

ICOM

INSTRUCTION MANUAL

VHF PERSONAL MOBILE RADIO

IC-F1010

UHF PERSONAL MOBILE RADIO

IC-F2010



Icom Inc.

IMPORTANT

READ ALL INSTRUCTIONS carefully and completely before using the transceiver.

SAVE THIS INSTRUCTION MANUAL— This instruction manual contains important operating instructions for the **IC-F1010** and **IC-F2010 PMR TRANSCEIVERS**.

EXPLICIT DEFINITIONS

The following explicit definitions apply to this manual.

WORD	DEFINITION
⚠ WARNING	Personal injury, fire hazard or electric shock may occur.
CAUTION	Equipment damage may occur.
NOTE	If disregarded, inconvenience only. No risk of personal injury, fire or electric shock.

CAUTIONS

⚠ WARNING! NEVER connect the transceiver to an AC outlet. This may pose a fire hazard or result in an electric shock.

NEVER connect the transceiver to a power source of more than 16 V DC such as a 24 V battery. This connection will ruin the transceiver.

NEVER cut the DC power cable between the DC plug and fuse holder. If an incorrect connection is made after cutting, the transceiver might be damaged.

NEVER place the transceiver where normal operation of the vehicle may be hindered or where it could cause bodily injury.

NEVER allow children to touch the transceiver.

NEVER expose the transceiver to rain, snow or any liquids.

USE supplied microphone only. Other microphones have different pin assignments and may damage the transceiver.

DO NOT connect the transceiver to a power source using reverse polarity. This connection will not only blow fuses but also may damage the transceiver.

DO NOT use or place the transceiver in areas with temperatures below -10°C or above $+60^{\circ}\text{C}$ or, in areas subject to direct sunlight, such as the dashboard.

AVOID operate the transceiver without running the vehicle's engine. The vehicle's battery will quickly run out if the transceiver is in transmission while the vehicle's engine OFF.

AVOID placing the transceiver in excessively dusty environments.

AVOID placing the transceiver against walls. This will obstruct heat dissipation.

AVOID the use of chemical agents such as benzine or alcohol when cleaning, as they damage the transceiver surfaces.

BE CAREFUL! The transceiver will become hot when operating continuously for long periods.

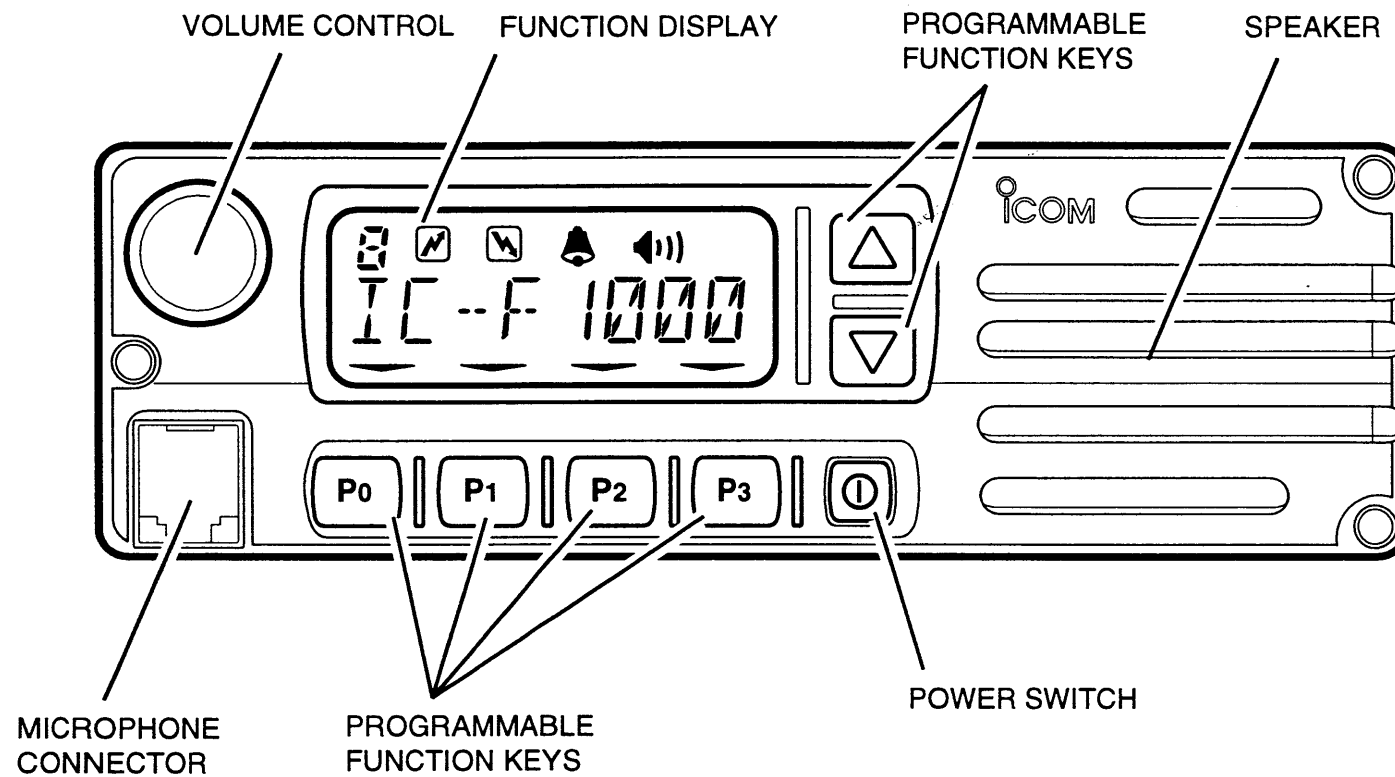
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1

