



# PROFESSIONAL COMMUNICATIONS



HARD WORKING RADIOS

## COMPANY PROFILE

### ICOM, THE WIRELESS COMMUNICATION EXPERTS

Icom Inc. is a wireless communications manufacturing company located in Osaka, Japan. Since Icom's establishment in 1954, We've had a long record as a trusted manufacturer of land mobile radio, amateur radio, marine radio, navigation products, aviation radio and communications receivers.



## QUALITY & RELIABILITY

### ICOM QUALITY AND ICOM RELIABILITY

Over 50 years of engineering and production excellence is a part of every Icom product. Using the latest equipment, Icom radios are tested to pass rigorous in-house tests as well as environmental tests to U.S. Military standard 810 specifications.



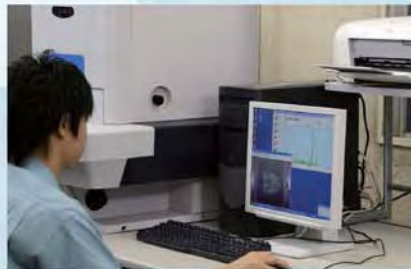
Dust Protection



Water resistant



Vibration



Transit Drop Test



## PRODUCTION

### MADE IN JAPAN QUALITY

Icom is a rare example of an electronics manufacturer that has not shifted production to lower cost countries, but kept its production base in Japan. The Wakayama Icom plant has an advanced production system to produce small volume/multi-model wireless communication products.



## ICOM BRAND

### ICOM, WORLD BRAND NAME

Icom is recognized as a reliable 2-way radio global brand name around the world. Our land mobile radios are used by many professional organizations all over the world, like the United States Department of Defense. In fact, Icom was chosen as the first Japanese company to supply radios to the U.S. Marine Corps.



## NETWORK

### ICOM'S WORLDWIDE NETWORK

Icom products are sold in over 80 countries around the world. Icom has an international sales and service network, including sales subsidiaries in the U.S., Australia, Germany, Spain and China. Icom is here to support and service our products and your communication needs.





## IDAS™ SYSTEM FEATURES

### Spectrum efficiency

The IDAS system utilizes 6.25kHz narrowband FDMA technology. This system is not only spectrum efficient but meets the FCC 2011 deadline for narrow band compliance.

### Audio quality and coverage

When compared to an analog FM signal, digital easily outperforms analog in audio clarity at the fringes of the communication range, thus providing more reliable audio over a greater total area, even if the coverage footprint is the same as analog FM.

### Secure conversation

The digital modulation/demodulation makes it difficult to decode the IDAS digital signal by using the current scanner receivers at this time. The digital voice scrambler adds security on your conversation.

### IDAS™ Trunking

The IDAS trunking conforms with NXDN™ type-D trunking protocol. The IDAS trunking is a distributed system which does not use a dedicated control channel.

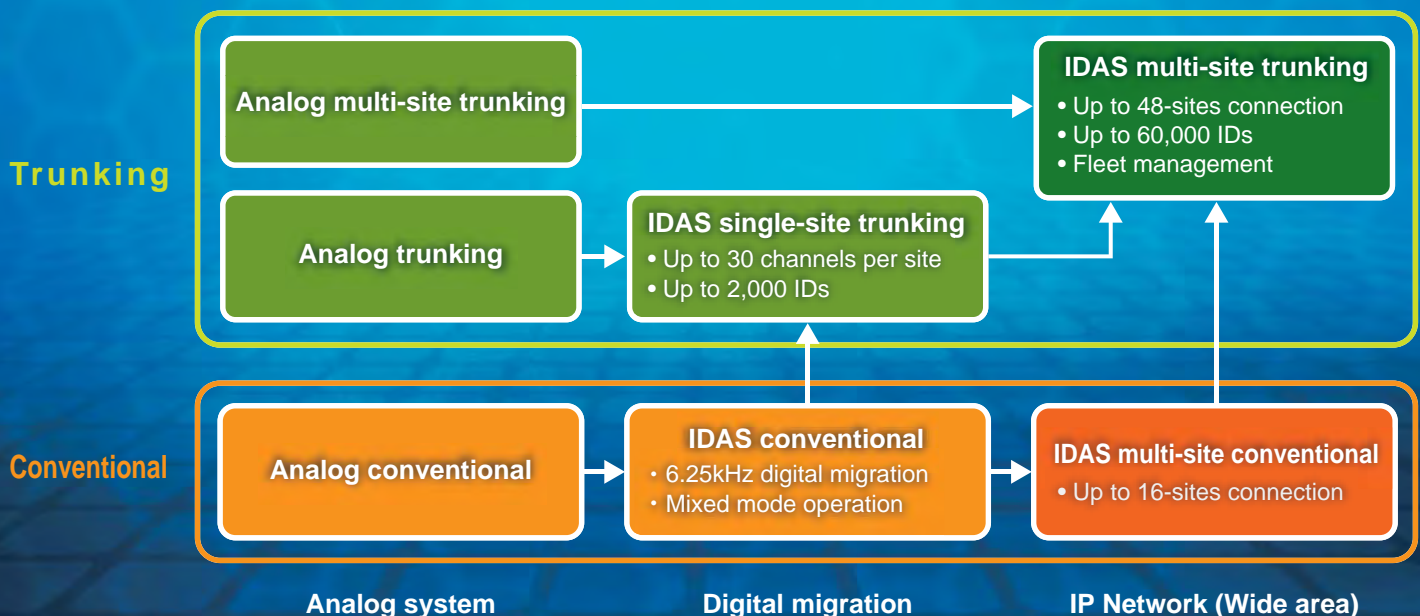
### Flexible IP Network

The IDAS multi-site trunking/conventional system integrates IP network capability in the system and extends your communication coverage. The remote communicator, RC-FS10, creates an IP-based virtual radio on a PC and works as a simple dispatcher.

### Flexible migration path

The IDAS system allows you to scale migration to narrow band digital at your own pace and needs, while running your existing analog system. The IDAS radios can receive both analog and IDAS conventional mode signals on a single channel.

## IDAS™ MIGRATION PATH







# IDAS™ CALLING FEATURES

## Digital/analog mixed mode

The IDAS radio can receive both analog mode and IDAS conventional 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.

## Individual/group call

The IDAS radio allows you to call individual or group users. The radio automatically sends own ID number when the PTT button is held down. The alias name or individual/group ID is displayed on the LCD\*<sup>1</sup> while receiving a message allowing the radio user to identify who is calling.

## Emergency call functions

When the emergency button is pushed, an emergency signal will be automatically sent to the dispatcher or another radio. Other emergency features are a man down feature\*<sup>2</sup> and a lone worker function, available for automated emergency calls (in digital and analog modes). A remote radio monitor function allows the dispatcher to turn on the PTT button from a remote location and transmit anything the microphone hears for a preprogrammed time period.

## Status message and short data message

Up to 100 status conditions can be set and sent with voice call. Also, the radio user can request another IDAS radio to send their status and receive it. Up to 100-character of short data message can be sent and received.\*<sup>1</sup>

## GPS capability

When used with the optional GPS speaker microphone for the handheld IDAS radio or an external GPS receiver for the mobile IDAS radio, the IDAS radio can transmit accurate position data for use with vehicle management applications.

## Radio kill, stun and revive

The radio kill function disables a lost or stolen radio over the air, eliminating security threats from undesired listeners. When the radio stun command is received, all functions will be temporary locked out until the revive command is received or the user password is entered.

## Digital voice scrambler

When secure communication is required, the IDAS system provides a digital voice scrambler using a 15-bit key (about 32,000 codes) as standard. This is added security to the digital modulation/demodulation.

## Other features

- Radio check function allows you to verify if another radio is within communication range
- Call log displays the received call history\*<sup>1</sup>
- Call alert function notifies the receiving party that a call is coming by using a beep sound and blinking icon
- RAN (Radio Access Number) code for digital code squelch
- Late entry: IDAS radio can decode the received ID and show group ID, unit ID or alias name on the display\*<sup>1</sup> even when turned on during a conversation

\*<sup>1</sup> Except IC-F3101D series (No-LCD) radio.

\*<sup>2</sup> IC-F3161D series only. Optional UT-124R required.

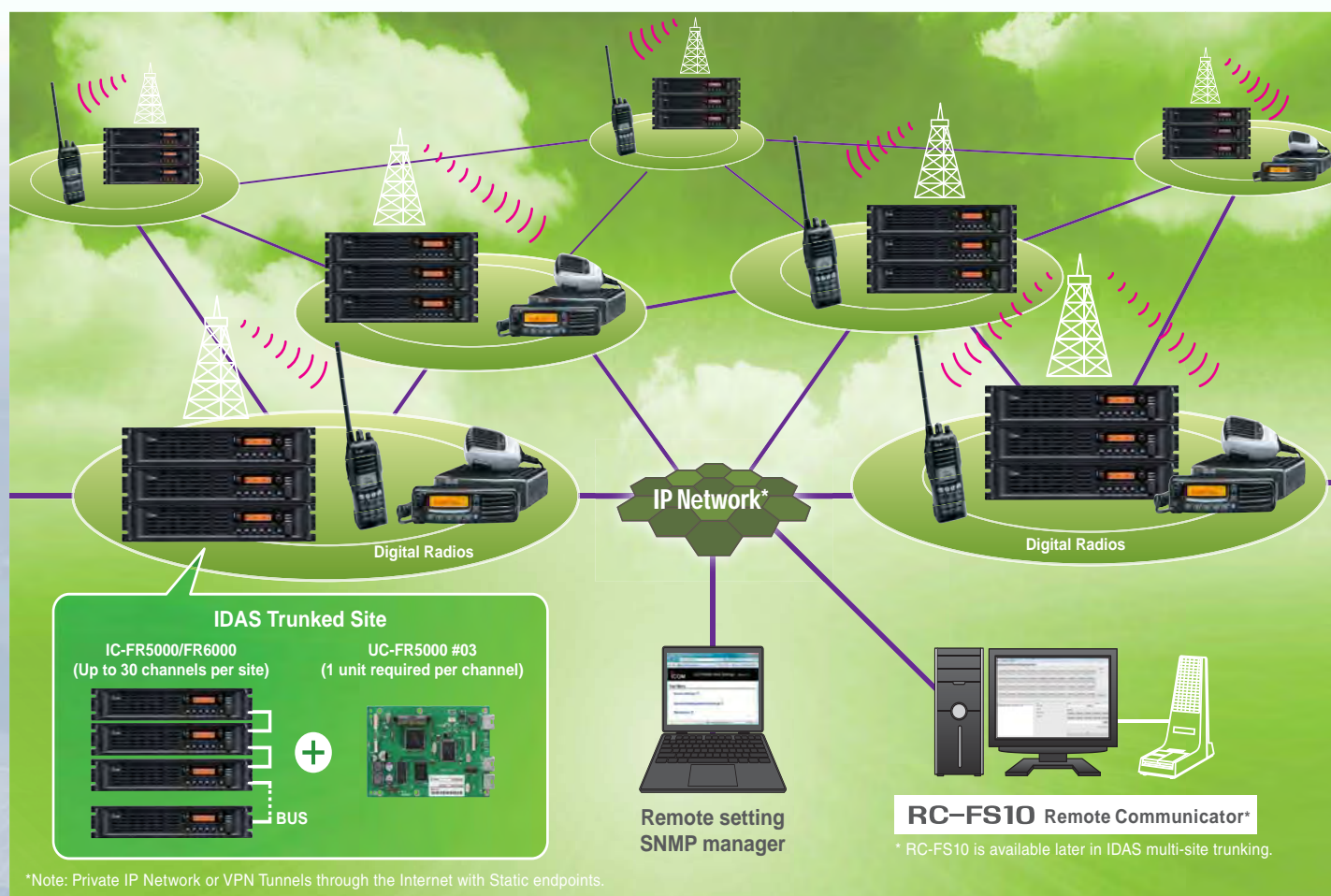
	IC-F3161D IC-F4161D series	IC-F5061D IC-F6061D series	IC-F3101D IC-F4101D series	IC-F5121D IC-F6121D series	RC-FS10	IC-FR5000 IC-FR6000 Base mode
IDAS multi-site conventional	✓ (Rev. 2.0 or later)	✓ (Rev. 2.0 or later)	✓	✓	✓	✓
IDAS single-site trunking	✓ (Rev. 2.4 or later)	✓ (Rev. 2.4 or later)	✓	✓	—	—
IDAS multi-site trunking	✓ (Rev. 4.0 or later)	✓ (Rev. 4.0 or later)	—	—	Available later	—
PTT ID	✓	✓	TX only	✓	✓	✓
Individual List	✓ (Max. 500 ID)	✓ (Max. 500 ID)	—	✓ (Max. 500 ID)	✓ (Max. 500 ID)	✓ (Max. 500 ID)
Talkgroup List	✓ (Max. 500 ID)	✓ (Max. 500 ID)	—	✓ (Max. 500 ID)	✓ (Max. 500 ID)	✓ (Max. 500 ID)
Log for individual Call	✓	✓	—	✓	✓	—
Block Decode	✓	✓	✓	✓	✓	✓
RAN code	✓	✓	✓	✓	✓	✓
Status	✓	✓	TX only* <sup>3</sup>	✓	✓	✓
SDM (Short Data Message)	✓	✓	—	✓	✓	✓
Call Alert	✓	✓	RX only	✓	✓	✓
Radio Check	✓	✓	RX only	RX only	✓	✓
Stun/Revive/Kill	✓	✓	RX only	RX only	TX only	✓
Emergency	✓	✓	TX only	✓ (No ACK TX)	✓	RX only
Remote Monitor	✓	✓	RX only	RX only	TX only	✓
Digital voice scrambler	✓	✓	✓	✓	✓	✓
GPS	✓	✓	TX only	✓	RX only	—
GPS microphone	HM-170GP	—	HM-171GP	—	—	—

\*<sup>3</sup> Power on/off status only.

✓: Available

TX: Transmit, RX: Receive

## IDAS™ MULTI-SITE TRUNKING FEATURES



### Distributed control channel

The IDAS trunking uses a distributed logic system which does not use a dedicated control channel. All trunked channels can be used for voice traffic channels to be shared more effectively with a large number of users.

