VHF AND UHF TRANSCEIVERS

IC-F3161DT (IDAS digital VHF transceiver with 10-keypad)
IC-F3161T (VHF transceiver with 10-keypad)
IC-F3161DS (IDAS digital VHF transceiver without 10-keypad)
IC-F3161S (VHF transceiver without 10-keypad)

IC-F4161DT (IDAS digital UHF transceiver with 10-keypad)
IC-F4161T (UHF transceiver with 10-keypad)
IC-F4161DS (IDAS digital UHF transceiver without 10-keypad)
IC-F4161S (UHF transceiver without 10-keypad)

LTR™ Conventional
IDAS™ Digital
IDAS™ Trunking

512 ch / 128 zones
Conventional/ LTR™ mode
IDAS conventional (With UT-126H)
IDAS Trunking (With UT-126H)
2-Tone, 5-Tone CTCSS, DTCS
VHF 5W
UHF 5W output
14 hrs. operating time with BP-232N
Full dot-matrix LCD
IP55 dust-protection and water jet resistance
The IC-F3161/D series meets IP55 requirements for dust-protection and water jet resistance. Its durable construction is backed up by the aluminum die-cast chassis and polycarbonate casing, allowing reliable operation under harsh weather and environmental conditions.

Lithium-Ion battery pack
The supplied 2000mAh Li-Ion battery pack, BP-232N, provides 14 hours* of operating time. The optional battery case BP-240 provides a convenient back up and great reassurance in an emergency.
* Typical operation Tx:Rx:Stand-by=5:5:90, power save on

Most popular signalings built-in
The 2-Tone, 5-Tone, CTCSS, DTCS and MDC signaling capabilities are built-in for group communication or selective calling. The radio can decode ten 2-Tone codes or eight 5-Tone codes on a channel. When a matched tone is received, the following actions are programmable for each code.
• Beep sound     • Bell icon
• Answer back call • Auto TX
• Radio stun/kill/revive • Scan

Basic LTR™/conventional mode operation
Both LTR™ trunking and conventional channels are programmable on a radio. Group, selective (DTMF), and phone call are available in LTR™ mode.

MDC 1200 Compatible
The following selective calling and ANI features are available with the built-in MDC signaling.
• PTT ID     • SelCall   • Radio check
• Radio stun/revive • 500 Aliases
• Status message/request • Call alert
• Emergency, emergency mic monitoring

Voting mode scanning
The voting mode scanning detects the signal strength level of repeater stations and automatically selects the strongest station, useful for roaming between 2 or more repeater sites. Once you program the voting mode to a memory zone, you can easily start voting mode operation by changing the zone setting.

VHF TRANSCEIVERS
IC–F3161DT/T  IDAS digital/analog FM with 10-keypad
IC–F3161DS/S  IDAS digital/analog FM without 10-keypad

UHF TRANSCEIVERS
IC–F4161DT/T  IDAS digital/analog FM with 10-keypad
IC–F4161DS/S  IDAS digital/analog FM without 10-keypad
Full dot-matrix LCD

Using a large full dot-matrix LCD (32 × 18 mm), the IC-F3161/D series shows upper and lower case characters clearly. The display setting is selectable from 1 line, 12 characters or 2 lines 24 characters via programming. The bottom row shows assigned functions to the [P0] to [P3] buttons.

Enhanced audio

The IC-F3161/D series employs a BTL amplifier that increases the audio output and the built-in audio compander provides clear, low noise communications.

Lone worker function

When the radio is not operated for a preset period, a beep sounds and a button push is required. If no button is pushed within that preset time, an emergency signal automatically transmits and alerts your co-worker or dispatcher to any potential trouble.

Built-in inversion-type voice scrambler

The built-in inversion type voice scrambler provides secure conversation as standard. When a more secure system is required, the 32 code non-rolling-type voice scrambler UT-109R and 1020 code rolling type UT-124R are available as an option.

Other features

- 512 memory channel with 128 zones
- 8 DTMF autodial memories
- 2 step reduced power setting
- FM intrinsically safe versions
- Busy, repeater lockout functions
- Escalating alarm
- Mode dependent scan
- Surveillance function temporarily turns off the LED backlight and beep sound
- Powerful 5W output both in VHF and UHF
- Flash CPU for future upgrade and more...

IDAS™ digital mode ready

IDAS (Icom Digital Advanced System) is Icom’s digital land mobile radio system using the NXDN™ common air interface. The IC-F3161 series is compatible with IDAS conventional and IDAS single-site/multi-site trunking. The IC-F3161 series provides 2 optional slots: one optional slot for the UT-126H digital unit and one for an additional option board. The UT-126H is already installed to the IC-F3161/F4161 “D” versions. See the IDAS brochure for details.
### SPECIFICATIONS

#### GENERAL
- **Frequency range**: IC-F3161T/S, DT/DS 350–400MHz (Non-FCC)
- **Number of channels**: 512 channels/128 zones
- **Channel spacing**: 12.5kHz/25kHz, 15kHz/30kHz
- **Type of emission**: Wide: GMSK, Narrow: QPSK
- **Usable temperature range**: –30˚C to +60˚C; –22°F to +140°F
- **Antenna impedance**: 50Ω
- **Dimensions (with BP-232N)**: 53 (W) × 136 (H) × 38.5 (D) mm;
  (projections are not included) 2.09 (W) × 5.35 (H) × 1.52 (D) in
- **Weight (approx.)**: 340g; 12.0oz (with BP-232N)
- **Input voltage**: 7.2V DC nominal
- **Current drain (at 7.2V DC; approx.)**:
  - Transmit VHF/UHF: 1.5A/1.8A (at 5W/5W)
  - Receive stand-by: 100mA
  - With UT-126H: 150/140mA (VHF/UHF)
  - Rated output: 600mA

#### TRANSMITTER
- **Output power**: VHF/UHF: 5W/2W/1W (Hi/L2/L1)
- **Max. frequency deviation**: ±5kHz (Wide), ±2.5kHz (Narrow)
- **Frequency stability**: ±1.0ppm
- **Spurious emissions**: 75dB typ.
- **FM Hum and Noise**: 46dB typ. (Wide), 40dB typ. (Narrow)
- **Audio harmonic distortion**: 3% typ. (AF 1kHz, 40% deviation)
- **Modulation limiting**: 60–100% of max. deviation
- **FSK error**: 5% max. (Digital)
- **Ext. microphone connector**: 9-pin multi connector/ 2.2k

#### RECEIVER
- **Sensitivity**: FM (W, N) 0.25µV typ. (at 12dB SINAD)
  - Digital 0.20µV typ. (at 5% BER)
- **Adjacent channel selectivity**: 75dB typ. (Wide), 68dB typ. (Narrow)
- **Spurious response**: 70dB min.
- **Intermodulation**: 74dB typ.
- **Hum and noise ratio**: 46dB typ. (Wide), 40dB typ. (Narrow)
- **Audio output power**: 500mW typ.
  - (at 5% distortion with an 8Ω load)
- **External speaker connector**: 9-pin multi connector/ 8Ω

#### TRANSMITTER
- **Output power**: VHF/UHF: 5W/2W/1W (Hi/L2/L1)
- **Max. frequency deviation**: ±5kHz (Wide), ±2.5kHz (Narrow)
- **Frequency stability**: ±1.0ppm
- **Spurious emissions**: 75dB typ.
- **FM Hum and Noise**: 46dB typ. (Wide), 40dB typ. (Narrow)
- **Audio harmonic distortion**: 3% typ. (AF 1kHz, 40% deviation)
- **Modulation limiting**: 60–100% of max. deviation
- **FSK error**: 5% max. (Digital)
- **Ext. microphone connector**: 9-pin multi connector/ 2.2k

### SUPPLIED ACCESSORIES
- **VHF Antenna**
- **UHF Antenna**
- **Battery pack, BP-232N**
- **Belt clip, MB-94**

### Applicable U.S. Military Specifications & IP Rating
Icom makes rugged products that have been tested to and passed the following MIL-STD requirements and Ingress Protection standards.

<table>
<thead>
<tr>
<th>Standard</th>
<th>Method</th>
<th>Procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Pressure</td>
<td>500.4</td>
<td>I, II</td>
</tr>
<tr>
<td>High Temperature</td>
<td>501.4</td>
<td>I, II</td>
</tr>
<tr>
<td>Low Temperature</td>
<td>502.4</td>
<td>I, II</td>
</tr>
<tr>
<td>Temperature shock</td>
<td>503.4</td>
<td>I, II</td>
</tr>
<tr>
<td>Solar Radiation</td>
<td>504.4</td>
<td>I, III</td>
</tr>
<tr>
<td>Rain Blowing/Drip</td>
<td>505.4</td>
<td>I, III</td>
</tr>
<tr>
<td>Humidity</td>
<td>506.4</td>
<td>I, IV</td>
</tr>
<tr>
<td>Salt Fog</td>
<td>507.4</td>
<td>I</td>
</tr>
<tr>
<td>Dust Blowing</td>
<td>508.4</td>
<td>I</td>
</tr>
<tr>
<td>Shock</td>
<td>509.4</td>
<td>I</td>
</tr>
<tr>
<td>Vibration</td>
<td>510.4</td>
<td>I</td>
</tr>
<tr>
<td>Dampness</td>
<td>511.4</td>
<td>I</td>
</tr>
<tr>
<td>Dust &amp; Water</td>
<td>512.4</td>
<td>D, E</td>
</tr>
</tbody>
</table>

Also meets equivalent MIL-STD-810-C, -D and -E.

### Ingress Protection Standard
- **Dust & Water**
  - IP55 (Dust-protection and water jet resistance)

### Measurements made in accordance with EIA-152C/204D, TIA-603 for analog.

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

Icom Inc. and the Icom logo are registered trademarks of Icom Incorporated (Japan) in the United States, the United Kingdom, Germany, France, Spain, Russia, Japan and/or other countries. IDAS and IDAS logo are trademarks of Icom Incorporated. NXDN is a trademark of Icom Incorporated and Kenwood Corporation. LTR is a trademark of E.F. Johnson Technologies Inc. All other trademarks are the properties of their respective holders.