PANEL DESCRIPTION

■ Front panel



VOLUME CONTROL

Adjust the audio output level.

- Minimum audio level (when setting control at maximum counter-clockwise) is pre-programmed.

POWER SWITCH

Turns the power ON and OFF.

- The following functions are available at power ON as options:
 - Automatic scan start
 - Password prompt

MICROPHONE CONNECTOR

Connect the supplied microphone here.

NEVER connect other microphones. The pin assignments may be different and the transceiver may be damaged.

MICROPHONE

The supplied microphone has a PTT switch and a hanger hook.

- The following functions are available when the microphone is hung on or released from the microphone hanger:
 - Automatic scan start when hung.
 - Automatic priority channel selection when released.
 - Sets to 'Inaudible' condition (mute condition) when hung.
 - Sets to 'Audible' condition (unmute condition) when released.

■ Programmable function keys

The following functions can be assigned to programmable function keys. Assigned function names can be affixed to the LCD using supplied stickers.

CHANNEL UP AND DOWN KEYS

- CH UP**
 - Select an operating channel
 - Select a bank after pushing the [**BANK S**] key.
- CH DN**
 - Select a transmit code channel after pushing the [**TX CH**] key.
 - Select a DTMF channel after pushing the [**DTMF**] key.
 - Select a scan group after pushing and holding the [**SCAN**] key.

BANK UP AND DOWN KEYS

- BK UP** Select a bank (a group of 16 (or multiples of) channels).
- BK DN**
 - This function may be available for the optional 160 channel type only.

BANK SELECT KEY

- BK S** Sets the [**CH UP**] and [**CH DN**] keys as bank up/down keys.
 - Push this key, then push the [**CH UP**] or [**CH DN**] to select the desired bank.

1 PANEL DESCRIPTION

PRIORITY CHANNEL KEY

PRI A Selects a priority A or priority B channel with each push.

PRI B

SCAN START/STOP KEY

SCAN Push this key to start scanning; and push again to stop.


NOTE: Hung the microphone to the microphone hanger to operate scanning. When release the microphone, scan will be canceled.

Push and hold this key to indicate the scan group, then push [CH UP] or [CH DN] to select the desired group.

- Channel scan and priority scan are pre-selected as an option.

SCAN TAG KEY

TAG Adds or deletes the selected channel to the scan group.

- “” appears above the [TAG] key when the channel belongs to the scan group.

LOCK KEY

LOCK Electronically locks all programmable keys except the following:

- [CALL] (incl. CAL A and CAL B), [MONI] and [EMER] keys.

