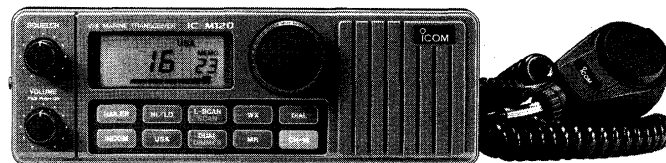


ICOM

INSTRUCTION MANUAL

VHF MARINE TRANSCEIVER

IC-M120



Icom Inc.

IMPORTANT SAFETY PRECAUTIONS

Before using the transceiver, read all instructions carefully and completely.

SAVE THESE INSTRUCTIONS – This instruction manual contains important safety and operating instructions for the IC-M120.

NEVER connect the transceiver to more than a 16 V DC power source or an AC outlet. This will ruin the transceiver.

NEVER allow children to touch the transceiver.

NEVER put the transceiver in water. **AVOID** using in rain and snow.

AVOID using or placing the transceiver in areas with temperatures below -20°C (-4°F) or over $+60^{\circ}\text{C}$ ($+140^{\circ}\text{F}$).

AVOID placing the transceiver in direct sunlight.

KEEP the antenna cable and DC power cable as far away as possible from electrical pumps, generators and other electrical instruments to prevent instrument malfunctions.

BE CAREFUL! If the transceiver is not securely mounted with bolts and nuts, personal injury or transceiver damage could occur due to wave shock, vibrations, etc.

BE CAREFUL! The heatsink may become hot when the transceiver transmits continuously for a long time.

DO NOT use any object to push the front panel switches, as the switches could be damaged. Push the switches lightly with your fingertips only.

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FOREWORD

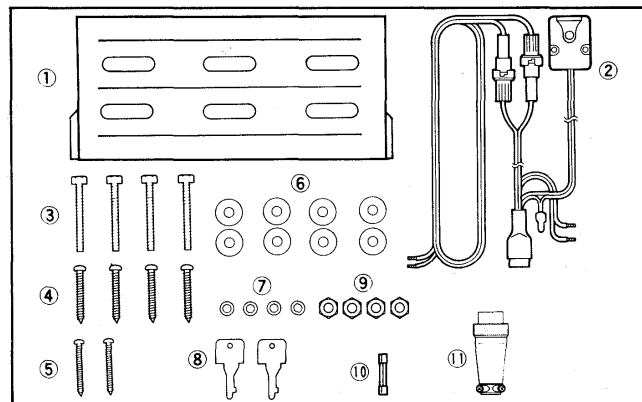
Thank you for purchasing the **IC-M120** VHF MARINE TRANSCEIVER. Icom has produced this state-of-the-art marine transceiver using the most advanced technology.

The **IC-M120** has the following advanced features:

- Strong weather-resistant, dust-tight design.
- **HAILER** and **INTERCOM** operations available.
- Large LCD display including S/R/F indicator.
- All marine, 10 weather and 24 memory channels.
- Variety of scanning functions.
- Dual watch for monitoring Channel 16 during operation.
- 25 W stable output power with a large heatsink.
- High sensitivity and strength against intermodulation interference.
- Momentary high transmit output power on U.S.A. Channels 13 and 67.
- An optional handset is available for listening privacy.

To fully appreciate the capabilities of your new **IC-M120**, please read this instruction manual thoroughly. For further information, please feel free to contact your nearest Icom Dealer or Service Center.

UNPACKING



① Mounting bracket	1
② DC power and microphone cable*	1
③ Mounting bolts (M6 x 50)	4
④ Mounting screws (A0 6 x 30)	4
⑤ Mic hanger screws (A0 3.5 x 30)	2
⑥ Flat washers (M6)	8
⑦ Spring washers (M6)	4
⑧ Mounting bracket keys	2
⑨ Nuts (M6)	4
⑩ Fuse (10 A)	1
⑪ ACC connector plug	1

* OPC-218 (gray) OPC-218A (white)

(1) PRIORITIES

- 1) Read all rules and regulations pertaining to priorities and keep an up-to-date copy handy. Safety and distress calls take priority over all others.
- 2) You must monitor Channel 16 when you are not operating on another channel.
- 3) False or fraudulent distress signals are prohibited under law.

(2) PRIVACY

- 1) Information overheard but not intended for you cannot lawfully be used in any way.
- 2) Indecent or profane language is prohibited.

(3) RADIO LICENSES

• Ship Station License

When your craft is equipped with a VHF FM transceiver, you must have a current radio station license before using the transceiver. It is unlawful to operate a ship station which is not licensed.

Inquire through your dealer or the appropriate government agency for a Ship-Radiotelephone License application. Your government-issued license states the call sign which is your craft's identification for radio purposes.

• Operator's License

A restricted Radiotelephone Operator Permit is the license most often held by small vessel radio operators when a radio is not required for safety purposes. You can usually obtain this permit by mail.

The Restricted Radiotelephone Operator Permit must be posted near the transceiver or be kept with the operator. Only a licensed radio operator may operate a transceiver.

However, non-licensed individuals may talk over a transceiver if a licensed operator starts, supervises, and ends the call, and makes the necessary log entries.

A current copy of the applicable government rules and regulations is usually required to be kept.

2

PANEL DESCRIPTION

2-1 FRONT PANEL

SQUELCH CONTROL [SQUELCH]

Rotate clockwise to cut off audio noise. (p. 10)

When a signal is received, the squelch opens and audio is emitted from the speaker.

VOLUME CONTROL AND POWER SWITCH [VOLUME]

Push the control to turn ON and OFF power. (p. 9)

Rotate to adjust audio output level. (p. 10)

HAILER SWITCH [HAILER]

Selects and cancels the hailer function. (p. 18)

INTERCOM SWITCH [INCOM]

Selects and cancels the intercom function. (p. 19)

TRANSMIT POWER SWITCH [HI/LO]

Selects the high or low transmit output power. (p. 10)

HIGH: 25 W LOW: 1 W

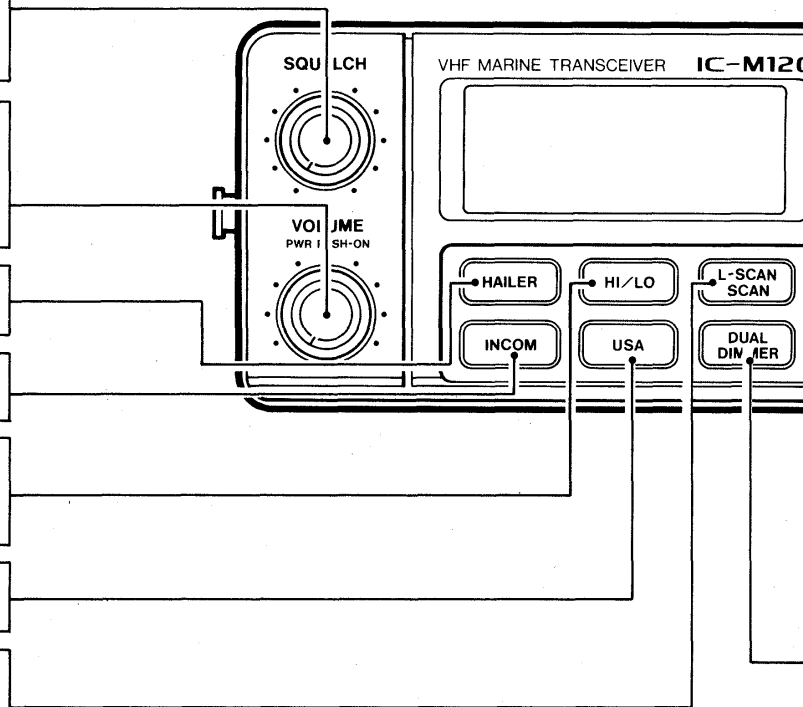
U.S.A. CHANNEL SWITCH [USA]