### Up to 48 IDAS™ trunked sites connection

The IDAS multi-site trunking can have up to 30 repeaters (RF units) per site and up to 48 trunked sites can be interlinked over the IP network. An IDAS terminal radio user can communicate with other IDAS terminal radio users working under the interlinked trunked sites.\*

\* Up to 16 pre-programmed sites can be down-linked simultaneously for a group call.

### Up to 60,000 individual ID and group ID

In the IDAS multi-site trunking, the combination of prefix ID and individual ID (or group ID) codes is used as a unique identifier. The IDAS multi-site trunking can have up to 30 prefix ID codes per system and up to 2,000 individual ID codes and 2,000 group ID codes per prefix ID. In total, up to 60,000 individual IDs and 60,000 group ID numbers can be used in a system.

### Automatic site roaming

When a user turns on a radio, or moves from site to another site, the radio automatically starts the hunt scan and registers the own ID information to the repeater site. No user interaction required.

### Fleet management

The fleet management allows the system manager to control a user group in a fleet. Users can be assorted into up to 5,000 fleets and the system manager can enable or disable the use of the system for any fleet.

#### Fleet management example

Fleet (1-5000)	Alias name	Prefix ID (1-30)	Individual ID (1-2000)	Group ID (1-2000)	Status
1	Security A	1	1-10,31-400	1-20	Enable
2	Taxi B	1	11-30	21-25	Enable
3	Bus C	2	1-30	1-30	Disable
4	Truck D	2	1001-1005	51-53	Enable

The system manager can enable or disable the use of the system for any fleet. (Above example shows the Fleet 3 is disabled.)



## Integrated system for clean and simple installation

The IDAS multi-site trunking requires only the UC-FR5000 (#03) trunking controller which can be installed into the IC-FR5000 series repeater – no external server and no extra rack space is required.

## ESN authentication

IDAS multi-site trunking can reject to register an unauthorized terminal radio to the repeater site by using the electronic serial number (ESN) or individual ID of the radio.

## Over the air update

IDAS repeater sites can update terminal radios programmed content with new system information like added channels and new sites over the air without interrupting use of the radio.

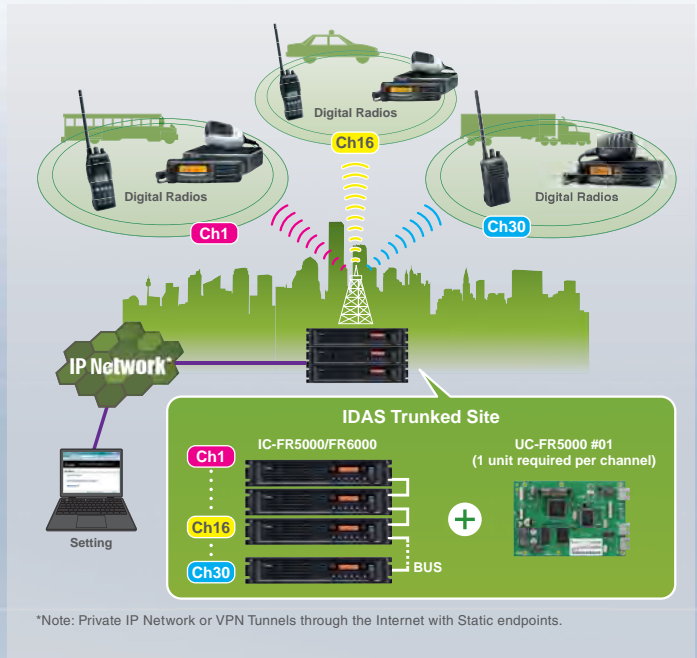
## Call priorities

Terminal radios can listen to a call of higher priority even in the middle of lower priority on-going calls in the order below. (1) Emergency Call (2) Individual Call (3) Group Call

## Other features

- SNMP system monitoring
- Load-leveling for trunk-out channels
- Restriction control can limit use (TX) from the terminal radios in case there are too much traffic.
- RC-FS10 Remote Communicator (Available later)

# IDAS™ SINGLE-SITE TRUNKING



## Distributed control channel

### IDAS single-site trunking

The IDAS single-site trunking provides an affordable multi-channel digital radio system. Selective call, group call, status message and short data message can be used over the IDAS trunking.

### Up to 30 repeaters in a system

The IDAS single-site trunking can have up to 30 repeaters (RF units) per site. All of the connected repeaters can be configured from a web browser via IP network.

### Up to 2,000 individual ID and 2,000 group ID numbers

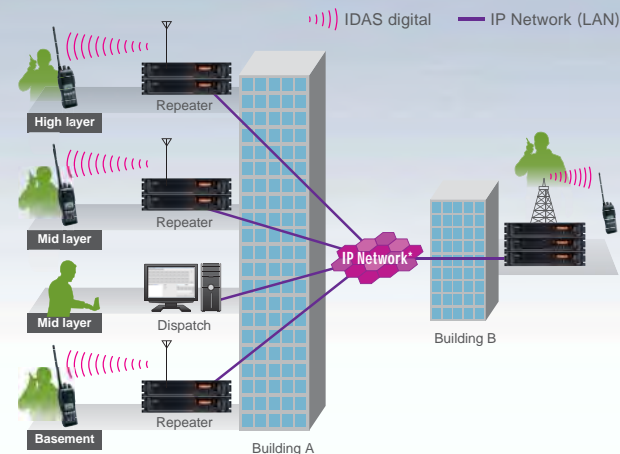
The system has an ability to handle up to 2,000 individual ID codes and 2,000 group ID codes per home channel.

## Other features

- Unit ID authentication
- IC-F3101D, IC-F3161D, IC-F5121D and IC-F5061D series can be used as a IDAS trunking radio\*
- \* Single-site trunking only for IC-F3101D and IC-F5121D series.
- Area bit setting

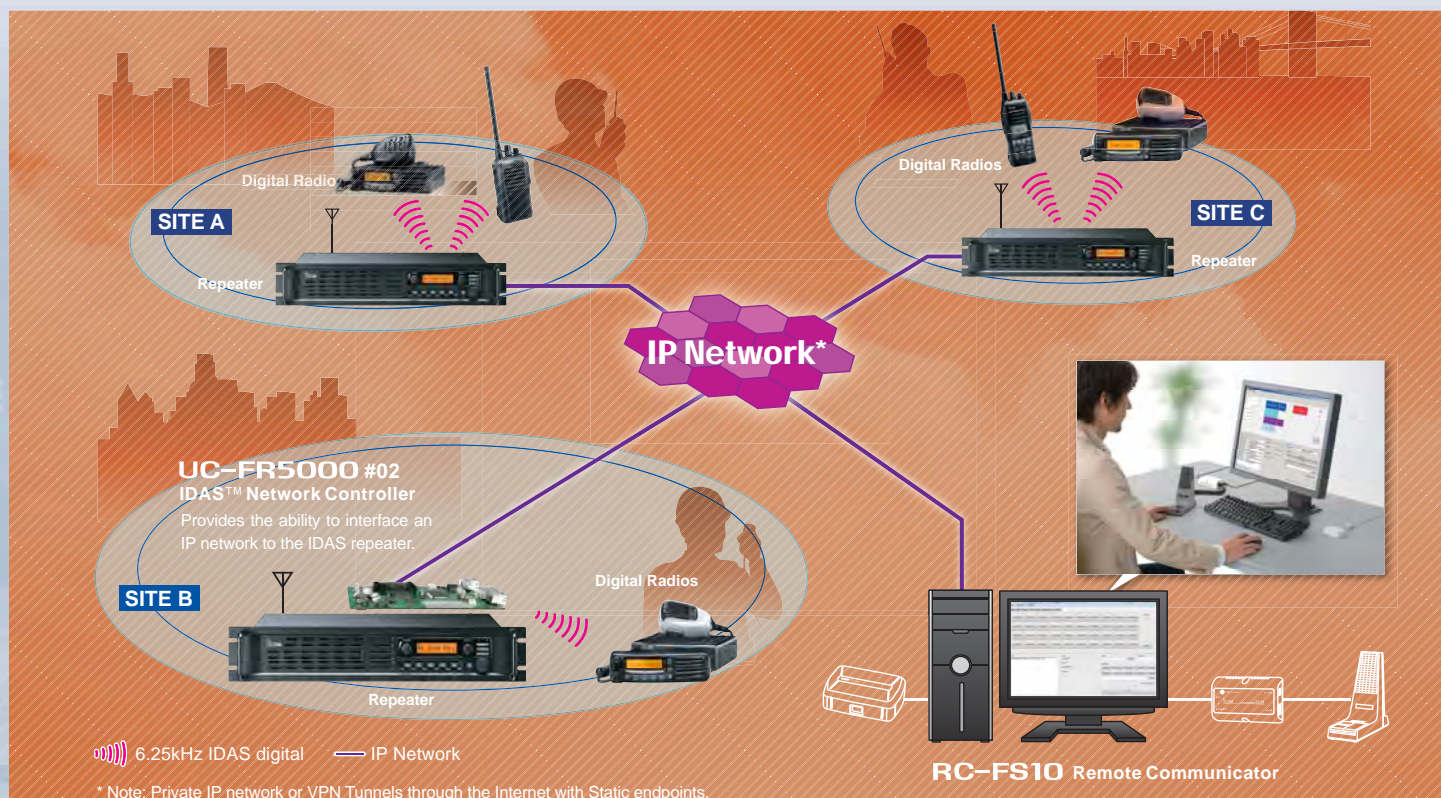
### Application example – Intra-building and inter-building solution

With an IDAS multi-site trunking, it is possible to have radio communications all the way from the basement to the top floor, all in stable digital audio. Already deployed LAN cables can be used in an in-building solution.





## IDAS<sup>TM</sup> multi-site conventional



### Communication link for distant locations

An IDAS conventional IP network can extend your communication coverage. It lets you connect dispersed sites and allows you to communicate like a single site.

### Up to 16 IDAS<sup>TM</sup> repeaters connection

With the optional UC-FR5000 (#02), up to 16 IDAS repeaters can be interlinked with each other. An IDAS terminal radio user can communicate with other IDAS terminal radio users working under the interlinked repeater sites and/or a virtual dispatch station on the network.\*

\* The IDAS conventional IP network cannot relay voice traffic over the IP network if the uplink is analog.

### Low bandwidth requirement

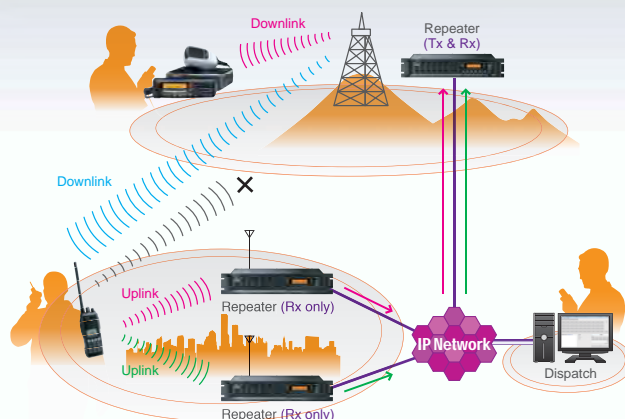
By using the AMBE+2<sup>TM</sup> vocoder compression, an IDAS multi-site conventional system requires only about 13kbps bandwidth per one voice path. It means a DSL class line is sufficient for the IDAS multi-site conventional.

### RC-FS10 Remote Communicator

The remote communicator creates an IP-based virtual radio on a PC and works as a simple dispatch. IDAS communication features can be used with the remote communicator software. Up to 8 target IDAS repeater sites\* can be programmable in the software.

### Application example – Receiver voting operation

IDAS receiver voting improves the talk back capability of IDAS handheld and mobile radios. The IDAS networked receivers (where IDAS repeaters' transmission is inhibited and used as receivers) are distributed to the communication area. Each receiver receives a signal from a terminal radio and transfers it to the repeater site, and the repeater relays the best signal or transfers it to the remote dispatch. The UC-FR5000 has a built-in voting function, so an external voter device is not required.





# DIGITAL/ANALOG TWO-IN ONE REPEATER

## VHF REPEATER

**IC-FR5000** (50W)

## UHF REPEATER

**IC-FR6000** (50W)



## General features

- 136–174MHz, 50W
- 350–400, 400–470, 450–512, 450–520MHz, 50W
- 50W output power at 50% duty, 25W at 100% duty operation (Ambient temperature: 25°C)
- 32 channel capacity and 12-digit dot-matrix display
- 19-inch rack mount design, 2U height low profile design
- Two RF modules in one unit\* (\* UR-FR5000 or UR-FR6000 required.)
- Base station operation
- D-SUB 25-pin accessory connector
- CW-ID transmitter • Priority scan
- DTMF encode and decode
- ±0.5ppm high stability oscillator
- D-Sub 25-pin accessory connector



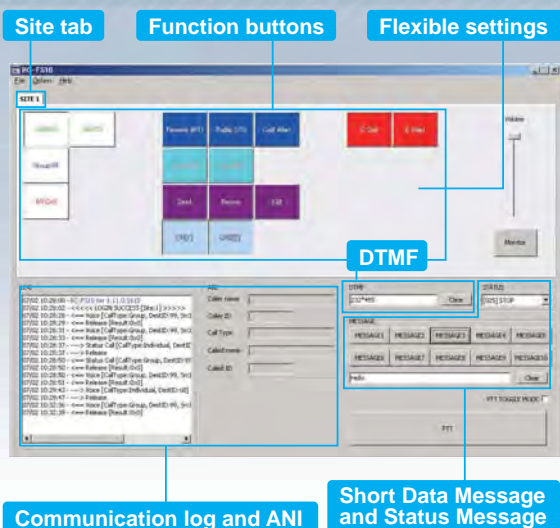
## IDAS features

- IDAS multi-site conventional with optional UC-FR5000 (#02)
- IDAS multi-site/single-site trunking with optional UC-FR5000 (#03/#01)
- IDAS conventional/FM mixed mode operation
- Digital RAN (Radio Access Number) code • Digital voice scrambler
- Status message and SDM (Short Data Message)
- Radio kill, stun and revive (Tx only)
- Call alert and radio check • Remote monitor (Tx only)

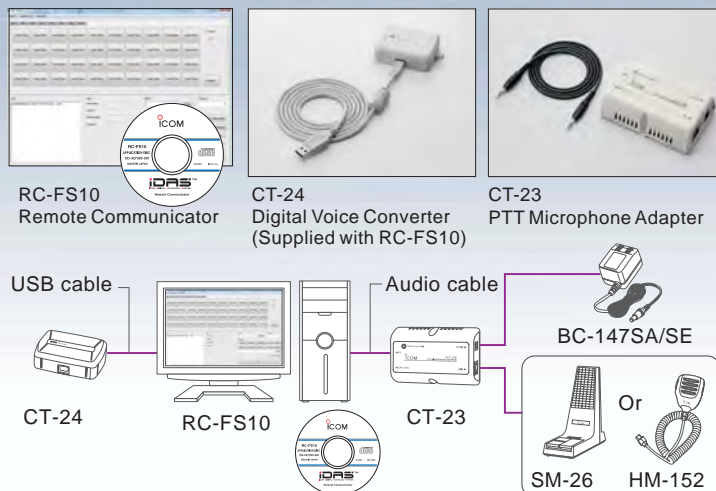
## Analog FM mode features

- 5-Tone, CTCSS and DTCS built-in • Built-in audio compander
- Wide/narrow channel spacing
- Optional voice scrambler UT-109R/UT-110R and built-in inversion type voice scrambler

# VIRTUAL RADIO/PC DISPATCH



## REMOTE COMMUNICATOR RC-FS10



The remote communicator creates an IP-based virtual radio on a PC and works as a simple dispatch. IDAS communication features can be used with the remote communicator software. Up to 8 target IDAS repeater sites\* can be programmable in the software. 8 remote communicators can connect to a single repeater.

