

PROFESSIONAL COMMUNICATIONS















Company Profile

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

Icom quality and Icom reliability

Over 50 years of engineering and production excellence is a part of every Icom's product. Using the latest equipment, Icom radios are tested to pass rigorous in-house tests as well as environmental tests to the US Military standard 810 specifications. Icom's products are also compliant with the European RoHS directive and intrinsic safety.





Icom, world brand name

lcom is recognised as a reliable 2-way radio global brand name around the world. Our land mobile radios are used by many professional organizations all over the world, like public safety, security and humanitarian organizations.

Made in Japan quality

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





Icom's worldwide network

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

INDEX



IP ADVANCED RADIO SYSTEM



>> P.5



RoIP/VPN





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Why 6.25 kHz FDMA Narrowband?

True Narrowband: Reliable Communications for Half the Spectrum!

6.25 kHz FDMA allows you to double the capacity of your valued spectrum. The choice of two independent 6.25 kHz in 12.5 kHz, or a standalone 6.25 kHz channel is yours. This double capacity/independent channel flexibility and efficiency is only possible with 6.25 kHz FDMA.

Communications Reliability When You Most Need It

No need to allow for TDMA time slot synchronization. Instant communications in emergencies and critical situations. FDMA is the fail safe mode of choice in land mobile radio. Nothing else compares.

FDMA: Proven History Like No Other Radio Technology

For over 50 years, FDMA has been the backbone of two-way radio communication. Generational enhancements have culminated in the

realization of 6.25 kHz FDMA digital protocols that are literally ahead of their time, while keeping backward compatibility with analog FM.

6.25 kHz Channels: the Current and Future Trend

6.25 kHz channel plans and standards are used in North America, Europe, Japan, Oceania, and the list goes on. 6.25 kHz provides an answer to the worldwide problem of spectrum shortage and efficient use.

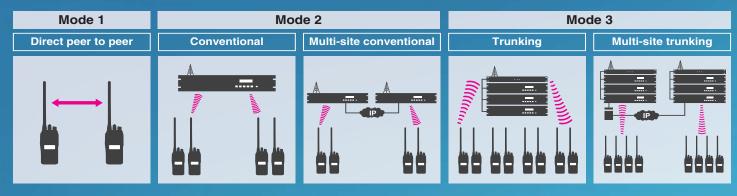
6.25 kHz Fundamental Excellence

Narrower bandwidth FDMA provides technical excellence in sensitivity, interference resistance, increased coverage, audio quality, spectrum efficiency and more. Why look at anything else?

Icom Radio Systems

dPMR™ licenced digital radio system

The IDAS dPMR digital radio system utilizes a 6.25 kHz FDMA digital radio protocol which meets the ETSI dPMR technical standards and provides spectrum efficient true 6.25 kHz very narrow channel spacing. The IDAS dPMR system is scalable from Mode 1 direct peer to peer, Mode 2 conventional repeater mode up to Mode 3 high traffic trunking systems with IP network multi-site connectivity.



VE-PG3 RoIP Gateway

The VE-PG3 RoIP gateway provides simplified cross system/cross band/cross protocol connection between VHF/UHF land mobile, marine VHF and air band frequencies. The VE-PG3 can convert analogue/digital audio each other for mixed mode operation and can interconnect various systems such as IDAS dPMR and NXDNTM system, IP advanced radio system using wireless LAN frequencies and IP phone and analogue phone systems.

* Cross band/cross category operation may be prohibited in some countries.



IP Advanced Radio System

The IP advanced radio system is a licence-free full duplex communication system that works over a wireless LAN and IP network. By deploying wireless access points along your IP network, a wireless communication system can be installed in buildings, factories or complex facilities without difficulty, providing clear coverage and communication.