MONITOR KEY

MONI Activates one of (or two of) the following functions on each channel independently:

- Push and hold the key to unmute the channel (audio is emitted; ‘Audible’ condition).
- Push the key to toggle the mute and unmute conditions (toggles ‘Audible’ and ‘Inaudible’).
- Push the key to mute the channel (sets to ‘Inaudible’ only).
- Push the key to unmute the channel (sets to ‘Audible’ only).
- Push the key after the communication is finished to send a ‘reset code’.

NOTE: The unmute condition (‘Audible’ condition) may automatically return to the mute condition (‘Inaudible’ condition) after a specified period.

OUTPUT POWER SELECTION KEY

HIGH Selects the transmit output power temporarily or permanently depending on the pre-setting.

LOW1 • Ask your dealer or system operator for the output power

LOW2 level for each selection.

TALK AROUND KEY

- TA** Turns the talk around function ON and OFF.
- The talk around function equalizes the transmit frequency to the receive frequency for mobile-to-mobile communication.

CALL KEY

- CALL** Transmit a 5-tone call.
- Call transmission is necessary before you call another station depending on your signaling system.
- CAL A**
- The [CAL A] and/or [CAL B] keys may be available when your system adopts selective 'Individual/Group' calls. Ask your system operator which call is assigned to each key.
- CAL B**

EMERGENCY KEY

- EMER** Push and hold the key to transmit an emergency call.
- An emergency call is transmitted for a specified period after the "☐" appears.
 - If you want to cancel the emergency call, push (or push and hold) the key again before transmitting the call.
 - The emergency call is transmitted one time only or repeatedly until receiving a control code depending on the pre-setting.

TX CODE CHANNEL KEY

- TX CH** Selects a transmit 5-tone code (station code) channel.
- Push this key, then select the desired TX channel using the [CH UP] or [CH DN] key.

TX CODE NUMBER SELECT KEY

- CODE** Allows you to input a transmit 5-tone code (station code) number.
- Push this key, then set the code on the blinking digit using the [CH UP] or [CH DN] key

DTMF CHANNEL SELECT KEY

- DTMF** Push this key to select a DTMF channel.
- Push this key, then select the desired DTMF channel using the [CH UP] or [CH DN] key.
- Push and hold this key to transmit the selected DTMF code.

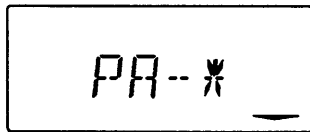
1 PANEL DESCRIPTION

PUBLIC ADDRESS KEY

PA

When an optional OPC-617 ACC CABLE is installed, the audio output via the cable can be controlled from the transceiver separately from the [VOLUME] control.

- This audio output can be used as a 'public address' function when an external audio amplifier and speaker are connected additionally.
- Push this key, then speak into the microphone while pushing the PTT switch.
- The [CH UP] and [CH DN] keys allow you to set the audio output level, from “/” (minimum) to “*” (maximum).



EXTERNAL SPEAKER SWITCH

SP

When external connections are made for the 'public address' function, the external speaker drive function is also available simultaneously. The received audio can be heard via the external speaker when this key is pushed.

- This function is useful when you are out of the vehicle.
- The audio output level is linked to the transceiver's volume control.

Function display



BANK NUMBER READOUT

Appears for the 'Bank' type and 180 channel type only.

Shows the selected bank number or a hundred digit to show more than 100 channels.



TRANSMIT INDICATOR

Appears while transmitting or sending a 5-tone code.



BUSY INDICATOR

Appears while the channel is busy.



BELL INDICATOR

Appears or blinks when the specified 5-tone call is received.



AUDIBLE INDICATOR

Appears when the channel is in the 'Audible' condition (unmute condition).



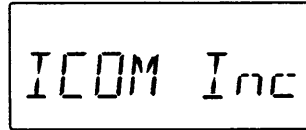
ACTIVATED KEY INDICATOR

Appears or blinks when the key under this indicator is activated.

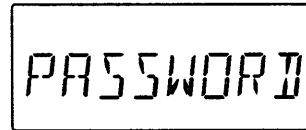
■ Turning power ON

- ① Push ① to turn the power ON.
 - A power-up alert tone sounds for about 1 sec. and an opening message may appear.

