.	
Operating the transceiver	Display during Scan Temporary Stop  Display during Scan Off 	Transceiver behavior : • The icon blinks while paused. • The Scan LED is turned off. • Press PF_BTN[Scan]. Transceiver behavior : • Tone B sounds and scan is ended. • Scan icon is turned off. • Selected channel is displayed. • The Scan LED is turned off.
Note	-	
Configuration using FPU	**Scan Type**, **Selected Channel Scan**, **Revert Channel Display**, **Scan LED** : Edit > Scan Information > Scan PF_BTN[Scan] PF_BTN[Menu] Edit > Button Assignment > Side, Front **Scan Add** : Edit > Zone Information > Channel Edit > General	

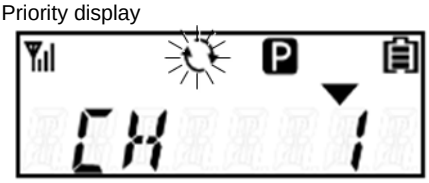
Scanning the Specific Channel Preferentially (**Priority Scan**)

Type	■ Standard model ■ Basic model	
Description	Priority Scan is the function to prioritize and scan the target channels. This function can be used for Single Scan, or Multi Scan in a Conventional channel. If a Priority Channel is configured, the transceiver monitors Priority Channel by executing Lookback even when receiving on a normal channel. On the channel where Priority 1 has the highest priority, Lookback is not executed while receiving on Priority 1. Priority 2 is the channel prioritized next to Priority 1; therefore, Lookback is executed on Priority 1 while receiving on Priority 2. Priority can be selected from “None”, “Fixed”, “Selected” and “Operator Selectable”.	
Operating the transceiver	-	-
Note	• “Operator Selectable” cannot be selected for the transceiver for Basic model.	
Configuration using FPU	**Priority 1**, **Priority 1 Zone-Channel**, **Priority 2**, **Priority 2 Zone-Channel** : Edit > Scan Information > Scan	

Priority

Configuration	Description
None	No Priority Channel is configured.
Fixed	The channel configured using KPG-D6/ D6N is configured as the Priority Channel. The Priority cannot be changed by operating the transceiver.
Selected	The channel selected on the Transceiver is configured as the Priority Channel.
Operator Selectable	The channel configured by a user in Priority-channel Select Mode.

Scanning the Specific Channel Preferentially (**Priority Zone-Channel**)

Type	■ Standard model ■ Basic model	
Description	This function is used to set a particular channel from any zone with **Zone Type** (= Conventional Group) to become a priority channel. Priority Zone-Channel can be set only if priority is set to “Fixed” or “Operator Selectable”.	
Operating the transceiver	Priority display 	Transceiver behavior : • The Priority Zone-Channel is selected or paused with Priority Zone-Channel. • Priority P icon will light.
Note	-	
Configuration using FPU	**Priority 1 Zone-Channel**, **Priority 2 Zone-Channel** : Edit > Scan Information > Scan	

Scanning the Specific Channel Preferentially (**Priority-channel Stop Tone**)

Type	■ Standard model ■ Basic model	
Description	**Priority-channel Stop Tone** is the function to emit a Priority-channel Tone (1 beep) from the transceiver when the scan pauses upon receipt of a signal and the speaker is unmuted on a Priority Channel during the scan.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Priority-channel Stop Tone** : Edit > Scan Information > Scan	

Scanning the Specific Channel Preferentially (Priority Scan) (**Lookback**/ **Lookback Time A**/ **Lookback Time B**)

Type	■ Standard model ■ Basic model	
Description	**Lookback** is the function to periodically checks for a Priority Channel if a Priority Channel is configured for the transceiver and the transceiver receives on a normal channel (a channel which is not Primary Channel). Either **Lookback Time A** or **Lookback Time B** is applied for the interval to initiate checking for a signal on a Priority Channel according to the receiving status of the Priority Channel. **Lookback Time A:** **Lookback Time A** is the interval time to check during a Priority Scan for a signal on a Priority Channel without a carrier while the transceiver receives a signal on a normal channel whose carrier is different from the carrier of the Priority Channel. Since the transceiver may receive a call on the Priority Channel, the time configured in **Lookback Time A** must be shorter than the time configured in **Lookback Time B**. **Lookback Time B:** **Lookback Time B** is the interval time to check during a Priority Scan for a signal on a Priority Channel which does not match the QT/DQT in an Analog Conventional system or a Priority Channel which does not match the Color Code in a DMR Conventional system even though a carrier exists, while the transceiver receives a signal on a normal channel whose carrier is different from the carrier of the Priority Channel.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Lookback Time A**, **Lookback Time B** : Edit > Scan Information > Scan	

Scan Function (**Dropout Delay Time**)

Type	■ Standard model ■ Basic model	
Description	**Dropout Delay Time** is the time from when the transceiver finishes receiving signals until the transceiver resumes scanning. The transceiver pauses scanning when the transceiver receives a call during the scan. The transceiver resumes the scan when the time configured in **Dropout Delay Time** elapses after the transceiver finishes receiving.	
Operating the transceiver	-	-
Note	The following are conditions to resume scanning: • There is no signal to receive. • The matching state of the RAN becoming inconsistent.	
Configuration using FPU	**Dropout Delay Time** : Edit > Scan Information > Scan	

Scan Function (**Dwell Time**)

Type	■ Standard model ■ Basic model	
Description	During the scan, the scan pauses when the **PTT** switch is pressed to transmit. **Dwell Time** is the time from when the transceiver completes transmitting until the transceiver resumes scanning. The transceiver activates Talkback according to the configuration in **Revert Channel** while the time configured in **Dwell Time** elapses.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Dwell Time** : Edit > Scan Information > Scan	

Scan Function (**Power-on Scan**)

Type	■ Standard model ■ Basic model	
Description	**Power-on Scan** is the function to start the scan automatically when the transceiver is turned on.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Power-on Scan** : Edit > Scan Information > Scan	

Scan Function (**Revert Channel**)

Type

■ Standard model ■ Basic model

Description

Revert Channel is the Zone-channel which is used when the transceiver transmits by pressing the **PTT** switch during the scan.

The Revert Channel is displayed according to the configuration of Revert Channel Display.

Priority

Configuration	Description
Last Called + Selected	The transceiver transmits on the last-called Zone-channel by pressing the **PTT** switch during the scan. If the Zone-channel is changed, the transceiver transmits using the new channel after the Zone channel is changed until the transceiver receives another call.
Selected	The transceiver transmits on the new channel after the Zone-channel is changed regardless of the scan status.
Selected + Talkback	During the scan, the transceiver transmits on the new Zone-channel after the zone-channel is changed. While the scan is paused, the transceiver transmits on the Zone-channel where the transceiver pauses scanning.
Priority 1	The transceiver transmits on a Priority 1 regardless of the scanning status.
Priority 1 + Talkback	The transceiver transmits on a Priority 1 during the scan. While the scan is paused, the transceiver transmits on the Zone-channel where the transceiver pauses scanning.
Priority 2	The transceiver transmits on a Priority 2 regardless of the scanning status.
Priority 2 + Talkback	The transceiver transmits on a Priority 2 during the scan. While the scan is paused, the transceiver transmits on the Zone-channel where the transceiver pauses scanning.

Operating the transceiver	-	-
Note	• If **Revert Channel Display** is enabled, a Revert Channel always appears on the transceiver display during the scan.	
Configuration using FPU	**Revert Channel** : Edit > Scan Information > Scan	

Scan Function (**Revert Channel Display**)

Type	■ Standard model ☐ Basic model	
Description	If **Revert Channel Display** is enabled, Revert Channel is displayed.	
Operating the transceiver	Display during single scan (Revert Channel Display = Disable) 	• Press PF_BTN[Scan]. Transceiver behavior : • Tone A sounds and scan is started. • Scan icon is displayed. • “SCAN” is displayed on the main text. • The items displayed on the icon area depend on the Revert Channel. • The LED blinks according to the Scan LED setting.
	Display during single scan (Revert Channel Display = Enable) 	• Press PF_BTN[Scan]. Transceiver behavior : • Tone A sounds and scan is started. • Scan icon is displayed. • Revert Channel is displayed. • The LED blinks according to the Scan LED setting.
Note	The following setting items are FPU setting items. • If **Revert Channel Display** is enabled, a Revert Channel always appears on the transceiver display during the scan.	
Configuration using FPU	**Revert Channel Display** : Edit > Scan Information > Scan	

Scan Function (**Scan LED**)

Type	■ Standard model ■ Basic model	
Description	If **Scan LED** is enabled, the LED flashes while the transceiver is scanning. The following setting items are FPU setting items. **Scan LED** Configuration / Description Off — The LED does not flash. Yellow — The LED flashes yellow. Purple — The LED flashes purple. Blue — The LED flashes blue. Light Blue — The LED flashes light blue. Red — The LED flashes red. Green — The LED flashes green. White — The LED flashes white.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Scan LED** : Edit > Scan Information > Scan	

Scan Function (**Scan Stop Tone**)

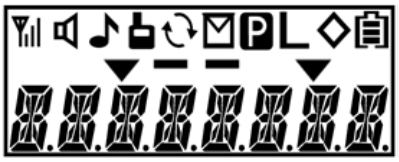
Type	■ Standard model ■ Basic model	
Description	**Scan Stop Tone** is the function to emit the Scan Stop Tone (1 beep) from the transceiver if the scan pauses and cannot not resume, for example, while the transceiver migrates to a Home Channel or Direct Channel. The transceiver pauses scanning if the conditions to start the scan are not satisfied, such as while the transceiver is migrating to a Home Channel or Direct Channel, and then a Scan Stop Tone (1 beep) sounds from the transceiver at 30-sec intervals.	
Operating the transceiver	-	-
Note	• The Scan Stop Tone (1 beep) does not sound while the transceiver is transmitting or while the speaker is unmuted for reception.	
Configuration using FPU	**Scan Stop Tone** : Edit > Scan Information > Scan	

Scan Function (**Selected Channel Scan**)

Type	■ Standard model ■ Basic model	
Description	**Selected Channel Scan** is the function to add the selected channel to the target channels for scan even if the channel is excluded from the target.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Selected Channel Scan** : Edit > Scan Information > Scan	

4 NXDN function

Displaying the Voltage Value of a Battery When the Transceiver Is Turned ON (**Power-on (Battery Voltage)**)

Type	■ Standard model ☐ Basic model	
Description	**Battery Voltage** is the function to display the voltage value of a battery when the transceiver is turned ON.	
Operating the transceiver		• Turn the [Power/Volume Knob] clockwise from the power-off position. Transceiver behavior : • The transceiver is turned on. • Power-on Tone sounds. • All LCD segments and icons light up for a minimum of 500ms or until the Power-on Tone has finished sounding, whichever is longer.
		Transceiver behavior : • The voltage value is displayed after the “BATT”. (The detected voltage value is 7.00V)
Note	-	
Configuration using FPU	**Battery Voltage** : Edit > Optional Features > Optional Features 1 > Common 2 > Power-on	

Displaying the LED When the Transceiver Is Turned ON (**Power-on (LED)**)

Type	■ Standard model ■ Basic model	
Description	Setting the color of the LED that lights up when the power is on, for example, groups can be Radio Access Number (RAN) when grouping is necessary. Setting the color of the LED that lights up for about 2 seconds at startup. ・ Yellow ・ Purple ・ Blue ・ Light Blue ・ Red ・ Green ・ White	
Operating the transceiver	-	-
Note	For Basic Model, LED Blinking Color of Error Mode are summarize as below.	

LED Blinking Color of Error Mode

Error	Blinking Color	
Kill	Yellow	Purple
Unprogramming mode	Yellow	Blue
Key Fail	Yellow	Green
Data Error	Yellow	Light Blue
Voice Data Error	Yellow	-
ESN Error	Red	Purple
Feature Error	Red	Blue

Configuration using FPU	**LED** : Edit > Optional Features > Optional Features 1 > Common 2 > Power-on

Using Function Buttons (**Mode Reset Timer**)

Type	■ Standard model ■ Basic model	
Description	**Mode Reset Timer** is the timer for canceling the standby status of further key entry in Function Mode, and for canceling the function activation status of 2nd Function. By using this function, Function Mode does not need to be disabled manually. The function also helps by canceling the Function Mode automatically so as not to remain in Function Mode for too long. If no button is pressed before the amount of time configured in **Mode Reset Timer** expires, the transceiver returns to the previous mode. If a **Function** button is pressed, the transceiver waits for a function configured for 2nd Function to be activated, and then **Mode Reset Timer** starts counting down. If no button is pressed before the amount of time configured in **Mode Reset Timer** expires, the transceiver cancels waiting for the function to be activated. **Mode Reset Timer** can be extended by button operation. **Mode Reset Timer** is used for the following Function Modes. • 2-tone Mode • Autodial Mode • Autodial Programming Mode • Channel Entry Mode • External Mic Sense Mode*1 • External Speaker Mode • Fixed Volume Mode*1 • Group Call Mode • Individual Call Mode • Maintenance Display Mode • Menu Mode • Mic Sense Mode*1 • Microphone Type Mode*1 • OST Mode (OST List) • Priority-channel Select Mode • Radio Check Mode*1 • Radio Inhibit Mode*1 • Radio Uninhibit Mode*1 • Remote Control Mode • RX Audio Equalizer Mode*1 • RX Audio Gain Control Mode*1 • Scrambler/Encryption Code Mode • Selcall Mode • Short Message Mode • Speaker Type Mode*1 • Squelch Level Mode • Stack Mode • Status Mode • Transceiver Password Mode*2 • TX Audio Equalizer Mode*1 • VOX Gain Level Mode *1 Modes entered only from Menu Mode. *2 “PASSWORD” reappears on the display when the duration configured in **Mode Reset Timer** elapses.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Mode Reset Timer** : Edit > Optional Features > Optional Features 1 > Common 1	

Locking the Transceiver Buttons (**Button Lock/ Auto Button Lock Timer**)

Type	■ Standard model ■ Basic model	
Description	**Button Lock** is the function to disable the transceiver button operation. This function prevents the incorrect operation of the transceiver by physical contact while carrying the transceiver, such as around the waist. **Auto Button Lock Timer** is the function to automatically enable the Button Lock when no button is operated after the Button Lock is disabled.	
Operating the transceiver	-	-
Note	Buttons assigned with the following functions can be used even while the Button Lock is enabled: ・ Emergency ・ Backlight ・ Battery Status ・ Call Response ・ Clear ・ Function ・ Button Lock ・ Monitor ・ Monitor Momentary ・ Squelch Off ・ Squelch Off Momentary ・ Save Log Data If no button is operated for the amount of time configured in Auto Button Lock Timer after the Button Lock is disabled, the Button Lock is automatically enabled.	
Configuration using FPU	**Front Buttons** : Edit > Button Assignment > General > Button Lock **Side Buttons** : Edit > Button Assignment > General > Button Lock **PTT Switch** : Edit > Button Assignment > General > Button Lock **Selector** : Edit > Button Assignment > General > Button Lock **Volume Control** : Edit > Button Assignment > General > Button Lock **Auto Button Lock Timer** : Edit > Optional Features > Optional Features 1 > Common 1	

Display Functions of the Display (**Display Format**)

Type	■ Standard model ☐ Basic model	
Description	**Display Format** is the function to display the Channel Name or both the zone number and channel number on the display. **Display Format** Configuration: Channel Name — Displays the Channel Name. Configuration: Zone-Channel Number — Displays both the zone number and channel number.	
Operating the transceiver	-	-
Note	• Refer to [Display Format] button assignment for details on how to change the Display Format.	
Configuration using FPU	**Display Format** :Edit > Optional Features > Optional Features 1 > Common 1	

Lighting the Backlight (**Auto Backlight**)

Type	■ Standard model ☐ Basic model	
Description	The backlight is equipped on the back side of the LCD on the transceiver. By lighting the backlight, the LCD can be viewed in dark places or at night. Pressing the **Backlight** button toggles the backlight between On and Off. **Auto Backlight** is enabled, the backlight lights when operating any button of the transceiver, or when receiving a call.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Backlight Timer**, **PTT Press**, **Any Operation**, **Call/Message Receive** : Edit > Optional Features > Optional Features 1 > Common 1 > Auto Backlight	

Reducing the Influence of the Internal Beat (**Beat Shift**)

Type	■ Standard model ■ Basic model	
Description	**Beat Shift** can be used to eliminate the influences of heterodyning in the transceiver caused by internal oscillators. Due to the transceiver's circuit configuration, the harmonics of the oscillators may interfere with reception depending on the receive frequency. The interference to reception can be avoided by slightly shifting the frequency of the oscillator. **Beat Shift** can be configured for each channel.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Beat Shift** : Edit > Zone Information > Channel Edit > General	

Changing the Zone-channel (**Rollover/End Stop**)

Type	■ Standard model ■ Basic model	
Description	**Rollover/End Stop** is the method to configure how a zone or channel migrates when changing the zone or channel using the PF buttons or Selector on the transceiver.	
Operating the transceiver	-	-
Note	• For Basic model, [Selector] cannot be locked by Button Lock.	
Configuration using FPU	**Rollover/End Stop** : Edit > Optional Features > Optional Features 1 > Common 1	

Rollover/End Stop

Configuration	Description
Rollover	A Rollover Tone (1 beep) sounds from the transceiver and the transceiver migrates to the zone or channel having the lowest number when attempting to increase the zone or channel number while the zone or channel having the largest number is selected. The transceiver migrates to the zone or channel having the largest number when attempting to decrease the zone or channel number while the zone or channel having the lowest number is selected.
End Stop	The zone or channel in the range between the highest and lowest numbers can be selected. The zone or channel number is not looped. A Stop Tone (1 beep) sounds from the transceiver and the transceiver does not migrate to a different zone or channel when attempting to increase the zone or channel number while the zone or channel having the largest number is selected. Also, a Stop Tone (1 beep) sounds from the transceiver and the transceiver does not migrate to a different zone or channel when attempting to decrease the zone or channel number while the zone or channel having the lowest number is selected.

Transmit and Receive (**Transmit Power**)

Type	■ Standard model ■ Basic model	
Description	**Transmit Power** is the transmission power of the transceiver. A user can use the transceiver by switching the transmission power to high power, medium power or low power. • When High Transmit Power is on, transceiver operates at High Transmit Power (5W). • When Medium Transmit Power is on, transceiver operates at Medium Transmit Power (4W). • When Low Transmit Power is on, transceiver operates at Low Transmit Power (1W).	
Operating the transceiver	-	-
Note	• There is icon (L) about Low Transmit Power only. In other cases, the transmit power icon is not displayed. • Refer to the user manual for instructions on how to configure the transceiver about PF Button.	
Configuration using FPU	**Transmit Power** : Edit > Zone Information > Channel Edit > General	

Transmit and Receive (**Channel Spacing**)

Type	■ Standard model ■ Basic model	
Description	**Channel Spacing** is the channel spacing used by the transceiver to transmit and receive. Channel spacing is the spacing of frequencies between adjacent channels. In an NXDN Conventional system, 12.5 kHz or 6.25 kHz can be configured for the channel spacing on each channel.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**RX Frequency**, **TX Frequency** : Edit > Zone Information > Channel Edit > General **Channel Spacing** : Edit > Zone Information > Channel Edit > NXDN	

Configuring Audio Profile (**Digital Audio Offset**)

Type	■ Standard model ■ Basic model	
Description	**Digital Audio Offset** is the function to enable the transceiver to function after the offset value configured in **Digital Audio Offset** is added to or deleted from the configuration values in **Microphone Sense** and **External Microphone Sense**. This function is used when the microphone level used on digital channels and the microphone level used on analog channels are to be configured separately. The configuration range of **Digital Audio Offset** is between -10 dB and +6 dB. On a digital channel, the transceiver functions with the combined value of the configuration value in **Microphone Sense** or **External Microphone Sense** and the configuration value in **Digital Audio Offset**.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Digital Audio Offset** : Edit > Optional Features > Optional Features 1 > Common 1 > Microphone Sense	

Configuring Audio Profile (Audio Profile) (**Microphone Type**)

Type	■ Standard model ■ Basic model	
Description	**Microphone Type** is the function to configure the type of external microphone to be connected to the transceiver and keep the audio quality in optimum condition. The external microphones to be connected to the transceiver have different audio characteristics. Use of this function equalizes audio characteristics and corrects the condition to be optimum for digitalization.	
Operating the transceiver	-	-
Note	• If using an external microphone unlisted in the table above, configuring “None” in **Microphone Type** is recommended.	
Configuration using FPU	**Microphone Type** : Edit > NXDN > General 2 > Audio > TX Audio Response	

Microphone Type

Microphone Type	Description
None	Disables the capability to adjust audio characteristics. This configuration is used when not wanting to change the audio characteristics.
Microphone 1	KMC-45, KMC-45D
Microphone 2	KMC-48GPS
Microphone 3	KMC-21
Microphone 4	KHS-7, KHS-8, KHS-9, KHS-21, KHS-22, KHS-25, KHS-26, KHS-27, KHS-31
Microphone 5	KHS-23, KHS-35F
Microphone 6	KHS-10
Microphone 7	EMC-11, EMC-12
Microphone 8	KHS-1
Microphone 9	KHS-29F
Microphone 10	Reserved. Audio quality is same as None.
Microphone 11	KHS-8NC

Configuring Audio Profile (Audio Profile) (**Speaker Type**)

Type	■ Standard model ■ Basic model
Description	**Speaker Type** is the function to configure the type of external speaker to be connected to the transceiver and keep the audio in optimum condition. The external speakers to be connected to the transceiver have different audio characteristics. Using this function equalizes audio characteristics that differ for each speaker, and can correct the demodulated sound when a digital signal is received.