Digital Handheld Radios



VHF DIGITAL TRANSCEIVERS

IC-F3400DPT/DPS/DP 6W)

UHF DIGITAL TRANSCEIVERS

IC-F4400DPT/DPS/DP (5 W)

IDAS™ TAKES YOU TO A NEW LEVEL OF "SMART"

























- Small, slim and stylish with custom SoC (System-on-a-Chip)
- High resolution transreflective colour LCD
- Bluetooth® module for remote and hands-free operation
- dPMR™ Mode 1/2 digital and Mode 3 trunking with the upgrade licence
- OTAP (Over-the-Air-Programming) and OAA (Over-the-Air-Alias)*
- IP68 waterproof (1 m depth water for 1 hour) and dust-tight
- * Optional software required.
- Motion/Stationary detection, man down and lone worker functions Vibration alert Audio equalizer and active noise canceling • Digital voice recording to a microSD card • USB port for PC connection • AquaQuake™ function • Menu and function item localization • Internal clock • Broadcast call • Ambience listening • Status call and short data message • Call back function for Mode 3 • Transparent data • Remote kill, stun and revive • Built-in 5-Tone, 2-Tone, CTCSS and DTCS • DTMF autodial memories and decoder • MDC 1200 compatible • BIIS 1200 functions

Some functions will be available with future firmware upgrade.

Supplied Accessories

- Battery pack, BP-283
 Belt clip, MB-133
- * May differ or not supplied, depending on version.



VHF DIGITAL TRANSCEIVERS

IC-F3262DT/DS (5 W)

UHF DIGITAL TRANSCEIVERS

-F4262DT/DS(5 W)

ADVANCED DIGITAL RADIO WITH **BUILT-IN GPS AND WATERPROOF**























FEATURES

- dPMR™ Mode 1/2 digital and Mode 3 trunking
- Integrated GPS receiver and man down functions*
- IP67 waterproof and dust-tight
- Large full dot-matrix LCD with menu driven interface
- Transparent data modem function
- * Functions are not installed depending on version.
- Broadcast call Ambience listening Status call and short data message • Call back function for Mode 3 trunking • Remote kill, stun and revive • 14-pin accessory connector with amplifier output • Builtin 5-Tone, 2-Tone, CTCSS and DTCS • BIIS 1200 functions • Eight DTMF autodial memories • Inversion voice scrambler for analogue • Audio compander for analogue

Supplied Accessories

Battery pack, BP-232WP Belt clip, MB-94R Antenna



Digital Radios / Analogue Radios



VHF DIGITAL TRANSCEIVER IC-F1000D (5 W) **UHF DIGITAL TRANSCEIVER**

IC-F2000D(4W)

COMPACT, WATERPROOF DIGITAL BUSINESS RADIO













FEATURES

- dPMR™ Mode 1/2 digital and analogue
- Slim, compact and lightweight
- IP67 waterproof and dust-tight
- Motion/stationary detection, man down and lone worker functions
- Good audio for noisy environments
- Radio stun/kill/revive (RX) Ambience listening Status call (TX and RX beep) • Short data message (RX notification)
- Voting scan GPS position data with optional HM-171GPW • Built-in 2-Tone, 5-Tone, CTCSS and DTCS • BIIS 1200 PTT ID and emergency call • DTMF autodial

Supplied Accessories

- Battery pack, BP-280 Desktop charger, BC-213
- AC adapter, BC-123SE/SUK* Belt clip, MB-133 Antenna
- * May differ or not supplied, depending on version.



VHF HANDHELD TRANSCEIVERS IC-F1000T/S(5W) **UHF HANDHELD TRANSCEIVERS** IC-F2000T/S(4W)

SLIM, COMPACT DIMENSIONS WITH IP67 WATERPROOFING













FEATURES

- Compact and slim body (24.5 mm depth)
- IP67 waterproof and dust-tight
- Enhanced emergency with motion sensor
- Easy to hear in noisy environments
- 16 codes inversion voice scrambler
- Built-in 5-Tone, 2-Tone, CTCSS and DTCS BIIS 1200 PTT ID and Emergency call • MDC 1200 PTT ID, Emergency and other limited functions • Eight DTMF autodial memories • Surveillance function • Escalating alarm • "Shift key" function

Supplied Accessories

- Battery pack, BP-279 Desktop charger, BC-213
- AC adapter, BC-123SE/SUK Belt clip, MB-133 Antenna
- * May differ or not supplied, depending on version.



