ICOM

60th Anniversary

Business Radio Solutions

A FLEXIBLE RANGE OF RADIO SOLUTIONS THAT MEET YOUR BUSINESS NEEDS

Icom goes beyond traditional VHF and UHF two-way radios providing 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 wireless communications and solutions 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.

Innovative IP Radios with Licensed Professional Radio Mode

The IP730D and IP740D are dual mode "Hybrid" radios that provide nationwide coverage over LTE networks and conventional VHF/UHF professional radio mode (IDAS™ digital/analogue mode.) It receives both communication modes and transmits either or both modes.

IP730D/IP740D

Hybrid Handheld IP Radio for Local & Nationwide Communications

- Simultaneous TalkListen™ in LTE Mode · 1500 mW of powerful audio[1]
- IP67 waterproof 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™

[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)

Check the Icom website for more information.

Dual Mode Operation with Main and Sub PTT Buttons

The IP730D series has a Sub PTT button, in addition to the Main PTT button. It provides smooth dual mode operation with independent PTT buttons for each LTE mode and IDAS™ mode.
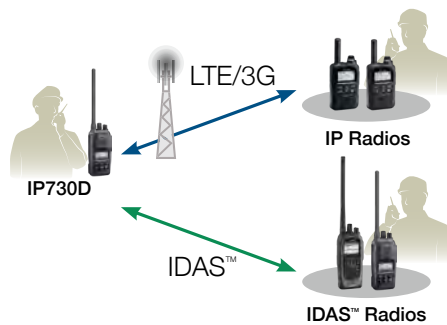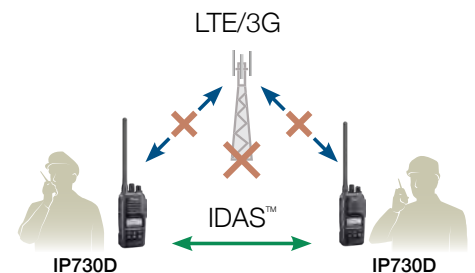
Expand an existing IDAS™ system with an LTE network

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

LTE/3G

IP Radios

IP730D

IDAS™

IDAS™ Radios

LTE/3G

IDAS™

IP730D   IP730D

Bridge Function*

The Bridge function* is an innovative feature that allows handheld radio users to achieve an audio bridge between the LTE mode and IDAS™ mode easily.

* 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

IDAS™

LTE/3G

IDAS™ Radios   IP730D   IP Radios

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

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

Simultaneous TalkListen™

Talk Listen Simultaneous

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

Exceptional Stability and Availability

The system server is placed within a secured closed network, and shielded from potential attacks. Its operation relies on a custom SIM that is isolated from the Internet, making it more reliable than regular PoC systems that use the Internet.

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.

IP500APP
IP730D
IP501M
IP503H
VE-SP1
VE-PG4

LTE (4G) and 3G Network
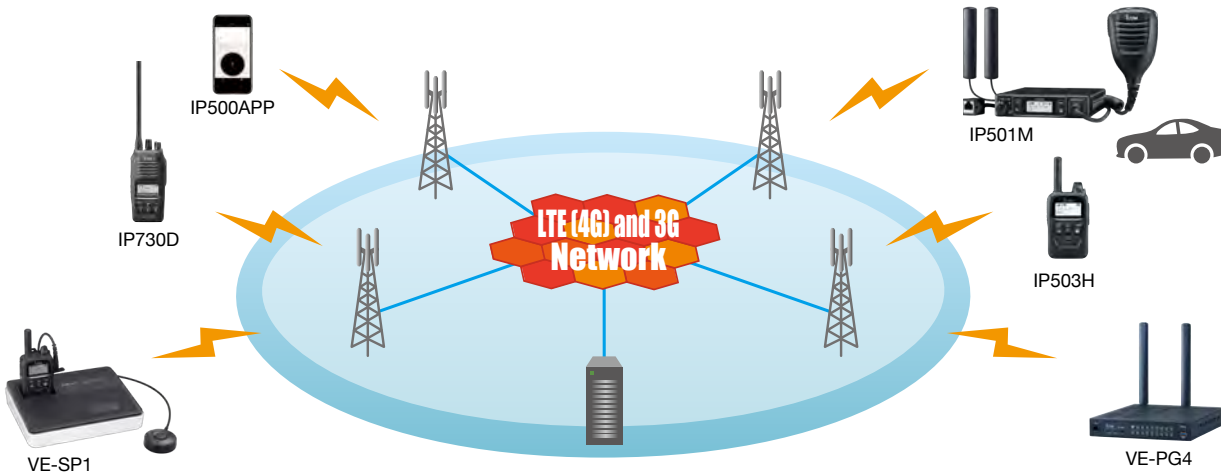
IP503H

Compact and Durable IP Handheld

- 900 mW loud high quality vocoder audio • 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™ • 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™ • 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

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

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

* IP500APP for Android™: Android™ version 8.0 or later
  IP500APP for iOS™: iOS™ version 12 or later
  IP500APP service may not be available.

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

iridium®
connected

Real-Time Communications Across the Globe

SATELLITE PTT (Push-To-Talk) is a transceiver that uses the Iridium® satellite network. It can be used as a communication device 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.
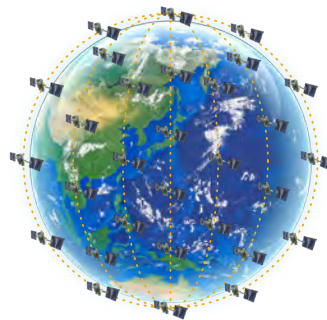

One-to-Many Communications

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[1]

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
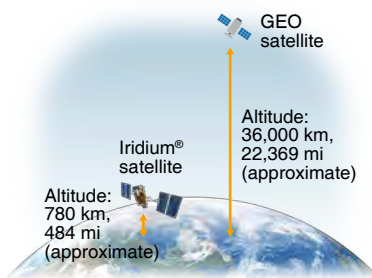
The satellite PTT radio uses Low Earth Orbit (LEO) Iridium® satellites, offering low-latency communication compared to Geosynchronous Equatorial Orbit (GEO) satellites, which orbit at an altitude approximately 50 times higher.

