



OPERATING GUIDE

**OPERATING GUIDE FOR
IC-F5120D/F6120D SERIES
MDC 1200 SYSTEM/
IDAS™ OPERATION**



Limited functions only



ICOM DIGITAL ADVANCED SYSTEM

Limited functions only

Icom Inc.

IMPORTANT

Thank you for purchasing this Icom transceiver. The MDC 1200 system and IDAS™ (Icom Digital Advanced System) functions are built into your IC-F5120D/F6120D series transceiver.

READ ALL INSTRUCTIONS carefully and completely before using the transceiver.

SAVE THIS OPERATING GUIDE — This operating guide contains important operating instructions for:

- **IC-F5121D, IC-F5122D, IC-F5123D** and **IC-F5128D** VHF MOBILE TRANSCEIVERS
- **IC-F6121D, IC-F6122D, IC-F6123D** and **IC-F6128D** UHF MOBILE TRANSCEIVERS

 **INFORMATION:** The 10-key pad of the optional HM-152T DTMF microphone has only DTMF code transmitting capability. Therefore, IDs and messages cannot be input using the microphone.

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VOICE CODING TECHNOLOGY

The AMBE+2™ voice coding Technology embodied in this product is protected by intellectual property rights including patent rights, copyrights and trade secrets of Digital Voice Systems, Inc. This voice coding Technology is licensed solely for use within this Communications Equipment. The user of this Technology is explicitly prohibited from attempting to extract, remove, decompile, reverse engineer, or disassemble the Object Code, or in any other way convert the Object Code into a human-readable form. U.S. Patent Nos.

#5,870,405, #5,826,222, #5,754,974, #5,701,390, #5,715,365, #5,649,050, #5,630,011, #5,581,656, #5,517,511, #5,491,772, #5,247,579, #5,226,084 and #5,195,166.

TABLE OF CONTENTS

IMPORTANT	i
VOICE CODING TECHNOLOGY	i
TABLE OF CONTENTS	ii
1 PREPARATION.....	1
■ Programmable function keys	1
2 MDC 1200 OPERATION.....	2-3
■ MDC 1200 system operation	2
■ Receiving a call	2
■ Transmitting a call.....	3
3 IDAS OPERATION	4-16
■ IDAS operation	4
■ IDAS Trunk operation	4
■ Receiving a call	4
■ Transmitting a call.....	10
■ Transmitting Position data.....	15
■ Transmitting Status message	15
■ Sounding a Horn	15
■ Connecting a Printer	16
■ Using Voice Encryption	16

■ Programmable function keys

The following functions can be assigned to the [UP], [DOWN], [P0], [P1], [P2] and [P3] programmable function keys. Consult your Icom dealer or system operator for details concerning your transceivers preprogramming.

◇ For only IDAS operation

DIGITAL BUTTON KEY

- Push [Digital Button] to enter the application selection mode.
- Hold down for 1 second to toggle the call type between Individual and Talkgroup, and then automatically enter the application selection mode.
 - Push the [CH Up] or [CH Down] key to select the “VOICE,” “CALLALRT,” “STATUS,” “MSG,” or “CALL LOG” application.
- While in the application selection mode, push to enter the Individual or Talkgroup ID selection mode.
 - If “STATUS” or “MSG” is selected as the application, the message selection mode appears. Push the [CH Up] or [CH Down] key to select the desired message, then push [Digital Button] again to enter the Individual or Talkgroup ID selection mode. (pp. 12, 13)
- While in the application selection mode, hold down [Digital Button] for 1 second to return to the normal operating mode.

STATUS UP/DOWN KEYS

- When a Short Data Message (SDM) is displayed, push to cancel the automatic scroll and manually scroll the message.
- When an SDM that contains more than 8 characters is displayed, push to manually scroll the message.

■ MDC 1200 system operation

The MDC 1200 signaling system enhances your transceiver's capabilities. It allows PTTID*, Emergency signaling, and receiving a Radio Check. Also, the dispatcher can stun and revive transceivers on the system.

An additional feature of the MDC 1200 system in Icom transceivers is called aliasing. Each transceiver on the system has a unique ID number. Aliasing allows substituting an alphanumeric name for the ID number. When transmitting, you can use this alias to select a transceiver to call. When a call is received, the alias of the calling station is displayed instead of the ID.

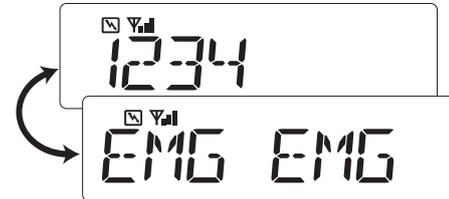
*When [PTT] is pushed or released, the transceiver transmits your station ID.

/// **NOTE:** During MDC 1200 system operation, IDAS operation capability is disabled.

■ Receiving a call

◇ Receiving an Emergency Call

- ① When an emergency call is received:
 - Beeps sound.
 - The calling station ID (or alias) and "EMG EMG" are alternately displayed.



- ② To stop the beep and display indication, turn OFF the power, change the channel or push [PTT].

◇ Receiving a Stun and Revive

The dispatcher can send MDC 1200 system signals that will stun or revive your transceiver. If a Stun command that matches your station ID is received, the transceiver will display "SORRY" (default) and you cannot receive* or transmit. When a Revive command that matches your station ID is received, normal operation is restored and "SORRY" disappears.

(* Except Revive command signals)

■ Transmitting a call

◇ PTTID Calls

The transceiver can send an MDC 1200 system signal that includes PTTID when [PTT] is pushed (begin transmitting) and released (stop transmitting). If a PTTID call is received, the transceiver will display the calling station's ID (or alias) and sound a beep.* (*Depending on the preprogramming.)

◇ Transmitting an Emergency Call

When [Emergency] (described in the instruction manual) is held down for a specified time period,* the emergency signal is once or repeatedly transmitted on the specified emergency channel.

When no emergency channel is specified, the call is transmitted on the operating channel.

The repeat emergency signal is automatically transmitted until you turn OFF the power.

Depending on the preprogramming, receiving an acknowledgement may cancel the transmission.

If you want to cancel the Emergency function, hold down [Emergency] for the preprogrammed time period again before transmitting the call.

If your transceiver is programmed for Silent operation, you can transmit emergency calls without the beep sounding and the LCD display changing.

 **IMPORTANT:** Setting an individual emergency channel is recommended for dependable emergency call operation.

*Depending on the preprogramming, the following functions can be automatically activated. Ask your dealer for details.

◇ NOTES

• Auto TX function

After an emergency call transmission, audio from the microphone is automatically transmitted for a specified time period.

• The HM-148G or HM-152 HAND MICROPHONE is required.

• Auto RX function

After an emergency call transmission, the transceiver stands by in the audible mode for a specified time period.

■ IDAS operation

The IC-F5120D and IC-F6120D series use the Icom Digital Advanced System (IDAS) that meets the 6.25 kHz emission mask requirements for narrow banding. IDAS increases efficiency of channel allocation and use of the RF spectrum.

/// **NOTE:** During IDAS operation, MDC 1200 system operation capability is disabled.

■ IDAS Trunk operation

The IDAS Trunk system enables further effective channel management by sharing a minimum of channels with a large number of users.

Push [Zone], then push [CH Up] or [CH Down]* to select the IDAS Trunk zone.

* The method to select the desired zones may differ, depending on your system set up.

/// **NOTE:** During IDAS Trunk operation, you can receive and transmit digital calls in the same way as IDAS operation, as described in '■ Receiving a call,' '■ Transmitting a call.'

■ Receiving a call

◇ Receiving a Voice Call

- ① When a Voice call is received:
 - Mute is released.
 - While receiving the signal, either the calling station or Talkgroup ID name (or code) can be displayed, depending on the preprogramming.
 - When an All Call signal is received, "ALL CALL" is displayed.

The calling station or
Talkgroup ID name



- ② Hold down [PTT], then speak into the microphone.
- ③ Release [PTT] to receive.

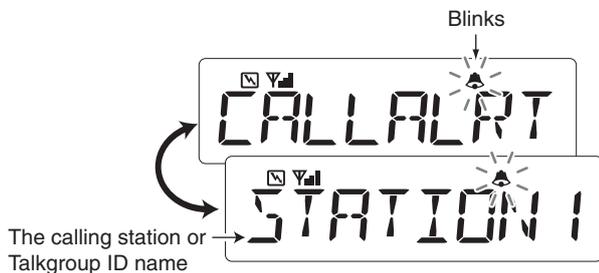
3 IDAS OPERATION

■ Receiving a call (continued)

◇ Receiving a Call Alert

① When a Call Alert signal is received:

- Beeps sound.
- “📡” blinks.
- The calling station or Talkgroup ID name (or code) and “CALLALRT” alternately appear.

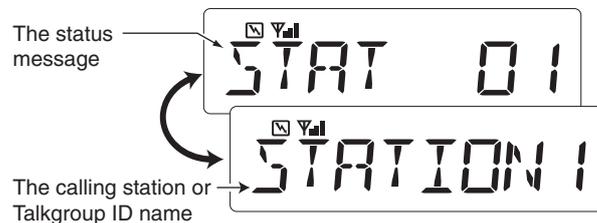


- ② Hold down [PTT], then speak into the microphone.
- ③ Release [PTT] to receive.

◇ Receiving a Status Message

① When a Status Message is received:

- Beeps sound.
- The calling station or Talkgroup ID name (or code) and the status message alternately appear.

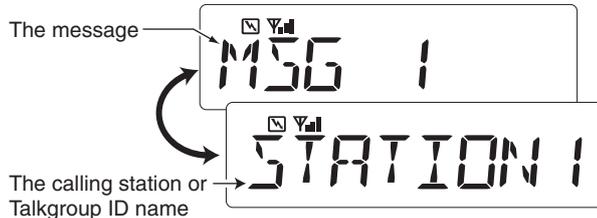


- ② To clear the ID and message display, push [PTT], turn OFF the power or change the channel.

◇ Receiving a Message

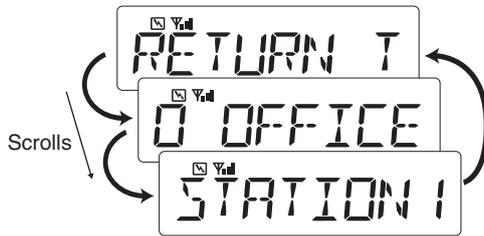
① When a Message is received:

- Beeps sound.
- The calling station ID name (or code) and the message alternately appear.



NOTE: When the message includes more than 8 characters, and the automatic scroll function is activated, the message automatically scrolls.

- Push [Status Up] or [Status Down] to manually scroll the message.



② To clear the ID and message display, push [PTT], turn power OFF or change the channel.

◇ Receiving a Stun, Kill or Revive

If an Individual call with a Stun or Kill command is received, the transceiver will display “SORRY” and you can not receive* or transmit. (RAN code matching may not be necessary, depending on the preprogramming.)

* Depending on the received Stun command setting. Revive signals can always be received.

➤ When a Stun command is received:

- The transceiver cannot be operated until an Individual call A Revive command is received, or you enter a password. (RAN code matching may not be necessary, depending on the preprogramming.)

➤ When a Kill command is received:

- The transceiver cannot be operated until data cloning is performed. Ask your dealer for details.

NOTE: Depending on the preprogramming, the transceiver can ignore the Stun, Revive and Kill commands that are from a non-specified station.

3 IDAS OPERATION

■ Receiving a call (continued)

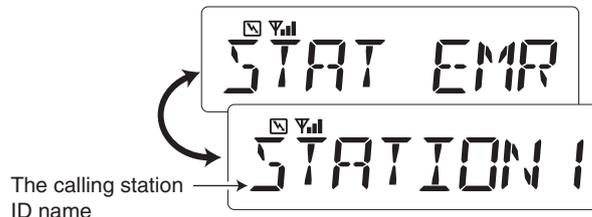
◇ Receiving a Remote Monitor, Radio Check or Status Polling Call

If an Individual call with a Remote monitor, Radio Check or Status polling command is received, the transceiver will automatically transmit. (RAN code matching may not be necessary, depending on the preprogramming.)

- ➔ When a Remote monitor command is received:
 - The microphone audio is automatically transmitted for the set time period.
- ➔ When a Radio Check command is received:
 - An acknowledgement call is automatically transmitted.
- ➔ When a Status polling command is received:
 - A status call is automatically transmitted.

