ICOM

BIIS 1200
Compatible

OPERATING GUIDE

OPERATING GUIDE FOR IC-F3162DT/DS IC-F4160DT/DS BIIS 1200/dPMR OPERATION

Icom Inc.

IMPORTANT

Thank you for purchasing this Icom transceiver.
The Binary Interchange of Information and Signaling (BIIS) 1200 and digital Private Mobile Radio (dPMR) system functions are built into your IC-F3162DT/DS or IC-F4162DT/DS transceiver.

READ ALL INSTRUCTIONS carefully and completely before using the transceiver.

SAVE THIS OPERATING GUIDE — This guide contains important operating instructions for:
- **IC-F3162DT/DS** VHF dPMR MOBILE TRANSCEIVER
- **IC-F4162DT/DS** UHF dPMR MOBILE TRANSCEIVER

NOTE: In this operating guide, the LCD illustration is shown as having characters displayed in two lines.

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■ Programmable function keys

The following functions can be assigned to **[EMR]**, **[Side1]**, **[Side2]**, **[Side3]**, **[P0]**, **[P1]**, **[P2]** and **[P3]** programmable function keys.
Consult your Icom dealer or system operator for details concerning your transceiver's programmed keys and their functions.
If the programmable function names are bracketed in the following explanations, the specific key is used to activate the function.

◇ For only BIIS 1200 operation

The following key function is required for BIIS 1200 operation.

BIIS BUTTON "BIIS"

➥ Push to enter the call code memory mode.
  • Push **[CH Up]** or **[CH Down]** to select a desired Individual or Group ID.
➥ While in the call code memory mode, push to enter the message selection mode.
  • Push **[CH Up]** or **[CH Down]** to select a desired status message or Short Data Message (SDM).
➥ While in the message selection mode, push to return to the stand-by mode.
➥ Hold down for 1 second to toggle between the memory channel mode and the queue channel mode.
➥ While in the queue channel mode, push to toggle between the queue channel mode and the received message mode.

◇ For only dPMR operation

The following key functions are required for dPMR operation.

dPMR BUTTON "dPMR"

➥ Push to enter the ID selection mode.
  • Push **[CH Up]** or **[CH Down]** to select a desired Individual or Talkgroup ID.
➥ While in the ID selection mode, push to enter the application selection mode.
  • Push **[CH Up]** or **[CH Down]** to select a desired application from "**STATUS,**" "**MESSAGE,**" "**STAT POL,**" "**LISTENING,**" "**STUN,**" "**KILL,**" "**REVIVE**" and "**CALL LOG.**"
➥ If you select "**STATUS**" or "**MESSAGE**" in the application selection mode, push to enter the message selection mode.
  • Push **[CH Up]** or **[CH Down]** to select a desired message.
➥ While in the application selection mode, push to return to the stand-by mode.

CLEAR "CLR"

After communication is finished, push this key to send a 'Disconnect' signal to terminate the connection.

Depending on the pre-programmed settings, the Priority A channel is automatically selected after a 'Disconnect' signal terminates a connection.

◇ For both BIIS 1200 and dPMR operations

The following key functions are useful for BIIS 1200 and dPMR operations.

STATUS UP, STATUS DOWN "STUP" "STDN"

➥ Push to select a status message.
➥ When the automatic scroll function is activated, push to cancel it, if desired.
➥ When an SDM that includes more than 12 characters is displayed, push to manually scroll the message.

STATUS "STAT"

➥ Push to enter the status message selection mode.
  • Push **[CH Up]** or **[CH Down]** to select a desired message.
➥ Hold down for 1 second to transmit the last selected status message.

MESSAGE "MSG"

➥ Push to enter the SDM selection mode.
  • Push **[CH Up]** or **[CH Down]** to select a desired SDM.
➥ While in the SDM selection mode, hold down for 1 second to transmit the last selected SDM.
➥ While in the stand-by mode, hold down for 1 second to enter the message editing mode. (dPMR only)
  • Set a desired message using the 10-keypad. (Only 10-key version) (p.22)

In BIIS 1200 operation, status messages and SDM are selectable in the same mode.

◇ Additional key functions

• For both BIIS 1200 and dPMR operations

The following key functions are recommended for BIIS 1200 and dPMR operations, and function as described below.

CALL "CALL"

➥ On an MSK channel, push to transmit a BIIS call.
➥ On a digital channel, push to transmit a dPMR call.

Depending on the pre-programmed settings, pushing **[PTT]** makes a call in the same way as using **[Call]**. Moreover, when you keep holding down **[PTT]** after receiving an acknowledgement, you can start a conversation without pushing it again.

TX CODE ENTER "TXCE"

Push to enter the ID code edit mode, and then set a desired ID code. (pp. 7, 18)

• For only BIIS 1200 operation

The following key function is required for BIIS 1200 operation, and functions as described below.

MONITOR (AUDIBLE) "MON"

After communication is finished, push this key to send a 'Clear down' signal to terminate the connection.

Depending on the pre-programmed settings, the Priority A channel is automatically selected after a 'Clear down' signal terminates a connection.

2 BIIS 1200 OPERATION

■ BIIS 1200 operation

The Binary Interchange of Information and Signalling (BIIS) 1200 standard is the best choice to add a data service to an existing system. It enables digital communications, signalling and message exchanges with analog transceivers.

