KENWOOD

NX-1000 series

USER MANUAL

JVCKENWOOD Corporation

B5A-4225-00/02_EN

CONTENTS

MODELS COVERED BY THIS MANUAL

The models listed below are covered by this manual:

NXDN/ Analog Transceiver

NX-1700HNV	VHF TRANSCEIVER	K type
NX-1700HN	VHF TRANSCEIVER	K type
NX-1700N	VHF TRANSCEIVER	E type
NX-1700N-C	VHF TRANSCEIVER	C type
NX-1800HNU	UHF TRANSCEIVER	K type
NX-1800HN	UHF TRANSCEIVER	K type
NX-1800N	UHF TRANSCEIVER	E type
NX-1800N-C	UHF TRANSCEIVER	C type

DMR/ Analog Transceiver

NX-1700HDV	VHF TRANSCEIVER	K type
NX-1700HD	VHF TRANSCEIVER	K type
NX-1700D	VHF TRANSCEIVER	E type
NX-1700D-C	VHF TRANSCEIVER	C type
NX-1800HDU	UHF TRANSCEIVER	K type
NX-1800HD	UHF TRANSCEIVER	K type
NX-1800D	UHF TRANSCEIVER	E type
NX-1800D-C	UHF TRANSCEIVER	C type

Analog Transceiver

NX-1700HAV	VHF TRANSCEIVER	K type
NX-1700HA	VHF TRANSCEIVER	K type
NX-1700A	VHF TRANSCEIVER	E type
NX-1800HAU	UHF TRANSCEIVER	K type
NX-1800HA	UHF TRANSCEIVER	K type
NX-1800A	UHF TRANSCEIVER	E type

WARNING

Various electronic equipment in your vehicle may malfunction if they are not properly protected from the radio frequency energy which is present while transmitting. Typical examples include electronic fuel injection, anti-skid braking, and cruise control. If your vehicle contains such equipment, consult the dealer for the make of vehicle and enlist his/her aid in determining if they will perform normally while transmitting.

CONNECTING THE POWER CABLE

CAUTION

The transceiver operates in 12 V negative ground systems only! Check the battery polarity and voltage of the vehicle before installing the transceiver.

1 Check for an existing hole, conveniently located in the firewall, where the power cable can be passed through.
- If no hole exists, use a circle cutter to drill a hole, then install a rubber grommet.

2 Run the power cable through the firewall and into the engine compartment.

3 Connect the red lead to the positive (+) battery terminal and the black lead to the negative (–) battery terminal.
- Place the fuse as close to the battery as possible.

4 Coil the surplus cable and secure it with a retaining band.
- Be sure to leave enough slack in the cables so the transceiver can be removed for servicing while keeping the power applied.

INSTALLING THE TRANSCEIVER

WARNING

For passenger safety, install the transceiver securely using the supplied or optional mounting bracket and screw set so the transceiver will not break loose in the event of a collision.

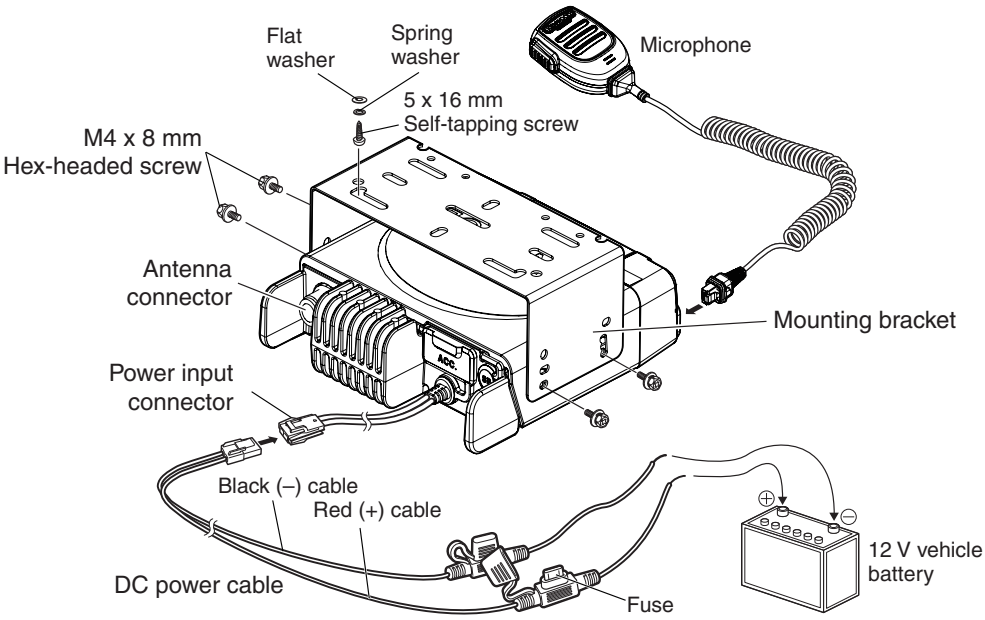
Note:

- Before installing the transceiver, check how far the mounting screws will extend below the surface. When drilling mounting holes, be careful not to damage vehicle wiring or parts.

1. Mark the position of the holes in the dash, using the mounting bracket as a template. Using a 4.2 mm (5/32 inch) drill bit, drill the holes, then attach the mounting bracket using the supplied screws.
   - Mount the transceiver within easy reach of the user and where there is sufficient space at the rear of the transceiver for cable connections.
2. Connect the antenna and the supplied power cable to the transceiver.
3. Slide the transceiver into the mounting bracket and secure it using the supplied hex-headed screws.
4. Mount the microphone hanger in a location where it will be within easy reach of the user.
   - The microphone and microphone cable should be mounted in a place where they will not interfere with the safe operation of the vehicle.

CAUTION

When replacing the fuse in the DC power cable, be sure to replace it with a fuse of the same value. Never replace a fuse with one that is rated with a higher value.



OPTIONS

The following options are available for use with this transceiver.

Model Name	Product Name
KAS-20	AVL/DISPATCH Software
KCT-18	Ignition Sense Cable
KCT-23M	DC Cable (3 m)
KCT-36	Extension Cable
KCT-60	Connection Cable
KPG-46U	Programming Interface Cable (USB)
KPG-46X	Programming Interface Cable (USB)
KDI-03	DIN size Mounting Bracket (UK Options)
KES-5/ 5A	External Speaker
KES-8K	External Speaker (USA Options)
KLF-2	Line Noise Filter
KMB-10	Key Lock Adapter
KMB-34	Mounting case (For KPS-15/ USA AFCO Options)
KMC-9C	Desktop Microphone
KMC-53	Desktop Microphone
KMC-59C	Desktop Microphone (USA Options)
KMC-35	Microphone
KMC-36	Microphone with 12-Keypad
KMC-60	Microphone
KMC-62	Microphone with 16-Keypad
KMC-65	Microphone
KMC-66	Microphone with Keypad
KPS-15	DC Power Supply (USA AFCO Options)
KPS-16	DC Power Supply
GPS 15XL-W	GPS Module (Garmin)
GA25MCX	GPS Antenna (Garmin)

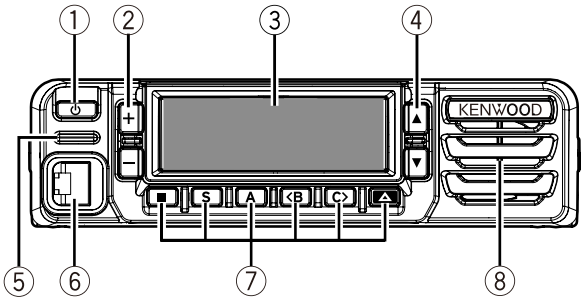
Model Name	Product Name
Software Options	
KWD-1200CA	NXDN CONVENTIONAL (for A)
KWD-1201CD	NXDN CONVENTIONAL (for D)
KWD-1202TD	NXDN TYPE-D TRUNKING
KWD-1300CA	DMR CONVENTIONAL (for A)
KWD-1301CN	DMR CONVENTIONAL (for N)
KWD-1500EE	ENHANCED ENCRYPTION (ARC4)
KWD-1501RC	REMOTE CONTROL

Note:

- Optional accessories for use with this transceiver may change, post-production. (New options may become available and/or current options may be discontinued.) Please refer to the options catalog(s) for applicable transceivers.

ORIENTATION

FRONT VIEW



① **[⏻] (Power) switch**

Press to switch the transceiver power ON or OFF.

② **[+]/ [-] buttons**

Press to activate their programmable functions.

Default	Press	Press and hold
+	Volume Up	Volume Up (Continuous)
–	Volume Down	Volume Down (Continuous)

③ **Display**

Refer to page 13.

④ **[▲]/ [▼] buttons**

Press to activate their programmable functions.

Default	Press	Press and hold
▲	Channel Up	Channel Up (Continuous)
▼	Channel Down	Channel Down (Continuous)

⑤ **Status Indicator**

Lights during a specified mode, based on dealer programming.

⑥ **Microphone jack**

Insert the microphone plug into this jack.

⑦ **[■]/ [S]/ [A]/ [<B]/ [C>]/ [△] buttons**

Press to activate their programmable functions.

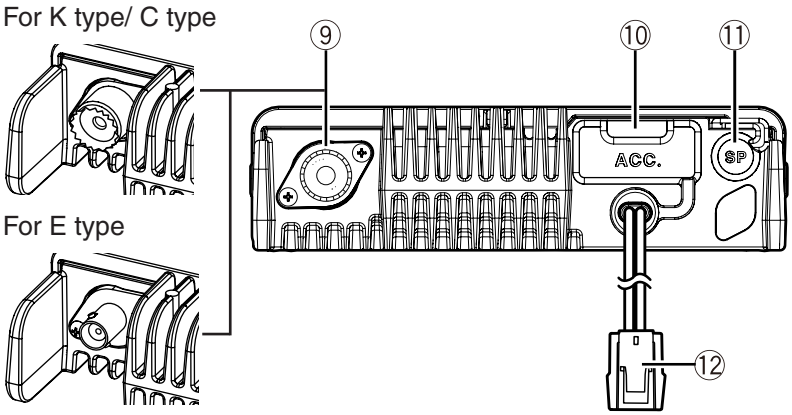
Default	Press	Press and hold
■/ S/ A/ △	None	None
<B	Zone Down	Zone Down (Continuous)

Default	Press	Press and hold
C>	Zone Up	Zone Up (Continuous)

⑧ **Speaker**

Internal speaker.

REAR VIEW



⑨ **Antenna connector**

Connect the antenna to this connector.

⑩ **ACC connector**

Connect the ACC to this connector, via the KCT-60.

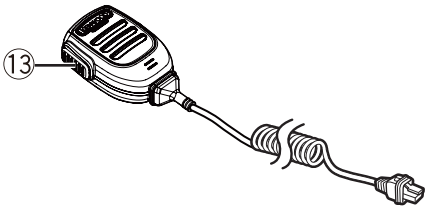
⑪ **External speaker jack**

Connect an external speaker to this jack.

⑫ **Power input connector**

Connect the DC power cable to this connector.

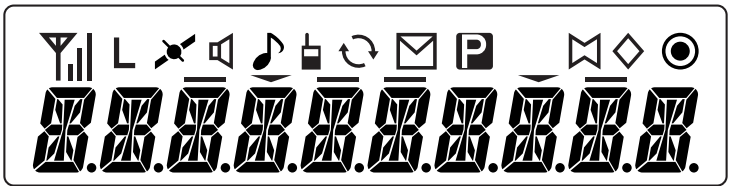
MICROPHONE



⑬ **PTT switch**

Press this switch, then speak into the microphone to call a station.