Conventional Radios and IP Phones Interconnection[2]

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

[1] 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.
[2] 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.

iridium® connected

IC-SAT100
Compact Handheld

- IP67 waterproof 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 · Integrated GPS receiver
- AES 256-bit encryption for security
- Multiple language display
- Compatible with Iridium Extreme PTT mode

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

FA-S103U   AH-40

BC-247   HM-222H

Docking Station for In-Vehicle Use

IC-SAT100M
In-Building and In-Vehicle Use

- As the RF unit is housed in the antenna unit, wiring between the antenna and main unit can be done flexibly using a LAN cable (Cat 5e)*1
- For a vehicle use, optional AH-40 must be used for optimal performance and environmental resilience
- 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)
- Compatible with Iridium Extreme PTT mode

*1 User supplied LAN cable is required to replace the supplied 20 m LAN cable. Maximum 100 m.
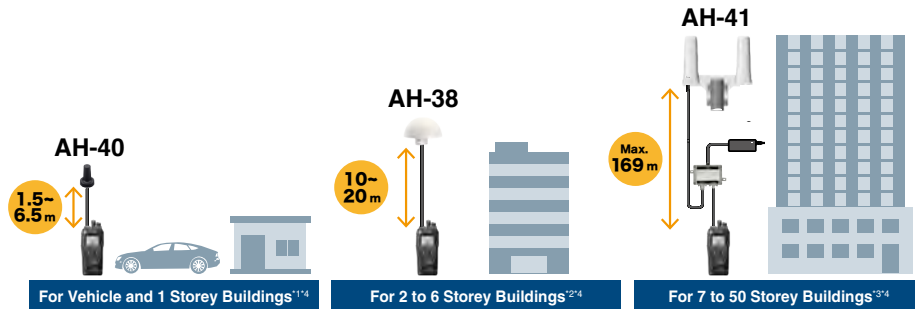
Antenna unit

Microphone ▶

◀ Main unit

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. Due to the built-in amplifier in the AH-41, it can be possible to extend the reach of coaxial cables over longer distances.

AH-40

1.5~ 6.5 m

For Vehicle and 1 Storey Buildings*1*4

AH-38

10~ 20 m

For 2 to 6 Storey Buildings*2*4

AH-41

Max. 169 m

For 7 to 50 Storey Buildings*3*4

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).*5

20~ 100 m — LAN

For 7 to 50 Storey Buildings*4*5

*1 Optional OPC-2422 coaxial cable (5 m) is required for more than 1.5 m extension.
*2 Optional OPC-2113 or user supplied coaxial cable is separately required. Cable loss requirement is less than 3.4 dB loss at 1621 MHz.
*3 Optional OPC-2462 or user supplied coaxial cable is separately required. Cable loss requirement is 12.5 - 13.0 dB loss at 1621 MHz.
*4 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.
*5 User supplied LAN cable is required to replace the supplied 20 m LAN cable.

Check the Icom website for more information.

IDAS™ Digital Radios

IDAS™

ICOM DIGITAL ADVANCED SYSTEM

Flexible Analongue And Digital Solutions with Advanced IP Network Integration

User-Friendly Digital System That is Simple Yet Powerful

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.

Crystal-Clear Digital Audio Outshines Analogue Audio

By adopting the industry standard AMBE+2™ Vocoder and advanced FEC (Forward Error Correction) coding, the IDAS™ system provides improved communication quality, that is clearer than analogue radio systems.

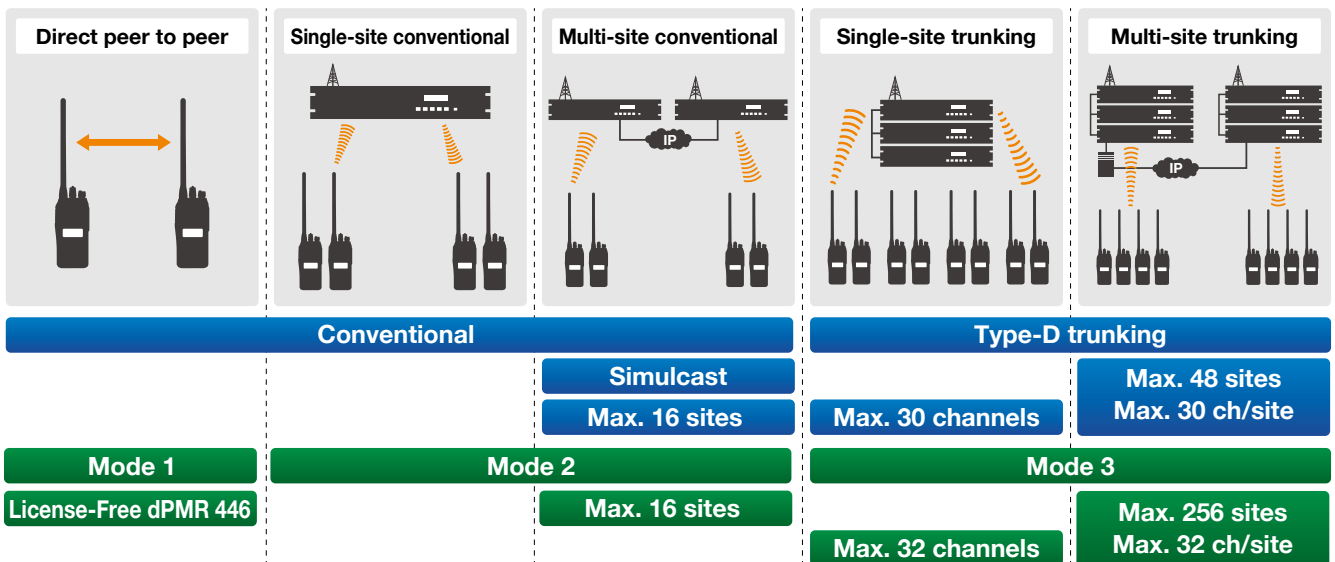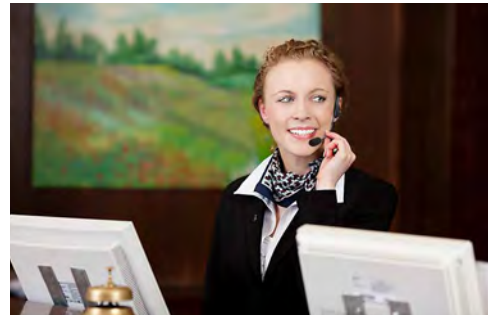### Simplified Control for Ease of System Management

Simple and efficient management is critical for systems of any size. IDAS™ provides simplified control for ease of 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. Some models support NXDN™ 12.5 kHz mode for compatibility with other manufacturers.

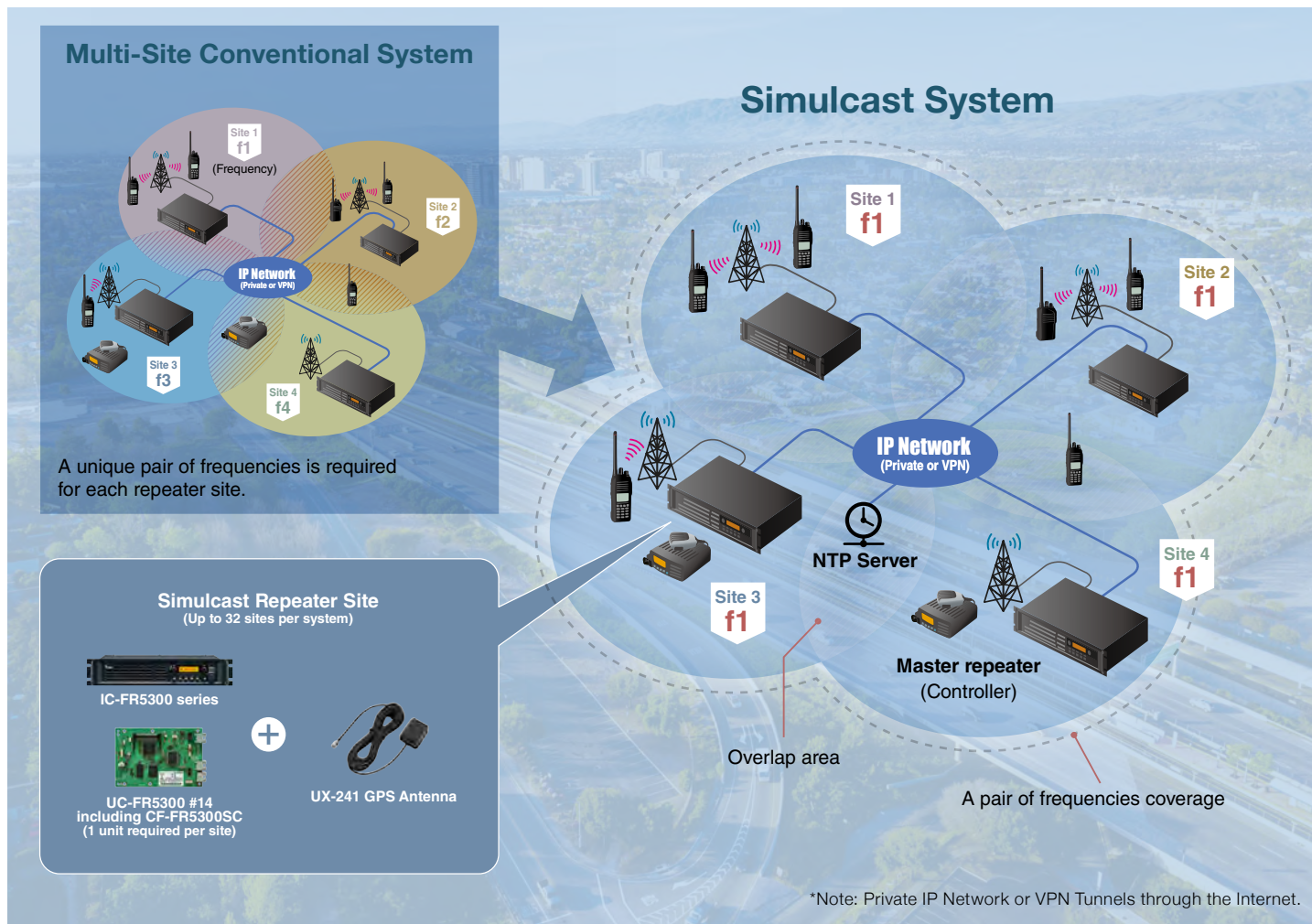### System Scalability According to Communication Traffic and Coverage

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 meet changing communication system requirement. One notable feature is that you don't have to use your own microwave or similar equipment because the requirement for the IP line in the backbone is flexible.

Direct peer to peer	Single-site conventional	Multi-site conventional	Single-site trunking	Multi-site trunking

NXDN™	**Conventional**			**Type-D trunking**		
		Simulcast		**Max. 30 channels**	**Max. 48 sites**	
		Max. 16 sites			**Max. 30 ch/site**	

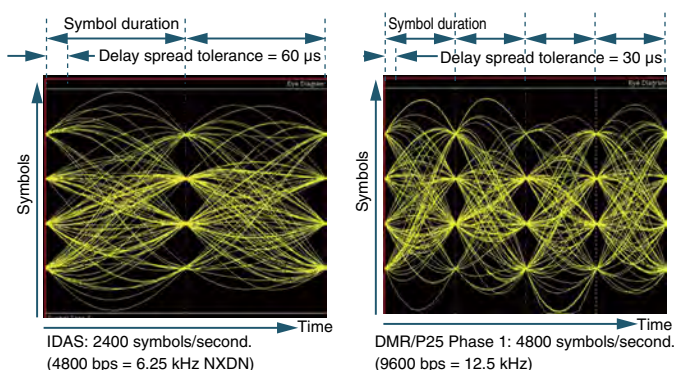|						
dPMR™	**Mode 1**	**Mode 2**		**Mode 3**		
	License-Free dPMR 446	**Max. 16 sites**			**Max. 256 sites**	
				Max. 32 channels	**Max. 32 ch/site**	

IDAS™ Simulcast System

Wide Area Coverage on a Single Pair of Frequencies

The IDAS™ Simulcast (NXDN™ protocol) system links multiple repeater sites* through an IP network, synchronizing them with precise GPS signals. This enables a single pair of frequency licenses to cover a wider area. Even in urban areas where obtaining new frequency licenses is difficult, it's feasible to establish a multi-site, wide-area system, keeping license costs lower. In certain situations, only the IDAS Simulcast system can fulfill specific requirements. * The maximum number of sites for an IDAS™ Simulcast system is 32.

Multi-Site Conventional System

Site 1 f1 (Frequency)
Site 2 f2
Site 3 f3
Site 4 f4
IP Network (Private or VPN)

A unique pair of frequencies is required for each repeater site.

Simulcast Repeater Site (Up to 32 sites per system)

IC-FR5300 series

UC-FR5300 #14 including CF-FR5300SC (1 unit required per site)

UX-241 GPS Antenna

Simulcast System

Site 1 f1
Site 2 f1
Site 3 f1
Site 4 f1
IP Network (Private or VPN)
NTP Server
Master repeater (Controller)
Overlap area
A pair of frequencies coverage

*Note: Private IP Network or VPN Tunnels through the Internet.

Ideal 6.25 kHz FDMA Technology for Simulcast

The IDAS™ Simulcast system transmits digital voice and data at 4800 bps using 4-Level FSK and 6.25 kHz very narrow bandwidth FDMA technology. With a symbol duration of about 420 microseconds (μs), the system experiences minimal Inter-Symbol Interference (ISI).

Symbol duration
Delay spread tolerance = 60 μs
Symbols
Time

IDAS: 2400 symbols/second.
(4800 bps = 6.25 kHz NXDN)

Symbol duration
Delay spread tolerance = 30 μs
Symbols
Time

DMR/P25 Phase 1: 4800 symbols/second.
(9600 bps = 12.5 kHz)

Consequently, the IDAS Simulcast system boasts a delay spread tolerance of approximately 60 μs. In contrast, a DMR/P25 Phase 1 system has a delay spread tolerance of about 30 μs, leading to a reduction in coverage radius by a similar amount.

Simplified Setup and Flexible Adjustments

Compared to other simulcast systems, IDAS™ Simulcast can initially start with a more straightforward setup. If issues arise, adjustments to the overlap and range between repeaters can be made later on.

Any IDAS™ Radio Can Be Employed

No extra technical requirements are needed on the IDAS™ transceiver to utilize IDAS™ Simulcast. The transceiver can receive simulcast through the same process used for handling received multipath interference. Therefore, any IDAS™ transceiver can be employed for IDAS™ simulcast.

IDAS™ Handheld Radios

IC−F3400D/F4400D Series

Flagship Excellence with Colour Display and Versatile Features

- 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*) |

* Licence key ugrade required

IP730D/IP740D

IDAS™ and LTE Hybrid 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−F52D/F62D

Powerful and Compact, 5 W Model with Advanced Features

- 512 channels • IP67 • Full dot matrix display for 14 characters with status icons
- Bluetooth® capability • Voice recording • OTAP • OAA • Active noise canceller
- 18.5 hours battery life (with BP-294) • 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*) |

* Licence key ugrade required

IC−F1100D/F2100D Series

Budget-Friendly Handheld with/without Keypad and LCD Variations

- 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 |

IDAS™ Mobile Radios

IC–F5400D/F6400D

Flagship Excellence with Versatile Configuration and Colour Display

- 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) |

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

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

| NXDN™ | Conventional | Single-Site Trunking |

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
- Bluetooth® capability with optional UT-137A

| NXDN™ | Conventional | Single-Site Trunking |

Digital Repeater / Controller / System Management

IC–FR5300/FR6300

Compatible with Analogue and IDAS™ ALL Modes Including Simulcast

• 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

IDAS™ 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
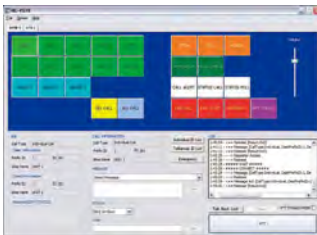
Virtual Radio/PC Dispatch

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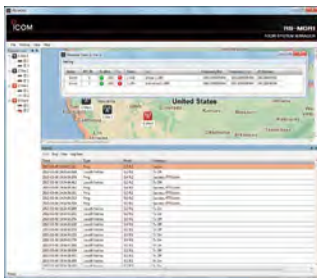
Enhance System Management for NXDN™ Type-D Trunking Systems

• 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
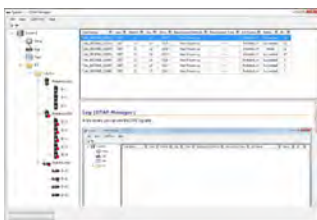
Easily Reconfigure Radios with Over-The-Air Programming

• 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

Big Sound, Small Package! Unmatched 1500 mW Audio and Features

• 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

5 W Output Power 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–F5022/F6022
IC–F5012/F6012

Affordable Analogue Mobile Radios with Advanced Features

• 2 models for display or non-display • 128 channels with display (IC-F5022/F6022) or
8 channels with LED (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 Wireless LAN

Communication System Using Wireless LAN

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

Simultaneous TalkListen™

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

Talk Listen Simultaneous

Individual, Group, All or Area Communication

Staff spread across multiple rooms can communicate simultaneously. The IP110H can send and receive short data messages with a vibration alert from another unit*.

* Send preprogrammed message from the IP110H. Free texting from a 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, simulcast and Type-D multi-site trunking system.

IDAS™ mode 2, NXDN™ conventional, simulcast or Type-D multi-site trunking

IP Phone System

IP110H

External equipment (Public Address System)

RoIP Gateway VE-PG4

Controller IP1100CV*

Access Point

Access Point

VPN Router

IP Network (Private or VPN)

Remote Communicator IP100FS

Access Point

Internet (VPN)

IP110H

VPN Router

Access Point
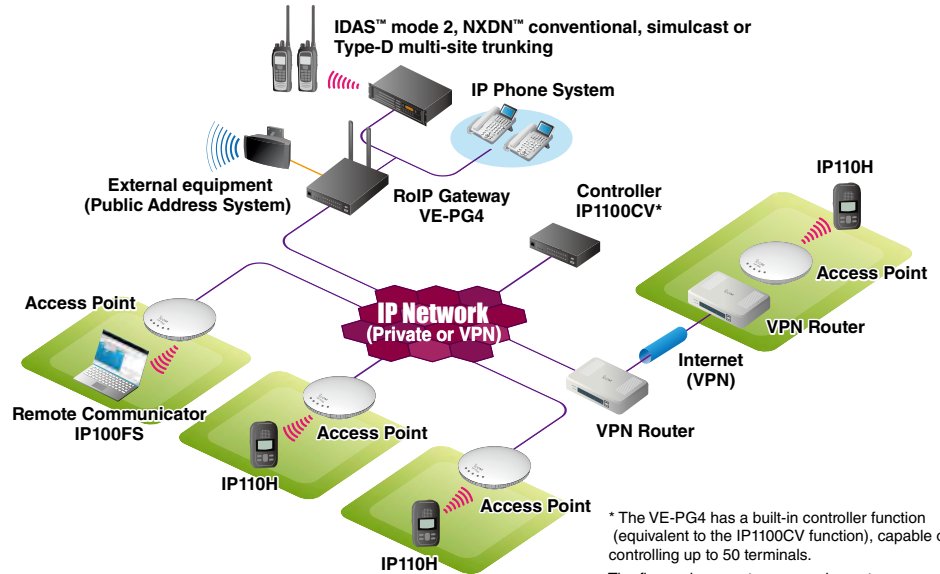
IP110H

* The VE-PG4 has a built-in controller function (equivalent to the IP1100CV function), capable of controlling up to 50 terminals.

The figures leave out some equipment, such as a network switch, to simplify the information.

IP110H

Compact Wireless LAN Radio with Simultaneous TalkListen™

• Licence-free wireless LAN radio using IEEE 802.11 a/b/g/n/ac standards (2.4 GHz and 5 GHz)*
• WPA2/WPA Enterprise as well as Personal 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 • 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.

