





# A COMPREHENSIVE RANGE OF BUSINESS RADIO SOLUTIONS THAT MEET YOUR NEEDS FLEXIBLY

No matter what your communication needs may be, we have the system for you. We go beyond traditional VHF and UHF two-way radios providing peace of mind and keep you connected anywhere and at anytime. ICOM continues developing innovative solutions in response to diversifying user needs and can now offer a wide range of two-way radio platforms from analogue, digital, wireless LAN, IP to satellite as a true comprehensive wireless communications company.



## IP Radio & Hybrid IP Radio

Icom's IP radio system provides instantaneous, wide area communication using an LTE (4G) and 3G network\*. It enables full-duplex communication, which allows telephone style conversations. The Hybrid IP radio can receive both communications from an LTE radio group and IDAS™ (or analogue) group.

\* Service availability depends on the country. Network coverage provided by a custom SIM card.



## Satellite PTT

Satellite PTT (Push-To-Talk) is a two-way radio system that uses the Iridium® satellite network. It can be used as a communication tool in remote, isolated areas where there are no mobile phones or landline network infrastructure. Even if terrestrial network infrastructure is rendered unusable by human or natural disasters, Satellite PTT can provide a stable back-up, independent from other networks.



## WLAN Radio

Wireless LAN radio requires no licence to use and allows you to have several simultaneous full-duplex communications over a WLAN network. It offers secure communications with encryption and different types of calls such as individual, all, area, priority, group, conferences, status calls and short data messaging. You can also connect an IP phone or conventional radio equipment when using it with the RoIP gateway.



## Digital Radio

IDAS™ is Icom's digital land mobile radio system using the NXDN™ or dPMR™ common air interface. IDAS™ offers a complete system of handheld radios, mobile radios, repeaters, network interface/trunking controllers, remote communicator, system manager software and various accessories. IDAS™ is a proven total digital solution that system owners or operators can grow into as their time and budgets allow.



## Analogue Radio

Radio technologies and know-how cultivated for over 50 years have been applied to professional analogue radio products. Rugged, waterproof, easy to use, clear and powerful audio in a compact design, Icom's analogue products provide high performance and reliable communication. They are cost effective solutions that you can rely on and help you improve productivity and efficiency.



## RoIP Gateway

The VE-PG4, a versatile Radio over IP Gateway provides a seamless solution interconnecting various communication systems irrespective of standards and distance such as satellite PTT radio, IP radio, WLAN radio, IDAS™ digital radio, analogue radio, IP phone and more. The VE-PG4 works as general IP backbone converting received audio to transmit from other radios/protocols.



## Licence-Free Radio

PMR446 licence-free radios can be used to improve your business or to just keep in touch with family and friends. There are no subscription charges or licence applications, PMR446 radios are ready to use right out of the box. Icom introduced the first digital licence-free dPMR446 radio to the industry. Digital offers higher audio clarity and security.

# IP Radios – Hybrid



## Innovative IP Radios with Licensed Professional Radio Mode

The hybrid IP radio, IP730D and IP740D can receive both communications from an IP radio group and IDAS™ (or analogue) group. This radio provides nationwide coverage over LTE networks and conventional VHF/UHF professional radio mode (IDAS™ digital/analogue mode).

### IP730D/IP740D

#### Hybrid Handheld IP Radio for Local & Nationwide Communications

- Simultaneous TalkListen™ function in LTE Mode
- 1500 mW of powerful audio\*1
- IP67 waterproofing and dust-tight
- 24 hours of long lasting battery life\*2
- Emergency Call, Lone Worker and Man Down functions
- Digital Voice Recording/Playback
- Vibration alert function
- Built-in Bluetooth® capability
- GPS Data Transmission capability in LTE mode
- AquaQuake™ function

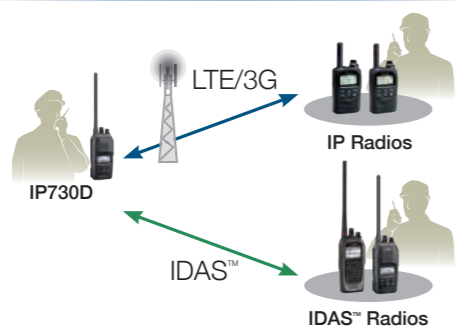
\*1 At 10% audio distortion

\*2 LTE Mode, TX : RX : standby = 5 : 5 : 90. The battery life may be shorter, depending on the distance with the cellular station or the signal strength. (Also see page 9 for IDAS™ features)

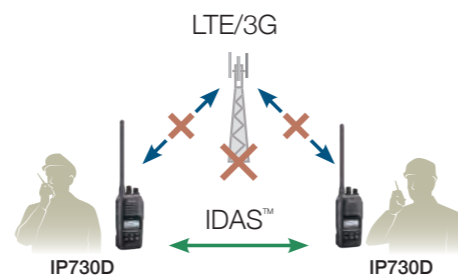
#### Dual Mode Operation with Main and Sub PTT Buttons

The IP730D series has two PTT buttons for main PTT and sub PTT. You can use one for LTE communication and the other for an IDAS™/Analogue channel to answer the call.

Expand an existing IDAS™ system with an LTE network



Communication redundancy, when network congestion occurs or network service is temporarily unavailable



#### Bridge Function

The Bridge function\* relays received IDAS™ digital audio to the IP radio group, while transferring the IP radio conversations to the IDAS™ group.

\* When using the Bridge function, operating time will be shorter and output power of the radio is reduced to 1 W. The Bridge function may be prohibited in some countries. Please check the legal requirements in your country before using this function.

IDAS™ Group ↔ IP730D ↔ LTE Group



\* Network coverage provided by a custom SIM card. Service availability depends on the country.



HYBRID  
LTE X IDAS

Talk Listen  
Simultaneous

Check the Icom website for more information.



# IP Radios – LTE

## Instant Wide Area Coverage Over an LTE (4G) and 3G Network

### Simultaneous TalkListen™ Function



The Simultaneous TalkListen™ function provides full-duplex one-to-many communication, which allow users to talk and receive at the same time. This allows smooth, telephone-like conversations.

### One-to-many Communication

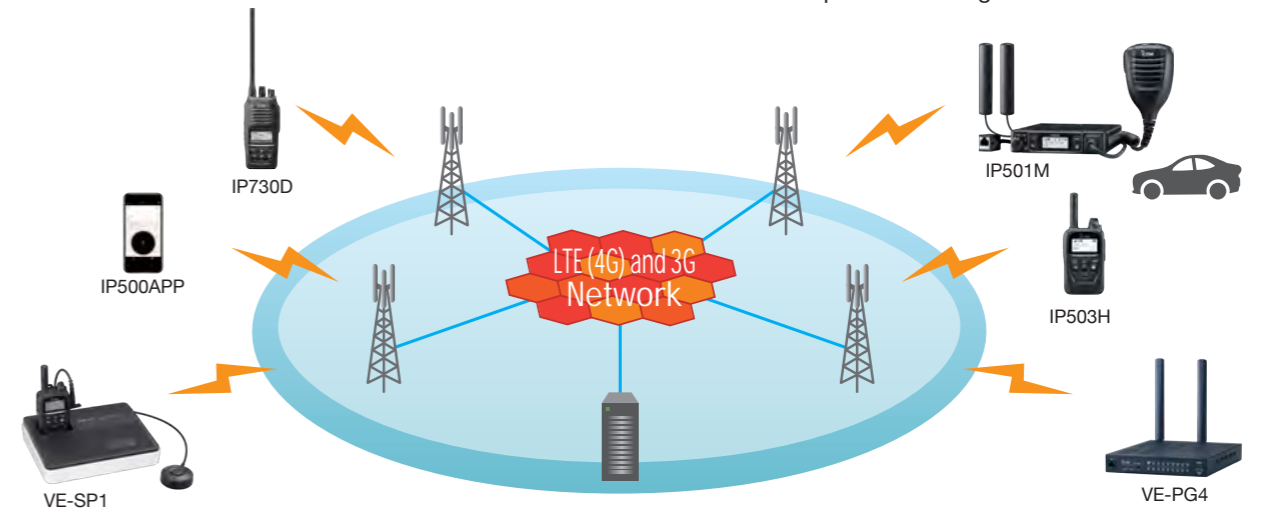
Unlike mobile cell phones, IP503H/IP501M/IP730D users can immediately start talking to all the radios in the same talkgroup, with just a push of a (PTT) transmit button.

### Multiple-user Communication

Multiple users in the call groups can initiate calls instantaneously. This removes the need to wait for available channels to communicate.

### Priority Interrupt Calling

Our IP radios support group calls with three or more people. In case of an emergency, you can break into an on-going call to transmit an important message.



### IP503H

#### Compact and Durable IP Handheld

- 900 mW loud and high quality audio with G.726 vocoder
- IP67 waterproof and dust-tight
- Emergency Call, Lone Worker and Man Down functions
- Voice Record/Playback functions
- Vibration Alert function notifies of incoming calls
- Built-in Bluetooth® capability and GPS
- Simultaneous TalkListen™ function
- 17 hours battery life (with BP-272)
- Provisioning/FOTA (Firmware Over-the-Air)



### IP501M

#### Mobile IP Radio Interoperable with the IP503H

- Built-in Bluetooth® capability and GPS
- Preprogrammed message transmission and reception
- An Ethernet port for data communication (The optional VE-PG4 is required.)
- Emergency call and Lone Worker functions
- Noise Cancelling function (TX only)
- IP54
- D-SUB 25-PIN connector with the optional OPC-2407 cable for interfacing other devices and various controls
- Simultaneous TalkListen™ function
- Provisioning/FOTA (Firmware Over-the-Air)



### VE-SP1

#### Conference Call Speaker

- Portable operation with eight LR6 (AA) cells
- Built-in loudspeaker and high sensitivity external microphone
- Charges the radio when using the AC adapter



\* The IP radio is not supplied.

### IP500APP

#### iOS™/Android™ Application to Communicate with IP Radios\*

- Full-Duplex communication
- Short text message
- Voice Recording/Playback function
- Address book
- TX/RX history



\* IP500APP for iOS™: iOS™ version 12 or later  
IP500APP for Android™: Android™ version 8.0 or later  
IP500APP service may not be available and will be ready in the future.

\* Network coverage provided by a custom SIM card. Service availability depends on the country.

## Real-Time Communications Across the Globe

SATELLITE PTT (Push-To-Talk) is a two-way radio system that uses the Iridium® satellite network. It can be used as a communication tool in remote, isolated areas and the sea where there are no mobile phones or communications infrastructure. Even if the terrestrial network infrastructure is rendered unusable by human or natural disasters, SATELLITE PTT can provide a stable back-up, independent from other networks.

