IMPORTANT

READ ALL INSTRUCTIONS carefully and completely for maximum performance and enjoyment of the **IC-2N**.

SAVE THIS INSTRUCTION MANUAL. This manual contain important safety and operating instructions for the **IC-2N**.

CAUTIONS

**NEVER** connect the transceiver to more than 11 V DC or to an AC power source.

**NEVER** allow children to touch the transceiver.

**NEVER** immerse the transceiver in water.

**AVOID** placing the transceiver in direct sunlight or subjecting it to temperatures below −10 °C (+4 °F) or above +60 °C (+140 °F).

**NEVER** disassemble the transceiver. No user-adjustable parts are contained within the transceiver. Also, the use of non-Icom battery packs/DC-DC converter may impair transceiver performance and invalidate the warranty.

**NEVER** transmit without an antenna. This may damage the transceiver.

UNPACKING

**Accessories included with the IC-2N:**

1. Flexible antenna ...................... 1
2. Belt clip .................................. 1set
3. Earphone ............................... 1
4. Earphone plug ........................... 1
5. Microphone plug ......................... 1
6. Handstrap ................................ 1

A battery case comes attached to the transceiver.

Thank you for purchasing the **IC-2N 144 MHz FM TRANSCEIVER**. Employing Icom's time-proven technology, this transceiver will provide you with years of simple, trouble-free operation.
1 ATTACHMENTS

- **Handstrap**
  Attach the handstrap to the loop on either side of the transceiver as shown below.

- **Antenna**
  Attach the supplied flexible antenna to the antenna connector on the top panel of the transceiver as shown below.

- **Belt clip**
  Attach the belt clip to the rear panel of the transceiver using the two supplied screws as shown below.

- **Battery case**
  To attach the battery case, mate the two notched metal guides of the battery pack with those of the transceiver, then slide the battery case into place until a click is heard.
  Reverse this procedure to remove the battery case.
ANTENNA Connector
Connects the supplied flexible antenna.

[RF POWER] SWITCH
Selects the RF output power.
[HIGH]: 1.5 watts for long distance communication.
[LOW]: 0.15 watts for saving battery power.

EXTERNAL MIC JACK [MIC]
Connect an optional speaker-microphone with the [SP] jack, if desired.

EXTERNAL SPEAKER JACK [SP]
Connects the supplied earphone, if desired.

1 MHz THUMBWHEEL SWITCH
Sets the 1 MHz digit of the operating frequency.

100 kHz THUMBWHEEL SWITCH
Sets the 100 kHz digit of the operating frequency.

10 kHz THUMBWHEEL SWITCH
Sets the 10 kHz digit of the operating frequency.

PUSH-TO-TALK SWITCH [PTT]
Push to transmit; release to receive.

[SEND]/[BATTERY] INDICATOR
Lights when transmitting. When battery capacity is low, this indicator does not light during transmitting.

SQUELCH CONTROL [SQL]
Sets the squelch threshold level. Turn counterclockwise to open the squelch; clockwise to close the squelch.

VOLUME CONTROL [VOL]
Adjusts the audio output level during receive. Turn clockwise to increase audio output.

POWER SWITCH [PWR]
Turns the power ON and OFF.

[DIAL/MAIN] SWITCH
Selects the operating frequency to the main channel (145.000 MHz) [MAIN] or allows the frequency to be adjusted with the thumbwheel switches [DIAL].

MICROPHONE
Speak into this when transmitting (except when an external speaker-microphone is connected).

SPEAKER
Emits receive audio (except when an external speaker-microphone or earphone is connected.)
# BATTERIES

## Opening/closing the battery case

To open the battery case:
Push and hold the sides of the battery case and push down on the top aluminum panel.

To close the battery case:
Slide the battery holder into the battery case.

## Installing batteries into the battery case

The battery case holds 6 AA type alkaline batteries. **BE SURE** to observe the correct polarity when installing the batteries.
- Rechargeable NiCd batteries may also be used.
  To charge NiCd batteries, an optional BC-35 or BC-36 DESKTOP CHARGER is required.

## When to replace the batteries

If the [SEND]/[BATTERY] indicator does not light during transmission, the batteries are in need of replacing (or charging in the case of NiCds).
- Always replace ALL of the batteries at the same time.
- AVOID mixing battery types.

To prolong battery life:
- Minimize transmission times.
- Reduce volume during reception.
- Turn [PWR] OFF when not in use.
RECEIVING

Before power ON

1. Check that the batteries are correctly loaded into the battery case and that the battery case is properly connected to the transceiver. (See 3 BATTERIES)

2. Make sure the supplied flexible antenna is properly connected. (See 1 ATTACHMENTS)

Receiving

1. Turn [PWR] ON.


3. Using the received noise as a reference, adjust the volume to the desired listening level using the [VOL] control.
   - Clockwise rotation increases the volume.
   - Lower volumes conserve battery power.

4. Rotate [SQL] clockwise until the noise is just muted.

5. Set the desired frequency using the THUMBWHEEL switches.
   - If the [DIAL]/[MAIN] switch is set to the [MAIN] position, the frequency is locked onto 145 MHz.

NOTE: If the squelch is unstable due to reception of weak or mobile stations, adjust the [SQL] further until the proper threshold is obtained.

PRE-OPERATION

Set the transceiver as for receiving. (See Receiving.)

CAUTION: Transmitting without an antenna may damage the transceiver.

Transmitting

1. Set the output power using the RF switch.
   - Select LOW (0.15 W) power to conserve battery power; if LOW power is insufficient to communicate, select HIGH (1.5 W) power.

2. Push and hold [PTT] to transmit.
   - [SEND/BATTERY] indicator lights.
   - To prevent interference to other stations, listen on the frequency before transmitting.

3. Hold the transceiver 10 to 15 cm from your mouth and speak into the microphone slowly and clearly at a normal voice level to prevent distortion.

   - [SEND/BATTERY] indicator goes out.

Frequency Range Chart

<table>
<thead>
<tr>
<th>1 MHz Thumbwheel</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency Band (MHz)</td>
<td>144</td>
<td>145</td>
<td>144</td>
<td>145</td>
<td>144</td>
<td>145</td>
<td>144</td>
<td>145</td>
<td>144</td>
<td>145</td>
</tr>
</tbody>
</table>

1 MHz Thumbwheel
The IC-2N has been thoroughly tested at the factory before shipping to ensure maximum performance. If you encounter any problems while operating the transceiver, consult the chart below.

This chart is designed to help you solve problems which are not equipment malfunctions. If the problem cannot be resolved in this manner, consult your nearest Icom Dealer or Service Center.

<table>
<thead>
<tr>
<th>PROBLEM</th>
<th>POSSIBLE CAUSE</th>
<th>SOLUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Power does not come on.</td>
<td>• Poor connection at the battery case.</td>
<td>• Check the battery case connection and correct any problems.</td>
</tr>
<tr>
<td></td>
<td>• Reverse polarity of the batteries.</td>
<td>• Reinsert the batteries, observing the correct polarity.</td>
</tr>
<tr>
<td>• Speaker does not emit audio.</td>
<td>• [VOL] is rotated completely counterclockwise.</td>
<td>• Rotate [VOL] clockwise to the desired level.</td>
</tr>
<tr>
<td></td>
<td>• [PTT] is pushed.</td>
<td>• Release the [PTT].</td>
</tr>
<tr>
<td></td>
<td>• [SQL] is rotated too far clockwise.</td>
<td>• Rotate the [SQL] counterclockwise.</td>
</tr>
<tr>
<td></td>
<td>• External speaker-microphone or earphone is</td>
<td>• Disconnect the external speaker-microphone</td>
</tr>
<tr>
<td></td>
<td>connected.</td>
<td>or earphone.</td>
</tr>
<tr>
<td></td>
<td>• The batteries are depleted.</td>
<td>• Replace the batteries.</td>
</tr>
<tr>
<td>• Sensitivity is low and only strong signals are audible.</td>
<td>• Poor connection at the flexible antenna.</td>
<td>• Connect the antenna properly.</td>
</tr>
<tr>
<td></td>
<td>• The antenna feedline is cut or shorted. (When using an external antenna.)</td>
<td>• Check the feedline and correct any improper conditions.</td>
</tr>
<tr>
<td>• RF output is low or nonexistent.</td>
<td>• RF power switch is set to the LOW position.</td>
<td>• Set the RF power switch to the HIGH position.</td>
</tr>
<tr>
<td></td>
<td>• Batteries are depleted.</td>
<td>• Replace the batteries.</td>
</tr>
<tr>
<td></td>
<td>• The antenna feedline is cut or shorted.</td>
<td>• Correct any problems with the antenna feedline.</td>
</tr>
<tr>
<td>• No modulation. (When using an external speaker-microphone,)</td>
<td>• Poor connection at the MIC connector.</td>
<td>• Connect the speaker-microphone properly.</td>
</tr>
<tr>
<td></td>
<td>• MIC cable is cut.</td>
<td>• Repair/replace the cable.</td>
</tr>
</tbody>
</table>
## Specifications

### GENERAL
- Frequency coverage: 144.00 - 145.95 MHz
- Mode: FM
- Frequency stability: ± 1.5 kHz
- Power supply requirement: 6 to 11 V DC
- Usable temp. range: −10 °C to 60 °C
- Dimensions incl. battery case: 65(W) × 165(H) × 35(D) mm (projections not included)
- Weight: 490 g (including 6 dry cell batteries)

### TRANSMITTER
- Output power: 1.5 W (High); 0.15 W (Low)
- Modulation system: Variable reactance freq. modulation
- Max. frequency deviation: ± 5 kHz
- Spurious emissions:
  - Less than – 60 dB
  - Microphone impedance: 2 kΩ
  - Current drain:
    - 550 mA (High); 220 mA (Low)

### RECEIVER
- Receive system: Double-conversion superheterodyne
- Sensitivity:
  - Less than 0.5 μV for 12 dB SINAD
  - Squelch sensitivity:
    - Less than 0.4 μV
  - Spurious response rejection:
    - More than 60 dB
- Audio output power:
  - More than 300 mW
- Audio output impedance:
  - 8 Ω
- Current drain:
  - 130 mA (max. audio)
  - 20 mA (squelched)

All stated specifications are subject to change without notice or obligation.

## Options

### BATTERY PACKS/CASE

<table>
<thead>
<tr>
<th>MODEL</th>
<th>CAPACITY</th>
<th>VOLTAGE</th>
<th>CHARGING PERIOD</th>
<th>HEIGHT (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BP-2</td>
<td>450 mA</td>
<td>7.2 V</td>
<td>1.5 hrs.</td>
<td>39</td>
</tr>
<tr>
<td>BP-3</td>
<td>270 mA</td>
<td>8.4 V</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>BP-4</td>
<td>AA size x 6</td>
<td>7.2 V / 9.0 V</td>
<td>15 hrs.</td>
<td>N/A</td>
</tr>
<tr>
<td>BP-5</td>
<td>450 mA</td>
<td>10.8 V</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>BP-5A</td>
<td>450 mA</td>
<td>10.8 V</td>
<td>1.5 hrs.</td>
<td>N/A</td>
</tr>
<tr>
<td>BP-8</td>
<td>800 mA</td>
<td>8.4 V</td>
<td>3 hrs.</td>
<td>58</td>
</tr>
</tbody>
</table>

*7.2 V with NiCd batteries and 9.0 V with dry cell batteries.
†Charge ONLY NiCd batteries. Other batteries may rupture or explode if you attempt to recharge them.

### CHARGERS AND CABLES

- **BC-16U/E, BC-17, BC-18 WALL CHARGERS**
  - Regularly charge the BP-5A, BP-8.
- **BC-25U/E, BC-26E, BC-27 WALL CHARGERS**
  - Regularly charge the BP-3.
- **IC-2N with attached DC-DC converter**
  - Allows you to operate the transceiver using an external 13.8 V power source.
- **CP-1 CIGARETTE LIGHTER CABLE**
  - For operation with the DC-1 or charging of a battery pack with a 12 V cigarette lighter socket.

### SPEAKER-MICROPHONES

- **HM-9**
- **HM-46**
  - Transmitter indicator (does not light for IC-2N operation)
  - Earphone jack
- **HM-54**

### OTHERS

- **MB-16 MOBILE BRACKET**
- **MB-16D WALL BRACKET**
- **CP-10 BATTERY SEPARATION CABLE**
  - For separating the transceiver from the battery pack/case.

For mounting the transceiver in a vehicle or to a wall.
Count on us!