The BIIS system provides calling features such as Individual, Group, and Emergency calls, as well as enables receiving and transmitting status messages and SDM.

NOTE: During BIIS 1200 operation, dPMR operation is disabled.

■ BIIS display

The following displays appear in BIIS 1200 operation.

CONNECT : When an acknowledgement of an Individual or Group call is received.

OK : When an acknowledgement of a message (status message or SDM) is received.

FAILED : When no acknowledgement of a call is received.

WAIT : While transmitting.

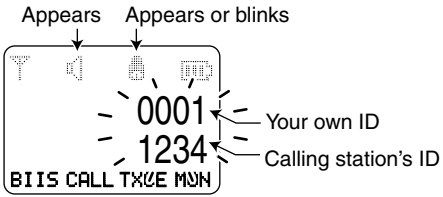
CLR DOWN : When a connection is terminated.

BUSY : When the operating channel is busy.

■ Receiving a call

◇ Receiving an Individual call

① When an Individual call is received:
- Rings sound.
- "" appears and the mute is released.
- "" appears or blinks, depending on the pre-programmed settings.
- Your own ID (or name) and the calling station's ID (or name) blink.



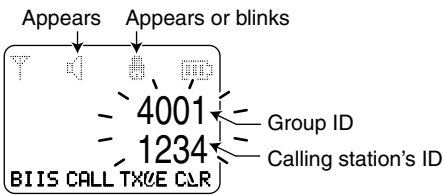
② While holding down **[PTT]**, speak into the microphone at your normal voice level.

③ Release **[PTT]** to receive.

④ After the communication is finished, push **[Moni (Audi)]** to send a 'Clear down' signal to terminate the connection.
- Either you or the calling station can send a 'Clear down' signal.
- "" disappears, "**CLR DOWN**" appears for approximately 2 seconds, and the transceiver automatically returns to the stand-by mode.

◇ Receiving a Group call

①When a Group call is received:
- Rings sound.
- "" appears and the mute is released.
- "" appears or blinks, depending on the pre-programmed settings.
- The group ID (or name) and the calling station's ID (or name) blink.



②While holding down **[PTT]**, speak into the microphone at your normal voice level.

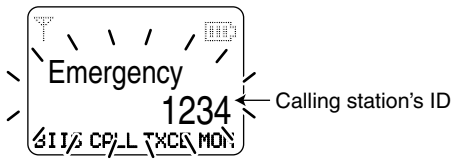
NOTE: Only one station is allowed to speak at the same time.

③ Release **[PTT]** to receive.

④ After the communication is finished, push **[Moni (Audi)]** to send a 'Clear down' signal to terminate the connection.
- Either station can send a 'Clear down' signal.
- "" disappears, "**CLR DOWN**" appears for approximately 2 seconds, and the transceiver automatically returns to the stand-by mode.

◇ Receiving an Emergency call

①When an Emergency call is received:
- Rings sound.
- "**Emergency**" and the calling station's ID (or name) blink.
- The transceiver automatically transmits an acknowledgement to the calling station.

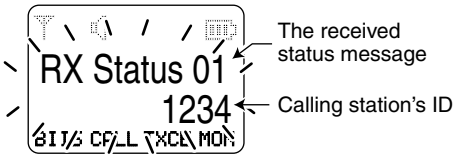


②Push **[Moni (Audi)]** to return to the stand-by mode.

■ Receiving a call (continued)

◇ Receiving a status message

① When a status message is received:
- Rings sound.
- The calling station's ID (or name) and the status message blink.

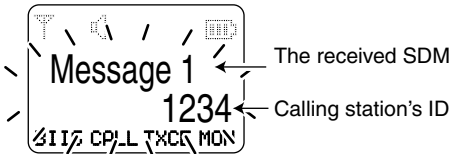


② Push **[Moni (Audi)]** to return to the stand-by mode.

NOTE: When the display mode is one line
If the 'Scroll Timer' item is set to "OFF," even when a status message is received, only the calling station's ID (or name) is displayed (no message is alternately displayed). In that case, push **[Status Down]** to display the status message manually.

◇ Receiving an SDM

① When an SDM is received:
- Rings sound.
- The calling station's ID (or name) and the SDM blink.



NOTE: When the SDM includes more than 12 characters, it automatically scrolls.
- Push **[Status Up]** or **[Status Down]** to stop scrolling, or manually scroll the message.
- "S" appears.

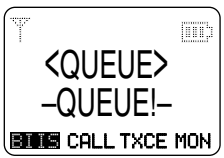
② Push **[Moni (Audi)]** to return to the stand-by mode.

◇ Displaying a received call record — Queue channel mode

The transceiver memorizes up to three calling station's IDs. When the fourth call is received, the oldest call record will be removed, and the last received call will be added. When the transceiver is turned OFF, all the records are deleted.

① Hold down **[BIIS Button]** for 1 second to enter the queue channel mode.
- The screen display varies as shown below.

When the transceiver has a call record



When the transceiver has no call record

② Push **[CH Up]** or **[CH Down]** to display a desired record.
③ Hold down **[BIIS Button]** for 1 second again to return to the stand-by mode.
- When no operation occurs for 30 seconds, the transceiver automatically returns to the stand-by mode.

NOTE: You can call back from the queue channel record. While displaying an ID, push **[Call]** to make a call using the selected ID.

◇ Displaying a received message

The transceiver memorizes up to six received messages. When the seventh message is received, the oldest message will be removed, and the last received message will be added. When the transceiver is turned OFF, all the messages are deleted.

① Hold down **[BIIS Button]** for 1 second to enter the queue channel mode.
② Push **[BIIS Button]** momentary to enter the received message mode.
- The screen display varies as shown below.

When the transceiver has a message record

When the transceiver has no message record

③ Push **[CH Up]** or **[CH Down]** to display a desired message.
④ Hold down **[BIIS Button]** for 1 second again to return to the stand-by mode.
- When no operation occurs for 30 seconds, the transceiver automatically returns to the stand-by mode.

■ Transmitting a call

◇ General

• Editing an ID

If the transceiver has a key assigned to the TX Code Enter function, you can edit an ID within the allowable digits.

①Push **[TX Code Enter]** to enter the ID edit mode.
- The digit to be edited blinks.

②Push **[TX Code Enter]** to select a desired digit to be edited.

③Push **[CH UP]** or **[CH DOWN]** to select a desired number.

④Push **[TX Code Enter]** to set. The digit to the right will automatically blink.

⑤Repeat step ③ and ④ to input all allowable digits.

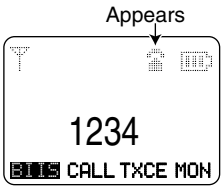
⑥After editing, push **[TX Code Enter]** to store the setting.
- The transceiver returns to the standby mode.

NOTE: To overwrite the original ID, set the 'Update' item to "Enable" using the CS-F3160/F5060 (dPMR) CLONING SOFTWARE. Otherwise, changing the channel or turning OFF the transceiver discards the new ID, and returns the original one. Ask your dealer for details.

◇ Transmitting an Individual or Group call

NOTE: If you want to make a call to the pre-programmed ID, skip step ① and ② then directly go to step ③.

①Push **[BIIS Button]** to enter the call code memory mode.
- The pre-programmed ID is displayed.
- "" appears.



②Push **[CH Up]** or **[CH Down]** to select a desired Individual ID or Group ID.

③Push **[Call]** to make a call.
- "**WAIT**" appears while transmitting.
- "**CONNECT**" is displayed when an acknowledgement is received.

NOTE: If no acknowledgement is received, the transceiver automatically repeats the call three times (default). However, when no acknowledgement is received after each of the calls, an error beep sounds and "**FAILED**" is displayed. In that case, the transceiver automatically returns to the stand-by mode.

④After "**CONNECT**" is displayed, hold down **[PTT]** and speak into the microphone at your normal voice level. Release **[PTT]** to receive.

⑤After the communication is finished, push **[Moni (Audi)]** to send a 'Clear down' signal to terminate the connection.

◇ Transmitting a status message

You can send a pre-programmed status message to an individual station or to group stations.
There are 24 status messages that can be sent, and Status 22 and 24 messages have designated meanings.

Status 22: Emergency
Status 24: GPS request

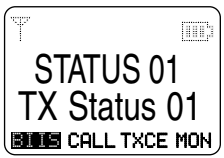
- Status 22 can also be used as a normal status message by disabling the designated meaning. However, Status 24 is fixed.

NOTE: Depending on the pre-programmed settings, the Priority A channel is always used to send status messages.

① Push **[BIIS Button]** to enter the call code memory mode.
- "▯" appears.
- The pre-programmed ID is displayed.

② Push **[CH Up]** or **[CH Down]** to select a desired Individual ID or Group ID.

③ Push **[BIIS Button]** again to enter the message selection mode, then push **[CH Up]** or **[CH Down]** to select a desired status message.



A status message is displayed.

④ Push **[Call]** to transmit the status message to the selected station or group.
- "**WAIT**" is displayed while transmitting.
- "**OK**" is displayed when an acknowledgement is received.
- "**FAILED**" is displayed when no acknowledgment is received.

⑤ After a specified time period, the transceiver will return to the stand-by mode.

■ Transmitting a call (continued)

◇ Transmitting an SDM

You can send a pre-programmed SDM to an individual station or to group stations.
The transceiver has eight memories to store messages.

① Push **[BIIS Button]** to enter the call code memory mode.
- "▯" appears.
- The pre-programmed ID is displayed.

②Push **[CH Up]** or **[CH Down]** to select a desired Individual ID or Group ID.

③ Push **[BIIS Button]** again to enter the message selection mode, then push **[CH Up]** or **[CH Down]** to select a desired SDM.

An SDM is displayed.

④ Push **[Call]** to transmit the SDM to the selected station or group.
- "**WAIT**" is displayed while transmitting.
- "**OK**" is displayed when an acknowledgement is received.
- "**FAILED**" is displayed when no acknowledgment is received.

⑤After a specified time period, the transceiver will return to the stand-by mode.

◇ Direct message input (Only 10-key version)

While displaying an SDM, you can edit or change the message.

① Push **[BIIS Button]** twice to enter the message selection mode, then push **[CH Up]** or **[CH Down]** to select a desired SDM.

②Push **[∗]** or **[#]** to enter the message editing mode.
- The first character blinks when **[#]** is pushed, the last character blinks when **[∗]** is pushed.