\* The RC-FS10 software can transmit one voice path at a time. One CT-24 is required for receiving an IDAS repeater site and up to 8 repeater sites can be monitored simultaneously with 8 CT-24s.

The digital voice converter, CT-24, is a USB connection device which converts microphone audio to an IDAS compatible signal. The remote communicator software will not work if the CT-24 is not connected.

HM-152 or SM-26 can be connected to a PC through the CT-23 PTT microphone adapter which converts the microphone audio and PTT signal to the 3.5mm stereo jack. AC adapter, BC-147SA/SE is required separately for use with the CT-23.

# DIGITAL/ANALOG MULTI-MODE RADIO

**IDAS™**  
ICOM DIGITAL ADVANCED SYSTEM

## VHF HANDHELD TRANSCEIVERS

**IC-F3161DT/DS** (5W)  
**IC-F3161T/S** (5W)  
**IC-F3163T/S** (5W)

## UHF HANDHELD TRANSCEIVERS

**IC-F4161DT/DS** (5W)  
**IC-F4161T/S** (5W)  
**IC-F4163T/S** (5W)



## General features

- 136–174MHz, 5W
- 350–400, 400–470, 450–512, 450–520MHz, 5W
- 512 memory channels with 128 zones
- Dot-matrix, multi-function display
- IP55 dust-protection and water jet resistant
- MIL-STD rugged construction
- Large capacity Lithium-Ion battery pack
- Loud audio with built-in BTL amplifier
- Mode dependent scan • Vote scan
- Priority scan • DTMF autodial
- FM intrinsically safe version
- Lone worker function • Power on password
- Optional man down unit, UT-124R
- Built-in VOX function with optional headset and VS-1SC • Escalating alarm
- Busy channel lockout, repeater lockout and time-out-timer • Surveillance function
- Optional GPS microphone, HM-170GP

### Supplied Accessories (May differ according to version)

- Battery pack, BP-232N • Antenna • Belt clip, MB-94

## IDAS™ features\*

- IDAS multi-site/signle-site trunking
- IDAS conventional/multi-site conventional
- Individual and group selective call
- Talk back function and call mode selection
- Digital voice scrambler
- Status message and SDM (Short Data Message)
- Radio kill, stun and revive
- Call alert and radio check
- Remote monitor • Call log
- RAN (Radio Access Number) code

\* Optional UT-126H required. Already installed IC-F3161D/F4161D "D" versions.

## Analog FM mode features

- 2-Tone, 5-Tone, CTCSS and DTCS built-in
- MDC 1200 compatible • Basic LTR™ trunking
- Built-in audio compander
- Wide/narrow channel spacing
- Optional voice scrambler UT-109R/UT-110R and built-in inversion type voice scrambler



# MULTI-MODE, MULTI-FATURED PROFESSIONAL



The above photo includes optional separation kit (RMK-3) and separation cable (OPC-609)

## VHF MOBILE TRANSCEIVERS

**IC-F5061D** (50W)  
**IC-F5061** (50W)  
**IC-F5063** (25W)

## UHF MOBILE TRANSCEIVERS

**IC-F6061D** (45W)  
**IC-F6061** (45W)  
**IC-F6063** (25W)

## IDAS features\*

- IDAS multi-site/signle-site trunking
- IDAS conventional/multi-site conventional
- Individual and group selective call
- Talk back function and call mode selection
- Digital voice scrambler • Status message and SDM (Short Data Message) • Radio kill, stun and revive
- Call alert and radio check • Remote monitor
- Call log • RAN (Radio Access Number) code

\* Optional UT-126H required. Already installed IC-F5061D/F6061D "D" versions.

## Analog FM mode features

- 2-Tone, 5-Tone, CTCSS and DTCS built-in
- MDC 1200 compatible • Basic LTR™ trunking
- Built-in audio compander • Radio kill, stun and revive function
- Wide/narrow channel spacing
- Optional voice scrambler UT-109R/UT-110R and built-in inversion type voice scrambler

### Supplied Accessories (May differ according to version)

- Hand microphone, HM-148G (IC-F5061/D) or HM-152 (IC-F5063)
- Mounting bracket kit
- Key assign stickers
- DC power cable
- Microphone hanger

## General features

- 136–174MHz, 50W\* (\* depending on version)
- 350–400, 400–470, 450–512, 450–520MHz, 45W\* (\* depending on version)
- 512 memory channels with 128 zones • Surveillance function
- Backlit dot-matrix display • Power on password
- Detachable front panel (Optional RMK-3 and separation cable required)
- IP54 dust-protection and splash resistance (Controller only)
- MIL-STD rugged construction • DTMF autodial
- Front mounted speaker • Lone worker function
- D-SUB 25-pin accessory connector • Escalating alarm
- Ignition sensing line • Self-grounding microphone, HM-148G
- Mode dependent scan • Vote scan • Priority scan
- Busy channel lockout, repeater lockout and time-out-timer



# SIMPLE, AFFORDABLE DIGITAL RADIO

**IDAS™**  
ICOM DIGITAL ADVANCED SYSTEM

## VHF HANDHELD TRANSCEIVERS

**IC-F3101D** (5W)

**IC-F3103D** (5W)

## UHF HANDHELD TRANSCEIVERS

**IC-F4101D** (4W)

**IC-F4103D** (4W)



### General features

- 136–174MHz, 5W
- 350–400, 400–470, 450–512, 450–520MHz, 4W
- 16 memory channels • 3-color LED
- Operating time: 16–17.5 hours\* (approx. with BP-265 battery pack)
- \* Tx: Rx: standby=5:5:90. Power save on.
- Channel announcement function
- 800mW (typ.) loud speaker audio
- Internal VOX capability for hands-free operation
- IP54, dust-protection and water resistance
- MIL-STD rugged construction
- Lone worker function • DTMF autodial
- Surveillance function
- Busy channel lockout, repeater lockout and time-out-timer
- Optional GPS microphone, HM-171GP
- 58(W)×111.5(H)×36.5(D) mm compact body
- Simple operation for instant communication

### IDAS™ features

- IDAS single-site trunking
- IDAS conventional/multi-site conventional
- 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
- IDAS digital and analog FM mode, mixed mode operation

### Analog FM mode features

- 2-Tone, 5-Tone, CTCSS and DTCS built-in
- MDC 1200 PTT ID and emergency compatible
- Radio kill, stun and revive function
- Wide/narrow channel spacing

Supplied Accessories differs according to version



## DIGITAL STANDARD MOBILE RADIO



## VHF MOBILE TRANSCEIVERS

**IC-F5121D** (50W)

**IC-F5123D** (50W/25W)

## UHF MOBILE TRANSCEIVERS

**IC-F6121D** (45W)

**IC-F6123D** (45W/25W)

### General features

- 136–174MHz, 50W\* (\* depending on version)
- 350–400, 400–470, 450–512, 450–520MHz, 45W\* (\* depending on version)
- 128 memory channels with 8 zones
- 8-character alphanumeric display
- 4W (typ.) front mounted speaker
- MIL-STD rugged construction • Lone worker function
- 8 DTMF autodial memories • Surveillance function
- GPS receiver connection with optional ACC cable
- Tx channel setting and talk back function
- Priority scan functions • Microphone hanger action programmable

### IDAS™ features

- IDAS single-site trunking
- IDAS conventional/multi-site conventional
- PTT ID • Individual/TalkGroup list (Max. 500)
- Block decode • RAN (Radio Access Number)
- Radio check (RX) • Stun/kill/revive (RX)
- Call alert (RX) • Remote monitor (RX)
- Emergency (No ACK) • Digital voice scrambler
- IDAS digital and analog FM mode, mixed mode operation

### Analog FM mode features

- 2-Tone, 5-Tone, CTCSS and DTCS built-in
- MDC 1200 compatible (limited functions)
- Radio kill, stun and revive function
- Wide/narrow channel spacing

#### Supplied Accessories (May differ according to version)

- Hand microphone, HM-152
- DC power cable
- Mounting bracket kit
- Key assign stickers
- Microphone hanger

# FEATURED FOR THE FIRST RESPONDER! READY FOR: P25 CONVENTIONAL, P25 TRUNKING AND ANALOG CONVENTIONAL. ALL IN ONE RADIO!

## VHF HANDHELD TRANSCEIVERS

**IC-F9011T**

P25 Trunking/  
Conventional ready

**IC-F9011S**

P25 Trunking/  
Conventional ready

**IC-F9011B**

P25 Trunking/  
Conventional ready

(6W)

## UHF HANDHELD TRANSCEIVERS

**IC-F9021T**

P25 Trunking/  
Conventional ready

**IC-F9021S**

P25 Trunking/  
Conventional ready

**IC-F9021B**

P25 Trunking/  
Conventional ready

(5W)



IC-F9011T



IC-F9021S



IC-F9021B



FIPS-140-2 with  
optional UT-125FIPS

## General features

- 136–174MHz, 6W
- 380–450, 400–470, 450–520MHz, 5W
- 512 memory channels with 128 zones
- Dot-matrix, multi-function display\*
- IP57 dust-protected and waterproof
- MIL-STD rugged construction
- Large capacity Lithium-Ion battery pack
- 4-way navigation cross keypad\* • ABC and toggle switches
- "Slim" 41.8mm (1.65 inch) dimensions
- 1000mW audio output even when used with optional speaker-microphone
- 14-pin accessory connector with programmable pin assign
- Built-in VOX function • Tactical group function • Internal clock
- Optional man down unit, UT-124R
- Lone worker function
- Dual priority scan and mode dependent scan
- Busy channel lockout, repeater lockout and time-out-timer
- Power on password
- Talk around function

## P25 conventional/trunking mode features

- P25 digital conventional
- P25 digital trunking
- Individual and talkgroup ID\*
- Optional AES/DES encryption, UT-125
- Optional DES encryption, UT-128
- FIPS 140-2 level 1 encryption with optional UT-125 FIPS
- OTAR (Over-the-Air-Rekeying)
- AMBE+2™ enhanced vocoder ready
- Analog/Digital conventional dual mode scan

## Analog FM mode features

- 2-Tone, CTCSS and DTCS built-in
- Built-in audio compander
- DTMF autodial
- MDC 1200 compatible
- Built-in inversion type voice scrambler
- Wide/narrow channel spacing

\* IC-F9011T/S, F9021T/S only.

## Supplied Accessories

(May differ according to version)

- Battery pack, BP-254
- Antenna
- Belt clip, MB-115



# THE SMART MIGRATION FROM ANALOG TO AN APCO P25 DIGITAL RADIO SYSTEM

## VHF HANDHELD TRANSCEIVERS

**IC-F70DT** P25 Conventional ready  
**IC-F70DS** P25 Conventional ready  
**IC-F70T**  
**IC-F70S** (5W)

## UHF HANDHELD TRANSCEIVERS

**IC-F80DT** P25 Conventional ready  
**IC-F80DS** P25 Conventional ready  
**IC-F80T**  
**IC-F80S** (4W)



FIPS-140-2 inside

## General features

- 136–174MHz, 5W
- 380–450, 400–470, 450–520MHz, 4W
- 256 memory channels with 32 zones
- Dot-matrix, multi-function display
- 500mW audio output
- FIPS 140-2 level 1 certified version
- IP57 dust-protected and waterproof
- MIL-STD rugged construction
- Large capacity Lithium-Ion battery pack
- Built-in VOX function
- Tactical group function
- FM intrinsically safe version
- Optional man down unit, UT-124
- Normal and priority scan
- P25 upgrade is available for analog versions (Optional UT-120 and EX-2785 J01 are required)

## P25 conventional mode features

- P25 digital conventional
- Optional AES/DES encryption with EX-2785 J02 (for DES) and EX-2785 J03 (for AES) activation software
- Individual and talkgroup ID
- Analog/Digital conventional dual mode scan

## Analog FM mode features

- 2-Tone, 5-Tone, CTCSS and DTCS built-in
- Built-in audio compander
- DTMF autodial
- MDC 1200 compatible
- Built-in inversion type voice scrambler
- Optional voice scrambler unit UT-109/UT-110
- Wide/narrow channel spacing



IC-F80DS

IC-F70DT

## Supplied Accessories

(May differ according to version)

- Battery pack, BP-253/BP-254
- Antenna
- Belt clip, MB-94

# THE POWER PUBLIC SAFETY RELIES ON! READY FOR: P25 CONVENTIONAL, P25 TRUNKING

## VHF MOBILE TRANSCEIVER IC-F9511HT

P25 Trunking/  
Conventional ready

(110W)



FIPS-140-2 with  
optional UT-125FIPS



IC-F9511HT

Photo includes optional RMK-4, OPC-607 and SP-30.