Speaker Type

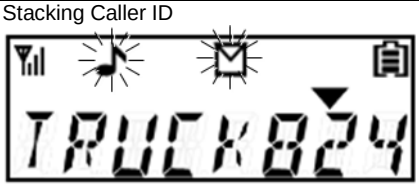
Speaker Type	Description
None	Disables the capability to adjust audio characteristics. This configuration is used when not wanting to change the audio characteristics.
Speaker 1	KMC-45, KMC-45D
Speaker 2	KMC-48GPS
Speaker 3	KMC-21
Speaker 4	KHS-7, KHS-8, KHS-9, KHS-21, KHS-22, KHS-25, KHS-26, KHS-27, KHS-31
Speaker 5	KHS-23, KHS-35F
Speaker 6	KHS-10
Speaker 7	EMC-11, EMC-12
Speaker 8	KHS-1
Speaker 9	KHS-29F
Speaker 10	KEP-2
Speaker 11	KHS-8NC

Operating the transceiver	-	-
Note	• If using an external speaker unlisted in the table above, configuring “None” in Speaker Type is recommended.	
Configuration using FPU	**Speaker Type** : Edit > NXDN > General 2 > Audio > RX Audio Response PF_BTN[Menu] Edit > Button Assignment > Menu	

Viewing the Receive History (Stack) (**Retain Stacked Message**)

Type	■ Standard model ☐ Basic model
Description	In Stack Mode, the incoming call history (Caller ID) can be viewed. In an analog system (FleetSync), an NXDN system, or a DMR system, in addition to the incoming call history, received Status Messages and Short Messages can be viewed in Stack Mode. Received IDs and messages are stored in the stack memory of the transceiver. In order to store the received IDs and various messages in the stack memory of the transceiver, Caller ID Stack, Status Message Stack, or Short Message Stack needs to be individually enabled by using KPG-D6/ D6N. The “ ✉ ” icon appears if messages are stored in the transceiver. If there is an unread message, the “ ✉ ” icon blinks. Pressing the PF_BTN[Stack] places the transceiver in Stack Mode. Or, the transceiver can also be placed in Stack Mode by selecting “Stack” after placing the transceiver in Menu Mode by pressing the PF_BTN[Menu]. **Retain Stacked Message** is the function to retain the stored Caller IDs, Status Messages, or Short Messages in the stack memory of the transceiver even after the transceiver is turned OFF.
Operating the transceiver	- -
Note	-
Configuration using FPU	**Short Message Stack**, **Retain Stacked Message** : Edit > Optional Features > Optional Features 1 > Common 4 > Stack Condition

The function to store IDs of callers in the stack memory (**Caller ID Stack**)

Type	■ Standard model ☐ Basic model
Description	**Caller ID Stack** is the function to store IDs of callers in the stack memory. The transceiver can store a maximum of 64 Caller IDs. **Caller ID Stack** Configuration: None — The Caller ID is not stored even if a call is received. Individual Call, — Only the Caller ID of an Individual Call or Paging Call is stored. Any Call — The Caller IDs of all calls are stored. However, the Caller IDs of Unaddressed Calls and Broadcast Group Calls are not stored in a DMR Conventional system.
Operating the transceiver	Stacking Caller ID  Transceiver behavior : • When the transceiver receives a call, ✉ icon blinks to indicate that the Caller ID is being stacked.
Note	-
Configuration using FPU	**Caller ID Stack** : Edit > Optional Features > Optional Features 1 > Common 4 > Stack Condition **Call ID for Message**, **Channel Name**, **Stack Order** : Edit > Optional Features > Optional Features 1 > Common 4 > Message Display **Status Hold** : Edit > Optional Features > Optional Features 1 > Common 4

Viewing the Receive History (Stack) (**Clear Caller ID Stack on Reply**)

Type	■ Standard model ☐ Basic model
Description	**Clear Caller ID Stack on Reply** is the function to clear a Caller ID from the stack memory of the transceiver if the Caller ID stored in the stack memory is selected and called back. Also, the Caller ID of the calling party is stored in the stock memory when the transceiver receives a call, but the Caller ID is cleared from the stack memory if a response is initiated while the Auto Reset Timer is counting down. Subsequently, the Caller ID is not stored in the stack memory even if a call from the same party is received while the Auto Reset Timer is counting down. If this function is disabled, a Caller ID is not cleared from the stack memory of the transceiver even if the Caller ID stored in the stack memory is selected and called back.
Operating the transceiver	- / -
Note	-
Configuration using FPU	**Clear Caller ID Stack on Reply** : Edit > NXDN > General **Caller ID Stack** : Edit > Optional Features > Optional Features 1 > Common 4 > Stack Condition

Indication and Display (**Selective Call Alert LED**)

Type	■ Standard model ■ Basic model	
Description	Selective Call Alert LED is the function to make the LED flash when the transceiver receives a call using an NXDN ID. A user can notice by the LED that the transceiver is receiving a call. One of the 7 colors can be used to make the LED flash, and the flashing color can be configured for each type of call. • Yellow • Purple • Blue • Light Blue • Red • Green • White	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Selective Call Alert LED** : Edit > NXDN > Conventional **Individual Call**, **Individual Call Incoming**, **Group Call**, **Paging Call** : Edit > NXDN > Conventional > LED Color	

Indication and Display (**Optional Signaling LED**)

Type	■ Standard model ■ Basic model	
Description	**Optional Signaling LED** is the function to make the LED flash yellow when the Optional Signaling matches. A user can notice by the LED that the transceiver is receiving a call. If the matching state of Optional Signaling is disabled when the buttons on the transceiver are pressed, or when the time configured in **Auto Reset Timer** elapses, the LED is turned off. However, if **Selective Call Alert LED** is enabled, the LED flashes according to the configuration in Selective Call Alert LED even if **Optional Signaling LED** is enabled.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Optional Signaling LED** : Edit > NXDN > Conventional	

Configuring the Alert Tone Pattern (**Special Alert Tone**)

Type

■ Standard model ■ Basic model

Description

This tone sounds from the transceiver when the transceiver receives various types of calls, Status Message, or Short Message. A maximum of 8 types of tones can be arbitrarily configured or changed.

An Alert Tone sounds from the transceiver such as when the transceiver receives a call using an Individual Call or a Group Call, a Status Message, or a Short Message and notifies the user of the reception.
The Alert Tone pattern can be configured by selecting from 8 types of tones configured in **Special Alert Tone**.

Alert Tone is the alert tone pattern when receiving a call with the optional signaling.
An Alert Tone that is suitable for a user's environment can be selected.
Alert Tone can be used to select from 8 patterns of Alert Tones. An Alert Tone pattern consists of 16 tones.
Alert Tone can be configured by using KPG-D6/ D6N.
The following table shows the configuration items.

Alert Tone

Configuration	Description
Cycle	This function can be used to configure the number of times for the Alert Tone that sounds from the transceiver. A number from 1 to 255 can be configured. The Alert Tone sounds from the transceiver until it is manually stopped if "Infinite" is configured. If it is intended for the Alert Tone to sound multiple times, the Alert Tone does not sound from the transceiver while the transceiver unmutes the speaker. Or, if the matching state of Optional Signaling is reset, Alert Tone will also be disabled.
Interval Time	This function can be used to configure the timing to repeat the Alert Tone that sounds from the transceiver. A time between 0 s and 255 s can be configured in steps of 1 s.
Frequency	The tone frequency can be configured. A frequency between 400 Hz and 2500 Hz can be configured in steps of 10 Hz. Gap can be configured if "None" is selected.
Length	The tone length can be configured. A tone length between 0 ms and 2500 ms can be configured in steps of 10 ms. No tone sounds if 0 ms is configured.

Operating the transceiver

-	-

Note

-

Configuration using FPU

Cycle, **Interval Time**, **Frequency**, **Length** :
Edit > Special Alert Tone

Restricting an Alert Tone When Consecutively Receiving a Call (**Alert Tone Inhibit from 2nd Call**)

Type

■ Standard model ■ Basic model

Description

Alert Tone Inhibit from 2nd Call is the function that disables the functions such as the storing of a Caller ID in the transceiver stack memory and the activation of various alerts, if the transceiver consecutively receives an Individual Call from the transceiver having the same Individual ID, or receives a Group Call with the same Group ID after the transceiver receives an Individual Call or a Group Call.

For instance, emitting an Alert Tone from the transceiver every time the transceiver repeatedly and frequently receives a call from the same party may be annoying. In that case, this function can be used to disable the Alert Tone for sounding from the transceiver even if the transceiver receives a call from the same party in succession.

Operating the transceiver

-	-

Note

- If **Alert Tone Inhibit from 2nd Call** is enabled, various functions such as Alert Tone will not be activated upon the reception of the second and subsequent calls from the same transceiver even if "Off" is configured in **Auto Reset Timer**.
- If "0" configured in **Auto Reset Timer**, **Alert Tone Inhibit from 2nd Call** will not be activated.

Configuration using FPU

Alert Tone Inhibit from 2nd Call : Edit > NXDN > General 1

Auto Reset Timer, **LCD**, **LED**, **Alert Tone** :
Edit > NXDN > General 2 > Auto Reset > Voice
Auto Reset Timer, **LCD**, **Alert Tone** :
Edit > NXDN > General 2 > Auto Reset > Message

Using Voice Guidance (**Voice Announcement**)

Type	■ Standard model ■ Basic model	
Description	**Voice Announcement** is the function to notify the following contents by voice. • The selected Zone-channel number when the transceiver is turned ON and the new Zone-channel number when the Zone-channel is changed. • The function status and transceiver status when the PF button is operated. ・Encryption ・Scrambler ・VOX Function ・Home Channel ・Button Lock ・Low Transmit Power ・Scan ・Send the GPS Data ・Speaker Attenuation ・Talk Around	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Zone-Channel Guide**, **Function Guide** : Edit > Optional Features > Optional Features 1 > Common 1 > Voice Announcement	

Reducing Battery Consumption (**Battery Saver**)

Type	■ Standard model ■ Basic model	
Description	**Battery Save**r allows the transceiver to reduce power consumption by receiving intermittently. The transceiver receives intermittently when there is no carrier and no button is pressed for 5 sec or more, or when the transceiver is in the following states. When there is a carrier, but the RAN (Radio Access Number) does not match the number preconfigured for the transceiver and no button is pressed for 5 sec or more Extension of the intervals for intermittent reception may reduce the battery consumption; however, interruptions to introductory parts of received audio may occur. To use **Battery Saver** effectively, there are systemic issues to consider, for instance, the duration from when the transceiver starts transmitting until the transceiver starts sending audio. Intervals for intermittent reception are as follows.	
Operating the transceiver	-	-
Note	• Battery Saver does not function in Scan Mode and Site Roaming Mode.	
Configuration using FPU	**Battery Saver**, **Battery Indicator, Battery Warning**, **Battery Warning Tone**, **Battery Level Tone** : Edit > Optional Features > Optional Features 1 > Common 3 > Battery	

Duration of the Battery Saver

Save	No Carrier	Inconsistent Status of RAN code,
Off	Off	Off
Short	200 ms	Off
Medium	400 ms	800 ms
Long	800 ms	1600 ms

Password for Transceiver Operation (**Transceiver Password**)

Type	■ Standard model ■ Basic model	
Description	**Transceiver Password** protects the transceiver from unauthorized usage. Placing the transceiver in Transceiver Password Mode prevents the transceiver from being used. The transceiver exits Transceiver Password Mode and becomes available if a password is entered and the password is correct.	
Operating the transceiver	-	-
Note	• Refer to the user manual for instructions on how to operate the transceiver in Transceiver Password Mode.	
Configuration using FPU	**Transceiver Password** : Edit > Optional Features > Optional Features 1 > Common 1	

Password When Reading Configuration Data in a PC (**Password (Read)**)

Type	■ Standard model ■ Basic model	
Description	**Password (Read)** is the function to protect the configuration data, such as the operating frequencies, from being read by unauthorized persons if the transceiver should ever be stolen. To read data using KPG-D6/ D6N from the transceiver with **Password (Read)** configured, a password needs to be entered on a PC. The configuration data in the transceiver cannot be read unless the correct password is entered. **Password (Read)** can be configured for the transceiver using KPG-D6/ D6N. A password can be arbitrarily configured using a maximum of 16 alphanumeric characters. If the password authentication fails consecutively for the number of times configured in **Password Entry Limit**, the transceiver enters Transceiver Lockout Mode, and then "LOCKOUT" appears on the display. Also, for Basic Model, the LED lights switching between red and light blue. In Transceiver Lockout Mode, the transceiver cannot be operated. Writing configuration data to the transceiver by using KPG-D6/ D6N, the transceiver exits Transceiver Lockout Mode. Also, a failure in Password (Write) authentication counts as a failure in the password authentication. The number of failures in the password authentication is cleared by one of the following conditions: ・ When the transceiver is turned OFF and then turned ON again ・ When the correct password is entered ・ When configuration data is written to the transceiver by using KPG-D6/ D6N	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Password** : Edit > Optional Features > Optional Features 1 > Common 1 > Data Password > Read **Password Entry Limit** : Edit > Optional Features > Optional Features 1 > Common 1 > Data Password	

Password for Writing Configuration Data (**Password (Write)**)

Type	■ Standard model ■ Basic model	
Description	**Password (Write)** is the function to protect the configuration data from being overwritten by unauthorized persons if the transceiver should ever be stolen. To write data using KPG-D6/ D6N to the transceiver with **Password (Write)** configured, a password needs to be entered on a PC. **Password (Write)** can be configured for the transceiver using KPG-D6/ D6N. A password can be arbitrarily configured using a maximum of 16 alphanumeric characters.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Password**, **Confirmation** : Edit > Optional Features > Optional Features 1 > Common 1 > Data Password > Write **Password Entry Limit** : Edit > Optional Features > Optional Features 1 > Common 1 > Data Password	

Copying the Configuration Data to Another Transceiver (**Clone Mode**)

Type	■ Standard model ■ Basic model	
Description	**Clone Mode** can be used to copy the data configured for the transceiver to another transceiver.	
Operating the transceiver		• Turn the transceiver ON while pressing and holding the [Side 2] button. Transceiver behavior : • The transceiver enters Clone Mode.
		• Press the **PTT** switch. Transceiver behavior : • Tone A sounds from the transceiver and copying the data starts. • The LED lights red. Transceiver behavior : • Copy the data. • Copying the data ends. • The LED is turned off.
Note	• The following data cannot be copied in Clone Mode: ・Tuning Data ・Embedded Message with Password ・KENWOOD ESN Data ・Model Name ・Backup Data • If the data is copied to a transceiver having a different firmware version number, this may result in an error or a failure of the transceiver to function correctly. In such a case, the cloned transceiver operation must be verified prior to using this transceiver on a regular basis. • Refer to the service manual for instructions on how to operate the transceiver in Clone Mode, and for details on the Clone function.	
Configuration using FPU	**Clone** : Edit > Optional Features > Optional Features 1 > Common 2 > Mode	

Changing the Configuration of the Transceiver (Front Panel Programming Mode)

Type	■ Standard model ■ Basic model	
Description	This mode can be used to change data, such as the frequency on a Conventional Channel, and to add a Conventional Channel in the transceiver only. Even if no KPG-D6/ D6N and PC is available, required data can be configured by using only the transceiver.	
Operating the transceiver	 Press [<B] 	Transceiver behavior : • Press and hold [PTT]+[Side 1] during power on the transceiver will enter into Front Panel Programming mode with display of “PANEL PG”. • Press [S] to next stage. Transceiver behavior : • Zone-Channel Selection stage. • “ZONE XXX” will be display to indicate zone number going to be configure in next stage where XXX is the zone number.
Note	• Pressing the **PTT** Switch and [Side 1] button places the transceiver in Front Panel Programming Mode. • Refer to the service manual for instructions on how to operate the transceiver in Front Panel Programming Mode.	
Configuration using FPU	**Front Panel Programming** : Edit > Optional Features > Optional Features 1 > Common 2 > Mode	

Checking the Firmware Version (Transceiver Information Mode) (**Transceiver Information**)

Type	■ Standard model ☐ Basic model	
Description	Transceiver Information Mode is the function to display the version of the firmware written in the transceiver and the corresponding checksum.	
Operating the transceiver	-	-
Note	• For Basic Model, **Transceiver Information** can be checked in the following FPU. **Transceiver Information** : Tools > Transceiver Information	
Configuration using FPU	**Transceiver Information** : Edit > Optional Features > Optional Features 1 > Common 2 > Mode	

Testing or Adjusting the Transmit and Receive Capabilities of the Transceiver (PC Test Mode)

Type	■ Standard model ■ Basic model	
Description	PC Test Mode can be used to test transmit and receive capabilities of the transceiver by using KPG-D6/ D6N. To test or adjust the transceiver in each mode, the transceiver and a PC with KPG-D6/ D6N installed need to be connected by using the programming cable.	
Operating the transceiver		• Enter Test Mode using the FPU. Transceiver behavior : • Test Mode is entered.
Note	• Refer to the service manual for operating the transceiver in PC Test Mode, and instructions on how to adjust transmit and receive capabilities.	
Configuration using FPU	-	

Testing or Adjusting the Transmit and Receive Capabilities of the Transceiver (PC Tuning Mode)

Type	■ Standard model ■ Basic model	
Description	PC Tuning Mode can be used to adjust transmit and receive capabilities of the transceiver by using KPG-D6/ D6N. To test or adjust the transceiver in each mode, the transceiver and a PC with KPG-D6/ D6N installed need to be connected by using the programming cable.	
Operating the transceiver		• Select a tuning item from the list of tuning items. Transceiver behavior : • Tuning Mode is entered.
Note	• Refer to the service manual for operating the transceiver in PC Tuning Mode, and instructions on how to adjust transmit and receive capabilities.	
Configuration using FPU	-	

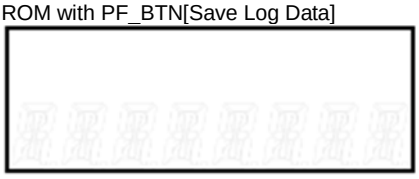
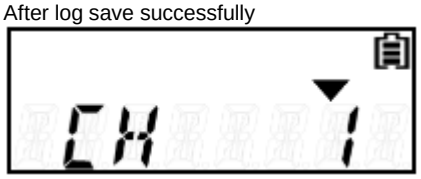
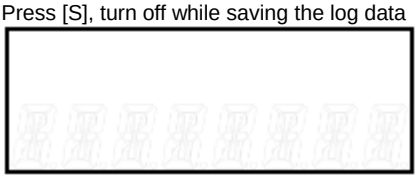
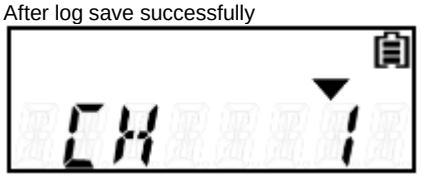
Unmuting the Speaker (**Audio Control**)

Type	■ Standard model ■ Basic model	
Description	**Audio Control** is the condition which allows the transceiver to unmute the speaker by a RAN code and an Optional Signaling. Using KPG-D6/ D6N, the condition which allows the transceiver to unmute the speaker can be configured for each system. The transceiver unmutes the speaker and emits received audio if the conditions configured for **Audio Control** are satisfied. Conditions to unmute the speaker can be changed by a combination of the RAN code and the Optional Signaling. **Audio Control** Configuration / Description: RAN — The transceiver unmutes the speaker if the received RAN code matches the RAN code preconfigured for the transceiver. Conditions remain unchanged even if the transceiver transmits. RAN and Optional Signaling — While the received RAN code matches the RAN code preconfigured for the transceiver, the transceiver unmutes the speaker if Optional Signaling matches the Optional Signaling preconfigured for the transceiver. Conditions remain unchanged even if the transceiver transmits.	
Operating the transceiver	-	-
Note	The transceiver behaves as follows according to the type of a received signal on a channel with “Mixed” configured in **Channel Type**. If the transceiver receives analog signals: • The transceiver behaves according to the configuration in **Audio Control** (Analog). If the transceiver receives NXDN digital signals: • The transceiver behaves according to the configuration in **Audio Control** (NXDN).	
Configuration using FPU	**Audio Control** : Edit > Zone Information > Channel Edit > NXDN	

Using VOX (VOX Function)

Type	■ Standard model ■ Basic model
Description	**VOX** is the function to transmit audio just by speaking into a microphone without pressing the **PTT** switch. This function can be used when a user cannot press the **PTT** switch, for instance, when a user is using both hands for other tasks. • **VOX Type** If **VOX Function Preset** is enabled, you can select either "VOX" or "Semi-VOX". **VOX** : ・ The transceiver automatically detects an audio signal from the microphone. ・ When the voice level from the microphone is higher than the reference level (VOX Gain Level), the transceiver automatically starts transmission. **Semi-VOX** : ・ Transmission is started by pressing PTT and transmission continues even after PTT is released. If **VOX Function Preset** is disabled, you cannot select the **VOX Type**. • **VOX Gain Level** **VOX Gain Level** is the input sensitivity of the microphone for activating VOX. This function is used to adjust the VOX to work properly based on the user's voice tone or the surrounding noise when a user transmits by speaking into a microphone. • **VOX Delay Time** **VOX Delay Time** is the duration for which the transceiver retains the transmission after VOX transmission. If the transceiver reverts to receive mode too quickly after a user pauses speaking, the last part of the speech may not be transmitted. To avoid this situation, VOX Delay Time needs to be configured so that the whole speech is transmitted and that the transmission retention time is not too long. Upon the elapse of the time configured in **VOX Delay Time** after no audio is inputted to the microphone, the transceiver terminates VOX transmission. VOX transmission is terminated. If audio is inputted to the microphone while **VOX Delay Time** is counting down, **VOX Delay Time** is reset and the audio transmission continues. • **Cancel by PTT** **Cancel by PTT** is the function to disable VOX by pressing the **PTT** switch when VOX is enabled. If VOX is disabled by **Cancel by PTT**, VOX is enabled by pressing and holding the PF_BTN[VOX Function] or by executing "VOX" after entering Menu Mode by pressing the PF_BTN[Menu]. If the PF_BTN[VOX Function] is not configured and "VOX" is not configured in Menu Mode, VOX can be enabled by turning the transceiver OFF and ON again. • **VOX Proceed Tone** **VOX Proceed Tone** is the tone that sounds from the transceiver to notify that the audio transmission becomes available after the transmission is started by using VOX. If **VOX Proceed Tone** is enabled, a VOX Proceed Tone that notifies that the audio transmission becomes available sounds from the transceiver after the transmission is started by using VOX. • **Transmit Inhibit while Receiving** **Transmit Inhibit while Receiving** is the function to restrict the VOX transmission while the speaker of the transceiver is unmuted. This function can be used to prevent VOX from being activated by audio emitted from the speaker. If **Transmit Inhibit while Receiving** is enabled, the VOX transmission cannot be done while the speaker is unmuted. If **Transmit Inhibit while Receiving** is disabled, the VOX transmission can be done even while the speaker is unmuted.
Operating the transceiver	 • Press PF_BTN[VOX] to execute PF_BTN[VOX Function]. Transceiver behavior : • VOX is turned on. • ▬ icon is displayed. • If Function Guide is enabled, "VOX On" is announced and Tone A does not sound. • If Function Guide is disabled, only Tone A sounds. • Press PF_BTN[VOX] to execute PF_BTN[VOX Function]. Transceiver behavior : • VOX is turned off. • Tone B sounds and ▬ icon is turned off.
Note	• The following functions do not work when **VOX Type** is set to "Semi-VOX". **Cancel by PTT**, **VOX Proceed Tone**, **Transmit Inhibit while Receiving**
Configuration using FPU	**VOX Function Preset**, **VOX Type**, **VOX Gain Level**, **VOX Delay Time**, **Cancel by PTT**, **VOX Proceed Tone**, **Transmit Inhibit while Receiving** : Edit > Optional Features > Optional Features 2 > Conventional > VOX

Reading the Log Information of the Transceiver (Field Support) (**Save Log Data**)

Type	■ Standard model ■ Basic model	
Description	The transceiver always records the hardware failure information and the software status. This function saves the operation and communication logs of this transceiver.	
Operating the transceiver	Save transceiver log data into external Flash ROM with PF_BTN[Save Log Data]  After log save successfully  Save transceiver log data into external Flash ROM in Menu Mode Press [S], turn off while saving the log data  After log save successfully 	• Press and hold PF_BTN[Save Log Data]. Transceiver behavior : • Reset the transceiver software and save hardware errors history to Flash ROM. No tone sound at this time. • Select [Save Log Data] from Menu mode. Transceiver behavior : • Reset the transceiver software and save hardware errors history to Flash ROM. No tone sound at this time.
Note	• This function depends on support.	
Configuration using FPU	PF_BTN[Save Log Data] Edit > Button Assignment > Front PF_BTN[Menu] Edit > Button Assignment > Menu	

Initiating Voice Communications (Basic Transmission and Reception) (Own ID)

Type	■ Standard model ■ Basic model	
Description	To initiate various communications using NXDN, a Unit ID, the identification code of a transceiver, needs to be configured for the transceiver.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Unit ID**, **Global ID**, **Unit ID Name**, **Global ID Name** : Edit > Zone Information > Zone Edit - Conventional Group > ID (Own) > NXDN	

Initiating Voice Communications (Basic Transmission and Reception) (**Auto Reset Timer**)

Type

■ Standard model ■ Basic model

Description

Auto Reset Timer is the amount of time from when the received Unit ID or Group ID matches the Unit ID or Group ID preconfigured for the transceiver until the LCD, blinking of LED and emission of Alert Tone will automatically be reset.