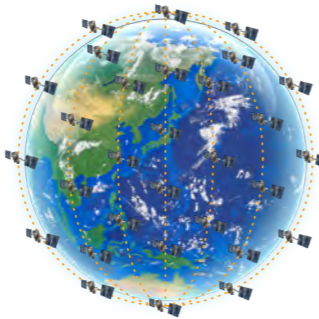


### One-to-Many Communications



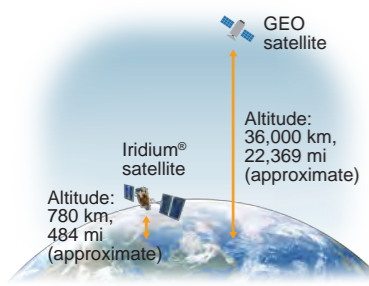
Unlike satellite phones, IC-SAT100/M users can immediately start talking to all the radios in the same talkgroup, with just a push of the transmit (PTT) button.

### Total Global Coverage, including the Poles\*<sup>1</sup>



The Iridium® satellite network covers the entire globe including both poles, and can provide wide area global communications anywhere on the planet.

### Real-Time, Low-Latency Communication



Using 66 Low Earth Orbit (LEO) Iridium® satellites, the IC-SAT100/M provides low-latency communication, and broader, more reliable network coverage, compared to Geosynchronous Equatorial Orbit (GEO) satellites.

### Conventional Radios and IP Phones Interconnection\*<sup>2</sup>



With a VE-PG4 RoIP gateway, the IC-SAT100/M can interconnect with an IP phone, IP, LTE, IDAS™ digital (dPMR™ mode 2, NXDN™ conventional and Type-D multi-site trunking) and analogue transceivers.

\*<sup>1</sup> Subscription contracts are required for using the IC-SAT100/M. Depending on the country or region, carrying and/or use of the IC-SAT100/M may be prohibited.  
\*<sup>2</sup> Optional VE-PG4 RoIP gateway and OPC-2412 connection cable are required for the IC-SAT100. Optional VE-PG4 RoIP gateway and a LAN cable are required for the IC-SAT100M.

## IC-SAT100 Compact Handheld



- IP67 waterproofing and dust-tight
- 1500 mW of powerful audio
- 14.5 hours of long lasting battery life\*
- Emergency key on the top panel
- Short Data Message
- Voice Recording function
- Built-in Bluetooth® capability
- SMA type antenna connection
- USB charging
- AES 256-bit encryption for security
- Multiple language display

\* TX : RX : standby = 5 : 5 : 90.



## IC-SAT100M In-Building and In-Vehicle Use

- Install the antenna unit (with RF unit) to the rooftop, and use the radio from a vehicle, indoors, even from the basement
- Easy wiring works between the antenna unit (with RF unit) and main unit using a LAN cable (Cat 5e)\*<sup>1</sup>
- Power supply requirement: 13.2 V/26.4 V DC
- Antenna unit with RF unit: IP67, Main unit: IP54, Microphone: IP55 • 1500 mW audio output
- Voice Recording function • Short Data Message
- Built-in Bluetooth® capability
- Integrated GPS receiver • AES 256-bit encryption
- Multiple language display (English, Chinese, French, Japanese, and Spanish)

\*<sup>1</sup> User supplied LAN cable is required to replace the supplied 20 m LAN cable. Maximum 100 m.



### Types of External Antennas for IC-SAT100

By replacing the IC-SAT100 antenna with an external antenna, satellite communication is possible even from a vehicle or building. Select the most suitable antenna according to the installation location and application.



\*<sup>1</sup> Optional OPC-2422 coaxial cable (5 m) is required for more than 1.5 m extension.  
\*<sup>2</sup> Optional OPC-2113 or user supplied coaxial cable is separately required. Cable loss requirement is less than 3.4 dB loss at 1621 MHz.  
\*<sup>3</sup> Optional OPC-2462 or user supplied coaxial cable is separately required. Cable loss requirement is 12.5 - 13.0 dB loss at 1621 MHz.  
\*<sup>4</sup> The distance from the main unit to the antenna is a rough guideline. The height of the building is an estimate assuming that the height of one floor is 3.5 m.  
\*<sup>5</sup> User supplied LAN cable is required to replace the supplied 20 m LAN cable.

### IC-SAT100M In-building Use

You can flexibly install the IC-SAT100M and the antenna unit (with RF unit) with only a LAN cable (Maximum 100 m).\*<sup>5</sup>



Check the Icom website for more information.





## Flexible Digital Migration Solutions with Advanced IP Network Integration

### Multiple-site Configurations

IDAS™ systems provide various digital radio solutions from simple peer to peer operation between two radios, up to multi-site wide area networks. Further coverage is enhanced with IP interconnection.

### Digital Clarity

By adopting the industry standard AMBE+2™ Vocoder and advanced FEC (Forward Error Correction) coding, IDAS™ systems provide improved communication quality, clarity and reliability.

### Effective System Management

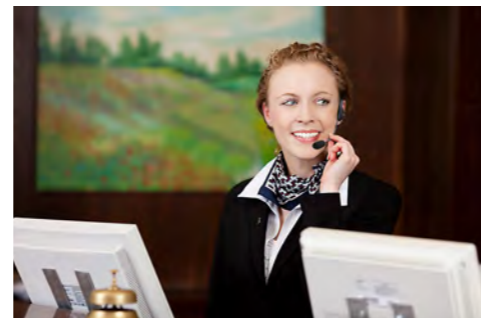
Simple and efficient management is critical for systems of any size. IDAS™ provides effective system management with such features as OTAP and administration applications.

### NXDN™/dPMR™ Protocol Choice

The IDAS™ digital radio system has two protocol choices, NXDN™ or dPMR™. Both protocols are open digital radio standards using 6.25 kHz FDMA narrowband technology. With this flexible choice, the IDAS™ radio system allows for interoperability with other manufacturers equipment to add to/replace existing NXDN™ and/or dPMR™ systems.

### System Scalability According to Communication Traffic and Coverage

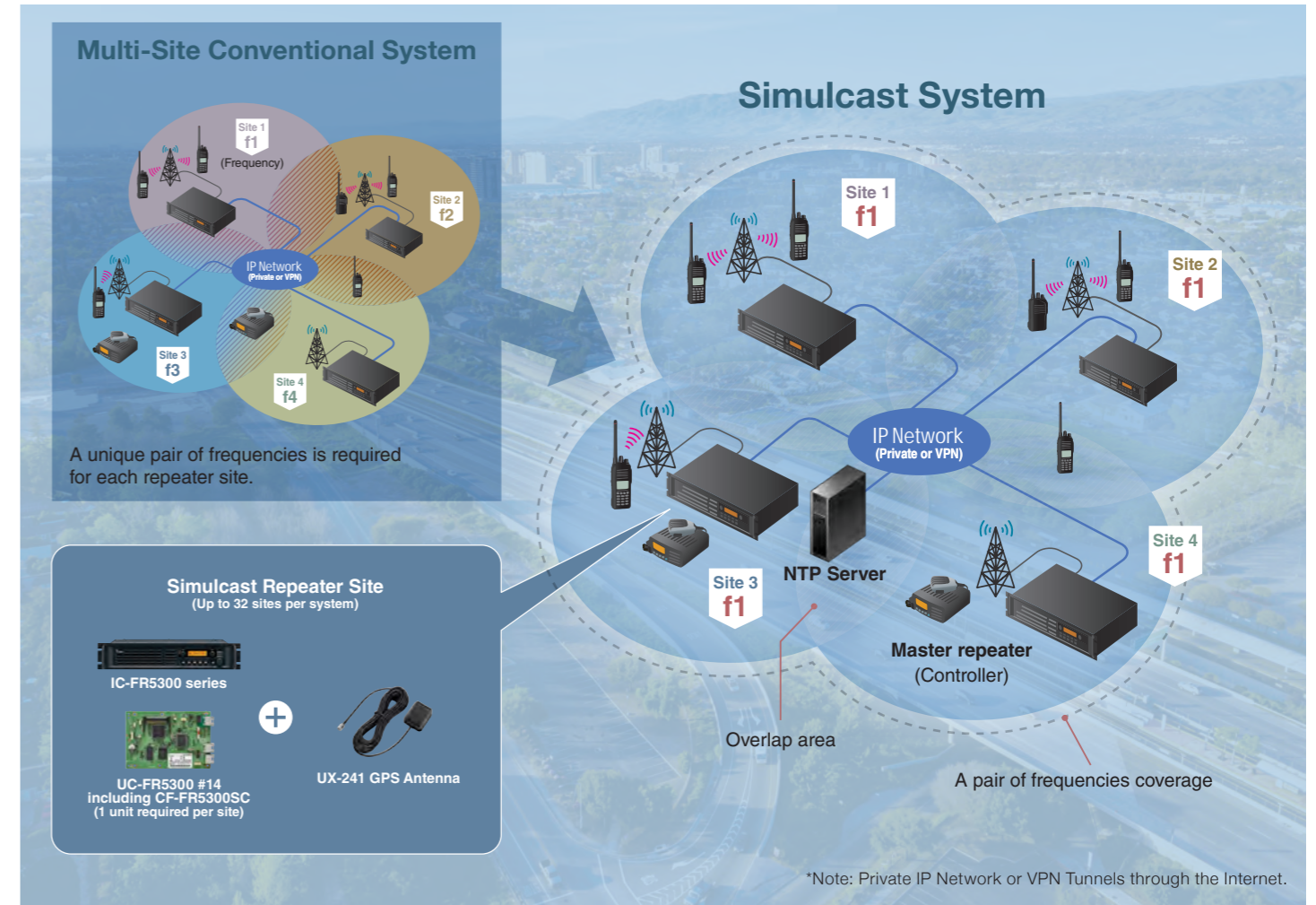
Depending on the communication traffic and coverage, an IDAS™ radio system can be expanded from single site conventional to simulcast conventional or multi-site trunking, to match your communication needs.



## Wide Area Coverage on a Single Pair of Frequencies

The IDAS™ Simulcast (NXDN™ protocol) synchronizes multiple repeater sites\* for seamless wide area repeater coverage using just a pair of frequencies. Each repeater site in the system is simply composed of only a network controller, GPS antenna and repeater. A PPS (Pulse Per Second) signal from the GPS and an NTP server are used to synchronize the downlink signals.

\* The maximum number of sites for an IDAS™ Simulcast system is 32.



	Direct peer to peer	Single-site conventional	Multi-site conventional	Single-site trunking	Multi-site trunking
	Conventional			Type-D trunking	
NXDN™			Simulcast Max. 16 sites	Max. 30 channels	Max. 48 sites Max. 30 ch/site
dPMR™	Mode 1 or dPMR446	Mode 2	Max. 16 sites	Mode 3	Max. 256 sites Max. 32 ch/site
				Max. 32 channels	

### Ideal 6.25 kHz FDMA Technology for Simulcast

6.25 kHz FDMA technology has a lower symbol rate than other technologies, so it has an advantage regarding voice quality degradation due to latency.

### Seamless Coverage

Simulcast repeaters transmit a signal on the same frequency and at the same time with GPS synchronization. Using the digital signal, the IDAS™ simulcast system can greatly reduce signal degradation in overlapping areas.



Repeaters transmit a downlink signal in sync at the same frequency.