- ② If the transceiver is programmed for start up passcode, input digit codes as directed by your system operator.
 - The following keys can be used for the password input:
The transceiver detects the numbers in the same block as the same number. Therefore the same effect for "1234" and "6789."



Opening message may differ depending on the pre-setting.



Input your password if this display appears.

KEY	P0	P1	P2	P3	▽
NUMBER	0 5	1 6	2 7	3 8	4 9

- ③ When the "PASSWORD" indication does not clear after 4-digit input, the input code number may be incorrect. Turn power off and start over in this case.

■ Channel selection

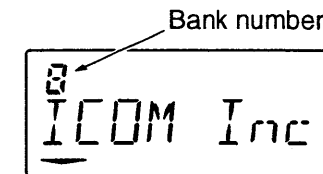
There are several types available, and channel selection method may differ according to your system:

NON-BANK TYPE:

Push the [CH UP] or [CH DN] keys to select the desired operating channel.

BANK-TYPE:

- ① Push [BK S], then push [CH UP] or [CH DN] to select the desired bank number; or Push [BK UP] or [BK DN] if the transceiver has these keys.
- ② Push [CH UP] or [CH DN] to select the desired channel in the selected bank.



AUTOMATIC SCAN TYPE:

Channel setting is not necessary for this type. When turning the power ON, the transceiver automatically starts scanning. Scanning stops when receiving a call or taking the microphone off from the microphone hanger.

2 OPERATION

■ Receiving and transmitting

RECEIVING:

- ① Push [①] to turn the power ON.
- ② Push [CH UP] or [CH DN] to select a channel.
- ③ When receiving a call, adjust the volume to a comfortable listening level.

TRANSMITTING:

- ④ Hung off the microphone from the microphone hanger:
 - 5-tone mute may be released (the 'audible' condition is selected and "🔊") appears).
 - A priority channel may be selected automatically.
- ⑤ Wait for the channel to become clear.
 - The channel is busy when "🔊" appears.
- ⑥ Push the [CALL] key when initiating a call from your side.
 - Coded audios may be heard from the transceiver, then "🔊") appears
 - This operation may not be necessary depending on your signaling system. Ask your system operator or dealer.
- ⑦ While pushing and holding [PTT], speak into the microphone at your normal voice level.
- ⑧ Release [PTT] to receive.

▨ **IMPORTANT:** To maximize the readability of your signal: (1) pause briefly after pushing [PTT], (2) hold the transceiver 15 to 20 cm from your mouth, then speak into the microphone with normal voice level.

◇ Transmitting notes

• Transmit inhibit function

The transceiver has several lockout/inhibit functions which restricts the transmission under the following conditions:

- The channel is in mute condition ('Inaudible' condition; "🔊") does not appear)
- Channel is busy.
- Not matched (or matched) CTCSS is receiving.
- The selected channel is a 'receive only' channel.

• Time-out timer

After continuous transmission for a pre-programmed period, the time-out timer is activated causing the transceiver to stop transmitting and automatically select receive.

• Penalty timer

Once the time-out timer is activated, transmission is further inhibited for a period determined by the penalty timer.

◆Tx code channel selection

If the transceiver has the [TX CH] key, display can be toggled with the operating channel number (or name) and Tx code channel number (or name). When the Tx code channel number (or name) is displayed, the [CH UP] or [CH DN] key selects the Tx code channel.

TO SELECT A TX CHANNEL:

- ① Push [TX CH] — a Tx code channel appears.
- ② Push [CH UP] or [CH DN] to select the desired Tx code channel.
- ③ Push [CALL] to transmit the selected Tx code.
- ④ Push [TX CH] again to return to the channel display.

◆Tx code number selection

If the transceiver has the [CODE] key, Tx code contents can be changed within the allowable digits.

TO SELECT A TX CODE:

- ① Push [CODE] — a Tx code number appears and an allowable digit blinks.
- ② Push [CH UP] or [CH DN] to select the desired number on the blinking digit.
- ③ Push [CODE] to enter the selected number.
- ④ Repeat steps ② and ③ to input all allowed digits.
- ⑤ Push [CALL] to transmit the selected Tx code.