Display



Icon	Description
	Displays the signal strength. : Strong signal : Moderate signal : Weak signal : Very weak signal : No Carrier
L	The channel is using low transmit power.
	The GPS position is determined. Blinks when the GPS is unable to determine the position.
	The Monitor or Squelch Off function is activated.
	Blinks when an incoming call matches your Optional Signaling.
	The Talk Around function is activated.
	Scan, Priority Scan, or Site Roaming is in progress. Blinks when the scan is paused.
	A message is stored in the memory. Blinks when a new message is received.
P	Indicates Priority 1 or Priority 2 Channel.
	The Horn Alert function is activated.
	The Scrambler/ Encryption function is activated. Blinks when receiving an encrypted carrier.
	The Public Address function is activated.

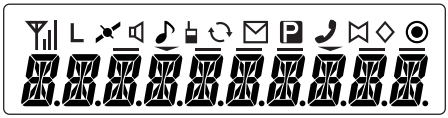
Icon	Description
	The Internal Speaker function is activated.
	The current zone is added to the Multi-Zone scanning sequence.
	The External Speaker function is activated.
	The AUX function is activated.
	The current channel is added to the scanning sequence.
	The Operator Selectable Tone function is activated.

BASIC OPERATIONS

SWITCHING POWER ON/ OFF

Press and hold [⏻] to switch the transceiver power ON.

- A beep sounds and the display illuminates.



- If the Power-on tone select is set to OFF, the beep will not sound.
- If the Transceiver Password function is programmed, “PASSWORD” will appear on the display. Refer to “Transceiver Password”, on {page 70}.

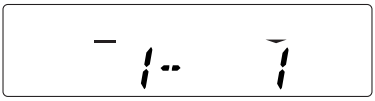
Press and hold [⏻] again to switch the transceiver power OFF.

ADJUSTING THE VOLUME

Press the buttons programmed as **[Volume Up]** button to increase the volume.
Press the buttons programmed as **[Volume Down]** button to decrease the volume.

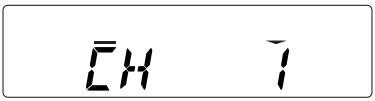
SELECTING A ZONE AND CHANNEL

1 Select the desired zone using the buttons programmed as **[Zone Up]**/ **[Zone Down]**.



- Each zone contains a group of channels.

2 Select the desired channel using the buttons programmed as **[Channel Up]**/ **[Channel Down]**.



- Each channel is programmed with settings for transmitting and receiving.
- The transceiver may have names programmed for zones and channels. The zone name and channel name can contain up to 10 characters respectively. While selecting a zone, the zone name appears for 2 seconds (if Zone Name Display is set), then channel name appears.

TRANSMITTING

1 Select the desired zone and channel.

2 Press the button programmed as **[Monitor]** or **[Squelch Off]** to check whether or not the channel is free.

- If the channel is busy, wait until it becomes free.

3 Press the **PTT** switch and speak to the microphone. Release the **PTT** switch to receive.

- The LED indicator lights red while transmitting and green while receiving a signal. This indicator can also be disabled by your dealer.
- For best sound quality, hold the transceiver approximately 3 ~ 4 cm (1.5 inches) from your mouth.
- In Site Roaming zones, the transceiver will search for the strongest signal repeater and transmit using that repeater's frequency.

Making Group Calls (NXDN/ DMR)

You can select a group ID from the list to make a call to those parties on a channel.

1 Press the button programmed as **[Group]**, **[Group + Short Message]** or **[Group + Status]** to enter Group Call Mode.

- Alternatively, press the button programmed as **[Menu]** to enter Group Call Mode using the Menu Mode.
- The group ID list appears on the display.

2 Press the **[<B]** and **[C>]** buttons to select a Group ID/ name from the list that has been programmed into your transceiver.

3 Press and hold the **PTT** switch to make the call.

- The " ♪ " indicator blinks. The Group name of the target transceiver are displayed.

- Speak to the microphone as you would during a normal call.

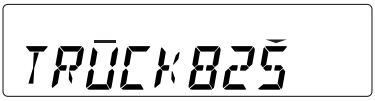
Making Individual Calls (NXDN/ DMR)

You can select a Unit ID/ name from the list to make a call to those parties on a channel.

1 Press the button programmed as **[Individual]**, **[Individual + Short Message]** or **[Individual + Status]** to enter Individual Call Mode.

- Alternatively, press the button programmed as **[Menu]** to enter Individual Call Mode using the Menu Mode.
- The ID list appears on the display.

2 Press the **[<B]** and **[C>]** buttons to select a Unit ID/ name from the list that has been programmed into your transceiver.



3 Press and hold the **PTT** switch to make the call.

- The " ♪ " indicator blinks. The ID name of the target transceiver are displayed.

- Speak to the microphone as you would during a normal call.

RECEIVING

1 Select the desired zone and channel. (If the Scan function has been programmed, you can switch it On or Off as desired.)

2 When you hear the caller's voice, readjust the volume as necessary.

- If signaling has been programmed on the selected channel, you will hear a call only if the signaling matches the signaling set up on your transceiver. Refer to "OPTIONAL SIGNALING" {page 78} for details.
- In Site Roaming zones, the transceiver will automatically search for the strongest signal and receive on that frequency.

Note:

◆ A ringing tone will sound when receiving a call if the alert tone has been enabled in the Alert Tone setting. For details, consult your dealer.

Receiving Group Calls (NXDN/ DMR)

When you receive a group call on a channel and the received group ID matches the ID set up on your transceiver, you can hear the caller's voice.

Receiving Individual Calls (NXDN/ DMR)

When you receive an individual call on a channel, a ringing tone will sound and the display will show the caller's ID.

ACCESSIBLE FUNCTIONS

FUNCTION MODE

Your transceiver operations vary according to the functions that your dealer has programmed to the transceiver buttons. Refer to “FUNCTIONS LIST” {page 21} for the available programmable functions.

MENU MODE

Many functions on this transceiver are selected or configured through the Menu instead of physical controls. Once you become familiar with the Menu system, you will appreciate the versatility it offers.

Some transceiver buttons may already be programmed with functions listed in the Menu. Those functions can be accessed directly by pressing the button. All other functions can still be accessed using the transceiver Menu. Refer to “FUNCTIONS LIST” for the available Menu items.

- Menu Mode can register functions by category (Up to 12 categories). Example:

Category	Function
CALL	IND MODE, GRP MODE, STATUS, STACK
SCAN	SCAN, SCAN D/A
AUD/TONE	SQL OFF, SQL LEVEL
UTILITY	LCD BRIGHT

- The category does not appear in Menu Mode when only one category is configured. When the transceiver enters Menu Mode, the functions registered in Menu Mode appear.

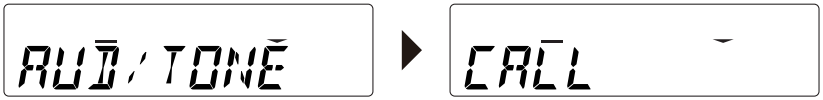
Menu Access

1 Press the button programmed as **[Menu]**.

- The category list is shown.

- When there is only one category, the function list is shown (proceed to step 4).

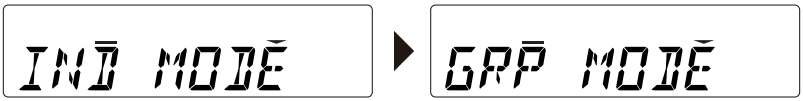
2 Press **[<B]** and **[C>]** buttons to select a category item.



3 Press the **[S]** button to view the function list for the selected category.

4 Press **[<B]** and **[C>]** to select a function item.

- Press and hold the **[A]** button to return to the category list.



5 Press the **[S]** button. The selected function functions.

- Options for a function, such as Microphone type, can be selected by pressing the **[<B]** and **[C>]** buttons and then can be confirmed by pressing the **[S]** button.

- Press the **[A]** button at any time to exit Menu Mode.

FUNCTIONS LIST

PF Button : Functions that can be programmed to the transceiver buttons

Menu : Functions that can be accessed using the transceiver Menu

Analog : Channels set up for Analog

NXDN : Channels set up for NXDN

DMR : Channels set up for DMR

✔: Available

N/A: Not Available

Function	Menu Display	PF Button	Menu	Analog	NXDN	DMR
None	–	✔	N/A	✔	✔	✔
2-tone *1	2-TONE	✔	✔	✔	N/A	N/A
Autodial	AUTODIAL	✔	✔	✔	N/A	N/A
AUX	AUX	✔	✔	✔	✔	✔
AUX Output ID 1	–	✔	N/A	✔	N/A	N/A
AUX Output ID 2	–	✔	N/A	✔	N/A	N/A
AUX Output ID 3	–	✔	N/A	✔	N/A	N/A
Broadcast	BROADCAST	✔	✔	N/A	N/A	✔
Button Lock	–	✔	N/A	✔	✔	✔
Call 1 ~ 6	–	✔	N/A	✔	✔	✔
Calling Alert	–	✔	N/A	✔	N/A	N/A
Call Interruption	–	✔	N/A	N/A	N/A	✔
Call Response	–	✔	N/A	N/A	✔	✔
Channel Down	–	✔	N/A	✔	✔	✔
Channel Down (Continuous)	–	✔	N/A	✔	✔	✔
Channel Entry	–	✔	N/A	✔	✔	✔
Channel Recall	–	✔	N/A	✔	✔	✔
Channel Up	–	✔	N/A	✔	✔	✔
Channel Up (Continuous)	–	✔	N/A	✔	✔	✔
Clear	–	✔	N/A	✔	✔	✔
CW Message	–	✔	N/A	N/A	✔	N/A

Function	Menu Display	PF Button	Menu	Analog	NXDN	DMR
Digit 1x Down *2	–	✔	N/A	✔	N/A	N/A
Digit 1x Up *2	–	✔	N/A	✔	N/A	N/A
Digit 10x Down *2	–	✔	N/A	✔	N/A	N/A
Digit 10x Up *2	–	✔	N/A	✔	N/A	N/A
Direct Channel 1 ~ 5	–	✔	N/A	✔	✔	✔
Direct Channel 1 ~ 5 Select	DR 1 SEL ~ DR 5 SEL	✔	✔	✔	✔	✔
Display Format	DISP FMT	✔	✔	✔	✔	✔
Emergency	–	✔	N/A	✔	✔	✔
External Microphone Sense	EX MIC S	N/A	✔	✔	✔	✔
External Speaker	SPEAKER	✔	✔	✔	✔	✔
Fixed Volume	FIXED VOL	✔	✔	✔	✔	✔
Function	FUNCTION	✔	N/A	✔	✔	✔
GPS Position Display	GPS DISP	✔	✔	✔	✔	✔
Group	GRP MODE	✔	✔	✔	✔	✔
Group + Short Message	GRP SDM	✔	✔	✔	✔	✔
Group + Status	GRP STATUS	✔	✔	✔	✔	✔
High Transmit Power	HIGH POWER	✔	✔	✔	✔	✔
Home Channel	–	✔	N/A	✔	✔	✔
Home Channel Select	HOME SEL	✔	✔	✔	✔	✔
Horn Alert	HORN ALERT	✔	✔	✔	✔	✔
Individual	IND MODE	✔	✔	✔	✔	✔
Individual + Short Message	IND SDM	✔	✔	✔	✔	✔
Individual + Status	IND STATUS	✔	✔	✔	✔	✔
LCD Brightness	LCD BRIGHT	✔	✔	✔	✔	✔

