

**ICOM**

# NEW IDAS SERIES

VHF DIGITAL HANDHELD TRANSCEIVERS

**IC-F3400DT/DS/D**

UHF DIGITAL HANDHELD TRANSCEIVERS

**IC-F4400DT/DS/D**

VHF DIGITAL MOBILE TRANSCEIVERS

**IC-F5400D/DS**

UHF DIGITAL MOBILE TRANSCEIVERS

**IC-F6400D/DS**

# LOOK SMART, WORK SMART



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

**NXDN**<sup>TM</sup>

Photo includes optional antennas.

# IDAS™ Takes You To a New Level of “Smart”

Introducing ICOM's new generation of IDAS digital business radios. This smart new series incorporates cutting edge design, superb performance and a comprehensive range of sophisticated features all on a flexible, upgradable multi-protocol platform.

icom manufacturing refinements and enhancements have not only reduced the size of the radios but have provided new functions and enhanced performance. The electrical and industrial hardware improvements provide an adaptable radio solution for your organisation that is easy to use whatever the working environment you may be operating in.

icom's product quality is legendary. Look smart and work smart with the new IDAS series.



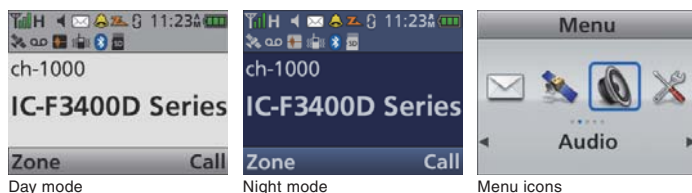
## Small, Slim and Smart

New engineering techniques including the use of a custom SoC (System-on-a-Chip) and flat sheet keypad have made radios body as compact as possible. The slim dimensions are also supplemented with reduced power consumption, allowing for a thinner battery pack.



## High-Resolution Color LCD

The high-resolution transreflective colour LCD provides great visibility in both natural and indoor lighting. Functions and menu items are clearly labelled with easy to read. A night mode LCD setting is available for use at night or in low lighting conditions.



## Multiple Languages

Functions and menu items can be shown in local languages including English, French, German, Spanish, Russian and Simplified Chinese fonts. In addition, voice announcements can be recorded and changed for output in these languages.



## License Key Upgrade

The radios functions and protocols can be upgraded and customized to meet your specific needs with various license key options.



## NXDN™ Trunking Upgrade

The radios are compatible with IDAS digital conventional mode and analogue FM mode with auto sensing function. The radios can be upgraded to NXDN Type-D multi-site trunking mode with a license key.



## DES/AES Encryption with OTAR

For digital communication security, the radios provide basic 4-key DES encryption as standard. When used with the optional UT-134 encryption unit, 256-bit AES encryption and the OTAR function are available. The OTAR function allows updating of encryption keys over the radio channel.



## OTAP and OAA

For efficiency in radio programming, the OTAP (Over-the-Air-Programming) function allows remote change of programming data (for example adding a new repeater) over the radio channel. The OAA (Over-the-Air-Alias) function sends user name over the radio channel and eliminates needs to program the alias table. Successfully manage your fleet with ease.



## Built-in Bluetooth®

The built-in Bluetooth module provides remote operation and hands-free communication paired with a third-party Bluetooth headset\*. When connected with Bluetooth telemetric devices or PC terminals, data or files can be wirelessly transferred.

\* Available functions depend on paired Bluetooth devices.



## Digital Voice Recording

The radios can record incoming and outgoing communications, and replay recorded communications. When a 32 GB microSD\* card is used, a Max. 500 hours recording is possible. The recorded audio is saved in “wav” format and allows replay on the radio or a PC.

\* MicroSD card is required separately.



## Motion/Stationary Detection Sensors

An emergency button and five emergency-related functions are incorporated (man down, motion detection, stationary detection, lone worker and power OFF emergency functions). The motion/stationary sensor sensitivity level is programmable in 10 levels for each function.

\* Man down, motion detection and stationary detection for handheld radios only.





## GPS Receiver

Position data can be sent with voice call or status call and can be used with an AVL (Automatic Vehicle Location) system. The GPS log functions log user position data at regular intervals and can be saved to a microSD card. The radios can show direction and distance to another radio or specified point, and notify you with a beep sound if the target is in the specified range.

\* For mobile radios, an optional GPS antenna, UX-241, is required separately.



## USB Port for PC Connection

The radios can be connected to a PC through a USB port for programming and accessing the installed microSD card in mass storage mode.