By using KPG-D6/ D6N, **Auto Reset Timer** can be configured. Also, how the transceiver behaves after the length of time configured in **Auto Reset Timer** elapses can be configured.

Auto Reset Timer

Configuration		Description
Auto Reset Timer (Voice or Message)	Off	**Auto Reset Timer** will not be activated.
	0 sec to 300 sec	After the configured time elapses, the matching state of the Unit ID or Group ID is automatically reset.
LCD (Voice or Message)		While this function is enabled, the display will change from one of the following displays to the previous channel display if the amount of time configured for **Auto Reset Timer** elapses. • ID display after receiving an Individual Call or Group Call • Status Message display after receiving a Status Message • Short Message display after receiving a Short Message
LED (Voice only)		If this function is enabled, the flashing Busy LED for the **Selective Call Alert LED** turns off when the length of time configured in **Auto Reset Timer** elapses.
Alert Tone (Voice or Message)		If this function is enabled, the intermittently emitted Alert Tone stops when the length of time configured in **Auto Reset Timer** elapses.

Operating the transceiver	-	-
Note	• Respective Auto Reset Timer can be configured for each voice communication (Voice) and data communication (Message). • Basic Model has no LCD setting.	
Configuration using FPU	**Auto Reset Timer**, **LCD**, **LED**, **Alert Tone** : Edit > NXDN > General 2 > Auto Reset > Voice **Auto Reset Timer**, **LCD**, **Alert Tone** : Edit > NXDN > General 2 > Auto Reset > Message	

Initiating Voice Communications (Basic Transmission and Reception) (**Over-the-Air Alias**)

Type

■ Standard model ■ Basic model

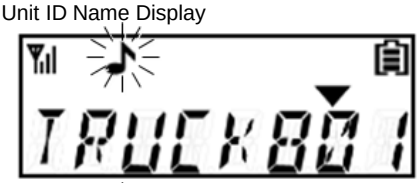
Description

Over-the-Air Alias allows the receiving transceiver to display the ID Name of the transmitting transceiver when receiving a call even if the ID Name of the transmitting transceiver is not configured for the receiving transceiver.

Using this function, Unit ID Name of the added unit does not need to be configured such as when a unit is added to the system in service.

Operating the transceiver

Unit ID Name Display



Transceiver behavior :
- When Individual Call is received, display Unit ID Name stored in received frame.

Transceiver behavior :
- If the caller's Unit ID is not registered in Unit ID List when the call is received, Unit ID No. is displayed.

Display when ID Name is not registered (when Group Call is received)

after 500 ms

after 1.5 sec

(2 sec)

Transceiver behavior :
- If the caller's Unit ID is not registered in Unit ID List when the call is received, Unit ID No. is displayed.
- If Unit ID Name is received while ID number is being displayed, the received Unit ID Name will be displayed.

Note

When Lookback is being executed during Priority Scan, Unit ID Name may not be displayed depending on the configuration in Lookback Time.

If Caller ID Stack is enabled, received Unit ID Name also is stored in the transceiver stack memory. The stored Unit ID Name is also reflected to ID Name with Individual ID List selected.

The Unit ID Name (Own) configured for the current system is used for the Unit ID Name to be transmitted.

The following is the time required for receiving signals to receive and display the text string of Over-the-Air Alias: The received text string does not appear if the communication time is shorter than the time listed below. Also, if the transceiver participates in an on-going call by Late Entry, or if the transmitting transceiver sends the GPS data, it may take longer to display a text string depending on the signal strength.

Date Format and Time Needed for Over-the-Air Alias Reception

Data Format	Approximately 1 sec	Approximately 2 sec	Approximately 2.5 sec	Approximately 3 sec
7-bit	7 characters	14 characters	23 characters	31 characters

Configuration using FPU

Over-the-Air Alias, **Unit ID Name** :
Edit > Zone Information > Zone Edit – Conventional Group > ID (Own) > NXDN

Participating in an On-going Voice Call Midway Through the Call (**Late Entry**)

Type	■ Standard model ■ Basic model	
Description	The transceiver can participate in an on-going voice call even if the transceiver receives this call midway through. The transceiver in an NXDN Conventional system can participate in an on-going voice call by decoding control data always sent along with audio data, even if the transceiver receives a voice call midway through the call.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	-	

Restricting the Continuous Transmission Duration (**Time-out Timer (TOT)**)

Type	■ Standard model ■ Basic model	
Description	**Time-out Timer (TOT)** is the function to restrict the duration for the transceiver to continuously transmit. This function is used to prevent a user from occupying a repeater or frequency which is shared with other users. The transceiver automatically stops transmitting and releases the channel if it continuously transmits longer than the configured time. **Time-out Timer** can be configured for each zone. Also, timers, such as **TOT Pre-alert**, **TOT Rekey Time**, and **TOT Reset Time**, relevant to **Time-out Timer** can be configured. • **TOT Pre-alert** **TOT Pre-alert** is the function to notify a user that a continuous transmission is about to end by the **Time-out Timer**. A TOT Pre-alert Tone (3 beeps) sounds from the transceiver before the transceiver stops the continuous transmission by the **Time-out Timer**. • **TOT Rekey Time** **TOT Rekey Time** is the amount of time from when the transceiver stops the transmission by the **Time-out Timer** until transmission becomes possible again. • **TOT Reset Time** **TOT Reset Time** is the time required to initialize and reset the elapsed time for **Time-out Timer**.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Time-out Timer (TOT)**, **TOT Pre-alert**, **TOT Rekey Time**, **TOT Reset Time** : Edit > Zone Information > Zone Edit - Conventional Group	

Avoiding Interference with Other Communications (**Busy Channel Lockout**)

Type	■ Standard model ■ Basic model	
Description	**Busy Channel Lockout** is the function to automatically restrict the transmission so as not to interfere with other communications. If an attempt is made to transmit on a channel that is already being used by other groups, the transceiver automatically restricts the transmission. If the **PTT** switch is pressed while **Busy Channel Lockout** is enabled, the transceiver cannot transmit with "BUSY" appearing on the display and a Warning Tone A (continuous beep) sounding from the transceiver at the same time. The Warning Tone A (continuous beep) sounds from the transceiver until the **PTT** switch is released. The following are conditions to disable transmission by Busy Channel Lockout: **Busy Channel Lockout** Configuration / Description No: **Busy Channel Lockout** is disabled. Transmission is not restricted even if the channel on which the transceiver attempts to transmit is busy. Carrier Only: The transceiver cannot transmit while the transceiver is receiving a carrier. Incorrect RAN: The transceiver cannot transmit if the transceiver receives a carrier and the received RAN code does not match the RAN code preconfigured for the transceiver. Correct RAN: The transceiver cannot transmit if the transceiver receives a carrier and the received RAN code matches the RAN code preconfigured for the transceiver. Any RAN: The transceiver cannot transmit while receiving a RAN code. The transceiver cannot be transmitting while receiving RAN code even if transceiver receives the carrier.	
Operating the transceiver	-	-
Note	• **Busy Channel Lockout** cannot be activated in Emergency Mode.	
Configuration using FPU	**Busy Channel Lockout** : Edit > Zone Information > Channel Edit > NXDN	

Using a Channel Being Used by Other Parties (**BCL Override**)

Type	■ Standard model ■ Basic model	
Description	**BCL Override** is the function to transmit on a busy channel even if **Busy Channel Lockout** is activated and transmission is restricted.	
Operating the transceiver	-	• Press the **PTT** switch while transmission is restricted by **Busy Channel Lockout**. • Release the **PTT** switch, then press the **PTT** switch again within 500 ms. Busy Channel Lockout is temporarily disabled, and the transceiver starts transmitting.
Note	• This function also works while the transceiver is transmitting using the VOX function. For a transmission using VOX, **Busy Channel Lockout** is temporarily disabled and the transceiver can transmit if audio is input within 500 ms after audio input terminates.	
Configuration using FPU	**BCL Override** : Edit > Zone Information > Zone Edit - Conventional Group	

Making an Individual Call (**Individual Call**)

Type	■ Standard model ■ Basic model	
Description	**Individual Call** can be used to initiate a call to a target transceiver individually to establish voice calls. By specifying a Unit ID, the transceiver can initiate a call to the transceiver having the Unit ID. Individual Call can be started by one of the following methods: **Individual Call Mode (Standard Model Only):** While the transceiver is in Individual Call Mode, the transceiver can initiate an Individual Call by a user selecting a Group ID configured in the Group ID List and then pressing the **PTT** switch. **Individual Call from Selcall on PTT:** The transceiver initiates an Individual Call when the **PTT** switch is pressed on a channel where “Individual Call” is configured for **Call Type**. The Group ID of the target transceiver can be configured by selecting one Group ID from the Group ID List by using KPG-D6/ D6N.	
Operating the transceiver	Enter Individual Call Mode (Standard Model Only) Press PF_BTN[Individual] Select an ID in Individual Call Mode Individual Call from Selcall on PTT 	• Press PF_BTN[Individual]/PF_BTN[Individual + Status]/PF_BTN[Individual + Short Message]. Transceiver behavior : • The ID List is displayed when Individual Call Mode is entered. • The last called Unit ID is displayed. • Press [<B]/[C>]. Transceiver behavior : • ID is decremented/incremented.
Note	-	
Configuration using FPU	**ID**, **ID Name**, **Type**, **Alert Tone (Individual, Paging)**, **Alert LED (Individual, Paging)** : Edit > NXDN > Unit ID List **Call Type** : Edit > Zone Information > Channel Edit > NXDN > Selcall on PTT	

Making an Individual Call (**Unit ID List**)

Type	■ Standard model ■ Basic model
Description	If making Individual Calls, the desired Unit IDs need to be preconfigured in the transceiver using KPG-D6/ D6N prior to use of the transceiver. A maximum of 1,000 Unit IDs can be configured for **Unit ID List**.

Unit ID List

Configuration	Description
ID	A Unit ID can be configured in the range between 1 and 65519.
ID Name	The caller's ID Name is configured. A maximum of 8 characters can be configured for the ID Name. If the ID Name of the transmitting transceiver is registered in the Individual ID List, the ID Name appears when the transceiver receives a call. After that, the received Unit ID Name appears upon receipt of the Unit ID Name by Over-the-Air Alias while receiving a call. If the transceiver cannot receive the Unit ID Name, the stored ID Name appears if the ID Name is stored for the Unit ID stored in the transceiver. The Unit ID number appears if the above conditions are not satisfied.
Type	The permission or inhibition of transmission of the receiving party can be configured. An ID for which "Receive Only" is configured for **Type** does not appear on the ID selection display in Individual Call Mode, and a user cannot select the ID in Individual Call Mode. If the transceiver receives a call from an ID for which "RX Only" is configured for **Type**, the caller's ID Name appears. In this case, a user cannot initiate a call to the party even if the user attempts to respond by pressing the **PTT** switch.
Alert Tone (Individual)	The type of tone sounding from the transceiver can be configured for an Individual Call from the Unit IDs registered in the Unit ID List.
Alert Tone (Paging)	The type of tone sounding from the transceiver can be configured for a Paging Call from the Unit IDs configured in the Unit ID List.
Alert LED (Individual)	The color of flashing LED can be configured for an Individual Call from the Unit IDs configured in the Unit ID List.
Alert LED (Paging)	The color of flashing LED can be configured for a Paging Call from the Unit IDs configured in the Unit ID List.

Operating the transceiver	-	-
Note	-	
Configuration using FPU	**ID**, **ID Name**, **Type**, **Alert Tone (Individual, Paging)**, **Alert LED (Individual, Paging)** : Edit > NXDN > Unit ID List	

Using NXDN ID to Initiate a Selective Call (Paging Call)

Type	■ Standard model ■ Basic model	
Description	Paging Call is the function to initiate a call to a target party. Use it when you want to call a target transceiver without communicating.	
Operating the transceiver	Paging Call from Individual Call Mode (Standard model Only) Press the PF_BTN[Call 1] to PF_BTN[Call 6]	• Enter Individual Call Mode, select the ID from ID List or manual input the ID that want to perform a paging call. • Press [Side 2]. Transceiver behavior : • "PAGING" displayed, and then Paging Call is transmitting to the selected ID. Transceiver behavior : • When ACK is received, “COMPLETE” is displayed, and Complete Tone is sounded to complete Paging Call. After 1 second, it returns to channel display.
Note	-	
Configuration using FPU	PF_BTN[Call 1~6] Edit > Button Assignment > Side, Front	

Sending the Received Unit ID from the Communication Port (**Serial Output**)

Type	■ Standard model ■ Basic model	
Description	**Serial Output** allows the transceiver to send the received Unit ID etc. from its communication port when the transceiver receives the PTT ID etc... • **Unit ID (Serial Output)** allows the transceiver to send the received Unit ID from its communication port when the transceiver receives the PTT ID. • **Transparent Header (Serial Output)** is the function to send the KENWOOD proprietary sentence to an application which is used during data communications using Transparent. The Header is sent for data sent first. Transparent Data is sent after sending the Header. The application software may be able to recognize from where the data is sent by analyzing this Header information. **COM Port 0** The transceiver can make data communications if “Data”, “GPS”, “Transparent”, or “Transparent 2 (NXDN)” is assigned to its communication port. • **Status Message (Serial Output)** allows the transceiver to send the Status and the Unit ID of the transmitting transceiver from its communication port when the transceiver receives a Status Message. • **Short Message (Serial Output)** allows the transceiver to send a Short Message and the Unit ID of the transmitting transceiver from the transceiver’s communication port when the transceiver receives a Short Message.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Unit ID**, **Transparent Header**, **Status Message**, **Short Message** : Edit > External Device > Serial Output **COM port 0** : Edit > External Device > COM port 0 > Function	

Initiating an Individual Call After Ensuring That the Target Party Is Available for Communications (**Individual Call Acknowledge Request**)

Type	■ Standard model ■ Basic model	
Description	**Individual Call Acknowledge Request** is the function that allows a user to distinguish whether or not the receiving transceiver is available to communicate so as to initiate an Individual Call in an NXDN Conventional system.	
Operating the transceiver		• Select the ID to be called from the Unit ID List or Stack Mode.
		• Press [PTT] or [Side 2]. Transceiver behavior : • ACK Request message is sent to the selected ID. At this time, “CALLING” are displayed.
		Transceiver behavior : • When ACK is received from the called party, if Call in Progress Tone is enabled, Call in Progress Tone will sound, “CALLING” display will be cleared, and Individual Call transmission will be possible. • When ACK is received while [PTT] is pressed, if PTT Proceed Tone is enabled, PTT Proceed Tone will sound, and Individual Call transmission is started.
Note	• If **Optional Signaling LED** is enabled, yellow LED will blink.	
Configuration using FPU	**Individual Call Acknowledge Request**, **Call Request Tone**, **Automatic Response**, **Incoming Reset Time**, **Initiating Reset Time** : Edit > NXDN > Conventional > Individual Call Acknowledge Request **Call Processing Tone**, **Call Processing Tone Delay Time** : Edit > NXDN > Conventional > Individual Call Acknowledge Request > Call Processing Tone **Optional Signaling LED** : Edit > NXDN > Conventional	

Making a Group Call (Group Call)

Type	■ Standard model ■ Basic model	
Description	Group Call can be used to engage in 2-way group voice calls by initiating a call to a group. The transceiver can initiate a call to the transceivers having the same Group ID by specifying the Group ID. The transceiver can also initiate a call to all transceivers by specifying the Group ID for which “ALL” is configured. Group Call can be started by one of the following methods: **Group Call Mode (Standard Model Only):** While the transceiver is in Group Call Mode, the transceiver can initiate a Group Call by a user selecting a Group ID configured in the Group ID List and then pressing the **PTT** switch. **Group Call from Selcall on PTT:** The transceiver initiates a Group Call when the **PTT** switch is pressed on a channel where “Group Call” is configured for **Call Type**. The Group ID of the target transceiver can be configured by selecting one Group ID from the Group ID List by using KPG-D6/ D6N.	
Operating the transceiver	Enter to Group Call Mode (Standard Model Only) 	• Press PF_BTN[Group]/PF_BTN[Group + Status]/PF_BTN[Group + Short Message]. Transceiver behavior : • The Group ID List is displayed when Group Call Mode is entered.
	Group call from ID List 	• Press [<B]/[C>]. Transceiver behavior : • ID is decremented/incremented.
	 	• Press [PTT]. Transceiver behavior : • Group Call to the selected ID.
	Group Call from Selcall on PTT 	• Select the Channel which “Group Call” is configured in **Call Type**. • Press [PTT].
Note	-	
Configuration using FPU	**ID**, **ID Name**, **Type**, **Alert Tone**, **Alert LED** : Edit > NXDN > Group ID List **Call Type** : Edit > Zone Information > Channel Edit > NXDN > Selcall on PTT	

Making a Group Call (**Group ID List**)

Type	■ Standard model ■ Basic model
Description	The transceiver uses a Group ID configured in the Group ID List to initiate a Group Call in an NXDN Conventional system. The desired Group IDs must be preconfigured using KPG-D6/ D6N for the transceiver to initiate a Group Call. A maximum of 1,000 Group IDs can be configured in the Group ID List. **Group ID List** Configuration / Description: ID: A Group ID can be configured in the range between 1 and 65519, or in the range of ALL. ALL allows initiation of a call to all IDs. ID Name: The caller's ID Name is configured. A maximum of 8 characters can be configured for the ID Name. If the ID Name of the group is configured in the Group ID List, the ID Name appears when the transceiver receives a call. If the ID Name is not configured in the Group ID List, the Group ID List number appears. Type: The permission or inhibition of transmission of the receiving party can be configured. An ID for which "Receive Only" is configured for **Type** does not appear on the ID selection display in Group Call Mode, and a user cannot select the ID in Group Call Mode. If the transceiver receives a call from an ID for which "Receive Only" is configured for **Type**, the caller's ID Name appears. In this case, a user cannot initiate a call to the party even if the user attempts to respond by pressing the **PTT** switch. Alert Tone: The tone type sounding from the transceiver can be configured for a Group Call from the Group IDs registered in the Group ID List. Alert LED Color: The color of flashing LED can be configured for a Group Call from the Group IDs registered in the Group ID List.
Operating the transceiver	- / -
Note	• To use Alert LED Color, **Selective Call Alert LED** needs to be enabled.
Configuration using FPU	**ID**, **ID Name**, **Type**, **Alert Tone**, **Alert LED** : Edit > NXDN > Group ID List

Making a Group Call (**Group ID Scan**)

Type	■ Standard model ■ Basic model
Description	**Group ID Scan** is the function to standby to receive a Group Call from all Group IDs in an NXDN Conventional system. If this function is enabled, the transceiver is on standby to receive a Group Call from all Group IDs configured for Group ID List. If this function is disabled, the transceiver is on standby to receive only the Group Calls from the Group IDs configured for **Call Type** or for **Persistent Group ID (NXDN)**.
Operating the transceiver	- / -
Note	• This function can be used only if "Group Call" is configured for **Call Type**.
Configuration using FPU	**Group ID Scan** : Edit > Zone Information > Channel Edit > NXDN **Call Type** : Edit > Zone Information > Channel Edit > NXDN > Selcall on PTT **Persistent Group ID (NXDN)** : Edit > Zone Information > Zone Edit - Conventional Group

Preventing the Functions Working with Group Call Reception from Activating (**Group Call Alert Inhibit**)

Type	■ Standard model ■ Basic model
Description	**Group Call Alert Inhibit** is the function that disables the Alert Tone, Selective Call Alert LED, and Caller ID Stack functions when the transceiver receives a Group Call.
Operating the transceiver	- / -
Note	-
Configuration using FPU	**Group Call Alert Inhibit** : Edit > NXDN > General 1

Preventing Reception of a Group Call While the Transceiver Is Receiving an Individual Call (**Ignore Group Call during Individual Call**)

Type	■ Standard model ■ Basic model	
Description	**Ignore Group Call during Individual Call** is the function that prevents receipt of a Group Call if receiving an Individual Call. This function is used to prioritize the receipt of Individual Calls. If this function is enabled, the transceiver cannot receive a Group Call (including data communications) while receiving an Individual Call and the Auto Reset Timer is counting down.	
Operating the transceiver	-	-
Note	Even if this function is enabled, the following Group Calls can be received. • A Group Call using All Group ID • A Group Call for Emergency	
Configuration using FPU	**Ignore Group Call during Individual Call** : Edit > NXDN > General 1	

Common Functions for Data Communications (Data Communications)

Type	■ Standard model ■ Basic model	
Description	The following functions are used in common for data communications such as Status Call and Short Data Call: ・Number of Retries ・Transmit Busy Wait Time ・Maximum ACK Wait Time If the transceiver does not receive the acknowledgment after the transceiver sends data and the time configured for **Maximum ACK Wait Time** elapses, the transceiver resends data. **Number of Retries** is the number of times for the transceiver to resend data. The transceiver confirms that the traffic channel is available before sending data and then starts sending data when the channel is available. **Transmit Busy Wait Time** is the duration to wait for the traffic channel to become available. A transmission is canceled when the channel is busy and the **Transmit Busy Wait Time** elapses.	
Operating the transceiver	-	-
Note	• The receiving transceiver stands by to receive the next data for the time configured for Maximum ACK Wait Time after receiving the previous data. • Extending the time for sending a preamble at the beginning of transmission makes the receiving transceiver easier to receive a call and reduces missing of the beginning of the audio during the scan.	
Configuration using FPU	**Number of Retries**, **Transmit Busy Wait Time**, **Maximum ACK Wait Time** : Edit > NXDN > General 1 > Parameters	

Sending and Receiving a Status Message (Status Call)

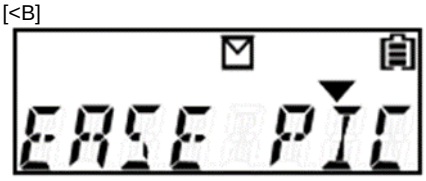
Type	■ Standard model ■ Basic model	
Description	**Status Call** is a simple messaging system that allows a user to send and receive a status (Status Message). Since the message is replaced by status, communications can take place quickly and communication traffic can be reduced.	
Operating the transceiver	Enter Status Mode (Standard Model Only) 	• Press PF_BTN[Status] to send Status to the Base ID. • Press PF_BTN[Individual + Status] to select Unit ID or Manual input. Then, press [S] to send Status with Individual Call. • Press PF_BTN[Group + Status] to select Group ID. Then, press [S] to send Status with Conventional Group Call. Transceiver behavior : • The Status List is displayed when Status Mode is entered
	 	• Press [<B]/[C>]. Transceiver behavior : • The Status is decremented/incremented.
	Send Status Message 	• Select the Status List or enter manually the status. • Press [PTT] or [Side 2]. Transceiver behavior : • "SEND DAT" will be displayed when Status Message is start sending. • When the TX LED is set, the red LED will light up during transmission.
	 	Transceiver behavior : • Complete Tone is played and “COMPLETE” indication is displayed for 1 second when ACK is received. Then, transmission is completed. • Transmission is completed without receiving an ACK for cases other than Individual Call,
	Press the PF_BTN[Call 1] to PF_BTN[Call 6]	Set “NXDN (Status)” to **Call 1** to **Call 6** by KPG-D6/D6N and PF_BTN[Call 1] to PF_BTN[Call 6] is pressed to Active. Sends the selected Status Message.
Note	-	
Configuration using FPU	**Status Message Stack** : Edit > Optional Features > Optional Features 1 > Common 4 > Stack Condition **Emergency Status Response** : Edit > NXDN > General 1 **Call 1** to **Call 6** : Edit > Button Assignment	

Sending and Receiving a Status Message (Status Call) (**Status List**)

<table>
<tr><td>Type</td><td colspan="2">■ Standard model ■ Basic model</td></tr>
<tr><td>Description</td><td colspan="2">To use a Status Message, the status to be sent must be preconfigured in the transceiver by using KPG-D6/ D6N prior to the transmission. A maximum of 208 statuses can be configured in the Status List.