Function	Menu Display	PF Button	Menu	Analog	NXDN	DMR
Lone Worker	LONE-WK	✔	✔	✔	✔	✔
Low Transmit Power	LOW POWER	✔	✔	✔	✔	✔
Maintenance	MAINT	✔	✔	✔	✔	✔
Manual Site Hunt	M SITE HNT	✔	✔	N/A	N/A	✔
Medium Transmit Power	MED POWER	N/A	✔	✔	✔	✔
Menu	–	✔	N/A	✔	✔	✔
Microphone Sense	MIC SENSE	N/A	✔	✔	✔	✔
Microphone Type	MIC TYPE	N/A	✔	N/A	✔	✔
Monitor	MONITOR	✔	✔	✔	✔	✔
Monitor Momentary	–	✔	N/A	✔	✔	✔
Operator Selectable Tone	OST	✔	✔	✔	N/A	N/A
OST List	OST LIST	✔	✔	✔	N/A	N/A
OVCM	OVCM	✔	✔	N/A	N/A	✔
Priority-channel Select	PRIORITY	✔	✔	✔	✔	✔
Public Address	PUBLIC ADR	✔	✔	✔	✔	✔
Radio Check (MDC-1200)	RD CHECK	N/A	✔	✔	N/A	N/A
Radio Inhibit (MDC-1200)	INHIBIT	N/A	✔	✔	N/A	N/A
Radio Uninhibit (MDC-1200)	UNINHIBIT	N/A	✔	✔	N/A	N/A
Remote Control	RMT CTRL	✔	✔	N/A	✔	✔
RX Audio Equalizer	RX EQ	N/A	✔	N/A	✔	✔
RX Auto Gain Control	RX AGC	N/A	✔	N/A	✔	✔
Save Log Data	SAVE LOG	✔	✔	✔	✔	✔
Scan	SCAN STS	✔	✔	✔	✔	✔

Function	Menu Display	PF Button	Menu	Analog	NXDN	DMR
Scan Delete/ Add	SCAN D/A	✔	✔	✔	✔	✔
Scrambler/ Encryption	SCRENC	✔	✔	✔	✔	✔
Scrambler/ Encryption Code	SCRENC C	✔	✔	✔	✔	✔
Send the GPS Data	SEND GPS	✔	✔	✔	✔	✔
Short Message	SDM MODE	✔	✔	✔	✔	✔
Speaker Attenuation	–	✔	N/A	✔	✔	✔
Speaker Type	SPK TYPE	N/A	✔	N/A	✔	✔
Squelch Level	SQL LEVEL	✔	✔	✔	N/A	N/A
Squelch Off	SQL OFF	✔	✔	✔	✔	✔
Squelch Off Momentary	–	✔	N/A	✔	✔	✔
Stack	STACK	✔	✔	✔	✔	✔
Status	STATUS	✔	✔	✔	✔	✔
Surveillance	SURVEIL	✔	✔	✔	✔	✔
Talk Around	TALK ARD	✔	✔	✔	✔	✔
Transceiver Password	TRNS PWD	✔	✔	✔	✔	✔
Volume Down	–	✔	N/A	✔	✔	✔
Volume Down (Continuous)	–	✔	N/A	✔	✔	✔
Volume Up	–	✔	N/A	✔	✔	✔
Volume Up (Continuous)	–	✔	N/A	✔	✔	✔
TX Audio Equalizer	TX EQ	N/A	✔	N/A	✔	✔
TX Auto Gain Control	TX AGC	N/A	✔	N/A	✔	✔
Zone Delete/ Add	ZONE D/A	✔	✔	✔	✔	✔
Zone Down	–	✔	N/A	✔	✔	✔

Function	Menu Display	PF Button	Menu	Analog	NXDN	DMR
Zone Down (Continuous)	–	✔	N/A	✔	✔	✔
Zone Up	–	✔	N/A	✔	✔	✔
Zone Up (Continuous)	–	✔	N/A	✔	✔	✔

*1: **[2-tone]** can be programmed only K/ C type model.

*2: Can be programmed only E type model.

FUNCTIONS OVERVIEW

Following is a brief overview of the functions available on the transceiver accessible using the Menu and/ or programmable to the transceiver buttons.

- For details on functions that are not included in “FUNCTIONS OVERVIEW” and “FUNCTION DESCRIPTIONS” {page 70}, please consult your dealer.

None [Analog/ NXDN/ DMR]

No function has been programmed.

2-tone [Analog]

2-tone Signaling opens the squelch only when your transceiver receives a call containing a matching 2-tone signal.

1 **PF Button:**

Press the programmed button to enter 2-tone Mode.

Menu Mode:

Select “2-TONE” and press the **[S]** button to enter 2-tone Mode.

2 Press the **[<B]** and **[C>]** buttons to select your desired list of 2-tone codes.

3 Press the **PTT** switch or **[■]** button to make the call.

- If 2-tone is sent by pressing **[■]** button, the transceiver immediately returns to Receive mode after transmitting 2-tone.

Autodial [Analog]

Allows you to quickly send DTMF codes from the Autodial List.

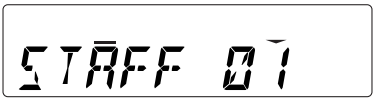
1 **PF Button:**

Press the programmed button to enter Autodial Mode.

Menu Mode:

Select “AUTODIAL” and press the **[S]** button to enter Autodial Mode.

2 Press the **[<B]** and **[C>]** buttons to select your desired list of Autodial.



3 Press the **PTT** switch or **[■]** button to make the call.

AUX [Analog/ NXDN/ DMR]

This is the function that can control the transceiver by the port input (High/ Low) from the connected external device.

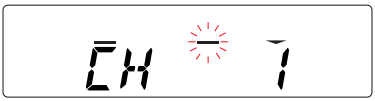
PF Button:

Press the programmed button to change the AUX On or Off.

Menu Mode:

Select “AUX” and press the **[S]** button to change the AUX On or Off.

- The “ — ” indicator appears while AUX is On.

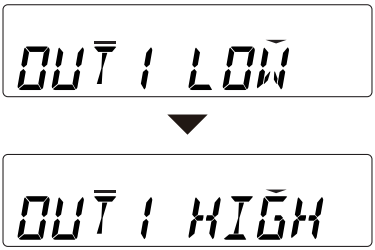


AUX Output ID 1 ~ 3 [Analog]

This is the function that can control the connected external device by the port output (High/ Low) from the transceiver.

PF Button:

Press the programmed button to change the AUX Output ID 1~3 to high or low.



Broadcast [DMR]

Allows you to make a Broadcast Group Call. Broadcast Group Call can be used to engage in one-way informative group voice calls by initiating a call to a group.

PF Button:

Press the programmed button, to switch to Broadcast Call.

Menu Mode:

Select “BROADCAST” and press the **[S]** button to switch to Broadcast Call.

- “BCST ON” is displayed for 1 second and Broadcast Group Call will be On.

Button Lock [Analog/ NXDN/ DMR]

Locking 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.

PF Button:

1 Press the programmed button to lock the transceiver buttons.

2 Press the button again to unlock.

- While Button Lock is on, operate a button that has been locked. “LOCKED” is displayed for 1 second.

- Even if a button on the transceiver is pressed while the Button Lock is enabled, a Button-entry Error Tone (1 beep) sounds.
- The following will still function and can be operated as per normal.

  Button Lock, Call Response, Clear, Emergency, Function, LCD Brightness, Monitor, Monitor Momentary, Save Log Data, Squelch Off, and Squelch Off Momentary.

Call 1 ~ 6 [Analog/ NXDN/ DMR]

Allows you to send assigned signaling from Call 1 to Call 6.

PF Button:

Press the programmed button to send a message or initiate a call.

Calling Alert [Analog]

Allows you to send a calling alert to the other party. Calling alert tones help identify yourself to party members and inform them that you are calling.

PF Button:

Press the programmed button to send an Alert tone to a receiver.

Call Interruption [DMR]

Allows a transceiver other than the transmitting transceiver to terminate voice communications by sending a Call Interruption request message. If a transceiver receives a Call Interruption request message on the channel where the transceiver is performing voice communications, the transceiver terminates the voice communications.

PF Button:

Press the programmed button to send Call Interruption Request message.

Call Response [NXDN/ DMR]

Allows you to send an acknowledge call, upon receipt of the acknowledgment request message from an individual call.

PF Button:

Press the programmed button to respond to an Individual Call.

Channel Up/ Channel Down [Analog/ NXDN/ DMR]

PF Button:

Press the programmed button to increase/ decrease the channel number.

Channel Up (Continuous)/ Channel Down (Continuous) [Analog/ NXDN/ DMR]

PF Button:

Press and hold the programmed button to continuously increase/ decrease the channel number.

Channel Entry [Analog/ NXDN/ DMR]

In Channel Entry Mode, channel can be selected by the same operation as List selection.

PF Button:

1 Press the programmed button to enter Channel Entry Mode.

2 Press the **[<B]** and **[C>]** buttons to select your desired channel.

3 Press the **[S]** button to confirm the entry.

To enter 2-digit channel number (example: Channel 12):

1 Press the programmed button to enter Channel Entry Mode.

2 Press the **[<B]** and **[C>]** buttons to select “1”

3 Press the **[S]** button.

4 Press the **[<B]** and **[C>]** buttons to select “2”.

- Press the **[A]** button to delete 1 digit number. Press and hold the **[A]** button to delete all numbers.

5 Press the **[S]** button to confirm the entry.

To enter 3-digit channel number (example: Channel 123):

1 Press the programmed button to enter Channel Entry Mode.

2 Press the **[<B]** and **[C>]** buttons to select “1”

3 Press the **[S]** button.

4 Press the **[<B]** and **[C>]** buttons to select “2”.

5 Press the **[S]** button.

6 Press the **[<B]** and **[C>]** buttons to select “3”.

- Press the **[A]** button to delete 1 digit number. Press and hold the **[A]** button to delete all numbers.

7 Press the **[S]** button to confirm the entry.

Channel Recall [Analog/ NXDN/ DMR]

PF Button:

Press the programmed button during Scan to return to the last called zone and channel and Scan pauses (Scan Stop Tone will sound every 30 seconds).

Clear [Analog/ NXDN/ DMR]

Allows you to cancel the data (Status Message, Short Message, Remote Control Message, Call Alert, etc.) transmission, reject an incoming call, or disconnect the call.

PF Button:

Press the programmed button to end a call or cancel a status message transmission.

- "CANCEL" is displayed for 1 second.

CW Message [NXDN]

Sending CW Message.

PF Button:

Press the programmed button to send the set Morse code.

Digit 1x Up/ Digit 1x Down [Analog]

In 5-tone to increment/ decrement the 5-tone selcall code by 1.

PF Button:

Press the programmed button to increase/ decrease the 5-tone selcall code by 1 with each press.

1st digit code from the right of 5-tone selcall code

Digit 10x Up/ Digit 10x Down [Analog]

In 5-tone to increment/ decrement the 5-tone selcall code by 10.

PF Button:

Press the programmed button to increase/ decrease the 5-tone selcall code by 10 with each press.

2nd digit code from the right of 5-tone selcall code

Direct Channel 1 ~ 5 [Analog/ NXDN/ DMR]

Allows you to go directly to Direct Channel 1 ~ 5.

PF Button:

1 Press the programmed button to jump to a frequently used zone and channel.

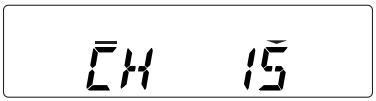
2 Press this button again to return to the formerly selected channel.

- If activated by your dealer, you can set your own Direct Channels by selecting your desired zone and channel using Direct Channel 1 ~ 5.

Direct Channel 1 ~ 5 Select [Analog/ NXDN/ DMR]

Allows you to set the currently selected channel as the Direct Channel 1 ~ 5.

1 Select the channel to be set as Direct Channel.

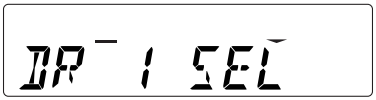


2 **PF Button:**

Press and hold the programmed button to set the currently selected channel as Direct Channel 1 ~ 5.

Menu Mode:

Select “DR 1 SEL” ~ “DR 5 SEL” and press the **[S]** button to set the currently selected channel as Direct Channel 1 ~ 5.

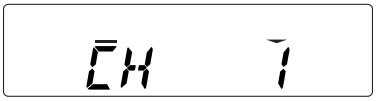


Display Format [Analog/ NXDN/ DMR]

Allows you to switch the display between the zone-channel number and the channel name.

Zone-channel number

Channel name



PF Button:

Press the programmed button to switch the display between the zone-channel number and the channel name.

Menu Mode:

Select “DISP FMT” and press the **[S]** button to change the Display Format setting.

Emergency [Analog/ NXDN/ DMR]

This is for entering Emergency Mode if the transceiver is in standby mode. If the transceiver is in Emergency mode, it exits the emergency mode. In Emergency Mode, the transceiver repeats transmission and reception at regular intervals.

PF Button:

Press and hold the programmed button for the time set in hold delay to enter Emergency Mode.

- If transceiver is in Emergency Mode, press and hold this button for the time set in Hold Delay to exit Emergency Mode.

Refer to “EMERGENCY CALLS” {page 74}.

External Microphone Sense [Analog/ NXDN/ DMR]

Allow you to set the microphone sensitivity of the external microphone.

Menu Mode:

1 Select “EX MIC S” and press the **[S]** button.

2 Press the **[<B]** and **[C>]** buttons to select the microphone sensitivity.

- You can select from +6 dB (High sensitivity) to -20 dB (Low sensitivity) by 2 step.

3 Press the **[S]** button to confirm and exit mode.

External Speaker [Analog/ NXDN/ DMR]

If external speaker connected to the transceiver, select the output of the speaker to the external speaker or internal speaker.

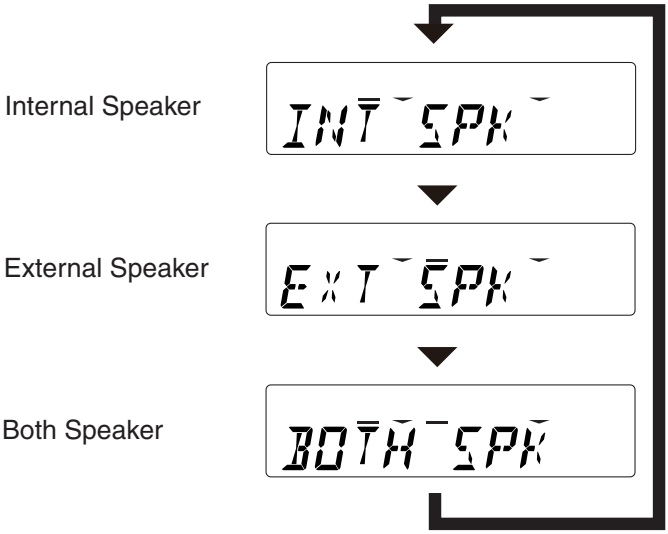
PF Button:

Press the programmed button to switch the external speaker or internal speaker.

Menu Mode:

1 Select “SPEAKER” and press the **[S]** button.

2 Press the **[<B]** and **[C>]** buttons to switch the external speaker or internal speaker.



Setting value/ Speaker connection status

	None	KES-8K	KES-5/ 5A	KES-8K + KES-5/ 5A
Internal Speaker	Internal Speaker	KES-8K	Internal Speaker	KES-8K
External Speaker	None	None	KES-5/ 5A	KES-5/ 5A
Both Speaker	Internal Speaker	KES-8K	Internal Speaker + KES-5/ 5A	KES-8K + KES-5/ 5A

3 Press the **[S]** button to confirm and exit mode.

Fixed Volume [Analog/ NXDN/ DMR]

Allows you to change the volume level of the tone.

PF Button:

Press the programmed button to change Low, High, or Off.

Menu Mode:

1 Select “FIXED VOL” and press the **[S]** button.

2 Press the **[<B]** and **[C>]** buttons to select Low, High, or Off.

3 Press the **[S]** button to confirm and exit mode.

Function [Analog/ NXDN/ DMR]

Allows you to access the 2nd function programmed to a button. Programmable buttons can be assigned Main function and 2nd function.

PF Button:

1 Press the programmed button to enter 2nd function input wait state.

- “FUNCTION” is displayed.

2 Press the button which has been programmed a 2nd function to perform the 2nd Function.

GPS Position Display [Analog/ NXDN/ DMR]

This is the function to show the location information of the own transceiver on the transceiver display.

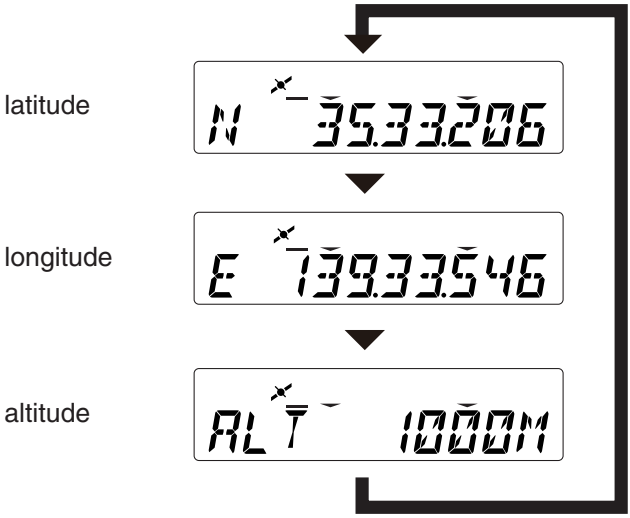
PF Button:

Press the programmed button to the displayed in the order of latitude (5 sec) , longitude (5 sec) , altitude (5 sec) , latitude (5 sec) ... .

Menu Mode:

1 Select “GPS DISP” and press the **[S]** button.

2 Press the **[<B]** and **[C>]** buttons to the displayed in the order of latitude, longitude, altitude, latitude...



3 Press the **[S]** button to confirm and exit mode.

Note:

- Whether to show the latitude and longitude depends on the configuration in Latitude and Longitude.
- Whether to show the altitude depends on the configuration in Altitude.
- If the configurations in Latitude and Longitude and Altitude are both disabled, the transceiver cannot enter GPS Position Display Mode.
- If Mode Reset Timer is configured, GPS Position Display Mode is terminated after the time configured in Mode Reset Timer elapses.

Group [Analog/ NXDN/ DMR]

Activates Group Call Mode.

1 **PF Button:**

Press the programmed button to enter Group Call Mode (NXDN/ DMR) or Selcall Mode (FleetSync/ MDC-1200/ 5-tone).

Menu Mode:

Select “GRP MODE” and press the **[S]** button to enter Group Call Mode (NXDN/ DMR) or Selcall Mode (FleetSync/ MDC-1200/ 5-tone).

2 Press the **[<B]** and **[C>]** buttons to select a Group ID/ name from the list that has been programmed to your transceiver.

3 Press and hold the **PTT** switch to make the call.

NXDN/ DMR:

Refer to “Making Group Calls (NXDN/ DMR)” {page 16}.

FleetSync:

Refer to “FleetSync: ALPHANUMERIC 2-WAY PAGING FUNCTION” {page 79}

5-Tone:

Refer to “5-TONE SIGNALING (For E type only)” {page 81}.

Group + Short Message [Analog/ NXDN/ DMR]

Allows you to specify a Group ID to send short messages.

1 **PF Button:**

Press the programmed button to enter Group Call Mode (NXDN/ DMR) or Selcall Mode (FleetSync/ MDC-1200/ 5-tone).

Menu Mode:

Select “GRP SDM” and press the **[S]** button to enter Group Call Mode (NXDN/ DMR) or Selcall Mode (FleetSync/ MDC-1200/ 5-tone).

2 Press the **[<B]** and **[C>]** buttons to select a Group ID/ name from the list.

3 Press the **[S]** button to enter Short Message Mode.

4 Press the **[<B]** and **[C>]** buttons to select a Short Message from the list (NXDN/ DMR).

5 Press the **PTT** switch to send short messages.

Group + Status [Analog/ NXDN/ DMR]

Allows you to specify a Group ID to send status messages.

1 **PF Button:**

Press the programmed button to enter Group Call Mode (NXDN/ DMR) or Selcall Mode (FleetSync/ MDC-1200/ 5-tone).

Menu Mode:

Select “GRP STATUS” and press the **[S]** button to enter Group Call Mode (NXDN/ DMR) or Selcall Mode (FleetSync/ MDC-1200/ 5-tone).

2 Press the **[<B]** and **[C>]** buttons to select a Group ID/ name from the list.

3 Press the **[S]** button to enter Status Mode.

4 Press the **[<B]** and **[C>]** buttons to select the status messages you want to transmit.

5 Press the **PTT** switch or **[■]** button to send status messages.

High Transmit Power [Analog/ NXDN/ DMR]

Turns High Transmit Power On or Off. When using a channel programmed with low or medium power, this allows you to change the output power to high.

PF Button:

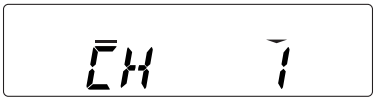
Press the programmed button to change the output power to high or the original setting.

Menu Mode:

Select “HIGH POWER” and press the **[S]** button to change the High Transmit Power On or Off.

- The “ L ” indicator appears while using Low transmit power.
- The “ L ” indicator disappears while using High or Medium transmit power.

High or Medium Transmit Power



Low Transmit Power

Home Channel [Analog/ NXDN/ DMR]

Allows you to jump to home channel (programmed by your dealer). If activated by your dealer, you can set your own Home Channel by selecting your desired channel using Home Channel Select.

PF Button:

1 Press the programmed button to jump to home channel.

- “HOME” is displayed for 1 second.

2 Press this button again to return to the formerly selected channel.

Home Channel Select [Analog/ NXDN/ DMR]

Allows you to set the currently selected channel to Home Channel.

1 Select the channel to be set as Home Channel.

2 **PF Button:**

Press and hold the programmed button to set the currently selected channel as the Home Channel.

Menu Mode:

Select “HOME SEL” and press the **[S]** button to set the currently selected channel as the Home Channel.

Horn Alert [Analog/ NXDN/ DMR]

When a call is received that matches the optional signaling set up on your transceiver, Horn Alert causes the vehicle horn or some other external alert to sound. This function notifies you of a received call when you are away from your vehicle.

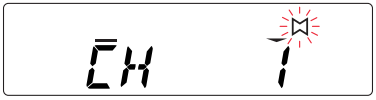
PF Button:

Press the programmed button to change the Horn Alert On or Off.

Menu Mode:

Select “HORN ALERT” and press the **[S]** button to change the Horn Alert On or Off.

- The “ ⋈ ” indicator appears while Horn Alert is On.



Individual [Analog/ NXDN/ DMR]

Activates Individual Call Mode.

1 **PF Button:**

Press the programmed button to enter Individual Call Mode (NXDN/ DMR) or Selcall Mode (FleetSync/ MDC-1200/ 5-tone).

Menu Mode:

Select “IND MODE” and press the **[S]** button to enter Individual Call Mode (NXDN/ DMR) or Selcall Mode (FleetSync/ MDC-1200/ 5-tone).

2 Press the **[<B]** and **[C>]** buttons to select a Unit ID/ name from the list that has been programmed to your transceiver.

3 Press and hold the **PTT** switch to make the call.

NXDN/ DMR:

Refer to “Making Individual Calls (NXDN/ DMR)” {page 17}.

