



VHF AND UHF DIGITAL TRANSCEIVERS

**IC-F1000D**

VHF transceiver

**IC-F2000D**

UHF transceiver

# Compact, Waterproof Digital Business Radio

**iDAS™**  
ICOM DIGITAL ADVANCED SYSTEM

***IDAS™ digital conventional***

***Type-D single-site trunking***

***Slim, compact and lightweight***

***IP67 waterproofing and dust-tight protection***

***Motion detection, man down and  
lone worker functions as standard***

***Good audio quality for noisy environments***

***Long-lasting battery life***

***Channel announcement function***



Limited functions.



NXDN



# Compact, Slim Dimensions, Waterproof Digital Transceiver

## IDAS™ Digital Mode Operation

The IC-F1000D/F2000D can program Type-D single-site trunking and digital conventional modes as well as analogue mode per channel. The IDAS digital mode employs 4-level FSK modulation and the NXDN™ common air interface, offering true 6.25kHz spectrum efficiency, higher security and better audio clarity – even at the fringes of the communication range.

The following IDAS features are programmable:

- PTT ID (TX) • Individual/group calls
- Radio check (RX) • Stun/Kill/Revive (RX)
- Remote monitor (RX) • Emergency (TX)
- Call alert (RX) • Digital voice scrambler (15-bit)
- Status Call (Power ON/OFF status and GPS request)
- Voting scan for multi-site conventional operation

TX: Transmit, RX: Receive

## Intelligent Emergency Functions

To assist in worker safety, the IC-F1000D/F2000D has three emergency related functions: motion detection, man down and lone worker functions. If one of these functions are activated, the transceiver automatically enters an emergency phase and starts counting down to send an emergency signal. The built-in motion sensor detects position, state of motion and non-motion.

## Optional GPS Speaker-Microphone

With the optional GPS speaker-microphone, HM-171GPW, GPS position data can be attached to a voice or data transmission such as responding a GPS request status call.

## System image diagram

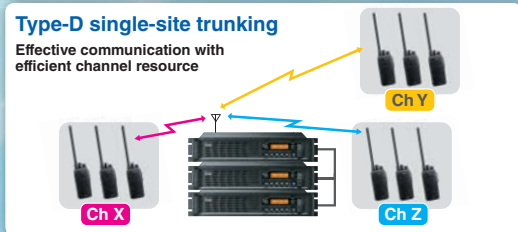
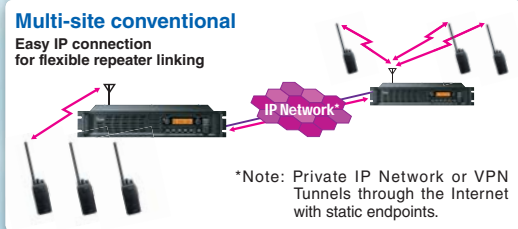


Photo includes optional stubby antenna.

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**IC-F1000D**  
**IC-F2000D**



## IP67 Waterproof and Dust-tight Protection

While the body is compact, the IC-F1000D/F2000D has rugged construction providing superior protection against water (1m depth for 30 minutes), dust, sand, mud and other objects. The radio is also tested to MIL-STD 810 specifications. It can withstand harsh use.

## Slim, Compact and Lightweight

The IC-F1000D/F2000D has a compact 52.2×111.8×30.3mm body and weighs only 260g (with BP-280 battery pack and belt clip). It's easy to carry around anywhere.

## Easy to Hear in a Noisy Environment

The large 36mm speaker of the transceiver provides clear 800mW\* audio. The built-in BTL amplifier increases the audio output power and delivers loud and intelligible voice to a radio operator working in noisy environments. \* Typical with internal speaker.

## Built-in 2-Tone and 5-Tone (Analogue mode)

The IC-F1000D/F2000D has built-in 2-Tone, 5-Tone, CTCSS and DTCS signaling capability for analogue mode group communication and selective calling. The IC-F1000D/F2000D can be used as an analogue transceiver ready for future digital migration.

## Long-Lasting Battery Pack

The large capacity waterproof battery pack, BP-280 (2400mAh typ.), provides 18 hours of operating time\*. The supplied rapid charger BC-213\* charges the BP-280 in 3.5 hours.

\* Tx: Rx: Standby=5:5:90. Power save function ON. BC-213 may be not supplied depending on version.

## Other Features

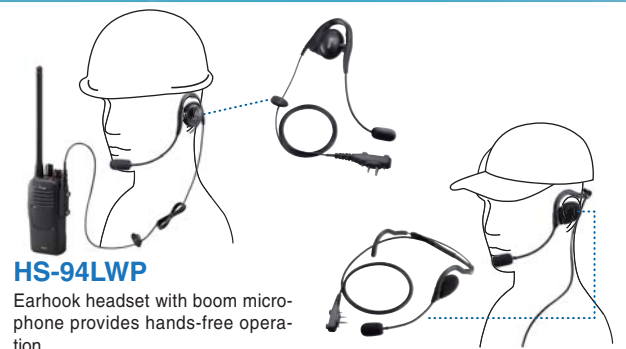
- DTMF autodial memories
- MDC functions: PTT ID, emergency call, radio check (RX) and stun/revive (RX)
- BIIS PTT ID call
- Surveillance function
- Escalating alarm
- VOX capability for hands-free operation
- Channel announcement function
- Red emergency switch on the top panel

# The IC-F1000D/F2000D: Added Value Optional Accessories



## Manufacturing & Construction

### » Headsets



### HS-94LWP

Earhook headset with boom microphone provides hands-free operation.

### HS-95LWP

Behind-the-head type with boom microphone provides hands-free operation.



VS-4LA

### HS-97 +VS-4LA or OPC-2004LA

Throat microphone picks up your speech vibration, even in a noisy environment.



## Facility & Security Guard

### » Speaker-microphones



IP67  
GPS

### HM-171GPW

GPS speaker-microphone for sending GPS position data with voice.

IP67

### HM-168LWP

IP67 waterproof speaker-microphone for outdoor work or places prone to getting wet.



### HM-159LA

Full size, durable speaker-microphone provides loud audio.



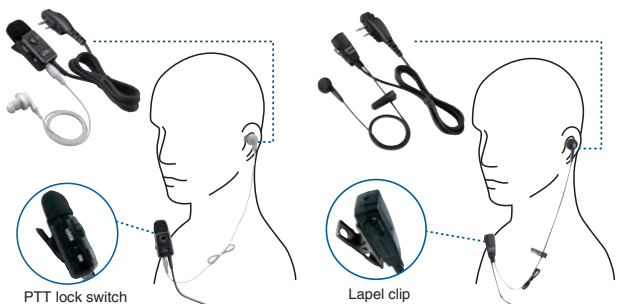
### HM-158LA

Lightweight, compact size speaker-microphone.



## Retail & Hospitality

### » Earphone-microphones



PTT lock switch

Lapel clip

### HM-153LA

Durable lapel microphone with earphone for low-profile, discreet placement.

### HM-166LA

Lightweight lapel microphone with earphone.

**SPECIFICATIONS**

	IC-F1000D	IC-F2000D
<b>GENERAL</b>		
Frequency coverage	136–174MHz	400–470MHz
Number of channels	16 channels	
Type of emission (* Depending on version)	16K0F3E (25kHz), 14K0F3E (20kHz), 8K50F3E (12.5kHz), 4K00F1E/D (6.25kHz)	
Power supply requirement	7.5V DC nominal	
Current drain (approx.)		
Tx High	1.3A	1.4A
Rx Max. audio/Standby	400mA (Internal SP)/110mA	400mA (Internal SP)/110mA
Antenna impedance	50Ω	
Operating temperature range	–25°C to +55°C (Radio specifications)	
Dimensions (W×H×D) (Projections not included)	52.2×111.8×30.3 mm (With BP-280)	
Weight (approx.)	260g (With MB-133 and BP-280)	
<b>TRANSMITTER</b>		
Output power (at 7.5V DC)	5W, 2W, 1W (Hi, L2, L1)	4W, 2W, 1W (Hi, L2, L1)
Max. frequency deviation	± 5.0kHz/±4.0kHz/±2.5kHz (Wide/Middle/Narrow)	
Frequency stability	±1.0ppm	
Spurious emissions	0.25μV (≤ 1GHz), 1.0μV (> 1GHz)	
Residual modulation	45/43/40dB min. (W/M/N)	
Audio harmonic distortion	2.0%/1.1% typ. (W/N) (AF 1kHz 40% deviation)	1.0%/1.5% typ. (W/N) (AF 1kHz 40% deviation)
FSK error	5.0% max.	
Ext. microphone connector	3-conductor 2.5 (d) mm (1/16")/2.2kΩ	
<b>RECEIVER</b>		
Sensitivity (at 20dB SINAD) (at 5% BER)	–5/–5/–2dBμV emf typ. (W/M/N) –8dBμV emf typ. (digital)	
Adjacent channel selectivity	70/70/60dB min. (W/M/N) 50dB min. (Digital)	70/60/40dB min. (W/M/N) 50dB min. (Digital)
Spurious response rejection	80dB typ.	
Intermodulation rejection	65dB min. (W/M/N) 71dBμV min. (Digital)	
Hum and noise	45/43/40dB min. (W/M/N)	
Audio output power		
Internal SP (With 12Ω load)	800mW typ. (at 5% distortion)	
External SP (With 8Ω load)	400mW typ. (at 5% distortion)	
Ext. speaker connector	2-conductor 3.5 (d) mm (1/8")/8Ω	

Measurements made in accordance with EN 301 166 and EN 300 086.  
All stated specifications are subject to change without notice or obligation.

**Applicable U.S. Military Specifications & IP Rating**

Standard	MIL 810G	
	Method	Procedure
Low Pressure	500.5	I, II
High Temperature	501.5	I, II
Low Temperature	502.5	I, II
Temperature Shock	503.5	I
Solar Radiation	505.5	I
Rain Blowing/Drip	506.5	I, III
Humidity	507.5	–
Salt Fog	509.5	–
Dust Blowing	510.5	I
Immersion	512.5	I
Vibration	514.6	I
Shock	516.6	I, IV

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

Ingress Protection Standard	
Dust & Water	IP67 (Dust-tight and waterproof protection)

**OPTIONS**

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



Battery packs	Type	Capacity	Operating time*
BP-278	Li-ion 7.2V	1130mAh (min.) 1190mAh (typ.)	9 hours (Approx.)
BP-279	Li-ion 7.2V	1485mAh (min.) 1570mAh (typ.)	12 hours (Approx.)
BP-280	Li-ion 7.2V	2280mAh (min.) 2400mAh (typ.)	18 hours (Approx.)

\* Tx: Rx: standby = 5:5:90 duty cycle. Power save function ON.

**RAPID CHARGER**

BC-123S\*\*  
Charges the BP-280 in 3.5 hours (approx.).

BC-213

**MULTI-CHARGER**

BC-157S

BC-214  
Charges up to six BP-280 battery packs in 3.5 hours (approx.).

**BELT CLIP**

MB-133  
Alligator type  
Same as supplied.

\*\* BC-123SA for USA plug. SE for Europe plug. SV for Australia plug. SUK for UK plug.

**CIGARETTE LIGHTER CABLE & POWER SUPPLY CABLE**

CP-23L  
For use with BC-213

OPC-656  
For use with BC-214

**CHARGER BRACKET**

MB-130  
For use with BC-213

**PTT SWITCH CABLE AND PLUG ADAPTER CABLE**

OPC-2004LA:  
For VOX operation.

VS-4LA: For manual PTT operation.  
\* Either VS-4LA or OPC-2004LA is required when using the HS-97.

**STUBBY ANTENNAS**

FA-SC26US FA-SC27VS FA-SC26VS

**STUBBY ANTENNAS**

- FA-SC26VS: 136–144MHz
- FA-SC27VS: 142–150MHz
- FA-SC56VS: 150–162MHz
- FA-SC57VS: 160–174MHz
- FA-SC26US: 400–450MHz
- FA-SC73US: 450–490MHz

**STANDARD ANTENNAS**

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

**CUT ANTENNAS**

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

**SPEAKER-MICROPHONES**

- HM-168LWP: Waterproof speaker microphone
- HM-171GPW: GPS speaker microphone
- HM-158LA: Compact type speaker microphone
- HM-159LA: Full size durable speaker microphone

**HEADSETS**

- HS-94LWP: Earphone-headset
- HS-95LWP: Behind-the-head headset
- HS-97: Throat microphone (Use with VS-4LA or OPC-2004LA)

**EARPHONE-MICROPHONES**

- HM-153LA: Durable earphone microphone
- HM-166LA: Light-weight earphone microphone

**CHARGER ADAPTER**

- AD-130: AD-130 charger adapter is supplied with the BC-214.

**Supplied accessories:** (May differ depending on version)

- Battery pack, BP-280
- Desktop charger, BC-213
- AC adapter, BC-123S
- Belt clip, MB-133
- Antenna



The "3D GENUINE Icom label" is attached to the rear chassis under the battery. Check the Icom website for details: <http://www.icom.co.jp/world/genuine-info/>

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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.**  
12421 Willows Road NE,  
Kirkland, WA 98034, 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 (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 France s.a.s.**  
Zac de la Plaine,  
1 Rue Brindejone 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>

**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>

**Icom Canada**  
Glenwood Centre #150-6165  
Highway 17A, 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 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 (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>

**Shanghai Icom Ltd.**  
No.101, Building 9, Caifuxingyuan Park,  
No.188 Maoting Road, Chedun Town,  
Songjiang District, Shanghai, 201611, China  
Phone: +86 (021) 6153 2768  
Fax: +86 (021) 5765 9987  
E-mail: [bjicom@bjicom.com](mailto:bjicom@bjicom.com)  
URL: <http://www.bjicom.com>

**Icom Brazil**  
Rua Itororó, 444 Padre Eustáquio  
Belo Horizonte MG,  
CEP: 30720-450, Brazil  
Phone: +55 (31) 3582 8847  
Fax: +55 (31) 3582 8987  
E-mail: [sales@icombrasil.com](mailto:sales@icombrasil.com)

**Icom (UK) Ltd.**  
Blacksloe House, Altira Park,  
Herne Bay, Kent, CT6 6GZ, U.K.  
Phone: +44 (0) 1227 741741  
Fax: +44 (0) 1227 741742  
E-mail: [info@icom.co.uk](mailto:info@icom.co.uk)  
URL: <http://www.icom.co.uk>

**Icom New Zealand**  
39C Rennie Drive, Airport Oaks,  
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>

Your local distributor/dealer:  
**Communications (Southern) Ltd**  
116 Missenden Acres, Hedge End,  
Southampton, SO30 2AQ  
Tele: **0700 4 RADIOS** (723567)  
or: 01794 723467 (RADIOS)  
e-mail: [sales@commsouthern.co.uk](mailto:sales@commsouthern.co.uk)  
web: [www.commsouthern.co.uk](http://www.commsouthern.co.uk)