Status List
<table>
<tr><th>Configuration</th><th>Description</th></tr>
<tr><td>Status</td><td>The status number can be configured.
It can be configured in the range from 1 to 207 and 226.</td></tr>
<tr><td>Status Name</td><td>The status number can be configured. It is not easy to recognize the meaning of a status only by viewing a status number. In this case, a user can link the status number to a short message; hence, it can be easily understood. A maximum of 8 characters can be configured.
If the status number is configured in the Status List, the Status Name appears when the transceiver receives a Status Message. If the transceiver receives a status that is not configured in the Status List, the status number appears on the transceiver display.</td></tr>
<tr><td>Transmit Inhibit</td><td>The permission or inhibition of transmission of status can be configured.
Status for which Transmit Inhibit has been enabled does not appear on the Status selection display in Status Mode.
In this case, a user cannot select status for which Transmit Inhibit has been enabled, in Status Mode.</td></tr>
<tr><td>Alert Tone</td><td>The type of tone sounding from the transceiver can be configured for a received status number from the status numbers registered in the Status List.</td></tr>
</table></td></tr>
<tr><td>Operating the transceiver</td><td>-</td><td>-</td></tr>
<tr><td>Note</td><td colspan="2">-</td></tr>
<tr><td>Configuration using FPU</td><td colspan="2">Status, Status Name, Transmit Inhibit, Alert Tone :
Edit > NXDN > Status List</td></tr>
</table>

Sending and Receiving a Short Message (Short Data Call)

Type	■ Standard model ☐ Basic model	
Description	Short Data Call is the message communication function to send and receive a text string. Information which is difficult to send by voice, such as an address or a telephone number, can be reliably sent.	
Operating the transceiver	Entering Short Message Mode (If the message is more than 8 digits) For example: Message is “PLEASE PICK ME UP AT THE OFFICE.” Before and after scrolling [<B] [<B] 	• To send Short Message to Base ID, press PF_BTN[Short Message]. • To send Short Message by Individual Call, press PF_BTN[Individual + Short Message], select or manually input the Unit ID, then press [S]. • To send Short Message by Conventional Group Call, press PF_BTN[Group + Short Message], select the Group ID, then press [S]. Transceiver behavior : • Short Message Mode is entered and Short Message List is displayed. • Press [<B]/[C>]. Transceiver behavior : • Short Message is incremented/decremented. • In Short Message List display, press [Side 2]. Transceiver behavior : • Tone A sounds and Short Message View display is entered. • Short Message is displayed on the main text.
Note	-	
Configuration using FPU	**Short Message Stack** : Edit > Optional Features > Optional Features 1 > Common 4 > Stack Condition	

Sending and Receiving a Short Message (Short Data Call) (**Short Message List**)

Type	■ Standard model ☐ Basic model	
Description	To use a Short Message, the status to be sent must be preconfigured in the transceiver by using KPG-D6/ D6N prior to the transmission. A maximum of 10 lists can be configured in the **Short Message List**.	
Operating the transceiver	-	-
Note	• A maximum of 100 characters/ list	
Configuration using FPU	**Short Message** : Edit > NXDN > Short Message List	

Using the GPS Function (GPS Function)

Type	■ Standard model ■ Basic model	
Description	Global Positioning System (GPS) is the system to acquire the current location information of the own transceiver by receiving signals from the Global Positioning System satellites orbiting the earth. The transceiver of the mobile station can send the acquired own location information (GPS data) to the base station. The base station can send received GPS data to the PC as serial commands.	
Operating the transceiver	 GPS Data transmission GPS data transmission completed 	Transceiver behavior : • When GPS Report Interval Time expired, or when receiving a GPS Data transmission request, it sends GPS Data. • "SEND DAT" is displayed during GPS data transmission. • When "COMPLETE" is displayed 1 second when GPS data transmission is completed. • The Transmit LED lights up while sending GPS data.
Note	-	
Configuration using FPU	**GPS Report Mode**, **Number of Times**, **GPS Report Interval Time**, **GPS Time Mark**, **GPS Message Type**, **GPS Distance Change**, **Respond to Polling ID**, **GPS Report on Data Zone Channel** : Edit > Optional Features > Optional Features 2 > GPS	

Transmission Method of GPS Data (**NXDN - GPS Base Station**)

Type	■ Standard model ■ Basic model	
Description	**ID** (**GPS > Base Station**) is the ID of the target transceiver used for sending GPS data. By using KPG-D6/ D6N, either Unit ID or Group ID can be configured as **ID** (**GPS > Base Station**). The ID of the base station which is responsible for operation and administration of system is normally configured.	
Operating the transceiver	-	-
Note	• If **ID** (**GPS > Base Station**) is not configured, GPS data is sent to the **Base ID** to which data such as a Status Message and Short Message is to be sent.	
Configuration using FPU	**ID Type, ID** : Edit > NXDN > GPS > Base Station **Base ID** : Edit > NXDN > General 1	

Transmission Method of GPS Data (**NXDN - GPS Combination**)

Type	■ Standard model ■ Basic model	
Description	The transceiver can send GPS data by adding the GPS data to a Status Message using NXDN. To use this function, **Status** for **GPS Combination** must be enabled by using KPG-D6/ D6N. The range of status numbers (**Combination Status Range**) to which GPS data can be added can be configured.	
Operating the transceiver	-	-
Note	• The transceiver can send GPS data by adding the GPS data to a signal while making voice calls. To use this function, **Voice Call** for GPS Combination must be enabled by using KPG-D6/ D6N. • The GPS data added to a Status Message is sent to the ID configured for **Base ID (GPS)** or **Base ID**.	
Configuration using FPU	**Voice Call**, **Status**, **Combination Status Range**, **Emergency** : Edit > NXDN > GPS > GPS Combination	

Migrating Automatically to the Site Providing Better Radio Environment (Site Roaming) (**Revert Channel Display (Site Roaming)**)

Type	■ Standard model ☐ Basic model	
Description	Site Roaming is the function to migrate automatically to the site (channel) providing better radio environment if the transceiver is operated in an NXDN Conventional system. The transceiver receives a synchronization signal transmitted from the repeaters in multiple sites at regular time intervals, and detects the RSSI level. Therefore, the transceiver migrates automatically to the channel providing better radio environment. This function can be used by configuring Site Roaming (NXDN) or Site Roaming with RAN (NXDN) channels for each zone by using KPG-D6/ D6N. **Revert Channel** is the Zone-channel which is used when the transceiver transmits by pressing the **PTT** switch during the scan. The Revert Channel is displayed according to the configuration of **Revert Channel Display**.	
Operating the transceiver	Display during Site Roaming operation (Revert Channel Display = Disable) Display during Site Roaming operation (Revert Channel Display = Enable) 	• Select a Site Roaming zone. Transceiver behavior : • Site Roaming is started. • Scan icon is displayed. • “ROAMING” is displayed on the main text. • The items displayed on the icon area depend on the Revert Channel. • The LED blinks according to the Site Roaming LED setting. Transceiver behavior : • Site Roaming is started. • Revert Channel is displayed. • Scan icon is displayed. • The LED blinks according to the Site Roaming LED setting.
Note	-	
Configuration using FPU	**Revert Channel Display** : Edit > Scan Information > Site Roaming (NXDN) > Indicator	

Migrating Automatically to the Site Providing Better Radio Environment (Site Roaming) (**Site Roaming LED**)

Type	■ Standard model ■ Basic model	
Description	**Site Roaming LED** is the function to notify a user visually that the transceiver is executing Site Roaming. When the transceiver starts Site Roaming, LED can flash with one of the following 7 colors: • Yellow • Purple • Blue • Light Blue • Red • Green • White	
Operating the transceiver	-	-
Note	• The basic model is only Green.	
Configuration using FPU	**Site Roaming LED** : Edit > Scan Information > Site Roaming (NXDN) > Indicator	

Migrating Automatically to the Site Providing Better Radio Environment (Site Roaming) (**Link Delay Time**)

Type	■ Standard model ■ Basic model	
Description	The length of time until the repeater in each site is activated may vary depending on the site. **Link Delay Time** is the function to configure the length of time to tolerate a variation in time of when each repeater is activated by delaying the time to start searching for a signal on other channels.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Link Delay Time** : Edit > Scan Information > Site Roaming (NXDN) > Timer	

Migrating Automatically to the Site Providing Better Radio Environment (Site Roaming) (**Dropout Delay Time**)

Type	■ Standard model ■ Basic model	
Description	If the transceiver receives a synchronization signal or call from the repeater during Site Roaming, Site Roaming pauses. **Dropout Delay Time** is the length of time from when the transceiver finishes receiving signals until the transceiver resumes Site Roaming.	
Operating the transceiver	-	-
Note	• If the received signals disappear or the RAN code does not match, **Dropout Delay Time** is activated. After the length of time configured in Dropout Delay Time elapses, the transceiver resumes Site Roaming.	
Configuration using FPU	**Dropout Delay Time** : Edit > Scan Information > Site Roaming (NXDN) > Timer	

Migrating Automatically to the Site Providing Better Radio Environment (Site Roaming) (**Dwell Time**)

Type	■ Standard model ■ Basic model	
Description	When the transceiver starts transmitting by pressing the **PTT** switch during Site Roaming, Site Roaming pauses. **Dwell Time** is the length of time from when the transceiver terminates transmission until the transceiver resumes Site Roaming. After the transceiver terminates the transmission, **Dwell Time** is activated. After the length of time configured in **Dwell Time** elapses, the transceiver resumes Site Roaming.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Dwell Time** : Edit > Scan Information > Site Roaming (NXDN) > Timer	

Migrating Automatically to the Site Providing Better Radio Environment (Site Roaming) (**Quick Site Roaming Level**)

Type	■ Standard model ■ Basic model	
Description	**Quick Site Roaming** is the function to allow Site Roaming to behave faster when the transceiver is in an area with a strong signal. If the transceiver receives a signal with a level higher than the value configured in **Quick Site Roaming** during Site Roaming, the channel becomes the Revert Channel. In this case, **Link Delay Time** becomes disabled, and if the RAN Code matches, the transceiver unmutes the speaker.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Quick Site Roaming** : Edit > Scan Information > Site Roaming (NXDN) > Roaming Level	

Migrating Automatically to the Site Providing Better Radio Environment (Site Roaming) (**Standard Site Roaming Level**)

Type	■ Standard model ■ Basic model	
Description	**Standard Site Roaming** is the function to allow Site Roaming to behave faster when the transceiver is in an area with a strong signal. The transceiver searches for a signal with a level higher than the value configured in **Standard Site Roaming** during Site Roaming.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Standard Site Roaming** : Edit > Scan Information > Site Roaming (NXDN) > Roaming Level	

Migrating Automatically to the Site Providing Better Radio Environment (Site Roaming) (**Site Roaming Resume Level**)

Type	■ Standard model ■ Basic model	
Description	**Site Roaming Resume** is the threshold value of the RSSI level used for determining whether to resume Site Roaming according to the RSSI level for the signal received by the transceiver. If the RSSI level of the received signal is lower than the level configured in **Site Roaming Resume** while the transceiver remains on the channel synchronized by Site Roaming, **Dropout Delay Time** is activated.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Site Roaming Resume** : Edit > Scan Information > Site Roaming (NXDN) > Roaming Level	

Other Functions in Emergency Mode (**Emergency Channel Lock**)

Type	■ Standard model ■ Basic model	
Description	**Emergency Channel Lock** is the function to disable changing a zone or channel while the transceiver is in Emergency Mode. If this function is enabled, a zone or channel cannot be changed while the transceiver is in Emergency Mode. If this function is disabled, a zone or channel can be changed while the transceiver in Emergency Mode is not transmitting.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Emergency Channel Lock** : Edit > Emergency Information > General	

Zone-channel Functioning in Emergency Mode (**Emergency Channel Type**)

Type	■ Standard model ■ Basic model	
Description	**Emergency Channel Type** is the type of a channel used when the transceiver is placed in Emergency Mode. **Emergency Channel Type** Configuration: Selected Channel — When the transceiver enters Emergency Mode, the transceiver resets the migration state of channels, such as Home Channel, and then the transceiver executes Emergency on the previously selected channel. Configuration: Preset Channel — After entering Emergency Mode, the transceiver migrates to the Zone-channel configured in **Emergency Zone-Channel** and then executes the Emergency behavior.	
Operating the transceiver	-	-
Note	• If “Preset Channel” is configured in **Emergency Channel Type**, a channel with “Site Roaming” or “Site Roaming with RAN” configured cannot be configured in **Emergency Zone-channel**.	
Configuration using FPU	**Emergency Channel Type** : Edit > Emergency Information > Profiles > Page 2 > Emergency Channel	

Automatically Transmitting and Receiving in Emergency Mode (**Emergency Cycle**)

Type	■ Standard model ■ Basic model	
Description	**Emergency Cycle** is the number of times that the transceiver toggles between transmission and reception for an emergency in Emergency Mode. **Emergency Cycle** Configuration: 1 to 200 — The transceiver repeats automatic transmission and automatic reception for the configured number of times, and then the transceiver exits Emergency Mode. Configuration: Infinite — The transceiver continues to alternate between automatic transmission and reception until the **Emergency** button is pressed again or the transceiver is turned OFF. Configuration: Off — The transceiver does not automatically transmit and receive in Emergency Mode.	
Operating the transceiver	-	-
Note	Automatically Transmitting and Receiving in Emergency Mode The number of times for which the transceiver toggles between transmission and reception, or the duration for a single session of automatic transmission or reception for emergency in Emergency Mode can be configured. Also, the microphone sensitivity can be changed and the Background Tone (1 beep) can be multiplexed on the audio to be transmitted in Emergency Mode. ・ Emergency Cycle ・ Locator Tone at TX-start ・ Locator Tone at TX-end ・ Transmit Duration ・ Receive Duration ・ Emergency Microphone Sense ・ Background Tone Transmission	
Configuration using FPU	**Emergency Cycle** : Edit > Emergency Information > Profiles > Page 2 > Option	

Indication and Sound in Emergency Mode (**Emergency Display**)

Type

■ Standard model ☐ Basic model

Description

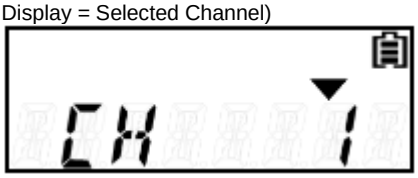
Emergency Display is the function to display the channel configured in **Emergency Zone-channel** when in Emergency Mode or to retain the display appearance before the transceiver enters Emergency Mode.

Emergency Display

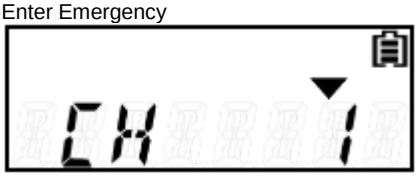
Configuration	Description
Selected Channel	The currently selected channel is retained on the display even if the transceiver enters Emergency Mode.
Emergency Channel	A channel configured in **Emergency Zone-Channel** appears when the transceiver enters Emergency Mode.

Operating the transceiver

Emergency Mode Display (Emergency Display = Selected Channel)



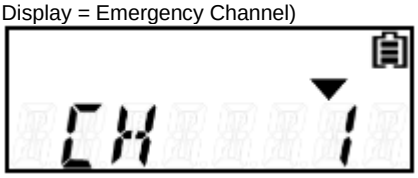
Enter Emergency



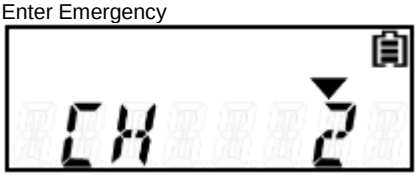
・ Press and hold PF_BTN[Emergency].

Transceiver behavior :
・ Emergency Mode is entered.
・ The currently selected channel is displayed.

Emergency Mode Display (Emergency Display = Emergency Channel)



Enter Emergency



・ Press and hold PF_BTN[Emergency].

Transceiver behavior :
・ Emergency Mode is entered.
・ The Emergency Zone-Channel is displayed.

Note

-

Configuration using FPU

Emergency Display :Edit > Emergency Information > General

ID Sent When Emergency Mode is Activated (**Emergency ID (NXDN Conventional) (ID Type)**)

Type	■ Standard model ■ Basic model	
Description	The **Emergency ID** can be sent each time the transceiver starts automatic transmission and reception in Emergency Mode. Emergency ID Type is the type of NXDN ID used in Emergency Mode. Emergency NXDN ID is the NXDN ID used for transmission and reception in Emergency Mode.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**ID Type** : Edit > Emergency Information > Profiles > Page 1 > Emergency ID (NXDN Conventional)	

ID Sent When Emergency Mode is Activated (**Emergency ID (NXDN Conventional) (NXDN ID)**)

Type	■ Standard model ■ Basic model	
Description	The **Emergency ID** can be sent each time the transceiver starts automatic transmission and reception in Emergency Mode. Emergency ID Type is the type of NXDN ID used in Emergency Mode. Emergency NXDN ID is the NXDN ID used for transmission and reception in Emergency Mode.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**NXDN ID** : Edit > Emergency Information > Profiles > Page 1 > Emergency ID (NXDN Conventional)	

Automatically Transmitting and Receiving in Emergency Mode (**Emergency Microphone Sense**)

Type	■ Standard model ■ Basic model	
Description	**Emergency Microphone Sense** is the function used to adjust the microphone input sensitivity in Emergency Mode. In **Emergency Microphone Sense**, the microphone sensitivity can be configured within the following range: 6 dB, 4 dB, 2 dB, 0 dB, -2 dB, -4 dB, -6 dB, -8 dB, -10 dB, -12 dB, -14 dB, -16 dB, -18 dB, -20 dB The appropriate level of microphone sensitivity for normal operation is 0 dB. Based on this level, the parameter of the microphone sensitivity can be configured.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Emergency Microphone Sense** : Edit > Emergency Information > General	

Emergency Mode (Placing the Transceiver in Emergency Mode Using the Lone Worker Function)

Type	■ Standard model ■ Basic model	
Description	Lone Worker is the function that automatically places the transceiver in Emergency Mode if the transceiver is not operated for a certain period of time. If the transceiver is placed in Lone Worker Mode while the user has a task at a dangerous place, for instance, the transceiver automatically enters Emergency Mode and notifies a base station of the emergency status because a user cannot operate the transceiver due to an accident.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Lone Worker Type**, **Lone Worker Interval**, **Duration of Lone Worker Tone** : Edit > Emergency Information > General > Lone Worker	

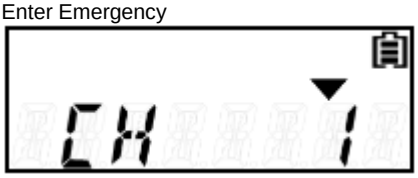
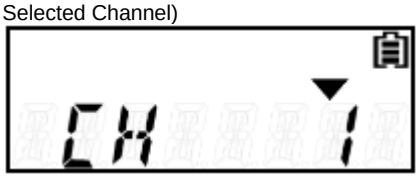
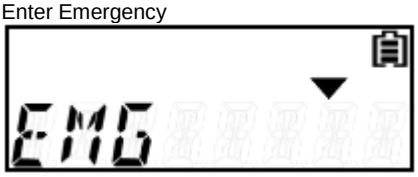
Configuration Related to Transmission and Reception in Emergency Mode (**Emergency Mode Type**)

Type	■ Standard model ■ Basic model
Description	**Emergency Mode Type** is the function to determine whether the received audio or various tones are muted while the transceiver is in Emergency Mode. **Emergency Mode Type** Configuration: Silent — The transceiver mutes the received audio and various tones while in Emergency Mode. Configuration: Audible — The transceiver emits the received audio and various tones in the same manner as in normal mode even while in Emergency Mode.
Operating the transceiver	- | -
Note	-
Configuration using FPU	**Emergency Mode Type** : Edit > Emergency Information > Profiles > Page 2 > Option

Configuration Related to Transmission and Reception in Emergency Mode (**Emergency Profile**)

Type	■ Standard model ■ Basic model
Description	The transceiver can have a maximum of 8 configurations related to transmission and reception in Emergency Mode as the Emergency Profile. By allocating **Emergency Profile** to each zone or channel, the Emergency behavior of the transceiver can vary depending on the zone or channel. The functions that can be configured as an **Emergency Profile** are as follows: ・ Emergency Channel Type ・ Emergency Zone-Channel ・ Emergency Mode Type ・ Emergency Cycle ・ Locator Tone at TX-start ・ Transmit Duration ・ Locator Tone at TX-end ・ Receive Duration ・ TX/RX LED in Emergency
Operating the transceiver	- | -
Note	-
Configuration using FPU	**Emergency Profile Number** : Edit > Zone Information > Zone Edit - Conventional Group

Indication and Sound in Emergency Mode (**Emergency Text/ Text**)

