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°C (+140°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.
# TABLE OF CONTENTS

| IMPORTANT SAFETY PRECAUTIONS | i |
| TABLE OF CONTENTS | ii |
| FOREWORD | iii |
| UNPACKING | iv |
| 1 OPERATING RULES | 1 |
| 2 PANEL DESCRIPTION | 2 |
| 2-1 FRONT PANEL | 2 |
| 2-2 REAR PANEL | 4 |
| 2-3 FUNCTION DISPLAY | 5 |
| 3 INSTALLATION | 6 |
| 4 BASIC OPERATION | 9 |
| 4-1 SELECTING A CHANNEL | 9 |
| 4-2 SELECTING CHANNEL 16 | 9 |
| 4-3 RECEIVING | 10 |
| 4-4 TRANSMITTING | 10 |
| 5 FUNCTION OPERATION | 12 |
| 5-1 MEMORY CHANNEL | 12 |
| 5-2 SCANNING | 14 |
| 5-3 DUAL WATCH | 16 |
| 5-4 DIMMER CONTROL | 17 |
| 6 HAILER AND INTERCOM OPERATIONS | 18 |
| 6-1 HAILER OPERATION | 18 |
| 6-2 INTERCOM OPERATION | 19 |
| 7 MAINTENANCE | 21 |
| 7-1 RESETTING THE CPU | 21 |
| 7-2 FUSE REPLACEMENT | 21 |
| 7-3 TROUBLESHOOTING | 22 |
| 7-4 BACKUP BATTERY | 23 |
| 7-5 CLEANING | 23 |
| 8 VHF MARINE CHANNEL CHART | 24 |
| 9 SPECIFICATIONS | 27 |
| OPTIONS | 27 |

## 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) ............................. 3
5. Mic hanger screws (A0 3.5 x 30) ......................... 3
6. Flat washers (M6) .......................................... 4
7. Spring washers (M6) ........................................ 4
8. Mounting bracket keys .................................... 4
9. Nuts (M6) .................................................. 1
10. Fuse (10 A) .............................................. 1
11. ACC connector plug ...................................... 1

---

## 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/RF 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.
(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

2-2 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

SCANNING INDICATOR
"SCAN" appears during full scan. (p. 14)
"L SCAN" appears during lockout scan. (p. 15)
"L" appears when a channel has been locked out. (p. 16)

TRANSMIT INDICATOR
Appears when transmitting.

DUAL WATCH INDICATOR
Blinks during dual watch. (p. 16)

TRANSMIT POWER INDICATOR
"LOW" appears when low output power is selected. There is no indicator for high output power. (p. 10)

S/RF INDICATOR
Shows relative signal strength while receiving. (p. 10)
Shows HIGH or LOW transmit power selection while transmitting. (p. 10)
S/RF indicator shows relative signal strength even when the intercom or hailer function is activated. (p. 10)

U.S.A. CHANNEL INDICATOR
"USA" appears when a U.S.A. channel is selected. There is no indicator for international channels. (p. 9)

WEATHER CHANNEL INDICATOR
Appears when WEATHER mode is selected. (p. 9)

MEMORY INDICATOR
"MEMO" and the memory channel number appear when MEMORY mode is selected. (p. 12)
Shows the operating channel while the intercom or hailer function is activated. (p. 18)

CHANNEL INDICATOR
Indicates the operating channel.

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.
(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.

![Diagram showing connection points and equipment]

3 INSTALLATION

- WHEN USING THE UA-1 (OPTIONAL)

- 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.
### TRANSMITTER RESTRICTIONS

<table>
<thead>
<tr>
<th>CHANNEL NUMBER</th>
<th>U.S.A. CHANNELS</th>
<th>INTERNATIONAL CHANNELS</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td>Momentary high power*</td>
<td>No restriction</td>
</tr>
<tr>
<td>15</td>
<td>Receive only</td>
<td>Low power only</td>
</tr>
<tr>
<td>17</td>
<td>Low power only</td>
<td>Low power only</td>
</tr>
<tr>
<td>57</td>
<td>Momentary high power*</td>
<td>No restriction</td>
</tr>
</tbody>
</table>

**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].

### 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.

### 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.

**CHANNEL 16**

**DIAL MODE**
- International channels (25 channels)
- U.S.A. channels (25 channels)

**MEMORY MODE**
- Any mode's channel ≤ 24

**WEATHER MODE**
- (10 weather channels)

**READING A MEMORY CHANNEL**

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) Set a memory channel

1) Select MEMORY mode.
(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.

[EXAMPLE] Writing Channel 05 into memory channel 20.

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.