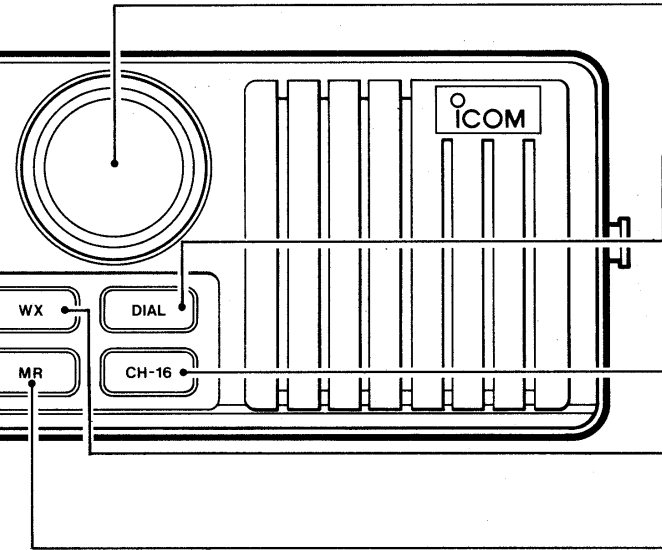
Selects U.S.A. or international marine channels. (p. 9)

SCAN SWITCH [L-SCAN SCAN]

Push to start lockout scan. (p. 15)

Push and hold to start full scan. (p. 14)





CHANNEL SELECTOR
Selects an operating channel. (p. 9)

DIAL SWITCH [DIAL]
Selects DIAL mode which includes all U.S.A. and international marine channels. (p. 9)

CHANNEL 16 SWITCH [CH-16]
Selects Channel 16. This channel can be used as a call channel for ship-to-ship contact or as a marine distress and safety call channel. (p. 9)

WEATHER CHANNEL SWITCH [WX]
Selects WEATHER mode which has 10 weather channels. (p. 9)

MEMORY SWITCH [MR]
Push to select MEMORY mode. (p. 12)
Push and hold to select MEMORY WRITE mode. (p. 13)

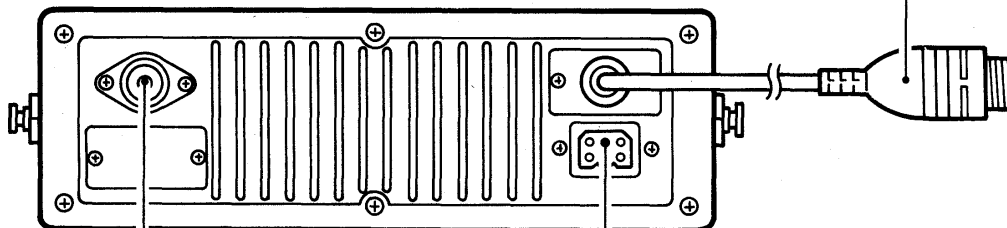
DUAL WATCH AND DIMMER SWITCH [DUAL DIMMER]
Push to start dual watch. (p. 16)
Push and hold to turn ON and OFF the backlight of the function display. (p. 17)

2 PANEL DESCRIPTION

2-2 REAR PANEL

ACC CONNECTOR CABLE

Connects speaker and switches for the hailer and intercom functions. Connect an optional UA-1 AUDIO AMPLIFIER to this connector, if desired. (pgs. 7, 8)



ANTENNA CONNECTOR

Connects an antenna with a PL-259 connector to the transceiver. (p. 7)

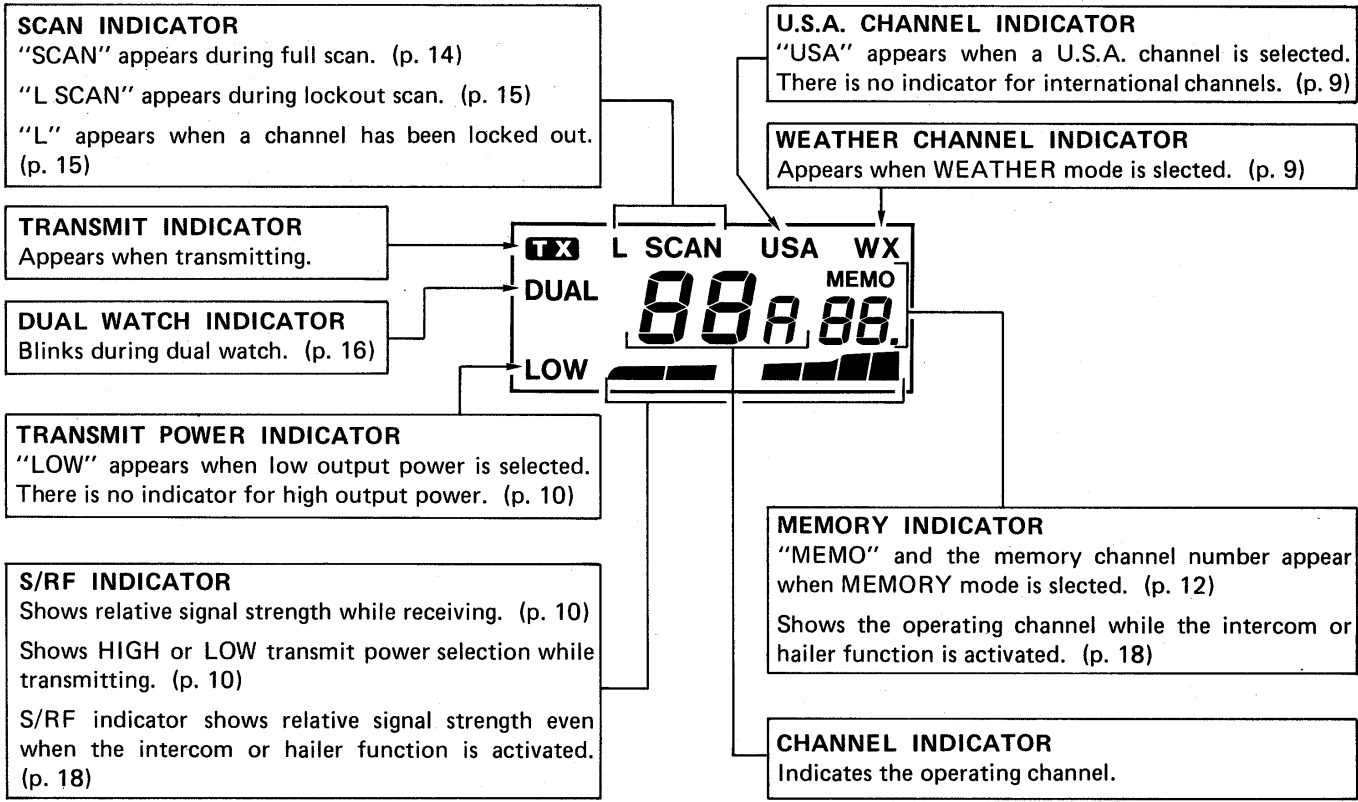
CAUTION: Transmitting without an antenna will damage the transceiver.

DC POWER CONNECTOR

Connect the supplied DC power cable from this connector to an external 12 V DC power source. (p. 7)

The mic hanger and external speaker outputs are also included in this connector.

2-3 FUNCTION DISPLAY



3

INSTALLATION

(1) MOUNTING THE TRANSCEIVER

The universal mounting bracket supplied with your transceiver allows "overhead" or "dashboard" mounting. Please read the following instructions carefully.