Type	■ Standard model ☐ Basic model	
Description	**Emergency Text** is the function to display the text on the transceiver display while in Emergency Mode. If this function is enabled, the text configured in **Text** appears on the display when the transceiver enters Emergency Mode.	
Operating the transceiver	Emergency Mode Display (Emergency Text = Disable, Emergency Display = Selected Channel) Enter Emergency 	• Press and hold PF_BTN[Emergency]. Transceiver behavior : • Emergency Mode is entered. • The currently selected channel or Emergency Zone-Channel is displayed depending on the Emergency Display setting.
	Emergency Mode Display (Emergency Text = Enable, Text = “EMG”, Emergency Display = Selected Channel)  Enter Emergency 	• Press and hold PF_BTN[Emergency]. Transceiver behavior : • Emergency Mode is entered. • The emergency text configured in “Text” is displayed. • Press and hold PF_BTN[Emergency]. Transceiver behavior : • Emergency Mode is exited. • The emergency text display will be turned off.
Note	-	
Configuration using FPU	**Emergency Text**, **Text** : Edit > Emergency Information > General	

Indication and Sound in Emergency Mode (**TX/RX LED in Emergency**)

Type	■ Standard model ■ Basic model	
Description	**TX/RX LED in Emergency** is the function to light the Transmit LED when the transceiver transmits in Emergency Mode and light the Busy LED when the transceiver receives in Emergency Mode. The transceiver behaves as follows depending on the **TX/RX LED in Emergency** configuration. • **If the TX/RX LED in Emergency is enabled:** While in Emergency Mode, the Transmit LED is on during data transmission, and the Busy LED is on during data receipt. • **If TX/RX LED in Emergency is disabled:** While in Emergency Mode, the Transmit LED is off during data transmission, and the Busy LED is off during data receipt.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**TX/RX LED in Emergency** : Edit > Emergency Information > Profiles > Page 2 > Option	

Zone-channel Functioning in Emergency Mode (**Emergency Zone-Channel**)

Type	■ Standard model ■ Basic model	
Description	**Emergency Zone-channel** is the Zone-channel used in Emergency Mode if “Preset Channel” is configured in **Emergency Channel Type**.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Zone, Channel** : Edit > Emergency Information > Profiles > Page 2 > Emergency Channel > Emergency Zone-Channel	

Automatically Transmitting and Receiving in Emergency Mode (**Locator Tone at TX-start/ Locator Tone at TX-end**)

Type	■ Standard model ■ Basic model	
Description	**Locator Tone at TX-start** is the duration to emit an Alert Tone which notifies that the transceiver will start transmission before the transceiver starts automatic transmission in Emergency Mode. The transceiver automatically repeat transmitting and receiving in Emergency Mode. When the transceiver switches from reception to transmission, an Emergency Locator Tone (2 beeps) sounds from the transceiver for the length of the time configured for **Locator Tone at TX-start**. **Locator Tone at TX-end** is the duration to emit an Alert Tone which notifies that the transceiver has completed an automatic transmission in Emergency Mode, and starts receiving. The transceiver automatically repeat transmitting and receiving in Emergency Mode. When the transceiver switches from transmission to reception, an Emergency Locator Tone (2 beeps) sounds from the transceiver for the length of the time configured for **Locator Tone at TX-end**. • When the tone sounds, a user can easily recognize without viewing the transceiver that the transceiver is about to automatically transmit in Emergency Mode. This tone can also be used to locate a user who is in emergency situations. • When the tone sounds, a user can easily recognize without viewing the transceiver that the transceiver ends to automatically transmit in Emergency Mode. This tone can also be used to locate a user who is in emergency situations.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Locator Tone at TX-start**, **Locator Tone at TX-end** : Edit > Emergency Information > Profiles > Page 2 > Option	

Automatically Transmitting and Receiving in Emergency Mode (**Receive Duration**)

Type	■ Standard model ■ Basic model	
Description	**Receive Duration** is the duration for a single session of automatic reception for emergency in Emergency Mode. The transceiver switches to automatic transmission for emergency when the time configured in **Receive Duration** elapses after the transceiver starts automatic reception for emergency.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Receive Duration** : Edit > Emergency Information > Profiles > Page 2 > Option	

Automatically Transmitting and Receiving in Emergency Mode (**Background Tone Transmission**)

Type	■ Standard model ■ Basic model	
Description	**Background Tone Transmission** is the function to multiplex a Background Tone (1 beep) on the transmitted audio when the transceiver transmits in Emergency Mode. Background Tone (1 beep) is multiplexed every second while the transceiver is transmitting audio data. The audio signal is not muted since the Background Tone is transmitted with lower deviation than normal. The receiving transceiver can easily recognize that the transmitting transceiver is in Emergency Mode if the tone is multiplexed while initiating a voice call.	
Operating the transceiver	-	-
Note	• A Background Tone is not emitted from the speaker of the transmitting transceiver.	
Configuration using FPU	**Background Tone Transmission** : Edit > Emergency Information > General	

Automatically Transmitting and Receiving in Emergency Mode (**Transmit Duration**)

Type	■ Standard model ■ Basic model	
Description	**Transmit Duration** is the duration of a single automatic transmission cycle in Emergency Mode. The transceiver switches to automatic reception for emergency when the time configured in Transmit Duration elapses after the transceiver starts automatic transmission for emergency. The transceiver behaves as follows when “0” is configured in **Transmit Duration**: • If “None” is configured for Emergency ID: The transceiver does not send anything during automatic transmission. • If anything other than “None” is configured for Emergency ID: The transceiver sends only an Emergency Status during automatic transmission.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Transmit Duration** : Edit > Emergency Information > Profiles > Page 2 > Option	

Indication and Sound in Emergency Mode (**Remain Surveillance Mode**)

Type	■ Standard model ☐ Basic model	
Description	**Remain Surveillance Mode** is the function to continue the Surveillance function as enabled even if the transceiver enters Emergency Mode while the Surveillance function is enabled. While the Surveillance function is enabled, the transceiver does not emit a tone or light the backlight even when the transceiver functions. The Surveillance function is used when the change of the transceiver status needs to be kept unnoticed, such as while on a Public Safety operation. The transceiver behaves as follows according to the configuration in **Remain Surveillance Mode**. • **If Remain Surveillance Mode is enabled** Even if the transceiver enters Emergency Mode while the Surveillance function is enabled, the Surveillance function remains enabled, and the transceiver does not emit a tone and the backlight and LED do not light. The Surveillance function remains enabled even if the transceiver exits Emergency Mode. • **If Remain Surveillance Mode is disabled** The Surveillance function is disabled if the transceiver enters Emergency Mode while the Surveillance function is enabled. The transceiver behaves according to the configurations in Emergency Mode when the transceiver is placed in Emergency Mode. The Surveillance function remains disabled even if the transceiver exits Emergency Mode.	
Operating the transceiver	-	-
Note	• While in Emergency Mode, the Surveillance function cannot be toggled between enabled and disabled by operating the transceiver.	
Configuration using FPU	**Remain Surveillance Mode** : Edit > Emergency Information > General	

About Communication Security (**Encryption**)

Type	■ Standard model ■ Basic model	
Description	**Encryption** is the function that enhances secrecy in communications on the NXDN digital channels by encrypting voice data or user data such as a Short Message. Bit scramble encryption type as Encryption function can be used in an NXDN Conventional system.	
Operating the transceiver	Encryption icon behavior when receiving In case of bit scramble. 	Transceiver behavior : · When carrier is not received: When the Encryption status is On, the ◇ icon lights up.) Transceiver behavior : · When all of the following conditions are satisfied at the time of receiving an encrypted carrier, the ◇ icon blinks when Encryption Type = Type 1 regardless of the state of Encryption. If the Encryption status is Off and Encryption Type = Type 2, the ◇ icon will not be lit.
Note	-	
Configuration using FPU	-	

Using Communication Security (**Bit Scramble Encryption Type)**

Type	■ Standard model ■ Basic model	
Description	The bit scramble encryption type is the Encryption function embedded in the transceiver. To transmit or receive a signal, the communication data can be encrypted or decrypted using the encryption key data configured in the transceiver. By means of bit scramble, the transceiver can encrypt audio data only.	
Operating the transceiver	-	-
Note	• When unencrypted communication data is received, the transceiver emits the received audio from the speaker according to the audio control conditions regardless of the Encryption status (enabled or disabled) or configuration for **Encryption Type** (NXDN).	
Configuration using FPU	**Encryption Type** : Edit > Encryption > NXDN	

Encryption Type

Configuration	Description
Enabled	For audio data, regardless of the configuration for **Encryption Type** (NXDN), the received audio sounds from the speaker according to the audio control conditions and the configuration in the Multi-key List.
Disabled	The following are the transceiver behaviors that may vary depending on the configuration for **Encryption Type** (NXDN) (Type 1 or Type 2): • Type 1 The transceiver behaves in the same manner as a transceiver with Encryption enabled. • Type 2 No received audio sounds from the speaker.

Multi-key List

Type	■ Standard model ■ Basic model
Description	**Multi-key List** is the list to configure the encryption key data used for the encryption and decryption of communication data. A maximum of 16 entries of encryption key data can be configured in the Multi-key List by using KPG-D6/ D6N. However, only one of the encryption key data can be used for transmission. **Encryption Configuration of Multi-Key List** These can be configured for each channel as **Number on Multi-key List**.
Operating the transceiver	- / -
Note	-
Configuration using FPU	**Type**, **Key Data**, **Key ID**, **Key Name** : Edit > Encryption **Encryption**, **Number on Multi-key List** : Edit > Zone Information > Channel Edit > NXDN > Encryption

Configuration	Description
Type	For NXDN, **Multi-key List** can be configured only in the Bit scrambler.
Key Data	In **Key Data**, the encryption key data in the range between 1 and 32767 can be configured.
Key ID	**Key ID** is an ID code to identify the encryption key data. **Key ID** can be configured in the range between 0 and 63.
Key Name	In **Key Name**, a name corresponding to the encryption key data can be configured by using a maximum of 8 alphanumeric characters and symbols.

Using Communication Security (**Unencrypted Call Alert Tone**)

Type	■ Standard model ■ Basic model
Description	**Unencrypted Call Alert Tone** is the function used to notify a user with a short beep that the communication data is not encrypted when the transceiver starts transmitting without communication data being encrypted.
Operating the transceiver	- / -
Note	• If both **Unencrypted Call Alert Tone** and **PTT Proceed Tone** are enabled, a Proceed Tone (3 beeps) sounds from the transceiver after an Unencrypted Call Alert Tone (1 beep) sounds. • If both **Unencrypted Call Alert Tone** and **VOX Proceed Tone** are enabled, a Proceed Tone (1 beep) sounds from the transceiver after an Unencrypted Call Alert Tone (1 beep) sounds.
Configuration using FPU	**Unencrypted Call Alert Tone** : Edit > Encryption

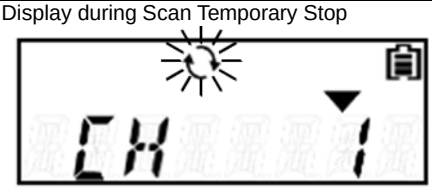
Using Scan (Scan)

Type	■ Standard model ■ Basic model	
Description	Scan is the function to check whether the transceiver receives a call from other transceivers. The transceiver sequentially searches for availability of signal on each channel, and the transceiver receives on the channel where the signal is detected. Two methods are available for Scan as shown below. • **Single Scan** The transceiver scans target channels in the same zone. • **Multi Scan** The transceiver scans all target channels in the target zones.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	-	

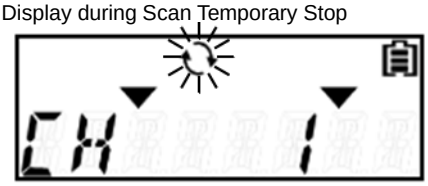
Using Scan (**Scan Type**)

Type	■ Standard model ■ Basic model	
Description	If a scan starts in the zone where “Single” is configured in **Scan Type**, Single Scan is executed. Or, if the transceiver migrates during the scan to the zone where “Single” is configured in **Scan Type**, Single Scan is executed. If a scan starts in the zone where “Multi-Zone” is configured in **Scan Type**, Multi Scan is executed. Or, if the transceiver migrates during the scan to the zone where “Multi-Zone” is configured in **Scan Type**, Multi Scan is executed.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Scan Type** : Edit > Scan Information > Scan	

Scanning in One Zone (**Single Scan**)

Type	■ Standard model ■ Basic model	
Description	The transceiver scans using Single Scan all the added channels in the zone where the transceiver starts scanning. If a scan starts in the zone where “Single” is configured in **Scan Type**, Single Scan is executed. Or, if the transceiver migrates during the scan to the zone where “Single” is configured in **Scan Type**, Single Scan is executed.	
Operating the transceiver	Display during Scan Temporary Stop  Display during Scan Off 	Transceiver behavior : • The ↻ icon blinks while paused. • The Scan LED is turned off. • Press PF_BTN[Scan]. Transceiver behavior : • Tone B sounds and scan is ended. • Scan icon ↻ is turned off. • Selected channel is displayed. • The Scan LED is turned off.
Note	-	
Configuration using FPU	**Scan Type**, **Selected Channel Scan**, **Revert Channel Display**, **Scan LED** : Edit > Scan Information > Scan PF_BTN[Scan] PF_BTN[Menu] Edit > Button Assignment > Side, Front **Scan Add** : Edit > Zone Information > Channel Edit > General	

Scanning All Target Zones for Scanning (**Multi Scan**)

Type	■ Standard model ■ Basic model	
Description	In an NXDN Conventional system, by using Multi Scan, the transceiver can scan all channels to be scanned in the target zones. If a scan starts in the zone where “Multi-Zone” is configured in **Scan Type**, Multi Scan is executed. Or, if the transceiver migrates during the scan to the zone where “Multi-Zone” is configured in **Scan Type**, Multi Scan is executed.	
Operating the transceiver	Display during Scan Temporary Stop  Display during Scan Off 	Transceiver behavior : • The icon blinks while paused. • The Scan LED is turned off. • Press PF_BTN[Scan]. Transceiver behavior : • Tone B sounds and scan is ended. • Scan icon is turned off. • Selected channel is displayed. • The Scan LED is turned off.
Note	-	
Configuration using FPU	**Scan Type**, **Selected Channel Scan**, **Revert Channel Display**, **Scan LED** : Edit > Scan Information > Scan PF_BTN[Scan] PF_BTN[Menu] Edit > Button Assignment > Side, Front **Scan Add** : Edit > Zone Information > Channel Edit > General	

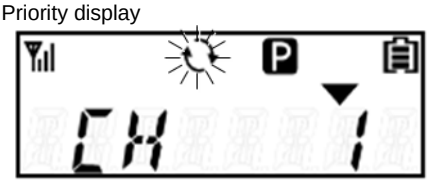
Scanning the Specific Channel Preferentially (**Priority Scan**)

Type	■ Standard model ■ Basic model	
Description	Priority Scan is the function to prioritize and scan the target channels. This function can be used for Single Scan, or Multi Scan in a Conventional channel. If a Priority Channel is configured, the transceiver monitors Priority Channel by executing Lookback even when receiving on a normal channel. On the channel where Priority 1 has the highest priority, Lookback is not executed while receiving on Priority 1. Priority 2 is the channel prioritized next to Priority 1; therefore, Lookback is executed on Priority 1 while receiving on Priority 2. Priority can be selected from “None”, “Fixed”, “Selected” and “Operator Selectable”.	
Operating the transceiver	-	-
Note	• “Operator Selectable” cannot be selected for the transceiver for Basic model.	
Configuration using FPU	**Priority 1**, **Priority 1 Zone-Channel**, **Priority 2**, **Priority 2 Zone-Channel** : Edit > Scan Information > Scan	

Priority

Configuration	Description
None	No Priority Channel is configured.
Fixed	The channel configured using KPG-D6/ D6N is configured as the Priority Channel. The Priority cannot be changed by operating the transceiver.
Selected	The channel selected on the Transceiver is configured as the Priority Channel.
Operator Selectable	The channel configured by a user in Priority-channel Select Mode.

Scanning the Specific Channel Preferentially (**Priority Zone-Channel**)

Type	■ Standard model ■ Basic model	
Description	This function is used to set a particular channel from any zone with **Zone Type** (= Conventional Group) to become a priority channel. Priority Zone-Channel can be set only if priority is set to “Fixed” or “Operator Selectable”.	
Operating the transceiver	Priority display  	Transceiver behavior : • The Priority Zone-Channel is selected or paused with Priority Zone-Channel. • Priority P icon will light.
Note	-	
Configuration using FPU	**Priority 1 Zone-Channel**, **Priority 2 Zone-Channel** : Edit > Scan Information > Scan	

Scanning the Specific Channel Preferentially (**Priority-channel Stop Tone**)

Type	■ Standard model ■ Basic model	
Description	**Priority-channel Stop Tone** is the function to emit a Priority-channel Tone (1 beep) from the transceiver when the scan pauses upon receipt of a signal and the speaker is unmuted on a Priority Channel during the scan.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Priority-channel Stop Tone** : Edit > Scan Information > Scan	

Scanning the Specific Channel Preferentially (Priority Scan) (**Lookback**/ **Lookback Time A**/ **Lookback Time B**)

Type	■ Standard model ■ Basic model	
Description	**Lookback** is the function to periodically checks for a Priority Channel if a Priority Channel is configured for the transceiver and the transceiver receives on a normal channel (a channel which is not Primary Channel). Either **Lookback Time A** or **Lookback Time B** is applied for the interval to initiate checking for a signal on a Priority Channel according to the receiving status of the Priority Channel. **Lookback Time A:** **Lookback Time A** is the interval time to check during a Priority Scan for a signal on a Priority Channel without a carrier while the transceiver receives a signal on a normal channel whose carrier is different from the carrier of the Priority Channel. Since the transceiver may receive a call on the Priority Channel, the time configured in **Lookback Time A** must be shorter than the time configured in **Lookback Time B**. **Lookback Time B:** **Lookback Time B** is the interval time to check during a Priority Scan for a signal on a Priority Channel which does not match the QT/DQT in an Analog Conventional system or a Priority channel which does not match the RAN in an NXDN Conventional system even though a carrier exists, while the transceiver receives a signal on a normal channel whose carrier is different from the carrier of the Priority Channel.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Lookback Time A**, **Lookback Time B** : Edit > Scan Information > Scan	

Scan Function (**Dropout Delay Time**)

Type	■ Standard model ■ Basic model	
Description	**Dropout Delay Time** is the time from when the transceiver finishes receiving signals until the transceiver resumes scanning. The transceiver pauses scanning when the transceiver receives a call during the scan. The transceiver resumes the scan when the time configured in **Dropout Delay Time** elapses after the transceiver finishes receiving.	
Operating the transceiver	-	-
Note	The following are conditions to resume scanning: • There is no signal to receive. • The matching state of the RAN becoming inconsistent.	
Configuration using FPU	**Dropout Delay Time** : Edit > Scan Information > Scan	

Scan Function (**Dwell Time**)

Type	■ Standard model ■ Basic model	
Description	During the scan, the scan pauses when the **PTT** switch is pressed to transmit. **Dwell Time** is the time from when the transceiver completes transmitting until the transceiver resumes scanning. The transceiver activates Talkback according to the configuration in **Revert Channel** while the time configured in **Dwell Time** elapses.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Dwell Time** : Edit > Scan Information > Scan	

Scan Function (**Power-on Scan**)

Type	■ Standard model ■ Basic model	
Description	**Power-on Scan** is the function to start the scan automatically when the transceiver is turned on.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Power-on Scan** : Edit > Scan Information > Scan	

Scan Function (**Revert Channel**)

Type

■ Standard model ■ Basic model

Description

Revert Channel is the Zone-channel which is used when the transceiver transmits by pressing the **PTT** switch during the scan.

The Revert Channel is displayed according to the configuration of Revert Channel Display.

Priority

Configuration	Description
Last Called + Selected	The transceiver transmits on the last-called Zone-channel by pressing the **PTT** switch during the scan. If the Zone-channel is changed, the transceiver transmits using the new channel after the Zone channel is changed until the transceiver receives another call.
Selected	The transceiver transmits on the new channel after the Zone-channel is changed regardless of the scan status.
Selected + Talkback	During the scan, the transceiver transmits on the new Zone-channel after the zone-channel is changed. While the scan is paused, the transceiver transmits on the Zone-channel where the transceiver pauses scanning.
Priority 1	The transceiver transmits on a Priority 1 regardless of the scanning status.
Priority 1 + Talkback	The transceiver transmits on a Priority 1 during the scan. While the scan is paused, the transceiver transmits on the Zone-channel where the transceiver pauses scanning.
Priority 2	The transceiver transmits on a Priority 2 regardless of the scanning status.
Priority 2 + Talkback	The transceiver transmits on a Priority 2 during the scan. While the scan is paused, the transceiver transmits on the Zone-channel where the transceiver pauses scanning.