③Push the appropriate digit key, **[0]** to **[9]**, to enter a desired character.
- See the table on the next page for the usable characters.
- Push **[CH Up]** to enter a space, and push **[CH Down]** to delete the selected character.

④Push **[#]** to move the cursor to the right, push **[∗]** to move the cursor to the left.

⑤Repeat steps ③ and ④ to enter a message of up to 12 characters.

⑥Hold down **[BIIS Button]** for 1 second to write the new programmed message into the SDM memory.
- Push **[BIIS Button]** momentarily to cancel editing and return to the original message display.

• Usable characters

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

NOTE: Messages can be edited also using a PC editing program. Ask your dealer for details.

◇ Transmitting an Emergency call

If an MSK channel is used as the Emergency channel, the transceiver can access the BIIS emergency mode.
If your transceiver is programmed for Silent operation, you can transmit Emergency calls without the beep sounding or the display changing.

① Hold down **[Emergency]** for the pre-programmed time period to enter the emergency mode.
- Countdown beeps start.
- To exit the emergency mode, hold down **[Emergency]** for the pre-programmed period before the end of the count-down time period.

② When the time period ends, the transceiver automatically starts an Emergency call cycle, once or repeatedly, depending on the pre-programmed repeat cycle setting.

③ In an Emergency call cycle, the transceiver automatically transmits Status 22 (Emergency) to inform the dispatcher that the user is in an emergency situation.
- “**WAIT**” appears while transmitting.
- “**OK**” is displayed when an acknowledgement is received.
- “**FAILED**” is displayed when no acknowledgment is received.

NOTE: Depending on the pre-programmed settings, the transceiver does not transmit Status 22 in the repeated cycles.

④ After the Emergency call cycles have ended, the transceiver automatically returns to the stand-by mode.
- To exit the emergency mode manually, turn OFF the power, and turn ON it again.

■ Position data transmission

When a GPS receiver is connected to the transceiver, through the OPC-966 INTERFACE CABLE,* the position data (longitude and latitude) can be automatically transmitted. Ask your dealer or system operator for connection details.

* This cable is not needed when the HM-170GP GPS SPEAKER MICROPHONE is used as the GPS receiver.

The position data is transmitted:

- When Status 24 (GPS request) is received.
- When **[PTT]** is released.
  - Set the 'Send with Logoff' item to "Enable."
- After sending a status message.
  - Set the 'Send with Status' item to "Enable."
- After sending an SDM.
  - Set the 'Send with SDM' item to "Enable."
- After sending Status 22 (Emergency).
  - Set the 'Send with Emergency' item to "Enable."
- After sending an Emergency call with the Man Down function.
  - Set the 'Send at ManDown' item to "Enable."
- By the Automatic Position Data Transmission function. When the function is activated, the transceiver automatically transmits position data according to the 'Time Marker' and 'Interval Timer' settings.
  - Set the 'Auto' item to "Enable."

NOTE: Configure the position data transmission settings using the CS-F3160/F5060 (dPMR) CLONING SOFTWARE. Ask your dealer for details.

■ Stun function

If a call is received with a specified ID, set as the killer ID, the stun function is activated and the transceiver is disabled. In that case, entering the password is necessary to reactivate the transceiver.

■ BIIS ANI

Your own ID can be transmitted each time **[PTT]** is pushed (log-in) or released (log-off) during Individual or Group call communications.

By receiving an ANI, the communication log can be recorded when using a PC dispatch application.

In addition, when using the ANI with the Log-in function, the PTT Side Tone function can be used to inform you that the ID is sent and communication can begin.

■ Printer connection

When a printer is connected to the transceiver, through the OPC-966 INTERFACE CABLE, received SDM and the calling station's ID can be printed out, depending on the pre-programmed settings.

Ask your dealer or system operator for connection and setting details.

3 dPMR OPERATION

■ dPMR operation

The IC-F3162DT/IC-F3162DS and IC-F4162DT/IC-F4162DS provide digital Private Mobile Radio (dPMR) operation that meets the 6.25 kHz bandwidth requirements for narrow band operation. This increases the efficiency of channel allocation and use of the spectrum.

NOTE: During dPMR operation, BIIS 1200 operation is disabled.

■ dPMR display

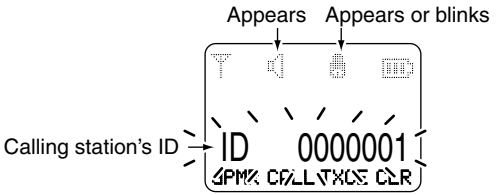
The following displays appear in dPMR operation.

CONNECT	: When an acknowledgement of a Voice or Emergency call is received.
OK	: When an acknowledgement of a message (status message or SDM) or command (Ambience Listening, Stun, Kill, or Revive) is received.
FAILED	: When no acknowledgement of a call is received.
WAIT	: While transmitting.
CLR DOWN	: When a connection is terminated.
ID	: When no name is programmed, appears to the left of the calling station's ID.
TG	: When no name is programmed, appears to the left of the Talkgroup ID.

