



VHF AND UHF DIGITAL/ANALOG TRANSCEIVERS

**IC-F3103D**

VHF transceiver

**IC-F4103D**

UHF transceiver

**Everything you expect in a business radio  
... Plus Digital!**

**IDAS<sup>TM</sup>**  
ICOM DIGITAL ADVANCED SYSTEM

**IDAS<sup>TM</sup> conventional & IDAS<sup>TM</sup> single-site trunking**

**Digital/Analog mixed mode operation**

**Built-in 2-Tone, 5-Tone, CTCSS and DTCS**

**MDC PTT ID & MDC emergency call**

**800mW (typ.) loud and intelligible audio**

**IP54 and MIL-STD-810 F rugged construction**

**Long lasting battery life**

**Channel announcement**



Limited functions.

# More than Just Smooth Digital Migration!

## Non-slip, large PTT



The large PTT button is designed to provide non-slip, confident-click, even wearing gloves.

## Channel announcement

When you rotate the channel knob, the radio announces the channel number. Convenient for making radio adjustments without having to look at the radio.



## 800mW loud audio



The large 45mm speaker delivers up to 800mW\* of loud audio! Digital modulation adds distinct clarity to received voices.

\* Typical with internal speaker.

## Bright 3-Color LED

The bright LED shows the operating status: red for transmit, green for listening, or orange for low battery, etc.

## Hands-free operation

Optional headset with plug adapter cable OPC-2004 provides hands-free operation.



## Long lasting battery life

Battery pack	Type and capacity	Operating time* (Approx.)
BP-264	Ni-MH 7.2V 1400mAh	12 hours (VHF) 11 hours (UHF)
BP-265	Li-Ion 7.4V 1900mAh (min.) 2000mAh (typ.)	17.5 hours (VHF) 16 hours (UHF)

\* Tx: Rx: Standby=5:5:90. Power save function ON.

## Built military rugged!

Okay to use in the rain! Tested to IP54 and 11 categories of MIL STD-810 F environmental tests.

## Compact and light weight

58x111.5x36.5 mm  
320g with BP-265. (VHF)

## IDAS™ digital mode operation

The IC-F3103D series provides basic operation in NXDN™ CAI-based IDAS digital mode. It is also compatible with IDAS multi-site conventional and IDAS single-site trunking. The following IDAS features are programmable.

- PTT ID (TX)
- Individual/Group call (TX)
- Block decode
- RAN (Radio Access Number)
- Radio check (RX)
- Stun/kill/revive (RX)
- Call alert (RX)
- Remote monitor (RX)
- Emergency (TX)
- Digital voice scrambler
- GPS (TX only with HM-171GP)

TX: Transmit, RX: Receive

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

2-Tone and 5-Tone signalings give you selective calling, quiet stand-by and other convenient functions. The radio stun and kill functions disable a radio over the air and the revive function restores the stunned radio.

## Scan features

The priority scan allows you to monitor one or two priority channels while scanning other non-priority channels. The transmit channel and talk back functions allow you to make a quick response while scanning.

## Other features (\* = analog only)

- CTCSS/DTCS encoder/decoder\*
- BIIS PTT ID transmission\*
- MDC PTT ID and emergency\*
- DTMF autodial
- Low battery alert
- 2-step power save
- PC programmable
- Time out timer
- Talk around function
- Lone worker function
- Surveillance function
- Forced narrow function\*

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# IC-F3103D

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# The IC-F3103D: A multitude of advantages because it's IDAS™

## Advantage 1

### Individual/group call

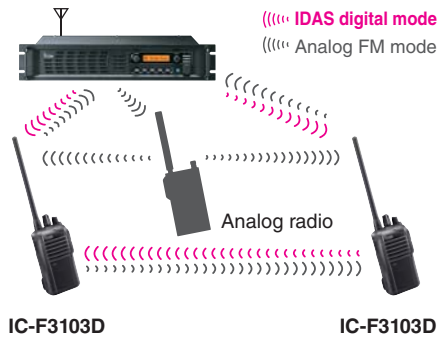
Analog/Digital



This is a simple and basic setting for those who use the radio mainly for individual and group call. Use the 16-position rotary channel knob to select the appropriate individual or group call. This setting also can be used with analog 2-tone or 5-tone signalling.

## Advantage 2

### Digital/analog mixed mode



The IC-F3103D series can receive both analog and digital mode signals on a single channel and automatically selects the received mode to reply to the received call, while the talk back timer remains. It's a smart way to grow into digital radio - at your own pace, as your budget and comfort allow.

## Advantage 3

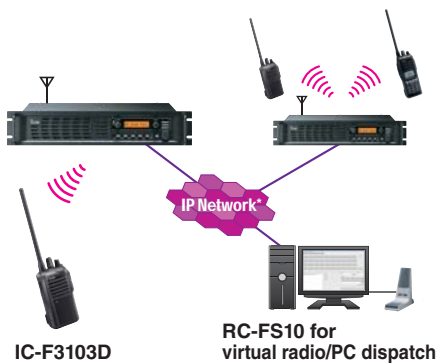
### Perfect group communication tool, large or small



Mix the basic IC-F3103D series with the advanced IC-F3163 series (with UT-126H) for efficient group managed systems. Commands like radio stun, kill and revive as well as the caller ID of the IC-F3103D displayed on the administrator's radio provide efficient communication within the group.