◇ Receiving an Emergency call

- ① When an emergency call is received:
 - Beeps sound.
 - “STAT EMR” and the calling station ID name (or code) alternately appear.
 - The state of the backlight depends on the Backlight setting in the User Set mode. When “LIGT AUT” is selected, the backlight turns ON for the preprogrammed time period. (Auto Backlight Timer)



- ② To clear the beep, ID and message display, turn OFF the power or change the channel.

◇ Displaying the received call log

If activated, the log stores received calls into the transceiver's memory.

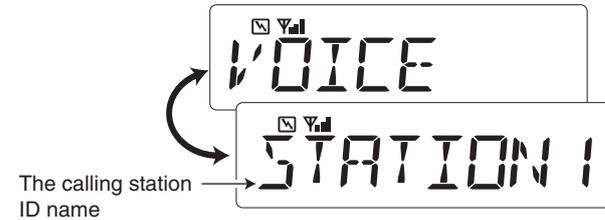
Up to 10 calls can be stored, and the oldest call record is erased when an 11th call is received. However, once the transceiver is turned OFF, the log is erased.

The Individual voice call, Call alert, Status call and Message call are stored.

- ① Push [Digital Button] to enter the application selection mode.
 - "VOICE" appears.
 - To change to the desired call type, hold down [Digital Button] for 1 second while in standby. After changing, the transceiver automatically enters the application selection mode.
- ② Push [CH Up] or [CH Down] to select "CALL LOG."

- ③ Push [Digital Button] again to display the call log information.

When log information is displayed



When there is no log information



- ④ Push [CH Up] or [CH Down] to select the desired call.
- ⑤ Hold down [PTT] to send a voice call.
 - A voice call can be made with the logged station.

3 IDAS OPERATION

■ Receiving a call (continued)

◇ Talk Back function

The talk back function allows you to select the same call mode (Analog or Digital) and/or call type (Individual or Talkgroup) as the received call.

When the talk back timer is set to 0 seconds, this function is not activated. Ask your dealer for setting details.

If this function is cancelled by pushing [Digital Button] or any other keys, or after the talk back timer period has passed, the transceiver automatically returns to the default call mode and type.

If the received call is a digital signal, the talk back function is activated only for Voice Call, Call Alert, Status Message and Message.*

* Depending on the preprogramming, the talk back function may be activated for only Voice Call.

When the channel type is “Mixed-Analog”

After receiving a digital signal, you can select the digital call mode by pushing [PTT] before or during the talk back timer period.

When the channel type is “Mixed-Digital”

After receiving an analog signal that can release the mute, you can select the analog call mode by pushing [PTT] before or during the talk back timer period.

When the channel type is “Mixed-Digital” or “Digital”

After receiving a digital signal, you can select the same call type for the received call (Individual or Talkgroup), by pushing [PTT] before or during the talk back timer period.

NOTE:

When the Talk Back function is not activated, the transceiver transmits an analog signal on a “Mixed-Analog” channel, and transmits a digital signal on a “Mixed-Digital” channel.

- The transceiver receives both analog and digital signals on the “Mixed-Analog” and “Mixed-Digital” channels, regardless of this function.

■ Transmitting a call

IDAS operation allows you to make a call to a specific station (Individual call) or to a specific group (Talkgroup call). Other digital mode transceivers on the channel will not hear a call that does not match their Individual or Talkgroup ID and/or RAN (Radio Access Number) code.

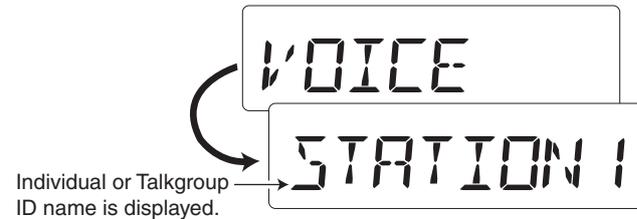
◇ Transmitting a Voice Call

- ① Push [Digital Button] to enter the application selection mode.
 - "VOICE" appears.
 - To change to the desired call type, hold down [Digital Button] for 1 second while in standby. After changing, the transceiver automatically enters the application selection mode.



* This illustration shows an Individual type call.