### Scalability and Flexibility

Installation and maintenance of a simulcast system could not be easier. You can effortlessly expand the coverage area by just adding repeaters. Those repeaters can be integrated into the network with simple setup (no reprogramming of radio terminals is necessary).

### Abundant IDAS™ Radio Lineup

All NXDN™ compatible IDAS™ radio terminals can be used on the IDAS™ simulcast system. In addition, the radio terminals wait for a call without scanning, so the battery consumption can be reduced.

# IDAS™ Handheld Radios



## IC-F3400D/F4400D Series

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

- 1024 channels • IP68 • Colour display • Integrated GPS
- Bluetooth® capability • microSD card slot • Voice recording • OTAP • OAA
- USB connector • Active noise canceller • AES/DES encryption
- 10 hours battery life (with BP-303) • Motion/Stationary sensor • Man down/Lone worker
- Vibration alert • Channel announcement • 1300 mW loud audio

NXDN™ Conventional Single/Multi-Site Trunking (Optional)  
dPMR™ Mode 1 Mode 2 Mode 3 (Optional)



# IDAS™ Mobile Radios

## IC-F5400D/F6400D

### Superb Performance and a Comprehensive Range of Features

- 1024 channels • Flexible configurations with detachable front panel • IP55
- Colour display • Integrated GPS • Bluetooth® capability • microSD card slot
- Voice recording • OTAP • OAA • USB connector • Active noise canceller
- AES/DES encryption • Lone worker • Channel announcement



NXDN™ Conventional Single/Multi-Site Trunking (Optional)  
dPMR™ Mode 1 Mode 2 Mode 3 (Optional)



## IP730D/IP740D

### Hybrid Handheld IP Radio for Local & Nationwide Communications

- 128 channels/8 zones • Rotary encoder
  - DTMF code transmission with optional DTMF microphone, HM-245T
  - OTAP function • Up to 500 ID numbers for IDAS™ mode
  - Individual, Group and All calls • Talk back • CTCSS and DTCS for analogue mode
- (Also see page 3 for Hybrid features)

NXDN™ Conventional

## IC-F5330D/IC-F6330D

### Commandmic™ Remote Control with Ethernet Cable Connection

- 128 channels • NXDN™ Type-D single-site trunking • Flexible Power over Ethernet (PoE) connection\*1 between RF unit and Commandmic™ • High contrast, wide viewing angle, black background display • Bluetooth® capability\*2 • Emergency and Lone Worker functions
- Remote monitor • Status and short data message (SDM) • Optional D-SUB connector cable
- Power ON/OFF (Stand-by) from the Commandmic™ • GPS receiver connection with optional ACC cable



NXDN™ Conventional Single-Site Trunking

\*1 Up to 100 m Ethernet cable \*2 Depending on version

## IC-F5130D/F6130D

### Digital Standard Mobile Transceiver

- 128 channels • NXDN™ Type-D single-site trunking • High contrast, wide viewing angle, black background display • Emergency and Lone Worker functions
- Integration with the VE-PG4 • Status and short data message (SDM) • Optional D-SUB connector cable • GPS receiver connection with optional ACC cable



NXDN™ Conventional Single-Site Trunking

## IC-F52D/F62D

### 5 W Power Pack, Super Compact Body

- 512 channels • IP67 • Full dot matrix display for 14 characters with status icons
- Bluetooth® capability • Voice recording • OTAP • OAA • Active noise canceller
- 13 hours battery life (with BP-290) • Motion/Stationary sensor • Man down/Lone worker
- Vibration alert • Channel announcement • 1300 mW loud audio



NXDN™ Conventional Single/Multi-Site Trunking (Optional)  
dPMR™ Mode 1 Mode 2 Mode 3 (Optional)

## IC-F1100D/F2100D Series

### Compact, Waterproof and Superiour Audio Clarity

- 128 channels (16 channels for IC-F1100D/F2100D) • IP67 • Motion/Stationary sensor
- Man down/Lone worker • 18 hours battery life (with BP-280) • 1500 mW loud audio • OAA
- Channel announcement



NXDN™ Conventional Single-Site Trunking  
dPMR™ Mode 1 Mode 2

# Digital Repeater / Controller / System Management

## IC-FR5300/FR6300



### Compatible with the Affordable Digital Simulcast System

- Digital conventional mode and analogue FM with auto selection • 25 W at 100% duty cycle operation (Ambient temperature: 25°C) • Compatible with digital simulcast system with the optional UC-FR5300 #14 network controller and GPS antenna • Multi-site conventional or trunking system configuration • “Two channels in one box” configuration with optional UR-FR5300/UR-FR6300

**NXDN™** For dPMR™ protocol mode operation, use the IC-FR5100/FR6100 repeater.

## IC-FC5000E



### dPMR™ Mode 3 Trunking Controller

- Spectrum efficient centralized control channel trunking • Up to 32 channels per site (One control channel, up to 31 traffic channels) • Up to 32 site multi-site trunking with CS-FC5000SCS system control software • Up to 256 site multi-region connection • Call queuing and emergency call with pre-emption • Repeater anomaly detection and alert • A traffic channel can be configured as a secondary control channel • 1U (44 mm) rack mount

**dPMR™** Use with the IC-FR5100/FR6100 repeater and UC-FR5000SE Ethernet board.

## RC-FS10

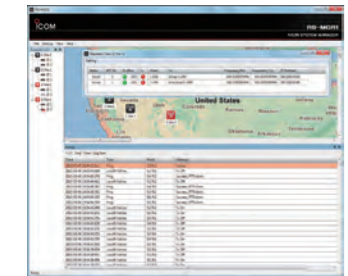


### Virtual Radio/PC Dispatch

- PC remote communicator for dPMR™ mode 2, NXDN™ conventional, Type-D multi-site trunking and analogue radio systems (VE-PG4 is required for analogue radio systems.) • Up to eight different IDAS™ and analogue radio systems can be programmed • Up to 40 programmable buttons. Short data message, status and DTMF can be sent • Caller ID, called ID, name and call type information are displayed • Optional HM-152 or SM-26 microphone

**NXDN™** **dPMR™**

## RS-MGR1



### Enhance System Management for NXDN™ Type-D Trunking Systems

- Provides real-time monitoring, system alerts and log search functions • Repeater properties show condition summary, system information, interface (traffic statistics), repeater condition details and ping status of each repeater • Registration log, communication log, traffic log and search log can be searched and downloaded with extensive filter settings

**NXDN™**

## RS-MGR2

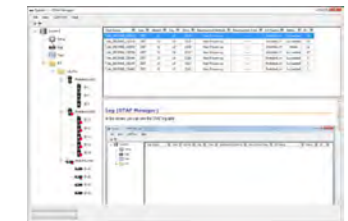


### Enhance System Management for dPMR™ Mode 3 Systems

- Provides real-time monitoring, system alerts and log search functions for a dPMR™ Mode 3 system • Real-time monitoring includes repeater view, repeater status, repeater condition, active screen and system connection • Registration log, communication log, traffic log and search log can be searched and downloaded with extensive filter settings

**dPMR™**

## CS-OTPM1



### Easily Reconfigure Radios with Over-The-Air Programming

- Remotely reconfigure radios while in the field • Radios can be reconfigured in a short period of time by transmitting only the updates • Single programming data can be shared with a whole fleet with only one click • Up to 10,000 sessions are logged for review and rescheduling • Manages up to 100,000 radios

**NXDN™** **dPMR™** For IC-F3400D, IC-F52D and IC-F5400D series.

# Analogue Radios



## IC-F1000/F2000 Series

### Slim, Compact Dimensions with IP67 Waterproofing

- 128 channels (16 channels for the non-display model) • Motion/Stationary sensor
- Man down/Lone worker • 20 hours battery life (with BP-280) • 1500 mW loud audio
- Channel announcement • 16 code inversion voice scrambler

## IC-F3002/F4002

### Simple, High Performance – 5 W also in UHF, 1500 mW Loud Audio

- 16 channels • Lone worker function • 5 W output power both in VHF and UHF
- 1500 mW loud audio • 31 hours battery life (with BP-299) • Built-in 2-Tone, 5-Tone, CTCSS and DTCS • BIIS 1200 PTT ID transmission • MDC 1200 PTT ID and emergency



## IC-F51 ATEX/F61 ATEX

### ATEX Intrinsically Safe Radio

- Compact design • 128 channels • IP67 • Lone worker function
- 16.5 hours battery life (with BP-227AX) • Built-in 2-Tone, 5-Tone, CTCSS and DTCS
- HM-138 Optional speaker-microphone

**ATEX Certifications**  
Gas: II 2G Ex ib IIA T3 Gb  
(Tamb=-20°C to +55°C)

DO NOT use the transceiver with any other equipment not specified in the option list (Pages 20-24). Please ask your dealer to ensure the ATEX and IECEx ratings are acceptable for the intended place of use.



## IC-F5022/F6022 IC-F5012/F6012

### Hardworking Mobile Radios

- 2 models for display or non-display • 128 channels (IC-F5022/F6022) or 8 channels (IC-F5012/F6012) • Lone worker function • 4 W (typical) front mounted speaker
- External device connection with optional ACC cable



# IP Radios – WLAN

## Simultaneous TalkListen™ that works over a wireless IP Network

### Wireless Communication System

By deploying access points across an existing IP network, the WLAN radio system allows you to communicate from anywhere in a facility. The IP110H can access the nearest access point, and roam between access points.

### Simultaneous TalkListen™ Function

The Simultaneous TalkListen™ function provides full-duplex one-to-many communication which users can talk and receive at the same time like a telephone style conversation.



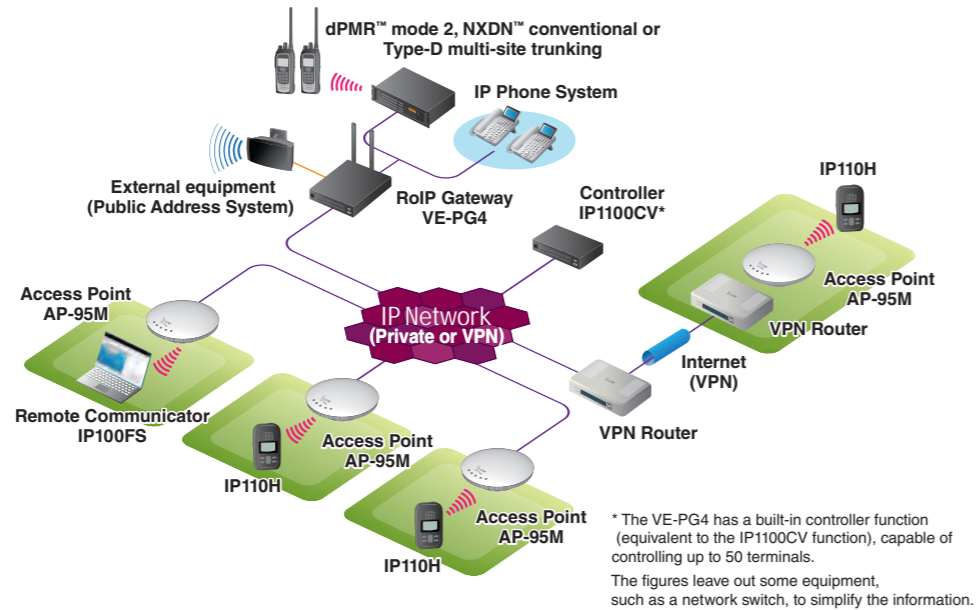
### Individual, Group,

### All or Area Communication

Staff spread across multiple rooms can communicate seamlessly. The IP110H can receive short data messages with a vibration alert from a PC installed with IP100FS.