◆DTMF transmission

If the transceiver has [DTMF] key, the automatic DTMF transmission function is available. Up to 7 DTMF channels may be available.

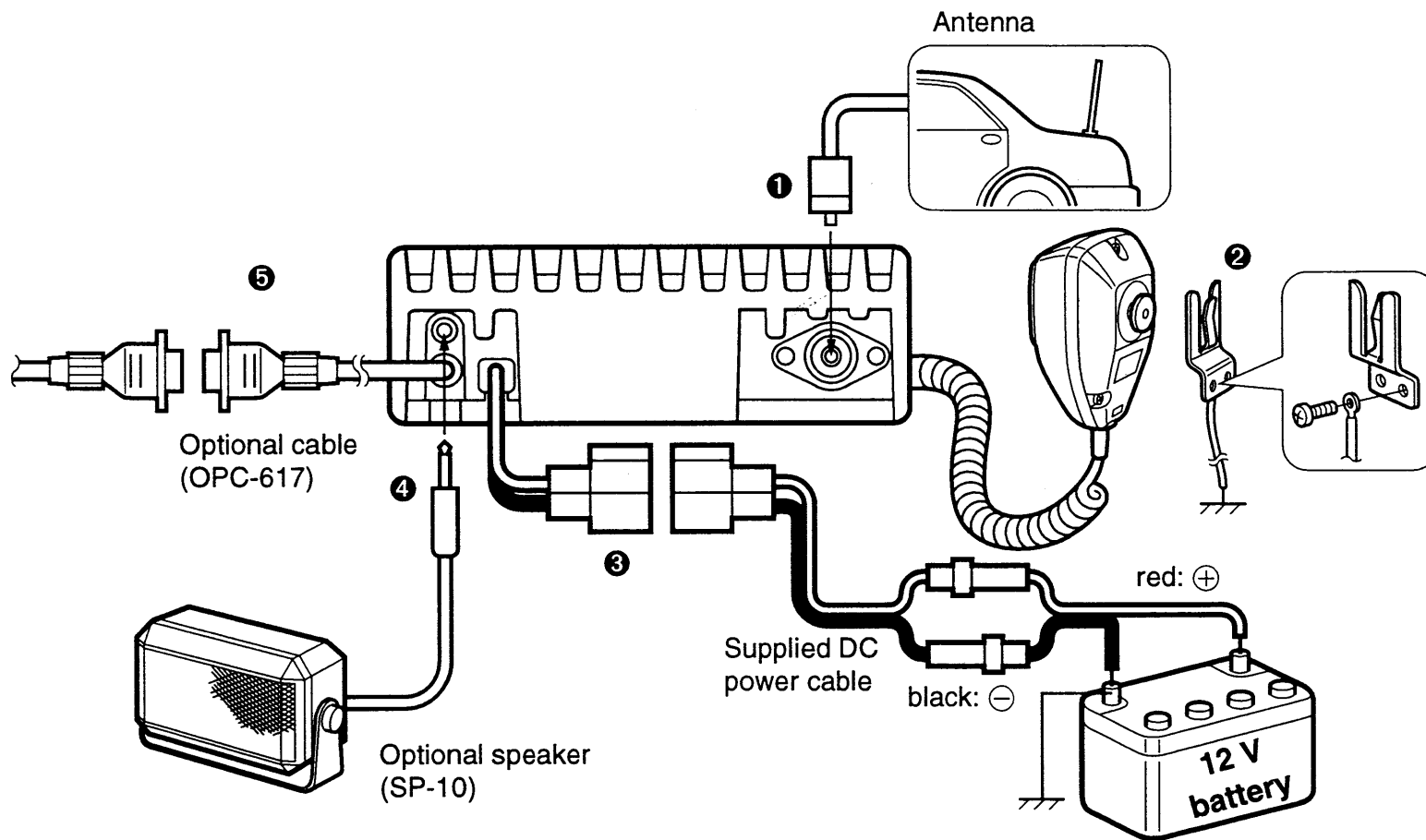
- ① Push [DTMF] to select the display as at right.
- ② Push [CH UP] or [CH DN] to select the desired DTMF channel.
- ③ Push and hold [DTMF] to transmit the DTMF code in the selected DTMF channel.