VHF HANDHELD TRANSCEIVER IC-F1000 (5 W) **UHF HANDHELD TRANSCEIVER** IC-F2000(4W)

SIMPLE, BASIC MODEL WITH **IP67 WATERPROOFING**













FEATURES

- Compact and slim body (24.5 mm depth)
- IP67 waterproof and dust-tight
- Enhanced emergency with motion sensor
- Easy to hear in noisy environments
- 16 codes inversion voice scrambler
- Built-in 5-Tone, 2-Tone, CTCSS and DTCS BIIS 1200 PTT ID and Emergency call • MDC 1200 PTT ID, Emergency and other limited functions • Eight DTMF autodial memories • Surveillance function • Escalating alarm • "Shift key" function

Supplied Accessories

- Battery pack, BP-279
 Desktop charger, BC-213
 AC adapter, BC-123SE/SUK
 Belt clip, MB-133
 Antenna
- * May differ or not supplied, depending on version.



Intrinsically Safe Radios / Analogue Radios



VHF DIGITAL TRANSCEIVER IC-F3202DEX (1W)

UHF DIGITAL TRANSCEIVER

IC-F4202DEX

IECEx/ATEX INTRINSICALLY **SAFE DIGITAL RADIO**

















FEATURES

IEC Certifications

Mining: Ex ib I Mb Gas: Ex ib IIC T4 Gb Dust: Ex ib IIIC T110°C Db −20°C≤Ta≤+55°C

ATEX Certifications

Mining: I M2 Ex ib I Mb Gas: II 2G Ex ib IIC T4 Gb Dust: II 2D Ex ib IIIC T110°C Db −20°C≤Ta≤+55°C

• dPMR™ Mode 1/2 digital and analogue

• Power ON/OFF status call (TX) • Radio stun/kill/ revive (RX) • Ambience listening (RX) • Emergency (TX) • Voting scan • Built-in 2-Tone, 5-Tone, CTCSS and DTCS • BIIS 1200 PTT ID transmission • DTMF autodial • Optional speaker-microphone, HM-203EX

Supplied Accessories

- Battery pack, BP-277EX Desktop charger, BC-212EX
- AC adapter, BC-123SE/SUK* Belt clip, MB-94EX Antenna * May differ depending on version.

IC-F51 ATEX IC-F61 ATEX Icom Inc P₀ P₁ P₂ P₃ Po P1 P2 P3

VHF HANDHELD TRANSCEIVER

IC-F51ATEX (1W)

UHF HANDHELD TRANSCEIVER IC-F61ATEX (1W)

ATEX INTRINSICALLY **SAFE RADIO**













FEATURES

ATEX Intrinsically Safe

Gas: II2G Ex ib IIA T3 Gb Dust: II2D Ex tb IIIC T160°C Db IP67 (Tamb=-20°C to +55°C) EN 60079-0 (2012)+A11:2013, EN 60079-11 (2012), EN 60079-31 (2014)

• Lone worker function • Built-in 2-Tone, 5-Tone, CTCSS and DTCS • BIIS 1200 capability • MDC 1200 compatibility • Eight DTMF autodial memories • Mode dependent scan • Compact body; 56 (W) × 97 (H) × 36.4 (D) mm • Optional speaker-microphone, HM-138

Supplied Accessories

• Battery pack, BP-227AXD • Belt clip, MB-98 • Antenna



VHF HANDHELD TRANSCEIVER IC-F51V_(5 W)

UHF HANDHELD TRANSCEIVER IC-F61V_(4W)

RADIO & PAGER, **ALL-IN-ONE**















- Vibration alert function
- Up to 8 minutes voice recorder
- IP67, dust-tight and waterproof
- 700 mW audio output power
- Lone worker function

• Built-in 2-Tone, 5-Tone, CTCSS and DTCS • BIIS 1200 capability • MDC 1200 compatibility • Eight DTMF autodial memories • Mode dependent scan • BTL only version (no vibration alert and no voice recorder) and BTL/Vibration alert version (no voice recorder) available in some countries.