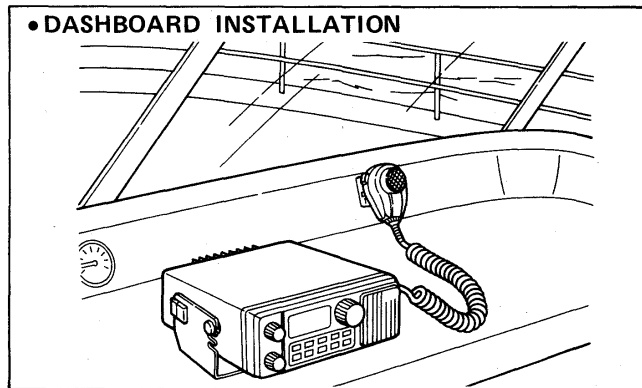
- Install the bracket so the transceiver is adequately supported, thus protecting it from wave shock and vibrations.
- **DO NOT** drill new mounting holes in the bracket, as the balance of the transceiver may be affected.

CAUTION: BE CAREFUL! Mount the transceiver securely with bolts and nuts or it may drop during wave shocks or vibrations.

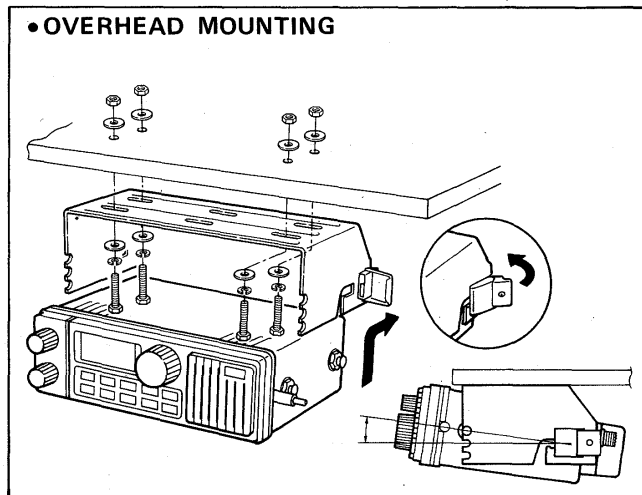
(2) ANTENNA

One of the most important items that influences the performance of any communication system is an antenna. Ask your dealer about antennas and the best place to mount them.

• DASHBOARD INSTALLATION



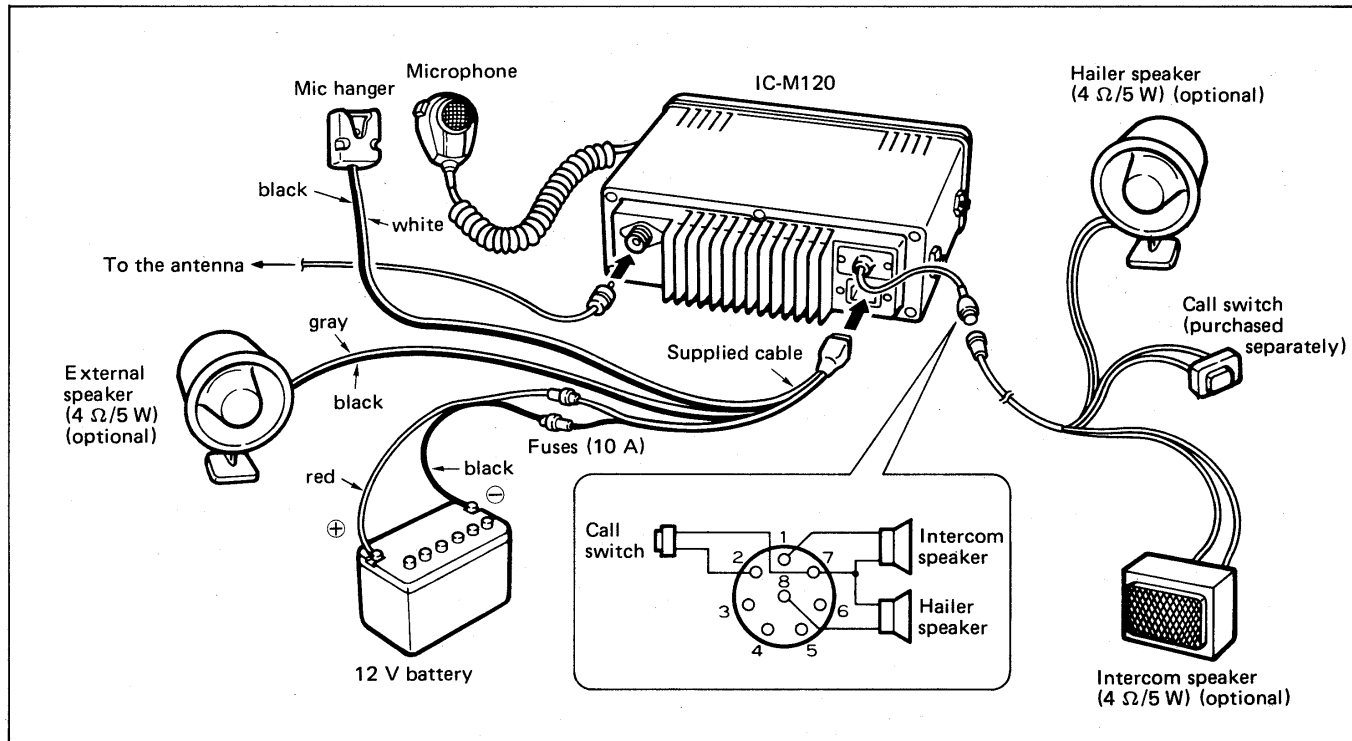
• OVERHEAD MOUNTING



(3) CONNECTION

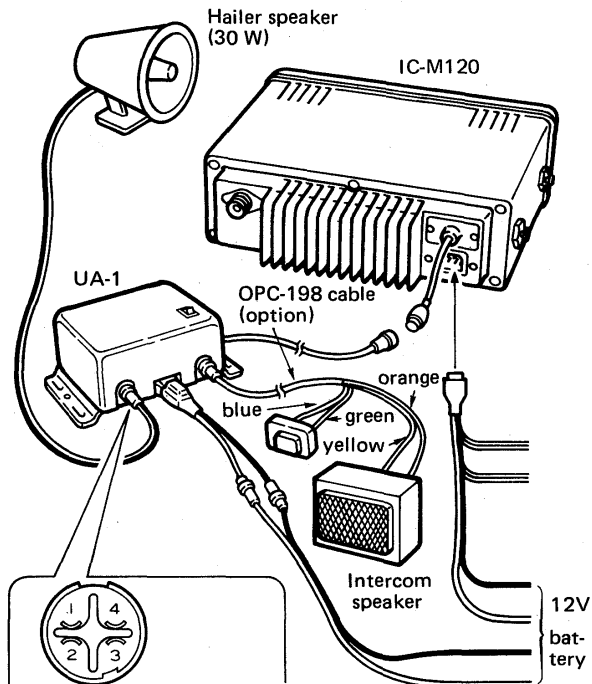
Use a 12 V DC power source and be sure of the following points:

- **AVOID** long cable runs to the antenna and power source.
- **KEEP** these cables as far as possible from electrical pumps, generators and other electronic instruments.