## Voice Announcement

The radios can notify channel number, zone and channel type with voice announcement. This function is convenient for making radio adjustments without having to look at the radio.



## Vibration Alert

When a call from a specific user is received, the hand-held radio will vibrate enough to be felt through heavy clothing. Vibration patterns are programmable.



## Waterproof and Dusttight with AquaQuake™ Function

The handheld radios in this range are IP68 waterproof and dust-tight protection (1m depth for 1 hour). They also incorporate an AquaQuake draining function by emitting a vibrating buzz sound.



## Transparent Data Modem Facility

The radios can be used as a transparent data modem which transmits various data at 9600 bps over the radio channel using 12.5 kHz channel spacing. Text messages can send up to 100 characters text data message and scrolls the received message on the display.



## ANC (Active Noise Canceling)

The ANC assists in providing clear comment. Some specified noise sources (such as sirens or boiler noise) can be cancelled.



## Audio Equalizer

The Audio equalizer allows you to tailor the audio tone to suit speech characteristics and the language in use. Five types of tone controls are available (flat, high boost, middle boost, low boost and low cut). The audio auto gain control function controls the speech audio to a constant, regardless of the input magnitudes of the voice or distance of the microphone from the mouth.



## Multiple Controller Configurations

With a combination with optional separation kits, COMMANDMIC and separation cables, three types of controller configurations are available to suit almost any application or installation that may be required. The intercom function is available between controllers and/or COMMANDMIC.



**Detached Controller\***  
Optional RMK-5  
and separation cable required.

A detached controller head with the separated RF unit is a simple to install in almost any vehicle.



**Dual Head Controller\***  
Optional RMK-7, hand microphone  
and separation cables required.

Suitable for double cab vehicles. Install the controller head to front and rear seats respectively.



**COMMANDMIC™ and Detached Controller\***  
Optional RMK-5, COMMANDMIC, HM-218  
and separation cables required.

The COMMANDMIC is handy for installing a work platform on the rear part of the vehicle.

\* Detached Controller, Dual head and COMMANDMIC configurations are for IC-F5400D/IC-F6400D only.

## General Features

- 136–174MHz, 380–470MHz wide frequency coverage
- 1024 memory channels with 128 zones
- 32 memory channels (IC-F3400D series only)
- IP55 jet water resistant and dust-protection (Mobile radios)
- MIL-STD rugged construction
- 14-pin ACC connector with BTL amplifier output (Handheld radios)
- D-SUB 25-pin ACC connector with programmable functions (Mobile radios)
- Built-in 20W audio amplifier for connecting with external public address system (Mobile radios)
- VOX (Voice Operated transmission) function
- Internal clock
- High-speed scanning for Voting and multi-site operation
- Tactical group function for temporary regroup user groups with optional zone copy cable
- Normal, priority and voting scan

## IDAS™ Features

- IDAS conventional and multi-site conventional
- Type-D single-site trunking and multi-site trunking\*
- 6.25kHz and 12.5kHz channel spacing
- Analogue/Digital conventional mixed mode operation
- Status • Text message
- Call alert • Radio check
- Radio Stun/Revive/Kill
- Remote monitor

\* Type-D multi-site trunking is a license key upgrade option.

## Analogue FM Mode Features

- 2-tone, 5-tone, CTCSS and DTCS built-in
- DTMF autodial and DTMF decode
- MDC 1200 compatible
- BIIS 1200 Compatible
- Basic LTR™ trunking
- Audio compander
- Inversion voice scrambler

### Supplied accessories for handheld radios:

- (May differ or not supplied according to version)
- Battery pack, BP-283 • Belt clip, MB-133

### Supplied accessories for mobile radios:

- (May differ or not supplied according to version)
- Hand microphone, HM-221 • DC power cable
  - Mounting bracket kit • Microphone hanger

