



VHF AND UHF DIGITAL/ANALOGUE TRANSCEIVERS

IC-F3102D **IC-F4102D**

VHF transceiver

UHF transceiver

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

IDAS™
ICOM DIGITAL ADVANCED SYSTEM

IDAS™ conventional & Type-D single-site trunking

Digital/Analogue mixed mode operation

Superb digital audio clarity

**Built-in 2-Tone, 5-Tone,
CTCSS and DTCS (Analogue mode)**

MDC PTT ID & MDC emergency call (Analogue mode)

800mW (typ.) loud and intelligible audio

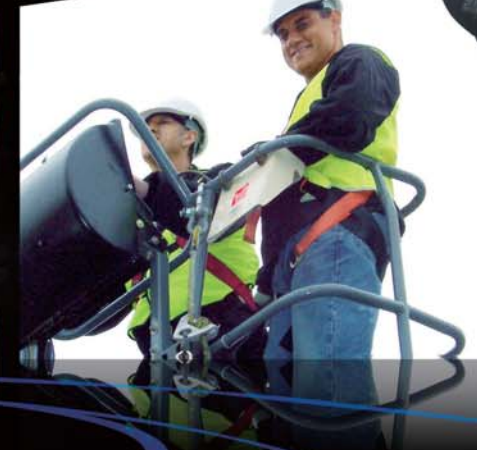
IP54 and MIL-STD-810 F rugged construction

Long lasting battery life

Channel announcement

5W (VHF), 4W(UHF) RF output power

16 channels



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.

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.

Long lasting battery life

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

* Conventional mode, Tx: Rx: Standby=5:5:90. Power save function ON.

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.



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.



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

58x111.5x36.5mm
320g/310g with BP-265. (VHF/UHF)

IDAS™ digital mode operation

The IC-F3102D series provides basic operation in NXDN™ CAI-based IDAS digital mode. It is also compatible with multi-site conventional using the IC-FR5000 series and Type-D 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 (Analogue 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 (* = analogue 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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The IC-F3102D: A multitude of advantages because it's IDAS™

Advantage 1

Individual/group call

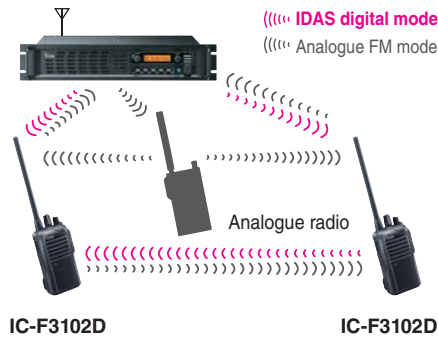
Analogue/Digital



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 analogue 2-tone or 5-tone signalling.

Advantage 2

Digital/analogue mixed mode



The IC-F3102D series can receive both analogue 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

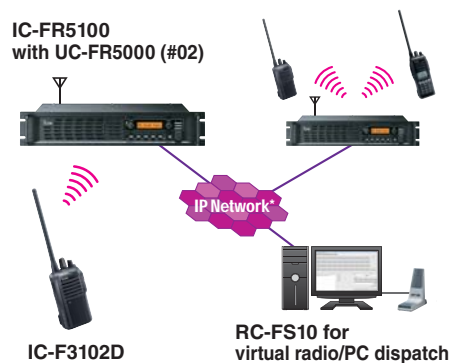
Perfect group communication tool, large or small



Mix the basic IC-F3102D series with the advanced IC-F3162D series (NXDN™ CAI-based) for efficient group managed systems. Commands like radio stun, kill and revive as well as the caller ID of the IC-F3102D displayed on the administrator's radio provide efficient communication within the group.