Supplied Accessories

• Battery pack, BP-274 • Belt clip, MB-98 • Antenna



dPMR™ 446 Digital Radios / PMR 446 Radios



dPMR™ 446/PMR 446 TRANSCEIVER

IC-F29DR (500 mW ERP)

PROFESSIONAL DIGITAL LICENCE-FREE RADIO













FEATURES

- Digital: improved resistance to interference
- No licence is required to use the radio
- Compact and slim body (30.3 mm depth)
- IP67 waterproof and dust-tight
- 11 km* coverage (wide open space)
- * Communication range will vary depending on terrain and conditions.
- Outstanding audio quality 16-position rotary channel knob with voice announcement function • Call ring tone function • Operating channels are programmable in the field • PC programmable • Digital common ID, CTCSS and DTCS codes for group call . Power on scan

Supplied Accessories

- Battery pack, BP-280 Desktop charger, BC-213
- AC adapter, BC-123SE/SUK* Belt clip, MB-133
- * May differ or not supplied, depending on version.



PMR 446 TRANSCEIVER

IC-F29SR (500 mW ERP)

SLIM, WATERPROOF LICENCE-FREE RADIO











FEATURES

- Licence-free analogue PMR 446
- No licence is required to use the radio
- Compact and slim body (24.5 mm depth)
- IP67 waterproof and dust-tight
- 8 km* coverage (wide open space)
- * Communication range will vary depending on terrain and conditions.
- Easy to use and easy to hear 16-position rotary channel knob programmable operating channel and group code • Call ring tone function • Answer back call function • PC programmable • Built-in voice scrambler for private conversation • CTCSS and DTCS codes for group call

Supplied Accessories

- Battery pack, BP-279
 Desktop charger, BC-213
 AC adapter, BC-123SE/SUK*
 Belt clip, MB-133
- * May differ or not supplied, depending on version.

Pan-European Licence-Free Communication



The IC-F29DR and IC-F29SR meet pan-European PMR 446 licence-free radio standards. The IC-F29DR and IC-F29SR is ideal for organisations and businesses where the workplace is constantly changing such as construction sites and

Digital Advantages



The IC-F29DR is available with 16 digital channels and utilises 6.25 kHz narrow channel spacing. Even in urban areas where analogue PMR 446 users often experience channel congestion, digital channels offer less interference. Therefore, it is so suitable for professional use.



Digital Mobile Radios

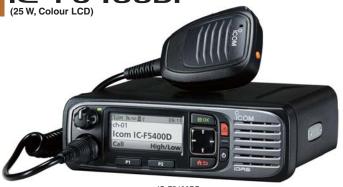
VHF DIGITAL TRANSCEIVER

IC-F5400DP

(25 W, Colour LCD)

UHF DIGITAL TRANSCEIVER

-F6400DP



IC-F5400DP

VHF DIGITAL TRANSCEIVER

IC-F5400DPS

UHF DIGITAL TRANSCEIVER

-F6400DPS



IC-F5400DPS

IDAS™ TAKES YOU TO A NEW LEVEL OF "SMART"



































FEATURES

- High resolution colour LCD (IC-F5400DP/IC-F6400DP only.)
- Bluetooth® module for remote and hands-free operation
- dPMR™ Mode 1/2 digital and Mode 3 trunking with the upgrade licence
- OTAP (Over-the-Air-Programming) and OAA (Over-the-Air-Alias)*
- IP55 jet water resistance and dust-protection
- Optional detached controller, dual head or COMMANDMIC™ configurations (IC-F5400DP/IC-F6400DP only.)
- * Optional software required.