3 INSTALLATION

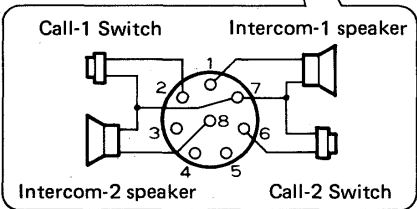
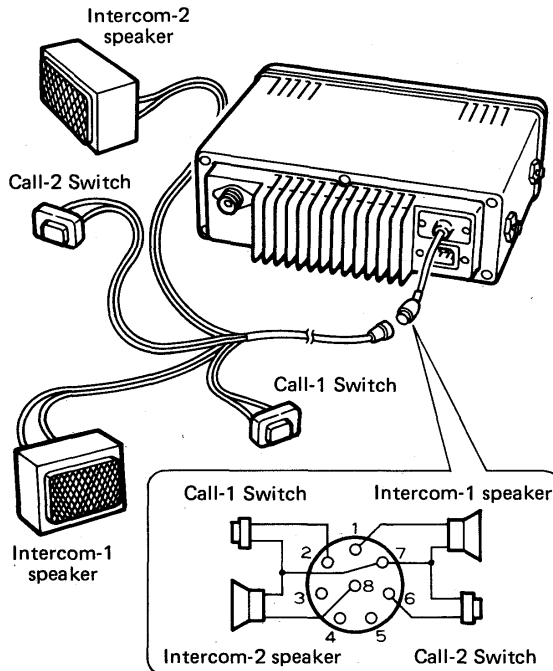
• WHEN USING THE UA-1 (OPTIONAL)



Pin number	Impedance
1 and 4	16 Ω
2 and 4	8 Ω
3 and 4	4 Ω

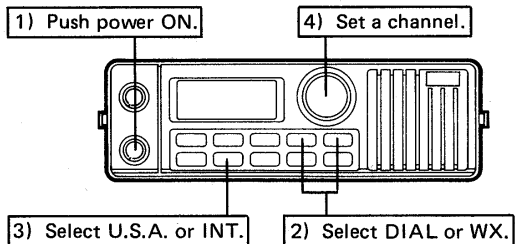
UA-1 power can be controlled with the IC-M120 when an optional UX-95 is used.

• WHEN USING TWO SEPARATE INTERCOMS



4-1 SELECTING A CHANNEL

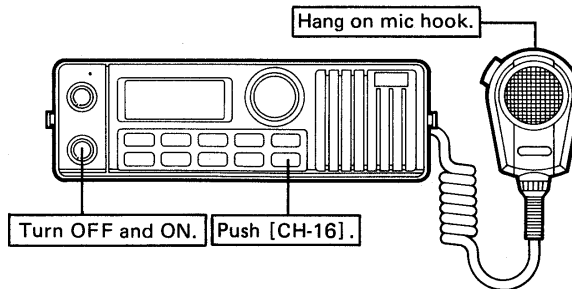
- 1) Push the [VOLUME] control to turn ON power.
 - Channel 16 is displayed.
- 2) Select your desired mode.
 - DIAL mode : push [DIAL]
 - WEATHER mode : push [WX]
- 3) To select a U.S.A. or international channel in DIAL mode, push [USA].
- 4) Rotate the channel selector to set your desired channel.



4-2 SELECTING CHANNEL 16

Channel 16 is a call channel for ship-to-ship contact and is also used as an emergency and distress channel. Channel 16 is instantly selected in any of the following ways:

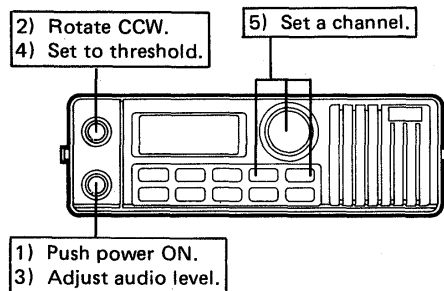
- ① Push [CH-16].
- ② Turn power OFF and then ON again.
- ③ Hang the microphone on the microphone hook.



4 BASIC OPERATION

4-3 RECEIVING

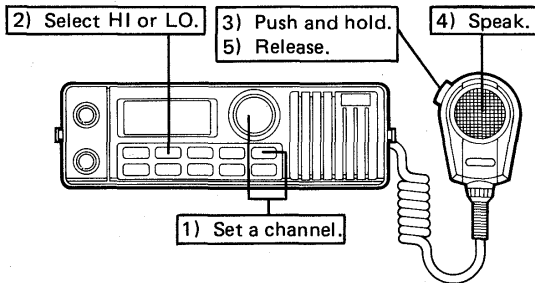
- 1) Push the [VOLUME] control to turn ON power.
- 2) Rotate [SQUELCH] completely counterclockwise.
- 3) Adjust [VOLUME] to a suitable audio level.
- 4) Rotate [SQUELCH] clockwise until the audio noise is quieted.
- 5) To set the desired channel, refer to Section 4 - 1 SELECTING A CHANNEL.
 - When a signal is received:
 - The squelch opens.
 - Audio is emitted from the speaker.
 - The S/RF indicator shows relative signal strength.



4-4 TRANSMITTING

Before transmitting a signal, read Call Procedures described on p. 11.

- 1) Set an operating channel. See Section 4 - 1 for details.
- 2) Push [HI/LO] to select transmit output power.
 - "LOW" appears when low output power is selected.
 - Transmission is restricted on some channels. Refer to the table on p. 11.
- 3) Push and hold the PTT switch to transmit.
 - "TX" appears and the RF indicator shows output power selection on the function display.
- 4) Speak into the microphone at your normal voice level.
 - Do not hold the microphone too closely to your mouth or speak in a loud voice. This may distort the transmit signal.
- 5) Release the PTT switch to receive.



■ CALL PROCEDURES

You must identify yourself when you transmit and you must respect time limits.

- 1) Give your call sign each time you call another vessel or a coast station. If you have no call sign, identify the station by giving the vessel name and the name of the licensee.
- 2) Give your call sign at the end of each transmission that lasts more than 3 minutes.
- 3) You must break and give your call sign at least once every 15 minutes during long ship-to-shore calls.
- 4) Keep your calls short (less than 30 seconds). Wait 2 minutes before repeating the call.
- 5) Unnecessary transmissions are not allowed.

■ TRANSMITTER RESTRICTIONS

CHANNEL NUMBER	U.S.A. CHANNELS	INTERNATIONAL CHANNELS
13	Momentary high power*	No restriction
15	Receive only	Low power only
17	Low power only	Low power only
67	Momentary high power*	No restriction
WEATHER CHANNELS	Receive only	

*MOMENTARY HIGH POWER:

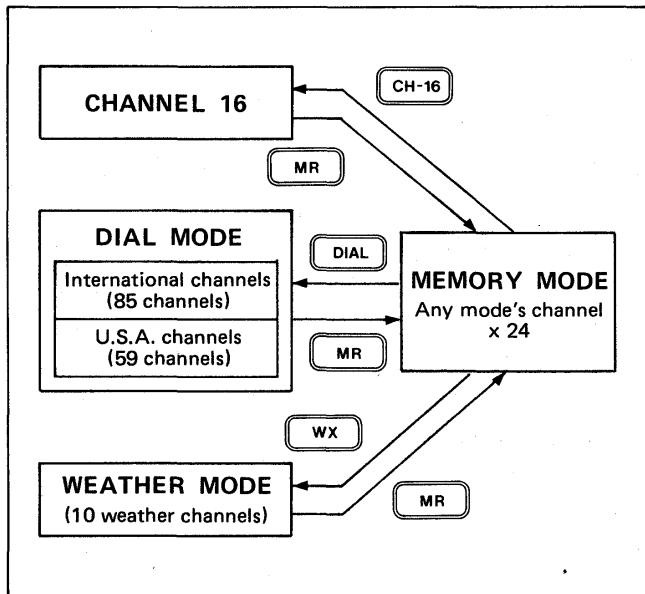
On these channels, transmissions using high power are momentarily possible. To transmit using high power, push and hold [HI/LO] and [PTT].