FleetSync:

Refer to “FleetSync: ALPHANUMERIC 2-WAY PAGING FUNCTION” {page 79}.

Refer to “5-TONE SIGNALING (For E type only)” {page 81}.

Individual + Short Message [Analog/ NXDN/ DMR]

Allows you to specify a Unit ID to send short messages.

1 **PF Button:**

Press the programmed button to enter Individual Call Mode (NXDN/ DMR) or Selcall Mode (FleetSync/ MDC-1200/ 5-tone).

Menu Mode:

Select “IND SDM” and press the **[S]** button to enter Individual Call Mode (NXDN/ DMR) or Selcall Mode (FleetSync/ MDC-1200/ 5-tone).

2 Press the **[<B]** and **[C>]** buttons to select a Unit ID/ name from the list.

3 Press the **[S]** button to enter Short Message Mode.

4 Press the **[<B]** and **[C>]** buttons to select a Short Message from the list (NXDN/ DMR).

5 Press the **PTT** switch to send short messages.

Individual + Status [Analog/ NXDN/ DMR]

Allows you to specify a Unit ID to send status messages.

1 **PF Button:**

Press the programmed button to enter Individual Call Mode (NXDN/ DMR) or Selcall Mode (FleetSync/ MDC-1200/ 5-tone).

Menu Mode:

Select “IND STATUS” and press the **[S]** button to enter Individual Call Mode (NXDN/ DMR) or Selcall Mode (FleetSync/ MDC-1200/ 5-tone).

2 Press the **[<B]** and **[C>]** buttons to select a Unit ID/ name from the list.

3 Press the **[S]** button to enter Status Mode.

4 Press the **[<B]** and **[C>]** buttons to select the status messages you want to transmit.

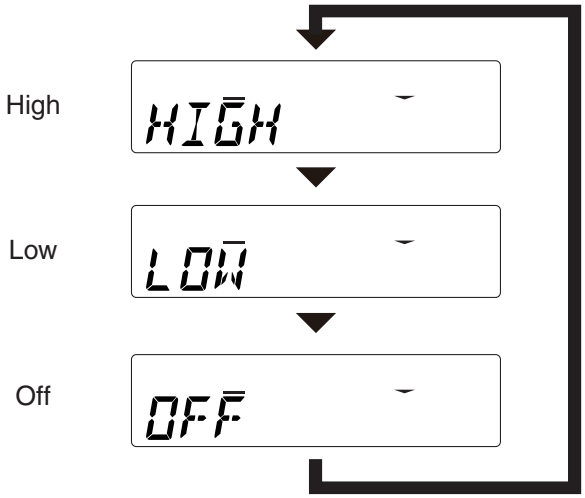
5 Press the **PTT** switch **or [■] button** to send status messages.

LCD Brightness [Analog/ NXDN/ DMR]

This is the function to adjust the brightness of the LCD backlight.

PF Button:

Press the programmed button to change the LCD brightness high, low, or off.



Menu Mode:

Select “LCD BRIGHT” and press the **[S]** button to change the LCD Brightness high, low or off.

- Status of the backlight’s brightness that was changed is retained even after the transceiver is turned OFF.

Lone Worker [Analog/ NXDN/ DMR]

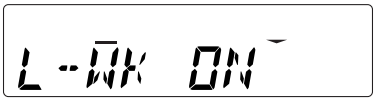
Using Lone Worker function, the transceiver can automatically enter Emergency Mode and notify the base station of the emergency status when the transceiver becomes disabled from operating due to an accident.

PF Button:

Press the programmed button to change the Lone Worker On or Off.

Menu Mode:

Select “LONE-WK” and press the **[S]** button to change the Lone Worker On or Off.



- Lone Worker is turn On, “L-WK ON” is displayed for 1 second.
- If transceiver is on the Lone Worker mode, Lone Worker is turn Off, “L-WK OFF” is displayed for 1 second.

On the Lone Worker mode, Lone Worker Interval time(r) will be counting down. When you press any button to indicate that you are safe and the timer will be restarted.

The transceiver automatically enters Emergency Mode if you do not operate the transceiver during the Lone Worker Interval time.

Low Transmit Power [Analog/ NXDN/ DMR]

Turns Low Transmit Power On or Off. When using a channel programmed with medium or high power, this allows you to change the output power to low.

PF Button:

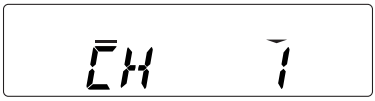
Press the programmed button to change the output power to Low or the original setting.

Menu Mode:

Select “LOW POWER” and press the **[S]** button to change the Low Transmit Power On or Off.

- The “ L” indicator appears while using Low transmit power.
- The “ L ” indicator disappears while using High or Medium transmit power.

High or Medium Transmit Power



Low Transmit Power

Maintenance [Analog/ NXDN/ DMR]

Allows you to display the signal strength and Bit Error Rate (BER) on the LCD when constructing the system or during maintenance.

1 **PF Button:**

Press the programmed button to enter Maintenance Display Mode.

Menu Mode:

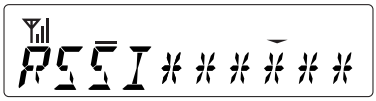
Select “MAINT” and press the **[S]** button to enter Maintenance Display Mode.

2 Press the **[<B]** and **[C>]** buttons to select Signal strength (RSSI Level) or BER.

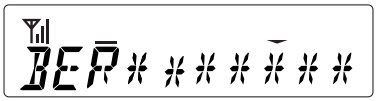
Signal strength (RSSI Level: dBm)

Bit Error Rate

- BER display is available on NXDN/ DMR channel.
- When the signal strength is less than -120 dBm, “# # # # # #” is displayed.



- When BER measurement is impossible, “# # # # # # #” is displayed.



3 Press the **[S]** button to confirm and exit mode.

Manual Site Hunt [DMR]

Allows you can manually move the Revert Channel to another Channel without waiting for Site Roaming to resume.

PF Button:

On the Channel of DMR Site Roaming, press the programmed button, the Manual Site Hunt function operates.

Menu Mode:

Select “M SITE HNT” and press the **[S]** button, the Manual Site Hunt function operates.

- Search Mode Tone sounds and send a Wakeup message once to other Channels registered in the same System set in DMR Site Roaming and go to search for repeaters that can detect the synchronization signal.
- "SEARCH" is displayed during Manual Site Hunt operation.

Medium Transmit Power [Analog/ NXDN/ DMR]

Turns Medium Transmit Power On or Off. When using a channel programmed with low or high power, this allows you to change the output power to medium.

Menu Mode:

Select “MED POWER” and press the **[S]** button to change the Medium Transmit Power On or Off.

Menu [Analog/ NXDN/ DMR]

PF Button:

Press the programmed button to select and perform functions using the transceiver Menu.

Microphone Sense [Analog/ NXDN/ DMR]

Allows you to change the internal microphone sensitivity.

Menu Mode:

1 Select “MIC SENSE” and press the **[S]** button.

2 Press the **[<B]** and **[C>]** buttons to select the microphone sensitivity.

- You can select from +6 dB (High sensitivity) to -20 dB (Low sensitivity) by 2 step.

3 Press the **[S]** button to confirm and exit mode.

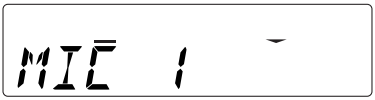
Microphone Type [NXDN/ DMR]

Allows you to configure the type of the external microphone to be connected to the transceiver and enables the optimal conditions of the audio quality.

Menu Mode:

1 Select “MIC TYPE” and press the **[S]** button.

2 Press the **[<B]** and **[C>]** buttons to select the microphone type.



Type	Model
NONE	Disables the capability to adjust audio characteristics. This configuration is used when not wanting to change the audio characteristics.
MIC 1	KMC-35, KMC-36, KMC-65, KMC-66
MIC 2	KMC-60, KMC-62
MIC 3	KMC-9C
MIC 4	Reserved. Audio characteristics is the same as None.
MIC 5	Reserved. Audio characteristics is the same as None.
MIC 6	KMC-53

3 Press the **[S]** button to confirm and exit mode.

Monitor [Analog/ NXDN/ DMR]

Allows you to turn the transceiver signaling off, to listen to all calls that are received on the channel.

PF Button:

Press the programmed button to change the Monitor On or Off.

Menu Mode:

Select “MONITOR” and press the **[S]** button to change the Monitor On or Off.

- The “ ” indicator appears while Monitor is On.

Monitor Momentary [Analog/ NXDN/ DMR]

PF Button:

Press and hold the programmed button to momentarily turn the transceiver signaling off. Releasing this button turns the transceiver signaling back on. While signaling is off, you can listen to all calls that are received on the channel.

Operator Selectable Tone [Analog]

Switches the preset QT/ DQT Decode/ Encode pair to an OST (Operator Selectable Tone) pair.

PF Button:

Press the programmed button to change the OST On or Off.

Menu Mode:

Select “OST” and press the **[S]** button to change the OST On or Off.

Refer to “Operator Selectable Tone (OST)” {page 77}.

OST List [Analog]

Allows you to enter OST List mode.

1 **PF Button:**

Press and hold the programmed button to enter OST List Mode.

Menu Mode:

Select “OST LIST” and press the **[S]** button to enter OST List Mode.

- The “—” indicator appears on the display.

2 Press the **[<B]** and **[C>]** buttons to select the OST List.

3 Press the **[S]** button to confirm and exit mode.

Refer to “Operator Selectable Tone (OST)” {page 77}.

OVCM (Open Voice Channel Mode) [DMR]

Allows you to hear various voice calls (Individual Call, Group Call, Broadcast Call) even if the received ID does not match.

PF Button:

Press the programmed button to change the OVCM On or Off.

Menu Mode:

Select “OVCM” in Menu Mode and press the **[S]** button to change the OVCM On or Off.

Priority-channel Select [Analog/ NXDN/ DMR]

A Priority channel must be programmed in order for Priority Scan to function.

When using a single Priority channel, the transceiver will automatically change to the Priority channel when a call is received on it, even if a call is being received on a normal channel.

When using dual Priority channels, Priority channel 1 is given precedence over Priority channel 2. So, if a call is received on Priority channel 1 while a call is already on Priority channel 2, the transceiver will automatically change to Priority channel 1.

1 Select the channel to be set as Priority channel.

2 **PF Button:**

Press the programmed button to set the current channel as the Priority Zone-Channel.

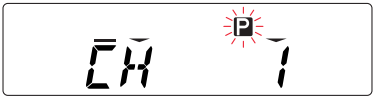
Menu Mode:

Select “PRIORITY” and press the **[S]** button to enter Priority-channel Select Mode.

3 Press the **[<B]** and **[C>]** buttons to select “NORMAL” (scan off), “PRI 1” (priority 1), “PRI 2” (priority 2), or “PRI 1 2” (priority 1/ 2).

4 Press the **[S]** button to confirm and exit mode.

- The “ P ” indicator appears on the display when the channel is Priority channel.



Public Address [Analog/ NXDN/ DMR]

This function for enables the transceiver to be used in place of a megaphone.

Pressing and holding the **PTT** switch while Public Address is enabled causes the audio spoken into the microphone to be emitted from the external speaker for Public Address that is connected to the rear panel of the transceiver. At this time, the received audio is emitted from the internal speaker of the transceiver. If the speaker is connected to a SP Jack, the received audio is emitted from the connected speaker.

PF Button:

Press the programmed button to change the Public Address On or Off.

Menu Mode:

Select “PUBLIC ADR” and press the **[S]** button to activate/ deactivate the Public Address.