■ Receiving a call

◇ Receiving an Individual call

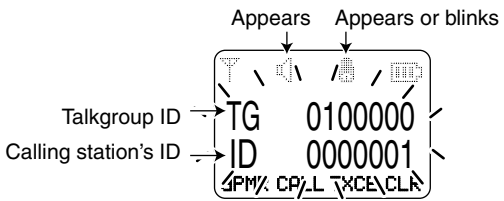
① When an Individual call is received:
- Rings sound.
- "" appears and the mute is released.
- "" appears or blinks, depending on the pre-programmed settings.
- The calling station's ID (or name) blinks.



② While holding down **[PTT]**, speak into the microphone at your normal voice level.
③ Release **[PTT]** to receive.
④ After the communication is finished, push **[Clear]** to send a 'Disconnect' signal to terminate the connection.
- Either station can send a 'Disconnect' signal.
- "" disappears, "**CLR DOWN**" appears for approximately 2 seconds, and the transceiver automatically returns to the stand-by mode.

◇ Receiving a Group call

①When a Group call is received:
- Rings sound.
- "" appears and the mute is released.
- "" appears or blinks, depending on the pre-programmed settings.
- The Talkgroup ID (or name) and the calling station's ID (or name) blink.
- When an All Call is received, "**ALL CALL**" blinks instead of "**TG**" and the Talkgroup ID.



②While holding down **[PTT]**, speak into the microphone at your normal voice level.

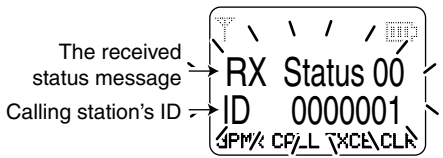
NOTE: Only one station is allowed to speak at the same time.

③Release **[PTT]** to receive.

④After the communication is finished, push **[Clear]** to send a 'Disconnect' signal to terminate the connection.
- Either station can send a 'Disconnect' signal.
- "" disappears, "**CLR DOWN**" appears for approximately 2 seconds, and the transceiver automatically returns to the stand-by mode.

◇ Receiving a status message

①When a status message is received:
- Rings sound.
- The calling station's ID (or name) and the status message blink.

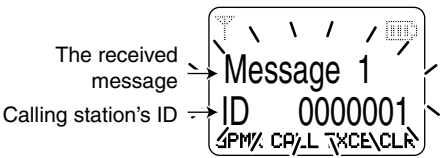


②Push **[Clear]** to return to the stand-by mode.

■ Receiving a call (continued)

◇ Receiving an SDM

①When an SDM is received:
- Rings sound.
- The calling station's ID (or name) and the SDM are displayed.



NOTE: When the SDM includes more than 12 characters, it automatically scrolls.
- Push **[Status Up]** or **[Status Down]** to stop scrolling, or manually scroll the message.
- "S" appears.

②Push **[Clear]** to return to the stand-by mode.

◇ Receiving a Stun, Kill or Revive call

If an Individual call with a Stun or Kill command is received from a specified station, the transceiver will display "SORRY," and becomes unusable.

NOTE: If the transceiver receives a Stun, Kill, or Revive command from a station other than the specified ones, the call will be ignored, and the transceiver will not be stunned, killed, or revived.

➥ When a Stun command is received, the transceiver is disabled*1. In that case, receiving a Revive command or inputting the password*2 is necessary to operate the transceiver again.

*1 Depending on the pre-programmed settings, receiving a Stun command inhibits only transmission, but the transceiver still can receive.

*2 Depending on the pre-programmed settings.

➥ When a Kill command is received, the transceiver is disabled. In that case, re-programming the transceiver is necessary to operate the transceiver again.

◇ Receiving a Status Polling call

If a Status Polling call is received, the transceiver will automatically transmit its current status.

◇ Receiving an Ambience Listening call

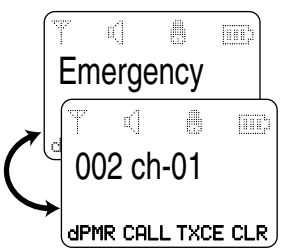
If an Individual call with an Ambience Listening command is received from a specified station, the transceiver will automatically transmit its microphone audio.

NOTE: If the transceiver receives an Ambience Listening command from a station other than the specified one, the call will be ignored, and the transceiver will not transmit its microphone audio.

◇ Receiving an Emergency call

①When an Emergency call is received:

- Rings sound.
- "**Emergency**" and the channel number* are alternately displayed.
  * Depending on the pre-programmed settings, the calling station's ID (or name) can be displayed.
- The transceiver automatically transmits an acknowledgement to the calling station.



②Push **[Clear]** to return to the stand-by mode.

◇ Talk back function

The Talk Back function allows you to select the same call mode (Analog or Digital) as the received call.
If the received call is a digital signal, the Talk Back function is activated for Voice and Emergency calls, and depending on the pre-programmed settings, also for status messages and SDM.

When the channel type is "Mixed-Digital"

After receiving an analog signal, "**ANALOG**" is displayed during the Talk Back timer period, depending on the pre-programmed settings. When **[PTT]** is pushed before or during the Talk Back timer period, you can transmit an analog signal.

When the channel type is "Mixed-Analog," "Mixed-Digital" or "Digital"

After receiving a digital signal, the calling station's ID or the Talkgroup ID is displayed until receiving a 'Disconnect' signal, depending on the pre-programmed settings. Even on a "Mixed-Analog" channel, when **[PTT]** is pushed before receiving a 'Disconnect' signal, the Talk Back function allows the transceiver to transmit a digital signal to the ID.