5

FUNCTION OPERATION

5-1 MEMORY CHANNEL

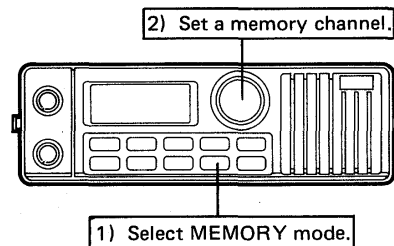
The transceiver has 24 memory channels. The memory channels are especially useful to quickly call up channels you often use.



(1) READING A MEMORY CHANNEL

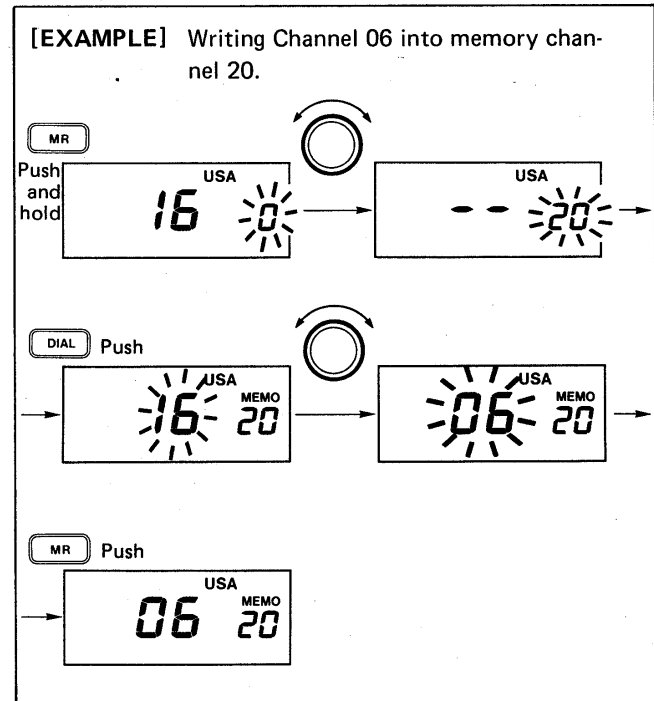
- 1) Push [MR] to select MEMORY mode.
- 2) Rotate the channel selector to select the desired memory channel.

NOTE: Only channels you have already programmed can be selected. If no memory channel is programmed, the channel selector is deactivated.



(2) WRITING A MEMORY CHANNEL

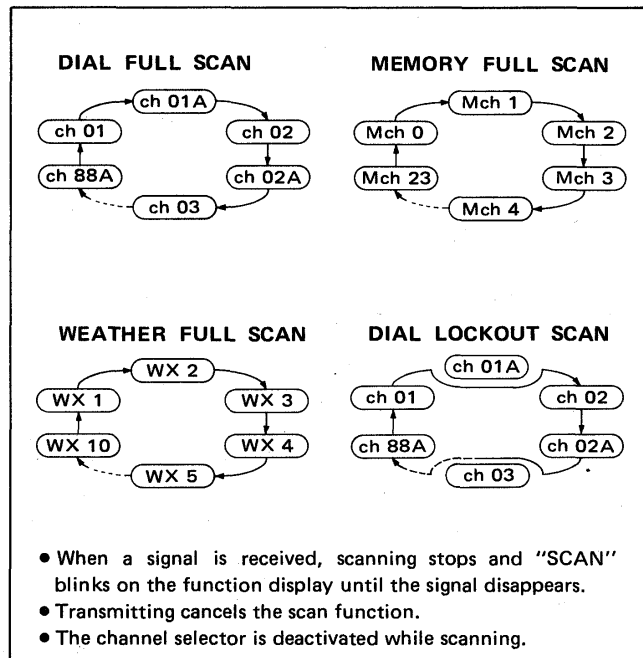
- 1) Push and hold [MR] until the memory channel number blinks.
- 2) Rotate the channel selector to select the desired memory channel number.
- 3) Push [DIAL] or [WX] to select the desired mode.
 - When DIAL mode is selected, choose U.S.A. or international channels by pushing [USA].
- 4) Rotate the channel selector to select the desired channel you want to program.
 - When DIAL mode has been selected in step 3, choose high or low transmit power.
- 5) Push [MR] to complete programming.



5 FUNCTION OPERATION

5-2 SCANNING

The transceiver has full scan and lockout scan functions. Each scan includes dial scan, weather channel scan and memory scan. Six types of scanning are possible with the transceiver.



(1) FULL SCAN

The full scan function scans all U.S.A., international, weather or memory channels even when lockout channels are programmed.

1) Select the desired mode.

- DIAL mode : push [DIAL]
- WEATHER mode : push [WX]
- MEMORY mode : push [MR]

2) Rotate [SQUELCH] clockwise until the audio noise is quieted.

3) Push and hold [L-SCAN SCAN] until "SCAN" appears on the function display.

- Full scan starts.

4) To cancel the scanning, push [L-SCAN SCAN] again.

(2) LOCKOUT SCAN

The lockout scan function allows you to skip certain channels while scanning, shortening interval scanning time.

- 1) Select the desired mode using [DIAL], [WX] or [MR].
- 2) Rotate [SQUELCH] clockwise until the audio noise is quieted.
- 3) Push [L-SCAN]
 - "L-SCAN" appears on the function display and lockout scan starts.
- 4) To cancel the scanning, push [L-SCAN] again.

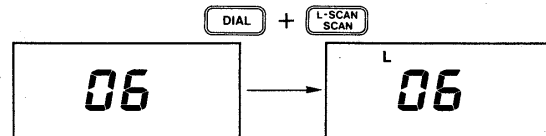
(3) PROGRAMMING A LOCKOUT CHANNEL

Programmed lockout channels are skipped during lockout scan.

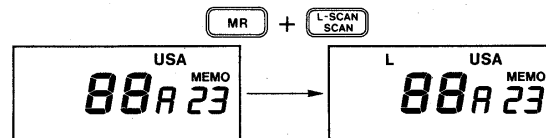
- 1) Select the desired mode using [DIAL], [WX] or [MR].
- 2) Rotate the channel selector to select the channel to be locked out.

- 3) Push and hold the selected mode switch in step 1 such as [DIAL], [MR] or [WX].
- 4) While continuously holding the switch from step 3, push [L-SCAN].
 - The displayed channel is locked out.
 - "L" appears on the function display.
- 5) To cancel the lockout channel for that channel, repeat steps 3 and 4.

[EXAMPLE] Locking out Channel 06.



[EXAMPLE] Locking out memory channel 23.

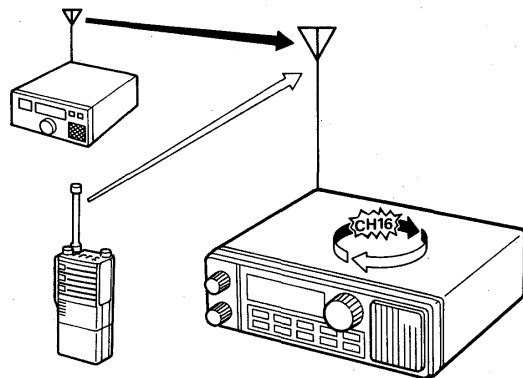


5 FUNCTION OPERATION

5-3 DUAL WATCH

The dual watch function monitors Channel 16 while you use another channel.