- The “ ◉ ” indicator appears on the display.

- The “ ◉ ” indicator blinks while paused.

Note:

◆ Public Address cannot be used with External Speaker at the same time.

Radio Check (MDC-1200) [Analog]

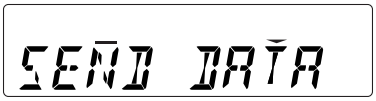
This function is for MDC-1200 Radio Check. Radio Check is a function for checking whether a transceiver is available for calling, such as whether the transceiver is on or whether it is within the communication range.

Menu Mode:

1 Select “RD CHECK” and press the **[S]** button to enter Radio Check Mode.

2 Press the **[<B]** and **[C>]** buttons to select the destination ID from the ID List.

3 Press the **PTT** switch to start Radio check.



4 When ACK (Acknowledgement) is received, “COMPLETE” is displayed for 1 second.

Radio Inhibit (MDC-1200) [Analog]

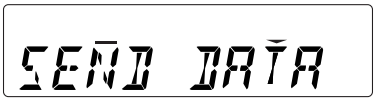
This function is for MDC-1200 Radio Inhibit. Radio Inhibit is a function for stunning a transceiver.

Menu Mode:

1 Select “INHIBIT” and press the **[S]** button to enter Radio Inhibit Mode.

2 Press the **[<B]** and **[C>]** buttons to select the destination ID from the ID List.

3 Press the **PTT** switch to send Radio Inhibit command.



4 When ACK (Acknowledgement) is received, “COMPLETE” is displayed for 1 second.

Radio Uninhibit (MDC-1200) [Analog]

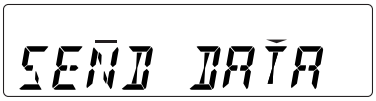
This is for MDC-1200 Radio Uninhibit. Radio Uninhibit is a function for reviving a transceiver which has been stunned.

Menu Mode:

1 Select “UNINHIBIT” and press the **[S]** button to enter Radio Uninhibit Mode.

2 Press the **[<B]** and **[C>]** buttons to select the destination ID from the ID List.

3 Press the **PTT** switch to send Radio Uninhibit command.



4 When ACK (Acknowledgement) is received, “COMPLETE” is displayed for 1 second.

Remote Control [NXDN/ DMR]

Allows you to remotely control a specified transceiver from the transceiver.

In the NXDN and DMR systems, it allows you to operate the transceiver directly, send a remote control message and control the target transceiver.

Note:

- The Remote Control is a software option.

In Remote Control Mode, the following remote control message can be sent.

Remote Stun: Send a Remote Stun Message to the designated Transceiver and make the Transceiver unusable.

Remote Revive: Send a Remote Revive Message to the designated Transceiver and release the Stun state of the Transceiver.

Remote Kill: Send a Remote Kill Message to the designated Transceiver and make Transceiver inoperable and prevent any operation.

Remote Monitor: Send a Remote send request message to the specified Transceiver, Individual Call from the Transceiver to the requester, cancel Mic Mute and send it continuously.

Radio Check: Send a Radio Check Message to the specified Transceiver and let the Transceiver send an ACK.

Menu Mode:

1 Select “RMT CTRL” and press the **[S]** button to enter Remote Control Mode.

2 Press the **[<B]** and **[C>]** buttons to select Unit ID List.

3 Press the **[S]** button to enter Remote Control Message Selection.

4 Press the **[<B]** and **[C>]** buttons to select Remote Control Message.

5 Press the **PTT** switch to send selected Remote Control Message.

RX Audio Equalizer [NXDN/ DMR]

Allows you to set the receiving audio characteristic (Flat, High boost, or Low boost).

Menu Mode:

1 Select “RX EQ” and press the **[S]** button.

2 Press the **[<B]** and **[C>]** buttons to select the audio characteristic.

Type	Description
FLAT	Standard RX audio characteristic.
HIGH BOOST	Treble range is emphasized. Audio sounds clearer and becomes more understandable.
LOW BOOST	Treble range is suppressed and bass range is boosted that makes the audio quality more natural.

3 Press the **[S]** button to confirm and exit mode.

RX Auto Gain Control [NXDN/ DMR]

Allows you to set the transceiver to automatically adjust the volume of the receiving sound to a specific level for easy listening.

Menu Mode:

1 Select “RX AGC” and press the **[S]** button.

2 Press the **[<B]** and **[C>]** buttons to select Off, Low, or High.

3 Press the **[S]** button to confirm and exit mode.

Save Log Data [Analog/ NXDN/ DMR]

This function saves the operation and communication logs of this transceiver.

- This function is for field support use such for your dealer.

Scan [Analog/ NXDN/ DMR]

Allows you starting or stopping scan.

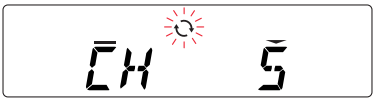
PF Button:

Press the programmed button to start scanning. To stop scanning, press this button.

Menu Mode:

Select “SCAN STS” and press the **[S]** button to activate/ deactivate the Scan.

- The “ ” indicator appears on the display.



- The “ ” indicator blinks while paused.

Refer to “SCAN” {page 71}.

Scan Delete/ Add [Analog/ NXDN/ DMR]

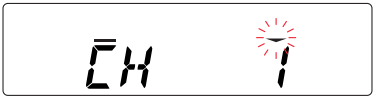
Allows you to include or omit each channel in the scan sequence.

1 Select your desired channel.

2 **PF Button:** Press the programmed button to change the Scan Delete/ Add status of the channel.

Menu Mode: Select “SCAN D/A” and press the **[S]** button to activate/ deactivate the Scan of the channel.

- When a channel is added to scan, the “ ▬ ” (right side) indicator appears on the display.



- When a channel is deleted (not include in scan), the “ ▬ ” (right side) indicator disappears on the display.

Scrambler/ Encryption [Analog/ NXDN/ DMR]

Enables or disables Scrambler (analog) or Encryption (NXDN/ DMR) function.

- Voice Scrambler is the function to scramble the audio signal so that the contents of communications can be prevented from being intercepted.
- Encryption is the function that enhances secrecy in communications on the digital channels by encrypting voice data.

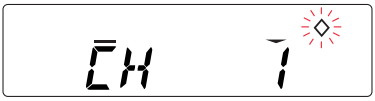
PF Button:

Press the programmed button to activate/ deactivate the Scrambler/ Encryption.

Menu Mode:

Select “SCRENC” and press the **[S]** button to activate/ deactivate the Scrambler/ Encryption.

- The “ ◇ ” indicator appears while Scrambler/ Encryption is activated.



Refer to “SCRAMBLER (ANALOG)/ ENCRYPTION (NXDN/ DMR)” {page 75}.

Scrambler/ Encryption Code [Analog/ NXDN/ DMR]

Allows you to change the Scrambler Code/ Encryption Key used in the transmission.

1 **PF Button:**

Press and hold the programmed button to enter Scrambler/ Encryption Code Mode.

Menu Mode:

Select “SCRENC C” and press the **[S]** button to enter Scrambler/ Encryption Code Mode.

2 Press the **[<B]** and **[C>]** buttons to select the Scrambler Code or Encryption Key.

- Must be set to the same code/ key for transmission and reception.

Scrambler Code

Encryption Key

3 Press the **[S]** button to confirm and exit mode.

Refer to “SCRAMBLER (ANALOG)/ ENCRYPTION (NXDN/ DMR)” {page 75}.

Send the GPS Data [Analog/ NXDN/ DMR]

Allows you to send your positioning data to the base station when the GPS unit has been installed.

- When the power is turned ON and/ or the reception condition of the GPS satellite is poor, positioning may take longer to complete.

PF Button:

Press the programmed button to send GPS data.

Menu Mode:

Select “SEND GPS” and press the **[S]** button to send GPS data.

- When GPS data transmission is completed and "COMPLETE" is displayed for 1 second.

Short Message [NXDN/ DMR]

Allows you to send short messages such as an address, telephone number, etc.

1 **PF Button:**

Press the programmed button to enter Short Message Mode.

Menu Mode:

Select “SDM MODE” and press the **[S]** button to enter Short Message Mode.

2 Press the **[<B]** and **[C>]** buttons to select a Short Message from the list (NXDN/ DMR).

3 Press the **PTT** switch to send short messages.

Speaker Attenuation [Analog/ NXDN/ DMR]

Temporarily reduce the volume level of the speaker of the transceiver and speaker/ microphone.

PF Button:

Press the programmed button to change the Speaker Attenuation On or Off.

Speaker Type [NXDN/ DMR]

Allows you to set the type of external or internal speaker connected to the transceiver to corrected for optimal sound quality.

Menu Mode:

1 Select “SPK TYPE” and press the **[S]** button.

2 Press the **[<B]** and **[C>]** buttons to select the speaker type.

Type	Model
NONE	Disables the capability to adjust audio characteristics. This configuration is used when not wanting to change the audio characteristics.
INT SPK	Adjusts to the optimum audio characteristics of the internal speaker of the transceiver.
SPK 1	KES-8K
SPK 2	KES-5, KES-5A

- If using an external speaker unlisted in the table above, configuring "None" in Speaker Type is recommended.

3 Press the **[S]** button to confirm and exit mode.

Squelch Level [Analog]

Allows you to adjust the transceiver squelch level.

1 **PF Button:**

Press the programmed button to enter Squelch Level Adjustment Mode.

Menu Mode:

Select “SQL LEVEL” and press the **[S]** button enter Squelch Level Adjustment Mode.

2 Press the **[<B]** and **[C>]** buttons to increase and decrease the squelch level from 0 (open) to 9 (tight).

3 Press the **[S]** button to confirm and exit mode.

Squelch Off [Analog/ NXDN/ DMR]

Allows you to turn the transceiver squelch off, to better hear weak signals on the channel.

PF Button:

Press the programmed button to activate/ deactivate the Squelch Off.

Menu Mode:

Select “SQL OFF” and press the **[S]** button to activate/ deactivate the Squelch Off.

- The “ ” indicator appears while Squelch Off is activated.

Squelch Off Momentary [Analog/ NXDN/ DMR]

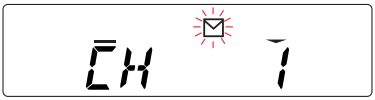
PF Button:

Press and hold the programmed button to momentarily turn the transceiver squelch off. Releasing this button turns the transceiver squelch back on. While squelch is off, you can better hear weak signals on the channel.

Stack [Analog/ NXDN/ DMR]

Allows you to check the records of received calls and messages received.

- The " ✉ " indicator lights up when all stacked data is already read.
- When there is unread data, The " ✉ " indicator blinks.



1 PF Button:

Press the programmed button to enter Stack Mode.

Menu Mode:

Select "STACK" and press the **[S]** button to enter Stack Mode.

- If the stack is empty, "EMPTY" is displayed for 1 second and Stack Mode is not entered.

2 Press the **[<B]** and **[C>]** buttons to change the category display Caller ID List or Message List.

Caller ID

Message List

- Select "CALL ID" and press the **[S]** button. The stacked Caller ID data is displayed.

- Select "MESSAGE" and press the **[S]** button. The stacked Status Message data is displayed.

3 Press the **[<B]** and **[C>]** buttons to select the List.

- Each time press the **[S]** button to change display type (Message → Caller ID → Channel No.→ Message→).
- Press the **[A]** button, delete confirmation is displayed, press the **[S]** button to delete displayed Caller ID and Message.

- Press and hold the **[A]** button, delete confirmation is displayed, press the **[S]** button to delete all Caller IDs and Messages.

4 Press the **[A]** button to exit Stack Mode.

Status [Analog/ NXDN/ DMR]

Allows you to send status messages selected from the Status List.