NOTE: When this function is not activated, the transceiver always transmits analog signals on "Mixed-Analog" channels, and digital signals on "Mixed-Digital" channels.

- On these channels, the transceiver can receive both analog and digital signals, regardless of the Talk Back function.

■ Receiving a call (continued)

◇ Displaying a received call log entry

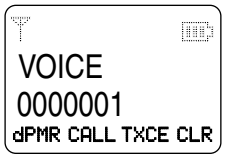
Depending on the pre-programmed setting, the transceiver stores up to 10 call log entries. Individual Voice, Status and SDM call log entries are stored. When an 11th call is received, the oldest call log entry will be removed, and the last received call will be added. When the transceiver is turned OFF, all the log entries are deleted.

① Push **[dPMR Button]** twice to enter the application selection mode.
- "**STATUS**" appears.

② Push **[CH Up]** or **[CH Down]** to select "**CALL LOG**."

③ Push **[dPMR Button]** again to display a call log entry.

When the transceiver has a call log entry



When the transceiver has no call log entries

④ Push **[CH Up]** or **[CH Down]** to display a desired entry.
- If a Status or SDM call log entry is selected, not only the calling station's ID but also the status message or message are displayed.

⑤ Push **[dPMR Button]** again to return to the stand-by mode.

NOTE: Depending on the pre-programmed settings, pushing **[Call]** while displaying a call log entry makes a Voice call using the entry's ID. However, if a Status or SDM call log entry is selected, the transceiver makes a Voice call using the last selected Individual or Talkgroup ID.

■ Transmitting a call

dPMR operation allows you to make a call to a specific station (Individual call) or to a particular group (Talkgroup call). Other digital mode transceivers on the channel will not receive a call that does not match their Individual or Talkgroup ID and/or colour code.

◇ General

• Editing an ID

If the transceiver has a key assigned to the TX Code Enter function, you can edit an ID within the allowable digits.

① Push **[TX Code Enter]** to enter the ID edit mode.
  • The digit to be edited blinks.
② Push **[TX Code Enter]** to select a desired digit to be edited.
③ Push **[CH UP]** or **[CH DOWN]** to select a desired number.
④ Push **[TX Code Enter]** to set. The digit to the right will automatically blink.
⑤ Repeat step ③ and ④ to input all allowable digits.
⑥ After editing, push **[TX Code Enter]** to store the setting.
  • The transceiver returns to the stand-by mode.

NOTE: Changing the channel or turning OFF the transceiver discards the new ID, and returns the original one.

• When no acknowledgement is received

After making a call, the transceiver waits for an acknowledgement for the pre-programmed time period. If no acknowledgement is received, the transceiver automatically repeats the call 4 times (default). However, when no acknowledgement is received after each of the calls, an error beep sounds and "**FAILED**" is displayed. In that case, the transceiver automatically returns to the stand-by mode.

• About the 10-key version

If the 10-key version is used, the keypad allows you to:
- Select an ID list number while in the ID selection mode.
- Select a Status list number while in the status message selection mode.
- Select an SDM list number while in the SDM selection mode.
- Edit an SDM while displaying it. (p. 22)

NOTE: Depending on the pre-programmed settings, additional functions can be used only with the 10-key version. Ask your dealer for details.

■ Transmitting a call (continued)

◇ Transmitting a Voice Call

NOTE: If you want to make a call to the pre-programmed ID, skip step ① and ② and directly go to step ③.

① Push **[dPMR Button]** to enter the ID selection mode.
- The pre-programmed ID is displayed.

② Push **[CH Up]** or **[CH Down]** to select a desired Individual ID or Talkgroup ID.

③ Push **[Call]** to make a Voice call.
- "**WAIT**" appears while transmitting.
- "**CONNECT**" is displayed when an acknowledgement is received.
- "**FAILED**" is displayed when no acknowledgment is received.

④ After "**CONNECT**" is displayed, hold down **[PTT]** and speak into the microphone at your normal voice level. Release **[PTT]** to receive.

⑤ After the communication is finished, push **[Clear]** to send a 'Disconnect' signal to terminate the connection.
- Either station can send a 'Disconnect' signal.

◇ Transmitting a Status Polling Call

The transceiver can send a signal that causes the target station to automatically transmit its current status.

① Push **[dPMR Button]** to enter the ID selection mode.
- The pre-programmed ID is displayed.

② Push **[CH Up]** or **[CH Down]** to select a desired Individual ID.

③ Push **[dPMR Button]** again to enter the application selection mode.
- "**STATUS**" is displayed.

④ Push **[CH Up]** or **[CH Down]** to select "**STAT POL**."

⑤ Push **[Call]** to transmit the status polling call to the selected station.
- "**WAIT**" is displayed while transmitting.
- When a status message is received, the message and the station's ID blink.
- "**FAILED**" is displayed when no acknowledgment is received. After a specified time period, the transceiver will return to the stand-by mode.

⑥ Push **[Clear]** to return to the stand-by mode.

◇ Transmitting a status message

You can send a pre-programmed status message to an individual station or to group stations.
There are 32 status messages that can be sent.

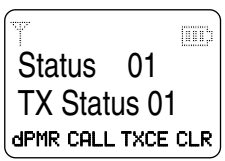
① Push **[dPMR Button]** to enter the ID selection mode.
- The pre-programmed ID is displayed.

② Push **[CH Up]** or **[CH Down]** to select a desired Individual ID or Talkgroup ID.

③ Push **[dPMR Button]** again to enter the application selection mode.
- "**STATUS**" is displayed.

④ Push **[dPMR Button]** again to enter the status message selection mode.
- The pre-programmed status message is displayed.

⑤ Push **[CH Up]** or **[CH Down]** to select a desired status message.



⑥ Push **[Call]** to transmit the status message to the selected station or talkgroup.
- "**WAIT**" is displayed while transmitting.
- "**OK**" is displayed when an acknowledgement is received.
- "**FAILED**" is displayed when no acknowledgment is received.

⑦ After a specified time period, the transceiver will return to the stand-by mode.

■ Transmitting a call (continued)

◇ Transmitting an SDM

You can send a pre-programmed SDM to an individual station or to group stations.
The transceiver has 10 memories to store messages.

①Push **[dPMR Button]** to enter the ID selection mode.
- The pre-programmed ID is displayed.

② Push **[CH Up]** or **[CH Down]** to select a desired Individual ID or Talkgroup ID.

③ Push **[dPMR Button]** again to enter the application selection mode.
- "**STATUS**" is displayed.

④Push **[CH Up]** or **[CH Down]** to select "**MESSAGE**."

⑤Push **[dPMR Button]** again to enter the SDM selection mode.
- The pre-programmed SDM is displayed.

⑥Push **[CH Up]** or **[CH Down]** to select a desired SDM.
- You can rewrite the contents of the SDM. See the next page for details.

⑦Push **[Call]** to transmit the SDM to the selected station or talkgroup.
- "**WAIT**" is displayed while transmitting.
- "**OK**" is displayed when an acknowledgement is received.
- "**FAILED**" is displayed when no acknowledgment is received.

⑧After a specified time period, the transceiver will return to the stand-by mode.

◇ Direct message input (Only 10-key version)

While displaying an SDM, you can edit or change the message.

① Push **[dPMR Button]** twice to enter the application selection mode.
- "**STATUS**" is displayed.

② Push **[CH Up]** or **[CH Down]** to select "**MESSAGE**."

③ Push **[dPMR Button]** again to enter the SDM selection mode.
- The pre-programmed message is displayed.

④ Push **[CH Up]** or **[CH Down]** to select a desired SDM.

⑤ Push **[∗]** or **[#]** to enter the message editing mode.
- The first character blinks when **[#]** is pushed, the last character blinks when **[∗]** is pushed.

⑥ Push the appropriate digit key, **[0]** to **[9]**, to enter a desired character.
- See the table at right for the usable characters.
- Push **[CH Up]** to enter a space, and push **[CH Down]** to delete the selected character, and hold down **[#]** for 1 second to delete all the characters.

⑦ Push **[#]** to move the cursor to the right, push **[∗]** to move the cursor to the left.

⑧ Repeat steps ⑥ and ⑦ to enter a message of up to 100 characters.

⑨ Hold down **[dPMR Button]** for 1 second to write the new programmed message into the SDM memory.
- Push **[dPMR Button]** momentarily to cancel editing and return to the original message display.

• Usable characters

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

USING [MESSAGE]:

If the transceiver has a key assigned to the Message function, you can quickly enter the message editing mode.

① While in the stand-by mode, hold down **[Message]** for 1 second to enter the message editing mode.
- A cursor blinks for the first character.

② Follow steps ⑥ to ⑧ described in the left column.

③ Push **[Call]** to transmit the SDM to the last selected ID.

NOTE: In that case, you cannot store the programmed message in the memory. Turning OFF the transceiver discards the message.

■ Transmitting a call (continued)

◇ Transmitting an Emergency call

If a digital channel is used as the Emergency channel, the transceiver can access the dPMR emergency mode.
If your transceiver is programmed for Silent operation, you can transmit Emergency calls without the beep sounding or the display changing.

① Hold down **[Emergency]** for the pre-programmed time period to enter the emergency mode.
- Countdown beeps start.
- To exit the emergency mode, hold down **[Emergency]** for the pre-programmed period before the end of the count-down time period.

② When the time period ends, the transceiver automatically starts an Emergency call cycle, once or repeatedly, depending on the pre-programmed repeat cycle setting.

③ In an Emergency call cycle, the transceiver automatically transmits a digital signal to inform the dispatcher that the user is in an emergency situation.
- "**WAIT**" appears while transmitting.
- When an acknowledgement is received, "**CONNECT**" is displayed. You can communicate with the dispatcher by pushing **[PTT]**, until a 'Disconnect' signal terminates the connection.
- When no acknowledgement is received, an error beep sounds and "**FAILED**" is displayed.

NOTE: Depending on the pre-programmed setting, the transceiver does not transmit the digital signal in the repeated cycles.

④ After the Emergency call cycles have ended, the transceiver automatically returns to the stand-by mode.
- To exit the emergency mode manually, turn OFF the power, and turn ON it again.

■ Transmitting a command

The following Individual calls allow you to send special commands. These calls will function if you are designated as a specific station. Ask your dealer for details.