3

CONNECTION AND INSTALLATION

■ Rear panel and connection



1 ANTENNA CONNECTOR

Connects to an antenna. Ask your dealer about antenna selection and best installation location.

2 MICROPHONE HANGER

Connect the supplied microphone hanger to the vehicle's ground for hanger function when hanging or releasing the microphone.

3 DC POWER RECEPTACLE

Connects to a 12 V DC battery. Pay attention to polarities. **NEVER** connect to a 24 V battery. This could damage the transceiver.

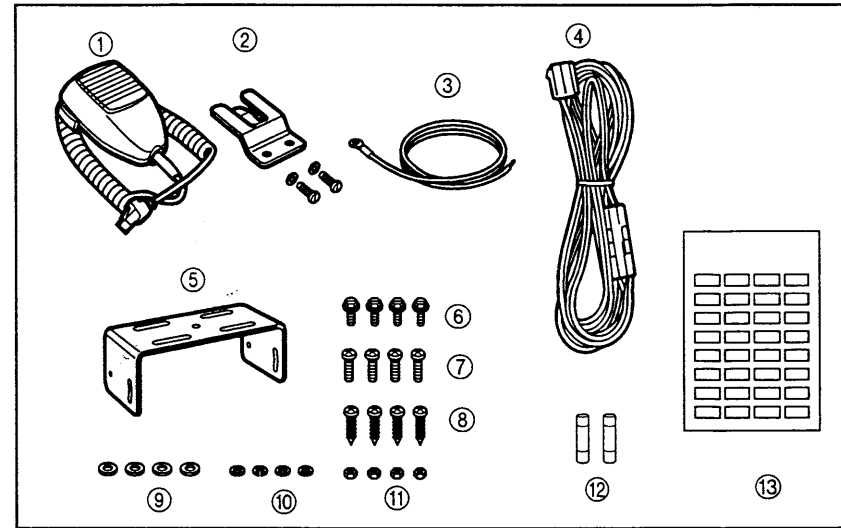
4 EXTERNAL SPEAKER JACK

Connect a 4–8 Ω external speaker, if desired.

5 OPTIONAL CABLE (OPC-617)

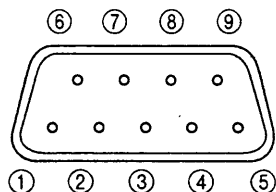
Connect an external modem unit, LCD backlight control, audio amplifier for 'public address' function, etc.

Unpacking



- ① Microphone (EM-99) 1
- ② Microphone hanger and screw set..... 1set
- ③ Microphone cable 1
- ④ DC power cable (OPC-345) 1
- ⑤ Mounting bracket 1
- ⑥ Bracket bolt 4
- ⑦ Mounting screw (M5x12).... 4
- ⑧ Self-tapping screw (M5x20) 4
- ⑨ Flat washer 4
- ⑩ Spring washer 4
- ⑪ Nut 4
- ⑫ Fuse (15 A) 2
- ⑬ Function name sticker..... 1

OPTIONAL CABLE PIN ASSIGNMENT



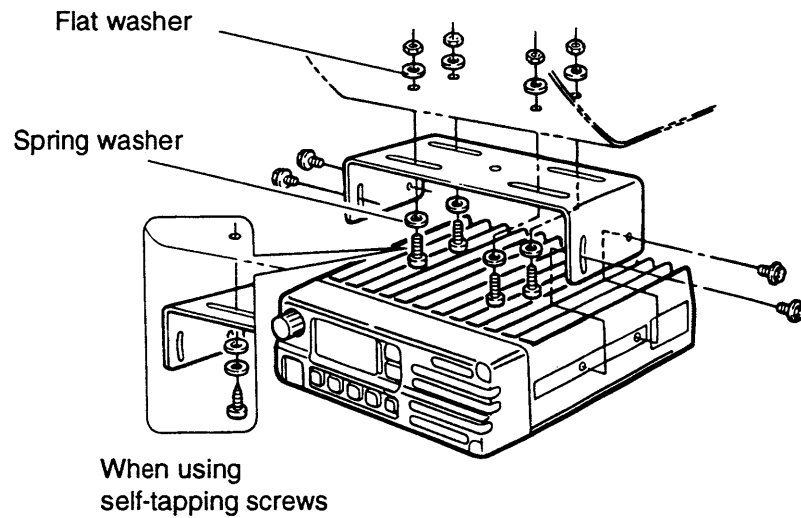
- ① LCD backlit cont. IN
- ② P-Adress AF OUT
- ③ Det. AF OUT
- ④ Mod. IN
- ⑤ PTT control IN
- ⑥ Horn drive cont. OUT
- ⑦ P-Adress AF GND
- ⑧ Det. AF GND
- ⑨ Mod. GND

◆Function name sticker

There are no name on the programmable function keys since the needed functions can be assigned to these keys. Therefore, attach the supplied function name sticker on the “” indicator.

3 CONNECTION AND INSTALLATION

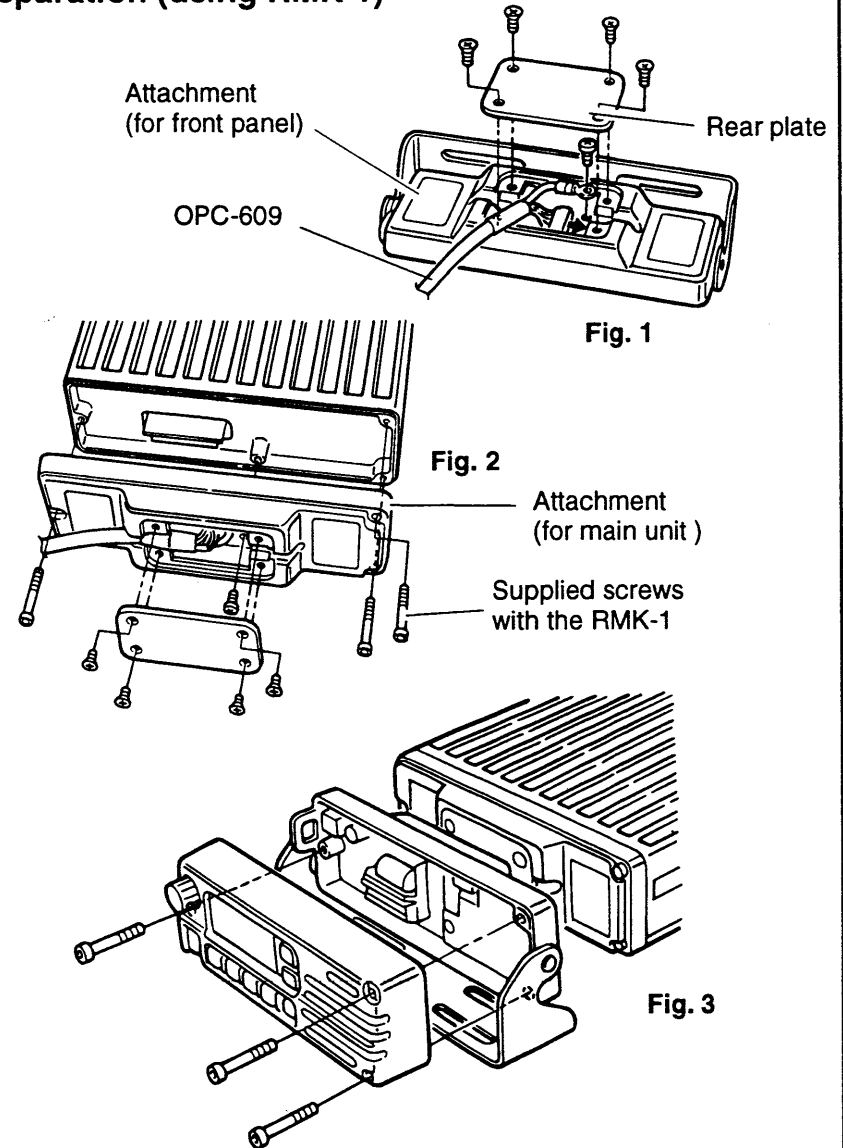
■ Mounting



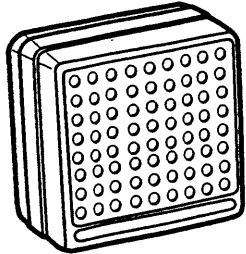
■ Separation

- ① Separate the front panel from the transceiver main unit using an allen-wrench (1/32 in).
- ② Connect the optional OPC-609 cable to the both front and main unit attachments (fig 1 and 2).
 - Remove the rear plate of the attachment.
 - Use the supplied screw to connect a cable lug.
 - For the main unit attachment, attach to the main unit using supplied screws, in advance.
- ③ Attach the front panel and attachment with the removed 3 allen socket bolts (fig. 3)