1 **PF Button:** Press the programmed button to enter Status Mode.

Menu Mode: Select “STATUS” and press the **[S]** button to enter Status Mode.

2 Press the **[<B]** and **[C>]** buttons to select the status messages you want to transmit.

3 Press the **PTT** switch or **[■]** button to send status messages.

Surveillance [Analog/ NXDN/ DMR]

Allows you to disable the alert tone, backlight and LED 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.

PF Button:

Press the programmed button to activate/ deactivate the Surveillance Mode.

Menu Mode:

Select “SURVEIL” and press the **[S]** button to activate/ deactivate the Surveillance Mode.

Talk Around [Analog/ NXDN/ DMR]

Talk Around redirects the transceiver signals directly to other party members rather than relaying the signals through a repeater.

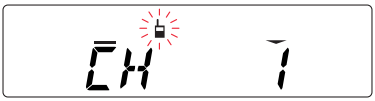
PF Button:

Press the programmed button to activate/ deactivate the Talk Around.

Menu Mode:

Select “TALK ARD” and press the **[S]** button to activate/ deactivate the Talk Around.

- The “ ” indicator appears while Talk Around is activated.



Transceiver Password [Analog/ NXDN/ DMR]

Allows you to enter Transceiver Password Input Mode.

Refer to “TRANSCEIVER PASSWORD” {page 70}.

TX Audio Equalizer [NXDN/ DMR]

Allows you to set the transmission audio characteristic (Flat, High boost, or Low boost).

Menu Mode:

1 Select “TX EQ” and press the **[S]** button.

2 Press the **[<B]** and **[C>]** buttons to select the audio characteristic.

Type	Description
FLAT	Standard TX audio characteristic.
HIGH BOOST	Treble range is emphasized. Audio sounds clearer and becomes more understandable.
LOW BOOST	Treble range is suppressed and bass range is boosted that makes the audio quality more natural.

3 Press the **[S]** button to confirm and exit mode.

TX Auto Gain Control [NXDN/ DMR]

Allows you to set the transceiver to automatically adjust the internal and external microphone sensitivity for easy listening.

Menu Mode:

Select “TX AGC” and press the **[S]** button to change the TX Auto Gain Control On or Off.

Volume Up/ Down [Analog/ NXDN/ DMR]

Press the programmed button to increase/ decrease the Volume.

Volume Up/ Down (Continuous) [Analog/ NXDN/ DMR]

Press and hold the programmed button to continuously increase/ decrease the Volume.

Zone Delete/ Add [Analog/ NXDN/ DMR]

Allows you to include or omit each Zone in the Multi-Zone scan sequence.

1 Select your desired zone.

2 **PF Button:**

Press the programmed button to switch the Zone Delete/ Add status of the channel.

Menu Mode:

Select “ZONE D/A” and press the **[S]** button to switch the Zone Delete/Add status of the channel.

- When a zone is added to scan, the “ ▼ ” (left side) indicator appears on the display.

- When a zone is deleted (not include in scan), the “ ▼ ” (left side) indicator disappears on the display.

Zone Up/ Zone Down [Analog/ NXDN/ DMR]

Press the programmed button to increase/ decrease the zone number.

Zone Up (Continuous)/ Zone Down (Continuous) [Analog/ NXDN/ DMR]

Press and hold the programmed button to continuously increase/ decrease the zone number.

FUNCTION DESCRIPTIONS

For details on functions that are not included in “FUNCTIONS OVERVIEW” {page 26} and “FUNCTION DESCRIPTIONS”, please consult your dealer.

TRANSCEIVER PASSWORD

If the transceiver is password protected, “PASSWORD” will appear on the display when the power is turned on. To unlock the transceiver, enter the correct password.

1 Press the button programmed as **[Transceiver Password]** to enter Transceiver Password Mode.
   - Alternatively, press the button programmed as **[Menu]** to enter Transceiver Password Mode using the Menu Mode.
   - If a password has been registered and the **[Transceiver Password]** function has not been programmed to a button or configured to the menu, the transceiver enters Transceiver Password Mode when the power is turned on.

2 Enter a number using the **[<B** and **[C>]** buttons.

3 Press the **[S]** button to accept the number.

4 Repeat steps 2 and 3 to enter the entire password.
   - Press the **[A]** button to delete an incorrectly entered number. Press and hold the **[A]** button to delete all numbers.

5 Press the **[S]** button to confirm the entry.
   - If you enter an incorrect password, an error tone sounds and the transceiver remains locked, the transceiver will return to "PASSWORD" display.
   - The password can contain a maximum of 6 digits.

SCAN

Scan is useful for monitoring signals on the transceiver channels. While scanning, the transceiver checks for a signal on each channel and only stops on a channel if a signal is present.

To begin scanning, press the button programmed as **[Scan]**.

- The " " indicator appears on the display.
- If programmed by your dealer, the LED indicator blinks during scanning.
- The channels are scanned.
- When a signal is detected on a channel, Scan pauses on that channel. The transceiver will remain on the busy channel until the signal is no longer present. When the signal "drops out", the transceiver will remain on the channel momentarily before Scan resumes. This delay time is programmed by your dealer. If a signal is received during the delay time, the transceiver will remain on the same channel.

To stop scanning, press the **[Scan]** button again.

Note:

◆ In order for Scan to operate, there must be at least 2 channels added to the scanning sequence. If there are less channels than this, Scan will not operate.

TEMPORARY CHANNEL LOCKOUT

During scan, you can temporarily remove specific channels from the scanning sequence by selecting them and pressing the button programmed as **[Scan Delete/Add]**.

- The " " (right side) indicator no longer appears on the display for that channel.
- The channel is no longer scanned. However, when scanning is ended and restarted, the channels will reset and the channel will again be in the scanning sequence.

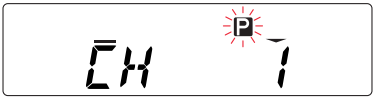
PRIORITY SCAN

A Priority channel must be programmed in order for Priority Scan to function.

When using a single Priority channel, the transceiver will automatically change to the Priority channel when a call is received on it, even if a call is being received on a normal channel.

When using dual Priority channels, Priority channel 1 is given precedence over Priority channel 2. So, if a call is received on Priority channel 1 while a call is already on Priority channel 2, the transceiver will automatically change to Priority channel 1.

- The " P " indicator appears on the display when the channel is Priority channel.



SCAN REVERT

The Scan Revert channel is the channel selected when you press the **PTT** switch to transmit during scan. Your dealer can program one of the following Scan Revert channels:

- **Selected:** The last channel selected is assigned as the new revert channel.
- **Selected + Talkback:** If the channel has been changed, the newly selected channel is assigned as the new revert channel. The transceiver "talks back" on the current channel.
- **Priority 1/ Priority 2:** If your dealer has programmed a Priority channel (either Priority 1 or Priority 2), this channel is the revert zone-channel.
- **Priority 1 + Talkback/ Priority 2 + Talkback:** If your dealer has programmed a Priority channel (either Priority 1 or Priority 2), this channel is the revert zone-channel. The transceiver "talks back" on the current receive channel.
- **Last Called + Selected:** The last channel on which you received a call is assigned as the new revert channel. The transceiver "talks back" on the current channel. If the channel has been changed, the newly selected channel is assigned as the new revert channel.

DTMF (DUAL TONE MULTI FREQUENCY) CALLS

Note:

- ◆ DTMF calls can be made only in Analog Conventional Operations.
- ◆ Manual Dialing and Keypad Auto PTT are available only on Mobile transceivers with microphone with keypad.

MAKING A DTMF CALL

Manual Dialing

1 Press and hold the **PTT** switch.

2 Enter the desired digits using the DTMF or microphone keypad.
- The corresponding DTMF tones sound each time you press a button.
- If you release the **PTT** switch, transmit mode will end even if the complete number has not been sent.

Keypad Auto PTT

If your dealer has activated the Keypad Auto PTT function, simply press the buttons on the keypad or microphone to make the call.

- The DTMF code will be sent automatically when you press a button.

Store & Send

1 Enter the desired digits using the DTMF or microphone keypad.
- The digits appear on the display as you enter them.
- You can enter digits by using the **[0] ~ [9] , [*] or [#]** buttons. Press these buttons to cycle through the DTMF digits.
- You can enter up to 34 digits before transmitting.

2 After entering the complete number, press the **PTT** switch to transmit.

Note:

- ◆ If you switch the power OFF before transmitting the number, the number will be cleared.

Stun Code

This function is used when a transceiver is stolen or lost.

When the transceiver receives a call containing a stun code, either the transmit mode or both the receive and transmit mode will be disabled. The stun code is canceled when the transceiver receives a call with a revive code.

EMERGENCY CALLS

If your transceiver has been programmed with the Emergency function, you can make emergency calls.

1 Press and hold the button programmed as **[Emergency]**.

- Depending on the delay time programmed into your transceiver, the length of time you must hold the Emergency button will vary.
- When the transceiver enters Emergency mode, the transceiver will change to the Emergency channel and begin transmitting based on how the transceiver is set up by your dealer. Transmit periods are also set by your dealer.

2 To exit Emergency mode, press and hold the **[Emergency]** button again.

- If the Emergency mode completes a preset number of cycles, Emergency mode will automatically end and the transceiver will return to the zone and channel that was in use before Emergency mode was entered.

Note:

- Your dealer can set the transceiver to emit a tone when Emergency mode starts and stops.
- Your dealer can set the transceiver to emit tones and received signals as normal or mute the speaker during Emergency operation.

SCRAMBLER (ANALOG)/ ENCRYPTION (NXDN/ DMR)

Note:

- The following types of encryption are available depending on the protocol used.
  NXDN : Bit scrambling (built-in encryption function)
  DMR : Bit scrambling (built-in encryption function) and Enhanced Encryption
- The Enhanced Encryption is a software option. Ask your dealer for details concerning the Enhanced Encryption settings.

SECURE (ENCRYPTED) TRANSMISSION

Press the button programmed as **[Scrambler/ Encryption]** to switch the transceiver to secure (encrypted) transmission.

- Alternatively, press the button programmed as **[Menu]** to enter Scrambler/ Encryption Mode using the Menu Mode.
- The Scrambler/ Encryption indicator " ◇ " appears when the function is turned ON.

- Pressing the **PTT** switch after the Scrambler or Encryption function has been turned ON encrypts the transmitted signal.

SELECTING THE SCRAMBLER CODE

1 Press the button programmed as **[Scrambler/ Encryption Code]** to enter Scrambler/ Encryption Code Mode.
   - Alternatively, press the button programmed as **[Menu]** to enter Scrambler/ Encryption Code Mode using the Menu Mode.

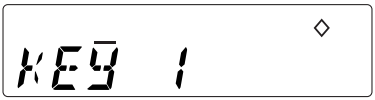
2 Press the **[<B]** and **[C>]** buttons to increase or decrease the Scrambler code.
   - Up to 16 Scrambler codes can be used.

3 Press the **[S]** button to set the new Scrambler code.

SELECTING THE ENCRYPTION KEY

1 Press the button programmed as **[Scrambler/ Encryption Code]** to enter Scrambler/ Encryption Code Mode.

- Alternatively, press the button programmed as **[Menu]** to enter Scrambler/ Encryption Code Mode using the Menu Mode.



2 Select the new Encryption key using the **[<B]** and **[C>]** buttons.

- Up to 16 Encryption keys can be used. One of these keys will be used during transmission.

3 Press the **[S]** button to set the new Encryption key.

QUIET TALK (QT)/ DIGITAL QUIET TALK (DQT) [ANALOG]

Your dealer may have programmed QT or DQT signaling on your transceiver channels. A QT tone/ DQT code is a sub-audible tone/ code which allows you to ignore (not hear) calls from other parties who are using the same channel.