- ② Push [Digital Button] again to enter the Individual or Talkgroup ID selection mode.
 - The preprogrammed ID name is displayed.
 - When an ID name is not programmed, ID code is displayed.
 - The primary ID can be preset to display first.
 - When you want to make a voice call to all transceivers within the communication range, use the 'All Call' function; select the Talkgroup ID code "65535."
- ③ Push [CH Up] or [CH Down] to select a desired an ID name or ID code.



- ④ Hold down [PTT], then speak into the microphone.
- ⑤ Release [PTT] to receive.

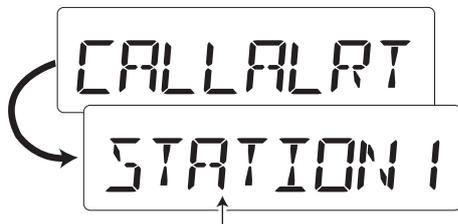
3 IDAS OPERATION

■ Transmitting a call (continued)

◇ Transmitting a Call Alert

Call Alert allows you to alert another user, who may be away from their transceiver, whom you want to talk to.

- ① Push [Digital Button] to enter the application selection mode.
 - “VOICE” appears.
 - To change to the desired call type, hold down [Digital Button] for 1 second while in standby. After changing, the transceiver automatically enters the application selection mode.
- ② Push [CH Up] or [CH Down] to select “CALLALRT.”
- ③ Push [Digital Button] again to enter the Individual or Talkgroup ID selection mode.
 - The preprogrammed ID name is displayed.
 - When an ID name is not programmed, the ID code is displayed.
 - The primary ID can be preset to display first.
- ④ Push [CH Up] or [CH Down] to select the desired ID name (or ID code).



Individual or Talkgroup ID name is displayed.

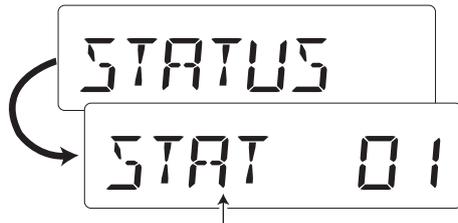
- ⑤ Hold down [PTT] to transmit the Call Alert to the selected station or Talkgroup.
 - “CA CALL” is displayed.
- ⑥ Release [PTT].
 - After receiving an acknowledgement from the targeted station, “CA OK” is displayed.
 - If the targeted station does not receive the signal or send back an acknowledgement, “CA FAIL” is displayed.
- ⑦ After a specified time period has passed, the transceiver will return to receive.

◇ Transmitting a Status Message

The transceiver has the ability to send a preprogrammed status message.

There are up to 100 status messages that can be sent.

- ① Push [Digital Button] to enter the application selection mode.
 - “VOICE” appears.
 - To change to the desired call type, hold down [Digital Button] for 1 second while in standby. After changing, the transceiver automatically enters the application selection mode.
- ② Push [CH Up] or [CH Down] to select “STATUS.”
- ③ Push [Digital Button] again to enter the status message selection mode.
 - A preprogrammed status message is displayed.
- ④ Push [CH Up] or [CH Down] to select the desired message.



Preprogrammed status message is displayed.

- ⑤ Push [Digital Button] again to enter the Individual or Talkgroup ID selection mode.
 - The preprogrammed ID name is displayed.
 - When an ID name is not programmed, the ID code is displayed.
 - The primary ID can be preset to display first.
- ⑥ Push [CH Up] or [CH Down] to select the desired ID name (or ID code).



Individual or Talkgroup ID name is displayed.

- ⑦ Push [PTT] to transmit the status message.
 - “STAT TX” is displayed.
- ⑧ Release [PTT].
 - “STAT OK” is displayed after receiving an acknowledgement from the base station.
 - “STA FAIL” is displayed if there is no acknowledgment from the base station.
- ⑨ After a specified time period has passed, the transceiver will return to standby.

3 IDAS OPERATION

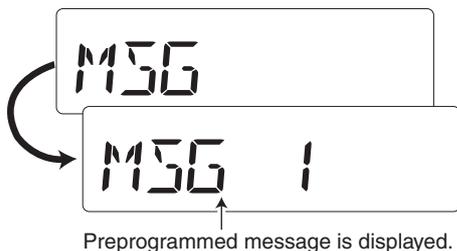
■ Transmitting a call (continued)

◇ Transmitting a Message

The transceiver has the ability to send a preprogrammed message.