Operating the transceiver	-	-
Note	• If **Revert Channel Display** is enabled, a Revert Channel always appears on the transceiver display during the scan. •	
Configuration using FPU	**Revert Channel** : Edit > Scan Information > Scan	

Scan Function (**Revert Channel Display**)

Type	■ Standard model ☐ Basic model	
Description	If **Revert Channel Display** is enabled, Revert Channel is displayed.	
Operating the transceiver	Display during single scan (Revert Channel Display = Disable) 	• Press PF_BTN[Scan]. Transceiver behavior : • Tone A sounds and scan is started. • Scan icon is displayed. • “SCAN” is displayed on the main text. • The items displayed on the icon area depend on the Revert Channel. • The LED blinks according to the Scan LED setting.
	Display during single scan (Revert Channel Display = Enable) 	• Press PF_BTN[Scan]. Transceiver behavior : • Tone A sounds and scan is started. • Scan icon is displayed. • Revert Channel is displayed. • The LED blinks according to the Scan LED setting.
Note	The following setting items are FPU setting items. • If **Revert Channel Display** is enabled, a Revert Channel always appears on the transceiver display during the scan.	
Configuration using FPU	**Revert Channel Display** : Edit > Scan Information > Scan	

Scan Function (**Scan LED**)

Type	■ Standard model ■ Basic model	
Description	If **Scan LED** is enabled, the LED flashes while the transceiver is scanning. The following setting items are FPU setting items. **Scan LED** Configuration / Description: Off — The LED does not flash. Yellow — The LED flashes yellow. Purple — The LED flashes purple. Blue — The LED flashes blue. Light Blue — The LED flashes light blue. Red — The LED flashes red. Green — The LED flashes green. White — The LED flashes white.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Scan LED** : Edit > Scan Information > Scan	

Scan Function (**Scan Stop Tone**)

Type	■ Standard model ■ Basic model	
Description	**Scan Stop Tone** is the function to emit the Scan Stop Tone (1 beep) from the transceiver if the scan pauses and cannot not resume, for example, while the transceiver migrates to a Home Channel or Direct Channel. The transceiver pauses scanning if the conditions to start the scan are not satisfied, such as while the transceiver is migrating to a Home Channel or Direct Channel, and then a Scan Stop Tone (1 beep) sounds from the transceiver at 30-sec intervals.	
Operating the transceiver	-	-
Note	• The Scan Stop Tone (1 beep) does not sound while the transceiver is transmitting or while the speaker is unmuted for reception.	
Configuration using FPU	**Scan Stop Tone** : Edit > Scan Information > Scan	

Scan Function (**Selected Channel Scan**)

Type	■ Standard model ■ Basic model	
Description	**Selected Channel Scan** is the function to add the selected channel to the target channels for scan even if the channel is excluded from the target.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Selected Channel Scan** : Edit > Scan Information > Scan	

5 ANALOG function

Displaying the Voltage Value of a Battery When the Transceiver Is Turned ON (**Power-on (Battery Voltage)**)

Type	■ Standard model ☐ Basic model	
Description	The description of this feature is the same as the feature with the same name in the DMR function.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	-	

Displaying the LED When the Transceiver Is Turned ON (**Power-on (LED)**)

Type	■ Standard model ■ Basic model	
Description	The description of this feature is the same as the feature with the same name in the DMR function.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	-	

Using Function Buttons (**Mode Reset Timer**)

Type	■ Standard model ■ Basic model	
Description	The description of this feature is the same as the feature with the same name in the DMR function.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	-	

Locking the Transceiver Buttons (**Button Lock/ Auto Button Lock Timer**)

Type	■ Standard model ■ Basic model	
Description	The description of this feature is the same as the feature with the same name in the DMR function.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	-	

Display Functions of the Display (**Display Format**)

Type	■ Standard model ☐ Basic model	
Description	The description of this feature is the same as the feature with the same name in the DMR function.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	-	

Reducing the Influence of the Internal Beat (**Beat Shift**)

Type	■ Standard model ■ Basic model	
Description	The description of this feature is the same as the feature with the same name in the DMR function.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	-	

Changing the Zone-channel (**Rollover/End Stop**)

Type	■ Standard model ■ Basic model	
Description	The description of this feature is the same as the feature with the same name in the DMR function.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	-	

Transmit and Receive (**Transmit Power**)

Type	■ Standard model ■ Basic model	
Description	The description of this feature is the same as the feature with the same name in the DMR function.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	-	

Transmit and Receive (**Channel Spacing**)

Type	■ Standard model ■ Basic model	
Description	**Channel Spacing** is the channel spacing used by the transceiver to transmit and receive. Channel spacing is the spacing of frequencies between adjacent channels. In an Analog Conventional system, 25.0 kHz, 20.0 kHz, or 12.5 kHz can be configured for the channel spacing on each channel.	
Operating the transceiver	-	-
Note	In KPG-D6N, 25.0 kHz cannot be configured if a receive frequency or a transmit frequency is configured in the following ranges: VHF: above 149.98750 MHz and less than 174.01250 MHz UHF: above 420.98750 MHz and less than 470.01250 MHz However, if only a receive frequency is configured, 25.0 kHz can be configured for Channel Spacing regardless of these frequency ranges.	
Configuration using FPU	**RX Frequency**, **TX Frequency** : Edit > Zone Information > Channel Edit > General **Channel Spacing** : Edit > Zone Information > Channel Edit > Analog	

Configuring Audio Profile (**Digital Audio Offset**)

Type	■ Standard model ■ Basic model	
Description	The description of this feature is the same as the feature with the same name in the DMR function.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Digital Audio Offset** : Edit > Optional Features > Optional Features 1 > Common 1 > Microphone Sense	

Viewing the Receive History (Stack) (**Retain Stacked Message**)

Type	■ Standard model ☐ Basic model	
Description	The description of this feature is the same as the feature with the same name in the DMR function.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	-	

The function to store IDs of callers in the stack memory (**Caller ID Stack**)

Type	■ Standard model ☐ Basic model	
Description	The description of this feature is the same as the feature with the same name in the DMR function.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	-	

Initiating Voice Communications (Basic Transmission and Reception) (**Auto Reset Timer**)

Type	■ Standard model ■ Basic model
Description	**Auto Reset Timer** is the length of time from when the received DTMF code/ 2-tone code/ FleetSync ID/ MDC-1200 ID matches DTMF code/ 2-tone code/ FleetSync ID / MDC-1200 ID preconfigured for the transceiver until the matching state is automatically reset. A matching status means that a user can communicate using only a QT tone or DQT code after the FleetSync ID/ MDC-1200 ID matches. **Auto Reset Timer** is configured using KPG-D6/ D6N. Also, how the transceiver behaves after the length of time configured in **Auto Reset Timer** elapses can be configured. **Auto Reset Timer** Configuration: Off — **Auto Reset Timer** does not function. Configuration: 0 sec to 300 sec — After the configured time elapses, the matching state of DTMF code/ 2-tone code/ FleetSync ID / MDC-1200 ID is automatically reset.
Operating the transceiver	- / -
Note	-
Configuration using FPU	**Auto Reset Timer** : Edit > DTMF > Decode > Auto Reset Edit > 2-tone > Decode (2-tone 1 to 4) > Auto Reset Edit > FleetSync > General 2 > Auto Reset Edit > MDC-1200 > General 1 > Auto Reset

Monitor

Type	■ Standard model ■ Basic model
Description	**Monitor** is configured whether the matching state of DTMF code/ 2-tone code/ FleetSync ID/ MDC-1200 ID is reset when the length of time configured in **Auto Reset Timer** elapses.
Operating the transceiver	- / -
Note	• This function cannot be configured if "Off" is configured in **Auto Reset Timer**.
Configuration using FPU	**Monitor** : Edit > DTMF > Decode > Auto Reset Edit > 2-tone > Decode (2-tone 1 to 4) > Auto Reset Edit > FleetSync > General 2 > Auto Reset Edit > MDC-1200 > General 1 > Auto Reset

Turning off Selective Call Alert LED when Auto Reset Timer elapses (LED)

Type	■ Standard model ■ Basic model
Description	**LED** is configured whether the flashing LED for the Selective Call Alert LED turns off when the length of time configured in **Auto Reset Timer** elapses.
Operating the transceiver	- / -
Note	• This function cannot be configured if "Off" is configured in **Auto Reset Timer**. • **Optional Signaling LED** is controlled by **Monitor** (**Auto Reset**).
Configuration using FPU	**LED** : Edit > DTMF > Decode > Auto Reset Edit > 2-tone > Decode (2-tone 1 to 4) > Auto Reset Edit > FleetSync > General 2 > Auto Reset Edit > MDC-1200 > General 1 > Auto Reset **Auto Reset Timer** : Edit > DTMF > Decode > Auto Reset **Optional Signaling LED** : Edit > DTMF > Decode

Restricting the Continuous Transmission Duration (**Time-out Timer (TOT)**)

Type	■ Standard model ■ Basic model
Description	The description of this feature is the same as the feature with the same name in the DMR function.
Operating the transceiver	- / -
Note	-
Configuration using FPU	-

Using a Channel Being Used by Other Parties (**BCL Override**)

Type	■ Standard model ■ Basic model	
Description	The description of this feature is the same as the feature with the same name in the DMR function.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	-	

Data Transmit with QT/DQT

Type	■ Standard model ■ Basic model	
Description	**Data Transmit with QT/DQT** is a function for overlaying the QT tone or DQT code configured for the channel during data transmission. This function is available on the channels that send a Status Message or Short Message. It is also used during data transmission using an external device. When a QT tone or DQT code is used, such as on a repeater, enabling this function makes it possible to transmit data by overlaying the QT tone or DQT code. When audio and data transmission are carried out concurrently on the same channel, you can disable this function to transmit data without overlaying the QT tone or DQT code to make the audio sound transmitted inaudible during data transmission.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Data Transmit with QT/DQT**: Edit > Optional Features > Optional Features 1 > Common 1	

Stopping the scan temporarily during Priority Scan (**AC Control**)

Type	■ Standard model ■ Basic model	
Description	**AC Control** is configured whether to stop the scan temporarily during a priority scan by just receiving a carrier without having to decode QT/DQT even when QT/DQT is configured for a priority channel. AC Control functions for a priority channel with "Analog" or "Mixed" configured in **Channel Type**. **AC Control** Configuration: Enabled — Enables the capability to reset QT/DQT signaling and automatically detect a carrier on a priority channel. Configuration: Disabled — Disables the capability to reset QT/DQT signaling and automatically detect a carrier on a priority channel.	
Operating the transceiver	-	-
Note	• This function can be only used in an Analog Conventional system.	
Configuration using FPU	**AC Control** : Edit > Scan Information > Scan **Channel Type** : Edit > Zone Information > Channel Edit > General	

Tones that Sound When a User Operates the Transceiver or When the Transceiver Status Is Changed (**Alert Tone**)

Type	■ Standard model ■ Basic model	
Description	**Alert Tone** is configured whether the intermittently emitted Alert tone stops when the length of time configured in **Auto Reset Timer** elapses.	
Operating the transceiver	-	-
Note	• This function cannot be configured if "Off" is configured in **Auto Reset Timer**.	
Configuration using FPU	**Alert Tone** : Edit > DTMF > Decode > Auto Reset Edit > 2-tone > Decode (2-tone 1 to 4) > Auto Reset Edit > FleetSync > General 2 > Auto Reset Edit > MDC-1200 > General 1 > Auto Reset **Auto Reset Timer** : Edit > DTMF > Decode > Auto Reset	

Configuring the Alert Tone Pattern (**Special Alert Tone**)

Type	■ Standard model ■ Basic model	
Description	The description of this feature is the same as the feature with the same name in the DMR function.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	-	

Unmuting the Speaker (**Audio Control**)

Type	■ Standard model ■ Basic model
Description	**Audio Control** is the condition which allows the transceiver to unmute the speaker by a QT tone or DQT code and Optional Signaling. Using KPG-D6/ D6N, the condition which allows the transceiver to unmute the speaker can be configured for each system. The transceiver unmutes the speaker and emits received audio if the conditions configured for Audio Control are satisfied. QT tone or DQT code can be combined with Optional Signaling to alter the conditions for the transceiver to unmute the speaker.
Operating the transceiver	- / -
Note	• The transceiver behaves as follows according to the type of a received signal on a channel with “Mixed” configured in **Channel Type**. • If the transceiver receives analog signals, The transceiver behaves according to the configuration in **Audio Control** (Analog).
Configuration using FPU	**Audio Control** : Edit > Zone Information > Channel Edit > Analog **Channel Type** : Edit > Zone Information > Channel Edit > General

Audio Control

Configuration	Description
QT/DQT	The transceiver unmutes the speaker if the received QT tone or DQT code matches the QT tone or DQT code preconfigured for the transceiver. The conditions for unmuting the speaker do not change even if the transceiver transmits.
QT/DQT and Optional Signaling	The transceiver does not unmute the speaker unless the received Optional Signaling matches the Optional Signaling preconfigured for the transceiver. While the received Optional Signaling matches the Optional Signaling preconfigured for the transceiver, the transceiver unmutes the speaker if the received QT tone or DQT code matches the QT tone or DQT code preconfigured for the transceiver.
QT/DQT or Optional Signaling	While the received Optional Signaling does not match the Optional Signaling preconfigured for the transceiver, the transceiver unmutes the speaker if the received QT tone or DQT code matches the QT tone or DQT code preconfigured for the transceiver. The transceiver unmutes the speaker if the transceiver receives a carrier while the received Optional Signaling matches the Optional Signaling preconfigured for the transceiver. The conditions for unmuting the speaker do not change even if the transceiver transmits.

Selcall

Type	■ Standard model ■ Basic model
Description	**Optional Signaling LED** : **Optional Signaling LED** is the function that causes the LED to flash in yellow when the Optional Signaling received matches that of the transceiver. A user can notice by the LED that the transceiver is receiving a call. If the matching state of Optional Signaling is disabled when the buttons on the transceiver are pressed, or when the time configured in **Auto Reset Timer** elapses, the LED is turned off. However, if **Selective Call Alert LED** is enabled even if **Optional Signaling LED** is enabled, the LED flashes according to the configuration of **Selective Call Alert LED**. **Selective Call Alert LED** : **Selective Call Alert LED** is the function to make the LED flash when the transceiver receives a call. A user can notice by the LED that the transceiver is receiving a call. **Individual Call**, **Other Selective Calls**, **Paging Call, Group Call**, **Fleet Call, All Call** : These functions are configured how the LED responds when the transceiver receives a several calls. **Individual Call**, **Other Selective Calls**, **Paging Call**, **Status/Short Message Call**, **Emergency Response** : These functions are selected a type of ring tone for Individual Call from 8 different types of tone configured in Special Alert Tone. This tone sounds when the transceiver receives a several calls.
Operating the transceiver	- / -
Note	-
Configuration using FPU	**Optional Signaling LED** : Edit > FleetSync > General 2 Edit > MDC-1200 > General 2 **Selective Call Alert LED** : Edit > FleetSync > General 2 Edit > MDC-1200 > General 2 > Selcall **Individual Call**, **Other Selective Calls**, **Paging Call** : Edit > FleetSync > General 2 > LED Color **Individual Call**, **Other Selective Calls**, **Paging Call**, **Status/Short Message Call**, **Emergency Response** : Edit > FleetSync > General 2 > Tone Number **Individual Call**, **Group Call**, **Fleet Call, All Call** : Edit > MDC-1200 > General 2 > Selcall > LED Color

Optional Signaling (Analog)

Type	■ Standard model ■ Basic model
Description	Optional Signaling is the signaling used to initiate a selective call. DTMF, 2-tone, FleetSync, and MDC-1200 are the Optional Signaling which can be used in an Analog Conventional system. All these types of signaling make use of audio bandwidths. The transceiver behaves as follows according to the configuration for **Optional Signaling Decode Condition**. **When Optional Signaling Decode Condition is configured to "QT/DQT":** When the QT tone or DQT code matches, and the Optional Signaling on standby matches with the received Optional Signaling, the transceiver outputs an Alert Tone and starts Transpond. **When Optional Signaling Decode Condition is configured to "Carrier":** When the transceiver receives a carrier and the Optional Signaling on standby matches with that received, the transceiver outputs an Alert Tone and starts Transpond. In this case, matching of the QT tone or DQT code is not required. The transceiver behaves as follows according to the type of a received signal on a channel with "Mixed" configured in **Channel Type**. 0 If the transceiver receives analog signals The transceiver behaves according to the configuration in Optional Signaling (Analog).
Operating the transceiver	- | -
Note	-
Configuration using FPU	**Optional Signaling** : Edit > Zone Information > Channel Edit > Analog **Optional Signaling Decode Condition** : Edit > Zone Information > Zone Edit **Channel Type** : Edit > Zone Information > Channel Edit > General

Indication and Display (**Selective Call Alert LED**)

Type	■ Standard model ■ Basic model
Description	**Selective Call Alert LED** is the function to make the LED flash when the transceiver receives a DTMF code or a Selective Call. A user can tell from the flashing LED that the transceiver is receiving a call.
Operating the transceiver	- | -
Note	-
Configuration using FPU	**Selective Call Alert LED** : Edit > DTMF > Decode Edit > 2-tone > Decode (2-tone 1 to 4) Edit > FleetSync > General 2 Edit > MDC-1200 > General 2 > Selcall

Avoiding Interference with Other Communications (**Busy Channel Lockout**)

Type	■ Standard model ■ Basic model
Description	**Busy Channel Lockout** is the function to automatically restrict the transmission so as not to interfere with other communications. If an attempt is made to transmit on a channel that is already being used by other groups, the transceiver automatically restricts the transmission. If the **PTT** switch is pressed while **Busy Channel Lockout** is enabled, a Warning Tone A (continuous beep) sounds from the transceiver, and transmission is disabled. In this case, "Busy" appears on the display. The Warning Tone A sounds from the transceiver until the **PTT** switch is released. The following are conditions to disable transmission by **Busy Channel Lockout**:

Busy Channel Lockout

Configuration	Description
No	**Auto Reset Timer** does not function.
Carrier Only	The transceiver cannot transmit while the transceiver is receiving a carrier.
Incorrect Tone	The transceiver cannot transmit if the transceiver receives a carrier and the received QT tone or DQT code does not match the QT tone or DQT code preconfigured for the transceiver. However, the transceiver can transmit if the received QT tone or DQT code matches the QT tone or DQT code preconfigured for the transceiver.
Optional Signaling	Transmission by the transceiver is not allowed until the Optional Signaling received matches the Optional Signaling configured for the transceiver.

The transceiver is controlled in the following manner according to the configuration for **Transmit Mode** on a channel with "Mixed" configured in **Channel Type**.

Operating the transceiver	- | -
Note	• **Busy Channel Lockout** cannot be activated in Emergency Mode.
Configuration using FPU	**Busy Channel Lockout** : Edit > Zone Information > Channel Edit > Analog **Channel Type, Transmit Mode** : Edit > Zone Information > Channel Edit > General

Using Voice Guidance (**Voice Announcement**)

Type	■ Standard model ■ Basic model
Description	The description of this feature is the same as the feature with the same name in the DMR function.
Operating the transceiver	- | -
Note	-
Configuration using FPU	-

Reducing Battery Consumption (**Battery Saver**)

Type	■ Standard model ■ Basic model
Description	**Battery Saver** allows the transceiver to reduce power consumption by receiving intermittently. The transceiver receives intermittently when there is no carrier and no button is pressed for 5 sec or more, or when the transceiver is in the following states. When there is a carrier, but the QT tone or DQT code does not match the tone or code preconfigured for the transceiver and no button is pressed for 5 sec or more. Extension of the intervals for intermittent reception may reduce the battery consumption; however, interruptions to introductory parts of received audio may occur. To use Battery Saver effectively, there are systemic issues to consider, for instance, the duration from when the transceiver starts transmitting until the transceiver starts sending audio. Intervals for intermittent reception are as follows.
Operating the transceiver	- | -
Note	• **Battery Saver** is not activated while the transceiver is scanning. • Longer intervals of intermittent monitoring may extend the battery life, but these settings may cause the transceiver to fail to monitor the beginning of the received signal. If Battery Saver is enabled, you must take into account the length of time from when the transceiver starts transmitting until a user actually begins speaking.
Configuration using FPU	**Battery Saver** : Edit > Optional Features > Optional Features 1 > Common 3 > Battery

Duration of the Battery Saver

Save	No Carrier	Inconsistent Status of QT tone or DQT code
Off	Off	Off
Short	200 ms	400 ms
Medium	400 ms	800 ms
Long	800 ms	1600 ms

Using the GPS Function (GPS Function)

Type	■ Standard model ■ Basic model
Description	The description of this feature is the same as the feature with the same name in the DMR function.
Operating the transceiver	- | -
Note	-
Configuration using FPU	-

Remote Operation by Radio Communication (Remote Control)

Type	■ Standard model ■ Basic model
Description	The description of this feature is the same as the feature with the same name in the DMR function.
Operating the transceiver	- | -
Note	-
Configuration using FPU	-

Password for Transceiver Operation (**Transceiver Password**)

Type	■ Standard model ■ Basic model	
Description	The description of this feature is the same as the feature with the same name in the DMR function.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	-	

Password When Reading Configuration Data in a PC (**Password (Read)**)

Type	■ Standard model ■ Basic model	
Description	The description of this feature is the same as the feature with the same name in the DMR function.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	-	

Password for Writing Configuration Data (**Password (Write)**)

Type	■ Standard model ■ Basic model	
Description	The description of this feature is the same as the feature with the same name in the DMR function.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	-	

Copying the Configuration Data to Another Transceiver (**Clone Mode**)

Type	■ Standard model ■ Basic model	
Description	The description of this feature is the same as the feature with the same name in the DMR function.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	-	

Changing the Configuration of the Transceiver (Front Panel Programming Mode)

Type	■ Standard model ☐ Basic model	
Description	The description of this feature is the same as the feature with the same name in the DMR function.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	-	

Checking the Firmware Version (Transceiver Information Mode) (**Transceiver Information**)

Type	■ Standard model ☐ Basic model	
Description	The description of this feature is the same as the feature with the same name in the DMR function.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	-	

Testing or Adjusting the Transmit and Receive Capabilities of the Transceiver (PC Test Mode)

Type	■ Standard model ■ Basic model	
Description	The description of this feature is the same as the feature with the same name in the DMR function.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	-	

Testing or Adjusting the Transmit and Receive Capabilities of the Transceiver (PC Tuning Mode)

Type	■ Standard model ■ Basic model	
Description	The description of this feature is the same as the feature with the same name in the DMR function.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	-	

Using VOX (VOX Function)

Type	■ Standard model ■ Basic model	
Description	The description of this feature is the same as the feature with the same name in the DMR function.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	-	

Reading the Log Information of the Transceiver (Field Support) (**Save Log Data**)

Type	■ Standard model ■ Basic model	
Description	The description of this feature is the same as the feature with the same name in the DMR function.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	-	

Data Transmit Modulation Delay Time

Type	■ Standard model ■ Basic model	
Description	**Data Transmit Modulation Delay Time** is the time interval from the point when transmission starts up to the point when modulation of the MSK data starts during data transmission by the transceiver. **Data Transmit Modulation Delay Time** is required to start modulation of the MSK Data after the transmitted signal is stabilized. However, it may be difficult to establish data communications when the transmit frequencies and receive frequencies are widely separated or the transceiver is always used in extremely cold areas. In such cases, **Data Transmit Modulation Delay Time** must be extended in order to improve the reliability of data communications.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Data Transmit Modulation Delay Time** : Edit > FleetSync > Parameter Edit > MDC-1200 > Parameter	

Making an Individual Call (**Individual Call**)

Type	■ Standard model ■ Basic model	
Description	The description of this feature is the same as the feature with the same name in the DMR function.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	-	

Using FleetSync ID to Initiate a Selective Call (Paging Call)

Type	■ Standard model ■ Basic model	
Description	The description of this feature is the same as the feature with the same name in the DMR function.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	-	

Sending the Received Unit ID from the Communication Port (**Serial Output**)

Type	■ Standard model ■ Basic model	
Description	The description of this feature is the same as the feature with the same name in the DMR function.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	-	

Making a Group Call (**Group Call**)

Type	■ Standard model ■ Basic model	
Description	The description of this feature is the same as the feature with the same name in the DMR function.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Fleet**, **ID**, **ID Name**, **Type**, **Alert Tone (Selcall, Paging)**, **Alert LED (Selcall, Paging)** : Edit > FleetSync > ID List **ID Type**, **ID**, **Fleet ID**, **Group ID**, **ID Name**, **ACK Request**, **Alert Tone (Selcall, Call Alert)**, **Alert LED (Selcall, Call Alert)** : Edit > MDC-1200 > ID List	