IP100FS

Remote Communicator

• Send and receive voice, status and text message calls with WLAN radios
• Obtain location information of each radio based on connecting access point
• Can be installed on a Windows™ 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.
• Call recording function can record communication audio to an external USB flash drive
* The VE-PG4 has a built-in controller function capable of controlling up to 50 units.
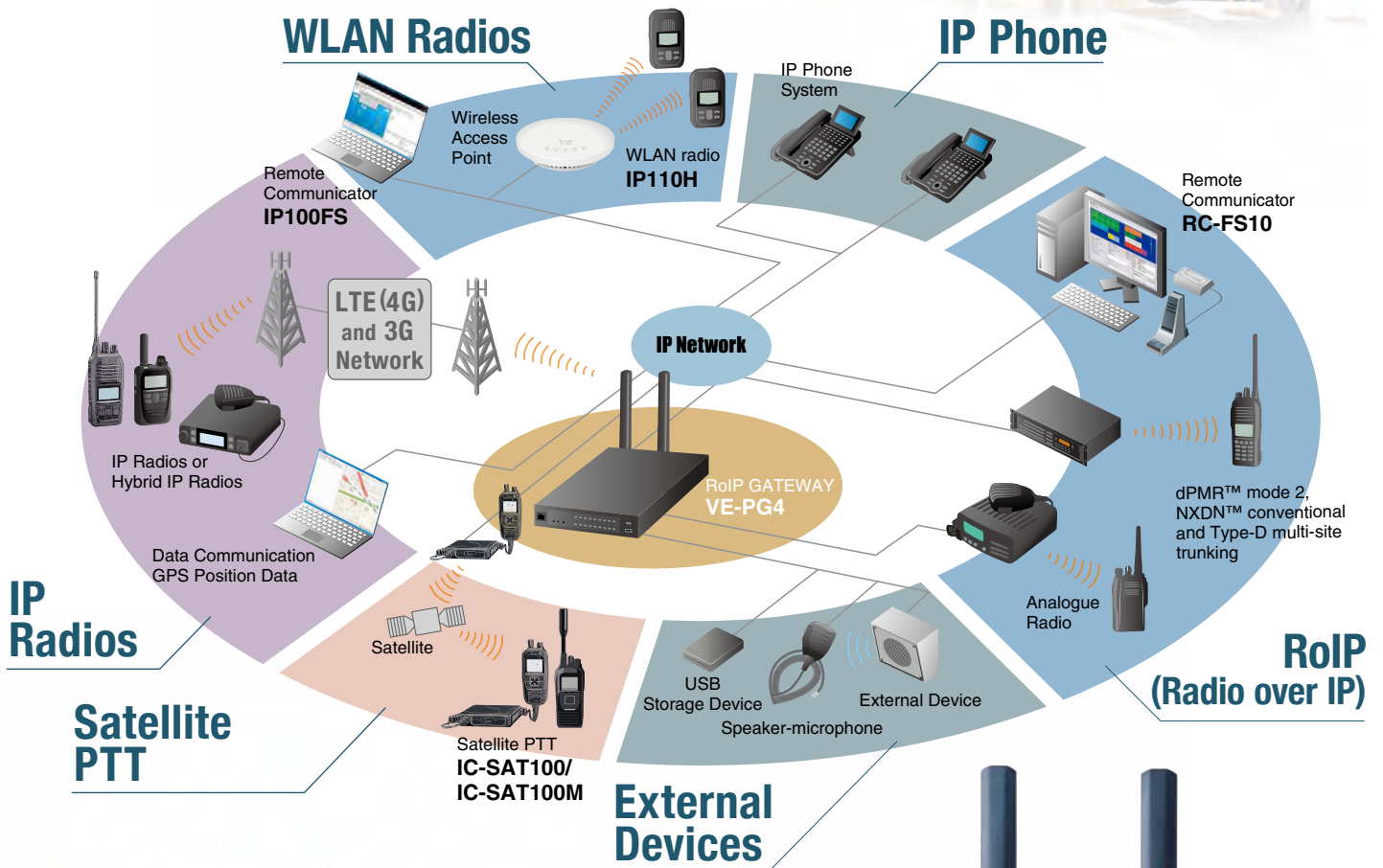
RoIP Gateway

Bridging Communication Gaps, This Radio over Gateway Device Links Diverse Voice Communication Systems and Frequencies

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

WLAN Radios

Wireless Access Point

Remote Communicator **IP100FS**

WLAN radio **IP110H**

IP Phone

IP Phone System

Remote Communicator **RC-FS10**

LTE (4G) and 3G Network

IP Network

IP Radios or Hybrid IP Radios

Data Communication GPS Position Data

RoIP GATEWAY **VE-PG4**

dPMR™ mode 2, NXDN™ conventional and Type-D multi-site trunking

Analogue Radio

IP Radios

Satellite PTT

Satellite

Satellite PTT **IC-SAT100/ IC-SAT100M**

USB Storage Device

Speaker-microphone

External Device

External Devices

RoIP (Radio over IP)

VE-PG4

Licence-Free Radios for Professional Use

IC–F29SDR `Digital/Analogue`

Multifunctional Professional Radio, Talk, Listen and See Messages

• 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 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–F29SR2 `Analogue`

Reliable High-Grade Radio for Demanding Workplaces

• PMR 446 (Analogue 16 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.

IC–U20SR `Analogue`

Professional Radio for Restaurants and Retail Shops Enhances Hospitality

• PMR 446 (Analogue 16 channels) • Compact and lightweight • IP54 / MIL810G
• 21 hours operation with BP-304A • USB Type-C™ charging • 600 mW loud and clear audio
• Emergency call button on the top of the panel • Smart-ring function to check communication range • Alert-ring function for emergency situation • VOX function for hands-free operation

Satellite PTT, IP Radio & Hybrid IP Radio Feature Comparsion

	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): 600 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 (EUR/EXP Versions) **LTE** (4G)	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
3G	B1, B8	B1, B8	B1, B8	
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-F3400DT/DPT IC-F4400DT/DPT	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	No	No
Frequency Range	136–174 MHz	136–174 MHz	136–174 MHz	136–174 MHz	136–174 MHz	136–174 MHz
	380–470 MHz	350–470, 400–520 MHz	400–470 MHz	400–470 MHz	400–470 MHz	400–470 MHz
Channels	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	6.25 kHz	6.25 kHz
Dimensions*3 (W × H × D; Projections are not included)	53.6 × 123.5 × 29.3 mm	61.7 × 140.5 × 42.8 mm	56 × 91.5 × 29 mm	52.2 × 111.8 × 34.1 mm	52.2 × 111.8 × 29.4 mm	52.2 × 111.8 × 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	5 W	5 W
IP Rating	IP68	IP67	IP67	IP67	IP67	IP67
Operating Time*3*4 (Hours)	16.5	24 (LTE mode) 13 (IDAS mode)	13	18	18	18
Display	Yes	Yes	Yes	Yes	Yes	No
Keypad	Full	Limited	Limited	Full	Limited	No
AF Output Power (Internal SP)	1300 mW typ.	1500 mW typ. (10% distortion)	1500 mW typ.	1500 mW typ.	1500 mW typ.	1500 mW typ.
Encryption — DES (4-key)	Yes	No	No	No	No	No
DES (64-key)	Optional	No	No	No	No	No
AES	Optional	No	No	No	No	No
Voice Scrambler (Digital)	Yes	Yes	Yes	Yes	Yes	Yes
Voice Scrambler (Analogue)*5	Yes	No	Yes	No	No	No
OTAP (Over-the-Air Programming)	Yes*14	Yes (Over LTE)	Yes*14	No	No	No
CTCSS/DTCS Encoder/Decoder	Yes	Yes	Yes	Yes	Yes	Yes
2-Tone Encoder/Decoder	Yes	No	Yes	Yes	Yes	Yes
5-Tone Encoder/Decoder	Yes	No	Yes	Yes	Yes	Yes
DTMF	Yes	Yes	Yes	Yes	Yes	Yes
MDC 1200	Yes	No	Yes	Yes*15	Yes*15	Yes*15
BIIS 1200	Yes	No	Yes	Yes*6	Yes*6	Yes*6
Man Down	Yes	Yes	Yes	Yes	Yes	Yes
Motion Detection Sensor	Yes	Yes	Yes	Yes	Yes	Yes
Lone Worker	Yes	Yes	Yes	Yes	Yes	Yes
Channel Announcement	Yes	No	Yes	Yes	Yes	Yes
Vibration Alert	Yes	Yes	Yes	No	No	No
Voice Recorder	Yes	Yes	Yes	No	No	No
Bluetooth® Capability	Yes	Yes	Yes	No	No	No
GPS Receiver	Yes	Yes	No	No	No	No
Short Data Message	Yes	No	Yes	Yes*8	Yes*8	Yes*8
Status Message	Yes	No	Yes	Yes*8	Yes*8	Yes*8
Emergency Call	Yes	Yes	Yes	Yes	Yes	Yes
Stun/Kill/Revive	Yes	No	Yes	Yes*9	Yes*9	Yes*9
Remote Monitor	Yes	No	Yes	Yes*9	Yes*9	Yes*9
NXDN™*10 — Conventional	Yes	Yes	Yes	Yes	Yes	Yes
Multi-Site Conventional	Yes	Yes	Yes	Yes	Yes	Yes
Simulcast	Yes	Yes	Yes	Yes	Yes	Yes
Type-D Trunking	Optional	No	Optional	Single Site only	Single Site only	Single Site only
dPMR™*10 — Mode 1/ Mode 2	Yes	No	Yes	Yes	Yes	Yes
Mode 2 Multi-site	Yes	No	Yes	Yes	Yes	Yes
Mode 3 Trunking	Optional	No	Optional	No	No	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	136–174 MHz	136–174 MHz
		380–470 MHz	400–520 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 × H × D; Projections are not included)		174 × 55 × 150 mm	150 × 45 × 161.8 mm (Main unit) 134.8 × 60.8 × 35.5 mm (Mic)	150 × 45 × 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	IPX4 (Mic)	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	No
	DES (64-key)	Optional	No	No
	AES	Optional	No	No
Voice Scrambler (Digital)		Yes	Yes	Yes
Voice Scrambler (Analogue)*5		Yes	No	No
OTAP (Over-the-Air Programming)		Yes*14	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
MDC 1200		Yes	Yes*15	Yes*15
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	Yes
	Multi-Site Conventional	Yes	Yes	Yes
	Simulcast	Yes	Yes	Yes
	Type-D Trunking	Optional	Single site only	Single site only
dPMR™*10	Mode 1/ Mode 2	Yes	No	No
	Mode 2 Multi-site	Yes	No	No
	Mode 3 Trunking	Optional	No	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.
*14 CS-OTPM1 OTAP Manager Software is separately required to send the OTAP data to the transceivers.
*15 PTT ID, emergency call, radio check (RX), and stun/revive (RX).

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

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-F5022 IC-F6022	IC-F5012 IC-F6012	IC-F29SDR	IC-F29DR3	IC-F29SR2	IC-U20SR
Frequency Range	136–174 MHz			136–174 MHz	136–174 MHz		PMR446: 16 ch dPMR446: 32 ch	PMR446: 16 ch dPMR446: 32 ch	PMR446: 16 ch	PMR446: 16 ch
	400–470 MHz			400–470 MHz	400–470 MHz					
Channels	128	128	16	16	128	8	6.25, 12.5 kHz	6.25, 12.5 kHz	12.5 kHz	12.5 kHz
Channel Spacing	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	12.5 kHz
Dimensions*¹ (W × H × D; Projections are not included)	52.2 × 111.8 × 30.3 mm			58 × 111 × 35.5 mm	150 × 40 × 117.5 mm		52.2 × 111.8 × 29.4 mm	52.2 × 111.8 × 29.4 mm	52.2 × 111.8 × 30.3 mm	50.0 × 156.0 ×26.7 mm
Weight*¹ (approx.)	270 g			272 g	800 g		270 g	270 g	270 g	157 g
RF output power (High)	5 W (VHF) 4 W (UHF)			5 W (VHF/UHF)	25 W		500 mW (ERP)	500 mW (ERP)	500 mW (ERP)	500 mW (ERP)
IP Rating	IP67			IP54	N/A		IP67	IP67	IP67	IP54
Operating Time*² (Hours)	20			31	N/A		26	26	33	21
Display	Yes	Yes	No	No	Yes	LED lighting	Yes	No	No	Yes
Keypad	Full	Limited	No	No	Yes		Limited	No	No	Limited
AF Output Power (Internal SP)	1500 mW typ.			1500 mW typ.	4 W typ.		1500 mW typ.	1500 mW typ.	1500 mW typ.	600 mW typ.
Voice Scrambler	Yes			No	No		No	No	Yes	No
CTCSS/DTCS	Encoder/Decoder	Yes			Yes	Yes		Yes	Yes	Yes	Yes
2-Tone	Encoder/Decoder	Yes			Yes	Yes		No	No	No	No
5-Tone	Encoder/Decoder	Yes			Yes	Yes		No	No	No	No
DTMF	Yes			Yes	Yes		No	No	No	No
MDC 1200	Yes*⁶			Yes*³	Yes*⁸		No	No	No	Yes*⁷
BIIS 1200	Yes*³			Yes*³	Yes*⁵		No	No	No	No
Man Down	Yes			No	No		No	No	No	No
Lone Worker	Yes			Yes	Yes		Yes	Yes	No	Yes
Motion Detection Sensor	Yes			No	No		No	No	No	No
Channel Announcement	Yes			No	No		Yes	Yes	Yes	Yes
Status Message	No			No	No		Yes	No	No	No
Emergency Call	Yes			Yes	Yes		No	No	No	Yes*⁹
Stun/Kill/Revive	Yes*⁴			Yes*⁴	Yes*⁴		No	No	No	No
Remote Monitor	Yes*⁴			Yes*⁴	Yes*⁴		No	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 PTT ID only
*⁶ PTT ID, emergency (TX/RX), radio check (RX), stun/revive (RX), transmit status messages only
*⁷ PTT ID and emergency call (TX)
*⁸ PTT ID, emergency (TX/RX), radio check (RX), stun/revive (RX) only
*⁹ TX only. An MDC compatible transceiver is necessary for receiving.

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

Optional Accessories for Handheld Radios

BATTERY PACKS

MODEL NAME	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.)	BP-304A (Li-ion) 3.6 V/2270 mAh (min.) 2350 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							✔	
IP110H								
IC-F29SDR IC-F29DR3 IC-F29SR2						✔		
IC-U20SR								✔

BATTERY CASES / DESKTOP CHARGERS

MODEL NAME	BP-305 LR6 (AA) ×5 cells	BP-291 LR6 (AA) ×5 cells	BP-263 LR6 (AA) ×6 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			✔					
IP110H								
IC-F29SDR IC-F29DR3 IC-F29SR2								
IC-U20SR								

DESKTOP CHARGERS / CHARGER STAND / BATTERY CHARGER

MODEL NAME	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-262 Charging Cradle	BC-257 Connects up to four BC-257 units.	BC-264 Battery 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					✔			
IP110H							✔ (Use with OPC-2480*1/BC-228)	
IC-F29SDR IC-F29DR2 IC-F29SR2			✔					
IC-U20SR						✔		✔

*1 OPC-2480 is a USB Type-C™ cable, which is supplied with the IP110H.
*2 AC adapter may be supplied depending on version.

✔ : 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-268** Rapid multi-charger	**BC-123S**[*4] 12 V/1 A L-shape type	**BC-123S**[*4] 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)
IP110H						✔ (Use with BC-257)			
IC-F29SDR IC-F29DR3 IC-F29SR2	✔ (#43, AD-130 installed)			✔ (Use with BC-213)			✔ (Use with BC-214N)		✔ (Use with BC-213)
IC-U20SR		✔ (Use with BC-228)				✔ (Use with BC-268)			

MODEL NAME	CHARGER BRACKET	CIGARETTE LIGHTER CABLES		DC POWER CABLE	READER SOFTWARE	APPLICATION
	MB-130	**CP-23L**	**CP-22** With DC-DC converter	**OPC-515L**	**RS-BC225**	**IP500APP** LTE radio mobile application[*5]
IP730D IP740D		✔ (Use with BC-227)		✔ (Use with BC-227)		
IP503H		✔ (Use with BC-218)	✔ (Use with BC-218)			✔
IC-SAT100						
IC-F3400DT/DS IC-F4400DT/DS		✔ (Use with BC-227)		✔ (Use with BC-219N, BC-225 or BC-227)		
IC-F52D IC-F62D		✔ (Use with BC-219N or BC-227)		✔ (Use with BC-219N, BC-225 or BC-227)	✔ (Use with BC-225)	
IC-F1100DT/DS/D IC-F2100DT/DS/D	✔ (Use with BC-213)	✔ (Use with BC-213)				
IC-F1000/T/S IC-F2000/T/S	✔ (Use with BC-213)	✔ (Use with BC-213)				
IC-F3002 IC-F4002		✔ (Use with BC-240)		✔ (Use with BC-240)		
IP110H						
IC-F29SDR IC-F29DR3 IC-F29SR2	✔ (Use with BC-213)	✔ (Use with BC-213)				
IC-U20SR						

MODEL NAME	SPEAKERPHONE UNIT	SPEAKER-MICROPHONES						
	VE-SP1	**HM-245T** With SUB PTT button	**HM-222H** High power audio	**HM-236**	**HM-184H**	**HM-222HLWP** High power audio	**HM-168LWP**	**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						✔		✔
IP110H								
IC-F29SDR IC-F29DR3 IC-F29SR2						✔	✔	✔
IC-U20SR								

[*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.
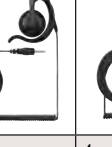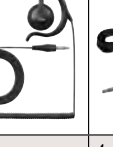[*4] BC-123SA for USA plug. SE for EURO plug. SV for Australia plug. SUK for UK plug.
[*5] For Android™: Android™ version 8.0 or later. For iOS™: iOS™ version 12 or later.

Optional Accessories for Handheld Radios

MODEL NAME	SPEAKER-MICROPHONES						EARPHONE-MICROPHONES	
	HM-159LA	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	✔							
IP110H					✔	✔		
IC-F29SDR / IC-F29DR3 / IC-F29SR2	✔						✔	✔
IC-U20SR		✔	✔					

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-2006LS or OPC-2328)	✔*6 (Use with OPC-2006LS or OPC-2328)	✔*6 (Use with OPC-2006LS or OPC-2328)
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)
IP110H			✔			✔	✔*6 (Use with OPC-2133)	✔*6 (Use with OPC-2133)	✔*6 (Use with OPC-2133)
IC-F29SDR / IC-F29DR3 / IC-F29SR2							✔ (Use with VS-4LA or OPC-2004LA)	✔ (Use with VS-4LA or OPC-2004LA)	✔ (Use with VS-4LA or OPC-2004LA)
IC-U20SR	✔	✔					✔ (Use with OPC-2006LS or OPC-2328)	✔ (Use with OPC-2006LS or OPC-2328)	✔ (Use with OPC-2006LS or OPC-2328)

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)
IP110H									
IC-F29SDR / IC-F29DR3 / IC-F29SR2		✔	✔						
IC-U20SR									

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

✔ : Applicable ☐ : Not applicable

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		✔ (Use with HS-94, HS-95 or HS-97)							
IP503H					✔ (Use with HS-94, HS-95 or HS-97)	✔ (Use with HS-102)		✔ (Use with HS-94, HS-95 or HS-97)	
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)		
IP110H	✔								✔
IC-F29SDR IC-F29DR3 IC-F29SR2				✔ (Use with HS-94, HS-95 or HS-97)			✔ (Use with HS-94, HS-95 or HS-97)		
IC-U20SR					✔ (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 Swivel type	MB-135 MB-133 MB-124 MB-127 MBB-1 MBB-3 MBB-5 Alligator type (Photo shows MB-133)	MB-96N	MB-96F	MB-96FL	MBF-1 For use with BC-218
IP730D IP740D		✔	✔		✔ (Use MB-133)	✔	✔	✔	
IP503H					✔ (Use MB-135)				✔ (Use with MBA-7)
IC-SAT100		✔	✔		✔ (Use MBB-5)				
IC-F3400DT/DS IC-F4400DT/DS		✔		✔	✔ (Use MB-133)	✔	✔	✔	
IC-F52D IC-F62D		✔	✔	✔	✔ (Use MBB-3)	✔	✔	✔	
IC-F1100DT/DS/D IC-F2100DT/DS/D					✔ (Use MB-133)				
IC-F1000/T/S IC-F2000/T/S					✔ (Use MB-133)				
IC-F3002 IC-F4002					✔ (Use MB-124)				
IP110H	✔ (Use with HS-94, HS-95 or HS-97)				✔ (Use MBB-1)				
IC-F29SDR IC-F29DR3 IC-F29SR2					✔ (Use MB-133)				
IC-U20SR					✔ (Use MB-127)				

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	✔ (Use with MBF-1)		✔	✔					
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									
IP110H									
IC-F29SDR IC-F29DR3 IC-F29SR2									
IC-U20SR									

*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-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	✔ (Use with LC-195)	✔	✔	✔			✔	✔
IP503H	✔ (Use with LC-183 or LC-185)							
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			✔				✔	
IP110H								
IC-F29SDR IC-F29DR3 IC-F29SR2								
IC-U20SR								

MODEL NAME	STUBBY ANTENNAS		ONE-TOUCH CONNECTOR	EXTERNAL ANTENNAS			COAXIAL CABLES	
	FA-S81VS 136–150 MHz FA-S82VS 148–162MHz 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-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		✔ *8						
IP110H								
IC-F29SDR IC-F29DR3 IC-F29SR2								
IC-U20SR								

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 (Photo shows OPC-1870)	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					
IP110H					
IC-F29SDR IC-F29DR3 IC-F29SR2					
IC-U20SR					

*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 Activation key, ISL-AKAE3 is needed for AES operation.
  Either Key Loader Software, CS-KLD2 or OTAR Manager Software, CS-OATR1 is needed separately.

✔ : Applicable   : Not applicable

Optional Accessories for Mobile Radios and Repeaters

MODEL NAME	HAND MICROPHONES									SPEAKER-MICROPHONE
	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-152	HM-152T with DTMF keypad	HM-148G Heavy-duty type	HM-148T Heavy duty type with DTMF keypad	HM-241
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	HEADSET	DESKTOP MICROPHONES		EXTERNAL SPEAKERS		SEPARATION KITS		COMMANDMIC™	
	VS-3 Bluetooth® headset	SM-29	SM-26	SP-30	SP-35 2 m cable / SP-35L 6 m cable	RMK-5	RMK-7 Dual head	HM-218 Secondary controller for use with RMK-5 IP55	HM-230HB IP55
IP501M	✔			✔	✔				✔
IC-SAT100M	✔			✔	✔				
IC-F5400D, IC-F6400D		✔		✔	✔	✔ (Separation cable is required)	✔ (Separation cable is required)	✔ (Separation cable is required)	
IC-F5330D, IC-F6330D	✔			✔	✔				
IC-F5130D, IC-F6130D	✔ (Use with UT-137A)		✔	✔	✔				
IC-FR5300, IC-FR6300			✔		✔				
IC-F5022, IC-F6022			✔		✔				
IC-F5012, IC-F6012			✔	✔	✔				

MODEL NAME	HANDS-FREE MIC	EXTENSION CABLE	SEPARATION CABLES			MICROPHONE CABLES		ACC CABLES	
	HM-249	OPC-2500 EXTENSION CABLE FOR HM-249	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) (Photo shows OPC-1939)	OPC-2407 D-SUB 25-pin type
IP501M	✔	✔ (Use with HM-249)				✔ (Use with HM-230HB or HM-241)			✔
IC-SAT100M							✔		
IC-F5400D, IC-F6400D			✔	✔					
IC-F5330D, IC-F6330D								✔ *12	
IC-F5130D, IC-F6130D	✔	✔ (Use with HM-249)						✔ *12	
IC-FR5300, IC-FR6300									
IC-F5022, IC-F6022	✔	✔ (Use with HM-249)						✔	
IC-F5012, IC-F6012	✔	✔ (Use with HM-249)						✔	

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

Optional Accessories for Mobile Radios and Repeaters

MODEL NAME	ZONE COPY CABLE OPC-2362 Mobile to handheld	GPS ANTENNA UX-241 5 m cable length	OPTION BOARDS UT-134 *11 AES/DES encryption unit	UT-137A Bluetooth® unit	CHANNEL MODULES UR-FR5300 136–174 MHz, 25 W / UR-FR6300 400–470 MHz, 25 W	NETWORK CONTROLLER UC-FR5300 *13	IDAS™ SOFTWARE CF-FR5000MC Multi-site conventional	CF-FR5000MT Type-D Multi-site trunking software	CF-FR5300SC Simulcast Multi-site conventional software
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	AC ADAPTER BC-157S 12 V/7.5 A	EXTERNAL ANTENNA AH-40 Magnetic mount antenna with 1.5 m cable	COAXIAL CABLE OPC-2422 5D-HFA, 5 m	SHORT MESSAGE APP RS-SAT100 for Android™ for iOS™	DC POWER CABLE 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 Activation key, ISL-AKAE3 is needed for AES operation. Either Key Loader Software, CS-KLD2 or OTAR Manager Software, CS-OATR1 is needed separately.

*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.

HANDS-FREE MICROPHONE HM-249

Remote PTT button · Microphone · PTT button
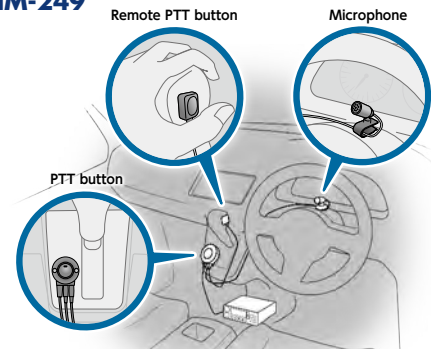
Please put these parts in the position where does not influence to your driving operation.

Driver can keep talking, while driving in safety
- Push-ON and push-OFF toggle operation for main PTT button
- Momentary operation for remote PTT button
- LED in Main PTT button lights up when transmitting

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-AKAES AES encryption activation key	ISL-CHEX Channel expansion 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

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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	✔	✔		✔	✔	✔	✔	✔	✔	✔
IP100FS			✔ (Use with CT-23)							
RC-FS10			✔ (Use with CT-23)							
IP1100CV	✔	✔								

MODEL NAME	HAND MICROPHONES			DESKTOP MICROPHONE	MICROPHONE ADAPTER	DIGITAL VOICE CONVERTER	MOUNTING BRACKET
	HM-152	HM-152T DTMF keypad type	HM-216 Short cable*14	SM-26	CT-23	CT-24	MBF-6
VE-PG4	✔*13	✔*13	✔*13	✔*13		✔	✔
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)	✔	✔*15 (Same as supplied)	
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.

*15 One CT-24 is supplied with the RC-FS10 and add CT-24 AMBE+2™ vocoder(s) to control other repeater site(s). Up to 8 repeaters can be controlled at one RC-FS10 installation.

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