<table>
<thead>
<tr>
<th>DIAL FULL SCAN</th>
<th>MEMORY FULL SCAN</th>
</tr>
</thead>
<tbody>
<tr>
<td>ch 01</td>
<td>ch 01A</td>
</tr>
<tr>
<td>ch 02</td>
<td>ch 02A</td>
</tr>
<tr>
<td>ch 03</td>
<td>ch 03</td>
</tr>
<tr>
<td>ch 04</td>
<td>ch 04</td>
</tr>
<tr>
<td>ch 05</td>
<td>ch 05</td>
</tr>
<tr>
<td>ch 06</td>
<td>ch 06</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WEATHER FULL SCAN</th>
<th>DIAL LOCKOUT SCAN</th>
</tr>
</thead>
<tbody>
<tr>
<td>WX 1</td>
<td>WX 1</td>
</tr>
<tr>
<td>WX 2</td>
<td>WX 2</td>
</tr>
<tr>
<td>WX 3</td>
<td>WX 3</td>
</tr>
<tr>
<td>WX 4</td>
<td>WX 4</td>
</tr>
<tr>
<td>ch 01</td>
<td>ch 01</td>
</tr>
<tr>
<td>ch 02</td>
<td>ch 02</td>
</tr>
<tr>
<td>ch 03</td>
<td>ch 03</td>
</tr>
<tr>
<td>ch 04</td>
<td>ch 04</td>
</tr>
<tr>
<td>ch 05</td>
<td>ch 05</td>
</tr>
<tr>
<td>ch 06</td>
<td>ch 06</td>
</tr>
</tbody>
</table>

- When a signal is received, scanning stops and "SCAN" blinks on the function display until the signal disappears.
- Transmitting cancels the scan function.
- The channel selector is deactivated while scanning.

(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.

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.

[EXAMPLE] Locking out Channel 06.

[EXAMPLE] Locking out memory channel 23.

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.
5-4 DIMMER CONTROL.
The backlight intensity of the function display can be
djusted 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
- \( h_1, h_2 \) : Antenna height (ft)

For instance, where \( h_1 = 8 \) ft and \( h_2 = 8 \) ft, the distance is:

\[ D (\text{nm}) = 1.22 \times (\sqrt{8} + \sqrt{8}) \]

- Approx. 7 nm = Approx. 8 miles
  (1 nm = 1.15 miles)

-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, synchro-
     nized with the transceiver power.
2) Push [HAILE\_1] 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) After releasing the PTT switch you can hear the response
   through the hailer speaker.
5) Push [HAILE\_1] 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.

0 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 inter-
com speakers.
1) Connect Call Switches and speakers as described on p. 8.
2) Push [INCOM] when talking into the intercom-1 speaker.
3) Push [HAILE\_1] when talking into the intercom-2
   speaker.
7-1 RESETTING THE CPU

- 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.

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

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

7-3 TROUBLESHOOTING

<table>
<thead>
<tr>
<th>PROBLEM</th>
<th>POSSIBLE CAUSE</th>
<th>SOLUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>- No power comes ON.</td>
<td>- Power connector has a poor contact. - Blown fuse.</td>
<td>- Check the connector pins. - Check the polarity of the power connection, then replace the fuse.</td>
</tr>
<tr>
<td>- No sound comes from the speaker.</td>
<td>- [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).</td>
<td>- Rotate [SQUELCH] counterclockwise. - Set your desired mode by pushing [DIAL], [WX], or [MR]. - Set the handset into the cradle.</td>
</tr>
<tr>
<td>- Sensitivity is low and only strong signals are audible.</td>
<td>- Antenna feedline is cut or short circuited. - Bad connection at the antenna connector.</td>
<td>- Check the feedline and correct any improper condition. - Check the antenna connector and clean the center conductor of the plug.</td>
</tr>
<tr>
<td>- Cannot transmit at high power or cannot transmit at all.</td>
<td>- Transmission is restricted on some channels. - The transceiver is in hailer or intercom operation.</td>
<td>- Leave Channel 16 by pushing [DIAL], [MR] or [WX]. - Push [DUAL] to cancel dual watch. - Push [L-SCAN] to stop scanning.</td>
</tr>
<tr>
<td>- The displayed channel does not change.</td>
<td>- Channel 16 is selected. - Dual watch is activated. - Scanning is activated.</td>
<td>- Leave Channel 16 by pushing [DIAL], [MR] or [WX]. - Push [DUAL] to cancel dual watch. - Push [L-SCAN] to stop scanning.</td>
</tr>
<tr>
<td>- The memory channel cannot be changed.</td>
<td>- Memory channels have not been programmed.</td>
<td>- Program at least two memory channels. See p. 13.</td>
</tr>
</tbody>
</table>
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.

---

VHF MARINE CHANNEL CHART

<table>
<thead>
<tr>
<th>International channel</th>
<th>U.S.A. channel</th>
<th>Frequency (MHz)</th>
<th>Transmit output power</th>
<th>International channel</th>
<th>U.S.A. channel</th>
<th>Frequency (MHz)</th>
<th>Transmit output power</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>01A</td>
<td>156.050</td>
<td>156.650</td>
<td>01</td>
<td>01A</td>
<td>156.050</td>
<td>156.650</td>
</tr>
<tr>
<td>01A</td>
<td>01A</td>
<td>25 W &amp; 1 W</td>
<td>25 W &amp; 1 W</td>
<td>19</td>
<td>19A</td>
<td>156.950</td>
<td>161.550</td>
</tr>
<tr>
<td>02</td>
<td>02A</td>
<td>156.100</td>
<td>156.700</td>
<td>20</td>
<td>20A</td>
<td>157.000</td>
<td>161.600</td>
</tr>
<tr>
<td>02A</td>
<td>02A</td>
<td>25 W &amp; 1 W</td>
<td>25 W &amp; 1 W</td>
<td>20A</td>
<td>20A</td>
<td>157.000</td>
<td>161.600</td>
</tr>
<tr>
<td>03</td>
<td>03A</td>
<td>156.150</td>
<td>156.750</td>
<td>21</td>
<td>21A</td>
<td>157.050</td>
<td>161.650</td>
</tr>
<tr>
<td>03A</td>
<td>03A</td>
<td>25 W &amp; 1 W</td>
<td>25 W &amp; 1 W</td>
<td>21A</td>
<td>21A</td>
<td>157.050</td>
<td>161.650</td>
</tr>
<tr>
<td>04</td>
<td>04A</td>
<td>156.200</td>
<td>156.800</td>
<td>22</td>
<td>22A</td>
<td>157.100</td>
<td>161.700</td>
</tr>
<tr>
<td>04A</td>
<td>04A</td>
<td>25 W &amp; 1 W</td>
<td>25 W &amp; 1 W</td>
<td>22A</td>
<td>22A</td>
<td>157.100</td>
<td>161.700</td>
</tr>
<tr>
<td>05</td>
<td>05A</td>
<td>156.250</td>
<td>156.850</td>
<td>23</td>
<td>23A</td>
<td>157.150</td>
<td>161.750</td>
</tr>
<tr>
<td>05A</td>
<td>05A</td>
<td>25 W &amp; 1 W</td>
<td>25 W &amp; 1 W</td>
<td>23A</td>
<td>23A</td>
<td>157.150</td>
<td>161.750</td>
</tr>
<tr>
<td>06</td>
<td>06</td>
<td>156.300</td>
<td>156.900</td>
<td>24</td>
<td>24</td>
<td>157.200</td>
<td>161.800</td>
</tr>
<tr>
<td>06</td>
<td>06</td>
<td>25 W &amp; 1 W</td>
<td>25 W &amp; 1 W</td>
<td>24</td>
<td>24</td>
<td>157.200</td>
<td>161.800</td>
</tr>
<tr>
<td>07</td>
<td>07</td>
<td>156.350</td>
<td>156.950</td>
<td>25</td>
<td>25</td>
<td>157.250</td>
<td>161.850</td>
</tr>
<tr>
<td>08</td>
<td>08</td>
<td>156.400</td>
<td>156.400</td>
<td>26</td>
<td>26</td>
<td>157.300</td>
<td>161.900</td>
</tr>
<tr>
<td>09</td>
<td>09</td>
<td>156.450</td>
<td>156.450</td>
<td>26</td>
<td>26</td>
<td>157.300</td>
<td>161.900</td>
</tr>
<tr>
<td>10</td>
<td>10</td>
<td>156.500</td>
<td>156.500</td>
<td>27</td>
<td>27</td>
<td>157.350</td>
<td>161.950</td>
</tr>
<tr>
<td>11</td>
<td>11</td>
<td>156.550</td>
<td>156.550</td>
<td>28</td>
<td>28</td>
<td>157.400</td>
<td>162.000</td>
</tr>
<tr>
<td>12</td>
<td>12</td>
<td>156.600</td>
<td>156.600</td>
<td>60</td>
<td>60</td>
<td>156.025</td>
<td>160.625</td>
</tr>
<tr>
<td>13</td>
<td>13</td>
<td>156.650</td>
<td>156.650</td>
<td>60A</td>
<td>60A</td>
<td>156.025</td>
<td>160.625</td>
</tr>
<tr>
<td>14</td>
<td>14</td>
<td>156.650</td>
<td>160.650</td>
<td>61</td>
<td>61</td>
<td>156.075</td>
<td>160.675</td>
</tr>
<tr>
<td>15</td>
<td>15</td>
<td>156.650</td>
<td>156.700</td>
<td>61A</td>
<td>61A</td>
<td>156.075</td>
<td>160.675</td>
</tr>
<tr>
<td>16</td>
<td>16</td>
<td>156.750</td>
<td>156.750</td>
<td>62</td>
<td>62</td>
<td>156.125</td>
<td>160.725</td>
</tr>
<tr>
<td>17</td>
<td>17</td>
<td>156.800</td>
<td>156.800</td>
<td>62A</td>
<td>62A</td>
<td>156.125</td>
<td>160.725</td>
</tr>
<tr>
<td>18</td>
<td>18</td>
<td>156.850</td>
<td>156.850</td>
<td>63</td>
<td>63</td>
<td>156.175</td>
<td>160.775</td>
</tr>
<tr>
<td>18A</td>
<td>18A</td>
<td>156.850</td>
<td>156.850</td>
<td>63A</td>
<td>63A</td>
<td>156.175</td>
<td>160.775</td>
</tr>
<tr>
<td>19</td>
<td>19</td>
<td>156.900</td>
<td>156.900</td>
<td>64</td>
<td>64</td>
<td>156.225</td>
<td>160.825</td>
</tr>
<tr>
<td>19A</td>
<td>19A</td>
<td>25 W &amp; 1 W</td>
<td>25 W &amp; 1 W</td>
<td>64A</td>
<td>64A</td>
<td>156.225</td>
<td>160.825</td>
</tr>
</tbody>
</table>
SPECIFICATIONS

