PROFESSIONAL
COMMUNICATIONS
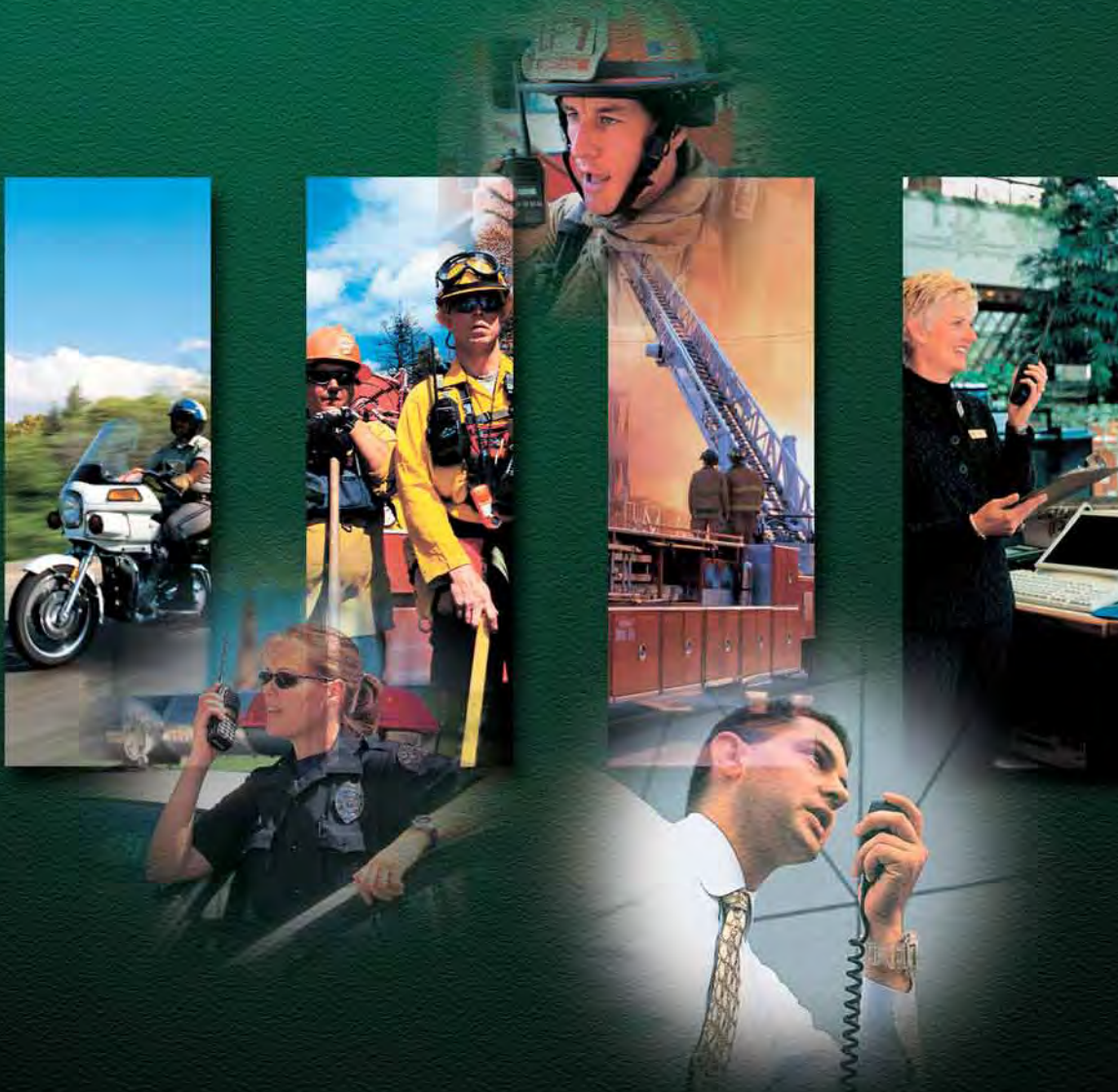
HARD WORKING RADIOS

### Icom Inc.

Icom, the wireless communication experts

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

Company Profile

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 the US Military standard 810 specifications.
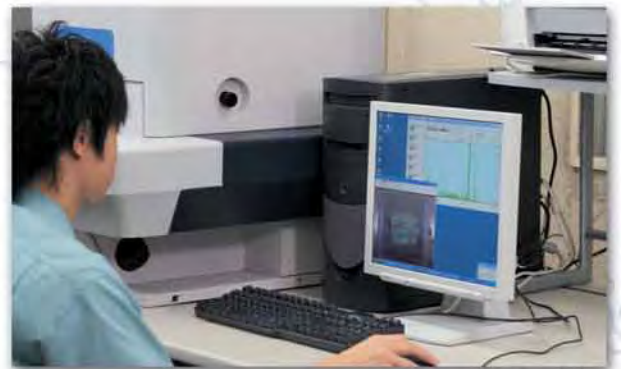
Quality & Reliability

Made in Japan quality

Icom is a rare example of an electronics manufac-
turer that has not shifted production to lower cost
countries, but kept its production base 100% in
Japan. The Wakayama Icom plant has an
advanced production system to produce small vol-
ume/multi-model wire-
less communication
products.

Icom, a world brand name

Icom is today recognized as a reliable 2-way radio
brand name around the world. Our land mobile
radios are used by many professional organiza-
tions all over the world, like the United States
Department of Defense and the U.S. Marine Corp,
who chose Icom as the first Japanese company to
supply radios to them.

Icom's worldwide network

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

IC-F70DT
P25 Digital ready

IC-F70DS
P25 Digital ready

IC-F70T

IC-F70S

UHF HANDHELD TRANSCEIVERS

IC-F80DT
P25 Digital ready

IC-F80DS
P25 Digital ready

IC-F80T

IC-F80S

Supplied Accessories (May differ according to version)
- Battery pack, BP-253/BP-254
- Belt clip, MB-94 • Antenna

Rugged
MIL-STD 810

IPX7

AES/DES upgradable

Intrinsically safe versions available

THE SMART MIGRATION ANALOG TO AN APCO RADIO SYSTEM

Digital migration is now an inevitable trend for commercial radio. F70D, F1721D and F1821D series offer an ideal solution for analog channel allows you to seamlessly add to a current FM radio netwo depending on the version. The rich FM features such as built-in mu a flexible, long life radio for you. The IC-F70D, F1721D and F1821 munication needs. * IC-F70 and F80 only.

Interoperability

The IC-F70D, F1721D and F1821D series is APCO Project 25 (P25) compliant. It ensures interoperability with other manufacturer's P25 digital radios in conventional mode. The radio is programmable digital and/or analog FM modes per channel.

Intrinsically safe version

FM APPROVED Versions of the IC-F70/F80 series are available that conform to the intrinsically safe rating of the FM Approvals.

Intrinsically safe : Class I, II, III, Division 1, Groups C, D, E, F, G ;
Nonincendive : Class I, Division 2, Groups A, B, C, D hazardous locations
Connected battery pack : BP-254FM, "Max. Temp. : T3C at 40˚C"
Approved options: HM-138, HM-168IS, HS-94, HS-95, HS-97, VS-1SC,
　　　　　　　　　UT-109, UT-110, UT-124

AES/DES digital encryption

FIPS VALIDATED 140-2 AES and DES are encryption standards required by public safety agencies. The IC-F70D, F1721D and F1821D series provides secure encryption with DES and AES accordingly when activated with EX-2785

FIPS-140-2 inside J02 (for DES) and EX-2785 J03 (for AES) activation software. The IC-F70D/F80D versions certified to FIPS 140-2 Level 1 for AES encryption are also available.

TM: A Certification Mark of NIST, which does not imply product endorsement by NIST, the U.S. or Canadian Governments.

IPX7 waterproof protection

The IC-F70/F80 series has solid waterproof* construction. A speaker grill designed for water removal keeps communications clear in inclement weather.

* Submersible for 1m depth of water for 30 minutes, equivalent to IPX7.

Dot matrix, multi-function LCD

The IC-F70/D, F1721/D and F1821/D series have a large dot matrix display to show information with high resolution characters. The display setting is programmable to show one line and 12 characters, or two lines and 24 characters. In addition, the IC-F70/D series shows the functions assigned to the [P] buttons at the bottom of the display.

IC-F80DS　　　　　IC-F70DT

FROM
P25 DIGITAL

*To use your existing analog radio resources intelligently, the IC-
...g to digital migration. Programmable P25 digital and FM mode per
...work. The P25 digital software can be reserved for future upgrade,
...ultiple tone signalings and rugged waterproof* construction ensure
...D are the smart choice for current –and future –public safety com-*

IC-F1821D, F2821D
(10 keypad version)

Rugged
MIL-STD 810

AES/DES upgradable

IC-F1721D, F2721D (Non-keypad version).

Built-in versatile tone signaling

Use the built-in CTCSS, DTCS, 2-Tone 5-Tone or MDC 1200 capability to set up your own talk groups, and have your radio standby quietly when other groups are talking. Up to 10 2-Tone, 8 5-Tone codes can be decoded on a single memory channel.

Zone copy cable for tactical group operation

The tactical group function allows you to copy memory channels to the tactical zone (zone 32) and dynamically regroup memory channels. Using the optional zone copy cable, memory channels in the tactical zone can be transferred from a master radio to other radios.

Other features

• Large capacity Li-Ion battery pack for IC-F70/D series
• Heavy-duty dynamic microphone, HM-148 is supplied with IC-F1721/D, F1821/D series
• Built-in audio compander • 256 memory channels and 32 zones
• Optional man down unit UT-124 (IC-F70/D series only)
• Built-in Voice Operated Transmission (VOX) capability (IC-F70/D series only)
• P25 upgrade is available for analog versions (Optional UT-120 and EX-2785 J01 are required)

VHF HANDHELD TRANSCEIVERS

IC–F3161DT IDAS Digital ready
IC–F3161DS IDAS Digital ready
IC–F3161T
IC–F3161S
IC–F3163T
IC–F3163S

UHF HANDHELD TRANSCEIVERS

IC–F4161DT IDAS Digital ready
IC–F4161DS IDAS Digital ready
IC–F4161T
IC–F4161S
IC–F4163T
IC–F4163S

Supplied Accessories
(May differ according to version)
• Battery pack, BP-232N
• Belt clip, MB-94
• Antenna

Rugged
MIL-STD 810

IP55

IC-F4161S

IC-F3161T

LTR™/CONVENTIONAL/ DIGITAL* MULTI-MODE LAND MOBILE!

Designed and built for advanced communication needs, the IC-F3161/D series handhelds are feature-rich with built-in multiple signalings and LTR™ trunking capability. Two optional slots support numerous extension capabilities including IDAS digital operation.*

* Already installed in IC-F3161DT/DS, F4161DT/DS. Optional UT-126H required.

Basic LTR™ mode operation

Group, selective, and phone call are available in LTR™ mode.

512 memory channels with 128 zones

The 512 memory channel capacity with 128 zones allows you to divide and store a variety of channel groupings for versatile and efficient fleet management.

IDAS, 6.25kHz digital mode ready

The IDAS 6.25kHz digital mode is available with the optional UT-126H digital unit*. (See page 17-18 for IDAS details.)
* Already installed to the IC-F3161/F4161 "D" versions.

Dot matrix, multi-function LCD

The IC-F3161/D series has a large dot matrix display to show information with high resolution characters. The display setting is programmable to show one line and 12 characters, or two lines and 24 characters. The bottom row shows assigned functions to the [P0] to [P3] buttons.

Voting scan

The Voting scan detects the signal strength level of repeater sites and automatically selects the strongest station, useful for roaming between 2 or more repeater sites. Once you program for voting mode in a memory zone, you can easily start voting mode operation by changing the zone setting.

Loud audio output with BTL amp

The IC-F3161/D series employs a BTL amplifier that increases the audio output and the built-in audio compander provides clear, low noise communications.

Other features

• Built-in inversion type voice scrambler and optional UT-109R and UT-110R for higher security
  Inversion type voice scrambler is not compatible with UT-109/UT-110 voice scrambler.
• The mode independent setting automatically selects the scanning list, according to the operating channel
• Nuisance delete
• MDC 1200 compatible
• IP55 dust-protection and water jet resistance
• Optional man down unit, UT-124R and lone worker function
• Embedded ESN (Electronic serial number) and more...

NEVER MISS IMPORTANT CALLS

Supplied Accessories (May differ according to version)
- Battery pack, BP-227
- Belt clip, MB-98
- Antenna

Rugged
MIL-STD 810

IP67

The IC-F50V series offers loud 700mW (typ.) audio, vibration alert and voice recorder functions that let you catch every call. Furthermore, the IC-F50V offers a compact dust and waterproof package that provides reliable communications, and is easy to use in nearly any environment.

Vibration alert function

When a pre-programmed 2-tone/5-tone code or call from a specific user (MDC mode only) is received, the radio vibrates powerfully enough to be felt through heavy clothing.

8 minute voice recorder

When a pre-programmed 2-tone/5-tone code or a SelCall (MDC mode only) is received, the voice recorder automatically starts recording the incoming message. You will not miss an important call even when you are temporarily away from the radio.

700mW (typical) audio output with internal speaker

The IC-F50V series delivers a loud 700mW audio output with the built-in BTL amp. The built-in audio compander provides clear, low noise communications.

IP67, dust-tight and waterproof protection

The IC-F50V series can withstand submersion in 1m depth of water for up to 30 minutes and has dust-tight construction that prevents the ingress of dust.

Other features

- 56(W)×97(H)×36.4(D) mm compact body
- MDC 1200 system programmable
- Inversion type voice scrambler is built-in
- Optional waterproof speaker-microphone, HM-168
- Large capacity Lithium-Ion battery pack, BP-227
- Built-in CTCSS, DTCS, 2-Tone and 5-Tone capability
- Mode-dependent scan • Nuisance delete function
- BTL only version (no vibration alert and no voice recorder) and BTL/Vibration alert version (no voice recorder) available

Not available in some countries. (Not available in the U.S.)

- IPX7 waterproof protection
- Built-in CTCSS, DTCS, 2-Tone and 5-Tone capability
- 56(W)×97(H)×36.4(D)mm, compact body
- Built-in UT-110 equivalent voice scrambler*
- Inversion type voice scrambler is built-in to all versions
- MDC 1200 programmable*
- FM intrinsically safe version available (Ask your dealer for details) and more ...
  (* depending on version)

FM
APPROVED

Supplied Accessories (May differ according to version)
- Battery pack, BP-227 • Belt clip, MB-98   • Antenna

VHF HANDHELD TRANSCEIVER **IC-F50**
UHF HANDHELD TRANSCEIVER **IC-F60**

IC-F50   IC-F60

IC-F50V

IC-F60V

IC-F33GT
IC-F33GS

IC-F43GT
IC-F43GS

Supplied Accessories (May differ according to version)
- Battery pack, BP-232N
- Belt clip, MB-94
- Antenna • Unit cover

Rugged
MIL-STD 810

IP54

IC-F43GS

IC-F33GT

ADVANCED STANDARD MODEL

The IC-F33G series is suitable for a variety of needs — large or small, mobile or stationary. Offering advanced features such as wide frequency range, multiple signaling and loud audio, the IC-F33G series is a rugged and reliable 2-way communications tool.

256 memory channels with 16 banks

The 256 memory channel capacity with 16 banks allows you to divide and store a variety of channel groupings. Channel selection can be made easily with a rotation of the rotary channel knob.

Lithium-Ion battery pack

The supplied 2000mAh Li-Ion battery pack, BP-232N, provides 15/16 hours* of operating time. An optional AA size battery case BP-240 stores a charge for years and is an ideal choice for emergency preparedness.

* UHF/VHF, typical operation Tx:Rx: Standby=5:5:90, power save on.

Multiple 5-Tone, Multiple 2-Tone

The IC-F33G series can encode and decode up to 10 2-Tone codes or 32/8* 5-Tone codes on a single memory channel. This is perfect for professionals who require multiple district paging on one channel.

* Encode/decode.

Alphanumeric display

The 8-character alphanumeric display shows channel, zone, tone code and scanning channel names on the display. A separate row of operational icons indicate battery, signal strength, RX/TX and other radio conditions.

Audio compander

The built-in audio compander reduces noise components and provides clear reception even in narrow band use.

Other features

- Optional man down unit, UT-124
- Dust-protection and splash resistance equivalent to IP54
- Wide frequency coverage and wide, middle and narrow channel spacing programmable
- Compact and lightweight body
- MDC 1200 compatible
- Flash CPU for future upgrade

ECONOMICAL STANDARD MODEL

The IC-F3021 series is an economical standard model with durable construction, and simple user-friendly operation. Icom's technology provides you with the reliable performance and the communication quality you expect. Your next best step from a basic radio.

Button control memory channel

The IC-F3021 series has 128 memory channels with 8 zones. Memory channel selection can be made easily with up/down buttons laid out below the PTT button. A large LCD provides at-a-glance convenience so that you can visually confirm with whom you are talking to.

Supports multiple, flexible selective call

CTCSS, DTCS, 2-Tone, 5-Tone encoder/decoder and DTMF encoder are built-in. The optional UT-108R allows DTMF decode with ANI functions.

Lone worker function

When the radio is not operated for a preset period, the radio sounds a beep and requires you to push any button. If a button is not pushed, an emergency signal automatically transmits and informs a co-worker or dispatcher that something may have happened to the individual worker.

Mode dependent scan

When you change the operating channel, the scanning list automatically changes following that channel setting. It is convenient when you move to a different operating area and change an operating channel, you don't have to change the scanning setting.

Other features

- MDC 1200 compatible
- Optional voice scrambler, UT-109R and UT-110R
- Optional man down unit, UT-124R
- Surveillance function temporarily turns off the LED backlight and beep sound
- Dust-protection and splash resistance equivalent to IP54
- Compact and lightweight body
- Low battery beep function
- Nuisance delete

VHF HANDHELD TRANSCEIVERS

IC-F3021T
IC-F3021S
IC-F3023T
IC-F3023S

UHF HANDHELD TRANSCEIVERS

IC-F4021T
IC-F4021S
IC-F4023T
IC-F4023S

Supplied Accessories (May differ according to version)
- Battery pack, BP-232N
- Belt clip, MB-94
- Antenna • Unit cover

Rugged
MIL-STD 810

IP54

IC-F3021S

IC-F4021T

IC-F14
IC-F14S

UHF HANDHELD TRANSCEIVERS

IC-F24
IC-F24S

Supplied Accessories (May differ according to version)
• Battery pack, BP-232N
• Belt clip, MB-94
• Antenna • Unit cover

Rugged
MIL-STD 810

BUILT TO LAST, BUILT TO WORK!

The IC-F14/S series is designed to provide simple operation for everyone, and is a powerful and reliable tool for your daily business. Its very durable construction is resistant to shock and vibration. The IC-F14/S series will easily exceed your expectations.

Tough and reliable construction

The IC-F14/S series is built around an aluminum die-cast chassis and covered with a tough polycarbonate casing. This radio is built to last. Its dual slide rail securely locks the battery to the radio. The belt clip is clamped between the radio and the battery, making it nearly impossible to knock loose.

Simple operation

Having only 3 buttons, one volume and one channel knob, the IC-F14/S series does not require special training to use. Positive button action for sure operation even when wearing gloves allows you to get down to the business of communicating without fuss.

Optional board

The IC-F14/S series has an expansion socket for adding an optional board. Individual board options include: voice scrambler, man down and DTMF decoder features.

Most popular signalings built-in

Use the built-in 2-Tone, 5-Tone, CTCSS and DTCS capabilities as standard to set up your own talk groups and quiet stand-by when others are talking. In addition, MDC 1200 PTT ID and emergency call functions are available. (Transmit only)

Other features

• Wide frequency coverage in one version
• Optional voice scrambler, UT-109 and UT-110
• Optional DTMF decoder, UT-108
• Optional man down unit, UT-124
• Multiple 2-Tone, Multiple 5-Tone
• Lithium-Ion battery standard
• LED low battery alert
• TOT function and lock out penalty timer
• 2 step power saver
• Normal and priority scan
• 500mW loud and clear audio
• Optional VOX headset for hands free operation
• Embedded ESN (Electronic serial number)
• Wide/narrow (25/12.5kHz) channel spacing capability, and more...

IC-F24S (simple type)

IC-F14 (rotary type)

SIMPLE AND QUICK CONTACT AT ANY TIME

VHF HANDHELD TRANSCEIVERS

IC–F11
IC–F11S

UHF HANDHELD TRANSCEIVERS

IC–F21
IC–F21S

Supplied Accessories (May differ according to version)
• Battery pack, BP-209N
• Belt clip, MB-103
• Antenna

Rugged
MIL-STD 810

For big or small businesses who need economical and instant two-way communications, the IC-F11/S series provide simple and quick contact at any time. Built-in multiple tone signalings, 3 steps of output power and other superior features are the benchmark in this category.

The on-site communications solution

For small business, hotels, hospitality, landscape, nursery, etc. who need economical and instant two-way communications. Also a wireless intercom solution for large retailers, warehouses, etc.

Simple controls, easy to use

All functions of the radio can be operated with only the transmit button, channel selector and volume knob. All three controls may be operated without removing the radio from your belt. The perfect, simple to use business tool that requires no training to use.

Multiple selective calling functions

Use the built-in signaling capability (2-tone, 5-tone, CTCSS, DTCS) to set up your own talk groups and quiet the radio when others are talking. You can set up selective calls to individuals too. Keep private communications private and eliminate unnecessary interruptions and gossip in the workplace.

Powerful 4 or 5W of output power

Use a full 4 or 5W* when you need it. Increase the range of your transmissions indoors and outdoors where obstacles and walls often challenge other inferior equipment.
* 4W for UHF models, 5W for VHF models.

Military rugged construction

Don't let the lightweight or compact body fool you. This is a military spec. rugged radio that can take abuse and keep working.

Other features

• Compact and lightweight to carry all day
• 16 ch. rotary type and max. 4 ch. simple type
• Optional alkaline, Ni-MH or Li-Ion battery pack
• Wide/narrow capability, and more...

IC-F11S (simple type)

IC-F21 (rotary type)

IC−F5061D (50W) <small>IDAS Digital ready</small>
IC−F5061 (50W)
IC−F5063 (25W)

IC−F6061D (45W) <small>IDAS Digital ready</small>
IC−F6061 (45W)
IC−F6063 (25W)

Supplied Accessories (May differ according to version)
• Hand microphone, HM-148 (IC-F5061/F6061/D)
• Hand microphone, HM-152 (IC-F5063/F6063)
• DC power cable
• Microphone hanger
• Mounting bracket kit
• Key assign stickers

IP54
Controller only.

Rugged
MIL-STD 810

LTR™/CONVENTIONAL/ DIGITAL* MULTI-MODE PROFESSIONAL MOBILE!

Designed for public safety, transportation and delivery service users, the IC-F5061/D series offers advanced multi-mode operations. This includes advanced multi mode operations, IDAS 6.25kHz digital options, advanced scanning and flexible installation suitable for mobile and base stations. Just try and outgrow this radio!

* Optional UT-126H required.

Built-in basic LTR™ mode operation

Group, selective and phone calls are available in built-in LTR™ mode. MDC signaling is also available with LTR™ mode.

IDAS, 6.25kHz digital mode ready

The IDAS 6.25kHz digital mode is available with the optional UT-126H digital unit*. (See page 17–18 for the IDAS details) * Already installed in the IC-F5061/F6061 "D" versions.

Built-in versatile tone signaling

Use the built-in CTCSS, DTCS, 2-Tone 5-Tone or MDC 1200 capability to set up your own talk groups, and have your radio standby quietly when other groups are talking. Up to ten 2-Tone, eight 5-Tone codes can be decoded on a single memory channel.

IP54 dust-protection and splash resistance (Controller only)

When used with the optional separation kit, RMK-3, and separation cable, the front panel of the IC-F5061/D series can be detached from the main unit. The control head has dust-protection and splash resistance construction equivalent to IP54.

Voting scan

The Voting scan detects the signal strength level of repeater sites and automatically selects the strongest station, useful for roaming between 2 or more repeater sites. Once you program for voting mode in a memory zone, you can easily start voting mode operation by changing the zone setting.

Other features

• The mode independent setting automatically selects the scanning list, according to the operating channel • Nuisance delete • Lone worker function
• Built-in inversion-type voice scrambler and optional UT-109R/UT-110R available*
 * Inversion type voice scrambler is not compatible with UT-109/UT-110 voice scrambler.
• Large dot matrix display and multi-function LCD • 8 DTMF autodialing memories
• D-Sub accessory connector, ignition sensing line and more...

A FLEXIBLE YET SIMPLE TOOL FOR B&I USERS

With 256 channel capacity and built-in flexible tone signaling, these mobiles meet the demanding needs of today's professionals. B&I users will appreciate the flexible, yet simple design of these MIL SPEC rugged mobiles — from conventional to expanded trunking operation.

VHF MOBILE TRANSCEIVERS

IC−F521 (50W)
IC−F520 (25W)

UHF MOBILE TRANSCEIVERS

IC−F621 (45W)
IC−F620 (25W)

Supplied Accessories (May differ according to version)
- Hand microphone, HM-152
- DC power cable
- Microphone hanger
- Mounting bracket kit
- Key assign stickers

Rugged
MIL-STD 810

Flexible selective calling

CTCSS, DTCS, 2-tone and 5-tone encoder/decoder and DTMF encoder are built-in. These signalings are applicable to a wide variety of selective calling systems to call specific station(s) or control a repeater. The ANI function is available with 2-tone/5-tone and DTMF decoder*.

* Optional UT-108 is required.

256 memory channels

With 256 channels separated into 16 memory banks and identifiable by a 10-character alphanumeric LCD, you can quickly access preprogrammed contingency frequency plans — ideal for wide area, cross-municipality communications!

Face the speaker in the direction you need

The IC-F521/F621 series lets you simply rotate the chassis to face the speaker in the direction you need while the control head remains right side up.

9 programmable buttons

Two pairs of up/down buttons and P0-P4 function assignable buttons allow you to customize functions to meet specific needs.

Other features

- Built-in audio compander
- Backlit keypad
- Independent AF volume knob
- Optional voice scrambler, UT-109 or UT-110
- Selectable channel spacing (12.5/15kHz)
- Stun and power-on password function
- Flash ROM CPU
- VHF 50W, UHF 45W higher power version available

VHF MOBILE TRANSCEIVERS
IC-F121
IC-F111

UHF MOBILE TRANSCEIVERS
IC-F221
IC-F211

Supplied Accessories (May differ according to version)
• Hand microphone, HM-152
• DC power cable
• Microphone hanger
• Mounting bracket kit
• Key assign stickers

Rugged
MIL-STD 810

SIMPLE, POWERFUL COMMUNICATIONS

Today's mobile workers need to get information and respond to it immediately, at any time, from any place. Icom's mobile radios meet and exceed these demands with advanced features but simple operation.

8-character alphanumeric display

The alphanumeric LCD indicates channel, bank name and decoded text, etc. Various status icons for such functions as an S-meter and output power, etc., enhance the array of information available to the user.

128 channels with 8 memory banks

Up to 128 channels with 8-character channel names can be stored and divided into 8 banks for flexible channel management.

Advanced 2-Tone/5-Tone systems

2-Tone, 5-Tone, CTCSS, and DTCS encoder/decoder are equipped as standard. Multiple 2-Tone/5-Tone codes are programmable on a channel.

Optional voice scrambler

Optional voice scrambler units, UT-109 or UT-110 allow you operating security. The UT-109 includes up to 32 scrambling codes and the UT-110 includes up to 1020 (4 group × 255 code) scrambling codes with a divided frequency rolling system.

Independent volume knob and 4W (typ.) front-mounted speaker

The IC-F121 series has a front firing 4W (typ.) speaker providing crisp and clear audio. Independent volume knob offers quick operation.

Other features

• Powerful 50W (VHF), 45W(UHF) output
• Selectable wide/narrow channel spacing per channel
• Hook scan function and Hook scan on/off button programmable
• 8 autodialing memories for DTMF and optional decoder UT-108
• 10 scanning lists, normal/priority scan and more...

PRACTICAL COMMUNICATIONS SUPPORTER

VHF MOBILE TRANSCEIVERS
IC-F121S
IC-F111S

UHF MOBILE TRANSCEIVERS
IC-F221S
IC-F211S

These mobile radios provide the operating simplicity to keep your eyes on the road—not the front panel! But don't let the lack of display fool you, there are enough features and functions to meet most commercial demands.

Supplied Accessories (May differ according to version)
• Hand microphone, HM-152
• DC power cable
• Microphone hanger
• Mounting bracket kit
• Key assign stickers

Rugged
MIL-STD 810

Simple operation with up to 8 channels

4 large programmable buttons with LED indicators maximize use of all functions. An independent volume knob adds to the all-round ergonomic design based on simplicity.

Advanced 2-Tone/5-Tone systems

2-Tone, 5-Tone, CTCSS, and DTCS encoder/decoder and DTMF encoder are equipped as standard. Multiple 2-Tone/5-Tone codes are programmable on a channel. When an optional UT-108 is installed, DTMF decoder and ANI functions are also available.

Optional voice scrambler

Optional voice scrambler units, UT-109 or UT-110 allow you operating security. The UT-109 includes up to 32 scrambling codes and the UT-110 includes up to 1020 (4 group $\times$ 255 code) scrambling codes with a divided frequency rolling system.

Independent volume knob and 4W (typ.) front-mounted speaker

The IC-F121S series has a front firing 4W (typ.) speaker providing crisp and clear audio. Independent volume knob offers quick operation.

Other features

• Powerful 50W (VHF), 45W(UHF) output
• MDC 1200 PTT ID and emergency call functions (Transmit only)
• Selectable wide/narrow channel spacing
• Key backlight for easy nighttime operation
• Hook scan function and Hook scan on/off button programmable
• 24-digit DTMF autodial memory
• Programmable LED lighting, and more...

IC–FR5000

IDAS Digital ready

UHF REPEATER

IC–FR6000

IDAS Digital ready

Supplied Accessories (May differ according to version)
• DC power cable
• Key assign stickers

Rugged
MIL-STD 810

UNIQUE TWO-IN-ONE REPEATERS

The IC-FR5000 series combines superior analog specifications with competitive cost performance. Its slim, rackmount design allows you to install two RF modules* in one unit. In addition, the built-in IDAS digital mode paves the way to a future digital migration now.

* Optional UR-FR5000/UR-FR6000 is required.

Two RF modules in one unit

The IC-FR5000 series has an internal space for installing an optional RF unit, UR-FR5000 series. Two RF modules can be installed in a chassis reducing installation space, and increasing channel capacity. They can be programmed and operated independently.

19-inch rack mount design, 2U height low profile design

The IC-FR5000 series has a rack mount bracket and handles for installation in an industry standard 19-inch rack.

Multiple CTCSS and DTCS tone decode

The IC-FR5000 series detects multiple CTCSS and DTCS on a channel (up to 16 tones on a table) and downlinks (transmits) the received signal with a specified tone. This function is useful for sharing a channel with multiple groups.

Base station operation

The IC-FR5000 series has 5 programmable buttons, 12-digit dot-matrix display and 32 memory channels allowing you to use the repeater as a base station.

Other features

• Programmable accessory connector (D-sub 25-pin) for connecting trunking controllers or other external devices
• 5-Tone and DTMF encoder/decoder • CW ID transmitter
• Normal and priority scan setting • Wide frequency coverage
• 50W output power (at 50% duty operation) • Built-in audio compander
• Optional voice scrambler UT-109R/UT-110R and built-in inversion type voice scrambler*

  * Inversion type voice scrambler is not compatible with UT-109/UT-110 voice scrambler.

ADVANCED ALL-IN-ONE REPEATERS

The IC-FR3000 series are designed with advanced heavy-duty performance to support all types of commercial radio applications. A host of standard features and guaranteed Icom performance satisfies your communication needs.

50 Watt continuous full duty cycle operation

A rugged heatsink, large cooling fans and a high performance power module provide the repeater with a stable 50W at full duty cycle operation.

Automatic battery backup system

A built-in backup system supports automatic switching to an external power supply (13.6V DC) if the AC power supply fails.

CTCSS, DTCS, 2-Tone, 5-Tone, DTMF encoder/decoder

Multiple signaling systems are equipped as standard. These systems are fully compatible with Icom F-series radios.

Internal space for duplexer and isolator

The repeater has an internal space to install a duplexer and isolator*. The controls of the duplexer are accessible from the front of the repeater without disassembly. Faster and easier maintenance and adjustment is possible.

* Ask your dealer for details about available duplexers and isolators.

Other features

• Telephone interconnect capability
• DTMF remote control capability
• Optional wall mount bracket, MB-77 and 19 inch rack mount bracket, MB-78
• Accessory connector (D-sub 25-pin) on the rear panel for trunking controller
• Compatible with VEGA tone remote control system
• Optional Voice Scrambler UT-109 or UT-110
• CW ID transmitter (DTMF or 5-Tone also selectable)
• Password and kill/stun function for security
• 16-digit alphanumeric display
• Self check function checks for internal errors and alerts with a phone call
• Master/Slave backup operation by connecting two repeaters

IC−F3161DT
IC−F3161DS

UHF HANDHELD TRANSCEIVERS

IC−F4161DT
IC−F4161DS

VHF MOBILE TRANSCEIVERS

IC−F5061D

UHF MOBILE TRANSCEIVERS

IC−F6061D

THE IDAS SYSTEM BRIDG
THE GAP BETWEEN ANA
AND DIGITAL

*IDAS is the Icom's first digital land mobile radio system using the NXDN™ comm
and has complete system components including handheld, mobile radios and r
calling features including selective calling, status message, radio stun/kill/reviv
ideal for business and industry users who migrate from the 25kHz channel spacin
channel spacing, providing a future migration solution now for both new or existi*

Digital/analog mixed mode operation

The IDAS radio can receive both analog and digital mode signals on a single channel. You can gradually introduce IDAS radios, while using the existing analog radios in a system, adding the digital capabilities without any down time on your existing analog system.

Double your channel capacity

The IDAS radio utilizes 6.25kHz narrow channel spacing, which within a 12.5kHz channel, you can create two offset 6.25kHz channels. (i.e. doubling the channel efficiency and capacity.) You can use these channels, for example, in a one for voice and one for data communication configuration.

Improved audio quality

The 6.25kHz narrow channel spacing provides better receiver sensitivity and further communication coverage than comparable 12.5kHz/25kHz channel spacing like analog FM mode. The IDAS radio uses the AMBE+2™ codec providing clear audio with a simple simultaneous data communication feature.
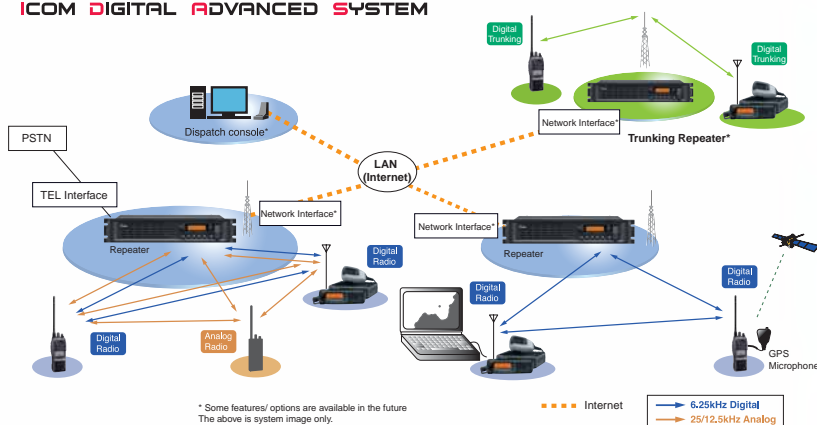
Network interface[*1]

The IDAS repeater has a network interface and can be connected to a LAN or the Internet via Ethernet cable. Communication range is vastly extended by the Internet connection. When connected to a PC via a LAN or the Internet, you can remotely maintain the repeater configuration from your PC.

Digital trunking[*1]

The IDAS repeater will also have digital trunking capability in the near future. This will allow you effective channel management by sharing multiple channels with a large number of users.

IDAS
ICOM DIGITAL ADVANCED SYSTEM

non air interface
repeater. Useful
ve, etc,. IDAS is
ng to the narrow
ing systems.

Digital Trunking

Digital Trunking

PSTN

Dispatch console*

Network Interface*

Trunking Repeater*

TEL Interface

LAN (Internet)

Network Interface*

Network Interface*

Repeater

Repeater

Digital Radio

Digital Radio

Digital Radio

Digital Radio

Analog Radio

GPS Microphone

* Some features/ options are available in the future
The above is system image only.

· · · · Internet
→ 6.25kHz Digital
→ 25/12.5kHz Analog

Selective call, group call and talk group ID

The IDAS radios allow you to call individual or group users. The radio automatically sends its own ID number while holding the PTT button. The IDAS radio memorizes up to 500 each of individual/group ID numbers and alias names in the table. The alias name or individual/group ID is displayed on the LCD while receiving a message allowing you to identify who is calling.

Secure communication

The IDAS system provides digital voice scrambler a using 15-bit key (about 32,000 keys) encryption algorithm as standard.

Emergency call functions

When the emergency button is pushed, the emergency signal will be automatically sent to the dispatcher or another radio. The emergency man down function* with the optional man down unit, UT-124R, and the lone worker function are also available.
* IC-F3161D series only.

Other features

• Status message send and request
• 4800 bps data communication capability*

  * Error correction, control data, etc, will reduce number of bits available for actual data communication.
• GPS position reporting with optional HM-170GP
• Radio stun/kill/revive functions
• RAN (Radio Access Number) for digital code squelch or selcall
• Radio check function allows you to verify if another radio is within communication range
• Call log displays the received call history
• Call alert function allows you to send a beep sound instead of a voice call
*1 Some features are planned for release in the future

IC–F43TR

Compliant with NTS Release 2.2

Supplied Accessories (May differ according to version)
• Battery pack, BP-232N
• Belt clip, MB-94 • Antenna

Rugged
MIL-STD 810

THE IDEAL SUBSCRIBER UNITS FOR UHF SMR AN ESMR OPERATIONS

Many of today's Community Repeater and Specialized Mobile Radio (SMR) op
Also, the new Enhanced Specialized Mobile Radio (ESMR) network solutions are
IC-F620/F621TR are the perfect subscriber units for this strong and viable marke
your existing system's potential.

Multiple modes

The IC-F43TR and F620/F621TR offer basic LTR™, Pass-Port and conventional operations in one unit. Conventional operation and talk-around are both available with the touch of a button, even while you are operating in LTR™ or Pass-Port mode.

LTR™ Features and Select Call

The IC-F43TR and F620/F621TR offer maximum flexibility to program up to 50 systems or up to 250 groups per system. All basic LTR™ features, including direct phone calling and wide-narrow channel spacing are available. The IC-F621TR offers an optional DTMF microphone, HM-152T, allowing for direct dialing, while with the keypad version of the IC-F43TR has the direct dialing capability.

PassPort Features — NTS Release 2.2

• Individual Selective Call (MIN call) — Allows private call between individual members within a fleet.
• Display MIN Text — While in group conversation, you can see the name of the calling party in the display, instead of the MIN number.
• Primary Talk Group — "All Call" allows individual users to call all groups in the fleet.
• RSSI (Receive signal strength indicator) — Detects the strongest signal site, providing seamless roaming.
• Site Lock — Allows the user to lock the radio onto the current site to avoid roaming.

Wide Bandwidth, Plenty of Power

The IC-F621TR offers two versions that cover 400–430MHz and 440–490MHz. The IC-F43TR offers two versions that cover 400–470MHz and 450–512MHz. And all versions provide switchable 12.5/25 kHz width by channel. Because the IC-F621TR offers a full 45 watts of power, it provides more reliable handshakes at the edge of a system's footprint.

LTR™
PassPort

ND

...perators are considering the emerging business opportunities in UHF trunking. ...e an effective strategy for the traditional dispatch market. The Icom IC-F43TR and ...et. Conventional operation, basic LTR™ and PassPort are all built-in to maximize

Supplied Accessories (May differ according to version)
• Hand microphone, HM-152
• DC power cable   • Microphone hanger
• Mounting bracket kit
• Key assign stickers

Rugged
MIL-STD 810

Voice scrambler function

The optional voice scrambler unit, UT-109, provides secure communication in all operating modes.

Man down function

With the optional man down unit, UT-124, the IC-F43TR automatically sends an emergency signal when the transceiver is left in the horizontal position for a pre-set time. This function also works in all operating modes.

Advanced PC programming

You may assign operating modes, default talk group for home button, power-ON home or previous group, network roaming, offset frequency by channel, LTR polarity by system, home channel and area bit by system, Tx and Rx ID, and UID for PassPort.

Other features

• Military grade durability, tested to MIL-STD 810
• Multiple scan mode
• Dynamic Talk Around
• Built-in audio compander (IC-F43TR only)
• Dead beat disable, ASID text, and more...
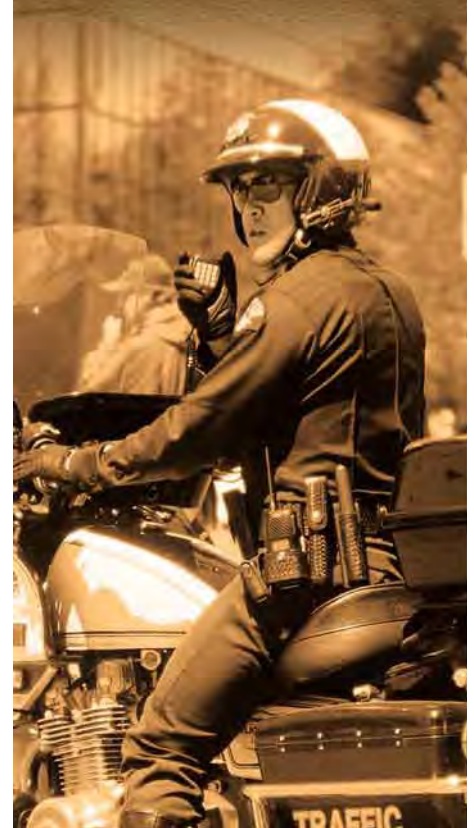
VHF MOBILE TRANSCEIVERS

IC–F1721/D
IC–F1821/D
IC–F5061/D
IC–F5063
IC–F121S
IC–F111S

UHF MOBILE TRANSCEIVERS

IC–F2721/D
IC–F2821/D
IC–F6061/D
IC–F6063
IC–F221S
IC–F211S

UTILIZING THE ADVAN
OF THE MDC 1200 SYS

The MDC 1200 system enhances the transceiver's signaling capabilities with Se
of markets including security services, plant security, transportation, etc,. Icom's
cost effectively, while providing the advantages of Icom quality and value.

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.

...TAGES ...STEM

MDC 1200 Compatible

...elective call, PTT ID and emergency call functions. It is ideal for a wide variety ...s MDC 1200 compatible models easily integrate into an existing MDC 1200 fleet

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-F70T/S,DT/DS IC-F80T/S,DT/DS	IC-F3161T/S,DT/DS IC-F4161T/S,DT/DS	IC-F50V IC-F60V	IC-F50 IC-F60	IC-F33GT/GS IC-F43GT/GS	IC-F3021T/S IC-F4021T/S	IC-F14/S IC-F24/S	IC-F1821/D IC-F2821/D	IC-F1721/D IC-F2721/D	IC-F5061/D,F5063 IC-F6061/D,F6063	IC-F121S/F111S IC-F221S/F211S
PTT ID	Tx/Rx	Tx/Rx	Tx/Rx	Tx/Rx	Tx/Rx	Tx/Rx	Tx only	Tx/Rx	Tx/Rx	Tx/Rx	Tx only
Selcall	Tx/Rx	Tx/Rx	Tx/Rx	Tx/Rx	Tx/Rx			Tx/Rx	Tx/Rx	Tx/Rx	
Call Alert	Tx/Rx	Tx/Rx	Tx/Rx	Tx/Rx	Tx/Rx			Tx/Rx	Tx/Rx	Tx/Rx	
Status Message	Tx/Rx	Tx/Rx	Tx only	Tx only	Tx only			Tx/Rx	Tx/Rx	Tx/Rx	
Status Request	Tx/Rx	Tx/Rx	Rx only	Rx only	Rx only			Tx/Rx	Tx/Rx	Tx/Rx	
Message	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/Rx	Tx/Rx	Tx only	Tx/Rx	Tx/Rx	Tx/Rx	Tx only
Radio Check	Tx/Rx	Tx/Rx	Tx/Rx	Tx/Rx	Tx/Rx	Rx only		Tx/Rx	Tx/Rx	Tx/Rx	
Stun/Revive	Tx/Rx	Tx/Rx	Rx only	Rx only	Rx only	Rx only		Tx/Rx	Tx/Rx	Tx/Rx	
Call log	Available	Available						Available	Available	Available	
Man down function	UT-124	UT-124R			UT-124	UT-124R	UT-124				
Lone Worker function		Available	Available			Available				Available	
External out								Available	Available	Available	

MDC 1200 compatible
(Depending on version)

VHF HANDHELD TRANSCEIVERS
IC-F70DT/DS
IC-F70T/S
IC-F3161DT/DS
IC-F3161T/S
IC-F3163T/S
IC-F50V
IC-F50
IC-F33GT/GS
IC-F3021GT/GS
IC-F3023GT/GS
IC-F14/S

UHF HANDHELD TRANSCEIVERS
IC-F80DT/DS
IC-F80T/S
IC-F4161DT/DS
IC-F4161T/S
IC-F4163T/S
IC-F60V
IC-F60
IC-F43GT/GS
IC-F4021GT/GS
IC-F4023GT/GS
IC-F24/S

MPT Version

IC−F43GT
IC−F43GS

UHF MPT MOBILE RADIOS

MPT Version

IC−F610
IC−F620

Not available in the U.S.A.

Rugged
MIL-STD 810

SOPHISTICATED MPT TRUNKING FOR FLEXIBLE CUSTOMIZATION

MPT Trunking
MPT1327/1343
MAP27

From small groups to large scale fleets, Icom's MPT trunking radios provide reliable communications over MPT trunking networks. By connecting a PC, MAP 27 (Mobile Access Protocol) interface* allows data exchange capability over the air.　　　　* IC-F610/F620 only.

Compatible with MPT1327/1343 networks

Dispatcher, individual, group, emergency, priority and telephone* (PSTN and PABX) calls are available via voice or status calls.
* Trunking network must be connected to PSTN/PABX.

Ease of use

An alphanumeric display, audible tones, 15 call back memories and backlit keypad provide simple operation. The handheld and mobile radios provide complimentary operation and functions to each other.

Short Data Message (SDM)

With the DTMF keypad*, short data messages can be sent directly. 32 status call codes are also available.
* Optional HM-152T is required for mobile radios; Keypad versions (IC-F43GT) only for handheld radio.

MAP 27 data capability (IC-F610/F620 only)

MAP 27 data interface allows wireless data communication by connecting a PC or other terminals with an RS-232C interface.

Conventional CTCSS operation

32 conventional channels with CTCSS signaling are available for operation even in out of service areas.
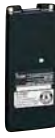
Other features

- 40 phone memory banks with alphanumeric names
- Optional voice scrambler, UT-109
- 5-digit routing code for abbreviation dialling
- Automatic transmit output power selection
- Built-in audio compander. Own and 3rd party divert calls
- Flash ROM CPU . Rewritable system messages
- Advanced PC programming capability, and more...

IC-F43GS-MT

IC-F610 MT with optional HM-152T

OPTIONS FOR HANDHELD TRANSCEIVERS

MODEL NAME	BATTERY PACKS						BATTERY CASES		
	BP-209N (Ni-Cd) 7.2V/1100mAh / BP-222N (Ni-Cd) 7.2V/600mAh	BP-210N (Ni-MH) 7.2V/1650mAh	BP-227 (Li-Ion) 7.2V/1700mAh / BP-227FM (For I/S models)	BP-230N (Li-Ion) 7.4V/980mAh / BP-232N (Li-Ion) 7.4V/2000mAh	BP-253 (Li-Ion) 7.4V/1650mAh	BP-254 (Li-Ion) 7.4V/3040mAh / BP-254FM (For I/S models)	BP-208N AA(LR6) × 6 cells	BP-226 AA(LR6)×5 cells Equivalent to IPX4 water resistance.	BP-237 AA(LR6)×6 cells Equivalent to IPX4 water resistance.
IC-F70T/S, IC-F80T/S IC-F70DT/DS, IC-F80DT/DS					✔	✔			✔
IC-F3161DT/DS, IC-F4161DT/DS IC-F3161T/S, IC-F4161T/S IC-F3163T/S, IC-F4163T/S				✔					
IC-F50V, IC-F60V			✔ (BP-227 only)					✔	
IC-F50, IC-F60			✔					✔	
IC-F33GT/GS, IC-F43GT/GS				✔					
IC-F3021T/S, IC-F4021T/S IC-F3023T/S, IC-F4023T/S				✔					
IC-F14/S, IC-F24/S				✔					
IC-F11/S, IC-F21/S	✔	✔						✔	
IC-F43GT/GS MT Version IC-F43TR				✔					

MODEL NAME	BATTERY CASES	CHARGERS							CHARGER ADAPTERS
	BP-240 AAA(LR03)×6 cells	BC-119N Rapid charger	BC-121N Rapid multi-charger	BC-144N Rapid charger	BC-146 Regular charger	BC-152 Regular charger	BC-160 Rapid charger	BC-171 Regular charger	AD-100
IC-F70T/S, IC-F80T/S IC-F70DT/DS, IC-F80DT/DS		✔ (AD-110 is required)	✔ (AD-110 is required)						
IC-F3061DT/DS, IC-F4161DT/DS IC-F3161T/S, IC-F4161T/S IC-F3163T/S, IC-F4163T/S	✔	✔ (AD-106 is required)	✔ (AD-106 is required)				✔	✔	
IC-F50V, IC-F60V		✔ (AD-100 is required)	✔ (AD-100 is required)			✔			✔ (Use with BC-119N/BC-121N)
IC-F50, IC-F60		✔ (AD-100 is required)	✔ (AD-100 is required)			✔			✔ (Use with BC-119N/BC-121N)
IC-F33GT/GS, IC-F43GT/GS	✔	✔ (AD-106 is required)	✔ (AD-106 is required)				✔	✔	
IC-F3021T/S, IC-F4021T/S IC-F3023T/S, IC-F4023T/S	✔	✔ (AD-106 is required)	✔ (AD-106 is required)				✔	✔	
IC-F14/S, IC-F24/S	✔	✔ (AD-106 is required)	✔ (AD-106 is required)				✔	✔	
IC-F11/S, IC-F21/S		✔ (AD-94 or AD-101 is required)	✔ (AD-94 or AD-101 is required)	✔	✔				
IC-F43GT/GS MT Version IC-F43TR	✔	✔ (AD-106 is required)	✔ (AD-106 is required)				✔	✔	

MODEL NAME	CHARGER ADAPTERS			AC ADAPTERS			SPEAKER-MICROPHONES		
	AD-101 or AD-94	AD-106	AD-110	BC-145 16V/1A	BC-147 12V/200mA	BC-157 12V/6.6A	HM-131SC	HM-138 IPX7	HM-158L
IC-F70T/S, IC-F80T/S IC-F70DT/DS, IC-F80DT/DS			✔ (Use with BC-119N/BC-121N)	✔ (Use with BC-119N)		✔ (Use with BC-121N)		✔	
IC-F3161DT/DS, IC-F4161DT/DS IC-F3161T/S, IC-F4161T/S IC-F3163T/S, IC-F4163T/S		✔ (Use with BC-119N/BC-121N)		✔ (Use with BC-160 or BC-119N)	✔ (Use with BC-171)	✔ (Use with BC-121N)	✔		
IC-F50V, IC-F60V				✔ (Use with BC-119N)	✔ (Use with BC-152)	✔ (Use with BC-121N)		✔	
IC-F50, IC-F60				✔ (Use with BC-119N)	✔ (Use with BC-152)	✔ (Use with BC-121N)		✔	
IC-F33GT/GS, IC-F43GT/GS		✔ (Use with BC-119N/BC-121N)		✔ (Use with BC-160 or BC-119N)	✔ (Use with BC-171)	✔ (Use with BC-121N)			✔
IC-F3021T/S, IC-F4021T/S IC-F3023T/S, IC-F4023T/S		✔ (Use with BC-119N/BC-121N)		✔ (Use with BC-160 or BC-119N)	✔ (Use with BC-171)	✔ (Use with BC-121N)			✔
IC-F14/S, IC-F24/S		✔ (Use with BC-119N/BC-121N)		✔ (Use with BC-160 or BC-119N)	✔ (Use with BC-171)	✔ (Use with BC-121N)			✔
IC-F11/S, IC-F21/S	✔ (Use with BC-119N/BC-121N)			✔ (Use with BC-144N or BC-119N)	✔ (Use with BC-146)	✔ (Use with BC-121N)			✔
IC-F43GT/GS MT Version IC-F43TR		✔ (Use with BC-119N/BC-121N)		✔ (Use with BC-160 or BC-119N)	✔ (Use with BC-171)	✔ (Use with BC-121N)			✔

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

✔ : Applicable   : Not applicable

OPTIONS FOR HANDHELD TRANSCEIVERS

SPEAKER-MICROPHONES / HEADSETS

MODEL NAME	HM159L/SC	HM-168 / HM-168IS (IPX7, For I/S models)	HM169 (IP67)	HM170GP (With GPS receiver, IP67)	HM-153L	HM-166L	HS-51	HS-94 [1] Earhook type with boom microphone	HS-95 [1] Behind-the-head type
IC-F70T/S, IC-F80T/S IC-F70DT/DS, IC-F80DT/DS		✔	✔	✔				✔ (Use with VS-1SC)	✔ (Use with VS-1SC)
IC-F3161DT/DS, IC-F4161DT/DS IC-F3161T/S, IC-F4161T/S IC-F3163T/S, IC-F4163T/S	✔ (HM-159SC only)	✔ (HM-168 only)	✔	✔				✔ (Use with VS-1SC)	✔ (Use with VS-1SC)
IC-F50V, IC-F60V		✔ (HM-168 only)	✔	✔				✔ (Use with VS-1SC)	✔ (Use with VS-1SC)
IC-F50, IC-F60		✔ (HM-168 only *2)	✔	✔					
IC-F33GT/GS, IC-F43GT/GS	✔ (HM-159L only)				✔	✔		✔ (Use with VS-1L)	✔ (Use with VS-1L)
IC-F3021T/S, IC-F4021T/S IC-F3023T/S, IC-F4023T/S	✔ (HM-159L only)				✔	✔		✔ (Use with VS-1L)	✔ (Use with VS-1L)
IC-F14/S, IC-F24/S	✔ (HM-159L only)				✔	✔		✔ (Use with VS-1L)	✔ (Use with VS-1L)
IC-F11/S, IC-F21/S	✔ (HM-159L only)				✔	✔	✔	✔ (Use with VS-1L)	✔ (Use with VS-1L)
IC-F43GT/GS MT Version IC-F43TR	✔ (HM-159L only)				✔	✔		✔ (Use with VS-1L)	✔ (Use with VS-1L)

HEADSETS / VOX/PTT CASE / EARPHONE / EARPHONE ADAPTER / BELT CLIPS

MODEL NAME	HS-97 [1] Throat microphone type	VS-1L/SC [1]	SP-13	AD-52	MB-86 Swivel type	MB-93 Swivel type	MB-94 Alligator type	MB-98 Alligator type	MB-103 Alligator type
IC-F70T/S, IC-F80T/S IC-F70DT/DS, IC-F80DT/DS	✔ (Use with VS-1SC)	✔ (VS-1SC only)			✔	✔			
IC-F3161DT/DS, IC-F4161DT/DS IC-F3161T/S, IC-F4161T/S IC-F3163T/S, IC-F4163T/S	✔ (Use with VS-1SC)	✔ (VS-1SC only)	✔ (Use with AD-52)	✔	✔	✔			
IC-F50V, IC-F60V	✔ (Use with VS-1SC)	✔ (VS-1SC only)			✔			✔	
IC-F50, IC-F60					✔			✔	
IC-F33GT/GS, IC-F43GT/GS	✔ (Use with VS-1L)	✔ (VS-1L only)	✔		✔	✔			
IC-F3021T/S, IC-F4021T/S IC-F3023T/S, IC-F4023T/S	✔ (Use with VS-1L)	✔ (VS-1L only)	✔		✔	✔			
IC-F14/S, IC-F24/S	✔ (Use with VS-1L)	✔ (VS-1L only)	✔		✔	✔			
IC-F11/S, IC-F21/S	✔ (Use with VS-1L)	✔ (VS-1L only)	✔	✔					✔
IC-F43GT/GS MT Version IC-F43TR	✔ (Use with VS-1L)	✔ (VS-1L only)	✔		✔	✔			

LEATHER BELT HANGERS / DC POWER CABLES / ZONE COPY CABLES / ANTENNAS / CUT ANTENNAS / STUBBY ANTENNAS

MODEL NAME	MB-96N Swivel type. MB-86 and MB-93 swivel joints supplied.	MB-96F Fixed type	OPC-656 12–20V DC CABLE	OPC-1533 Handheld to mobile / OPC-1536 Handheld to handheld	FA-SC25V 136–150MHz / FA-SC55V 150–174MHz / FA-SC25U 400–430MHz / FA-SC57U 430–470MHz / FA-SC72U 470–520MHz	FA-S24V 136–150MHz / FA-S59V 150–174MHz / FA-S27U 400–470MHz / FA-S56U 450–520MHz / FA-S74U 490–520MHz	FA-SC61VC 136–174MHz / FA-SC61US 380–520MHz	FA-SC56VS 150–162MHz / FA-SC57VS 160–174MHz / FA-SC73US 450–490MHz	FA-S62VS 150–162MHz / FA-S63VS 160–174MHz / FA-S57US 450–490MHz
IC-F70T/S, IC-F80T/S IC-F70DT/DS, IC-F80DT/DS	✔	✔	✔ (Use with BC-121N)	✔	✔		✔	✔	
IC-F3161DT/DS, IC-F4161DT/DS IC-F3161T/S, IC-F4161T/S IC-F3163T/S, IC-F4163T/S	✔	✔	✔ (Use with BC-121N)			✔	✔	✔	
IC-F50V, IC-F60V	✔	✔	✔ (Use with BC-121N)			✔			✔
IC-F50, IC-F60	✔	✔	✔ (Use with BC-121N)			✔			✔
IC-F33GT/GS, IC-F43GT/GS	✔	✔	✔ (Use with BC-121N)		✔		✔	✔	
IC-F3021T/S, IC-F4021T/S IC-F3023T/S, IC-F4023T/S	✔	✔	✔ (Use with BC-121N)		✔		✔	✔	
IC-F14/S, IC-F24/S	✔	✔	✔ (Use with BC-121N)		✔		✔	✔	
IC-F11/S, IC-F21/S	✔	✔	✔ (Use with BC-121N)		✔		✔	✔	
IC-F43GT/GS MT Version IC-F43TR	✔	✔	✔ (Use with BC-121N)		✔		✔	✔	

*1 HS-94, HS-95, HS-97 and VS-1L/SC are not waterproof.
*2 HM-168IS is not approved for use with IC-F50/F60 intrinsically safe versions.

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

✔ : Applicable   : Not applicable

OPTIONS FOR MOBILE TRANSCEIVERS AND REPEATERS

MODEL NAME	SEPARATION KITS		SEPARATION CABLES		ACC CABLE	INTERFACE CABLE	DC POWER CABLES	ZONE COPY CABLES	
	RMK-2	RMK-3	OPC-607 (3m; 9.8ft) OPC-608 (8m; 26.2ft)	OPC-609 (1.9m; 6.2ft)	OPC-617	OPC-822 PC to transceiver	OPC-1132 (3m; 9.8ft) OPC-347 (7m; 23ft)	OPC-1532 Mobile to mobile	OPC-1533 Mobile to handheld
IC-F1821/D, F1721/D IC-F2821/D, F2721/D	✔		✔	✔	✔		✔	✔	✔
IC-F5061/F5063 IC-F6061/F6063		✔	✔	✔	✔		✔		
IC-F520/F521, IC-F620/F621					✔	✔	✔		
IC-F111/F121, IC-F211/F221					✔		✔		
IC-F111S/F121S IC-F211S/F221S					✔		✔		
IC-F610/F620 MT Version					✔	✔	✔		
IC-FR5000, IC-FR6000									
IC-FR3000, IC-FR4000									

MODEL NAME	HAND MICROPHONES			DESKTOP MICROPHONE		EXTERNAL SPEAKERS		
	HM-152	HM-152T DTMF type	HM-148 Heavy-duty type	SM-25		SP-5	SP-10	SP-22
IC-F1821/D, F1721/D IC-F2821/D, F2721/D	✔	✔	✔	✔		✔	✔	✔
IC-F5061/F5063 IC-F6061/F6063	✔	✔	✔	✔		✔	✔	✔
IC-F520/F521, IC-F620/F621	✔	✔	✔	✔		✔	✔	✔
IC-F111/F121, IC-F211/F221	✔	✔	✔	✔		✔	✔	✔
IC-F111S/F121S IC-F211S/F221S	✔	✔	✔	✔		✔	✔	✔
IC-F610/F620 MT Version	✔	✔	✔	✔		✔	✔	✔
IC-FR5000, IC-FR6000	✔			✔				✔
IC-FR3000, IC-FR4000	✔	✔		✔				

MODEL NAME	MOUNTING BRACKETS		CHANNEL MODULES
	MB-77 WALL MOUNT BRACKET	MB-78 19″ RACK MOUNT BRACKET	UR-FR5000 (136–174MHz, 50W) UR-FR6000 (400–470, 450–520MHz, 50W)
IC-F1821/D, F1721/D IC-F2821/D, F2721/D			
IC-F5061/F5063 IC-F6061/F6063			
IC-F520/F521, IC-F620/F621			
IC-F111/F121, IC-F211/F221			
IC-F111S/F121S IC-F211S/F221S			
IC-F610/F620 MT Version			
IC-FR5000, IC-FR6000			✔
IC-FR3000, IC-FR4000	✔	✔	

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

✔ : Applicable   : Not applicable

SPECIFICATIONS FOR HANDHELD TRANSCEIVERS

		IC-F70T/S IC-F70DT/DS	IC-F80T/S IC-F80DT/DS	IC-F3161DT/DS IC-F3161T/S IC-F3163T/S	IC-F4161DT/DS IC-F4161T/S IC-F4163T/S	IC-F50V	IC-F60V	IC-F50	IC-F60
GENERAL	Frequency coverage (Unit: MHz) (Varies according to version)	136–174	380–450 400–470 450–520	136–174	400–470 450–512 (USA) 450–520 (GEN)	136–174	400–470 450–512 (USA) 450–520 (GEN)	136–174	400–470 450–512 (USA) 450–520 (GEN)
	Number of channels	256 ch/32 zones		512 ch/128 zones		128 ch/8 zones		128 ch/8 zones	
	Channel spacing (Unit: kHz) (Varies according to version)	12.5/25, 15/30	12.5/25	12.5/25, 15/30 6.25 (option)	12.5/25 6.25 (option)	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		2.5, 3.125	5, 6.25	2.5, 3.125	5, 6.25
	Current drain — Tx High	2.2A	2.4A	1.5A	1.8A	**1.8A**	1.8A	1.5A	1.5A
	Current drain — Rx Stand-by	150mA	150mA	150mA	140mA	**85mA**	85mA	85mA	85mA
	Current drain — Rx Max. audio	450mA	450mA	600mA	600mA	**500mA**	500mA	300mA	300mA
	Dimensions (projections not included; W×H×D)	58.6×152×38 mm 2⁵/₁₆×5³¹/₃₂×1¹/₂ in		53×136×38.9 mm 2³/₃₂×5¹¹/₃₂×1¹⁷/₃₂ in		56×97×36.4 mm 2⁷/₃₂×3¹³/₁₆×1⁷/₁₆ in		56×97×36.4 mm 2⁷/₃₂×3¹³/₁₆×1⁷/₁₆ in	
	Weight (approx.)	400g; 14.1oz (with BP-253)		340g; 12.0oz (with BP-232N)		280/284g; 9.9/10.0oz (with BP-227, V/U)		280g; 9.9oz (with BP-227)	
TX	RF output power (High)	5W	4W	5W	5W	5W	4W	5W	**4W**
	Spurious emissions	70dB (typ.)		75dB (typ.)		70dB (typ.)		70dB (min.)	
	Adjacent channel power (W/N)	70/60dB (min.)		80/70dB (typ.)		70/60dB (min.)		70/60dB (min.)	
RX	Sensitivity (at 12dB SINAD)	0.25µV (typ.)		0.25µV (typ.)		0.25µV (typ.)		0.25µV (typ.)	
	Adjacent channel selectivity (W/N)	FM 80/73dB (typ.) P25 60dB (typ.)	FM 78/70dB (typ.) P25 60dB (typ.)	75/68dB (typ.)		75/65dB (typ.)		75/65dB (typ.)	
	Spurious response rejection	80dB (typ.)	75dB (typ.)	70dB (min.)		70dB		70dB	
	Intermodulation rejection	75dB (typ.)		74dB (typ.)		74dB (typ.)		74dB (typ.)	
	AF output power (at 5% distortion with an 8Ω load)	500mW (typ.)		500mW (typ.)		700mW (typ., Internal speaker)		500mW (typ.)	

		IC-F33GT/GS	IC-F43GT/GS	IC-F3021T/S IC-F3023T/S	IC-F4021T/S IC-F4023T/S	IC-F14/S	IC-F24/S	IC-F11/S	IC-F21/S
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 (USA) 450–520 (GEN)	136–174	400–470 450–512 (USA) 450–520 (GEN)	146–174	400–430 440–470
	Number of channels	256 ch/16 zones		128 ch/8 zones		16 (Rotary type) 4 (Max.; simple type)		16 (Rotary type) 4 (Max.; simple type)	
	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	12.5/25, 15/30	12.5/25
	PLL channel step (Unit: kHz)	2.5, 3.125	5, 6.25	2.5/3.125		2.5, 3.125	5, 6.25	2.5, 3.125	5, 6.25
	Current drain — Tx High	1.5A	1.7A	1.5A	1.5A	1.5A	1.6A	1.6A	1.6A
	Current drain — Rx Stand-by	85mA	85mA	75mA	75mA	70mA	70mA	70mA	70mA
	Current drain — Rx Max. audio	300mA	300mA	250mA	250mA	300mA	300mA	250mA	250mA
	Dimensions (projections not included; W×H×D)	53×120×36.9 mm 2³/₃₂×4²³/₃₂×1⁷/₁₆ in		53×120×36.9 mm 2³/₃₂×4²³/₃₂×1⁷/₁₆ in		53×120×42.4 mm 2³/₃₂×4²³/₃₂×1⁷/₁₆ in		54×128×37 mm 2¹/₈×5¹/₃₂×1¹⁵/₃₂ in	
	Weight (approx.)	340g; 12.0oz (with BP-232N)		300g; 10.6oz (with BP-232N)		300g; 10.6oz (with BP-232N)		310g; 10.9oz (with BP-209N)	
TX	RF output power (High)	5W	4W	5W	4W	5W	4W	5W	4W
	Spurious emissions	80dB (typ.)	70dB (typ.)	80dB (typ.)		80dB (typ.)		73dBc (typ.)	
	Adjacent channel power (W/N)	70/60dB (min.)		80/70dB (typ.)	75/68dB (typ.)	80/70dB (typ.)	75/68dB (typ.)	70/60dB (typ.)	
RX	Sensitivity (at 12dB SINAD)	0.25µV (typ.)		0.25µV (typ.)		0.25µV (typ.)		0.25µV (typ.)	
	Adjacent channel selectivity (W/N)	75/65dB (typ.)		75/65dB (typ.)		75/65dB (typ.)		70/65dB (typ.)	
	Spurious response rejection	70dB		70dB (min.)		70dB (min.)		70dB (min.)	
	Intermodulation rejection	74dB (typ.)		75dB (typ.)	74dB (typ.)	74dB (typ.)		70dB (typ.)	
	AF output power (at 5% distortion with an 8Ω load)	500mW (typ.)		500mW (typ.)		500mW (typ.)		500mW (typ.)	

All stated specifications are subject to change without notice or obligation.

SPECIFICATIONS FOR HANDHELD TRANSCEIVERS

		IC-F43GT/GS MT Version	IC-F43TR
GENERAL	Frequency coverage (Unit: MHz) (Varies according to version)	400–470	400–470 450–512
	Number of channels	32 (conventional)	250 (conventional)
	Channel spacing (Unit: kHz) (Varies according to version)	12.5/25	12.5/25
	PLL channel step (Unit: kHz)	5, 6.25	5, 6.25
	Current drain — Tx High	1.7A	1.7A
	Current drain — Rx Stand-by	85mA	85mA
	Current drain — Rx Max. audio	300mA	300mA
	Dimensions (projections not included; W×H×D)	53×120×36.9 mm 2³⁄₃₂×4²³⁄₃₂×1⁷⁄₁₆ in	53×120×36.9 mm 2³⁄₃₂×4²³⁄₃₂×1⁷⁄₁₆ in
	Weight (approx.)	340g; 12.0oz (with BP-232N)	340g; 12.0oz (with BP-232N)
TX	RF output power (High)	4W	4W
	Spurious emissions	70dB (typ.)	70dB (typ.)
	Adjacent channel power (W/N)	70/60dB (min.)	70/60dB (min.)
RX	Sensitivity (at 12dB SINAD)	0.25µV (typ.)	0.25µV (typ.)
	Adjacent channel selectivity (W/N)	75/65dB (typ.)	75/65dB (typ.)
	Spurious response rejection	70dB	70dB
	Intermodulation rejection	74dB (typ.)	74dB (typ.)
	AF output power (at 5% distortion with an 8Ω load)	500mW (typ.)	500mW (typ.)

FUNCTION COMPARISON AND INTERNAL UNIT OPTIONS

		IC-F70DT/DS IC-F80DT/DS	IC-F70T/S IC-F80T/S	IC-F3161DT/DS IC-F3161T/S IC-F3163T/S IC-F4161DT/DS IC-F4161T/S IC-F4163T/S	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-F14/S IC-F24/S	IC-F11/S IC-F21/S	IC-F43GT/GS MT Version	IC-F43TR
Number of option slots		1	1	2*²	–	–	1	1	1	–	1	1
CTCSS/ DTCS	encoder	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔ (CTCSS only)	✔
	decoder	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔ (CTCSS only)	✔
2-Tone	encoder	✔	✔	✔	✔	✔	✔	✔	✔	✔	–	–
	decoder	✔	✔	✔	✔	✔	✔	✔	✔	✔	–	–
5-Tone	encoder	✔	✔	✔	✔	✔	✔	✔	✔	✔	–	–
	decoder	✔	✔	✔	✔	✔	✔	✔	✔	✔	–	–
DTMF autodial		✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
DTMF decoder		✔*⁵	✔*⁵	✔	–	–	UT-108	UT-108R	UT-108	✔*⁵	–	UT-108
Voice Scrambler*⁶	Inversion	✔	✔	✔	✔	✔	✔	–	–	–	–	✔
	Non-rolling	UT-109 (Version 02)	UT-109 (Version 02)	UT-109R	–	✔*¹	UT-109 (Version 02)	UT-109R	UT-109 (Version 01)	–	UT-109 (Version 02)	UT-109 (Version 02)
	Rolling	UT-110 (Version 02)	UT-110 (Version 02)	UT-110R	–	✔*¹	UT-110 (Version 02)	UT-110R	UT-110 (Version 01)	–	UT-110*⁴ (Version 02)	UT-110*⁴ (Version 02)
APCO P25 digital		✔	UT-120 (Version 01)	–	–	–	–	–	–	–	–	–
AES encryption		Ex-2785 J03	Ex-2785 J03	–	–	–	–	–	–	–	–	–
DES encryption		Ex-2785 J02	Ex-2785 J02	–	–	–	–	–	–	–	–	–
FIPS 140-2 Level 1		✔*¹	–	–	–	–	–	–	–	–	–	–
IDAS digital		–	–	UT-126H*³	–	–	–	–	–	–	–	–
MPT 1327		–	–	–	–	–	–	–	–	–	✔	–
MDC 1200		✔	✔	✔	✔	✔*¹	✔*¹	✔	✔	–	–	–
LTR™ trunking		–	–	✔	–	–	–	–	–	–	–	✔
PassPort		–	–	–	–	–	–	–	–	–	–	✔
Man Down function		UT-124	UT-124	UT-124R	–	–	UT-124	UT-124R	UT-124	–	–	UT-124
Intrinsically safe		✔*¹	✔*¹	–	–	✔*¹	–	–	–	–	–	–
Vibration alert		–	–	–	✔*¹	–	–	–	–	–	–	–
Voice recorder		–	–	–	✔*¹	–	–	–	–	–	–	–

*¹ Depending on version. *² One for UT-126H digital unit and one for another option board. *³ Already installed, depending on version.
*⁴ Available in conventional mode only. *⁵ Possible as a kind of 5-Tone format.
*⁶ Inversion type voice scrambler is not compatible with UT-109/UT-110 voice scrambler.

✔ : Available   – : Not available

SPECIFICATIONS FOR MOBILE TRANSCEIVERS

		IC-F1821D, F1821 IC-F1721D, F1721	IC-F2821D, F2821 IC-F2721D, F2721	IC-F5061D IC-F5061,IC-F5063	IC-F6061D IC-F6061,IC-F6063	IC-F520 IC-F521	IC-F620 IC-F621
GENERAL	Frequency coverage (Unit: MHz) (Varies according to version)	136–174	400–470 450–512	136–174	400–470 450–512 (USA) 450–520 (GEN)	136–174	440–490 400–430 (25W) 480–520 (25W GEN) 480–512 (25W USA)
	Number of channels	256 ch/32 zones		512 ch/128 zones		256 ch/16 zones	
	Channel spacing (Unit: kHz) (Varies according to version)	15/30	12.5/25	12.5/25, 15/30 6.25 (option)	12.5/25 6.25 (option)	12.5/25, 15/30	12.5/25
	PLL channel step (Unit: kHz)	2.5, 3.125	5, 6.25	2.5, 3.125	2.5, 3.125	2.5, 3.125	5, 6.25
	Current drain — Tx High	14A	14A	14A/7A (50/25W)	14A/7A (45/25W)	14A/7A (50/25W)	13A/7A (45/25W)
	Current drain — Rx Stand-by	600mA	600mA	300mA	300mA	300mA	300mA
	Current drain — Rx Max. audio	1.2A	1.2A	1.2A	1.2A	1.2A	1.2A
	Dimensions (projections not included; W×H×D)	175×45×170 mm 6⅞×1^{25}/$_{32}$×6^{11}/$_{16}$ in		160×45×150 mm 6^{5}/$_{16}$×1^{25}/$_{32}$×5^{29}/$_{32}$ in		140×40×170 mm 5½×1^{9}/$_{16}$×6^{11}/$_{16}$ in	
	Weight (approx.)	1.5kg; 3.3lb		1.3kg; 2.9lb		1.2kg; 2.6lb	
TX	RF output power (High)	50W	45W	50W (F5061/D) 25W (F5063)	45W (F6061/D) 25W (F6063)	50W (F521) 25W (F520)	45W (F621) 25W (F620)
	Spurious emissions	75dB (typ.)		75dB (typ.)		70dB (typ.)	
	Adjacent channel power (W/N)	70/60dB (min.)		70/60dB (min.)		70/60dB (min.)	
RX	Sensitivity (at 12dB SINAD)	0.25µV (typ.)	0.3µV (typ.)	0.25µV (typ. analog), 0.20µV (typ. digital at 5% BER)		0.25µV (typ.)	
	Adjacent channel selectivity (W/N)	FM 80/75dB (typ.), P25 73dB (typ.)		85/75dB (typ.)		75/65dB (typ.)	
	Spurious response rejection	80dB (typ.)		90dB (typ.)		75dB	
	Intermodulation rejection	FM 77/75dB (typ.), P25 77dB (typ.)		77dB (typ.)		74dB (typ.)	75dB (typ.)
	AF output power (at 10% distortion with an 4Ω load)	4W (typ.), 22W (typ., External audio)		4W (typ.)		4W (typ.)	

		IC-F111 IC-F121	IC-F211 IC-F221	IC-F111S IC-F121S	IC-F211S IC-F221S	IC-F610 MT Version IC-F620 MT Version	IC-F620TR IC-F621TR
GENERAL	Frequency coverage (Unit: MHz) (Varies according to version)	136–174	440–490 400–430 (GEN)	136–174	440–490 400–430 (GEN)	400–430 440–490	400–430 440–490
	Number of channels	128 ch/8 zones		8 ch/2 zones		32 (conventional)	250 (conventional)
	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	12.5/25
	PLL channel step (Unit: kHz)	2.5, 3.125	5, 6.25	2.5, 3.125	5, 6.25	5, 6.25	5, 6.25
	Current drain — Tx High	14A	13A	14A	13A	7A	13A/7A (45/25W)
	Current drain — Rx Stand-by	300mA	300mA	300mA	300mA	300mA	300mA
	Current drain — Rx Max. audio	1.2A	1.2A	1.2A	1.2A	1.2A	1.2A
	Dimensions (projections not included; W×H×D)	150×40×167.5 mm 5^{29}/$_{32}$×1^{9}/$_{16}$×6^{19}/$_{32}$ in		150×40×167.5 mm 5^{29}/$_{32}$×1^{9}/$_{16}$×6^{19}/$_{32}$ in		140×40×170 mm 5½×1^{9}/$_{16}$×6^{11}/$_{16}$ in	140×40×170 mm 5½×1^{9}/$_{16}$×6^{11}/$_{16}$ in
	Weight (approx.)	1.1kg; 2.4lb		1.1kg; 2.4lb		1.2kg; 2.6lb	1.2kg; 2.6lb
TX	RF output power (High)	50W	45W	50W	45W	25W	45W (F621TR) 25W (F620TR)
	Spurious emissions	70dB (typ.)		70dB (typ.)		70dB (typ.)	70dB (typ.)
	Adjacent channel power (W/N)	70/60dB (min.)		70/60dB (min.)		70/60dB	70/60dB
RX	Sensitivity (at 12dB SINAD)	0.25µV (typ.)		0.25µV (typ.)		0.25µV (typ.)	0.25µV (typ.)
	Adjacent channel selectivity (W/N)	75/65dB (typ.)		75/65dB (typ.)		75/65dB (typ.)	75/65dB (typ.)
	Spurious response rejection	75dB		75dB		75dB	75dB
	Intermodulation rejection	74dB (typ.)	75dB (typ.)	74dB (typ.)	75dB (typ.)	75dB (typ.)	75dB (typ.)
	AF output power (at 10% distortion with an 4Ω load)	4W (typ.)		4W (typ.)		4W (typ.)	4W (typ.)

All stated specifications are subject to change without notice or obligation.

SPECIFICATIONS FOR REPEATERS

		IC-FR5000	IC-FR6000	IC-FR3000	IC-FR4000
GENERAL	Frequency coverage (Unit: MHz) (Varies according to version)	136–174	400–470 450–520	150–174 148–172	400–430 430–450 450–480
	Number of channels	32 ch		32 ch	
	Channel spacing (Unit: kHz) (Varies according to version)	6.25/12.5/25 or 7.5/15/30		12.5/25	
	PLL channel step (Unit: kHz)	2.5, 3.125	2.5, 3.125	2.5*², 5, 6.25	5, 6.25
	Power supply requirement	13.6V DC		13.6V DC, 100–120V AC*³ or 220–240V AC*³	
	Current drain (at 13.6V DC) — Tx High	15A	15A	15A	20A
	Current drain (at 13.6V DC) — Rx Stand-by	400mA*¹	400mA*¹	1A (typ.)	1A (typ.)
	Current drain (at 13.6V DC) — Rx Max. audio	1900mA	1900mA	2A (typ.)	2A (typ.)
	Dimensions (projections not included; W×H×D)	483×88×260 mm 19¹/₃₂×3¹⁵/₃₂×10¹/₄ in		410×110×360 mm 16²³/₃₂×4¹¹/₃₂×14³/₁₆ in	
	Weight (approx.)	5.6kg; 12.3lb		12kg; 26.4lb	
TX	RF output power (High)	50W		50W	
	Spurious emissions	80dB (typ.)		70dB	
	Adjacent channel power (W/N)	73/67dB typ.		70/60dB	
RX	Sensitivity (at 12dB SINAD)	0.30μV (typ. analog), 0.25μV (typ. digital at 5% BER)		0.25μV (typ.)	
	Adjacent channel selectivity (W/N)	78/56dB typ.		70/60dB	
	Spurious response rejection	90dB typ.		70dB	
	Intermodulation rejection	78dB typ.		70dB	
	AF output power (at 5% distortion)	4.0W (typ.) with a 4Ω load		2.5W (typ.) with a 4Ω load	

*¹ Fan, LCD backlight OFF.　　*² Repeater operation only. *³ depending on version

FUNCTION COMPARISON AND INTERNAL UNIT OPTIONS

		IC-F1821D IC-F1721D IC-F2821D IC-F2721D	IC-F1821 IC-F1721 IC-F2821 IC-F2721	IC-F5061D IC-F5061 IC-F5063 IC-F6061D IC-F6061 IC-F6063	IC-F520 IC-F521 IC-F620 IC-F621	IC-F111 IC-F121 IC-F211 IC-F221	IC-F111S IC-F121S IC-F211S IC-F221S	IC-F610 MT Version IC-F620 MT Version	IC-F620TR IC-F621TR	IC-FR5000 IC-FR6000	IC-FR3000 IC-FR4000
Number of option slots		1	1	2*⁶	1	1	1	1	1	1	1
CTCSS/ DTCS	encoder	✔	✔	✔	✔	✔	✔	✔ (CTCSS only)	✔	✔	✔
	decoder	✔	✔	✔	✔	✔	✔	✔ (CTCSS only)	✔	✔	✔
2-Tone	encoder	✔	✔	✔	✔	✔	✔	–	–	–	✔
	decoder	✔	✔	✔	✔	✔	✔	–	–	–	✔
5-Tone	encoder	✔	✔	✔	✔	✔	✔	–	–	✔	✔
	decoder	✔	✔	✔	✔	✔	✔	–	–	✔	✔
DTMF autodial		✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
DTMF decoder		✔*⁴	✔*⁴	✔*⁴	UT-108	UT-108	UT-108	–	UT-108*¹	✔	✔
Voice Scrambler*⁷	Inversion	✔	✔	✔	–	–	–	–	–	✔	–
	Non-rolling	UT-109 (Version 02)	UT-109 (Version 02)	UT-109R	UT-109 (Version 02)	UT-109 (Version 02)	UT-109 (Version 02)	UT-109 (Version 02)	UT-109 (Version 02)	UT-109R	UT-109 (Version 02)
	Rolling	UT-110 (Version 02)	UT-110 (Version 02)	UT-110R	UT-110 (Version 02)	UT-110 (Version 02)	UT-110 (Version 02)	UT-110*² (Version 02)	UT-110*² (Version 02)	UT-110R	UT-110 (Version 01)
APCO P25 digital		✔	UT-120 (Version 02)	–	–	–	–	–	–	–	–
AES encryption		Ex-2785 J03	Ex-2785 J03	–	–	–	–	–	–	–	–
DES encryption		Ex-2785 J02	Ex-2785 J02	–	–	–	–	–	–	–	–
IDAS digital		–	–	UT-126H*⁵	–	–	–	–	–	✔	–
MPT 1327		–	–	–	–	–	–	✔	–	✔*³	✔*³
MDC 1200		✔	✔	✔	–	–	✔	–	–	–	–
LTR™ trunking		–	–	✔	–	–	–	–	✔	✔*³	✔*³
PassPort		–	–	–	–	–	–	–	✔	✔*³	✔*³

*¹ Already installed. *² Available in conventional mode only. *³ External controller required.
*⁴ Possible as a kind of 5-Tone format. *⁵ Already installed, depending on version.
*⁶ One for UT-126H digital unit and one for another option board.
*⁷ Inversion type voice scrambler is not compatible with UT-109/UT-110 voice scrambler.

✔ : Available	**UT-108** : Required internal unit (Eg. UT-108)	– : Not available

UT-96/R	UT-108/R
5-TONE UNIT	DTMF DECODER

UT-109/R	UT-110/R
VOICE SCRAMBLER UNIT	VOICE SCRAMBLER UNIT

UT-120	UT-124/R
P25 DSP unit	MAN DOWN UNIT

UT-126H
IDAS digital unit

BATTERY PACKS AND CHARGERS

Battery packs	BP-253	BP-254 BP-254FM	BP-227 BP-227FM	BP-230N	BP-232N	BP-209N	BP-210N	BP-222N
Transceivers	IC-F70DT/DS, F70T/S IC-F80DT/DS, F80T/S		IC-F50V IC-F60V IC-F50 IC-F60	IC-F3161T/S series IC-F33GT/GS series IC-F3021T/S series IC-F14/S series		IC-F11/S, F21/S		
Rapid charger	BC-119N+ BC-145 + AD-110		BC-119N + BC-145 + AD-100	BC-119N + BC-145 + AD-106 or BC-160 + BC-145		BC-119N + BC-145 + AD-101 (or AD-94) or BC-144N + BC-145		
Regular charger	N/A		BC-152 + BC-147	BC-171 + BC-147		BC-146 + BC-147		
Multi charger	BC-121N+ BC-157 + AD-110*2		BC-121N + BC-157 + AD-100*2	BC-121N + BC-157 + AD-106*2		BC-121N + BC-157 + AD-101 (or AD-94)*2		
Operating time*1 (Tx:Rx:Stand-by=5:5:90)	8 hours	14.5 hours	9 hours (with IC-F50V)	7.3 hours (with IC-F3161T)	14 hours (with IC-F3161T)	8.5 hours	13 hours	4.5 hours

*1 As a rough value   *2 Six charger adapters are required.

ADDITIONAL SPECIFICATIONS AND FEATURES

Rugged MIL-STD 810

Applicable U.S. Military Specifications

Icom makes rugged products that have been tested to and passed the following MIL-STD requirements and strict environmental standards.

Standard	Low Pressure Storage (Altitude)	Low Pressure Operation (Altitude)	High Temperature Storage	High Temperature Operation	Low Temperature Storage	Low Temperature Operation	Temperature Shock	Solar Radiation	Rain Blowing	Rain Drip	Humidity Induced	Salt Fog	Dust Blowing	Immersion	Vibration	Shock Functional	Shock Transit Drop
MIL-810 C Method, Procedure	500.1, I	–	501.1, I	–	502.1, I	–	503.1, I	505.1, I	506.1, I	506.1, II	507.1, I	509.1, I	510.1, I	512.1, I	514.2, VIII, X	516.2, I	516.2, II, IV
MIL-810 D Method, Procedure	500.2, I	500.2, II	501.2, I	501.2, II	502.2, I	502.2, II	503.2, I	505.2, I	506.2, I	506.2, III	507.2, II	509.2, I	510.2, I	512.2, I	514.3, I	516.3, I	516.3, IV
MIL-810 E Method, Procedure	500.3, I	500.3, II	501.3, I	501.3, II	502.3, I	502.3, II	503.3, I	505.3, I	506.3, I	506.3, III	507.3, II	509.3, I	510.3, I	512.3, I	514.4, I	516.4, I	516.4, IV
MIL-810 F Method, Procedure	500.4, I	500.4, II	501.4, I	501.4, II	502.4-3, I	502.4-3, II	503.4, I	505.4, I	506.4, I	506.4, III	507.4	509.4	510.4, I	512.4, I	514.5, I	516.5, I	516.5, IV
IC-F70DT/DS, IC-F70T/S IC-F80DT/DS, IC-F80T/S	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
IC-F3161DT/DS, IC-F4161DT/DS IC-F3161T/S, IC-F4161T/S IC-F3161T/S, IC-F4161T/S	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔		✔	✔	✔
IC-F50V, IC-F60V, IC-F50, IC-F60	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔		✔	✔	✔
IC-F33GT/GS, IC-F43GT/GS IC-F43TR	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔		✔	✔	✔
IC-F3021T/S, IC-F4021T/S IC-F3023T/S, IC-F4023T/S	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔		✔	✔	✔
IC-F3GT/GS, IC-F4GT/GS	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔		✔	✔	✔
IC-F14/S, IC-F24/S	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔		✔	✔	✔
IC-F11/S, IC-F21/S	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔		✔	✔	✔
IC-F1721/D, IC-F2721/D IC-F1821/D, IC-F2821/D	✔	✔	✔	✔	✔	✔	✔	✔			✔	✔	✔		✔	✔	✔
IC-F5061/D, IC-F6061/D IC-F5063, IC-F6063	✔	✔	✔	✔	✔	✔	✔	✔	✔*1	✔*1	✔	✔	✔		✔	✔	✔
IC-F520/F521, IC-F620/F621 IC-F620/TR, IC-F621TR	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔		✔	✔	✔
IC-F111/S, IC-F211/S IC-F121/S, IC-F221/S	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔		✔	✔	✔
IC-FR5000, IC-FR6000		✔	✔	✔	✔								✔		✔	✔	
IC-FR3000, IC-FR4000		✔	✔	✔	✔										✔	✔	

The IC-F3G series was tested to MIL-810 C, D and E requirements only.   *1 Rain blowing and drip tests were performed on the controller and RMK-3 only.

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