### Interconnect between IDAS™ and IP Phone Systems

With the VE-PG4 RoIP gateway, the WLAN radio system can interconnect with an IP phone system, analogue radio and IDAS™ conventional and Type-D multi-site trunking system.



## IP110H

### Compact Wireless LAN Radio with Simultaneous TalkListen™ Function

- Licence-free wireless LAN radio using IEEE 802.11 a/b/g/n/ac standards (2.4 GHz and 5 GHz)\*
- WPA/WPA2/WPA-PSK/WPA2-PSK/WEP security • IP67/IP54 • 1000 mW loud audio
- Voice recorder function • Vibration alert function • Motion/Stationary Detection, Man Down and Lone Worker functions for emergency call • Text message reception • Status messages • 20 hours battery life • USB Type-C charging • Provisioning/FOTA (Firmware Over-the-Air)

\* Authorized frequency range and channels may differ depending on the country.



## AP-95M

### Wireless LAN Access Point

- IEEE 802.11 a/b/g/n/ac compliant\*
- PoE (Power over Ethernet) capability • Optional RS-AP3, Access point management software

\* Authorized frequency range and channels may differ depending on the country.



## IP100FS

### Remote Communicator

- Obtain location information of each IP110H • Can be installed on a Windows™-based laptop PC



## IP1100CV

### WLAN Transceiver Controller

- Capable of controlling up to 300 units WLAN radios (including IP100FS)
- 2.5 Gbps WAN Port and VPN Router Function
- Up to 500 call addresses for individual and group calls.

# RoIP Gateway

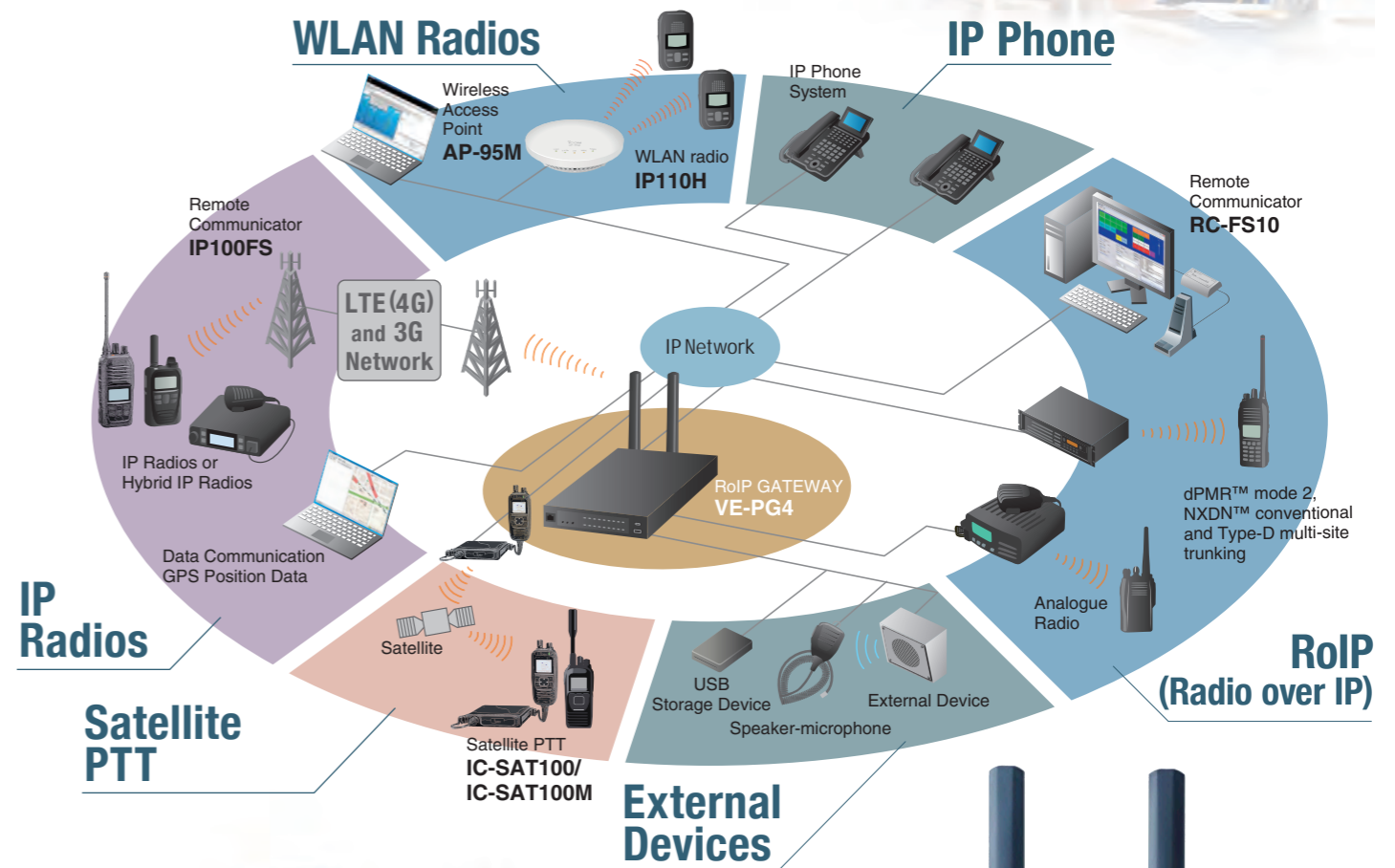
## Radio Gateway – Link IP Radios to Digital/Analogue Radios, Satellite PTT Radio, WLAN Radio, IP Phone and More

The VE-PG4 is a versatile RoIP (Radio over IP network) gateway unit, which seamlessly interconnects various communication systems. The built-in LTE module\* provides virtually nationwide communication coverage.

\* Service availability depends on the country. Network coverage provided by a custom SIM card.



## Communication Links



## VE-PG4





## Licence-Free Radios



### IC-F29SDR Digital/Analogue

#### Professional Licence-Free Radio Suitable for Various Industry Sectors

- dPMR 446 (Digital) and PMR 446 (Analogue) in one radio
- Digital 32 channels, Analogue 16 channels
- Display and 4 programmable keys on the front
- Status message
- CTCSS, DTCS for analogue
- IP67
- 1500 mW loud audio
- Alert-Ring function for emergency situations
- 26 hours battery life (with BP-280)
- Channel announcement
- 11 km coverage\*

\* Wide open space. Communication range will vary, depending on the terrain and conditions.



### IC-F29DR3 Digital/Analogue

#### Digital Licence-Free Radio with True Professional Durability

- dPMR 446 (Digital) and PMR 446 (Analogue) in one radio
- Digital 32 channels, Analogue 16 channels
- IP67 Waterproof and Dust-tight
- Class Leading 1500 mW Powerful Audio Output
- 26 hours battery life (with BP-280)
- Lone Worker Function
- AquaQuake™
- 11 km coverage\*

\* Wide open space. Communication range will vary, depending on the terrain and conditions.



### IC-F29SR/F29SR2 Analogue

#### Slim, Waterproof PMR 446 Licence-Free Radio

- PMR 446 (Analogue)
- IC-F29SR2: Analogue 16 channels
- IC-F29SR: Analogue 8 channels
- CTCSS, DTCS
- Built-in voice scrambler for private conversation
- IP67
- 33 hours battery life (with BP-280)
- 1500 mW loud audio
- Channel announcement
- 8 km coverage\*

\* Wide open space. Communication range will vary, depending on the terrain and conditions.



## Satellite PTT, IP Radio & Hybrid IP Radio Feature Comparison

	SATELLITE PTT	
	IC-SAT100	IC-SAT100M
Frequency Range	1616–1626.5 MHz	1616–1626.5 MHz
Talkgroups	15 (Max.)	15 (Max.)
Dimensions (W × H × D; Projections are not included)	57.8 × 135 × 32.8 mm	Antenna unit (with RF unit): 76.8 × 200 × 76.8 mm, Main unit: 125 × 29 × 156.5 mm
Weight (approximate)	360 g	Antenna unit (with RF unit): 500 g, Main unit with microphone: 1.2 kg
IP Rating	IP67	IP67 (Antenna unit (with RF unit)), IP55 (mic), IP54 (main unit)
Operating Time (Hours)	14.5	N/A
Display	Yes	Yes
Keypad	Limited	Limited
AF Output Power (Internal SP)	1500 mW typical	1500 mW typical
Encryption :AES	Yes	Yes
Vibration Alert	Yes	N/A
Voice Recorder	Yes	Yes
Bluetooth® Capability	Yes	Yes
GPS Receiver	Yes	Yes
Short Data Message	Yes	Yes
Emergency Call	Yes	Yes
PoE Capability	N/A	Yes
I/O Control Port	USB, 14-PIN ACC	D-SUB, LAN, Ignition sense

	IP RADIOS/HYBRID IP RADIO			WLAN RADIO
	IP730D/IP740D	IP503H	IP501M	IP110H
Network :LTE (4G) (EUR/EXP Versions) :3G	B1, B3, B7, B8, B20	B1, B3, B7, B8, B20	B1, B3, B7, B8, B20	WLAN: IEEE 802.11 a/b/g/n/ac 2.4–2.4835 GHz, 5.15–5.35, 5.47–5.85 GHz
Dimensions (W × H × D; Projections are not included)	61.7 × 140.5 × 42.8 mm	59 × 95 × 32 mm	125 × 29 × 156 mm	57 × 96.9 × 25.1 mm
Weight (approximate)	320 g	240 g	840 g	146 g
IP Rating	IP67	IP67	IP54	IP67 / IP54
Operating Time (Hours)	24 (LTE mode) 13 (IDAS mode)	17	N/A	20
Display	Yes	Yes	Yes	Yes
Keypad	Limited	Limited	Limited	Limited
AF Output Power (Internal SP)	1500 mW typ. (10% distortion)	900 mW	4 W (Extrenal SP)	1000 mW
Simultaneous TalkListen™	Yes	Yes	Yes	Yes
Man Down	Yes	Yes	N/A	Yes
Lone Worker	Yes	Yes	Yes	Yes
Vibration Alert	No	Yes	N/A	Yes
Voice Recorder	Yes	Yes	Yes	Yes
Bluetooth® Capability	Yes	Yes	Yes	Yes
GPS Receiver	Yes	Yes	Yes	No
Short Data Message	Yes (LTE mode)	Yes	Yes	Yes
Emergency Call	Yes	Yes	Yes	Yes
Provisioning/FOTA	Yes	Yes	Yes	Yes



## IDAS™ Handheld & Hybrid IP Radio Feature Comparison

	IC-F3400D/IC-F4400D SERIES		IP730D IP740D	IC-F52D IC-F62D	IC-F1100D/IC-F2100D SERIES		
	IC-F3400D/DPT IC-F4400D/DPT	IC-F3400DS/DPS IC-F4400DS/DPS	IP730D IP740D	IC-F52D IC-F62D	IC-F1100DT IC-F2100DT	IC-F1100DS IC-F2100DS	IC-F1100D IC-F2100D
LTE (4G)/3G Network	No		LTE (4G): B1, B3, B7, B8, B20 W-CDMA: B1, B8	No	No		
Frequency Range	136-174 MHz 380-470 MHz		136-174 MHz 350-470, 400-520 MHz	136-174 MHz 400-470 MHz	136-174 MHz 400-470 MHz		
Channels	1024*1	1024*1	128	512	128	128	16
Digital Channel Spacing	6.25/12.5*2 kHz		6.25 kHz	6.25/12.5*2 kHz	6.25 kHz		
Dimensions*3 (W x H x D; Projections are not included)	53.6 x 123.5 x 29.3 mm		61.7 x 140.5 x 42.8 mm	56 x 91.5 x 29 mm	52.2 x 111.8 x 34.1 mm	52.2 x 111.8 x 29.4 mm	
Weight*3 (approx.)	340 g (VHF) 335 g (UHF)		320 g	230 g	277 g	266 g	258 g
RF output power (High)	5 W		5 W	5 W	5 W		
IP Rating	IP68		IP67	IP67	IP67		
Operating Time*3*4 (Hours)	16.5		24 (LTE mode) 13 (IDAS mode)	13	18		
Display	Yes	Yes	Yes	Yes	Yes	Yes	No
Keypad	Full	Limited	Limited	Limited	Full	Limited	No
AF Output Power (Internal SP)	1300 mW typ.		1500 mW typ. (10% distortion)	1500 mW typ.	1500 mW typ.		
ATEX	No		No	No	No		
Encryption	DES (4-key)	Yes	No	No	No		
	DES (64-key)	Optional	No	No	No		
	AES	Optional	No	No	No		
Voice Scrambler (Digital)	Yes	Yes	Yes	Yes	Yes		
Voice Scrambler (Analogue)*5	Yes	Yes	No	Yes	No		
OTAP (Over-the-Air Programming)	Optional		Yes (Over LTE)	Optional	No		
CTCSS/DTCS Encoder/Decoder	Yes	Yes	Yes	Yes	Yes		
2-Tone Encoder/Decoder	Yes	Yes	No	Yes	Yes		
5-Tone Encoder/Decoder	Yes	Yes	No	Yes	Yes		
DTMF	Yes	Yes	Yes	Yes	Yes		
BIIS 1200	Yes	No	No	Yes	Yes*6		
Man Down	Yes	Yes	Yes	Yes	Yes		
Motion Detection Sensor	Yes	Yes	Yes	Yes	Yes		
Lone Worker	Yes	Yes	Yes	Yes	Yes		
Channel Announcement	Yes	Yes	No	Yes	Yes		
Vibration Alert	Yes	Yes	Yes	Yes	No		
Voice Recorder	Yes	Yes	Yes	Yes	No		
Bluetooth® Capability	Yes	Yes	Yes	Yes	No		
GPS Receiver	Yes	Yes	Yes	No	No		
Short Data Message	Yes*8	Yes	No	Yes	Yes*8		
Status Message	Yes*8	Yes	No	Yes	Yes*8		
Emergency Call	Yes	Yes	Yes	Yes	Yes		
Stun/Kill/Revive	Yes	Yes	No	Yes	Yes*9		
Remote Monitor	Yes	Yes	No	Yes	Yes*9		
NXDN™*10	Conventional	Yes	Yes	Yes	Yes		
	Multi-Site Conventional	Yes	Yes	Yes	Yes		
	Simulcast	Yes	Yes	Yes	Yes		
	Type-D Trunking	Optional	Yes	No	Optional	Single Site only	
dPMR™*10	Mode 1/ Mode 2	Yes	No	Yes	Yes		
	Mode 2 Multi-site	Yes	No	Yes	Yes		
	Mode 3 Trunking	Optional	No	Optional	No		

## IDAS™ Mobile Radio Feature Comparison

	IC-F5400D/IC-F6400D SERIES	IC-F5330D IC-F6330D	IC-F5130D IC-F6130D
	IC-F5400D/DP IC-F6400D/DP	IC-F5330D IC-F6330D	IC-F5130D IC-F6130D
Frequency Range	136-174 MHz 380-470 MHz	136-174 MHz 400-520 MHz	136-174 MHz 400-520MHz
Channels	1024*1	128	128
Digital Channel Spacing	6.25/12.5*2 kHz	6.25 kHz	6.25 kHz
Dimensions (W x H x D; Projections are not included)	174 x 55 x 150 mm	150 x 45 x 161.8 mm (Main unit) 134.8 x 60.8 x 35.5 mm (Mic)	150 x 45 x 151.8 mm
Weight (approx.)	1.5 kg	1.2 kg (Main unit) 250 g (Mic)	1.23 kg
RF output power (High)	25 W	25 W	25 W
IP Rating	IP55	N/A	N/A
Display	Yes	Yes	Yes
Keypad	Yes	Yes	Yes
AF Output Power (Internal SP)	4 W typ.	1.7 W typ.	4 W typ.
Encryption	DES (4-key)	Yes	No
	DES (64-key)	Optional	No
	AES	Optional	No
Voice Scrambler (Digital)	Yes	Yes	Yes
Voice Scrambler (Analogue)*5	Yes	No	No
OTAP (Over-the-Air Programming)	Optional	No	No
CTCSS/DTCS Encoder/Decoder	Yes	Yes	Yes
2-Tone Encoder/Decoder	Yes	Yes	Yes
5-Tone Encoder/Decoder	Yes	Yes	Yes
DTMF	Yes	Yes	Yes
BIIS 1200	Yes	Yes*6	Yes*6
Lone Worker	Yes	Yes	Yes
Channel Announcement	Yes	No	No
Voice Recorder	Yes	No	No
Bluetooth® Capability	Yes	Yes*11	Optional
GPS Receiver	Yes*12	No	No
Short Data Message	Yes	Yes	Yes
Status	Yes	Yes	Yes
Emergency Call	Yes	Yes	Yes
Stun/Kill/Revive	Yes	Yes*9	Yes*9
Remote Monitor	Yes	Yes*9	Yes*9
Front Panel Separation	Optional	No	No
Multiple Controller Capability	Yes	No	No
COMMANDMIC™ Capability	Yes	Yes	No
I/O Control Port	USB, D-SUB, Ignition sense	Ignition sense, D-SUB option*13	Ignition sense, D-SUB option*13
NXDN™*10	Conventional	Yes	Yes
	Multi-Site Conventional	Yes	Yes
	Simulcast	Yes	Yes
	Type-D Trunking	Optional	Single site only
dPMR™*10	Mode 1/ Mode 2	Yes	No
	Mode 2 Multi-site	Yes	No
	Mode 3 Trunking	Optional	No

\*1 Upgrade licence (ISL-CHEX) required to enable 4000 channel capacity.  
 \*2 NXDN™ only  
 \*3 With standard battery pack  
 \*4 IDAS : Conventional mode, 5:5:90 duty cycle, power save ON LTE : Depending on the condition of LTE signal strength  
 \*5 Inversion type voice scrambler is not compatible with UT-109R/UT-110R voice scrambler.  
 \*6 PTT ID and emergency call  
 \*7 PTT ID only  
 \*8 The non-display model beeps and its LED indicator blinks when receiving a message.  
 \*9 RX only  
 \*10 Default factory setting (Protocol) differs, depending on the radio model.  
 \*11 Depending on versions  
 \*12 UX-241 antenna is required.  
 \*13 D-SUB. Digital modulation input is not available even when using accessory cables.  
 All stated specifications and features are subject to change without notice or obligation.



## Optional Accessories for Handheld Radios

MODEL NAME	BATTERY PACKS							
	BP-227AX (Li-ion) For intrinsically safe radios 7.4 V/1850 mAh (min.) 1950 mAh (typ.)	BP-303 (Li-ion) 7.2 V/3200 mAh (min.) 3350 mAh (typ.)	BP-307 (Li-ion) 7.2 V/3050 mAh (min.) 3150 mAh (typ.)	BP-272 Li-ion 7.4 V/1880 mAh (min.) 2000 mAh (typ.)	BP-300 (Li-ion) 7.2 V/2200 mAh (min.) 2350 mAh (typ.)	BP-294 (Li-ion) 7.2 V/3050 mAh (min.) 3150 mAh (typ.)	BP-280 (Li-ion) 7.2 V/2280 mAh (min.) 2400 mAh (typ.)	BP-299 (Li-ion) 7.2 V/3050 mAh (min.) 3150 mAh (typ.)
IP730D IP740D		✓						
IP503H			✓	✓				
IC-SAT100					✓			
IC-F3400DT/DS IC-F4400DT/DS		✓						
IC-F52D IC-F62D						✓		
IC-F1100DT/DS/D IC-F2100DT/DS/D							✓	
IC-F1000/T/S IC-F2000/T/S							✓	
IC-F3002 IC-F4002								✓
IC-F51 ATEX IC-F61 ATEX	✓							
IP110H								
IC-F29SDR IC-F29DR3 IC-F29SR/SR2							✓	