## SPECIFICATIONS

|   | IC-F3400DT/DS/D<br>IC-F4400DT/DS/D  | IC-F5400D/DS<br>IC-F6400D/DS   |
|---|---|--|
| <b>GENERAL</b>                                    |   |  |
| Frequency range                                   | 136–174MHz<br>380–470MHz  | 136–174MHz<br>380–470MHz   |
| Number of channels                                | 1024 channels /128 zones<br>(IC-F3400DT/DS)<br>32 channels/2 zones (IC-F3400D)                    | 1024 channels /128 zones   |
| Type of emission<br>(Varies according to version) | 16K0F3E, 14K0F3E, 8K50F3E,<br>8K30F1E/D, 4K00F1E/D  | 16K0F3E, 14K0F3E, 8K50F3E,<br>8K30F1E/D, 4K00F1E/D                       |
| Channel spacing<br>(Varies according to version)  | 25/20/12.5 kHz (Analogue)<br>12.5/6.25 kHz (Digital)  | 25/20/12.5 kHz (Analogue)<br>12.5/6.25 kHz (Digital)                     |
| Antenna impedance                                 | 50Ω   | 50Ω (BNC)  |
| Power supply requirements                         | 7.5V DC   | 13.2V DC   |
| Current drain (approx.)                           |   |  |
| Tx High   | 1.5A /1.8A (VHF/UHF)  | 5.0A typ.  |
| Rx Max. audio/Stand-by                            | 550mA/140mA   | 0.8A typ./270mA typ.   |
| Operating temperature range                       | –30°C to +60°C  | –30°C to +60°C   |
| Dimensions (W×H×D)<br>(Projections not included)  | 53.6×123.5×29.3 mm<br>(With BP-283)   | 174×55×176 mm  |
| Weight (approx.)                                  | 170g (main unit without<br>battery pack and antenna)  | 1.5 kg   |
| <b>TRANSMITTER</b>                                |   |  |
| Output power                                      | 5W  | 25W  |
| Frequency error                                   | ±1.0ppm   | ±1.0ppm  |
| Spurious emissions                                | 0.25μW (≤1GHz), 1.0μW (>1GHz)   | 0.25μW (≤1GHz), 1.0μW (>1GHz)  |
| Maximum deviation (Analogue)                      | ±5.0/±4.0/±2.5 kHz (W/M/N)  | ±5.0/±4.0/±2.5 kHz (W/M/N)   |
| Audio harmonic distortion                         | 0.5% typ. (@ AF 1kHz 40% deviation)   | 0.5% typ. (@ AF 1kHz 40% deviation)                                      |
| FSK error (Digital)                               | 1% typ.   | 1% typ.  |
| <b>RECEIVER</b>                                   |   |  |
| Sensitivity                                       | –4dBμV emf. typ.<br>–11/–6dBμV emf. typ. (D 12.5/D 6.25)  | –4dBμV emf. typ.<br>–11/–6dBμV emf. typ. (D 12.5/D 6.25)                 |
| Adjacent channel selectivity                      | Analogue 76/76/68dB typ. (W/M/N)<br>Digital 65/65dB typ. (D 12.5/D 6.25)                          | 75/75/71dB typ. (W/M/N)<br>65/65dB typ. (D 12.5/D 6.25)                  |
| Spurious response                                 | 80dB typ.   | 85dB typ.  |
| Intermodulation                                   | 67dB typ.   | 70dB typ.  |
| Audio output power                                | Internal SP 0.8W typ. (@5% distortion with 12Ω)<br>External SP 0.9W typ. (@5% distortion with 8Ω) | 4.0W typ. (@5% distortion with 4Ω)<br>4.0W typ. (@5% distortion with 4Ω) |

Measurements made in accordance with EN300 086, EN301 166, EN300 113.  
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.

\* IC-F3400DT/DS/D, IC-F4400DT/DS/D only.

### Ingress Protection Standard

|                                  |   |
|----------------------------------|---|
| IC-F3400DT/DS/D, IC-F4400DT/DS/D | IP68 (Dust-tight and waterproof protection)     |
| IC-F5400D/DS, IC-F6400D/DS       | IP55 (Dust-protection and jet water resistance) |





# PRODUCTS LINEUP

## Handheld Radios



Top view



VHF DIGITAL TRANSCEIVER  
**IC-F3400DT**  
UHF DIGITAL TRANSCEIVER  
**IC-F4400DT**



VHF DIGITAL TRANSCEIVER  
**IC-F3400DS**  
UHF DIGITAL TRANSCEIVER  
**IC-F4400DS**



VHF DIGITAL TRANSCEIVER  
**IC-F3400D**  
UHF DIGITAL TRANSCEIVER  
**IC-F4400D**



## Mobile Radios

VHF DIGITAL TRANSCEIVER  
**IC-F5400D**  
UHF DIGITAL TRANSCEIVER  
**IC-F6400D**



VHF DIGITAL TRANSCEIVER  
**IC-F5400DS**  
UHF DIGITAL TRANSCEIVER  
**IC-F6400DS**



# OPTIONS FOR Handheld Radios

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

## BATTERY PACKS



BP-283 BP-284

| Battery packs | Type           | Capacity                         | Operating time*       |
|---------------|----------------|----------------------------------|-----------------------|
| BP-283        | Li-ion<br>7.2V | 2010mAh (typ.)<br>1910mAh (min.) | 10 hours<br>(Approx.) |
| BP-284        | Li-ion<br>7.2V | 3210mAh (typ.)<br>3070mAh (min.) | 16 hours<br>(Approx.) |

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

## RAPID CHARGER



BC-123S\*\* BC-219

Charges the BP-283/BP-284 in 3/4.5 hours (approx.) respectively.