•Separation (using RMK-1)



EXTERNAL SPEAKERS

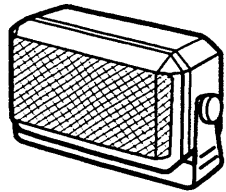


SP-5

Large speaker for good audio quality.

Input impedance: 4 Ω

Max. input power: 5 W

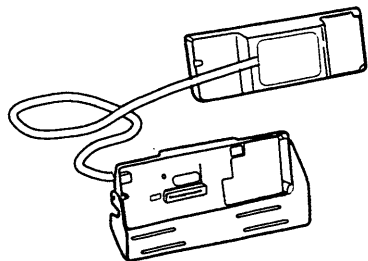


SP-10

Compact and easy-to-install.

Input impedance: 4 Ω

Max. input power: 5 W

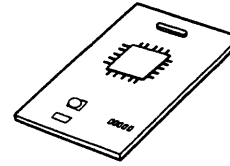


RMK-1 SEPARATION KIT and

OPC-609 SEPARATION CABLE

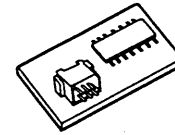
Allows you for separate installation of the transceiver main unit and front panel for easy installation and good operation convenience.

Cable length: 1.9 m



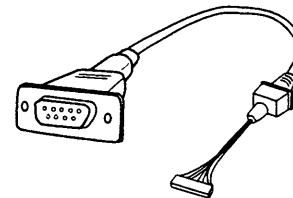
UT-96 5-TONE DECODER UNIT

Provides for the 5-tone signaling system.



EX-1761 MEMORY EXPANSION UNIT

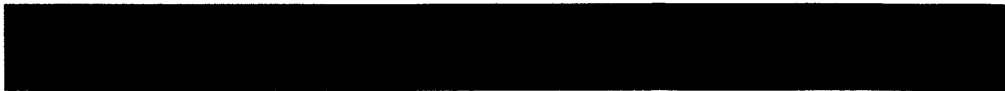
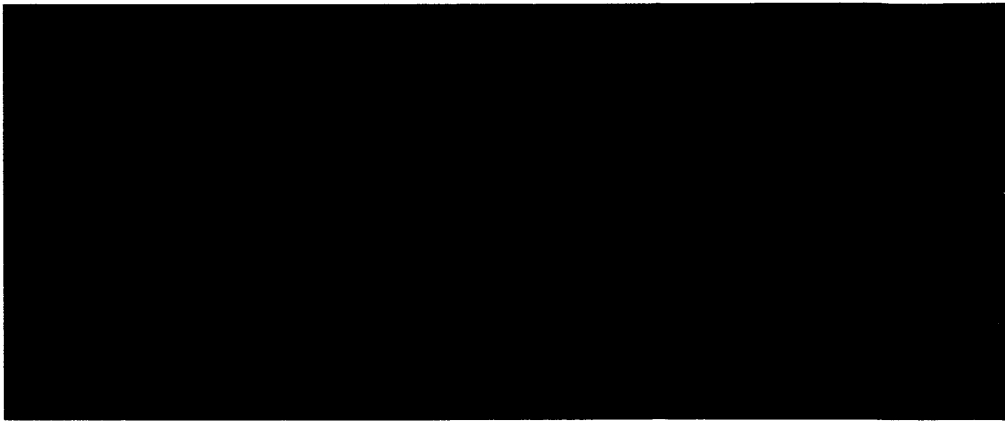
Provides the 160 channels for large system operation.



OPC-617 ACC CABLE

Allows you to external terminal connection.

Count on us!



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