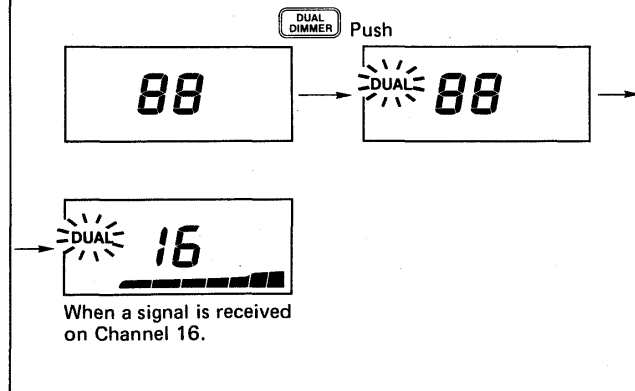
• DUAL WATCH SIMULATION



- If a signal is received on Channel 16, dual watch stops on Channel 16 until the signal disappears.
- During dual watch, you cannot transmit on Channel 16.

- 1) Select the desired operating channel.
 - When Channel 16 is selected, the dual watch function deactivates.
- 2) Push [DUAL] to start the dual watch function.
 - "DUAL" blinks on the function display.
- 3) Push [DUAL] again to cancel the dual watch function.

[EXAMPLE] Operating dual watch on Channel 88.



5-4 DIMMER CONTROL

The backlight intensity of the function display can be adjusted or turned OFF.

(1) TURNING OFF THE BACKLIGHT

- 1) Be sure the dual watch function is turned OFF.
- 2) Push and hold [DUAL DIMMER].
 - The backlight goes out after "DUAL" blinks 2 times on the function display.
- 3) To turn the backlight ON again, repeat step 2.

(2) ADJUSTING THE BACKLIGHT INTENSITY

- 1) Push and hold [DUAL DIMMER] until the backlight turns ON or OFF.
- 2) Continuously holding [DUAL DIMMER], rotate the channel selector.
 - The backlight intensity changes in 3 steps.

Tech Talk from Icom

Q. How far does a signal reach when transmitted over a sea or lake?

A. For practical purposes, there is very little signal propagation beyond the line-of-sight range when using VHF frequencies.

In theory, the distance of possible communication between 2 stations is obtained using the following formula:

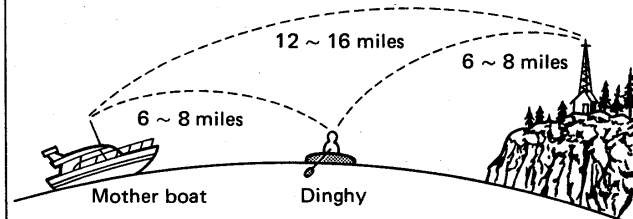
$$D \text{ (nm)} = 1.22 \times (\sqrt{h_1} + \sqrt{h_2})$$

D : Distance h1, h2 : Antenna height (ft)

For instance, where h1 = 8 ft and h2 = 8 ft, the distance is:

$$\begin{aligned} D \text{ (nm)} &= 1.22 \times (\sqrt{8} + \sqrt{8}) \\ &= \text{Approx. 7 nm} = \text{Approx. 8 miles} \\ &\quad (1 \text{ nm} = 1.15 \text{ miles}) \end{aligned}$$

• TYPICAL APPLICATION



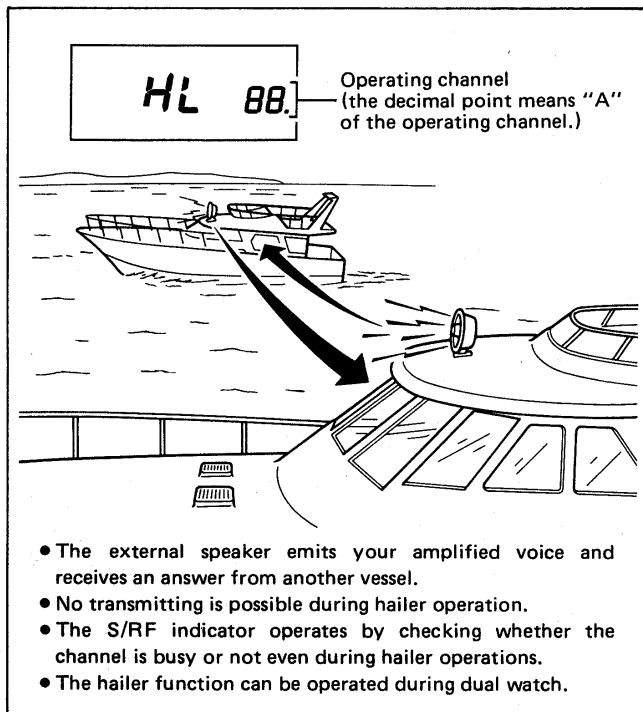
Depending on weather conditions and your location, some signals may not reach 8 miles and others may extend beyond 8 miles.

6

HAILER AND INTERCOM OPERATIONS

6-1 HAILER OPERATION

The IC-M120 has a two-way hailer function for voice amplifying and receiving over the loudspeaker, making it unnecessary to leave the bridge to hear a hailing party.



(1) PREPARATION

- 1) Connect an external speaker as described on p. 7.
- 2) When you need to have more power up to 30 W, connect an optional UA-1 AUDIO AMPLIFIER. Refer to p. 8

(2) OPERATION WITHOUT UA-1

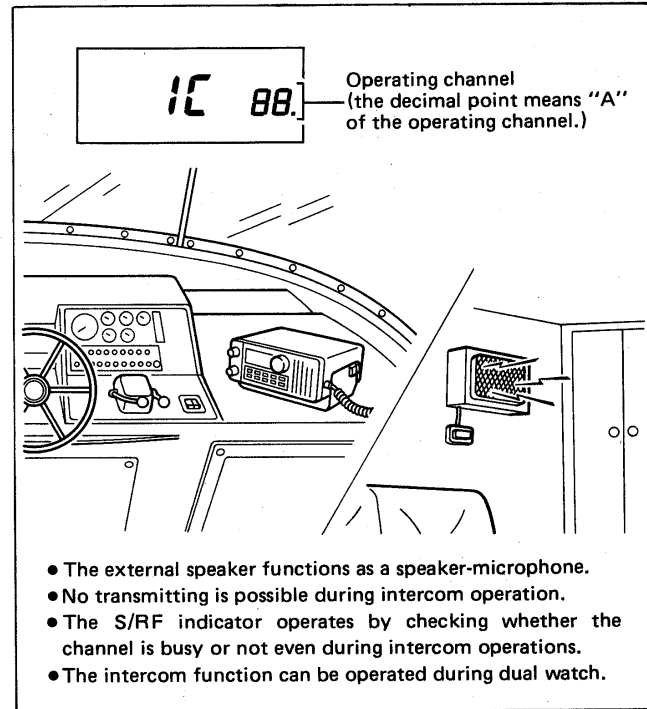
- 1) Turn ON power.
- 2) Push [HAILER].
 - "HL" appears on the function display.
- 3) Push and hold the PTT switch on the microphone and speak at a normal voice level into the microphone.
- 4) After releasing the PTT switch you can hear the response through the hailer speaker.
- 5) Push [HAILER] again to cancel the hailer function.

(3) OPERATION WITH UA-1

- 1) Turn ON transceiver and UA-1 power.
 - When an optional UX-95 RELAY INTERFACE UNIT is used, UA-1 power is turned ON and OFF, synchronized with the transceiver power.
- 2) Push [HAILER] on the transceiver.
 - "HL" appears on the function display.
- 3) Push and hold the PTT switch on the microphone and speak at a normal voice level into the microphone.
- 4) Adjust the volume control on the UA-1 to obtain a suitable output level from the hailer speaker.
- 5) After releasing the PTT switch you can hear the response through the hailer speaker.
- 6) Push [HAILER] again to cancel the hailer function.