• Built-in GPS receiver (UX-241 GPS antenna required separately) • Lone worker function • Audio equalizer and active noise canceling • Digital voice recording to a microSD card • USB port for PC connection • Menu and function item localization • Ignition line • D-SUB 25-pin ACC connector • 20 W audio amplifier • Broadcast call • Ambience listening • Status call and short data message • Call back function for Mode 3 • Transparent data • Remote kill, stun and revive • Built-in 5-Tone, 2-Tone, CTCSS and DTCS • DTMF autodial memories and decoder • MDC 1200 compatible • BIIS 1200 functions * Some functions will be available with future firmware upgrade.

Supplied Accessories

• Hand microphone, HM-221 • DC power cable • Mounting bracket kit • Microphone hanger



Multiple Controller Configurations*

With a combination with optional separation kits, COMMANDMIC[™] and separation cables, three types of controller configurations are available to suit almost any application or installation that may be required.

* Multiple controller configurations are for IC-F5400DP/IC-F6400DP only.





Dual head controller configuration



controller configuration

VHF DIGITAL TRANSCEIVER

UHF DIGITAL TRANSCEIVER IC-F5062D(25 W) IC-F6062D(25 W)

VERSATILE, MULTI-FUNCTION **PROFESSIONAL**

















FEATURES

- dPMR™ Mode 1/2 digital and Mode 3 trunking
- Large dot-matrix LCD with menu driven interface
- IP54 splash resistance and dust-protection (Controller only)
- Detachable front panel (Optional RMK-3 and separation cable required)
- D-SUB 25-pin accessory connector and ignition sensing
- Broadcast call Ambience listening Status call and short data message • Transparent data call • Emergency call and alert • Remote kill, stun and revive • Built-in 5-Tone, 2-Tone, CTCSS and DTCS • Eight DTMF autodial • Optional voice scrambler UT-109R/UT-110R and built-in inversion voice scrambler for analogue mode • Ignition line

Supplied Accessories

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



Digital Radios / Analogue Radios

VHF DIGITAL TRANSCEIVER IC-F5122D (25 W) **UHF DIGITAL TRANSCEIVER** IC-F6122D (25 W)

DIGITAL STANDARD MOBILE RADIO













FEATURES

- dPMR™ Mode 1/2 digital and analogue FM mode operation
- Digital/analogue mixed mode operation
- Front mounted speaker delivers clear and loud audio
- Built-in 5-Tone, 2-Tone, CTCSS and DTCS (Analogue mode)
- External memory channel control with optional ACC cable
- Status call and data call (Short Data Message) Transparent data call (Xon/Xoff) • Remote kill, stun and revive (RX) • Ambient listening (RX)
- Voting scan BIIS PTT ID transmission Eight DTMF autodial memories • Lone worker function • Surveillance function

Supplied Accessories

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





VHF MOBILE TRANSCEIVER



IC-F5012/F6012

HARDWORKING MOBILE **RADIOS**







FEATURES

- 128 memory channels and 8-character alphanumeric display (IC-F5022/F6022 only)
- 8 memory channels and LED lighting (IC-F5012/F6012 only)
- Front mounted speaker delivers clear and loud audio
- Built-in 5-Tone, 2-Tone, CTCSS and DTCS
- External memory channel control with optional ACC cable
- BIIS PTT ID transmission
 MDC 1200 compatible (Limited functions)

Supplied Accessories

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

Data Radios



RS-232 + Ethernet version



RS-232 version

VHF DATA TRANSCEIVER

IIC-F5122DD

UHF DATA TRANSCEIVER IIC-F6122DD

GENERAL PURPOSE TRANSPARENT DATA MODEM







FEATURES

- 9600 bps (at 12.5 kHz) and 4800 bps (at 6.25 kHz) data mode
- 25 W, 10 W and 6 W three-step RF output power
- TCP/IP protocol (IPv4) supported for Ethernet
- Meets EN 300 113/EN 300 279 standards
- Fast data transfer using 4-level FSK modulation

Supplied Accessories

• DC power cable • Mounting bracket kit



dPMR™ Digital Repeaters / dPMR™ Mode 3 Controllers



VHF REPEATERS

IC-FR5100 (25 W, 100% duty) IC-FR5100H (50 W, 100% duty) UHF REPEATERS IC-FR6100

(25 W, 100% duty)

-FR6100H (50 W, 100% duty)

VALUE, PERFORMANCE AND FLEXIBILITY













FEATURES

- dPMR™ Mode 2 digital and analogue FM with auto sensing
- dPMR™ Mode 3 repeater for use with IC-FC5000E controller Optional UC-FR5000SE required.
- 100% duty cycle operation At 25°C ambient temperature.
- "Two channels in one box" configuration for IC-FR5000/FR6000 Optional UR-FR5100/UR-FR6100 required.
- 32 channel capacity 2U height rack mount design Base station operation for Analogue and dPMR Mode 2 operation • D-SUB 25-pin accessory connector • CW-ID transmission • Built-in 5-tone, CTCSS and DTCS • Optional voice scrambler UT-109R/UT-110R and built-in voice scrambler • DTMF encode and decode • IC-FR6200H: high power, full duty repeater with heatsink chassis version (Export version)

Supplied Accessories

• DC power cable • Key assign stickers



dPMR[™] **MODE** 3 **EXTERNAL CONTROLLER**

IC-FC5000E

dPMR™ MODE 3 TRUNKING CONTROLLER





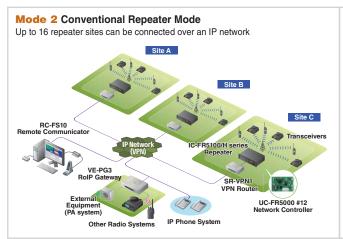
FEATURES

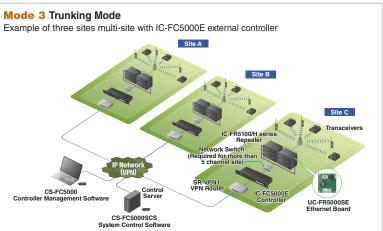
- Spectrum efficient centralized control channel trunking
- Up to 32 channels per site (One control channel, up to 31 traffic channels)
- Up to 32 site multi-site trunking (256 site planned) with CS-FC5000SCS system control software
- Four Channel licence activation key is supplied with the controller For additional channels/sites, an activation key is required.
- Call queuing and emergency call with pre-emption

• CS-FC5000 web based management software • Firmware update over an IP network • Remote reboot of the trunking controller over an IP network • Repeater anomaly detection and alert • A traffic channel can be configured as a secondary control channel • 1U (44mm) rack mount

Supplied Accessories

DC power cable







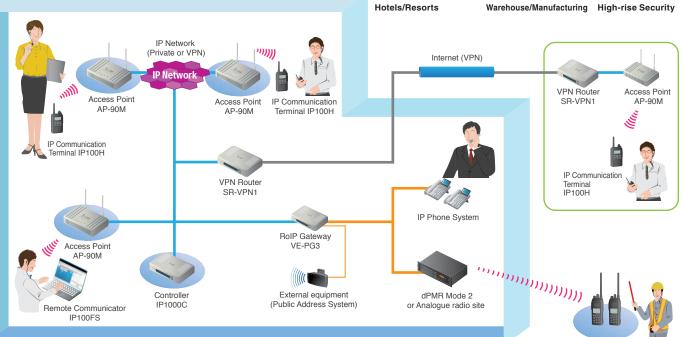
IP ADVANCED RADIO SYSTEM

FULL-DUPLEX COMMUNICATION THAT WORKS OVER A WIRELESS IP NETWORK









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

FEATURES

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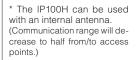
Wireless Communication System

By deploying access points along the existing IP network, the IP advanced radio system can communicate from anywhere in the facility. The IP100H can access the nearest access point and can roam between access points.