## Analogue & Licence-Free Radio Feature Comparison

	ANALOGUE HANDHELD RADIOS					ANALOGUE MOBILE RADIOS		LICENCE-FREE RADIOS		
	IC-F1000T IC-F2000T	IC-F1000S IC-F2000S	IC-F1000 IC-F2000	IC-F3002 IC-F4002	IC-F51 ATEX IC-F61 ATEX	IC-F5022 IC-F6022	IC-F5012 IC-F6012	IC-F29SDR	IC-F29DR3	IC-F29SR2 IC-F29SR
Frequency Range	136-174 MHz		136-174 MHz	136-174 MHz		136-174 MHz		PMR446: 16 ch dPMR446: 32 ch	PMR446: 16 ch dPMR446: 32 ch	IC-F29SR2 PMR446: 16 ch IC-F29SR PMR446: 8 ch
Channels	128	128	16	16	128	8	128			
Channel Spacing	12.5, 20, 25 kHz		12.5, 20, 25 kHz	12.5, 20, 25 kHz	12.5, 20, 25 kHz		6.25, 12.5 kHz		6.25, 12.5 kHz	12.5 kHz
Dimensions*1 (W x H x D; Projections are not included)	52.2 x 111.8 x 30.3 mm		58 x 111 x 35.5 mm	56 x 97 x 36.4 mm	150 x 40 x 117.5 mm		52.2 x 111.8 x 29.4 mm		52.2 x 111.8 x 29.4 mm	52.2 x 111.8 x 30.3 mm
Weight*1 (approx.)	270 g		272 g	290 g	800 g		270 g		270 g	270 g
RF output power (High)	5 W (VHF) 4 W (UHF)		5 W (VHF/UHF)	1 W (VHF/UHF)	25 W		500 mW (ERP)		500 mW (ERP)	500 mW (ERP)
IP Rating	IP67		IP54	IP67	N/A		IP67		IP67	IP67
Operating Time*2 (Hours)	20		31	16.5	N/A		26		26	33
Display	Yes	Yes	No	No	Yes	LED lighting	Yes		No	No
Keypad	Full	Limited	No	No	Yes		Limited		No	No
AF Output Power (Internal SP)	1500 mW typ.		1500 mW typ.	500 mW typ.	4 W typ.		1500 mW typ.		1500 mW typ.	1500 mW typ.
ATEX	No		No	Yes	No		No		No	No
Voice Scrambler	Yes		No	Yes*5	Optional		No		No	Yes
CTCSS/DTCS Encoder/Decoder	Yes		Yes	Yes	Yes		Yes		Yes	Yes
2-Tone Encoder/Decoder	Yes		Yes	Yes	Yes		No		No	No
5-Tone Encoder/Decoder	Yes		Yes	Yes	Yes		No		No	No
DTMF	Yes		Yes	Yes	Yes		No		No	No
BIIS 1200	Yes*3		Yes*3	Yes	Yes*6		No		No	No
Man Down	Yes		No	No	No		No		No	No
Lone Worker	Yes		Yes	No	Yes		Yes		Yes	No
Motion Detection Sensor	Yes		No	No	No		No		No	No
Channel Announcement	Yes		No	No	No		Yes		Yes	Yes
Status Message	No		No	Yes	No		Yes		No	No
Emergency Call	Yes		Yes	Yes	Yes		No		No	No
Stun/Kill/Revive	Yes*4		Yes*4	Yes	Yes*4		No		No	No
Remote Monitor	Yes*4		Yes*4	Yes	Yes*4		No		No	No

- \*1 With standard battery pack
- \*2 5:5:90 duty cycle, power save ON
- \*3 PTT ID and emergency call
- \*4 RX only
- \*5 Depending on the version
- \*6 PTT ID only

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

MODEL NAME	BATTERY CASES			DESKTOP CHARGERS				
	BP-305 LR6 (AA) x5 cells	BP-291 LR6 (AA) x5 cells	BP-263 LR6 (AA) x6 cells	BC-226 Connectable type. Connects up to six BC-226 units.	BC-227*2 Compact rapid charger	BC-202IP3L Connectable type. Connects up to six BC-202IP3L units.	BC-202IP2*2 Rapid charger with smart charging function	BC-218*2 Rapid charger cradle with Bluetooth®
IP730D IP740D	✓			✓ (Use with BC-123S/BC-228)	✓			
IP503H						✓ (Use with BC-123S/BC-228)	✓	✓
IC-SAT100								
IC-F3400DT/DS IC-F4400DT/DS				✓ (Use with BC-123S/BC-228)	✓			
IC-F52D IC-F62D		✓		✓ (Use with BC-123S/BC-228)	✓			
IC-F1100DT/DS/D IC-F2100DT/DS/D								
IC-F1000/T/S IC-F2000/T/S								
IC-F3002 IC-F4002			✓					
IC-F51 ATEX IC-F61 ATEX								
IP110H								
IC-F29SDR IC-F29DR3 IC-F29SR/SR2								

MODEL NAME	DESKTOP CHARGERS						CHARGER STAND
	BC-241*2 Rapid charger	BC-219N*2 Rapid charger	BC-225*2 Intelligent charger	BC-213*2 Rapid charger	BC-240*2 Rapid charger	BC-152N Regular charger	
IP730D IP740D							
IP503H							
IC-SAT100	✓						
IC-F3400DT/DS/D IC-F4400DT/DS/D							
IC-F52D IC-F62D		✓	✓				
IC-F1100DT/DS/D IC-F2100DT/DS/D				✓			
IC-F1000/T/S IC-F2000/T/S				✓			
IC-F3002 IC-F4002					✓		
IC-F51 ATEX IC-F61 ATEX						✓ (Use with BC-147S)	
IP110H							✓ (Use with OPC-2480/BC-228)
IC-F29SDR IC-F29DR2 IC-F29SR/SR2				✓			

\*1 OPC-2480 is a USB type C cable, which is supplied with the IP110H.

\*2 AC adapter may be supplied depending on version.

The IC-F51/F61 ATEX intrinsically models should only be used with the specified intrinsically safe approved accessories.

✓ : Applicable □ : Not applicable

# Optional Accessories for Handheld Radios

MODEL NAME	MULTI-CHARGERS			AC ADAPTERS					
	BC-214N*2+3 Rapid multi-charger	BC-211*2 Rapid multi-charger	BC-121N Rapid multi-charger	BC-123S*4 12 V/1 A L-shape type	BC-123S 12 V/1 A Straight plug type for BC-226/ BC-202IP3L single unit	BC-228 15 V/4 A For BC-226/BC-202IP3L/ BC-257 multiple connection	BC-157S 12 V/7.5 A	BC-207S 12 V/4.2 A	BC-242 12 V/1 A
IP730D IP740D	✓ (#63, AD-132N installed)			✓ (Use with BC-227)	✓ (Use with BC-226)	✓ (Use with BC-226)	✓ (Use with BC-214N)		
IP503H		✓ (AD-127 installed)		✓ (Use with BC-202IP2)	✓ (Use with BC-202IP3L)	✓ (Use with BC-202IP3L)	✓ (Use with BC-211)	✓ (Use with BC-218)	
IC-SAT100	✓ (#31, AD-140 installed)						✓ (Use with BC-214N)		✓ (Use with BC-241)
IC-F3400DT/DS IC-F4400DT/DS	✓ (#63, AD-132N installed)			✓ (Use with BC-227)	✓ (Use with BC-226)	✓ (Use with BC-226)	✓ (Use with BC-214N)		
IC-F52D IC-F62D	✓ (#63, AD-132N installed)			✓ (Use with BC-219N, BC-225 or BC-227)	✓ (Use with BC-226)	✓ (Use with BC-226)	✓ (Use with BC-214N)		
IC-F1100DT/DS/D IC-F2100DT/DS/D	✓ (#43, AD-130 installed)			✓ (Use with BC-213)			✓ (Use with BC-214N)		✓ (Use with BC-213)
IC-F1000/T/S IC-F2000/T/S	✓ (#43, AD-130 installed)			✓ (Use with BC-213)			✓ (Use with BC-214N)		✓ (Use with BC-213)
IC-F3002 IC-F4002	✓ (#28, AD-139 installed)						✓ (Use with BC-214N)		✓ (Use with BC-240)
IC-F51 ATEX IC-F61 ATEX			✓ (Use with AD-100/BC-157S)				✓ (Use with BC-121N)		
IP110H						✓ (Use with BC-257)			
IC-F29SDR IC-F29DR3 IC-F29SR/SR2	✓ (#43, AD-130 installed)			✓ (Use with BC-213)			✓ (Use with BC-214N)		✓ (Use with BC-213)

MODEL NAME	AC ADAPTERS	CHARGER BRACKET	CIGARETTE LIGHTER CABLES		DC POWER CABLES		READER SOFTWARE	APPLICATION
	BC-147S*4 12 V/0.33 A	MB-130	CP-23L	CP-22 With DC-DC CONVERTER	OPC-515L	OPC-656	RS-BC225	IP500APP LTE radio mobile application*5
IP730D IP740D					✓ (Use with BC-227)	✓ (Use with BC-214N)		
IP503H			✓ (Use with BC-218)	✓ (Use with BC-218)				✓
IC-SAT100						✓ (Use with BC-214N)		
IC-F3400DT/DS IC-F4400DT/DS			✓ (Use with BC-227)		✓ (Use with BC-219N, BC-225 or BC-227)	✓ (Use with BC-214N)		
IC-F52D IC-F62D			✓ (Use with BC-219N or BC-227)		✓ (Use with BC-219N, BC-225 or BC-227)	✓ (Use with BC-214N)	✓ (Use with BC-225)	
IC-F1100DT/DS/D IC-F2100DT/DS/D		✓ (Use with BC-213)	✓ (Use with BC-213)		✓ (Use with BC-214N)	✓ (Use with BC-214N)		
IC-F1000/T/S IC-F2000/T/S		✓ (Use with BC-213)	✓ (Use with BC-213)		✓ (Use with BC-214N)	✓ (Use with BC-214N)		
IC-F3002 IC-F4002			✓ (Use with BC-240)		✓ (Use with BC-240)	✓ (Use with BC-214N)		
IC-F51 ATEX IC-F61 ATEX	✓ (Use with BC-152N)							
IP110H								
IC-F29SDR IC-F29DR3 IC-F29SR/SR2		✓ (Use with BC-213)	✓ (Use with BC-213)			✓ (Use with BC-214N)		

MODEL NAME	SPEAKERPHONE UNIT	SPEAKER-MICROPHONES						
	VE-SP1	HM-245T With SUB PTT button Water proof	HM-222H High power audio Water proof	HM-236 Water proof	HM-184/H Water proof	HM-222HLWP High power audio Water proof	HM-168LWP Water proof	HM-158LA
IP730D IP740D		✓	✓	✓	✓			
IP503H	✓							
IC-SAT100			✓					
IC-F3400DT/DS IC-F4400DT/DS			✓					
IC-F52D IC-F62D			✓					
IC-F1100DT/DS/D IC-F2100DT/DS/D							✓	✓
IC-F1000/T/S IC-F2000/T/S							✓	✓
IC-F3002 IC-F4002							✓	✓
IC-F51 ATEX IC-F61 ATEX								
IP110H								
IC-F29SDR IC-F29DR3 IC-F29SR/SR2							✓	✓

\*2 AC adapter may be supplied depending on version.  
 \*3 Either AD-130, AD-132N, AD-139 or AD-140 is supplied with the BC-214N, depending on the version.  
 \*4 BC-123SA/BC-145SA/BC-147SA for US plug. SE for EURO plug. SV for Australia plug. BC-123SUK/BC-145SUK for UK plug.  
 \*5 For iOS™: iOS™ version 12 or later. For Android™: Android™ version 8.0 or later

# Optional Accessories for Handheld Radios










MODEL NAME	SPEAKER-MICROPHONES							EARPHONE-MICROPHONES	
	HM-159LA	HM-138	HM-183LS Water proof	HM-186LS	HM-215	HM-186PI	HM-228 Water proof	HM-153LA	HM-166LA
IP730D IP740D									
IP503H			✓	✓	✓ (Use with BC-218)				
IC-SAT100									
IC-F3400DT/DS IC-F4400DT/DS									
IC-F52D IC-F62D									
IC-F1100DT/DS/D IC-F2100DT/DS/D	✓							✓	✓
IC-F1000/T/S IC-F2000/T/S	✓							✓	✓
IC-F3002 IC-F4002	✓								
IC-F51 ATEX IC-F61 ATEX		✓							
IP110H									
IC-F29SDR IC-F29DR3 IC-F29SR/SR2	✓						✓	✓	✓

MODEL NAME	EARPHONE-MICROPHONES			TIE-CLIP MICROPHONES		HEADSETS			
	HM-153LS	HM-166LS	HM-179PI	HM-238MC With SUB PTT button	HM-163MC	VS-3 Bluetooth® headset	HS-94 Earhook type with boom microphone	HS-95 Neck-arm type	HS-97 Throat microphone type
IP730D IP740D				✓	✓	✓	✓*6 (Use with VS-5MC)	✓*6 (Use with VS-5MC)	✓*6 (Use with VS-5MC)
IP503H	✓	✓				✓	✓*6 (Use with OPC-208LS or OPC-238)	✓*6 (Use with OPC-208LS or OPC-238)	✓*6 (Use with OPC-208LS or OPC-238)
IC-SAT100					✓	✓	✓ (Use with VS-5MC)	✓ (Use with VS-5MC)	✓ (Use with VS-5MC)
IC-F3400DT/DS IC-F4400DT/DS						✓	✓ (Use with VS-4MC)	✓ (Use with VS-4MC)	✓ (Use with VS-4MC)
IC-F52D IC-F62D					✓	✓	✓ (Use with VS-5MC)	✓ (Use with VS-5MC)	✓ (Use with VS-5MC)
IC-F1100DT/DS/D IC-F2100DT/DS/D						✓	✓ (Use with VS-4LA or OPC-2004LA)	✓ (Use with VS-4LA or OPC-2004LA)	✓ (Use with VS-4LA or OPC-2004LA)
IC-F1000/T/S IC-F2000/T/S						✓	✓ (Use with VS-4LA or OPC-2004LA)	✓ (Use with VS-4LA or OPC-2004LA)	✓ (Use with VS-4LA or OPC-2004LA)
IC-F3002 IC-F4002						✓	✓ (Use with VS-4LA or OPC-2004LA)	✓ (Use with VS-4LA or OPC-2004LA)	✓ (Use with VS-4LA or OPC-2004LA)
IC-F51 ATEX IC-F61 ATEX									
IP110H			✓			✓	✓*6 (Use with OPC-2133)	✓*6 (Use with OPC-2133)	✓*6 (Use with OPC-2133)
IC-F29SDR IC-F29DR3 IC-F29SR/SR2						✓	✓ (Use with VS-4LA or OPC-2004LA)	✓ (Use with VS-4LA or OPC-2004LA)	✓ (Use with VS-4LA or OPC-2004LA)










MODEL NAME	HEADSETS			EARPHONES					
	HS-102 Earphone type	HS-94LWP Earhook type with waterproof connector	HS-95LWP Neck-arm type with waterproof connector	EH-15B	SP-26 Tube earphone	SP-27 Tube earphone	SP-28	SP-29	SP-40
IP730D IP740D				✓ (Use with HM-238MC or HM-163MC)	✓ (Use with HM-238MC or HM-163MC)	✓ (Use with HM-245T, HM-222H or AD-135)	✓ (Use with HM-238MC or HM-163MC)	✓ (Use with HM-245T, HM-222H or AD-135)	✓ (Use with HM-245T, HM-222H or AD-135)
IP503H	✓ (Use with OPC-2359)								
IC-SAT100				✓ (Use with HM-163MC)	✓ (Use with HM-163MC)	✓ (Use with HM-222H or AD-135)	✓ (Use with HM-163MC)	✓ (Use with HM-222H or AD-135)	✓ (Use with HM-222H or AD-135)
IC-F3400DT/DS IC-F4400DT/DS									
IC-F52D IC-F62D				✓ (Use with HM-163MC)	✓ (Use with HM-163MC)	✓ (Use with HM-222H or AD-135)	✓ (Use with HM-163MC)	✓ (Use with HM-222H or AD-135)	✓ (Use with HM-222H or AD-135)
IC-F1100DT/DS/D IC-F2100DT/DS/D		✓	✓				✓ (Use with HM-222HLWP)	✓ (Use with HM-222HLWP)	✓ (Use with HM-222HLWP)
IC-F1000/T/S IC-F2000/T/S		✓	✓				✓ (Use with HM-222HLWP)	✓ (Use with HM-222HLWP)	✓ (Use with HM-222HLWP)
IC-F3002 IC-F4002		✓	✓				✓ (Use with HM-222HLWP)	✓ (Use with HM-222HLWP)	✓ (Use with HM-222HLWP)
IC-F51 ATEX IC-F61 ATEX									
IP110H									
IC-F29SDR IC-F29DR3 IC-F29SR/SR2		✓	✓						

\*6 HS-94, HS-95 and HS-97 headsets are simplex operation only.

## Optional Accessories for Handheld Radios



MODEL NAME	EARPHONES	PTT SWITCH CABLES					PLUG ADAPTER CABLES			
	SP-16PIBW	VS-5MC For manual PTT/ VOX operation	VS-4MC For manual PTT operation	VS-4LA For manual PTT operation	OPC-2328	OPC-2359	OPC-2004LA VOX operation	OPC-2006LS For VOX operation	OPC-2132 2-pin microphone adapter	
IP730D IP740D IP503H										
IC-SAT100		✓ (Use with HS-94, HS-95 or HS-97)								
IC-F3400DT/DS IC-F4400DT/DS			✓ (Use with HS-94, HS-95 or HS-97)							
IC-F52D IC-F62D		✓ (Use with HS-94, HS-95 or HS-97)								
IC-F1100DT/DS/D IC-F2100DT/DS/D				✓ (Use with HS-94, HS-95 or HS-97)			✓ (Use with HS-94, HS-95 or HS-97)			
IC-F1000/T/S IC-F2000/T/S				✓ (Use with HS-94, HS-95 or HS-97)			✓ (Use with HS-94, HS-95 or HS-97)			
IC-F3002 IC-F4002				✓ (Use with HS-94, HS-95 or HS-97)			✓ (Use with HS-94, HS-95 or HS-97)			
IC-F51 ATEX IC-F61 ATEX										
IP110H	✓								✓	
IC-F29SDR IC-F29DR3 IC-F29SR/SR2				✓ (Use with HS-94, HS-95 or HS-97)			✓ (Use with HS-94, HS-95 or HS-97)			







MODEL NAME	PLUG ADAPTER CABLES	ACC ADAPTERS		BELT CLIPS		BELT HANGERS			MOUNT BASE
	OPC-2133	AD-118 Allows you to use 6-pin Hirose plug accessories	AD-135 3.5 mm jack earphone adapter	MB-136 MB-86 Swivel type	MB-135 MB-133 MB-124 MB-98 MBB-1 MBB-3 MBB-5 Alligator type	MB-96N	MB-96F	MB-96FL	MBF-1 For use with BC-218
IP730D IP740D IP503H									
IC-SAT100		✓	✓		✓ (Use MBB-5)				
IC-F3400DT/DS IC-F4400DT/DS		✓		✓ (Use MB-136)	✓ (Use MB-133)	✓	✓	✓	
IC-F52D IC-F62D		✓		✓ (Use MB-136)	✓ (Use MBB-3)	✓	✓	✓	
IC-F1100DT/DS/D IC-F2100DT/DS/D				✓ (Use MB-136)	✓ (Use MB-133)	✓	✓	✓	
IC-F1000/T/S IC-F2000/T/S				✓ (Use MB-136)	✓ (Use MB-133)	✓	✓	✓	
IC-F3002 IC-F4002				✓ (Use MB-124)		✓	✓	✓	
IC-F51 ATEX IC-F61 ATEX				✓ (Use MB-86)	✓ (Use MB-98)		✓		
IP110H	✓ (Use with HS-94, HS-95 or HS-97)				✓ (Use MBB-1)				
IC-F29SDR IC-F29DR3 IC-F29SR/SR2					✓ (Use MB-133)				

MODEL NAME	BRACKET ADAPTER	CARRYING CASES							
	MBA-7 For use with BC-218	LC-195*7	LC-183*7 For use with BP-271	LC-185*7 For use with BP-272	LC-184 For IC-F3400DT/DS, F4400DT/DS	LC-186 For IC-F3400D, F4400D	LC-187*7 For use with BP-290	LC-188 For use with BP-290	LC-190*7 For use with BP-294
IP730D IP740D IP503H									
IC-SAT100									
IC-F3400DT/DS IC-F4400DT/DS					✓	✓			
IC-F52D IC-F62D									
IC-F1100DT/DS/D IC-F2100DT/DS/D							✓	✓	✓
IC-F1000/T/S IC-F2000/T/S							✓	✓	✓
IC-F3002 IC-F4002									
IC-F51 ATEX IC-F61 ATEX									
IP110H									
IC-F29SDR IC-F29DR3 IC-F29SR/SR2									

\*7 Charging is possible while the case is attached.

## Optional Accessories for Handheld Radios

MODEL NAME	STRAP	ANTENNAS					CUT ANTENNAS		HIGH GAIN ANTENNAS	
	MB-57L Long shoulder strap	FA-S81V 136-150 MHz FA-S82V 148-162 MHz FA-S83V 160-174 MHz FA-S81U 380-430 MHz FA-S82U 430-480 MHz	FA-SC25V 136-150 MHz FA-SC55V 150-174 MHz FA-SC25U 400-430 MHz FA-SC57U 430-470 MHz	FA-SC25V 136-150 MHz FA-SC28V 148-162 MHz FA-SC29V 160-174 MHz FA-SC25U 400-430 MHz FA-SC57U 430-470 MHz	FA-S24V 136-150 MHz FA-S59V 150-174 MHz FA-S27U 400-470 MHz	FA-S102U Satellite + GPS antenna	FA-S67VC 136-174 MHz FA-S76UC 380-520 MHz	FA-SC61VC 136-174 MHz FA-SC61UC 380-520 MHz	FA-SC62V 150-160 MHz FA-SC63V 155-165 MHz	
IP730D IP740D IP503H										
IC-SAT100					✓					
IC-F3400DT/DS IC-F4400DT/DS						✓				
IC-F52D IC-F62D								✓	✓	
IC-F1100DT/DS/D IC-F2100DT/DS/D								✓	✓	
IC-F1000/T/S IC-F2000/T/S								✓	✓	
IC-F3002 IC-F4002								✓		
IC-F51 ATEX IC-F61 ATEX										
IP110H										
IC-F29SDR IC-F29DR3 IC-F29SR/SR2										

MODEL NAME	STUBBY ANTENNAS			ONE-TOUCH CONNECTOR	EXTERNAL ANTENNAS			COAXIAL CABLES	
	FA-S81VS 136-150 MHz FA-S82VS 148-162 MHz FA-S83VS 160-174 MHz FA-S81US 400-450 MHz FA-S82US 450-490 MHz	FA-SC26VS 136-144 MHz FA-SC27VS 142-150 MHz FA-SC56VS 150-162 MHz FA-SC57VS 160-174 MHz FA-SC26US 400-450 MHz FA-SC73US 450-490 MHz	FA-S62VS 150-162 MHz FA-S63VS 160-174 MHz FA-S57US 450-490 MHz	FA-S103U	AH-40 Magnetic mount antenna with 1.5 m cable	AH-38 Passive antenna	AH-41*9 Active antenna	OPC-2113 For AH-38, 10 m	OPC-2422 For AH-40, 5 m
IP730D IP740D IP503H									
IC-SAT100				✓	✓	✓	✓	✓ (Use with AH-38)	✓ (Use with AH-40)
IC-F3400DT/DS IC-F4400DT/DS				✓					
IC-F52D IC-F62D									
IC-F1100DT/DS/D IC-F2100DT/DS/D									
IC-F1000/T/S IC-F2000/T/S									
IC-F3002 IC-F4002									
IC-F51 ATEX IC-F61 ATEX									
IP110H									
IC-F29SDR IC-F29DR3 IC-F29SR/SR2									

MODEL NAME	COAXIAL CABLES	DOCKING STATION	OPTION BOARD	ZONE COPY CABLES	SHORT MESSAGE APP
	OPC-2462 For AH-41, 59 m	BC-247*10 Charging cradle	UT-134*11 AES/DES encryption unit	OPC-1870 Handheld to handheld OPC-2362 Handheld to mobile	RS-SAT100 for Android™ for iOS™
IP730D IP740D IP503H					
IC-SAT100				✓ (Use with AH-41)	✓
IC-F3400DT/DS IC-F4400DT/DS				✓	✓ (OPC-1870/OPC-2362)
IC-F52D IC-F62D					✓ (OPC-1870)
IC-F1100DT/DS/D IC-F2100DT/DS/D					
IC-F1000/T/S IC-F2000/T/S					
IC-F3002 IC-F4002					
IC-F51 ATEX IC-F61 ATEX					
IP110H					
IC-F29SDR IC-F29DR3 IC-F29SR/SR2					

\*8 FA-SC56VS, FA-SC57VS and FA-SC73US only.

\*9 Supplied with 1.5 m coaxial cable, power box, AC adapter and mounting kit.

\*10 Comes with DC power cable, AC adapter and adapter cable (DC to AC).

\*11 Key loader software, CS-KLD2 is needed separately. Activation key, ISL-AKAE3 is needed for AES operation.

✓ : Applicable □ : Not applicable

## Optional Accessories for Mobile Radios and Repeaters

HAND MICROPHONES										
MODEL NAME	HM-239T with DTMF keypad IP54	HM-221 IP55	HM-221T with DTMF keypad IP55	HM-220 Heavy-duty type IP54	HM-220T Heavy-duty type with DTMF keypad IP54	HM-211 Noise Cancel- ing Mic	HM-152	HM-152T with DTMF keypad	HM-148G Heavy-duty type	HM-148T Heavy-duty type with DTMF keypad
IP501M										
IC-SAT100M										
IC-F5400D, IC-F6400D		✓	✓	✓	✓					
IC-F5330D, IC-F6330D										
IC-F5130D, IC-F6130D	✓					✓	✓	✓	✓	✓
IC-FR5300, IC-FR6300							✓			
IC-F5022, IC-F6022							✓	✓	✓	✓
IC-F5012, IC-F6012							✓	✓	✓	✓

MODEL NAME	SPEAKER-MICROPHONE	HEADSET	DESKTOP MICROPHONES		EXTERNAL SPEAKERS		SEPARATION KITS		
	HM-241	VS-3 Bluetooth® headset	SM-29	SM-26 SM-28	SP-30	SP-35 2 m cable SP-35L 6 m cable	RMK-5	RMK-7 Dual head	RMK-3
IP501M	✓	✓		✓ (Use SM-28)	✓	✓			
IC-SAT100M		✓			✓	✓			
IC-F5400D, IC-F6400D			✓		✓	✓	✓ (Separation cable is required)	✓ (Separation cable is required)	
IC-F5330D, IC-F6330D		✓			✓	✓			
IC-F5130D, IC-F6130D				✓ (Use SM-26)	✓	✓			
IC-FR5300, IC-FR6300				✓ (Use SM-26)	✓	✓			
IC-F5022, IC-F6022				✓ (Use SM-26)	✓	✓			
IC-F5012, IC-F6012				✓ (Use SM-26)	✓	✓			

MODEL NAME	COMMANDMIC™		SEPARATION CABLES			MICROPHONE CABLES		ACC CABLES	
	HM-218 Secondary controller for use with RMK-5 IP55	HM-230HB IP55	OPC-2364 (1.9 m) OPC-2365 (3 m) OPC-2366 (5 m) OPC-2367 (8 m) For use with RMK-5 or RMK-7	OPC-2373 (1.9 m) OPC-2374 (8 m) For use with HM-218, COMMANDMIC™	OPC-609 (1.9 m) for use with RMK-3	OPC-2355 2.5 m	OPC-2429 2 m	OPC-1939 (15-pin) OPC-2078 (25-pin) <small>(Photo shows OPC-1939)</small>	OPC-2407 D-SUB 25-pin type
IP501M		✓				✓ (Use with HM-230HB or HM-241)			✓
IC-SAT100M							✓		
IC-F5400D, IC-F6400D	✓ (Separation cable is required)		✓	✓					
IC-F5330D, IC-F6330D							✓*12		
IC-F5130D, IC-F6130D							✓*12		
IC-FR5300, IC-FR6300									
IC-F5022, IC-F6022							✓		
IC-F5012, IC-F6012							✓		

\*12 Digital modulation input is not available even when using accessory cables.

## Optional Accessories for Mobile Radios and Repeaters

MODEL NAME	ZONE COPY CABLE	GPS ANTENNA	OPTION BOARD	CHANNEL MODULES	NETWORK CONTROLLER	IDAS™ SOFTWARE			AC ADAPTER
	OPC-2362 Mobile to handheld	UX-241 5 m cable length	UT-134*11 AES/DES encryption unit	UR-FR5300 136-174 MHz, 25 W UR-FR6300 400-470 MHz, 25 W	UC-FR5300*13	CF-FR5000MC Multi-site conventional	CF-FR5000MT Type-D Multi-site trunking software	CF-FR5300SC Simulcast Multi-site conventional software	BC-157S 12 V/7.5 A
IP501M									
IC-SAT100M									✓
IC-F5400D, IC-F6400D	✓	✓	✓						
IC-F5330D, IC-F6330D									
IC-F5130D, IC-F6130D									
IC-FR5300, IC-FR6300		✓		✓	✓	✓ (Use with UC-FR5300)	✓ (Use with UC-FR5300)	✓ (Use with UC-FR5300)	
IC-F5022, IC-F6022									
IC-F5012, IC-F6012									

MODEL NAME	EXTERNAL ANTENNA	COAXIAL CABLE	SHORT MESSAGE APP	DC POWER CABLE
	AH-40 Magnetic mount antenna with 1.5 m cable	OPC-2422 5D-HFA, 5 m	RS-SAT100 for Android™ for iOS™	OPC-2479 3 m, 10 A (for 25 W) OPC-2478 3 m, 20 A (for 50 W)
IP501M				
IC-SAT100M	✓	✓ (Use with AH-40)	✓	
IC-F5400D, IC-F6400D				
IC-F5330D, IC-F6330D				✓
IC-F5130D, IC-F6130D				✓
IC-FR5300, IC-FR6300				
IC-F5022, IC-F6022				
IC-F5012, IC-F6012				

\*11 Key loader software, CS-KLD2 is needed separately. Activation key, ISL-AKAE3 is needed for AES operation.

\*13 The following versions are available.

Version #11: CF card not included. Type-D single-site trunking.

Version #12: CF-FR5000MC included.

Version #13: CF-FR5000MT included.

Version #14: CF-FR5300SC included.

## Activation Keys for IDAS™ Radios

MODEL NAME	ACTIVATION KEYS				
	ISL-UGMTR NXDN™ Type-D trunking upgrade key (for NXDN™ protocol)	ISL-UGMD3 dPMR™ Mode 3 trunking upgrade key (for dPMR™ protocol)	ISL-AKAE3 AES encryption activation key	ISL-CHEX Channel expan- sion key increases channel number up to 4000	ISL-AKSTM Dealer set mode activation key
IC-F3400DT/DS IC-F4400DT/DS	✓	✓	✓ (Use with UT-134)	✓	✓
IC-F52D IC-F62D	✓	✓			
IC-F5400D IC-F6400D	✓	✓	✓ (Use with UT-134)	✓	✓

✓ : Applicable □ : Not applicable

# Optional Accessories for RoIP Gateway and IP Products

MODEL NAME	AC ADAPTERS			AUDIO/DATA CONNECTION CABLES						SPEAKER-MICROPHONE
	BC-207S 12 V/4.2 A	BC-236 12 V/8.3 A	BC-147S*12 12 V/0.33 A	OPC-2273 For VHF marine transceiver 5 m	OPC-2275 For mobile transceiver 5 m	OPC-2276 For HM-152 or SM-26 5 m	OPC-2389 For RS-232 serial connection 5 m	OPC-2390 For IC-FR5300 series 5 m	OPC-2412 For IC-SAT100 5 m	HM-241
VE-PG4	✓	✓		✓	✓	✓	✓	✓	✓	✓
AP-95M	✓	✓								
IP100FS			✓ (Use with CT-23)							
RC-FS10			✓ (Use with CT-23)							
IP1100CV	✓	✓								

MODEL NAME	HAND MICROPHONES			DESKTOP MICROPHONE	MICROPHONE ADAPTER	ACCESS POINT MANAGER	DIGITAL VOICE CONVERTER	MOUNTING BRACKET
	HM-152	HM-152T DTMF keypad type	HM-216 Short cable*14	SM-26	CT-23	RS-AP3	CT-24	MBF-6
VE-PG4	✓*13	✓*13	✓*13	✓*13			✓	✓
AP-95M						✓		
IP100FS	✓ (Use with CT-23 and BC-147S)			✓ (Use with CT-23 and BC-147S)	✓			
RC-FS10	✓ (Use with CT-23 and BC-147S)			✓ (Use with CT-23 and BC-147S)	✓			
IP1100CV								✓

\*12 BC-147SA for US plug. SE for EURO plug. SV for Australia plug.

\*13 The HM-152, HM-152T, HM-216 and SM-26 have no speaker function. An external speaker is required to be connected to the VE-PG4 to hear received audio with these accessories.

\*14 The HM-216 has a total of 490 mm cable length including a 300 mm curl cord, while the HM-152 has a total of 900 mm cable length.

Some accessories may not be available in some countries. Please ask your dealer for details.  
Read all instructions enclosed with the transceiver carefully and completely before using the transceiver.

: Applicable  : Not applicable

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