### General features

- 136–174MHz, 110W at 20% duty cycle operation
- 512 memory channels with 128 zones
- Backlit dot-matrix display
- IP54 dust-protection and splash resistance (Controller and RF unit)
- MIL-STD rugged construction
- Separated controller
- Dual head controller with optional RMK-4 and separation cable
- D-SUB 25-pin ACC connector with programmable pin assign
- 15W 9-pin speaker connector and optional external speaker, SP-30
- Self-grounding microphone, HM-148G
- Tactical group function • Internal clock • Lone worker function
- Dual priority scan and mode dependent scan
- Busy channel lockout, repeater lockout and time-out-timer
- On-hook scan and off-hook monitor
- Power on password
- Talk around function

### P25 conventional/trunking mode features

- P25 digital conventional • P25 digital trunking
- Individual and talkgroup ID
- Optional AES/DES encryption, UT-125
- Optional DES encryption, UT-128
- FIPS 140-2 level 1 encryption with optional UT-125 FIPS
- OTAR (Over-the-Air-Rekeying)
- AMBE+2™ enhanced vocoder ready
- Analog/Digital conventional dual mode scan

### Analog FM mode features

- 2-Tone, CTCSS and DTCS built-in
- Built-in audio compander
- DTMF autodial
- MDC 1200 compatible
- Built-in inversion type voice scrambler
- Wide/narrow channel spacing

### Supplied Accessories (May differ according to version)

- |                            |   |
|----------------------------|---|
| • Hand microphone, HM-148G | • Mounting bracket kit                              |
| • Controller unit          | • Mounting bracket kit for main unit and controller |
| • Separation cable (5m)    | • Fuse • Crimp terminals                            |
| • DC power cable           | • Socket terminals                                  |
| • Key assign stickers      |   |



# AND ANALOG CONVENTIONAL. ALL IN ONE RADIO!

## VHF MOBILE TRANSCEIVERS

**IC-F9511T**  
(50W)

P25 Trunking/  
Conventional ready

**IC-F9511S**  
(50W)

P25 Trunking/  
Conventional ready

## UHF MOBILE TRANSCEIVERS

**IC-F9521T**  
(50W)

P25 Trunking/  
Conventional ready

**IC-F9521S**  
(50W)

P25 Trunking/  
Conventional ready



FIPS-140-2 with  
optional UT-125FIPS



## General features

- 136–174MHz, 50W
- 400–470, 450–512MHz, 50W
- 512 memory channels with 128 zones
- Backlit dot-matrix display
- IP54 dust-protection and splash resistance (Controller only)
- MIL-STD rugged construction
- Detachable controller with optional RMK-2 and separation cable
- D-SUB 25-pin ACC connector with programmable pin assign
- 22W BTL audio amplifier for PA function and RX speaker
- Self-grounding microphone, HM-148G
- Tactical group function • Internal clock • Lone worker function
- Dual priority scan and mode dependent scan
- Busy channel lockout, repeater lockout and time-out-timer
- On-hook scan and off-hook monitor
- Power on password • Talk around function

## Supplied Accessories

(May differ according to version)

- Hand microphone, HM-148G
- DC power cable
- Microphone hanger
- Mounting bracket kit
- Key assign stickers
- External speaker, SP-22\*

\* IC-F9511T, IC-F9521T only.

## P25 conventional/trunking mode features

- P25 digital conventional • P25 digital trunking
- Individual and talkgroup ID
- Optional AES/DES encryption, UT-125 and DES encryption, UT-128
- FIPS 140-2 level 1 encryption with optional UT-125 FIPS
- OTAR (Over-the-Air-Rekeying)
- AMBE+2™ enhanced vocoder ready
- Analog/Digital conventional dual mode scan

## Analog FM mode features

- 2-Tone, CTCSS and DTCS built-in
- Built-in audio compander • DTMF autodial
- MDC 1200 compatible • Built-in inversion type voice scrambler
- Wide/narrow channel spacing



- P25 conventional mode
- Powerful 50W (VHF), 45W (UHF) output
- Optional AES/DES digital encryption
- Built-in 5-Tone, 2-Tone, CTCSS, DTCS and MDC 1200 (Analog mode)
- Detachable controller with optional RMK-2 and separation cable
- Complementary model to the IC-F70/D series
- P25 upgrade is available for analog versions (Optional UT-120 and EX-2785 J01 are required)

## VHF MOBILE TRANSCEIVERS

**IC-F1721D**  
**IC-F1821D**  
**IC-F1721**  
**IC-F1821**

## UHF MOBILE TRANSCEIVERS

**IC-F2721D**  
**IC-F2821D**  
**IC-F2721**  
**IC-F2821**

P25 Conventional ready

## Supplied Accessories

(May differ according to version)

- Hand microphone, HM-148G
- DC power cable
- Microphone hanger
- Mounting bracket kit
- Key assign stickers
- External speaker, SP-22\*

\* IC-F1821/D, IC-F2821/D only.

# RADIO & PAGER, ALL IN ONE

## VHF HANDHELD TRANSCEIVER IC-F50V (5W)

## UHF HANDHELD TRANSCEIVER IC-F60V (4W)



IP67

MDC 1200  
Compatible

- 136–174MHz, 5W
- 400–470, 450–512, 450–520MHz, 4W
- 128 memory channels with 8 zones
- 8 minutes' recording function\* (\*Depending on version)
- Vibration alert function\* (\*Depending on version)
- 2-Tone, 5-Tone, CTCSS and DTCS built-in
- MDC 1200 compatible
- Operating time: 9–10 hours\* (approx. with BP-227 battery pack)
- \* Tx: Rx: standby=5:5:90. Power save on.
- Mode dependent scan • Priority scan functions
- 8 DTMF autodial memories

- 700mW (typical) loud audio output with internal speaker
- MIL-STD rugged construction
- IP67, dust-tight and waterproof protection
- Built-in inversion type voice scrambler
- Lone worker function for remote check in
- Nuisance delete function • Audio compander
- 56(W)×97(H)×36.4(D) mm compact body

### Supplied Accessories (May differ according to version)

- Battery pack, BP-227
- Antenna
- Belt clip, MB-98
- Key assign sticker

IC-F50V

IC-F60V



## SUPERIOR WATERPROOF PROTECTION



MDC 1200  
Compatible



## VHF HANDHELD TRANSCEIVER IC-F50 (5W)

## UHF HANDHELD TRANSCEIVER IC-F60 (4W)

IPX7

IC-F50

IC-F60



- 136–174MHz, 5W
- 400–470, 450–512, 450–520MHz, 4W
- 128 memory channels with 8 zones
- 2-Tone, 5-Tone, CTCSS and DTCS built-in
- MDC 1200 compatible
- Operating time: 10 hours\* (approx. with BP-227 battery pack)
- \* Tx: Rx: standby=5:5:90. Power save on.
- Priority scan functions
- 8 DTMF autodial memories
- MIL-STD rugged construction
- IPX7, waterproof protection
- Built-in inversion type voice scrambler

- Lone worker function for remote check in
- Nuisance delete function • Audio compander
- 56(W)×97(H)×36.4(D) mm compact body
- Built-in UT-110 equivalent voice scrambler\* (\* Depending on version)
- FM intrinsically safe version available (Ask your dealer for details)

### Supplied Accessories (May differ according to version)

- Battery pack, BP-227
- Antenna
- Belt clip, MB-98
- Key assign sticker

## ADVANCED STANDARD MODEL

## VHF HANDHELD TRANSCEIVERS IC-F33GT (5W) IC-F33GS (5W)

## UHF HANDHELD TRANSCEIVERS IC-F43GT (4W) IC-F43GS (4W)



MDC 1200  
Compatible

- 136–174MHz, 5W
- 400–470, 450–512, 450–520MHz, 4W
- 256 memory channels with 16 zones
- Easy channel selection with the rotary channel knob
- 8 character alphanumeric display
- 2-Tone, 5-Tone, CTCSS and DTCS built-in
- MDC 1200 compatible
- Operating time: 15–16 hours\* (approx. with BP-232N battery pack)
- \* Tx: Rx: standby=5:5:90. Power save on.
- 8 DTMF autodial memories
- MIL-STD rugged construction

- Built-in inversion type voice scrambler
- Optional voice scrambler, UT-109/UT-110
- Wide/narrow (25/12.5kHz) channel spacing
- Audio compander
- Small and lightweight body (340g)
- Optional man down unit, UT-124
- Optional DTMF decoder, UT-108

### Supplied Accessories (May differ according to version)

- Battery pack, BP-232N
- Antenna
- Belt clip, MB-94
- Unit cover

IC-F33GT

IC-F43GS





# ECONOMICAL STANDARD MODEL

## VHF HANDHELD TRANSCEIVERS IC-F3021T/S (5W) IC-F3023T/S (5W)

## UHF HANDHELD TRANSCEIVERS IC-F4021T/S (4W) IC-F4023T/S (4W)



Limited functions only

- 136–174MHz, 5W
- 400–470, 450–512, 450–520MHz, 4W
- 128 memory channels with 8 zones
- 8 character alphanumeric display
- 2-Tone, 5-Tone, CTCSS and DTCS built-in
- MDC 1200 compatible (Limited functions)
- Operating time: 15.5 hours\* (approx. with BP-232N battery pack)
- \* Tx: Rx: standby=5:5:90. Power save on.
- Mode dependent scan • Lone worker function
- Nuisance delete function
- Surveillance function
- 8 DTMF autodial memories

- MIL-STD rugged construction
- IP54, dust-protection and water resistance
- Optional voice scrambler, UT-109R/UT-110R
- Wide/narrow (25/12.5kHz) channel spacing
- Small and lightweight body (300g)
- Optional man down unit, UT-124R
- Optional DTMF decoder, UT-108R

### Supplied Accessories (May differ according to version)

- Battery pack, BP-232N
- Antenna
- Belt clip, MB-94
- Unit cover



## SIMPLE, HIGH PERFORMANCE RADIO



Limited functions only

## VHF HANDHELD TRANSCEIVERS IC-F3001 (5W) IC-F3003 (5W)

## UHF HANDHELD TRANSCEIVERS IC-F4001 (4W) IC-F4003 (4W)

- 136–174MHz, 5W
- 350–400, 400–470, 450–512, 450–520MHz, 4W
- 16 memory channels • 3-color LED
- Simple operation for instant communication
- 2-Tone, 5-Tone, CTCSS and DTCS built-in
- MDC 1200 PTT ID and emergency
- Operating time: 20 hours\* (approx. with BP-265 battery pack) \* Tx: Rx: standby=5:5:90. Power save on.
- Internal VOX capability for hands-free operation
- DTMF autodial memories

- Lone worker function
- Surveillance function
- 800mW (typ.) loud speaker audio
- MIL-STD rugged construction
- IP54, dust-protection and water resistance
- Wide/narrow (25/12.5kHz) channel spacing
- 58(W)×111(H)×35.5(D) mm compact body
- Low battery alert

Supplied accessories differs according to version.

## SIMPLE, RUGGED & RELIABLE

## VHF HANDHELD TRANSCEIVER IC-F3011 (5W)

## UHF HANDHELD TRANSCEIVER IC-F4011 (4W)



- 136–174MHz, 5W
- 400–470, 450–512MHz, 4W
- 16 memory channels • 3-color LED
- Simple operation for instant communication
- CTCSS and DTCS built-in
- MDC 1200 PTT ID and emergency
- Operating time: 15–16 hours\* (approx. with BP-232N battery pack) \* Tx: Rx: standby=5:5:90. Power save on.
- Power on scan and priority scan
- MIL-STD rugged construction
- IP54, dust-protection and water resistance
- Wide/narrow (25/12.5kHz) channel spacing

- 53(W)×120(H)×38(D) mm compact body
- Rapid battery charger supplied
- Low battery alert with blinking LED and beep
- Talk around function • Time-out-timer
- 2-step power save

### Supplied Accessories (May differ according to version)

- Battery pack, BP-232N
- Antenna
- Belt clip, MB-94
- Battery charger, BC-160
- AC adapter, BC-145SA/SE



# THE NEW STANDARD FOR MOBILE B&I USE

## VHF MOBILE TRANSCEIVERS

**IC-F5021** (50W)  
**IC-F5023** (25W)  
**IC-F5023H** (50W)

## UHF MOBILE TRANSCEIVERS

**IC-F6021** (45W)  
**IC-F6023** (25W)  
**IC-F6023H** (45W)



- 136–174MHz, 50W\* (\* depending on version)
- 400–470, 450–512, 450–520MHz, 45W\* (\* depending on version)
- 128 memory channels with 8 zones
- 8-character alphanumeric display
- 2-Tone, 5-Tone, CTCSS and DTCS built-in
- MDC 1200 compatible (limited functions)
- Wide/narrow (25/12.5kHz) channel spacing
- 8 DTMF autodial memories

- External memory channel control, external device connection with optional ACC cable
- Tx channel setting and talk back function
- Priority scan functions
- 4W (typ.) front mounted speaker
- MIL-STD rugged construction
- Optional DTMF decoder, UT-108R
- Optional voice scrambler, UT-109R and UT-110R

### Supplied Accessories

- Hand microphone, HM-152
- DC power cable
- Microphone hanger
- Mounting bracket kit
- Key assign stickers

## PRACTICAL COMMUNICATIONS SUPPORTER



Limited functions only

## VHF MOBILE TRANSCEIVERS

**IC-F5011** (50W)  
**IC-F5013** (25W)  
**IC-F5013H** (50W)

## UHF MOBILE TRANSCEIVERS

**IC-F6011** (45W)  
**IC-F6013** (25W)  
**IC-F6013H** (45W)



- 136–174MHz, 50W\* (\* depending on version)
- 400–470, 450–512, 450–520MHz, 45W\* (\* depending on version)
- 8 memory channels
- 4 programmable buttons and LED lighting
- 2-Tone, 5-Tone, CTCSS and DTCS built-in
- MDC 1200 compatible (limited functions)
- Wide/narrow (25/12.5kHz) channel spacing
- External memory channel control, external

- device connection with optional ACC cable
- DTMF autodial memories
- Tx channel setting and talk back function
- Priority scan functions
- 4W (typ.) front mounted speaker
- MIL-STD rugged construction
- Optional DTMF decoder, UT-108R
- Optional voice scrambler, UT-109R and UT-110R

### Supplied Accessories

- Hand microphone, HM-152
- DC power cable
- Microphone hanger
- Mounting bracket kit
- Key assign stickers





# UTILIZING THE ADVANTAGES OF THE MDC 1200 SYSTEM

**MDC 1200**  
Compatible

## PTT ID\*

The radio automatically sends its own ID number when the PTT button is pushed or released. Everyone in the system will know who is calling.

## SelCall (Selective Call)\*

In the MDC 1200 system, each radio has a unique ID number to make a selective call. The radio memorizes alias names and ID numbers may be used in the table.

## Call alert\*

The call alert function allows you to send a beep sound instead of a voice call.

## Status\*

You can set up to 16 conditions such as “on duty”, “at lunch” or “in route” and send your status to another unit or the dispatch. You can also request\* to send a status message from other unit to know their current status.

## Message\*

You can send and receive a preprogrammed text message instead of voice. 16 message codes are programmable. It improves channel efficiency by sending messages in digital format.

## Emergency function\*

The emergency call function allows you to send an emergency signal until the dispatch acknowledges the emergency signal. If the dispatch acknowledges an emergency message, the dispatcher can make the radio transmit whatever the radio microphone picks up for a preprogrammed period.

## Radio stun and revive\*

The radio stun function disables a lost or stolen radio over the air, eliminating security threats from undesired listeners. When the radio receives the stun command, all functions will be locked out until the revive command is received. The radio\* can also send radio stun and revive commands.

## Other features

- Radio check function\* allows you to verify if another radio is within communication range
- Up to 5 different combinations of MDC profiles are available\* in a radio
- External output\* turns on a connected external device such as a siren or alarm strobe light, when it receives a selective call, call alert or emergency call
- Call log\* displays the received call history including type of call, caller name and called time
- Emergency man down (optional UT-124/R required) and lone worker functions\*










\* Depending on models, some MDC functions are not available.  
Please see the MDC function chart for details.




## MDC function chart

	IC-F9011T/S IC-F9021T/S	IC-F9011B IC-F9021B	IC-F70T/S, DT/DS IC-F80T/S, DT/DS	IC-F3161T/S, DT/DS IC-F3163T/S IC-F4161T/S, DT/DS IC-F4163T/S	IC-F3101D IC-F3103D IC-F4101D IC-F4103D	IC-F50V IC-F60V	IC-F50 IC-F60	IC-F33GT/GS IC-F43GT/GS	IC-F3021T/S IC-F3023T/S IC-F4021T/S IC-F4023T/S	IC-F3001 IC-F3003 IC-F4001 IC-F4003	IC-F9511HT IC-F9511T/S IC-F9521T/S	IC-F1721/D IC-F1821/D IC-F2721/D IC-F2821/D	IC-F5061/D IC-F5063 IC-F6061/D IC-F6063	IC-F5121D IC-F5123D IC-F6121D IC-F6123D	IC-F5021 IC-F5023/H IC-F6021 IC-F6023/H	IC-F5011 IC-F5013/H IC-F6011 IC-F6013/H
PTT ID	TX/RX	TX only	TX/RX	TX/RX	TX only	TX/RX	TX/RX	TX/RX	TX/RX	TX only	TX/RX	TX/RX	TX/RX	TX/RX	TX/RX	TX/RX
Selcall	TX/RX	RX only	TX/RX	TX/RX		TX/RX	TX/RX	TX/RX			TX/RX	TX/RX	TX/RX			
Call Alert	TX/RX	RX only	TX/RX	TX/RX		TX/RX	TX/RX	TX/RX			TX/RX	TX/RX	TX/RX			
Status Message	TX/RX		TX/RX	TX/RX		TX only	TX only	TX only			TX/RX	TX/RX	TX/RX			
Status Request	TX/RX		TX/RX	TX/RX		RX only	RX only	RX only			TX/RX	TX/RX	TX/RX			
Message	TX/RX		TX/RX	TX/RX		TX only	TX only	TX only			TX/RX	TX/RX	TX/RX			
Emergency	TX/RX	TX/RX	TX/RX	TX/RX	TX only	TX/RX (No Ack)	TX/RX (No Ack)	TX/RX (No Ack)	TX/RX (No Ack)	TX only	TX/RX	TX/RX	TX/RX	TX/RX (No Ack)	TX/RX (No Ack)	TX/RX (No Ack)
Radio Check	TX/RX	RX only	TX/RX	TX/RX		TX/RX	TX/RX	TX/RX	RX only		TX/RX	TX/RX	TX/RX	RX only	RX only	RX only
Stun/Revive	TX/RX	RX only	TX/RX	TX/RX		RX only	RX only	RX only	RX only		TX/RX	TX/RX	TX/RX	RX only	RX only	RX only
Call Log	Available		Available	Available							Available	Available	Available			
Man Down Function	UT-124R	UT-124R	UT-124	UT-124R				UT-124	UT-124R							
Lone Worker Function	Available	Available		Available	Available	Available			Available	Available	Available		Available	Available	Available	Available
External Out											Available	Available	Available	Available	Available	Available

TX : Transmit, RX: Receive

# OPTIONS FOR HANDHELD TRANSCEIVERS

MODEL NAME	BATTERY PACKS								
	<b>BP-227</b> (Li-Ion) 7.4V/1850mAh (min.) 1950mAh (typ.) 	<b>BP-227FM</b> (Li-Ion) 7.4V/1850mAh (min.) 1950mAh (typ.) (For I/S models) 	<b>BP-230N</b> (Li-Ion) 7.4V/950mAh (min.) 980mAh (typ.) 	<b>BP-232N</b> (Li-Ion) 7.4V/1900mAh (min.) 2000mAh (typ.) 	<b>BP-232FM</b> (Li-Ion) 7.4V/1900mAh (min.) 2000mAh (typ.) (For I/S models) 	<b>BP-253</b> (Li-Ion) 7.4V/1570mAh (min.) 1650mAh (typ.) 	<b>BP-254</b> (Li-Ion) 7.4V/2900mAh (min.) 3040mAh (typ.) 	<b>BP-254FM</b> (Li-Ion) 7.4V/2900mAh (min.) 3040mAh (typ.) (For I/S models) 	<b>BP-264</b> (Ni-MH) 7.2V/1400mAh 
IC-F9011T/S/B IC-F9021T/S/B							✓		
IC-F70DT/DS, T/S IC-F80DT/DS, T/S						✓	✓	✓ (I/S models only)	
IC-F3161DT/DS, T/S, F3163T/S IC-F4161DT/DS, T/S, F4163T/S			✓	✓	✓ (I/S models only)				
IC-F3101D, IC-F3103D IC-F4101D, IC-F4103D									✓
IC-F50V, IC-F60V	✓								
IC-F50, IC-F60	✓	✓ (I/S models only)							
IC-F33GT/GS, IC-F43GT/GS			✓	✓					
IC-F3021T/S, IC-F3023T/S IC-F4021T/S, IC-F4023T/S			✓	✓					
IC-F3011, IC-F4011			✓	✓					
IC-F3001, IC-F3003 IC-F4001, IC-F4003									✓

MODEL NAME	BATTERY PACKS	BATTERY CASES				CHARGERS			
	<b>BP-265</b> (Li-Ion) 7.4V/1900mAh (min.) 2000mAh (typ.) 	<b>BP-226</b> AA(LR6)×5 cells Equivalent to IPX4 water resistance. 	<b>BP-237</b> AA(LR6)×6 cells Equivalent to IPX4 water resistance. 	<b>BP-240</b> AAA(LR03)×6 cells 	<b>BP-263</b> AA (LR6)×6 cells 	<b>BC-119N</b> Rapid charger 	<b>BC-121N</b> Rapid multi-charger 	<b>BC-152</b> Regular charger 	<b>BC-160</b> Rapid charger 
IC-F9011T/S/B IC-F9021T/S/B			✓			✓ (AD-110 is required)	✓ (AD-110 is required)		
IC-F70DT/DS, T/S IC-F80DT/DS, T/S			✓			✓ (AD-110 is required)	✓ (AD-110 is required)		
IC-F3161DT/DS, T/S, F3163T/S IC-F4161DT/DS, T/S, F4163T/S				✓		✓ (AD-106 is required)	✓ (AD-106 is required)		✓
IC-F3101D, IC-F3103D IC-F4101D, IC-F4103D	✓				✓				
IC-F50V, IC-F60V		✓				✓ (AD-100 is required)	✓ (AD-100 is required)	✓	
IC-F50, IC-F60		✓				✓ (AD-100 is required)	✓ (AD-100 is required)	✓	
IC-F33GT/GS, IC-F43GT/GS				✓		✓ (AD-106 is required)	✓ (AD-106 is required)		✓
IC-F3021T/S, IC-F3023T/S IC-F4021T/S, IC-F4023T/S				✓		✓ (AD-106 is required)	✓ (AD-106 is required)		✓
IC-F3011, IC-F4011				✓		✓ (AD-106 is required)	✓ (AD-106 is required)		✓
IC-F3001, IC-F3003 IC-F4001, IC-F4003	✓				✓				

MODEL NAME	CHARGERS						CHARGER ADAPTERS		
	<b>BC-171</b> Regular charger 	<b>BC-190</b> Rapid charger 	<b>BC-191</b> Rapid charger (for BP-264) 	<b>BC-192</b> Regular charger (for BP-264) 	<b>BC-193</b> Rapid charger (for BP-265) 	<b>BC-197</b> *1 Rapid multi-charger 	<b>AD-100</b> For BP-227/FM 	<b>AD-106</b> For BP-230N/ 232N/FM 	<b>AD-110</b> For BP-253/254/ FM 
IC-F9011T/S/B IC-F9021T/S/B									✓ (Use with BC-119N/BC-121N)
IC-F70DT/DS, T/S IC-F80DT/DS, T/S									✓ (Use with BC-119N/BC-121N)
IC-F3161DT/DS, T/S, F3163T/S IC-F4161DT/DS, T/S, F4163T/S	✓					✓ (AD-122 is required)		✓ (Use with BC-119N/BC-121N)	
IC-F3101D, IC-F3103D IC-F4101D, IC-F4103D			✓	✓	✓	✓ (AD-120 or AD-121 is required)			
IC-F50V, IC-F60V		✓					✓ (Use with BC-119N/BC-121N)		
IC-F50, IC-F60		✓					✓ (Use with BC-119N/BC-121N)		
IC-F33GT/GS, IC-F43GT/GS	✓					✓ (AD-122 is required)		✓ (Use with BC-119N/BC-121N)	
IC-F3021T/S, IC-F3023T/S IC-F4021T/S, IC-F4023T/S	✓					✓ (AD-122 is required)		✓ (Use with BC-119N/BC-121N)	
IC-F3011, IC-F4011	✓					✓ (AD-122 is required)		✓ (Use with BC-119N/BC-121N)	
IC-F3001, IC-F3003 IC-F4001, IC-F4003			✓	✓	✓	✓ (AD-120 or AD-121 is required)			

\*1 Either AD-120, AD-121 or AD-122 is supplied with the BC-197.










✓ : Applicable    : Not applicable



# OPTIONS FOR HANDHELD TRANSCEIVERS








MODEL NAME	CHARGER ADAPTERS			AC ADAPTERS				SPEAKER-MICROPHONES	
	AD-120 For BP-264	AD-121 For BP-265	AD-122 For BP-230N/ 232N/FM	BC-123 <sup>*2</sup> 12V/1A	BC-145S <sup>*2</sup> 16V/0.93A	BC-147S <sup>*2</sup> 12V/200mA	BC-157S 12V/6.6A	HM-131SC	HM-138 IPX7
IC-F9011T/S/B IC-F9021T/S/B									
IC-F70DT/DS, T/S IC-F80DT/DS, T/S					✓ (Use with BC-119N)		✓ (Use with BC-121N)		✓
IC-F3161DT/DS, T/S, F3163T/S IC-F4161DT/DS, T/S, F4163T/S			✓ (Use with BC-197)		✓ (Use with BC-119N or BC-160)	✓ (Use with BC-171)	✓ (Use with BC-121N or BC-197)	✓	
IC-F3101D, IC-F3103D IC-F4101D, IC-F4103D	✓ (Use with BC-197)	✓ (Use with BC-197)		✓ (Use with BC-191 or BC-193)		✓ (Use with BC-192)	✓ (Use with BC-197)		
IC-F50V, IC-F60V					✓ (Use with BC-119N or BC-190)	✓ (Use with BC-152)	✓ (Use with BC-121N)		✓
IC-F50, IC-F60					✓ (Use with BC-119N or BC-190)	✓ (Use with BC-152)	✓ (Use with BC-121N)		✓
IC-F33GT/GS, IC-F43GT/GS			✓ (Use with BC-197)		✓ (Use with BC-119N or BC-160)	✓ (Use with BC-171)	✓ (Use with BC-121N or BC-197)		
IC-F3021T/S, IC-F3023T/S IC-F4021T/S, IC-F4023T/S			✓ (Use with BC-197)		✓ (Use with BC-119N or BC-160)	✓ (Use with BC-171)	✓ (Use with BC-121N or BC-197)		
IC-F3011, IC-F4011			✓ (Use with BC-197)		✓ (Use with BC-119N or BC-160)	✓ (Use with BC-171)	✓ (Use with BC-121N or BC-197)		
IC-F3001, IC-F3003 IC-F4001, IC-F4003	✓ (Use with BC-197)	✓ (Use with BC-197)		✓ (Use with BC-191 or BC-193)		✓ (Use with BC-192)	✓ (Use with BC-197)		







MODEL NAME	SPEAKER-MICROPHONES							EARPHONE-MICROPHONES	
	HM-158L	HM-159L/SC	HM-168 HM-168IS (For IS models) IPX7	HM-169 HM-169IS (For IS models) IP57	HM-170GP IP57 GPS	HM-171GP IP54 GPS	HM-184 IP57	HM-153L	HM-166L
IC-F9011T/S/B IC-F9021T/S/B									
IC-F70DT/DS, T/S IC-F80DT/DS, T/S			✓	✓ (Use HM-169)			✓		
IC-F3161DT/DS, T/S, F3163T/S IC-F4161DT/DS, T/S, F4163T/S		✓ (Use HM-159SC)	✓ (Use HM-168)	✓	✓				
IC-F3101D, IC-F3103D IC-F4101D, IC-F4103D	✓	✓ (Use HM-159L)				✓			
IC-F50V, IC-F60V			✓ (Use HM-168)	✓ (Use HM-169)	✓				
IC-F50, IC-F60			✓ (Use HM-168)	✓ (Use HM-169)	✓				
IC-F33GT/GS, IC-F43GT/GS	✓	✓ (Use HM-159L)						✓	✓
IC-F3021T/S, IC-F3023T/S IC-F4021T/S, IC-F4023T/S	✓	✓ (Use HM-159L)						✓	✓
IC-F3011, IC-F4011	✓	✓ (Use HM-159L)						✓	✓
IC-F3001, IC-F3003 IC-F4001, IC-F4003	✓	✓ (Use HM-159L)							




MODEL NAME	HEADSETS			VOX/PTT CASE	PLUG ADAPTER CABLE	EARPHONES		EARPHONE ADAPTER	ACC ADAPTER
	HS-94 Earhook type with boom microphone	HS-95 Behind-the-head type	HS-97 Throat microphone type	VS-1L/SC/MC	OPC-2004	SP-13	SP-27	AD-52	AD-118 Allows you to use 6-pin Hirose plug accessories
IC-F9011T/S/B IC-F9021T/S/B									
IC-F70DT/DS, T/S IC-F80DT/DS, T/S	✓ (Use with VS-1SC)	✓ (Use with VS-1SC)	✓ (Use with VS-1SC)	✓ (Use VS-1SC)					✓
IC-F3161DT/DS, T/S, F3163T/S IC-F4161DT/DS, T/S, F4163T/S	✓ (Use with VS-1SC)	✓ (Use with VS-1SC)	✓ (Use with VS-1SC)	✓ (Use VS-1SC)		✓ (Use with AD-52)	✓ (Use with AD-52)	✓	
IC-F3101D, IC-F3103D IC-F4101D, IC-F4103D	✓ (Use with OPC-2004)	✓ (Use with OPC-2004)	✓ (Use with OPC-2004)		✓		✓		
IC-F50V, IC-F60V	✓ (Use with VS-1SC)	✓ (Use with VS-1SC)	✓ (Use with VS-1SC)	✓ (Use VS-1SC)					
IC-F50, IC-F60									
IC-F33GT/GS, IC-F43GT/GS	✓ (Use with VS-1L)	✓ (Use with VS-1L)	✓ (Use with VS-1L)	✓ (Use VS-1L)		✓	✓		
IC-F3021T/S, IC-F3023T/S IC-F4021T/S, IC-F4023T/S	✓ (Use with VS-1L)	✓ (Use with VS-1L)	✓ (Use with VS-1L)	✓ (Use VS-1L)		✓	✓		
IC-F3011, IC-F4011	✓ (Use with VS-1L)	✓ (Use with VS-1L)	✓ (Use with VS-1L)	✓ (Use VS-1L)		✓	✓		
IC-F3001, IC-F3003 IC-F4001, IC-F4003	✓ (Use with OPC-2004)	✓ (Use with OPC-2004)	✓ (Use with OPC-2004)		✓		✓		

<sup>\*2</sup> BC-123/BC-145/BC-147SA for 120V DC. SE for 230V DC. SV for 240V AC.  
Some options may not be available in some countries. Please ask your dealer for details.

# OPTIONS FOR HANDHELD TRANSCEIVERS

MODEL NAME	BELT CLIPS							LEATHER BELT HANGERS	
	<b>MB-86</b> Swivel type 	<b>MB-93</b> Swivel type 	<b>MB-94</b> Alligator type 	<b>MB-94R</b> Alligator type 	<b>MB-98</b> Alligator type 	<b>MB-115</b> Alligator type 	<b>MB-124</b> Alligator type 	<b>MB-96N</b> Alligator type 	<b>MB96F</b> Alligator type 
IC-F9011T/S/B IC-F9021T/S/B						✓			
IC-F70DT/DS, T/S IC-F80DT/DS, T/S		✓	✓	✓				✓	✓
IC-F3161DT/DS, T/S, F3163T/S IC-F4161DT/DS, T/S, F4163T/S		✓	✓	✓				✓	✓
IC-F3101D, IC-F3103D IC-F4101D, IC-F4103D							✓		
IC-F50V, IC-F60V	✓				✓			✓	✓
IC-F50, IC-F60	✓				✓			✓	✓
IC-F33GT/GS, IC-F43GT/GS		✓	✓	✓				✓	✓
IC-F3021T/S, IC-F3023T/S IC-F4021T/S, IC-F4023T/S		✓	✓	✓				✓	✓
IC-F3011, IC-F4011		✓	✓	✓				✓	✓
IC-F3001, IC-F3003 IC-F4001, IC-F4003							✓		

MODEL NAME	CIGARETTE LIGHTER CABLE	DC POWER CABLES		ZONE COPY CABLES		ANTENNAS			HIGH GAIN ANTENNAS
	<b>CP-23L</b> 	<b>OPC-656</b> 	<b>OPC-515L</b> 	<b>OPC-1533</b> Handheld to mobile <b>OPC-1536</b> Handheld to handheld 	<b>OPC-1871</b> Handheld to mobile <b>OPC-1870</b> Handheld to handheld 	<b>FA-SC25V</b> 136–150MHz <b>FA-SC55V</b> 150–174MHz <b>FA-SC25U</b> 400–430MHz <b>FA-SC57U</b> 430–470MHz <b>FA-SC72U</b> 470–520MHz <b>FA-SC03U</b> 380–430MHz <b>FA-SC04U</b> 350–400MHz	<b>FA-S24V</b> 136–150MHz <b>FA-S59V</b> 150–174MHz <b>FA-S27U</b> 400–470MHz <b>FA-S56U</b> 450–520MHz <b>FA-S74U</b> 490–520MHz	<b>FA-S25V</b> 136–148MHz <b>FA-S65V</b> 148–160MHz <b>FA-S66V</b> 160–174MHz <b>FA-S30U</b> 380–430MHz <b>FA-S58U</b> 430–470MHz <b>FA-S75U</b> 470–520MHz	<b>FA-SC62V</b> 150–160MHz <b>FA-SC63V</b> 155–165MHz 
IC-F9011T/S/B IC-F9021T/S/B	✓(Use with BC-119N)	✓(Use with BC-121N)	✓(Use with BC-119N)		✓			✓	
IC-F70DT/DS, T/S IC-F80DT/DS, T/S	✓(Use with BC-119N)	✓(Use with BC-121N)	✓(Use with BC-119N)	✓		✓			✓
IC-F3161DT/DS, T/S, F3163T/S IC-F4161DT/DS, T/S, F4163T/S	✓(Use with BC-119N)	✓(Use with BC-121N or BC-197)	✓(Use with BC-119N)			✓			✓
IC-F3101D, IC-F3103D IC-F4101D, IC-F4103D	✓(Use with BC-191 or BC-193)	✓(Use with BC-197)	✓(Use with BC-191, BC-192 or BC-193)			✓			✓
IC-F50V, IC-F60V	✓(Use with BC-119N)	✓(Use with BC-121N)	✓(Use with BC-119N)				✓		
IC-F50, IC-F60	✓(Use with BC-119N)	✓(Use with BC-121N)	✓(Use with BC-119N)				✓		
IC-F33GT/GS, IC-F43GT/GS	✓(Use with BC-119N)	✓(Use with BC-121N or BC-197)	✓(Use with BC-119N)			✓			✓
IC-F3021T/S, IC-F3023T/S IC-F4021T/S, IC-F4023T/S	✓(Use with BC-119N)	✓(Use with BC-121N or BC-197)	✓(Use with BC-119N)			✓			✓
IC-F3011, IC-F4011	✓(Use with BC-119N)	✓(Use with BC-121N or BC-197)	✓(Use with BC-119N)			✓			✓
IC-F3001, IC-F3003 IC-F4001, IC-F4003	✓(Use with BC-191 or BC-193)	✓(Use with BC-197)	✓(Use with BC-191, BC-192 or BC-193)			✓			✓

MODEL NAME	CUT ANTENNAS		STUBBY ANTENNAS	
	<b>FA-SC61VC</b> 136–174MHz <b>FA-SC61UC</b> 380–520MHz 	<b>FA-S67VC</b> 136–174MHz <b>FA-S76UC</b> 380–520MHz	<b>FA-SC56VS</b> 150–162MHz <b>FA-SC57VS</b> 160–174MHz <b>FA-SC73US</b> 450–490MHz 	<b>FA-S62VS</b> 150–162MHz <b>FA-S63VS</b> 160–174MHz <b>FA-S57US</b> 450–490MHz 
IC-F9011T/S/B IC-F9021T/S/B		✓		
IC-F70DT/DS, T/S IC-F80DT/DS, T/S	✓		✓	
IC-F3161DT/DS, T/S, F3163T/S IC-F4161DT/DS, T/S, F4163T/S	✓		✓	
IC-F3101D, IC-F3103D IC-F4101D, IC-F4103D	✓		✓	
IC-F50V, IC-F60V				✓
IC-F50, IC-F60				✓
IC-F33GT/GS, IC-F43GT/GS	✓		✓	
IC-F3021T/S, IC-F3023T/S IC-F4021T/S, IC-F4023T/S	✓		✓	
IC-F3011, IC-F4011	✓		✓	
IC-F3001, IC-F3003 IC-F4001, IC-F4003	✓		✓	

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



# OPTIONS FOR MOBILE TRANSCEIVERS AND REPEATERS

MODEL NAME	SEPARATION KITS			SEPARATION CABLES	HAND MICROPHONES				DESKTOP MICROPHONE
	RMK-2	RMK-3	RMK-4 Dual-head	<b>OPC-608</b> (8m; 26.2ft) <b>OPC-726</b> (5m; 16.4ft) <b>OPC-607</b> (3m; 9.8ft) <b>OPC-609</b> (1.9m; 6.2ft)	HM-152	HM-152T DTMF keypad type	HM-148G Heavy-duty type	HM-148T Heavy-duty type With DTMF keypad	SM-26
IC-F9511HT			✓	✓	✓	✓	✓	✓	✓
IC-F9511T/S, IC-F9521T/S	✓			✓	✓	✓	✓	✓	✓
IC-F1821/D, IC-F1721/D IC-F2821/D, IC-F2721/D	✓			✓	✓	✓	✓	✓	✓
IC-F5061/D, IC-F5063 IC-F6061/D, IC-F6063		✓		✓	✓	✓	✓	✓	✓
IC-F5121D, IC-F5123D IC-F6121D, IC-F6123D					✓	✓	✓	✓	✓
IC-F5021, IC-F5023/H IC-F6021, IC-F6023/H					✓	✓	✓	✓	✓
IC-F5011, IC-F5013/H IC-F6011, IC-F6013/H					✓	✓	✓	✓	✓
IC-FR5000, IC-FR6000					✓				✓

MODEL NAME	DESKTOP MICROPHONE	ACC CABLES			ZONE COPY CABLES		EXTERNAL SPEAKERS		
	SM-25	OPC-617 9-pin type	OPC-1939 15-pin type	OPC-2078 25-pin type	OPC-1532 Mobile to mobile <b>OPC-1533</b> Mobile to handheld	OPC-1532 Mobile to mobile <b>OPC-1871</b> Mobile to handheld	SP-5	SP-10	SP-22
IC-F9511HT	✓					✓			
IC-F9511T/S, IC-F9521T/S	✓					✓	✓	✓	✓
IC-F1821/D, IC-F1721/D IC-F2821/D, IC-F2721/D	✓	✓			✓		✓	✓	✓
IC-F5061/D, IC-F5063 IC-F6061/D, IC-F6063	✓						✓	✓	✓
IC-F5121D, IC-F5123D IC-F6121D, IC-F6123D			✓	✓					✓
IC-F5021, IC-F5023/H IC-F6021, IC-F6023/H	✓		✓				✓	✓	✓
IC-F5011, IC-F5013/H IC-F6011, IC-F6013/H			✓	✓					✓
IC-FR5000, IC-FR6000	✓								✓

MODEL NAME	EXTERNAL SPEAKER	DC POWER CABLES	CHANNEL MODULES	IDAS TRUNKING/NETWORK CONTROLLER	IDAS SOFTWARE	
	SP-30	<b>OPC-1132A</b> (3m; 9.8ft) <b>OPC-347</b> (7m; 23ft)	<b>UR-FR5000</b> (136–174MHz, 50W) <b>UR-FR6000</b> (400–470, 450–520MHz, 50W)	<b>UC-FR5000</b> #01: IDAS single-site trunking #02: IDAS multi-site conventional #03: IDAS multi-site trunking	<b>CF-FR5000MC</b> Multi-site conventional software for UC-FR5000 #01. * CF-FR5000MC is already installed to UC-FR5000 #02.	<b>CF-FR5000MT</b> Multi-site trunking software for UC-FR5000 #01. * CF-FR5000MT is already installed to UC-FR5000 #03.
IC-F9511HT	✓					
IC-F9511T/S, IC-F9521T/S	✓	✓				
IC-F1821/D, IC-F1721/D IC-F2821/D, IC-F2721/D	✓	✓				
IC-F5061/D, IC-F5063 IC-F6061/D, IC-F6063	✓	✓				
IC-F5121D, IC-F5123D IC-F6121D, IC-F6123D	✓	✓				
IC-F5021, IC-F5023/H IC-F6021, IC-F6023/H		✓				
IC-F5011, IC-F5013/H IC-F6011, IC-F6013/H	✓	✓				
IC-FR5000, IC-FR6000			✓	✓	✓(Use with UC-FR5000)	✓(Use with UC-FR5000)

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

☒ : Applicable
 ☐ : Not applicable

# SPECIFICATIONS FOR HANDHELD TRANSCEIVERS

		IC-F9011T/S/B	IC-F9021T/S/B	IC-F70DT/DS IC-F70T/S	IC-F80DT/DS IC-F80T/S	IC-F3161DT/DS IC-F3161T/S IC-F3163T/S	IC-F4161DT/DS IC-F4161T/S IC-F4163T/S	IC-F3101D IC-F3103D	IC-F4101D IC-F4103D	
GENERAL	Frequency coverage (Unit: MHz) (Varies according to version)	136–174	380–450 400–470 450–520	136–174	380–450 400–470 450–520	136–174	400–470 450–512 (USA) 450–520 (EXP) 350–400 (EXP)	136–174	400–470 450–512 (USA) 450–520 (EXP) 350–400 (EXP)	
	Number of channels (Max.)	512 ch/128 zones		256 ch/32 zones		512 ch/128 zones		16 ch		
	Type of emission	16K0F3E, 11K0F3E, 8K10F1E, 8K10F1D		16K0F3E, 11K0F3E, 8K10F1E*, 8K10F1D* (* Digital)		16K0F3E, 11K0F3E, 11K0F7E/D, 8K50F3E, 8K10F1E/D, 4K00F1E/D* (* Digital)		16K0F3E, 11K0F3E, 4K00F1E/F1D		
	Channel spacing (Unit: kHz) (Varies according to version)	12.5 (digital), 15/30 (analog)	12.5 (digital), 12.5/25 (analog)	12.5/25, 15/30	12.5/25	12.5/25, 15/30 6.25 (With UT-126H)	12.5/25, 6.25 (With UT-126H)	6.25/12.5/25, 6.25/15/30	6.25/12.5/25	
	PLL channel step (Unit: kHz)	2.5, 3.125		2.5, 3.125		2.5, 3.125		2.5, 3.125		
	Current drain	Tx High	2.2A	2.1A	2.2A	2.4A	1.5A	1.8A	1.3A	1.3A
		Stand-by	300mA	300mA	150mA	150mA	150mA	140mA	90mA	100mA
		Max. audio	800mA	800mA	450mA	450mA	600mA	600mA	400mA	400mA
	Dimensions (projections not included; W×H×D)	58.6×167×41.8mm 2.31×6.57×1.65 in		58.6×152×42.2mm 2.31×5.98×1.66 in		53×136×38.5mm 2.09×5.35×1.52 in		58×111.5×36.5mm 2.28×4.39×1.44 in (With BP-265)		
	Weight (approx.)	533g; 1.17lb (With BP-254)		400g; 14.1oz (With BP-253) 450g; 15.9oz (with BP-254)		340g; 12.0oz (With BP-232N)		320g; 11.3oz (With BP-264) 310g; 10.9oz (With BP-264)		
TX	RF output power (High)	6W	5W	5W	4W	5W	5W	5W	4W	
	Spurious emissions	75dB (typ.)	80dB (typ.)	70dB (typ.)		75dB (typ.)		70dB (min.)		
	Frequency stability	±1.0ppm		±2.0ppm		±1.0ppm		±1.0ppm		
RX	Sensitivity	(at 12dB SINAD)	0.25μV (typ.)		0.25μV (typ.)		0.23μV (typ.)		0.22μV (typ.)	
		(at 5% BER)	0.30μV (typ.)		0.25μV (typ.)		0.25μV (typ.)		0.18μV (typ.) 0.18μV (typ.)	
	Adjacent Ch. selectivity (W/N)	FM 80/70dB (typ.) P25 60dB (typ.)	FM 76/70dB (typ.) P25 60dB (typ.)	FM 80/73dB (typ.) P25 60dB (typ.)	FM 78/70dB (typ.) P25 60dB (typ.)	75/68dB (typ.)		77/71dB (typ.)	74/67dB (typ.)	
	Spurious response rejection	80dB (typ.)		80dB (typ.)	75dB (typ.)	70dB (min.)		70dB (min.)		
	Intermodulation rejection	75dB (typ.)		75dB (typ.)		74dB (typ.)		75dB (typ.)		
	AF output power (at 5% distortion with an 8Ω load)	1000mW (typ., at 10% distortion)		500mW (typ., at 10% distortion)		500mW (typ.)		800mW (typ. Internal SP, 12Ω load) 400mW (typ. External SP)		

		IC-F50V	IC-F60V	IC-F50	IC-F60	IC-F33GT/GS	IC-F43GT/GS
GENERAL	Frequency coverage (Unit: MHz) (Varies according to version)	136–174	400–470 450–512 (USA) 450–520 (EXP)	136–174	400–470 450–512 (USA) 450–520 (GEN)	136–174	400–470 450–512 (USA) 450–520 (GEN)
	Number of channels (Max.)	128 ch/8 zones		128 ch/8 zones		256 ch/16 zones	
	Type of emission	16K0F3E, 11K0F3E		16K0F3E, 11K0F3E		16K0F3E, 11K0F3E	16K0F3E, 11K0F3E, 8K50F3E
	Channel spacing (Unit: kHz) (Varies according to version)	12.5/25, 15/30	12.5/25	12.5/25, 15/30	12.5/25	12.5/25, 15/30	12.5/25
	PLL channel step (Unit: kHz)	2.5, 3.125	5, 6.25	2.5, 3.125	5, 6.25	2.5, 3.125	5, 6.25
	Current drain	Tx High	1.8A	1.5A	1.5A	1.5A	1.7A
		Rx Stand-by	85mA	85mA	85mA	85mA	85mA
		Max. audio	500mA	500mA	300mA	300mA	300mA
	Dimensions (projections not included; W×H×D)	56×97×36.4mm 2.2×3.82×1.43 in		56×97×36.4mm 2.2×3.82×1.43 in		53×120×37mm 2.09×4.72×1.46 in	
	Weight (approx.)	280/284g; 9.9/10.0oz (With BP-227, V/U)		280g; 9.9oz (With BP-227)		340g; 12.0oz (With BP-232N)	
TX	RF output power (High)	5W	4W	5W	4W	5W	4W
	Spurious emissions	70dB (typ.)		70dB (min.)		80dB (typ.)	70dB (typ.)
	Frequency stability	±2.5ppm		±2.5ppm		±2.0ppm	
RX	Sensitivity (at 12dB SINAD)	0.25μV (typ.)		0.25μV (typ.)		0.25μV (typ.)	
	Adjacent Ch. selectivity (W/N)	75/65dB (typ.)		75/65dB (typ.)		75/65dB (typ.)	
	Spurious response rejection	70dB		70dB		70dB	
	Intermodulation rejection	74dB (typ.)		74dB (typ.)		74dB (typ.)	
	AF output power (at 5% distortion with an 8Ω load)	700mW (typ. Internal SP) 500mW (typ. External SP)		500mW (typ.)		500mW (typ.)	



# SPECIFICATIONS FOR HANDHELD TRANSCEIVERS

			IC-F3021T/S IC-F3023T/S	IC-F4021T/S IC-F4023T/S	IC-F3011	IC-F4011	IC-F3001 IC-F3003	IC-F4001 IC-F4003	
GENERAL	Frequency coverage (Unit: MHz) (Varies according to version)		136–174	400–470 450–512 (USA) 450–520 (GEN)	136–174	400–470 450–512	136–174	400–470 450–512 (USA) 450–520 (EXP) 350–400 (EXP)	
	Number of channels (Max.)		128 ch/8 zones		16 ch		16 ch		
	Type of emission		16K0F3E, 11K0F3E		16K0F3E, 11K0F3E		16K0F3E, 11K0F3E		
	Channel spacing (Unit: kHz) (Varies according to version)		12.5/25, 15/30	12.5/25	12.5/25, 15/30	12.5/25	12.5/25, 15/30	12.5/25	
	PLL channel step (Unit: kHz)		2.5, 3.125		2.5, 3.125	5, 6.25	2.5, 3.125	5, 6.25	
	Current drain	Tx	High	1.5A	1.6A	1.5A	1.6A	1.3A	1.3A
		Rx	Stand-by	75mA	75mA	70mA	70mA	75mA	70mA
			Max. audio	250mA	300mA	300mA	300mA	330mA	330mA
Dimensions (projections not included; W×H×D)		53×120×37mm 2.09×4.72×1.46 in		53×120×38mm 2.09×4.72×1.5 in		58×111×35.5mm 2.28×4.37×1.4 in (With BP-265)			
Weight (approx.)		300g; 10.6oz (With BP-232N)		300g; 10.6oz (With BP-232N)		330g; 11.6oz (With BP-264) 270g; 9.5oz (With BP-265)			
TX	RF output power (High)		5W	4W	5W	4W	5W	4W	
	Spurious emissions		80dB (typ.)	70dB (min.)	80dB (typ.)	70dB (min.)	70dB (min.)		
	Frequency stability		±2.5ppm		±2.5ppm		±2.5ppm		
RX	Sensitivity (at 12dB SINAD)		0.25μV (typ.)		0.25μV (typ.)		0.25μV (typ.)		
	Adjacent Ch. selectivity (W/N)		75/65dB (typ.)		75/65dB (typ.)		78/70dB (typ.)	73/65dB (typ.)	
	Spurious response rejection		70dB (min.)		70dB (min.)		70dB (min.)		
	Intermodulation rejection		75dB (typ.)	74dB (typ.)	74dB (typ.)		75dB (typ.)	74dB (typ.)	
	AF output power (at 5% distortion with an 8Ω load)		500mW (typ.)		500mW (typ.)		800mW (typ. Internal SP 12Ω load) 400mW (typ. External SP)		

## FUNCTION COMPARISON AND INTERNAL UNIT OPTIONS

		IC-F9011T/S/B IC-F9021T/S/B	IC-F70DT/DS IC-F70T/S IC-F80DT/DS IC-F80T/S	IC-F3161DT/DS IC-F3161T/S IC-F3163T/S IC-F4161DT/DS IC-F4161T/S IC-F4163T/S	IC-F3101D IC-F3103D IC-F4101D IC-F4103D	IC-F50V IC-F60V	IC-F50 IC-F60	IC-F33GT/GS IC-F43GT/GS	IC-F3021T/S IC-F3023T/S IC-F4021T/S IC-F4023T/S	IC-F3011 IC-F4011	IC-F3001 IC-F3003 IC-F4001 IC-F4003
Number of option slots		1	1	2 <sup>*2</sup>	–	–	–	1	1	–	–
CTCSS/ DTCS	encoder	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	decoder	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2-Tone	encoder	✓	✓	✓	✓	✓	✓	✓	✓	–	✓
	decoder	✓	✓	✓	✓	✓	✓	✓	✓	–	✓
5-Tone	encoder	–	✓	✓	✓	✓	✓	✓	✓	–	✓
	decoder	–	✓	✓	✓	✓	✓	✓	✓	–	✓
DTMF autodial		✓	✓	✓	✓	✓	✓	✓	✓	–	✓
DTMF decoder		–	✓ <sup>*3</sup>	✓ <sup>*3</sup>	–	–	–	UT-108	UT-108R	–	–
Voice Scrambler <sup>*1</sup>	Inversion	✓	✓	✓	–	✓	✓	✓	–	–	–
	Non-rolling	–	UT-109 (Version 02)	UT-109R	–	–	✓ <sup>*4</sup>	UT-109 (Version 02)	UT-109R	–	–
	Rolling	–	UT-110 (Version 02)	UT-110R	–	–	✓ <sup>*4</sup>	UT-110 (Version 02)	UT-110R	–	–
APCO P25 digital		✓	✓ <sup>*5</sup>	–	–	–	–	–	–	–	–
APCO P25 trunking		✓	–	–	–	–	–	–	–	–	–
AES encryption		UT-125	EX-2785 J03	–	–	–	–	–	–	–	–
DES encryption		UT-125 or UT-128	EX-2785 J02	–	–	–	–	–	–	–	–
FIPS 140-2 Level 1		UT-125 FIPS	✓ <sup>*4</sup>	–	–	–	–	–	–	–	–
IDAS multi-site trunking		–	–	UT-126H	–	–	–	–	–	–	–
IDAS single-site trunking		–	–	UT-126H	✓	–	–	–	–	–	–
IDAS conventional		–	–	UT-126H	✓	–	–	–	–	–	–
MDC 1200		✓	✓	✓	✓	✓	✓ <sup>*4</sup>	✓ <sup>*4</sup>	✓	–	✓
LTR™ trunking		–	–	✓	–	–	–	–	–	–	–
Man Down function		UT-124R	UT-124	UT-124R	–	–	–	UT-124	UT-124R	–	–
Intrinsically safe		–	✓ <sup>*4</sup>	✓ <sup>*4</sup>	–	–	✓ <sup>*4</sup>	–	–	–	–
Vibration alert		–	–	–	–	✓ <sup>*4</sup>	–	–	–	–	–
Voice recorder		–	–	–	–	✓ <sup>*4</sup>	–	–	–	–	–

<sup>\*1</sup> Inversion type voice scrambler is not compatible with UT-109/UT-110 voice scrambler. <sup>\*2</sup> One for UT-126H digital unit and one for another option unit. <sup>\*3</sup> Possible as a kind of 5-Tone format.

<sup>\*4</sup> Depending on version. <sup>\*5</sup> UT-120 (version 01) required for IC-F70T/S, F80T/S.

# SPECIFICATIONS FOR MOBILE TRANSCEIVERS

		IC-F9511HT	IC-F9511T IC-F9511S	IC-F9521T IC-F9521S	IC-F1821D, F1821 IC-F1721D, F1721	IC-F2821D, F2821 IC-F2721D, F2721	IC-F5061D IC-F5061, F5063	IC-F6061D IC-F6061, F6063
GENERAL	Frequency (Unit: MHz) (Varies according to version)	136–174	136–174	400–470 450–512	136–174	400–470 450–512	136–174	400–470 450–512 (USA) 450–520 (EXP) 350–400 (EXP)
	Number of channels (Max.)	512 ch/128 zones			256 ch/32 zones		512 ch/128 zones	
	Type of emission	16K0F3E, 11K0F3E, 8K10F1E, 8K10F1D			16K0F3E, 11K0F3E, 8K10F1E*, 8K10F1D* (* Digital)		16K0F3E, 11K0F3E, 11K0F7E/D, 8K10F1E/D, 4K00F1E/D* (* Digital)	16K0F3E, 11K0F3E, 11K0F7E/D, 8K10F1E/D, 4K00F1E/D* (* Digital)
	Channel spacing (Unit: kHz) (Varies according to version)	12.5 (digital), 15/30 (analog)	12.5 (digital), 15/30 (analog)	12.5 (digital), 12.5/25 (analog)	15/30	12.5/25	12.5/25, 15/30 6.25 (With UT-126H)	12.5/25, 6.25 (With UT-126H)
	PLL channel step (Unit: kHz)	2.5, 3.125			2.5, 3.125	5, 6.25	2.5, 3.125	2.5, 3.125
	Current drain	Tx High	22A	11A	14A	14A	10A	14A/7A(50/25W)
		Rx Stand-by	400mA	350mA	350mA	600mA	400mA	300mA
		Max. audio	3.0A	1.0A	1.0A	1.2A	1.0A	1.2A
	Dimensions (projections not included; W×H×D)	175×60×279mm 6.89×2.36×10.98 in	175×45×170mm 6.89×1.77×6.69 in		175×45×170mm 6.89×1.77×6.69 in		160×45×150mm 6.3×1.77×5.91 in	
	Weight (approx.)	4.7kg; 10.4lb (With controller)	1.5kg; 3.3lb		1.5kg; 3.3lb		1.3kg; 2.9lb	
TX	RF output power (High)	110W	50W	50W	50W	45W	50W (F5061/D) 25W (F5063)	45W (F6061/D) 25W (F6063)
	Spurious emissions	70dB (min.)			75dB (typ.)		75dB (typ.)	
	Frequency stability	±1.0ppm			±2.0ppm		±1.0ppm	
RX	Sensitivity	(at 12dB SINAD)	0.25μV (typ.)		0.25μV (typ.)	0.3μV (typ.)	0.25μV (typ.)	
		(at 5% BER)	0.25μV (typ.)		0.25μV (typ.)	0.3μV (typ.)	0.20μV (typ.)	
	Adjacent Ch. selectivity (W/N)	FM 81/53dB (typ.) P25 63dB (typ.)	FM 81/53dB (typ.) P25 63dB (typ.)	FM 79*/53dB (typ.) P25 63dB (typ.)	FM 80/75dB (typ.) P25 73dB (typ.)		85/75dB (typ.)	
	Spurious response rejection	85dB min. (typ.)	85dB min. (typ.)	70dB** (min.)	80dB (typ.)		90dB (typ.)	
	Intermodulation rejection	78dB (typ.)			FM 77/75dB (typ.) P25 77dB (typ.)		77dB (typ.)	
	AF output power (at 10% distortion with an 4Ω load)	15W (typ.) (3% distortion, Ext SP)	4W (typ. Internal SP) 22W (typ. External SP)		4W (typ. Internal SP) 22W (typ. External SP)		4W (typ. 5% distortion)	

\*1 81dB typ. (406.1–420MHz), \*2 85dB typ. (406.1–420MHz)

		IC-F5121D IC-F5123D	IC-F6121D IC-F6123D	IC-F5021 IC-F5023/H	IC-F6021 IC-F6023/H	IC-F5011 IC-F5013/H	IC-F6011 IC-F6013/H
GENERAL	Frequency (Unit: MHz) (Varies according to version)	136–174	400–470 450–512 (USA) 450–520 (EXP) 350–400 (EXP)	136–174	400–470 450–512 (USA) 450–520 (EXP)	136–174	400–470 450–512 (USA) 450–520 (EXP)
	Number of channels (Max.)	128 ch/8 zones		128 ch/8 zones		8 channels	
	Type of emission	16K0F3E, 11K0F3E, 4K00F1E/F1D		16K0F3E, 11K0F3E		16K0F3E, 11K0F3E	
	Channel spacing (Unit: kHz) (Varies according to version)	6.25/12.5/25, 6.25/15/30	6.25/12.5/25	12.5/25, 15/30	12.5/25	12.5/25, 15/30	12.5/25
	PLL channel step (Unit: kHz)	2.5, 3.125		2.5, 3.125		2.5, 3.125	
	Current drain	Tx High	10A/5A (50/25W)	11A/5A (50/25W)	10A/5A (50/25W)	11A/5A (50/25W)	10A/5A (50/25W)
		Rx Stand-by	300mA	300mA	250mA	250mA	250mA
		Max. audio	1.2A	1.2A	0.7A	0.7A	0.7A
	Dimensions (projections not included; W×H×D)	150×40×167.5 mm 5.91×1.57×6.59 in (50/45W) 150×40×117.5 mm 5.91×1.57×4.63 in (25W)		150×40×167.5 mm 5.91×1.57×6.59 in (50/45W) 150×40×117.5 mm 5.91×1.57×4.63 in (25W)		150×40×167.5 mm 5.91×1.57×6.59 in (50/45W) 150×40×117.5 mm 5.91×1.57×4.63 in (25W)	
	Weight (approx.)	1.1kg; 2.4lb (50/45W) 0.8kg; 1.8lb (25W)		1.1kg; 2.4lb (50/45W) 0.8kg; 1.8lb (25W)		1.1kg; 2.4lb (50/45W) 0.8kg; 1.8lb (25W)	
TX	RF output power (High)	50W (F5121D, F5123D) 25W (F5123D)	45W (F6121D, F6123D) 25W (F6123D)	50W (F5021, F5023H) 25W (F5023)	45W (F6021, F6023H) 25W (F6023)	50W (F5011, F5013H) 25W (F5013)	45W (F6011, F6013H) 25W (F6013)
	Spurious emissions	72dB (min.)*3	70dB(min.)	70dB (typ.)		70dB (min.)	70dB (typ.)
	Frequency stability	±1.0ppm		±2.5ppm		±2.5ppm	
RX	Sensitivity	(at 12dB SINAD)	0.25μV (typ.)	0.25μV (typ.)		0.25μV (typ.)	
		(at 5% BER)	0.18μV (typ.)	–		–	
	Adjacent Ch. selectivity (W/N)	80/70dB (typ.)	75/65dB (typ.)	75/65dB (typ.)		75/65dB (typ.)	
	Spurious response rejection	70dB (min.)		70dB (min.)		70dB (min.)	
	Intermodulation rejection	75dB (typ.)		75dB (typ.)		75dB (typ.)	
	AF output power (at 5% distortion with an 4Ω load)	4W (typ.)		4W (typ.)		4W (typ.)	

\*3 70dB (min.) for IC-F5123D.



# SPECIFICATIONS FOR REPEATERS

			IC-FR5000	IC-FR6000
GENERAL	Frequency (Unit: MHz) (Varies according to version)		136–174	400–470 450–520 350–400 (EXP)
	Number of channels (Max.)		32 ch	
	Type of emission		16K0F3E, 11K0F3E, 11K0F7E/D/W, 8K50F3E* <sup>1</sup> , 4K00F1E/D, 4K00F3E	16K0F3E, 11K0F3E, 11K0F7E/D/W, 4K00F1E/D, 4K00F3E
	Channel spacing (Unit: kHz) (Varies according to version)		6.25/12.5/25 or 7.5/15/30	
	PLL channel step (Unit: kHz)		2.5, 3.125	2.5, 3.125
	Power supply requirements		13.6V DC	
	Current drain	Tx High	15A	15A
		Stand-by	400mA* <sup>2</sup>	400mA* <sup>2</sup>
		Rx Max. audio	1900mA	1900mA
Dimensions (projections not included; W×H×D)		483×88×260mm 19.02×3.46×10.24 in		
Weight (approx.)		5.6kg; 12.3lb		
TX	RF output power (High)		50W	
	Spurious emissions		80dB (typ.)	
	Frequency stability		±0.5ppm	
RX	Sensitivity	(at 12dB SINAD)	0.25μV (typ.)	
		(at 5% BER)	0.20μV (typ.)	
	Adjacent Ch. selectivity (W/N)		78/56dB (typ.)	
	Spurious response rejection		90dB (typ.)	
	Intermodulation rejection		78dB (typ.)	
AF output power (at 5% distortion with an 4Ω load)		4.0W (typ.)		

\*<sup>1</sup> Exp version only

\*<sup>2</sup> Fan off, backlight off

## FUNCTION COMPARISON AND INTERNAL UNIT OPTIONS

		IC-F9511HT	IC-F9511T IC-F9511S IC-F9521T IC-F9521S	IC-F1821/D IC-F1721/D IC-F2821/D IC-F2721/D	IC-F5061/D IC-F5063 IC-F6061/D IC-F6063	IC-F5121D IC-F5123D IC-F6121D IC-F6123D	IC-F5021 IC-F5023/H IC-F6021 IC-F6023/H	IC-F5011 IC-F5013/H IC-F6011 IC-F6023/H	IC-FR5000 IC-FR6000
Number of option slots		1	1	1	2* <sup>2</sup>	–	1	1	1
CTCSS/ DTCS	encoder	✓	✓	✓	✓	✓	✓	✓	✓
	decoder	✓	✓	✓	✓	✓	✓	✓	✓
2-Tone	encoder	✓	✓	✓	✓	✓	✓	✓	–
	decoder	✓	✓	✓	✓	✓	✓	✓	–
5-Tone	encoder	–	–	✓	✓	✓	✓	✓	✓
	decoder	–	–	✓	✓	✓	✓	✓	✓
DTMF autodial		✓	✓	✓	✓	✓	✓	✓	✓
DTMF decoder		–	–	✓* <sup>3</sup>	✓* <sup>3</sup>	–	UT-108R	UT-108R	✓
Voice Scrambler* <sup>1</sup>	Inversion	✓	✓	✓	✓	–	–	–	✓
	Non-rolling	–	–	UT-109 (Version 02)	UT-109R	–	UT-109R	UT-109R	UT-109R
	Rolling	–	–	UT-110 (Version 02)	UT-110R	–	UT-110R	UT-110R	UT-110R
APCO P25 digital		✓	✓	✓* <sup>4</sup>	–	–	–	–	–
APCO P25 trunking		✓	✓	–	–	–	–	–	–
AES encryption		UT-125	UT-125	EX-2785 J03	–	–	–	–	–
DES encryption		UT-125 or UT-128	UT-125 or UT-128	EX-2785 J02	–	–	–	–	–
FIPS 140-2 Level 1		UT-125 FIPS	UT-125 FIPS	–	–	–	–	–	–
IDAS multi-site trunking		–	–	–	UT-126H	–	–	–	UC-FR5000* <sup>5</sup>
IDAS single-site trunking		–	–	–	UT-126H	✓	–	–	UC-FR5000
IDAS conventional		–	–	–	UT-126H	✓	–	–	UC-FR5000* <sup>5</sup>
MDC 1200		✓	✓	✓	✓	✓	✓	✓	–
LTR™ trunking		–	–	–	✓	–	–	–	✓* <sup>7</sup>








\*<sup>1</sup> Inversion type voice scrambler is not compatible with UT-109/UT-110 voice scrambler. \*<sup>2</sup> One for UT-126H digital unit and one for another option unit.

\*<sup>3</sup> Possible as a kind of 5-Tone format. \*<sup>4</sup> UT-120 (version 02) required for IC-F1721/F1821, F2721/F2821.

\*<sup>5</sup> UC-FR5000 (Version 03) which is CF-FR5000MT installed version required.

\*<sup>6</sup> UC-FR5000 (Version 02) which is CF-FR5000MC installed version required.

\*<sup>7</sup> External controller required.

UT-108/R	UT-109/R
DTMF DECODER 	VOICE SCRAMBLER UNIT 
UT-110/R	UT-120
VOICE SCRAMBLER UNIT 	P25 DSP UNIT 
UT-124/R	UT-125/UT-125 FIPS
MAN DOWN UNIT 	AES/DES ENCRYPTION UNIT 
UT-126H	
IDAS DIGITAL UNIT 	

✓ : Available

UT-108 : Required internal unit (Eg. UT-108)

– : Not available

# BATTERY PACKS AND CHARGERS

Battery packs	BP-253	BP-254 BP-254FM	BP-227 BP-227FM	BP-230N	BP-232N BP-232FM	BP-264	BP-265
Transceiver	IC-F70T/S series	IC-F9011T/S/B series IC-F70T/S series	IC-F50V IC-F60V IC-F50 IC-F60	IC-F3161T/S series, IC-F33GT/GS series, IC-F3021T/S series, IC-F3011 series		IC-F3101D series IC-F3001 series	
Rapid charger	BC-119N + BC-145S + AD-110		BC-119N + BC-145S + AD-100 or BC-190 + BC-145S	BC-119N + BC-145S + AD-106 or BC-160 + BC-145S		BC-191+ BC-123S	BC-193+ BC-123S
Regular charger	N/A		BC-152 + BC-147S	BC-171 + BC-147S		BC-192 + BC-147S	N/A
Multi charger	BC-121N + BC-157S + AD-110 *1		BC-121N + BC-157S + AD-100 *1	BC-197 + BC-157S (+ AD-122 *2) BC-121N + BC-157S + AD-106 *1		BC-197 + BC-157S (+ AD-120 *2) (+ AD-121 *2)	
Operating time (Tx:Rx:Stand-by=5:5:90)	8 hours*3	9 hours*3 (with IC-F9011T)	10 hours*3	7.3 hours*3 (with IC-F3161T)	14 hours*3 (with IC-F3161T)	14 hours*2 (with IC-F3001)	20 hours*2 (with IC-F3001)

\*1 Six charger adapters are required.

\*2 Either AD-120, AD-121, or AD-122 charger adapter is supplied with the BC-197.

\*3 As a rough value.

## ADDITIONAL SPECIFICATIONS AND FEATURES



Icom makes rugged products that have been tested to and passed the following MIL-STD requirements and Ingress Protection Standards.

Standard	Low Pressure	High Temperature	Low Temperature	Temperature Shock	Solar Radiation	Rain Blowing/Drip	Humidity	Salt Fog	Dust	Immersion	Vibration	Shock	Ingress Protection Rating
MIL-810 F	500.4, I, II	501.4, I, II	502.4, I, II	503.4, I	505.4, I	506.4, I, III	507.4	509.4	510.4, I	512.4, I	514.5, I	516.5, I, IV	
IC-F9011T/S/B series	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	IP57
IC-F70T/S series	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	IP57
IC-F3161DT/DS series	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	IP55
IC-F3101D series	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	IP54
IC-F50V/F60V	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	IP67
IC-F50/F60	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	IPX7
IC-F33GT/GS series	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
IC-F3021T/S series	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	IP54
IC-F3011/F4011	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	IP54
IC-F3001 series	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	IP54
IC-F9511HT	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	IP54
IC-F9511T/S series	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	IP54*2
IC-F1821 series	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	IP54*2
IC-F1721 series	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	IP54*2
IC-F5061/D series	✓	✓	✓	✓	✓	✓*1	✓	✓	✓	✓	✓	✓	IP54*1
IC-F5121D, F5021 series	✓	✓	✓	✓	✓	✓	✓	✓	510.4, III*3	✓	✓	✓	
IC-F5011 series	✓	✓	✓	✓	✓	✓	✓	✓	510.4, III*3	✓	✓	✓	
IC-FR5000, IC-FR6000	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓*4	

\*1 Rain blowing, drip and IP dust and water tests were performed on the controller and RMK-3 only. \*2 IP dust and water tests were performed on the controller and RMK-2 only.

\*3 Settling dust test (510.4 III) passed only. \*4 Shock Functional test (516.5 I) passed only.

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