



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)

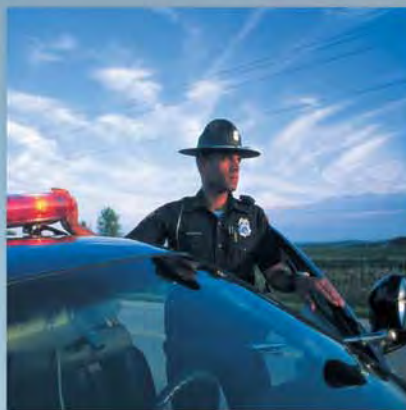
IC-F4161S
(UHF transceiver without 10-keypad)



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-232N
- Full dot-matrix LCD

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

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



▲ 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 supplied 2000mAh (typ.) 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
- Answer back call
- Radio stun/kill/revive
- Bell icon
- Auto TX
- 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
- 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

C-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
- 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 7.4V 950mAh (min.) 980mAh (typ.)	7.35 hours	5W
BP-232N	Li-Ion 7.4V 1900mAh (min.) 2000mAh (typ.)	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-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

IPX7 IPX7 GPS 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-15C

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-15C : 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.

STUBBY 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 conventional and trunking 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
 - 450–512MHz
- 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) × 38.5 (D) mm; (projections are not included) 2³/₃₂ (W) × 5¹¹/₃₂ (H) × 1¹⁷/₃₂ (D) in
- Weight (approx.) : 340g; 12.0oz (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 & 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)



Icom Inc.

1-1-32, Kami-minami, Hirano-ku, Osaka 547-0003, Japan Phone: +81 (06) 6793 5302 Fax: +81 (06) 6793 0013 URL: <http://www.icom.co.jp/world/index.html>

Count on us!

GATT Communications, Inc.

20 E. 49th St 5th Fl.
New York, NY 10017
Phone: +1 (212) 755-5995
Fax: +1 (212) 755-4994
Email: sales@gattcom.com
URL: <http://www.gattcom.com>

Icom Canada

Glenwood Centre #150-6165 Highway 17,
Delta, B.C., V4K 5B8, Canada
Phone: +1 (604) 952-4266
Fax: +1 (604) 952-0090
E-mail: info@icomcanada.com
URL: <http://www.icomcanada.com>

Icom (Australia) Pty. Ltd.

Unit 1 / 103 Garden Road,
Clayton, VIC 3168 Australia
Phone: +61 (03) 9549 7500
Fax: +61 (03) 9549 7505
E-mail: sales@icom.net.au
URL: <http://www.icom.net.au>

Icom New Zealand

146A Harris Road, East Tamaki,
Auckland, New Zealand
Phone: +64 (09) 274 4062
Fax: +64 (09) 274 4708
E-mail: inquiries@icom.co.nz
URL: <http://www.icom.co.nz>

Icom (Europe) GmbH

Communication Equipment
Himmelgeister Str. 100,
D-40225 Düsseldorf, Germany
Phone: +49 (0211) 346047
Fax: +49 (0211) 333639
E-mail: info@icomeurope.com
URL: <http://www.icomeurope.com>

Icom Spain S.L.

Ctra. Rubi, No. 88 "Edificio Can Castanyer"
Bajos A 08174, Sant Cugat del Valles,
Barcelona, Spain
Phone: +34 (93) 590 26 70
Fax: +34 (93) 589 04 46
E-mail: icom@icomspain.com
URL: <http://www.icomspain.com>

Icom (UK) Ltd.

Unit 9, Sea St., Herne Bay,
Kent, CT6 8LD, U.K.
Phone: +44 (01227) 741741
Fax: +44 (01227) 741742
E-mail: info@icomuk.co.uk
URL: <http://www.icomuk.co.uk>

Icom France s.a.s.

Zac de la Plaine,
1 Rue Brindejonc des Moulinais, BP 45804,
31505 Toulouse Cedex 5, France
Phone: +33 (5) 61 36 03 03
Fax: +33 (5) 61 36 03 00
E-mail: icom@icom-france.com
URL: <http://www.icom-france.com>

Icom Polska

81-850 Sopot, ul. 3 Maja 54, Poland
Phone: +48 (58) 550 7135
Fax: +48 (58) 551 0484
E-mail: icompolksa@icompolksa.com.pl
URL: <http://www.icompolksa.com.pl>

Asia Icom Inc.

6F No. 68, Sec. 1 Cheng-Teh Road,
Taipei, Taiwan, R.O.C.
Phone: +886 (02) 2559 1899
Fax: +886 (02) 2559 1874
E-mail: sales@asia-icom.com
URL: <http://www.asia-icom.com>

Beijing Icom Ltd.

10C07, Long Silver Mansion, No.88, Yong Ding
Road, Haidian District, Beijing, 100039, China
Phone: +86 (010) 5889 5391/5392/5393
Fax: +86 (010) 5889 5395
E-mail: bjicom@bjicom.com
URL: <http://www.bjicom.com>

Your local distributor/dealer: