



## 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 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 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
- 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

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-240

Battery packs	Type and capacity	Operating time*	Output power
BP-230N	Li-Ion 7.4V 980mAh	7.35 hours	5W
BP-232N	Li-Ion 7.4V 2000mAh	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 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.

## 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 &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	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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Icom Inc. 1-1-32, Kami-minami, Hirano-ku, Osaka 547-0003, Japan Phone: +81 (06) 6793 5302 Fax: +81 (06) 6793 0013

[www.icom.co.jp/world](http://www.icom.co.jp/world)

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  
Auf der Krautweide 24  
65812 Bad Soden am Taunus, Germany  
Phone : +49 (6196) 76685-0  
Fax : +49 (6196) 76685-50  
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.

Blacksole House, Altrira Park,  
Herne Bay, Kent, CT6 6GZ, 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: