



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 & IDAS™ 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

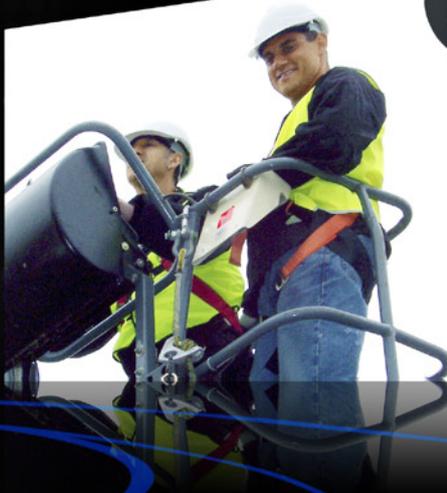
IP54 and MIL-STD-810 F rugged construction

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

58x111.5x36.5 mm
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 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 (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

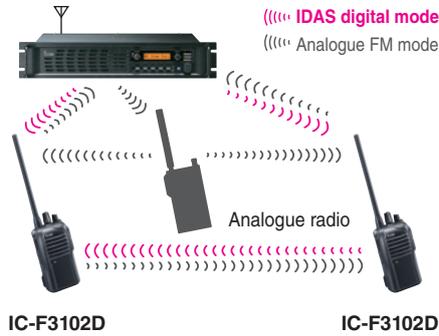
Analogue/Digital



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

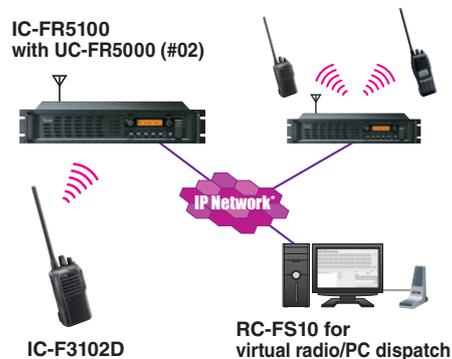
Analogue/Digital



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

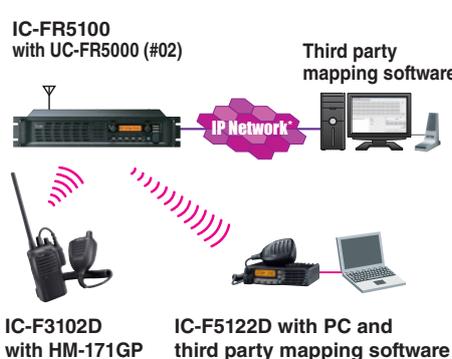
Multi-site conventional mode



When using the IC-F3102D series in IDAS multi-site conventional mode, 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

IDAS single-site trunking



The IC-F3102D series can be used in an IDAS single-site trunking system. The IDAS 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 | 6.25/12.5/20kHz, 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 Standby | 400mA (Internal SP) 90mA (Digital mode) | 400mA (Internal SP) 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 7.5V DC) | 5W, 2W, 1W (Hi, L2, L1) | 4W, 2W, 1W (Hi, L2, L1) |
| Max. frequency deviation | ±5.0kHz/±4.0kHz/±2.5kHz (W/M/N) | |
| Frequency stability | ±1.0ppm | |
| Spurious emissions | 0.25µV (≤1GHz) 1.0µV (>1GHz) | |
| Residual modulation | 45/43/40dB min. (W/M/N) | |
| Audio harmonic distortion (AF 1kHz 40% deviation) | 1% typ. | |
| FSK error | 5% 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) | –4dBµV typ. (emf) –8dBµV typ. (emf) |
| Adjacent channel selectivity | 70/70/60dB min. (W/M/N) | |
| Spurious response rejection | 91dB typ. | 80dB typ. |
| Intermodulation rejection | 65dB min. | |
| Hum and noise | 45/43/40dB min. (W/M/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 | |

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) |

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^{*1}
for use with BC-191
or BC-192

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



BC-147S^{*1} **BC-192**

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



BC-197 **BC-157S**

*1 BC-123SA/BC-147SA for 120V AC. SE for 230V AC. SV for 240V AC.

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-SC25U** : 400–430MHz
- **FA-SC57U** : 430–470MHz

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.

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