\*\* BC-123SA for USA. SE for Europe. SV for Australia.

## MULTI-CHARGER



BC-214 BC-157S

Charges up to six BP-283/BP-284 battery packs in 3/4.5 hours (approx.) respectively.

## SPEAKER-MICROPHONE



HM-222

## HEADSETS and PTT SWITCH CABLE



HS-94  
Hook type

HS-95  
Behind-the-head  
type

HS-97  
Throat type

VS-4MC  
Required when  
using any of  
these headsets

## CIGARETTE LIGHTER CABLE & POWER SUPPLY CABLES



CP-23L  
For use with BC-219

OPC-515L  
For use with  
BC-219

OPC-656  
For use with BC-214

## ACC ADAPTOR



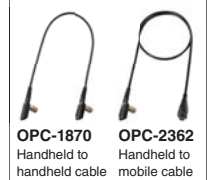
AD-118  
For use with Hirose  
Plug Accessory

## AES/DES ENCRYPTION UNIT



UT-134

## ZONE COPY CABLES



OPC-1870  
Handheld to  
handheld cable

OPC-2362  
Handheld to  
mobile cable

## LEATHER BELT HANGERS



MB-96N

MB-96F

MB-96FL

## BELT CLIPS



MB-133

Alligator type  
Same as supplied.

MB-136

Swivel type

## LEATHER CASES



LC-184

For  
IC-F3400D/DS,  
F4400D/DS

LC-186

For  
IC-F3400D,  
F4400D

## ANTENNAS

- FA-S81V: 136–150MHz
- FA-S82V: 148–160MHz
- FA-S83V: 160–174MHz
- FA-S81U: 380–430MHz
- FA-S82U: 430–480MHz

## CUT ANTENNAS

- FA-S67VC: 136–174MHz
- FA-S76UC: 380–520MHz

## STUBBY ANTENNAS

- FA-S81VS: 136–150MHz
- FA-S82VS: 150–160MHz
- FA-S83VS: 160–174MHz
- FA-S81US: 400–450MHz
- FA-S82US: 450–490MHz

## CHARGER ADAPTER

- AD-132 for BP-283/BP-284
- AD-132 charger adapter is supplied with the BC-214, depending on BC-214's version.

# OPTIONS FOR Mobile Radios

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

## HAND MICROPHONES



HM-220  
Heavy duty  
microphone

HM-220T  
Heavy duty microphone  
with DTMF keypad

HM-221

HM-221T  
DTMF microphone

## DESKTOP MICROPHONE



SM-29

## EXTERNAL SPEAKERS



SP-30  
20W rated input

SP-35: 2m cable  
SP-35L: 6m cable

## ZONE COPY CABLE



OPC-2362  
Mobile to handheld  
cable

## SEPARATION KIT

**RMK-5**  
For detached controller configuration.  
Options for IC-F5400D/F6400D only.

## DUAL-HEAD SEPARATION KIT

**RMK-7**  
Separation kit and secondary controller for dual  
head configuration. Options for IC-F5400D/  
F6400D only.

## COMMANDMIC™



HM-218

Secondary remote control  
microphone for RMK-5. Options  
for IC-F5400D/F6400D only.

## SEPARATION CABLES for RMK-5 or RMK-7

- OPC-2364: 1.9m; 6.2ft
- OPC-2365: 3m; 9.8ft
- OPC-2366: 5m; 16.4ft
- OPC-2367: 8m; 26.2ft

## SEPARATION CABLES for HM-218, COMMANDMIC

- OPC-2373: 1.9m; 6.2ft
- OPC-2374: 8m; 26.2ft

Separation cable is required for  
use with detached controller  
head or COMMANDMIC separately.

## GPS ANTENNA



UX-241

## AES/DES ENCRYPTION UNIT



UT-134

RMK-5, RMK-7, HM-218, UT-134 and separation cables will be available later. OTAP, OTAR, audio equalizer, BISS, Chinese fonts and some functions will be available with future firmware upgrade.

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