



## 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-147A 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) 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.) : 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.

Icom, Icom Inc. and the Icom logo are registered trademarks of Icom Incorporated (Japan) in the United States, the United Kingdom, Germany, France, Spain, Russia 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 Company. All other trademarks are the properties of their respective holders.

## 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

## 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!

## Icom America Inc.

2380 116th Avenue NE,  
Bellevue, WA 98004, U.S.A.  
Phone : +1 (425) 454-8155  
Fax : +1 (425) 454-1509  
E-mail : [sales@icomamerica.com](mailto:sales@icomamerica.com)  
URL : <http://www.icomamerica.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](mailto: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](mailto: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](mailto: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@icom-europe.com](mailto:info@icom-europe.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](mailto: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](mailto: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](mailto: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](mailto: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](mailto: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](mailto:bjicom@bjicom.com)  
URL : <http://www.bjicom.com>

Your local distributor/dealer: