



## 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

ICOM DIGITAL ADVANCED SYSTEM



- 512 ch / 128 zones
- Conventional/LTR™ mode
- IDAS digital (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

# LTR™ /Conventional/Digital\* – Multi-Mode

\* With UT-126H installed. Already installed to the IC-F3161/F4161 "D" versions.



▲ IC-F3161DT/T

▲ IC-F4161DS/S

## 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

### 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.

### 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

### 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.

# Land Mobile!

## 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-110R are available as an option.

\* Inversion type voice scrambler is not compatible with UT-109/UT-110 voice scrambler.

## Other features

- 512 memory channel with 128 zones
- 8 DTMF autodial memories
- 2 step reduced power setting
- Power on password
- 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...

## OPTIONS

Some options may not be available in some countries. Please ask your dealer for details.

**BATTERY PACKS AND CASE**

▲ BP-230N      ▲ BP-232N      ▲ BP-240

| Battery packs | Type and capacity           | Operating time* | Output power |
|---------------|-----------------------------|-----------------|--------------|
| BP-230N       | Li-Ion<br>7.4V/980mAh       | 7.35 hours      | 5W           |
| BP-232N       | Li-Ion<br>7.4V/2000mAh      | 14 hours        | 5W           |
| BP-240        | AAA (LR03)<br>batteries × 6 | —               | 1W           |

\* Operating time is approximate time (at 20°C). Tx: Rx: standby=5:5:90. Power save on.

**REGULAR CHARGER**

BC-147A      BC-171

**BC-171 DESKTOP CHARGER + BC-147A AC ADAPTER**  
Charges the BP-232N in 10 hours. (approx.).

**RAPID CHARGER**

BC-145A      BC-160

**BC-160 DESKTOP CHARGER + BC-145A AC ADAPTER**  
Charges the BP-232N in 3 hrs. (approx.).  
**BC-119N + AD-106 + BC-145A** is also available.

**BELT CLIPS**

MB-93      MB-94

**MB-93** : Swivel type. A fast and easy way to remove the transceiver from your belt.  
**MB-94** : Alligator type. Same as supplied.

**MULTI-CHARGER**

BC-121N+AD-106 (6 pcs.)      OPC-656      BC-157

**BC-121N MULTI-CHARGER + AD-106 CHARGER ADAPTER + BC-157 AC ADAPTER**  
Rapidly charges up to 6 battery packs (Six AD-106s are required).  
Charging time: 3 hours (approx.) when BP-232N is attached.

**OPC-656 DC POWER CABLE** : For use with the BC-121N. (12–20V DC required).

**LEATHER BELT HANGERS**

MB-96N      MB-96F

**MB-96N**: Swivel type belt hanger. Swivel joint of the MB-93 supplied.  
**MB-96F**: Fixed type belt hanger. For use with MB-94.

**SPEAKER-MICROPHONES**

HM-168      HM-169      HM-170GP      HM-159SC

**HM-168** : Compact type speaker-microphone. Equivalent to IPX7.  
**HM-169** : Rugged type speaker-microphone. Equivalent to IP57.  
**HM-170GP** : GPS speaker-microphone. Equivalent to IP57.  
**HM-159SC** : Full size durable speaker microphone with revolving clip.  
**HM-131SC** : Compact type speaker microphone.

**INTERNAL UNITS**

UT-109R      UT-110R      UT-124R      UT-126H

**UT-109R**: Non-rolling type voice scrambler.  
**UT-110R**: Rolling type voice scrambler.  
**UT-124R**: Man down unit. Automatically sends an emergency signal when the transceiver is left in a horizontal position for a preset time.  
**UT-126H**: Digital unit. Provides IDAS digital capability.

**HEADSETS AND PTT/VOX UNIT**

HS-94      HS-95      HS-97      VS-1SC

**HS-94**: Earhook headset with flexible boom microphone.  
**HS-95**: Behind-the-head headset with flexible boom microphone.  
**HS-97**: Throat microphone fits around your neck and picks up speech vibration.  
**VS-1SC**: PTT/VOX unit. Required when using these headsets.

**EARPHONE**

AD-52      SP-13

**SP-13**: EARPHONE.  
**AD-52**: EARPHONE ADAPTER  
Provides clear audio even in noisy environments.

**OSTUBBY ANTENNAS**

- **FA-SC56VS**: 150–162MHz
- **FA-SC57VS**: 160–174MHz
- **FA-SC73US**: 450–490MHz

**CUT ANTENNAS**

- **FA-SC61VC**: 136–174MHz
- **FA-SC61UC**: 380–520MHz

Cut the antenna element to tune to a specific center frequency.

**ANTENNAS**

- **FA-SC25V**: 136–150MHz
- **FA-SC55V**: 150–174MHz
- **FA-SC25U**: 400–430MHz
- **FA-SC57U**: 430–470MHz
- **FA-SC72U**: 470–520MHz

## IDAS system digital mode ready

**DIGITAL**

The IDAS (Icom Digital Advanced System) is Icom's digital land mobile radio system using the NXDN™ common air interface. It has useful calling features including selective calling, status message, radio stun/kill/revive, etc.

The IC-F3161 series provides 2 optional slots: one optional slot for the UT-126H digital unit and one for an additional option board. See the IDAS brochure for details.



## SPECIFICATIONS

## GENERAL

- Frequency range :  
IC-F3161T/S 136–174MHz  
IC-F4161T/S 400–470MHz  
450–520MHz
- Number of channels : 512 channels/128 zones
- Channel spacing : 12.5kHz/25kHz, 15kHz/30kHz,  
6.25kHz (option)
- PLL channel step : 2.5kHz, 3.125kHz
- Antenna impedance : 50Ω
- Usable temperature range : –30°C to +60°C; –22°F to +140°F
- Power supply requirement : 7.2V DC
- Current drain (at 7.2V DC; approx.):  
Transmit VHF/UHF 1.5A/1.8A (at 5W/5W)  
Receive stand-by 100mA  
150mA (With UT-126H)  
rated output 600mA
- Dimensions (with BP-232N): 53 (W) × 136 (H) × 38.9 (D) mm;  
(projections are not included) 2<sup>3</sup>/<sub>32</sub> (W) × 5<sup>11</sup>/<sub>32</sub> (H) × 1<sup>17</sup>/<sub>32</sub> (D) in
- Weight (approx.) : 338g; 11.9oz (with BP-232N)

## TRANSMITTER

- Output power : 5W (VHF), 5W (UHF)
- Max. frequency deviation : ±5kHz (Wide)  
±2.5kHz (Narrow)
- Frequency error : ±1.0ppm
- Spurious emissions : 75dB typ.
- Adjacent channel power : 80dB typ. (Wide), 70dB typ. (Narrow)
- 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
- External microphone connector :  
9-pin multi connector/ 2.2kΩ

Measurements made in accordance with EIA-152C/204D, TIA-603 for analog.  
All stated specifications are subject to change without notice or obligation.

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## RECEIVER

- Intermediate frequency : 46.35MHz/450kHz (1st/2nd)
- Sensitivity FM (W, N) : 0.25μV typ. (at 12dB SINAD)  
Digital : 0.20μV typ. (at 5% BER)
- Squelch sensitivity : 0.25μV typ. (at threshold)
- 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

## Applicable U.S. Military Specifications &amp; IP Rating

Icom makes rugged products that have been tested to and passed the following MIL-STD requirements and Ingress Protection standards.

| Standard          | MIL 810F |           |
|-------------------|----------|-----------|
|                   | Method   | Procedure |
| Low Pressure      | 500.4    | I, II     |
| High Temperature  | 501.4    | I, II     |
| Low Temperature   | 502.4-3  | I, II     |
| Temperature Shock | 503.4    | I         |
| Solar Radiation   | 505.4    | I         |
| Rain Blowing/Drip | 506.4    | I, III    |
| Humidity          | 507.4    | –         |
| Salt Fog          | 509.4    | –         |
| Dust Blowing      | 510.4    | I         |
| Vibration         | 514.5    | I         |
| Shock             | 516.5    | I, IV     |

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

## Ingress Protection Standard

Dust & Water IP55 (Dust-protection and water jet resistance)

## SUPPLIED ACCESSORIES

(May differ according to version)



• VHF Antenna

• UHF Antenna

• Battery pack, BP-232N

• Belt clip, MB-94

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