When a channel is set up with a QT tone or DQT code, squelch will only open when a call containing a matching tone or code is received. Likewise, signals that you transmit will only be heard by parties whose QT/ DQT signaling matches your transceiver.

If a call containing a different tone or code is made on the same channel you are using, squelch will not open and you will not hear the call. This allows you to ignore (not hear) these calls. Although it may seem like you have your own private channel while using QT/ DQT, other parties can still hear your calls if they set up their transceiver with the same tone or code.

Operator Selectable Tone (OST) [Analog]

If a button has been programmed with **[Operator Selectable Tone]**, you can reprogram the QT tone or DQT code on each of your channels by OST List.

1. Select your desired channel.
2. Press and hold the button programmed as **[Operator Selectable Tone]**.
   - Alternatively, you can press the button programmed as **[Menu]** to enter OST Mode using the Menu Mode.
3. Press the **[<B]** and **[C>]** buttons to select your desired tone or code from 1 to 40.
4. Press the **[S]** button to save your new setting.
   - After selecting and setting up your desired tone or code, press the **[Operator Selectable Tone]** button to activate the OST function. Press this button again to turn the OST function off.

RADIO ACCESS NUMBER (RAN) [NXDN]

RAN is a signaling system designed for NXDN digital radio communications.

When a channel is set up with a RAN, squelch will only open when a call containing a matching RAN is received. If a call containing a different RAN is made on the same channel you are using, you will not hear the call. This allows you to ignore (not hear) calls from other parties who are using the same channel.

COLOR CODE (CC) [DMR]

Color Code is a digital signaling for DMR protocol to enable smooth communication among groups using the same channel.

OPTIONAL SIGNALING

Your dealer may also program several types of optional signaling for your transceiver channels.

2-tone Signaling [Analog] (For K/ C type only)

2-tone Signaling opens the squelch only when your transceiver receives a call containing a matching 2-tone signal.

1 Press the button programmed as **[2-tone]**.
   - Alternatively, you can press the button programmed as **[Menu]** to enter 2-tone Mode using the Menu Mode.

2 Press the **[<B]** and **[C>]** buttons to select your desired list of 2-tone codes.

3 Press the **PTT** switch or **[■]** button to make the call.

5-tone Signaling [Analog] (For E type only)

Refer to “5-TONE SIGNALING (For E type only)” {page 81}.

DTMF Signaling [Analog]

DTMF Signaling opens the squelch only when the transceiver receives a call containing a matching DTMF code.

MDC-1200 Signaling [Analog]

MDC-1200 is a data system using Audio Frequency Shift Keying (AFSK).

FleetSync Signaling [Analog]

FleetSync Signaling opens the squelch only when the transceiver receives a call that matches the FleetSync ID in FleetSync Signaling. Refer to “FleetSync: ALPHANUMERIC 2-WAY PAGING FUNCTION” {page 79}.

NXDN ID Signaling [NXDN]

NXDN ID is an optional signaling system available only for digital communications.

FleetSync: ALPHANUMERIC 2-WAY PAGING FUNCTION

FleetSync is an Alphanumeric 2-way Paging Function, and is a protocol owned by JVCKENWOOD Corporation. FleetSync enables a variety of paging functions on your transceiver, some of which depend on dealer programming.

Note:

◆ This function is available only in analog operation.

SELCALL (SELECTIVE CALLING)

A Selcall is a voice call to a station or group of stations.

Transmitting

1 Select your desired zone and channel.

2 Press the button programmed as **[Individual]**/ **[Individual + Status]**/ **[Individual + Short Message]**/ **[Group]**/ **[Group + Status]**/ **[Group + Short Message]** to enter Selcall Mode.

- Alternatively, press the button programmed as **[Menu]** to enter Selcall Mode using Individual/ Individual + Status/ Individual + Short Message/ Group/ Group + Status/ Group + Short Message in the Menu Mode.

3 Press the **[<B]** and **[C>]** buttons to select the station you want to call.

4 Press the **PTT** switch and begin your conversation.

Receiving

An alert tone will sound and the transceiver will enter Selcall mode. The calling station's ID will appear when a Selcall is received. You can respond to the call by pressing the **PTT** switch and speaking into the microphone.

Identification Codes

An ID code is a combination of a 3-digit Fleet number and a 4-digit ID number. Each transceiver has its own ID.

- Enter a Fleet number (100 ~ 349) to make a fleet call.
- Enter an ID number (1000 ~ 4999) to make an individual call in your fleet.
- Enter a Group ID (which is programmed in the FPU) to make a group call.
- Enter a Fleet number followed by an ID number to make an individual call in your desired fleet (Inter-fleet call).
- Select "ALL" Fleet and "ALL" ID to make a call to all units (Broadcast call).
- Select "ALL" Fleet and enter an ID number to make a call to the selected ID in all fleets (Supervisor call).

STATUS MESSAGE

You can send and receive Status messages which may be decided in your talk group. Status messages are 2-digit codes ranging from 10 to 99 (80 ~ 99 are reserved for special messages). By configuring a name consisting of a maximum of 10 alphanumeric characters, each message can be displayed on the transceiver like a text message.

A received message can be stored in the stack memory of your transceiver and can be reviewed after reception. The " ✉ " icon appears when a message is stored in the stack memory.

Transmitting

1 Select your desired zone and channel.

2 Press the button programmed as **[Status]** to enter Status Mode (proceed to step 5), or **[Individual + Status]/ [Group + Status]** to enter Selcall Mode (proceed to step 3).

3 Press the **[<B]** and **[C>]** buttons to select the station you want to call.

4 Press the **[S]** button to enter Status Mode.

5 Press the **[<B]** and **[C>]** buttons to select the status you want to transmit.

6 Press the **PTT** switch or **[■]** button to send Status Messages.

- "COMPLETE" appears on the display when the status has been successfully transmitted.

Receiving

The " ✉ " indicator will flash and a calling ID or text message will appear when a Status call is received. Press any button to return to normal operation.

SHORT MESSAGES

This transceiver can receive short data messages which contain a maximum of 48 characters.

GPS REPORT

GPS data can be manually transmitted by pressing the button programmed as **[Send the GPS Data],** or by accessing the Menu. If set up by your dealer, GPS data may be automatically transmitted at a preset time interval.

- When using the GPS function, you must first connect the GPS unit.
- When the power is turned ON and/ or the reception condition of the GPS satellite is poor, positioning may take longer to complete.

5-TONE SIGNALING (For E type only)

5-tone is the signaling mainly used in Europe. The transceiver can make a Selcall, Group Call, and Status Call by using the consecutive 5 single tones.

The transceiver can make the following types of communication using 5-tone signaling.

SELCALL (SELECTIVE CALLING)

A Selcall is a voice call to a station or group of stations.

Transmitting

1 Select your desired zone and channel.

2 Press the button programmed as **[Individual]**/ **[Individual + Status]**/ **[Individual + Short Message]**/ **[Group]**/ **[Group + Status]**/ **[Group + Short Message]** to enter Selcall Mode.

- Alternatively, press the button programmed as **[Menu]** to enter Selcall Mode using Individual/ Individual + Status/ Individual + Short Message/ Group/ Group + Status/ Group + Short Message in the Menu Mode.

3 Press the **[<B]** and **[C>]** buttons to select the station you want to call.

4 Press the **PTT** switch and begin your conversation.

Note:

◆ You can also use the buttons programmed as **[Digit 1x Down]**, **[Digit 1x Up]**, **[Digit 10x Down]**, and **[Digit 10x Up]** to adjust the Selcall number. **[Digit 1x Up]** and **[Digit 1x Down]** increases and decreases the Selcall number by 1 respectively each time the button is pressed. **[Digit 10x Up]** and **[Digit 10x Down]** increases and decreases the Selcall number by 10 respectively each time the button is pressed.

Receiving

When a call containing the correct tones is received, the transceiver will enter decode condition. An alert tone will sound and the calling station's ID appears on the display.

Press any button to return to normal operation.

STATUS MESSAGE

You can send and receive Status messages which may be decided in your talk group.

Status messages are up to 8-digit codes. By configuring a name consisting of a maximum of 10 alphanumeric characters, each message can be displayed on the transceiver like a text message.

A received message can be stored in the stack memory of your transceiver.

Transmitting

1 Select your desired zone and channel.

2 Press the button programmed as **[Status]** to enter Status Mode (proceed to step 5), or **[Individual + Status]**/ **[Group + Status]** to enter Selcall Mode (proceed to step 3).

3 Press the **[<B]** and **[C>]** buttons to select the station you want to call.

4 Press the **[S]** button to enter Status Mode.

5 Press the **[<B]** and **[C>]** buttons to select the status you want to transmit.

6 Press the **PTT** switch to send Status Messages.

Receiving

The " ✉ " indicator will flash and a calling ID or text message will appear when a Status call is received.

Press any button to return to normal operation.

TIME-OUT TIMER (TOT)

The Time-out Timer is used to prevent any caller from using a channel for an extended period of time.

If you continuously transmit for a period of time that exceeds the programmed time, the transceiver will stop transmitting and an alert tone will sound. To stop the tone, release the **PTT** switch. Your dealer can program the TOT time in the range of 15 seconds to 20 minutes.

If programmed by your dealer, a pre-alert tone will sound before the timer expires. Also, if programmed by your dealer, you may have to wait for a short duration before you can continue to transmit. If you press the **PTT** switch before the timer has been reset, an alert tone will sound and the transceiver will not enter transmit mode.

SIGNAL STRENGTH INDICATOR

The signal strength indicator displays the strength of received calls.

: Strong signal
: Sufficient signal
: Weak signal
: Very weak signal
: No Carrier

VOICE ANNOUNCEMENT

An audio voice will be announced as below by dealer setting.

- When changing the zone and/ or channel, the new zone and channel number are announced.
- When changing the function setting, the new setting is announced.
  - Scrambler/ Encryption
  - Home Channel
  - Button Lock
  - Low Transmit Power
  - Scan
  - Send the GPS Data
  - Speaker Attenuation
  - Talk Around
  - Horn Alert
  - Public Address

BUSY CHANNEL LOCKOUT (BCL)

If BCL is set up by your dealer, you will be unable to transmit on the channel if it is already in use. Under these circumstances, use a different channel or wait until the channel becomes free. However, if BCL Override has also been programmed, you can transmit over the current signal:

1 Press and hold the **PTT** switch.
   - If the channel is already in use, a warning tone will sound.

2 Release the **PTT** switch, then press and hold the **PTT** switch again within half a second.

3 Speak to the microphone as you would during a normal call.

The transceiver transmits according to the configuration in Busy Channel Lockout by dealer.

In Analog System

Carrier Only	The transceiver cannot transmit when carrier is received.
Incorrect Tone	The transceiver cannot transmit when the selected channel is busy and QT/DQT is unmatched.
Optional Signaling	The transceiver cannot transmit when the selected channel is busy before valid Optional Signaling matches or when the selected channel is busy and the programmed QT/DQT is not detected before valid Optional Signaling matches.

In NXDN System

Carrier Only	The transceiver cannot transmit when carrier is received.
Incorrect RAN	The transceiver cannot transmit when the received RAN and the RAN set in the channel is unmatched.
Correct RAN	The transceiver cannot transmit when the received RAN and the RAN set in the channel are matched.
Any RAN	The transceiver cannot transmit while receiving RAN regardless of whether or not it matches with the RAN set in the channel.

In DMR System

Carrier Only	The transceiver cannot transmit when carrier is received.
Correct CC	The transceiver cannot transmit when the received Color Code and the Color Code set in the channel are matched.

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