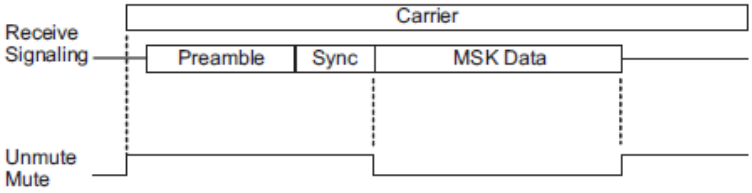
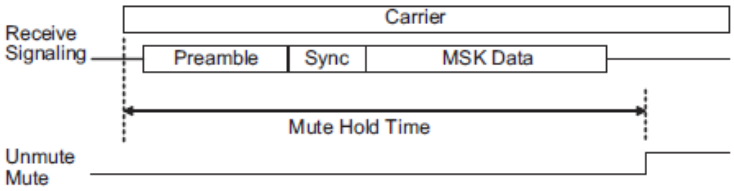
Making a Group Call (**Group ID (List)**)

Type	■ Standard model ■ Basic model	
Description	The description of this feature is the same as the feature with the same name in the DMR function.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	-	

Own ID (FleetSync)

Type	■ Standard model ■ Basic model	
Description	To initiate various communications using FleetSync, a Fleet, an ID the identification code of a transceiver, needs to be configured for the transceiver. FleetSync communication uses a 7-digit identification code (FleetSync ID) that is made up of a 3-digit Fleet (100 to 349) and a 4-digit ID (1000 to 4999). Each transceiver is identified by its FleetSync ID. To initiate various communications using FleetSync, an own FleetSync ID (Fleet/ ID) needs to be configured for the transceiver. One Fleet/ ID can be configured for each transceiver.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Fleet**, **ID**, **Global ID** : Edit > Zone Information > Zone Edit - Conventional Group > ID (Own) > FleetSync	

FleetSync Burst Noise Reduction

Type	■ Standard model ■ Basic model	
Description	**FleetSync Burst Noise Reduction** mutes the incoming data burst tones when the transceiver receives FleetSync data. When the transceiver receives an MSK data burst tone, the transceiver evaluates whether or not the tone is FleetSync data. If it is FleetSync data, the transceiver mutes until it completes receiving FleetSync data. However, since it takes a short period of time to recognize a tone as FleetSync data, the beginning of the tone may sound from the speaker for a moment.  **Timing to Activate the FleetSync Burst Noise Reduction** To receive the FleetSync data using BOT, the tone burst noise can be muted completely by configuring Mute Hold Time to function at the same time. However, since **Mute Hold Time** is valid for all communications, if the time is configured overly long, the beginning of the voice signal may also be muted on a channel that does not use the FleetSync functions.  **Timing to Activate Mute Hold Time**	
Operating the transceiver	-	-
Note	• **FleetSync Burst Noise Reduction** is valid only for MSK data in FleetSync.	
Configuration using FPU	**FleetSync Burst Noise Reduction** : Edit > FleetSync > General 1 **Mute Hold Time** : Edit > Optional Features > Optional Features 1 > Common 1	

FleetSync - GPS

Type	■ Standard model ■ Basic model	
Description	**Fleet** and **ID (GPS Base Station)** is the FleetSync ID of the target transceiver used for sending GPS data. By using KPG-D6/ D6N. The FleetSync ID of the base station which is responsible for operation and administration of system is normally configured.	
Operating the transceiver	-	-
Note	• This function can be configured if "GPS" is selected from Function for **COM port 0**.	
Configuration using FPU	**Fleet**, **ID** : Edit > FleetSync > GPS > Base Station	

FleetSync - GPS Combination

Type

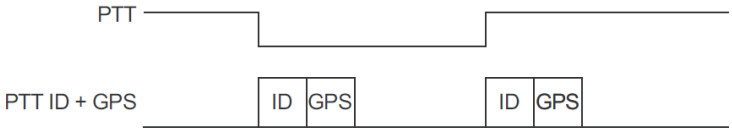
■ Standard model ■ Basic model

Description

Sending GPS Data Together With Operation of the PTT Switch:
The transceiver can send GPS data by adding the GPS data to the PTT ID (FleetSync) of the transmitting transceiver.
To use this function, **PTT ID** for **GPS Combination** must be enabled by using KPG-D6/ D6N.
GPS data is added to the PTT ID as follows according to the configurations for **PTT ID** and **GPS Report Timing**.

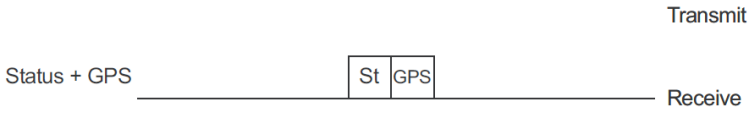
Timing for Adding GPS Data

GPS Report Timing	PTT ID (Analog)			
	Off	BOT	EOT	Both
BOT	-	BOT+GPS	EOT	BOT+GPS
				EOT
EOT	-	BOT	EOT+GPS	EOT
				EOT+GPS
Both (BOT)	-	BOT+GPS	EOT+GPS	BOT+GPS
				EOT
Both (EOT)	-	BOT+GPS	EOT+GPS	BOT
				EOT+GPS
Both	-	BOT+GPS	EOT+GPS	BOT+GPS
				EOT+GPS



Timing for GPS Combination (PTT ID)

Sending GPS Data Together With Status Call:
The transceiver can send GPS data by adding the GPS data to a Status Message using FleetSync.
To use this function, **Status** for **GPS Combination** must be enabled by using KPG-D6/ D6N. The range of status numbers (Combination Status Range) to which GPS data can be added can be configured.



Timing to Send GPS Combination (Status)

Sending GPS Data Together With Emergency Call:
The transceiver can send GPS data by adding the GPS data to the Emergency ID (FleetSync).
To use this function, Emergency for GPS Combination must be enabled by using KPG-D6/ D6N.

Timing to Send Combination (Emergency)

Operating the transceiver

-

-

Note

-

Configuration using FPU

PTT ID, **GPS Report Timing**, **Status**, **Combination Status Range**, **Emergency** :
Edit > FleetSync > GPS > GPS Combination

FleetSync - ID List

Type

■ Standard model ■ Basic model

Description

To make Selective Calls, the desired FleetSync IDs need to be preconfigured in the transceiver by using KPG-D6/ D6N prior to use of the transceiver. A maximum of 1,000 FleetSync IDs can be configured for FleetSync ID List.

ID List

Configuration	Description
Fleet	For configuring the Fleet of the FleetSync ID. Fleet can be set to “ALL” or a value between 100 and 349. “ALL” allows initiation of a call to all Fleets.
ID	For configuring the ID of the FleetSync ID. Fleet can be set to “ALL” or a value between 1000 and 4999. “ALL” allows initiation of a call to all IDs.
ID Name	The caller’s ID Name is configured. A maximum of 14 characters can be configured for the ID Name. If the ID Name of the transmitting transceiver is configured in the ID List, the ID Name of the transmitting transceiver appears when the transceiver receives a Selective Call.
Type	The permission or inhibition of transmission of the receiving party can be configured. An ID for which “RX Only” is configured in **Type** does not appear on the ID selection display in Selcall Mode, and a user cannot select the ID in Selcall Mode. If the transceiver receives a call from an ID for which “RX Only” is configured in **Type**, the caller’s ID Name appears. In this case, a user cannot initiate a call to the party even if the user attempts to respond by pressing the **PTT** switch.
Alert Tone	**Selcall:** The tone type sounding from the transceiver can be configured for a Selective Call from the FleetSync IDs registered in the ID List. **Paging Call:** The tone type sounding from the transceiver can be configured for a Paging Call from the FleetSync IDs registered in the ID List.
Alert LED	**Selcall:** The color of flashing LED can be configured for a Selective Call from the FleetSync IDs configured in the ID List. **Paging Call:** The color of flashing LED can be configured for a Paging Call from the FleetSync IDs configured in the Individual ID List.

Operating the transceiver

-	-

Note

- To use **Alert LED**, **Selective Call Alert LED** needs to be enabled.

Configuration using FPU

Fleet, **ID**, **ID Name**, T**ype, Alert Tone (Selcall, Paging)**, **Alert LED (Selcall, Paging)** :
Edit > FleetSync > ID List

FleetSync - Status List

Type	■ Standard model ■ Basic model
Description	Status Message must be preconfigured in the transceiver using KPG-D3/ D3N prior to the transmission. A maximum of 90 statuses can be configured in the Status List.

Status List

Configuration	Description
Status	The status number can be configured. A status number can be configured in the range between 10 and 99.
Status Name	The status name can be configured. It is not easy to recognize the meaning of a status only by viewing a status number. In this case, a user can link the status number to a short message; hence, it can be easily understood. A maximum of 16 characters can be configured. If the status number is configured in the Status List, the Status Name appears when the transceiver receives a Status Message. If the transceiver receives a status that is not configured in the Status List, the status number appears on the transceiver display.
Transmit Inhibit	The permission or inhibition of transmission of status can be configured. The status for which **Transmit Inhibit** is enabled does not appear on the status selection display in Status Mode. In this case, a user cannot select a status for which **Transmit Inhibit** is enabled in Status Mode.
Alert Tone	The type of tone sounding from the transceiver can be configured for a received status number from the status numbers registered in the Status List.

Operating the transceiver	-	-
Note	• **Status Name**, **Transmit Inhibit** and **Alert Tone** can be configured if **Status** is preconfigured.	
Configuration using FPU	**Status**, **Status Name**, **Transmit Inhibit**, **Alert Tone** : Edit > FleetSync > Status List	

Sending and Receiving a Short Message (Short Data Call)

Type	■ Standard model ☐ Basic model	
Description	The description of this feature is the same as the feature with the same name in the DMR function.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	-	

Sending and Receiving a Status Message (Status Call)

Type	■ Standard model ☐ Basic model	
Description	The description of this feature is the same as the feature with the same name in the DMR function.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	-	

FleetSync - Target

Type	■ Standard model ■ Basic model
Description	**Fleet and ID (Target):** **Fleet** and **ID** (**Target**) are the target transceiver's FleetSync IDs used to send the following Status Messages and Short Messages. • **Power-on Status** • **Power-off Status** • A Status Message that is sent by selecting a status number or directly entering a status number after the transceiver enters Status Mode by pressing the **Status** button • A Status Message that is sent by selecting a status number or directly entering a status number after the transceiver enters Status Mode by a user selecting "Status" from Menu Mode • A Status Message that is sent by pressing any of the PF buttons having "Call 1" to "Call 6" allocated • A Short Message that is sent by entering a text string after the transceiver enters Short Message Mode by pressing the **Short Message** button. • A Short Message that is sent by entering a text string after the transceiver enters Short Message Mode by a user selecting "Short Message" from Menu Mode. **Fleet** and **ID** (**Target**) can be configured using KPG-D6/ D6N. The FleetSync ID of the base station that manages operations is normally configured. **Power-on Status:** **Power-on Status** allows the transceiver to send the selected Status Message when the transceiver is turned ON. Using the **Power-on Status**, the base station can recognize that the transceiver has been turned ON. The transceiver sends the message to the Target Fleet/ ID of the system to which the channel selected when the transceiver is turned ON belongs. **Power-off Status:** **Power-off Status** allows the transceiver to send the selected Status Message when the transceiver is turned OFF. Using the **Power-off Status**, the base station can recognize that the transceiver has been turned OFF. The transceiver sends the message to the Target Fleet/ ID of the system to which the channel selected when the transceiver is turned OFF belongs.
Operating the transceiver	- | -
Note	• In **Power-on Status**, If **Transceiver Password** is used at the same time, a Status Message is sent when the transceiver is turned ON and the transceiver migrates from Transceiver Password Mode to user mode.
Configuration using FPU	**Fleet**, **ID**, **Power-on Status**, **Power-off Status** : Edit > FleetSync > Target > Fleet **Transceiver Password** : Edit > Optional Features > Optional Features 1 > Common 1

GTC Count

Type	■ Standard model ■ Basic model	
Description	**GTC Count** is the number of GTC message transmissions by the transmitting transceiver through a single GTC transmission. GTC (Go to Channel) refers to a message sent through the voice channel for the transmitting transceiver to guide the receiving transceiver to the data channel. The transmitting transceiver will migrate to the data channel after transmitting the GTC if the Status, Short Message is configured. When the receiving transceiver receives the GTC, it automatically migrates to the data channel and stands by to receive the data.	
Operating the transceiver	-	-
Note	• The receiving transceiver waits to receive the Status, Short Message after the receiving transceiver migrates to the data channel. The transceiver restores the voice channel if the transceiver does not receive the acknowledgment within the time configured for **Maximum ACK Wait Time**. • The transmitting transceiver sends the Status, Short Message and waits to receive the acknowledgment after the transmitting transceiver migrates to the data channel. The transceiver restores the voice channel if the transceiver does not receive the acknowledgment within the time configured for **Maximum ACK Wait Time**.	
Configuration using FPU	**GTC Count** : Edit > FleetSync > Parameter **Maximum ACK Wait Time** : Edit > FleetSync > Parameter	

Setting the maximum number of times resending FleetSync/MDC-1200 data (**Number of Retries**)

Type	■ Standard model ■ Basic model	
Description	If the transceiver does not receive the acknowledgment after the transceiver sends data and the time configured for **Maximum ACK Wait Time** elapses, the transceiver resends data. Number of Retries is the number of times for the transceiver to resend data. A smaller number can be configured if there is good communicating conditions, and a larger number can be configured if there are inferior communicating conditions.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Number of Retries** : Edit > FleetSync > Parameter Edit > MDC-1200 > Parameter **Maximum ACK Wait Time** : Edit > FleetSync > Parameter Edit > MDC-1200 > Parameter	

Transmit Busy Wait Time

Type	■ Standard model ■ Basic model	
Description	The transceiver confirms that the traffic channel is available before sending data and then starts sending data when the channel is available. **Transmit Busy Wait Time** is the duration to wait for the traffic channel to become available. A transmission is canceled when the channel is busy and the Transmit Busy Wait Time elapses.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Transmit Busy Wait Time** : Edit > FleetSync > Parameter	

Maximum ACK Wait Time

Type	■ Standard model ■ Basic model	
Description	**Maximum ACK Wait Time** is the length of time that the transceiver stands by to receive the acknowledgment after the transceiver sends data. If the transceiver does not receive the acknowledgment within the time configured for Maximum ACK Wait Time, the transceiver resends data.	
Operating the transceiver	-	-
Note	• In FleetSync, It is also used for the standby time interval in the data channel upon moving to the data channel using GTC. • In FleetSync, The receiving transceiver stands by to receive the next data for the time configured for **Maximum ACK Wait Time** after receiving the previous data.	
Configuration using FPU	**Maximum ACK Wait Time** : Edit > FleetSync > Parameter Edit > MDC-1200 > Parameter	

ACK Delay Time

Type	■ Standard model ■ Basic model	
Description	**ACK Delay Time** is the length of time from when the transceiver receives data until the transceiver sends the acknowledgment. In FleetSync, **ACK Delay Time** must be shorter than **Maximum ACK Wait Time** configured for the transmitting transceiver.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**ACK Delay Time** : Edit > FleetSync > Parameter Edit > MDC-1200 > Parameter **Maximum ACK Wait Time** : Edit > FleetSync > Parameter	

Transmit Delay Time (Receive Capture)

Type	■ Standard model ■ Basic model	
Description	**Transmit Delay Time (Receive Capture)** is the time for transmitting the unmodulated signal when the transceiver sends out the first data. When the transmitting transceiver has sent out the unmodulated signal, the receiving transceiver pauses scanning and shifts to a state to ensure receipt of the data. It is used to ensure that the receiving party receives the data in such cases when Scan or Battery Saver is currently in use by the receiving transceiver.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Transmit Delay Time (Receive Capture)** : Edit > FleetSync > Parameter	

Data Preamble Extension Time

Type	■ Standard model ■ Basic model	
Description	**Data Preamble Extension Time** allows you to configure the duration of preamble data to be added between 2 blocks when the transceiver transmits. This value is used when the transceiver is in the Transparent data communications mode.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Data Preamble Extension Time** : Edit > FleetSync > Parameter	

Random Access (Contention)

Type	■ Standard model ■ Basic model	
Description	**Random Access (Contention)** allows the transceiver to randomize the transmission start time for each transceiver to send data when the channel becomes available. If a large number of transceivers begin transmitting immediately after the channel becomes available, transmission contention may occur. This function prevents this contention.	
Operating the transceiver	-	-
Note	• **Random Access (Contention)** time varies according to the configuration value in **Baud Rate**.	
Configuration using FPU	**Random Access (Contention)** : Edit > FleetSync > Parameter **Baud Rate** : Edit > FleetSync > General 1	

Transparent Function

Type	■ Standard model ■ Basic model	
Description	Transparent is the function that allows data communications using the FleetSync protocol. This function can be used by connecting a PC, card reader or telemetry devices to the transceiver. Using this function, the transceiver can send or receive data without limiting the data type. This function can be used without operating the transceiver. All operations are controlled by data from other devices. Using this function, a PC connected to the receiving transceiver can decode the transmitted bar-code data, for instance, while the bar-code reader is connected to a PC on the transmitting transceiver to transmit the bar-code data. Data communications using Transparent can be used to send or receive the ASCII characters of 0x00 to 0xFF without any restriction. In addition, data communications using Transparent supports baud rates of 1200 bps, 2400 bps, 4800 bps, 9600 bps and 19200 bps.	
Operating the transceiver	-	-
Note	• To use this function, “Transparent” must be assigned to the communication port connecting the transceiver and an external device by using KPG-D6/ D6N.	
Configuration using FPU	**Data Preamble Extension Time** : Edit > FleetSync > Parameter **Function**, **Stop Bit**, **Baud Rate** : Edit > External Device **Transparent Header** : Edit > External Device > Serial Output **Transparent on Data Zone-Channel** : Edit > FleetSync > Parameter	

Making an Individual Call (Individual Call)

Type	■ Standard model ■ Basic model	
Description	The description of this feature is the same as the feature with the same name in the DMR function.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	-	

Making a Group Call (Group Call)

Type	■ Standard model ■ Basic model	
Description	The description of this feature is the same as the feature with the same name in the DMR function.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Fleet**, **ID**, **ID Name**, **Type**, **Alert Tone (Selcall, Paging)**, **Alert LED (Selcall, Paging)** : Edit > FleetSync > ID List **ID Type**, **ID**, **Fleet ID**, **Group ID**, **ID Name**, **ACK Request**, **Alert Tone (Selcall, Call Alert)**, **Alert LED (Selcall, Call Alert)** : Edit > MDC-1200 > ID List	

Making a Group Call (Group ID (List))

Type	■ Standard model ■ Basic model	
Description	The description of this feature is the same as the feature with the same name in the DMR function.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	-	

Setting the maximum number of times resending FleetSync/MDC-1200 data (**Number of Retries**)

Type	■ Standard model ■ Basic model	
Description	If the transceiver does not receive the acknowledgment after the transceiver sends data and the time configured for **Maximum ACK Wait Time** elapses, the transceiver resends data. Number of Retries is the number of times for the transceiver to resend data. A smaller number can be configured if there is good communicating conditions, and a larger number can be configured if there are inferior communicating conditions.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Number of Retries** : Edit > FleetSync > Parameter Edit > MDC-1200 > Parameter **Maximum ACK Wait Time** : Edit > FleetSync > Parameter Edit > MDC-1200 > Parameter	

Maximum ACK Wait Time

Type	■ Standard model ■ Basic model	
Description	**Maximum ACK Wait Time** is the length of time that the transceiver stands by to receive the acknowledgment after the transceiver sends data. If the transceiver does not receive the acknowledgment within the time configured for Maximum ACK Wait Time, the transceiver resends data.	
Operating the transceiver	-	-
Note	• In FleetSync, It is also used for the standby time interval in the data channel upon moving to the data channel using GTC. • In FleetSync, The receiving transceiver stands by to receive the next data for the time configured for **Maximum ACK Wait Time** after receiving the previous data.	
Configuration using FPU	**Maximum ACK Wait Time** : Edit > FleetSync > Parameter Edit > MDC-1200 > Parameter	

ACK Delay Time

Type	■ Standard model ■ Basic model	
Description	**ACK Delay Time** is the length of time from when the transceiver receives data until the transceiver sends the acknowledgment. In FleetSync, **ACK Delay Time** must be shorter than **Maximum ACK Wait Time** configured for the transmitting transceiver.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**ACK Delay Time** : Edit > FleetSync > Parameter Edit > MDC-1200 > Parameter **Maximum ACK Wait Time** : Edit > FleetSync > Parameter	

MDC-1200 - ID List

Type: ■ Standard model ■ Basic model

Description:

If making Selective Calls, the desired MDC-1200 IDs need to be preconfigured in the transceiver using KPG-D6/D6N prior to use of the transceiver. A maximum of 1,000 MDC-1200 IDs can be configured in the ID List.

ID List

Configuration	Description
ID Type	The call type can be configured by selecting one of the four options: “Individual Call”, “Group Call”, “Fleet Call” or “All Call”. The configurable IDs vary as follows depending on the **ID Type** configuration. **Individual Call:** Only ID can be configured. **Group Call:** Only Fleet ID and Group ID can be configured. **Fleet Call:** Only Fleet ID can be configured. **All Call:** ID, Fleet ID and Group ID cannot be configured.
ID	An ID can be configured in the range between 0001 and DFFF.
Fleet ID	A Fleet ID can be configured in the range between 0 and F.
Group ID	A Group ID can be configured in the range between 00 and FF.
ID Name	The caller’s ID Name is configured. A maximum of 14 characters can be configured for the ID Name. If the ID Name of the transmitting transceiver is configured in the ID List, the ID Name of the transmitting transceiver appears when the transceiver receives a Selective Call.
ACK Request	When **ACK Request** is enabled, a response from the receiving transceiver can be requested when sending a Call Alert. The transceiver waits for response from the receiving transceiver after sending a Call Alert. If a response is not received from the receiving transceiver after the time interval configured in **Maximum ACK Wait Time** has elapsed, a Call Alert will be sent out for a number of times as configured in **Number of Retries**.
Alert Tone	**Selcall:** The type of tone to be sounded from the transceiver can be configured for a Selective Call from an MDC-1200 ID configured in the ID List. **Call Alert:** The type of tone to be sounded from the transceiver can be configured for a Call Alert from an MDC-1200 ID configured in the ID List.
Alert LED	**Selcall:** The color of the flashing LED can be configured for a Selective Call from an MDC-1200 ID configured in the ID List. **Call Alert:** The color of the flashing LED can be configured for a Call Alert from an MDC-1200 ID configured in the ID List.

Operating the transceiver	-	-
Note	• To use **Alert LED**, **Selective Call Alert LED** needs to be enabled.	
Configuration using FPU	**ID Type**, **ID**, **Fleet ID**, **Group ID**, **ID Name**, **ACK Request**, **Alert Tone (Selcall, Call Alert)**, **Alert LED (Selcall, Call Alert)** : Edit > MDC-1200 > ID List	

Own ID (MDC-1200)

Type	■ Standard model ■ Basic model	
Description	To initiate various communications using MDC-1200, a Unit ID, a Group ID and Global ID of a transceiver, needs to be configured for the transceiver. MDC-1200 communication uses a 4-digit Unit ID (000 to EEE) and a 3-digit Group ID (100 to 349).	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Unit ID**, **Group ID**, **Global ID** : Edit > Zone Information > Zone Edit - Conventional Group > ID (Own) > MDC-1200	

PTT ID (MDC-1200)

Type	■ Standard model ■ Basic model	
Description	PTT ID with QT/DQT is a function that alters the timing of QT/DQT encode when sending the PTT ID of the MDC-1200. Disabling PTT ID with QT/DQT stops sounding of the MSK transmission tone from the speaker of the receiving transceiver. **When "BOT" is configured in PTT ID:** When PTT ID with QT/DQT is disabled, QT/DQT will not be encoded until MSK transmission is complete. For this reason, an MSK transmission tone is not sounded from the speaker of the receiving transceiver. **When "EOT" is configured in PTT ID:** When PTT ID with QT/DQT is disabled, QT/DQT will be encoded before MSK transmission.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**PTT ID with QT/DQT** : Edit > MDC-1200 > General 1	

Checking Whether Another Transceiver Is in Operation (**Radio Check**)

Type	■ Standard model ■ Basic model	
Description	**Radio Check** is the function that is used to confirm whether the transceiver is available for communications. The transceiver sends an acknowledgment to the system if the transceiver receives a Radio Check Packet in the MDC-1200 format sent from the system and the received ID matches the ID preconfigured for the transceiver. The system can determine whether or not the transceiver is available for communications by receiving this acknowledgment.	
Operating the transceiver	-	-
Note	• If Radio Inhibit mode and **Radio Check** is enabled, Radio Check packet still can received and decoded by transceiver, then the acknowledgment of Radio Check is sent automatically to base station, However, Red LED will not blink. • When transceiver received radio check, the channel cannot be changed before the acknowledgment is sent, and **PTT** switch pressed will not perform any transmitting action. This setting is used only in the MDC-1200 zone.	
Configuration using FPU	**Radio Check** : Edit > MDC-1200 > General 1	

Disabling the Transceiver Capability by Remote Control (**Radio Inhibit**)

Type	■ Standard model ■ Basic model	
Description	**Radio Inhibit** is the function that is used to disable the transceiver capability by remote control. This function allows a system administrator to remotely disable the transceiver, for instance, if the transceiver is lost. The transceiver which has been disabled by this function can be enabled to be usable again by remote control from an external device using radio communication.	
Operating the transceiver	-	-
Note	• When received a MDC-1200 Radio Inhibit command and transceiver goes to Radio Inhibit mode, an acknowledgment of **Radio Inhibit** will be sent automatically, but the Green LED will blink, LCD and backlight will be off. • After transceiver enter Radio Inhibit state, all operations are blocked except reading data from transceiver. • Radio Inhibit mode can be cancelled by KPG-D6/D6N with Service License ID or higher. • This setting is used only in the MDC-1200 zone.	
Configuration using FPU	**Radio Inhibit** : Edit > MDC-1200 > General 1	

Single Selcall

Type	■ Standard model ■ Basic model	
Description	The description of this feature is the same as the feature with the same name in the DMR function.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Single Selcall** : Edit > MDC-1200 > General 1	

Sending a DTMF Code by Selecting from a List **(Autodial List)**

Type	■ Standard model ■ Basic model	
Description	The DTMF code configured in Autodial List can be selected and sent. The transceiver can enter Autodial Mode and the DTMF codes can be selected using one of the following operations: **PF_BTN[Autodial] :** Pressing the PF_BTN[Autodial] places the transceiver in Autodial Mode. **PF_BTN[Menu] :** Pressing the PF_BTN[Menu] to enter Menu Mode and then selecting “Autodial” places the transceiver in Autodial Mode. **Keypad entry:** If “Autodial” is configured in **Keypad Operation**, pressing a button on the keypad causes the transceiver to enter Shortcut Entry Mode for Autodial Mode.	
Operating the transceiver		• Press the PF_BTN[Autodial]. • Press the **[< B]** or **[C >]** button to select the DTMF code to be sent from the Autodial List.
Note	-	
Configuration using FPU	**DTMF Name, Code** : Edit > DTMF > Autodial List **Button Assignment** : Edit	

DTMF Speed

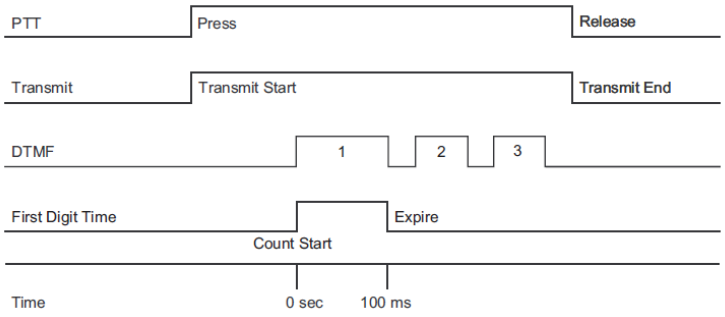
Type	■ Standard model ■ Basic model
Description	**DTMF Speed** is the speed to send out the DTMF codes. Transmission speed of the DTMF code can be configured by entering the number of digits to be sent per second. The transceiver sends the DTMF code at the configured speed. The number of digits of the DTMF code to be sent per second can be selected from 6, 8, 10, or 15 by using KPG-D6/ D6N. The following are durations for Digit Time (transmission duration) and Gap Time (silent duration) depending on the selected value. **Busy Channel Lockout**

Range	Digit Time (Transmission Duration)	Gap Time (Silent Duration)
6 digits/sec	84 ms	84 ms
8 digits/sec	62 ms	62 ms
10 digits/sec	50 ms	50 ms
15 digits/sec	34 ms	34 ms

Operating the transceiver	-	-
Note	-	
Configuration using FPU	**DTMF Speed** : Edit > DTMF > Encode	

First Digit Time

Type	■ Standard model ■ Basic model
Description	**First Digit Time** is the function to extend the length of time to send the first digit of the DTMF code when the transceiver starts sending the DTMF code. Extending the transmission time of the first digit of the DTMF code helps the receiving transceiver easily recognize the incoming DTMF code in order to avoid failure in receiving the DTMF code while the transceiver is in the battery saver mode or scanning. The length of time to send the first digit of the DTMF code is the sum of the transmission time configured in DTMF Speed and the **First Digit Time**. **Transmission time for the 1st digit of DTMF = value configured in DTMF Speed (Digit Time) + value configured in First Digit Time** Example: First Digit Time: 100 ms, Encode Code: 123



First Digit Time

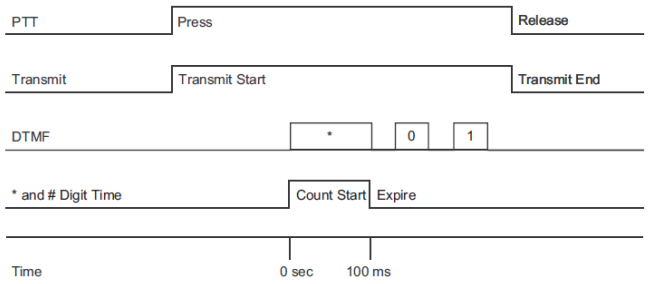
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**First Digit Time** : Edit > DTMF > Encode	

First Digit Delay Time

Type	■ Standard model ■ Basic model
Description	**First Digit Delay Time** is the length of time from when the transceiver starts transmitting until the transceiver starts sending the first digit of the DTMF code. The transceiver transmits an unmodulated signal until the length of time configured in **First Digit Delay Time** elapses.

Operating the transceiver	-	-
Note	-	
Configuration using FPU	**First Digit Delay Time** : Edit > DTMF > Encode	

* and # Digit time

Type	■ Standard model ■ Basic model	
Description	*** and # Digit Time** is the function to extend the transmission time for the * tone and # tone of when the DTMF code is sent out. Since * tone and # tone are more frequently used for special tasks than 0 to 9 tones, this function is used for the receiving transceiver to easily recognize the incoming DTMF code. The length of time to transmit the * tone and # tone is the sum of the transmission time configured in **DTMF Speed** and the *** and # Digit Time**. **Transmission time for the * tone and # tone of DTMF = value configured in DTMF Speed (Digit Time) + value configured in * and # Digit Time** Example: * and # Digit Time: 100 ms, Encode Code: *01  *** and # Digit Time**	
Operating the transceiver	-	-
Note	• If the first digit of the DTMF code is the * tone or # tone, the transceiver compares the extension time configured in **First Digit Time** with the extension time configured in * and # Digit Time, and uses the longer extension time to send the first digit.	
Configuration using FPU	*** and # Digit Time** : Edit > DTMF > Encode	

D Code Assignment

Type	■ Standard model ■ Basic model	
Description	**D Code Assignment** is the function to select whether the D Code is used for the D tone of DTMF or a dialing pause (unmodulated transmission).	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**D Code Assignment** : Edit > DTMF > Encode	

2-tone

Type	■ Standard model ■ Basic model	
Description	2-tone signaling uses a pair of 2 different tone frequencies in series for an individual call. 2-tone is a signaling system that can receive a signal with squelch disabled only when 2 tone signals in series sent from the transmitting transceiver match the tone signals preconfigured for the receiving transceiver. 2-tone consists of 2 tone signals in series with 2 different frequencies within the frequency range between 288.5 Hz and 3106.0 Hz. These 2 tone signals are sent in series with the carrier wave.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**2-tone** : Edit > 2-tone	

Other Functions in Emergency Mode (**Emergency Channel Lock**)

Type	■ Standard model ■ Basic model	
Description	The description of this feature is the same as the feature with the same name in the DMR function.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	-	

Zone-channel Functioning in Emergency Mode (**Emergency Channel Type**)

Type	■ Standard model ■ Basic model	
Description	The description of this feature is the same as the feature with the same name in the DMR function.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	-	

Automatically Transmitting and Receiving in Emergency Mode (**Emergency Cycle**)

Type	■ Standard model ■ Basic model	
Description	The description of this feature is the same as the feature with the same name in the DMR function.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	-	

Indication and Sound in Emergency Mode (**Emergency Display**)

Type	■ Standard model ☐ Basic model	
Description	The description of this feature is the same as the feature with the same name in the DMR function.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	-	

Emergency ID (Analog) (DTMF (Emergency Button))

Type	■ Standard model ■ Basic model	
Description	This function allows the user to configure a DTMF Code to be sent at the beginning of a transmission while the transceiver is placed in Emergency Mode by pressing **Emergency** button. The transceiver transmits this code at the beginning of transmitting during automatic transmission in Emergency Mode.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Emergency ID**, **Emergency Button** : Edit > Emergency Information > Profiles > Page 1 > Emergency ID (Analog) > DTMF ID **Emergency ID, ID Type** : Edit > Emergency Information > Profiles > Page 1 > Emergency ID (Analog) **Emergency** button : Edit > Button Assignment > Side (Hold Function)	

Emergency ID (Analog) (DTMF (Lone Worker))

Type	■ Standard model ■ Basic model	
Description	This function allows the user to configure a DTMF Code to be sent at the beginning of a transmission while the transceiver is placed in Emergency Mode by Lone Worker detecting an emergency state. The transceiver transmits this code at the beginning of TX during automatic transmission in Emergency Mode.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Emergency ID**, **Lone Worker** : Edit > Emergency Information > Profiles > Page 1 > Emergency ID (Analog) > DTMF ID **Emergency ID**, **ID Type** : Edit > Emergency Information > Profiles > Page 1 > Emergency ID (Analog)	

Emergency ID (Analog) (FleetSync (Fleet/ID))

Type	■ Standard model ■ Basic model	
Description	Specifies the destination transceiver's FleetSync Fleet Number and ID used during emergency call transmissions. The transceiver encodes the FleetSync Emergency Status "99" with the FleetSync ID code during emergency call transmissions.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Emergency ID**, **FleetSync (Fleet, ID)** : Edit > Emergency Information > Profiles > Page 1 > Emergency ID (Analog) > FleetSync **Emergency ID**, **ID Type** : Edit > Emergency Information > Profiles > Page 1 > Emergency ID (Analog)	

Emergency ID (Analog) (ID Type)

Type: ■ Standard model ■ Basic model

Description: **Emergency ID (Analog) (ID Type)** is used to select the signaling type (DTMF, FleetSync, MDC-1200) and the ID code to be sent each time the transceiver goes to automatic transmission in Emergency mode on Analog Conventional Channel.

Busy Channel Lockout

Configuration	Description
None	The transceiver does not transmit its identification. No ID is transmitted in Emergency Mode. Transmission/receiving is based on QT/DQT setting of particular channel setting.
DTMF	The transceiver transmits the Emergency DTMF ID. The transceiver encodes an Emergency DTMF ID with the Emergency transmission. The "Emergency DTMF ID" must be programmed in the Emergency fields using the KPG-D6/D6N. DTMF ID can be set for each emergency activation factor (**Emergency Button**, **Lone Worker**).
FleetSync/MDC-1200	In FleetSync, the transceiver transmits the Emergency Fleet, the Emergency ID, and the Status "99". The transceiver encodes a FleetSync Emergency Status "99" with the Unit ID. The destination Fleet Number and ID Number must be programmed in the Emergency fields using the KPG-D6/D6N. In MDC-1200, the transceiver transmits the Emergency Alarm packet of MDC-1200 with own ID. After it turns to Emergency mode, the transceiver transmits the Emergency PTT ID packet with MDC-1200 own ID.

Operating the transceiver	-	-
Note	-	
Configuration using FPU	**Emergency ID**, **ID Type** : Edit > Emergency Information > Profiles > Page 1 > Emergency ID (Analog) **Emergency Alarm (MDC-1200)** : Edit > Emergency Information > General **Emergency Button** : Edit > Emergency Information > Profiles > Page 1 > Emergency ID (Analog) > DTMF ID **Lone Worker** : Edit > Emergency Information > Profiles > Page 1 > Emergency ID (Analog) > DTMF ID **FleetSync (Fleet, ID)** : Edit > Emergency Information > Profiles > Page 1 > Emergency ID (Analog) > FleetSync	

Automatically Transmitting and Receiving in Emergency Mode (**Emergency Microphone Sense**)

Type	■ Standard model ■ Basic model	
Description	The description of this feature is the same as the feature with the same name in the DMR function.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	-	

Emergency Mode (Placing the Transceiver in Emergency Mode Using the Lone Worker Function)

Type	■ Standard model ■ Basic model	
Description	The description of this feature is the same as the feature with the same name in the DMR function.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	-	

Configuration Related to Transmission and Reception in Emergency Mode (**Emergency Mode Type**)

Type	■ Standard model ■ Basic model	
Description	The description of this feature is the same as the feature with the same name in the DMR function.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	-	

Configuration Related to Transmission and Reception in Emergency Mode (**Emergency Profile**)

Type	■ Standard model ■ Basic model	
Description	The description of this feature is the same as the feature with the same name in the DMR function.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	-	

Emergency Response (Alert Tone Number)

Type	■ Standard model ■ Basic model	
Description	**Emergency Response (Alert Tone Number)** is configured whether the Alert Tone which sounds from the transceiver upon receipt of an Emergency Alarm Request in the MDC-1200 format. The desired tone is selected from 8 different types of tone configured in **Special Alert Tone**.	
Operating the transceiver	-	-
Note	• This function can be configured if **Alert Tone** is enabled. • When an Emergency PTT ID is received, Alert Tone is not sound. • During Emergency Mode, Emergency Response will not work even if Emergency Call is received.	
Configuration using FPU	**Alert Tone Number** : Edit > MDC-1200 > General 1 > Emergency Response **Alert Tone** : Edit > MDC-1200 > General 1 > Emergency Response **Special Alert Tone** :Edit	

Emergency Response (Alert Tone)

Type	■ Standard model ■ Basic model	
Description	**Emergency Response (Alert Tone)** is configured whether the transceiver emits an Alert Tone upon receipt of an Emergency call in the MDC-1200 format. A user can recognize by this Alert Tone that the transceiver has received an Emergency call. **Emergency Response (Alert Tone)** Configuration: Enabled — An Alert Tone will sound upon receipt of an MDC-1200 Emergency command. Configuration: Disabled — The radio will not sound tone when received a MDC-1200 Emergency command.	
Operating the transceiver	-	-
Note	• When an Emergency PTT ID is received, Alert Tone is not sound. • During Emergency Mode, Emergency Response will not work even if Emergency Call is received.	
Configuration using FPU	**Alert Tone** : Edit > MDC-1200 > General 1 > Emergency Response	

Emergency Response (LCD)

Type	■ Standard model ☐ Basic model	
Description	**Emergency Response (LCD)** is configured whether the received ID appears on the transceiver main display upon receipt of an Emergency call in the MDC-1200 format. A user can recognize that the transceiver has received an Emergency call by viewing the LCD. **Emergency Response (LCD)** Configuration: Enabled — The caller ID will be displayed on the LCD when received a MDC-1200 Emergency command. Configuration: Disabled — The caller ID will not be displayed on the LCD when received a MDC-1200 Emergency command.	
Operating the transceiver	-	-
Note	• The transceiver does not transmit ACK even if it receives Emergency Alarm. • During Emergency Mode, Emergency Response will not work even if Emergency Call is received.	
Configuration using FPU	**LCD** : Edit > MDC-1200 > General 1 > Emergency Response	

Indication and Sound in Emergency Mode (**Emergency Text/ Text**)

Type	■ Standard model ☐ Basic model	
Description	The description of this feature is the same as the feature with the same name in the DMR function.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	-	

Automatically Transmitting and Receiving in Emergency Mode (**Locator Tone at TX-start/ Locator Tone at TX-end**)

Type	■ Standard model ■ Basic model	
Description	The description of this feature is the same as the feature with the same name in the DMR function.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	-	

Automatically Transmitting and Receiving in Emergency Mode (**Background Tone Transmission**)

Type	■ Standard model ■ Basic model	
Description	The description of this feature is the same as the feature with the same name in the DMR function.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	-	

Indication and Sound in Emergency Mode (**TX/RX LED in Emergency**)

Type	■ Standard model ■ Basic model	
Description	The description of this feature is the same as the feature with the same name in the DMR function.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	-	

Zone-channel Functioning in Emergency Mode (**Emergency Zone-Channel**)

Type	■ Standard model ■ Basic model	
Description	The description of this feature is the same as the feature with the same name in the DMR function.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	-	

Automatically Transmitting and Receiving in Emergency Mode (**Receive Duration**)

Type	■ Standard model ■ Basic model	
Description	The description of this feature is the same as the feature with the same name in the DMR function.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	-	

Automatically Transmitting and Receiving in Emergency Mode (**Transmit Duration**)

Type	■ Standard model ■ Basic model	
Description	The description of this feature is the same as the feature with the same name in the DMR function.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	-	

Automatically Transmitting and Receiving in Emergency Mode (**Remain Surveillance Mode**)

Type	■ Standard model ■ Basic model	
Description	The description of this feature is the same as the feature with the same name in the DMR function.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	-	

About Communication Security (**Encryption**)

Type	■ Standard model ■ Basic model	
Description	The description of this feature is the same as the feature with the same name in the DMR function.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	-	

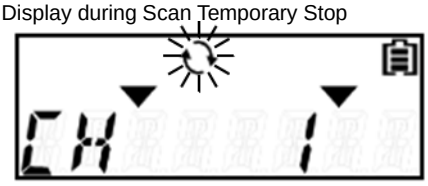
Using Scan (Scan)

Type	■ Standard model ■ Basic model	
Description	The description of this feature is the same as the feature with the same name in the DMR function.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	-	

Using Scan (**Scan Type**)

Type	■ Standard model ■ Basic model	
Description	The description of this feature is the same as the feature with the same name in the DMR function.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	-	

Scanning All Target Zones for Scanning (**Multi Scan**)

Type	■ Standard model ■ Basic model	
Description	In an Analog Conventional system, by using Multi-Zone Scan, the transceiver can scan all channels to be scanned in the target zones. If a scan starts in the zone where “Multi-Zone” is configured in **Scan Type**, Multi-Zone Scan is executed. Or, if the transceiver migrates during the scan to the zone where “Multi-Zone” is configured in **Scan Type**, Multi-Zone Scan is executed.	
Operating the transceiver	Display during Scan Temporary Stop  Display during Scan Off 	Transceiver behavior : • The icon blinks while paused. • The Scan LED is turned off. • Press the PF_BTN[Scan]. Transceiver behavior : • Tone B sounds and scan is ended. • Scan icon is turned off. • Selected channel is displayed. • The Scan LED is turned off.
Note	-	
Configuration using FPU	**Scan Type**, **Selected Channel Scan**, **Revert Channel Display**, **Scan LED** : Edit > Scan Information > Scan PF_BTN[Scan], PF_BTN[Menu] : Edit > Button Assignment > Side, Front **Scan Add** : Edit > Zone Information > Channel Edit > General	

Scanning the Specific Channel Preferentially (**Priority Scan**)

Type	■ Standard model ■ Basic model	
Description	The description of this feature is the same as the feature with the same name in the DMR function.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	-	

Scanning the Specific Channel Preferentially (**Priority Zone-Channel**)

Type	■ Standard model ■ Basic model	
Description	The description of this feature is the same as the feature with the same name in the DMR function.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	-	

Scanning the Specific Channel Preferentially (**Priority-channel Stop Tone**)

Type	■ Standard model ■ Basic model	
Description	The description of this feature is the same as the feature with the same name in the DMR function.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	-	

Scanning the Specific Channel Preferentially (Priority Scan) (**Lookback**/ **Lookback Time A**/ **Lookback Time B**)

Type	■ Standard model ■ Basic model	
Description	The description of this feature is the same as the feature with the same name in the DMR function.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	-	

Scan Function (**Dropout Delay Time**)

Type	■ Standard model ■ Basic model	
Description	The description of this feature is the same as the feature with the same name in the DMR function.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	-	

Scan Function (**Dwell Time**)

Type	■ Standard model ■ Basic model	
Description	The description of this feature is the same as the feature with the same name in the DMR function.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	-	

Scan Function (**Power-on Scan**)

Type	■ Standard model ■ Basic model	
Description	The description of this feature is the same as the feature with the same name in the DMR function.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	-	

Scan Function (**Revert Channel**)

Type	■ Standard model ■ Basic model	
Description	The description of this feature is the same as the feature with the same name in the DMR function.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	-	

Scan Function (**Revert Channel Display**)

Type	■ Standard model ☐ Basic model	
Description	The description of this feature is the same as the feature with the same name in the DMR function.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	-	

Scan Function (**Scan LED**)

Type	■ Standard model ■ Basic model	
Description	The description of this feature is the same as the feature with the same name in the DMR function.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	-	

Scan Function (**Scan Stop Tone**)

Type	■ Standard model ■ Basic model	
Description	The description of this feature is the same as the feature with the same name in the DMR function.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	-	

Scan Function (**Selected Channel Scan**)

Type	■ Standard model ■ Basic model	
Description	The description of this feature is the same as the feature with the same name in the DMR function.	
Operating the transceiver	-	-
Note	-	
Configuration using FPU	-	