## Advantage 4

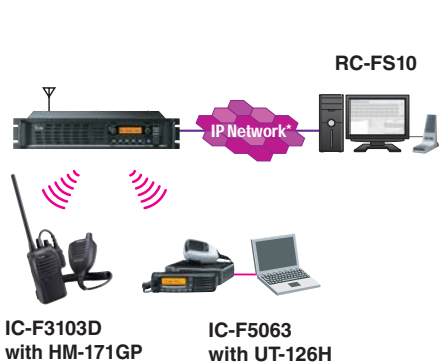
### Multi-site conventional mode



When using the IC-F3103D series in IDAS multi-site conventional mode, the IC-F3103D can communicate with other IDAS radio users working with other repeater sites and/or virtual radio/PC dispatch stations on the IDAS network.

## Advantage 5

### GPS capability



When used with the optional GPS speaker-microphone, HM-171GP, GPS position data can be sent to other advanced IDAS radios (PC and software required) and/or virtual radio/PC dispatch stations.

## Advantage 6

### IDAS single-site trunking



The IC-F3103D series can be used in an IDAS single-site trunking system. The IDAS trunking system is a distributed system with no control channel, so more voice traffic channels are available for increased system capacity.

All advantages shown represent possible system configurations. Ask your Icom dealer to configure an IDAS system that works best for you.

\*Note: Private IP Network or VPN Tunnels through the Internet with static endpoints.

## SPECIFICATIONS

	IC-F3103D	IC-F4103D
<b>GENERAL</b>		
Frequency coverage	136–174MHz	350–400MHz 400–470MHz 450–520MHz
Number of channels	16 channels	
Type of emission	16K0F3E, 11K0F3E, 4K00F1E/F1D	
Channel spacing	6.25/12.5/25kHz	
PLL channel step	2.5/3.125kHz	
Power supply requirement	7.5V DC nominal	
Current drain (approx.)		
Tx High	1.3A	1.3A
Rx Max. audio	400mA (Internal SP)	400mA (Internal SP)
Standby	90mA (Digital mode)	100mA (Digital mode)
Antenna impedance	50Ω	
Operating temperature range	–30°C to +60°C (Radio only)	
Dimensions (W×H×D)	58×111.5×36.5mm (With BP-265)	
(Projections not included)		
Weight (approx.)	150g (Radio only) 320g (With MB-124, BP-265 & Ant.)	150g (Radio only) 310g (With MB-124, BP-265 & Ant.)
<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±2.5kHz (Wide/Narrow)	
Frequency stability	±1.0ppm	
Spurious emissions	70dB min.	
FM Hum and noise	52/46dB typ. (W/N)	50/43dB typ. (W/N)
Audio harmonic distortion (AF 1kHz 40% deviation)	0.5/0.8% typ. (W/N)	0.7/1.2% typ. (W/N)
Ext. microphone connector	3-conductor 2.5 (d) mm (1/8")/2.2kΩ	
<b>RECEIVER</b>		
Sensitivity (at 12dB SINAD) (at 5% BER)	0.23μV typ. 0.18μV typ.	0.22μV typ. 0.18μV typ.
Adjacent channel selectivity	77/71dB typ. (W/N)	74/67dB typ. (W/N)
Spurious response rejection	90dB typ.	80dB typ.
Intermodulation rejection	75dB typ.	
Hum and noise	48/42dB typ. (W/N)	46/40dB typ. (W/N)
Audio output power (at 5% distortion)		
Internal SP (With 12Ω load)	800mW typ.	
External SP (With 8Ω load)	400mW typ.	
Ext. speaker connector	2-conductor 3.5 (d) mm (1/8")/8Ω	

All stated specifications are subject to change without notice or obligation.

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

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	IP54 (Dust-protection and water resistant)

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## OPTIONS

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

### Battery packs and case



**BP-263**  
Battery case  
6 x AA (LR6)

**BP-264**  
1400mAh  
Ni-MH battery

**BP-265**  
2000mAh (typ.)  
Li-Ion battery  
1900mAh (min.)

### 2-hour/2.5-hour rapid chargers



**BC-191**  
for BP-264  
Ni-MH battery

**BC-193**  
for BP-265  
Li-Ion battery

**BC-123S<sup>1)</sup>**  
for use with BC-191  
or BC-192

### 16-hour regular charger for BP-264 (Ni-MH battery)



**BC-147S<sup>1)</sup>**

**BC-192**

<sup>1)</sup> BC-123SA/BC-147SA for 120V AC. SE for 230V AC. SV for 240V AC.

### 6 unit multi-charger for BP-264/BP-265



**BC-197**

**BC-157S**

### Cigarette lighter cable & power supply cables



**CP-23L**  
For use with  
BC-191 or  
BC-193

**OPC-515L**  
For use with BC-191,  
BC-192 or BC-193

**OPC-656**  
For use with  
BC-197

### Speaker-microphones



**HM-171GP**  
GPS Microphone

**HM-158L**

**HM-159L**

### Headsets & plug adapter cable



**HS-94**  
Earhook type

**HS-95**  
Behind-the-head  
type

**HS-97**  
Throat type

**OPC-2004**  
Required when  
using any of  
these headsets

### Tube earphone



**SP-27**

### STUBBY ANTENNAS

- 60–80 mm 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

### STANDARD ANTENNAS

- **FA-SC25V** : 136–150MHz
- **FA-SC55V** : 150–174MHz
- **FA-SC01U** : 350–400MHz
- **FA-SC25U** : 400–430MHz
- **FA-SC57U** : 430–470MHz
- **FA-SC72U** : 470–520MHz

### CHARGER ADAPTERS

- **AD-120** for BP-264
- **AD-121** for BP-265

Either AD-120 or AD-121 charger adapters are supplied with the BC-197, depending on BC-197's version.

### BELT CLIP

- **MB-124** Alligator type
- Same as supplied.