Advantage 4

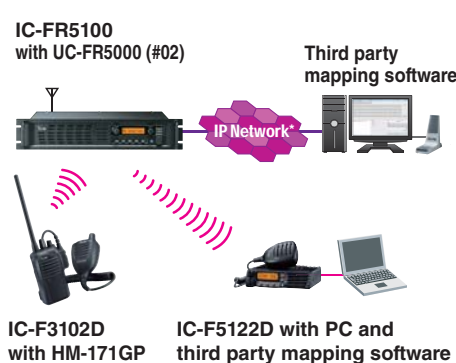
Multi-site conventional mode



When using the IC-F3102D series in multi-site conventional using the IC-FR5000 series, the IC-F3102D 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, the IC-F3102D series can transmit accurate position data to other advanced IDAS radios and/or connected PC for use with vehicle management applications.

Advantage 6

Type-D single-site trunking



The IC-F3102D series can be used in a Type-D single-site trunking system. The Type-D trunking system is a distributed system with no dedicated 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-F3102D	IC-F4102D
GENERAL		
Frequency coverage	136–174MHz	400–470MHz
Number of channels	16 channels	
Type of emission	16K0F3E, 14K0F3E, 8K50F3E, 4K00F1E/F1D	
Channel spacing	6.25/12.5/25kHz, 6.25/12.5/20kHz	
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	–25°C to +55°C (Radio only)	
Dimensions (W×H×D) (Projections not included)	58×111.5×36.5mm (With BP-265)	
Weight (approx.)	150g (Radio only) 320g (With MB-124, BP-265 & Ant.)	150g (Radio only) 310g (With MB-124, BP-265 & Ant.)
TRANSMITTER		
Output power (at 7.2V 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 modulations	45/43/40dB min. (Wide/Middle/Narrow)	
Audio harmonic distortion	1.0% typ. (AF 1kHz 40% deviation)	
FSK error	5.0% max.	
Ext. microphone connector	3-conductor 2.5 (d) mm (1/16")/2.2kΩ	
RECEIVER		
Sensitivity (at 20dB SINAD) (at 5% BER)	–4dBμV typ. emf –8dBμV typ. emf	
Adjacent channel selectivity	70/70/60dB min. (Wide/Middle/Narrow)	
Spurious response rejection	91dB typ.	80dB typ.
Intermodulation rejection	65dB min.	
Hum and noise (With CCITT filter)	45/43/40dB min. (Wide/Middle/Narrow)	
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 300-086, EN 301-166.
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



Battery packs	Type and capacity	Operating time* (Approx.)
BP-263	AA (LR6) batteries × 6	–
BP-264	Ni-MH, 7.2V 1400mAh	12 hours
BP-265	Li-Ion, 7.4V 1900mAh (min.) 2000mAh (typ.)	17.5 hours

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

REGULAR CHARGER

For BP-264 (Ni-MH battery)



BC-147S/BC-206S¹ BC-192
Charges the BP-264 in 16 hours (approx.).

RAPID CHARGERS

For BP-264 (Ni-MH battery)



BC-123S² BC-191
Charges the BP-264 in 2 hours (approx.).

RAPID CHARGERS

For BP-265 (Li-Ion battery)



BC-123S² BC-193
Charges the BP-265 in 2.5 hours (approx.).

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-158LA HM-159LA

TUBE EARPHONE



SP-27

CHARGER BRACKET



MB-130 For use with BC-191, BC-192 or BC-193

HEADSETS



HS-94 Earhook type HS-95 Behind-the-head type HS-97 Throat type

PTT SWITCH CABLE and PLUG ADAPTER CABLE



VS-4LA OPC-2004
Either VS-4LA or OPC-2004 is required when using any of headsets (HS-94/HS-95/HS-97).

STUBBY ANTENNAS

- 60–80 mm antennas.
- FA-SC56VS : 150–162MHz
- FA-SC57VS : 160–174MHz
- FA-SC73US : 450–490MHz

HIGH GAIN ANTENNAS

- FA-SC62V : 150–160MHz
- FA-SC63V : 155–165MHz

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

BELT CLIP

- MB-124 Same as supplied.

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.

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