



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

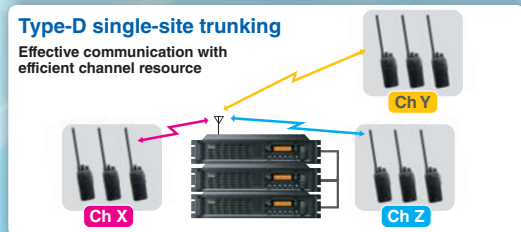
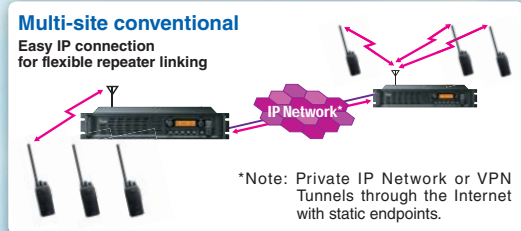


Photo includes optional stubby antenna.

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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

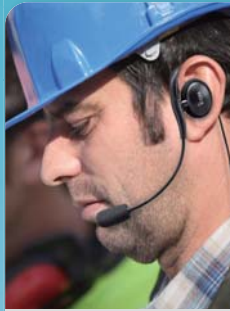
The large capacity waterproof battery pack, BP-280 (2400mAh typ.), provides 18 hours of operating time\*. The supplied rapid charger BC-213\* charges the BP-280 in 3.5 hours.

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

## Other Features

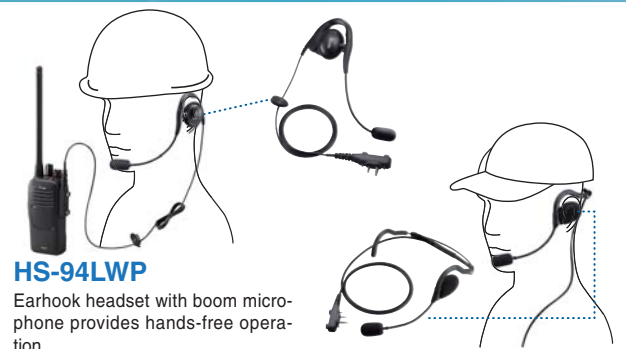
- DTMF autodial memories
- MDC functions: PTT ID, emergency call, radio check (RX) and stun/revive (RX)
- BIIS PTT ID call
- Surveillance function
- Escalating alarm
- VOX capability for hands-free operation
- Channel announcement function
- Red emergency switch on the top panel

# 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.



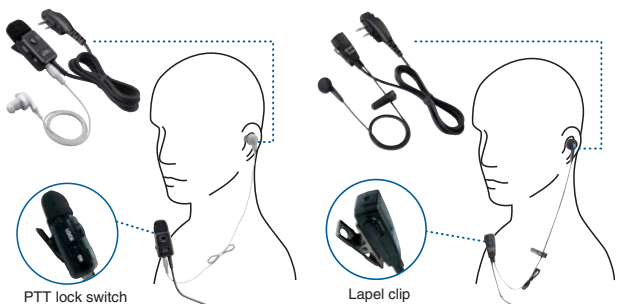
### HM-158LA

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	0.25μW (≤ 1GHz), 1.0μW (> 1GHz)	
Residual modulation	52/50/46dB typ. (W/M/N)	54/53/48dB typ. (W/M/N)
Audio harmonic distortion (AF 1kHz 40% deviation)	2.0%/1.1%/1.1% typ. (Wide/Middle/Narrow)	1.0%/1.0%/1.5% typ. (Wide/Middle/Narrow)
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)	–4dBμV emf typ. (W/M/N) –8dBμV emf typ. (Digital)	–5/–5/–2dB emf typ. (W/M/N) –8dBμV emf typ. (Digital)
Adjacent channel selectivity	77/74/69dB typ. (W/M/N) 59dB typ. (Digital)	75/74/69dB typ. (W/M/N) 58dB typ. (Digital)
Spurious response rejection	80dB typ.	
Intermodulation rejection	69dB typ. (W/M/N) 74dBμV emf typ. (Digital)	70dB typ. (W/M/N) 74dBμV emf typ. (Digital)
Hum and noise	52/50/46dB typ. (W/M/N)	50/48/45dB typ. (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



Charges the BP-280 in 3.5 hours (approx.).

### MULTI-CHARGER



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

### BELT CLIP



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



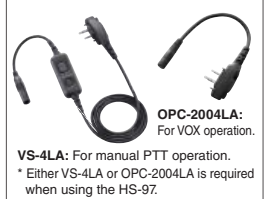
For use with BC-213

### CHARGER BRACKET



For use with BC-213

### PTT SWITCH CABLE AND PLUG ADAPTER CABLE



For use with BC-213

### STUBBY ANTENNAS



### STANDARD 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

### CUT ANTENNAS

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