



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)

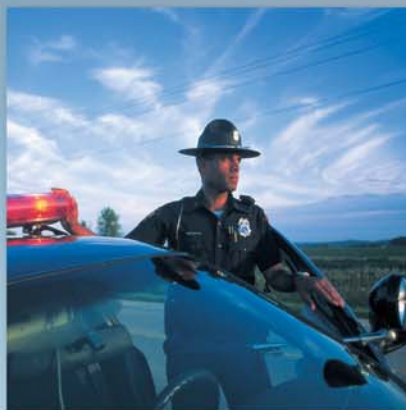
IC-F4161S
(UHF transceiver without 10-keypad)



IDAS™
COM DIGITAL ADVANCED SYSTEM



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-232H
- Full dot-matrix LCD

Conventional/IDAS™ Digital/IDAS™ Trunking Multi-Mode Land Mobile!

* With UT-126H installed. Already installed to the I



▲ IC-F3161DT/T

▲ IC-F4161DS/S

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 2300mAh Li-Ion battery pack, BP-232H, 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 scan (Analog mode only)

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

IC-F3161/F4161 "D" versions.

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
- 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...

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-232H ▲ BP-240

| Battery packs | Type and capacity | Operating time* | Output power |
|---------------|--------------------------|-----------------|--------------|
| BP-230N | Li-Ion 7.4V 980mAh | 5.5 hours | 5W |
| BP-232N | Li-Ion 7.4V 2000mAh | 12 hours | 5W |
| BP-232H | Li-Ion 7.4V 2300mAh | 14 hours | 5W |
| BP-240 | AAA (LR03) 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-147 AC ADAPTER**
Charges the BP-232N in 10 hours. (approx.).
** BC-145/BC-147SA for 120V AC. SE for 230V AC. SV for 240V AC.

RAPID CHARGER

BC-145A BC-160

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

BELT CLIPS

MB-93 MB-94 MB-94R

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

MULTI-CHARGER

▲ BC-197 ▲ BC-157S ▲ OPC-656

BC-197 MULTI-CHARGER + BC-157S AC ADAPTER
Rapidly charges up to 6 battery packs. Charger adapter AD-122 is supplied with the BC-197. **BC-121N + AD-106 + BC-157S** is also available.
OPC-656 DC POWER CABLE : For use with the BC-197 or BC-121N.

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

IPX7 IP57 IP57

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.
SP-27 : TUBE EARPHONE.
Provides clear audio even in noisy environments. Use with **AD-52** Earphone adapter.

- ### STUBBY ANTENNAS
- FA-SC56VS : 150–162MHz
 - FA-SC57VS : 160–174MHz
 - FA-SC73US : 450–490MHz
- ### CUT ANTENNAS
- FA-SC61VC : 136–174MHz
 - FA-SC61UC : 380–520MHz
- ### HIGH GAIN ANTENNAS
- FA-SC62V : 150–160MHz
 - FA-SC63V : 155–165MHz
- ### ANTENNAS
- FA-SC25V : 136–150MHz
 - FA-SC55V : 150–174MHz
 - FA-SC25U : 400–430MHz
 - FA-SC57U : 430–470MHz
 - FA-SC72U : 470–520MHz
 - FA-SC04U : 330–380MHz
 - FA-SC03U : 380–430MHz

IDAS™ digital mode ready

IDAS (Icom Digital Advanced System) is Icom's digital land mobile radio system using the 6.25kHz narrowband FDMA technology. The IC-F3161 series is compatible with IDAS conventional and IDAS single-site/multi-site trunking using the NXDN™ common air interface. 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.

DIGITAL



SPECIFICATIONS

GENERAL

- Frequency range :
 - IC-F3161T/S, DT/DS 136–174MHz
 - IC-F4161T/S, DT/DS 400–470MHz, 450–512MHz
350–400MHz (Non-FCC)
- Number of channels : 512 channels/128 zones
- Channel spacing : 12.5kHz/25kHz, 15kHz/30kHz,
6.25kHz (digital)
- Type of emission Wide : 16K0F3E,
Narrow 11K0F3E, 11K0F7E, 11K0F7D
8K50F3E, 8K10F1E, 8K10F1D
Digital 4K00F1E, 4K00F1D
- Antenna impedance : 50Ω
- Usable temperature range : –30°C to +60°C; –22°F to +140°F
- Power supply requirement : 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
- 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)

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/ 2.2kΩ

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

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

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.

| Standard | MIL 810F | |
|-------------------|----------|-----------|
| | Method | Procedure |
| Low Pressure | 500.4 | I, II |
| High Temperature | 501.4 | I, II |
| Low Temperature | 502.4 | 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

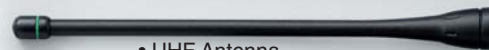
Dust & Water IP55 (Dust-protection and water jet resistance)

SUPPLIED ACCESSORIES

(May differ according to version)



• VHF Antenna



• UHF Antenna



• Belt clip, MB-94



• Battery pack, BP-232N

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