◇ Transmitting an Ambience Listening Call

An Ambience Listening call allows you to send a command that will require the target station to transmit its microphone audio.

① Push **[dPMR Button]** to enter the ID selection mode.
- The pre-programmed ID is displayed.

② Push **[CH Up]** or **[CH Down]** to select a desired Individual ID.

③ Push **[dPMR Button]** again to enter the application selection mode.
- "**STATUS**" is displayed.

④ Push **[CH Up]** or **[CH Down]** to select "**LISTENING**."

⑤ Push **[Call]** to transmit an Ambience Listening call to the selected station.
- "**WAIT**" is displayed while transmitting.
- "**OK**" is displayed when an acknowledgement is received, then the called station's microphone audio can be heard for the pre-programmed time period.
- "**FAILED**" is displayed when no acknowledgment is received.

⑥ After a specified time period, the transceiver will return to the stand-by mode.

◇ Transmitting a Stun Call

A Stun call allows you to send a command that will stun the target station.

① Push **[dPMR Button]** to enter the ID selection mode.
- The pre-programmed ID is displayed.

② Push **[CH Up]** or **[CH Down]** to select a desired Individual ID.

③ Push **[dPMR Button]** again to enter the application selection mode.
- "**STATUS**" is displayed.

④ Push **[CH Up]** or **[CH Down]** to select "**STUN**."

⑤ Push **[Call]** to transmit a Stun call to the selected station.
- "**WAIT**" is displayed while transmitting.
- "**OK**" is displayed when an acknowledgement is received.
- "**FAILED**" is displayed when no acknowledgment is received.

⑥ After a specified time period, the transceiver will return to the stand-by mode.

■ Transmitting a command (continued)

◇ Transmitting a Kill Call

A Kill call allows you to send a command that will disable the target station.

① Push **[dPMR Button]** to enter the ID selection mode.
  • The pre-programmed ID is displayed.
② Push **[CH Up]** or **[CH Down]** to select a desired Individual ID.
③ Push **[dPMR Button]** again to enter the application selection mode.
  • "**STATUS**" is displayed.
④ Push **[CH Up]** or **[CH Down]** to select "**KILL**."
⑤ Push **[Call]** to transmit a Kill call to the selected station.
  • "**WAIT**" is displayed while transmitting.
  • "**OK**" is displayed when an acknowledgement is received.
  • "**FAILED**" is displayed when no acknowledgment is received.
⑥ After a specified time period, the transceiver will return to the stand-by mode.

◇ Transmitting a Revive Call

A Revive call allows you to send a command that will revive the (stunned) station.

① Push **[dPMR Button]** to enter the ID selection mode.
  • The pre-programmed ID is displayed.
② Push **[CH Up]** or **[CH Down]** to select a desired Individual ID.
③ Push **[dPMR Button]** again to enter the application selection mode.
  • "**STATUS**" is displayed.
④ Push **[CH Up]** or **[CH Down]** to select "**REVIVE**."
⑤ Push **[Call]** to transmit a Revive call to the selected station.
  • "**WAIT**" is displayed while transmitting.
  • "**OK**" is displayed when an acknowledgement is received.
  • "**FAILED**" is displayed when no acknowledgment is received.
⑥ After a specified time period, the transceiver will return to the stand-by mode.

■ Position data transmission

When a GPS receiver is connected to the transceiver, through the OPC-966 INTERFACE CABLE,* the position data (longitude and latitude) can be automatically transmitted. Ask your dealer or system operator for connection details.

* This cable is not needed when the HM-170GP GPS SPEAKER MICROPHONE is used as the GPS receiver.

The position data is transmitted:

- When the GPS Request status message is received.
  - Set a status message as the GPS Request one in the 'GPS Request Status' item.
- At the end of a Voice call.
  - Set the 'Send with Voice Call' item to 'Enable.'
- After sending a status message.
  - Set the 'Send with Status Call' item to "Enable."
- After sending an SDM.
  - Set the 'Send with SDM Call' item to "Enable."
- After making an Emergency call.
  - Set the 'Send with Emergency' item to 'Enable.'
- After sending an Emergency call with the Man Down function.
  - Set the 'Send at ManDown' item to "Enable."
- By the Automatic Position Transmission function.
  When the function is activated, the transceiver automatically transmits position data according to the 'Time Marker' and 'Interval Timer' settings.
  - Set the 'Auto' item to "Enable."

NOTE: Configure the position data transmission settings using the CS-F3160/F5060 (dPMR) CLONING SOFTWARE. Ask your dealer for details.

■ Status message transmission

Status messages can be automatically transmitted:

- When the transceiver is turned ON or OFF.
  - Select a status message to be transmitted in the 'Power ON Status' or 'Power OFF Status' item, respectively.
  - Select a target station ID in the 'Power Status ID' item.
- At the end of a Voice call.
  - Select a Status Message to be transmitted in the 'Send with Voice Call' item.

NOTE: Configure the status message transmission settings using the CS-F3160/F5060 (dPMR) CLONING SOFTWARE. Ask your dealer for details.

■ Printer connection

When a printer is connected to the transceiver, through the OPC-966 INTERFACE CABLE, received SDM and the calling station's ID can be printed out, depending on the pre-programmed settings.

Ask your dealer or system operator for connection and setting details.

MEMO

Count on us!

A-6842-2EU

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