6-2 INTERCOM OPERATION

The intercom function allows you to talk to the deck from the cabin. When you do not require the hailer function, you can use 2 separate intercom functions.



6 HAILER AND INTERCOM OPERATIONS

(1) PREPARATION

Connect an external speaker and a Call Switch as described on p. 7.

(2) OPERATION FROM THE TRANSCEIVER

- 1) Turn the transceiver ON.
- 2) Push [INCOM].
 - "IC" appears on the function display.
- 3) Push and hold the PTT switch on the microphone and speak at a normal voice level into the microphone.
 - The intercom speaker emits your voice.
- 4) Release the PTT switch to hear a response through the intercom speaker.
- 5) Push [INCOM] again to cancel the intercom function.

(3) OPERATION FROM THE INTERCOM SPEAKER

- 1) To call through the intercom speaker, push the Call Switch and speak into the speaker. The Call Switch must be purchased separately.
- 2) Release the Call Switch to return the IC-M120 to cabin control of the intercom function.

(4) OPERATION WITH TWO SEPARATE INTERCOMS

When you connect two Call Switches and two intercom speakers to the IC-M120, you can talk to two separate places such as the deck and another room. The hailer function cannot be used when you connect the two intercom speakers.

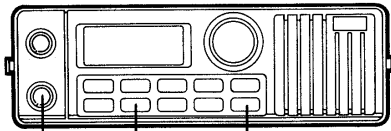
- 1) Connect Call Switches and speakers as described on p. 8.
- 2) Push [INCOM] when talking into the intercom-1 speaker.
- 3) Push [HAILER] when talking into the intercom-2 speaker.

7-1 RESETTING THE CPU

If the function display occasionally displays erroneous information when the power is turned ON or when operating, reset the CPU.

BE CAREFUL! After resetting the CPU, all information you have programmed into the memory channels is erased.

- 1) Turn power ON.
- 2) Push and hold [CH-16] and [USA].
- 3) Turn power OFF and then turn it ON again.
 - The function display illuminates all characters for a second.
- 4) Release [CH-16] and [USA].
 - Now the CPU is reset completely.



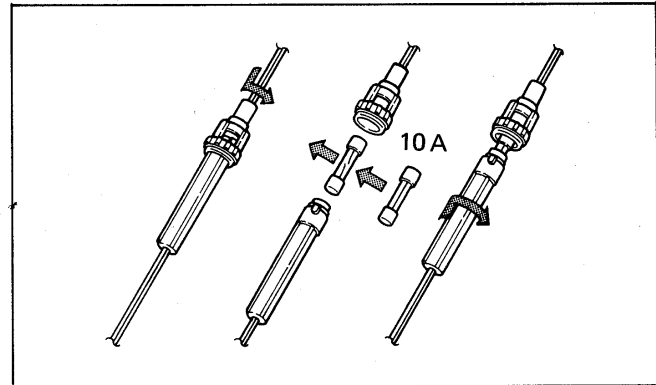
1) Turn ON.
3) Turn OFF and ON.

2) Push and hold [CH-16] and [U.S.A].
4) Release.

7-2 FUSE REPLACEMENT

Two fuses are installed in the supplied DC power cable. If the fuses blow or the transceiver stops functioning, track down the source of the problem, if possible, and replace the damaged fuse with a new, rated fuse.

- Fuse rating : 10 A



7 MAINTENANCE

7-3 TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	SOLUTION
<ul style="list-style-type: none">• No power comes ON.	<ul style="list-style-type: none">• Power connector has a poor contact.• Blown fuse.	<ul style="list-style-type: none">• Check the connector pins.• Check the polarity of the power connection, then replace the fuse.
<ul style="list-style-type: none">• No sound comes from the speaker.	<ul style="list-style-type: none">• [SQUELCH] is turned too far clockwise.• The transceiver is in hailer or intercom operation.• Handset is out of the cradle (when an optional handset is used).	<ul style="list-style-type: none">• Rotate [SQUELCH] counterclockwise.• Set your desired mode by pushing [DIAL], [WX], or [MR].• Set the handset into the cradle.
<ul style="list-style-type: none">• Sensitivity is low and only strong signals are audible.	<ul style="list-style-type: none">• Antenna feedline is cut or short circuited.• Bad connection at the antenna connector.	<ul style="list-style-type: none">• Check the feedline and correct any improper condition.• Check the antenna connector and clean the center conductor of the plug.
<ul style="list-style-type: none">• Cannot transmit at high power or cannot transmit at all.	<ul style="list-style-type: none">• Transmission is restricted on some channels.• The transceiver is in hailer or intercom operation.	<ul style="list-style-type: none">• See p. 11 for details.• Set your desired mode by pushing [DIAL] or [MR].
<ul style="list-style-type: none">• The displayed channel does not change.	<ul style="list-style-type: none">• Channel 16 is selected.• Dual watch is activated.• Scanning is activated.	<ul style="list-style-type: none">• Leave Channel 16 by pushing [DIAL], [MR] or [WX].• Push [DUAL] to cancel dual watch.• Push [L-SCAN] to stop scanning.
<ul style="list-style-type: none">• The memory channel cannot be changed.	<ul style="list-style-type: none">• Memory channels have not been programmed.	<ul style="list-style-type: none">• Program at least two memory channels. See p. 13.

PROBLEM	POSSIBLE CAUSE	SOLUTION
<ul style="list-style-type: none"> • Scanning or dual watch does not function. 	<ul style="list-style-type: none"> • Channel 16 is displayed. • The squelch is open. • Memory channels have not been programmed if operating the memory scan. 	<ul style="list-style-type: none"> • Leave Channel 16 by pushing [DIAL], [MR] or [WX], and then rotate the channel selector. • Rotate [SQUELCH] clockwise. • Program at least two memory channels. See p. 13.
<ul style="list-style-type: none"> • The function display occasionally displays erroneous information. 	<ul style="list-style-type: none"> • The internal CPU has malfunctioned. 	<ul style="list-style-type: none"> • Reset the CPU. See p. 21.

7-4 BACKUP BATTERY

The built-in lithium backup battery retains information programmed into the memory channels. The life of the lithium battery is approximately five years. If the battery is exhausted, the transceiver operates normally but information in the memory channels is not retained.

NOTE: Backup battery replacement **MUST** be done by an authorized Icom Dealer or Icom Service Center.

7-5 CLEANING

If the transceiver becomes dusty or dirty, wipe it clean with a dry, soft cloth.

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

8

VHF MARINE CHANNEL CHART

Inter-national channel	U.S.A. channel	Frequency (MHz)		Transmit output power	Inter-national channel	U.S.A. channel	Frequency (MHz)		Transmit output power
		Transmitter	Receiver				Transmitter	Receiver	
01	—	156.050	160.650	25 W & 1 W	19	—	156.950	161.550	25 W & 1 W
01A	01A	156.050	156.050	25 W & 1 W	19A	19A	156.950	156.950	25 W & 1 W
02	—	156.100	160.700	25 W & 1 W	20	20	157.000	161.600	25 W & 1 W
02A	02A	156.100	156.100	25 W & 1 W	20A	20A	157.000	157.000	25 W & 1 W
03	—	156.150	160.750	25 W & 1 W	21	—	157.050	161.650	25 W & 1 W
03A	03A	156.150	156.150	25 W & 1 W	21A	21A	157.050	157.050	25 W & 1 W
04	—	156.200	160.800	25 W & 1 W	22	—	157.100	161.700	25 W & 1 W
04A	04A	156.200	156.200	25 W & 1 W	22A	22A	157.100	157.100	25 W & 1 W
05	—	156.250	160.850	25 W & 1 W	23	—	157.150	161.750	25 W & 1 W
05A	05A	156.250	156.250	25 W & 1 W	23A	23A	157.150	157.150	25 W & 1 W
06	06	156.300	156.300	25 W & 1 W	24	24	157.200	161.800	25 W & 1 W
07	—	156.350	160.950	25 W & 1 W	25	25	157.250	161.850	25 W & 1 W
07A	07A	156.350	156.350	25 W & 1 W	26	26	157.300	161.900	25 W & 1 W
08	08	156.400	156.400	25 W & 1 W	27	27	157.350	161.950	25 W & 1 W
09	09	156.450	156.450	25 W & 1 W	28	28	157.400	162.000	25 W & 1 W
10	10	156.500	156.500	25 W & 1 W	60	—	156.025	160.625	25 W & 1 W
11	11	156.550	156.550	25 W & 1 W	60A	60A	156.025	156.025	25 W & 1 W
12	12	156.600	156.600	25 W & 1 W	61	—	156.075	160.675	25 W & 1 W
13	13	156.650	156.650	25 W & 1 W*1	61A	61A	156.075	156.075	25 W & 1 W
14	14	156.700	156.700	25 W & 1 W	62	—	156.125	160.725	25 W & 1 W
15	15	156.750	156.750	1 W only*2	62A	62A	156.125	156.125	25 W & 1 W
16	16	156.800	156.800	25 W & 1 W	63	—	156.175	160.775	25 W & 1 W
17	17	156.850	156.850	1 W only	63A	63A	156.175	156.175	25 W & 1 W
18	—	156.900	161.500	25 W & 1 W	64	—	156.225	160.825	25 W & 1 W
18A	18A	156.900	156.900	25 W & 1 W	64A	64A	156.225	156.225	25 W & 1 W

*1 Momentary high power on a U.S.A. channel

*2 Receive only on a U.S.A. channel

VHF MARINE CHANNEL CHART 8

Inter-national channel	U.S.A. channel	Frequency (MHz)		Transmit output power	Inter-national channel	U.S.A. channel	Frequency (MHz)		Transmit output power
		Transmitter	Receiver				Transmitter	Receiver	
65	—	156.275	160.875	25 W & 1 W	82A	82A	157.125	157.125	25 W & 1 W
65A	65A	156.275	156.275	25 W & 1 W	83	—	157.175	161.775	25 W & 1 W
66	—	156.325	160.925	25 W & 1 W	83A	83A	157.175	157.175	25 W & 1 W
66A	66A	156.325	156.325	25 W & 1 W	84	84	157.225	161.825	25 W & 1 W
67	67	156.375	156.375	25 W & 1 W*1	84A	—	157.225	157.225	25 W & 1 W
68	68	156.425	156.425	25 W & 1 W	85	85	157.275	161.875	25 W & 1 W
69	69	156.475	156.475	25 W & 1 W	85A	—	157.275	157.275	25 W & 1 W
70	70	156.525	156.525	1 W only	86	86	157.325	161.925	25 W & 1 W
71	71	156.575	156.575	25 W & 1 W	86A	86A	157.325	157.325	25 W & 1 W
72	72	156.625	156.625	25 W & 1 W	87	87	157.375	161.975	25 W & 1 W
73	73	156.675	156.675	25 W & 1 W	87A	—	157.375	157.375	25 W & 1 W
74	74	156.725	156.725	25 W & 1 W	88	88	157.425	162.025	25 W & 1 W
75	—	-----	-----	Guard	88A	88A	157.425	157.425	25 W & 1 W
76	—	-----	-----	Guard	Weather channel				
77	77	156.875	156.875	25 W & 1 W	1	-----	162.550	RX only	
78	—	156.925	161.525	25 W & 1 W	2	-----	162.400	RX only	
78A	78A	156.925	156.925	25 W & 1 W	3	-----	162.475	RX only	
79	—	156.975	161.575	25 W & 1 W	4	-----	162.425	RX only	
79A	79A	156.975	156.975	25 W & 1 W	5	-----	162.450	RX only	
80	—	157.025	161.625	25 W & 1 W	6	-----	162.500	RX only	
80A	80A	157.025	157.025	25 W & 1 W	7	-----	162.525	RX only	
81	81	157.075	161.675	25 W & 1 W	8	-----	161.650	RX only	
81A	81A	157.075	157.075	25 W & 1 W	9	-----	161.775	RX only	
82	—	157.125	161.725	25 W & 1 W	10	-----	163.275	RX. only	

■ GENERAL

- Type of emission : 16K0G3E
- Antenna impedance : 50 Ω
- Usable temperature range : $-20^{\circ}\text{C} \sim +60^{\circ}\text{C}$ ($-4^{\circ}\text{F} \sim +140^{\circ}\text{F}$)
- Frequency stability : $\pm 0.0005\%$
- Power supply voltage : 13.8 V DC, negative ground
- Dimensions : 228 (W) x 78 (H) x 208 (D) mm, 9.0 (W) x 3.1 (H) x 8.2 (D) in
(Projections not included)
- Weight : 2.1 kg (4.6 lb)

■ RECEIVER

- Frequency range : 156 ~ 163 MHz
- Sensitivity : 0.3 μV for 12 dB SINAD
- Audio output power : 5.0 W
- Intermediate frequency : 1st 21.4 MHz, 2nd 455 kHz
- Current drain : 0.2 A (standby condition with no display backlight)
1.2 A (at max. audio with brightest display)

■ TRANSMITTER

- Frequency range : 156 ~ 157.5 MHz
- Output power : HIGH 25 W, LOW 1 W
- Microphone impedance : 600 Ω
- Current drain : 6.3 A at HIGH output power
1.7 A at LOW output power

IN CASE OF EMERGENCY

If your vessel requires assistance, contact other vessels and the Coast Guard by sending a distress call on Channel 16.

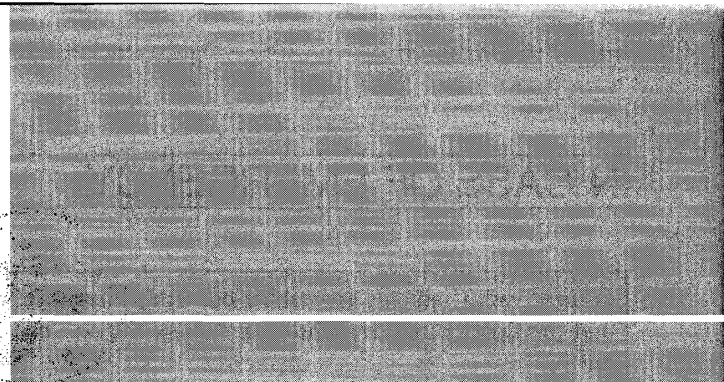
DISTRESS CALL PROCEDURE

1. "MAYDAY MAYDAY MAYDAY"
2. "THIS IS" (name of vessel)
3. "LOCATED AT" (vessel's position)
4. Give the reason for the distress call.
5. Explain what assistance you need.
6. Give additional information:
 - Vessel type
 - Vessel length
 - Vessel color

OPTIONS

- UA-1** AUDIO AMPLIFIER
Allows 30 W hailer operation
- UX-95** RELAY INTERFACE UNIT
Controls power switch of the UA-1
- IC-HS2** HANDSET KIT (white)
- IC-HS3** HANDSET KIT (black)
- SP-15** EXTERNAL SPEAKER
- MB-33** FLUSH MOUNT

Count on us!



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