



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

58x111.5x36.5mm
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 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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IC-F3102D

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The IC-F3102D: A multitude of advantages because it's IDAS™

Advantage 1

Individual/group call

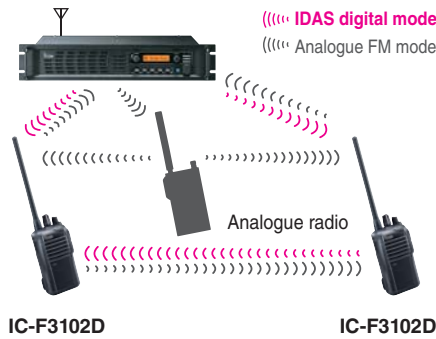
Analogue/Digital



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

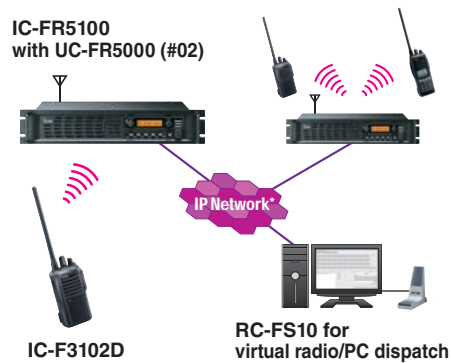
Perfect group communication tool, large or small



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

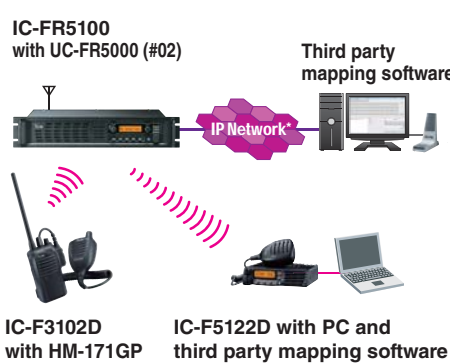
Multi-site conventional mode



When using the IC-F3102D series in 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 | 6.25/12.5/25kHz, 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) |
|--------------|--|

OPTIONS

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

| 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.

| BATTERY PACKS AND CASE | REGULAR CHARGER | RAPID CHARGERS | RAPID CHARGERS |
|--|---|---|---|
|  <p>BP-263 BP-264 BP-265</p> |  <p>BC-147S/BC-206S*1 BC-192</p> <p>Charges the BP-264 in 16 hours (approx.).</p> |  <p>BC-123S*2 BC-191</p> <p>Charges the BP-264 in 2 hours (approx.).</p> |  <p>BC-123S*2 BC-193</p> <p>Charges the BP-265 in 2.5 hours (approx.).</p> |

*1 BC-147SA for 120V AC. SV for 240V AC. BC-206SE for 230V AC. *2 BC-123SA for 120V AC. SE for 230V AC. SV for 240V AC.

| MULTI-CHARGER | CIGARETTE LIGHTER CABLE & POWER SUPPLY CABLES |
|--|--|
|  <p>BC-157S</p> <p>For BP-264/BP-265</p> |  <p>CP-23L For use with BC-191 or BC-193</p> <p>OPC-515L For use with BC-191, BC-192 or BC-193</p> <p>OPC-656 For use with BC-197</p> |

| SPEAKER-MICROPHONES | TUBE EARPHONE | VEHICLE CHARGER BRACKET |
|--|---|--|
|  <p>HM-171GP GPS Microphone HM-158LA HM-159LA</p> |  <p>SP-27</p> |  <p>MB-130 For use with BC-191, BC-192 or BC-193</p> |

| HEADSETS and PLUG ADAPTER CABLE | BELT CLIP |
|--|--|
|  <p>HS-94 Earhook type HS-95 Behind-the-head type HS-97 Throat type OPC-2004 Required when using any of these headsets</p> |  <p>MB-124 Alligator type Same as supplied.</p> |

| STUBBY ANTENNAS | HIGH GAIN ANTENNAS | CHARGER ADAPTERS |
|--|--|---|
| 60–80 mm antennas. • FA-SC56VS : 150–162MHz • FA-SC57VS : 160–174MHz • FA-SC73US : 450–490MHz | • 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 | • 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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