**GENERAL**
- Type of emission: 16K0G3E
- Antenna impedance: 50 Ω
- Usable temperature range: -20°C ~ +60°C (-4°F ~ +140°F)
- Frequency stability: ±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 lbs)

**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

---

<table>
<thead>
<tr>
<th>International channel</th>
<th>U.S.A. channel</th>
<th>Frequency (MHz)</th>
<th>Transmit/output power</th>
</tr>
</thead>
<tbody>
<tr>
<td>66</td>
<td>85A</td>
<td>156.325</td>
<td>25 W &amp; 1 W</td>
</tr>
<tr>
<td>66A</td>
<td>86A</td>
<td>156.325</td>
<td>25 W &amp; 1 W</td>
</tr>
<tr>
<td>67</td>
<td>87</td>
<td>156.375</td>
<td>25 W &amp; 1 W +4</td>
</tr>
<tr>
<td>68</td>
<td>88</td>
<td>156.425</td>
<td>25 W &amp; 1 W</td>
</tr>
<tr>
<td>69</td>
<td>89</td>
<td>156.475</td>
<td>25 W &amp; 1 W</td>
</tr>
<tr>
<td>70</td>
<td>70</td>
<td>156.525</td>
<td>1 W only</td>
</tr>
<tr>
<td>71</td>
<td>71</td>
<td>156.575</td>
<td>25 W &amp; 1 W</td>
</tr>
<tr>
<td>72</td>
<td>72</td>
<td>156.625</td>
<td>25 W &amp; 1 W</td>
</tr>
<tr>
<td>73</td>
<td>73</td>
<td>156.675</td>
<td>25 W &amp; 1 W</td>
</tr>
<tr>
<td>74</td>
<td>74</td>
<td>156.725</td>
<td>25 W &amp; 1 W</td>
</tr>
<tr>
<td>75</td>
<td></td>
<td></td>
<td>Guard</td>
</tr>
<tr>
<td>76</td>
<td></td>
<td></td>
<td>Guard</td>
</tr>
<tr>
<td>77</td>
<td>77</td>
<td>156.875</td>
<td>25 W &amp; 1 W</td>
</tr>
<tr>
<td>78</td>
<td>78</td>
<td>156.925</td>
<td>25 W &amp; 1 W</td>
</tr>
<tr>
<td>79</td>
<td>79</td>
<td>157.075</td>
<td>25 W &amp; 1 W</td>
</tr>
<tr>
<td>80</td>
<td>80</td>
<td>157.125</td>
<td>25 W &amp; 1 W</td>
</tr>
<tr>
<td>81</td>
<td>81</td>
<td>157.175</td>
<td>25 W &amp; 1 W</td>
</tr>
<tr>
<td>81A</td>
<td>81A</td>
<td>157.225</td>
<td>25 W &amp; 1 W</td>
</tr>
<tr>
<td>82</td>
<td>82</td>
<td>157.275</td>
<td>25 W &amp; 1 W</td>
</tr>
</tbody>
</table>
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