There are 10 messages that can be sent.

- ① Push [Digital Button] to enter the application selection mode.
 - “VOICE” appears.
 - To change to the desired call type, hold down [Digital Button] for 1 second while in standby. After changing, the transceiver automatically enters the application selection mode.
- ② Push [CH Up] or [CH Down] to select “MSG.”
- ③ Push [Digital Button] again to enter the message selection mode.
 - The preprogrammed message is displayed.
- ④ Push [CH Up] or [CH Down] to select the desired message.



- ⑤ Push [Digital Button] again to enter the Individual or Talkgroup ID selection mode.
 - The preprogrammed ID name is displayed.
 - When an ID name is not programmed, the ID code is displayed.
 - The primarily ID can be preset to display first.
- ⑥ Push [CH Up] or [CH Down] to select the desired ID name (or ID code).



Individual or Talkgroup ID name is displayed.

- ⑦ Push [PTT] to transmit the message.
 - “MSG TX” is displayed.
- ⑧ Release [PTT].
 - “MSG OK” is displayed after receiving an acknowledgement from a base station.
 - “MSG FAIL” is displayed if there is no acknowledgment from the base station.
- ⑨ After a specified time period has passed, the transceiver will return to standby.

◇ Transmitting an Emergency Call

When [Emergency] (described in the instruction manual) is held down for the specified time period, the emergency signal is transmitted once or repeatedly* on the emergency channel. When no emergency channel is specified, the signal is transmitted on the operating channel.

*When the Repeat Cancel function is ON, the transceiver cancels repeat calling after receiving an acknowledgement.

When the Repeat Cancel function is OFF, the transceiver continues to call according to the number of repeat cycles, even after receiving an acknowledgement.

Individual or Talkgroup call types of emergency calls can be preset. If the call type is not preset, the default or selected call type is used.

If you want to cancel the emergency call, hold down [Emergency] again before transmitting the call.

The emergency call can be transmitted without sounding beeps or changing the LCD display, depending on the pre-programming. (Silent operation)

The transceiver can also be programmed to keep the microphone open during an emergency call, allowing other stations to monitor the situation.

Ask your dealer for details.

 **IMPORTANT:** Setting an individual emergency channel is recommended for dependable emergency call operation.

 **NOTE:** When the Digital Request Ack function is activated, the transceiver transmits an emergency call with a request to send back an acknowledgment.

■ Transmitting Position data

When a GPS receiver is connected to the transceiver, the position (longitude and latitude) data can be automatically transmitted:

- When the GPS request status message is received
- After sending a voice message
 - 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 a message
 - Set the 'Send with SDM Call' item to 'Enable.'
- After sending a Call Alert
 - Set the 'Send with Call Alert' item to 'Enable.'
- After sending an Emergency call
 - Set the 'Send with Emergency' item to 'Enable.'

Ask your dealer or system operator for connection details.

■ Transmitting Status messages

A status message can be automatically transmitted.

A status message is transmitted:

- When the transceiver is turned ON or turned OFF
 - Set a status message to be transmitted in 'Power ON Status' or 'Power OFF Status' item, respectively.
 - Set the target station ID in 'Power Status ID.'
- After sending a voice message
 - Set the 'Send with Voice Call' item to 'Enable.'
 - Set a status message to be transmitted in the 'Send Status Number' item.

■ Sounding a Horn

The automatic honking function can be used when a horn is connected to the transceiver through the optional ACC cable OPC-1939 (D-Sub 15-pin) or OPC-2078 (D-Sub 25-pin).

When a status message is received, the transceiver sounds the vehicle's horn for the specified time period to inform you that a status message has being received.

This function is convenient when the operator is away from the transceiver.

Ask your dealer or system operator, or refer to the IC-F5120D/F6120D series service manual for connection and setting details.

■ Connecting a Printer

When the printer is connected to the transceiver through the OPC-2078, the received SDM content and the called station ID can be printed out.

Ask your dealer or system operator for connection details.

■ Using Voice Encryption

The encryption function enables voice encrypting, which provides private digital communication between stations.

- ① Push [Encryption] to turn ON the encryption function.
 - “” appears.
- ② Push [Encryption] again to turn OFF the encryption function.
 - “” disappears.

Count on us!