Individual, Group, All or Area Communication

Staff spread across multiple rooms and cabins can communicate seamlessly. The IP communication terminal can receive Short Data Messages with a vibration alert from a PC installed IP100FS.

IP Communication Terminal





- · License-free wireless LAN communication terminal using IEEE 802.11 a/b/g/n standards (2.4 GHz and 5 GHz*)
- WPA-PSK or WPA2-PSK encryption
- IPX7 waterproof (1m depth water for 30 minutes)
- Rugged construction
- Compact 58 × 95 × 26.4 mm body and 205 g (approximate) lightweight
- · Vibration alert function for incoming calls
- Authorized frequency range and channels may differ depending on country

Hands-free, Full-duplex Communication

With an optional earphone-microphone or headset*, the IP100H user can simultaneously talk and receive like a phone call. Hands-free operation allows your staff to carry out other tasks at the same time.

* For full-duplex operation, please use either HM-153LS, HM-166LS, HS-102 with OPC-2359 or HS-85 with OPC-2144 for full-duplex operation.

Interconnect between IDAS™ and IP Phone System

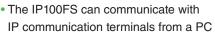
With the VE-PG3 RoIP gateway, the IP advanced radio system can interconnect with IP phone system, analogue transceiver and dPMR™ mode 2 digital transceiver.

WIRELESS LAN ACCESS POINT

AP-90M

- IEEE 802.11 a/b/g/n/ac compliant (2.4GHz and 5GHz*)
- PoE (Power over Ethernet) capability
- Optional RS-AP3, Access point management software
- * Authorized frequency range and channels may differ depending on country

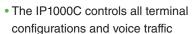
REMOTE COMMUNICATOR IP100FS





- The IP100FS can obtain location information of each IP100H based on using access points, when used with AP-90M
- Can be installed to a Windows®-based tablet PC as well as laptop PC
- Supplied with USB flash drive for use as a USB hardware key

CONTROLLER IP1000C





- Capable of controlling up to 100 or 20* terminals (including IP100FS)
- * Depending on the IP1000C version

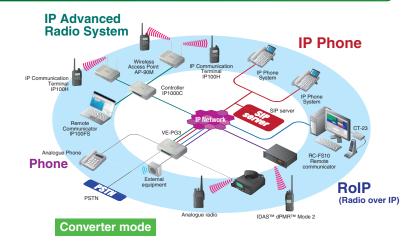
RoIP Gateway / VPN Router / Remote Communicator





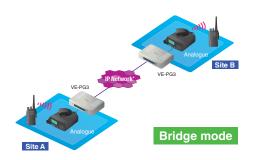
VERSATILE RADIO OVER IP GATEWAY





FEATURES

- Interconnects between dPMR[™] Mode 2, analogue radio and IP Advanced Radio System
- Telephone interconnection with IP phone and PSTN lines
- Cross band, cross category interconnection
- Public address, siren, warning light and external equipment connection
- Optional RC-FS10 software for virtual PC dispatch station
- RoIP and SIP gateway functions Direct dialing from radio user* (* Limited to radios with DTMF capability) Optional CT-24 digital voice converter converts analog radio and G.711 µ-law codec to the AMBE+2™ codec for the IDAS radio system The virtual serial port function for remote control connected analogue radios or equipment from a PC over the IP network IP router function: PPPoE/IPv6 bridge, NAT, dynamic DNS, VPN pass through, IP filter, SNMP and SYSLOG USB flash drive connection for firmware updates and data backup Site-to-site bridge mode communication over the IP network Site-to-multisite bridge mode communication using IP multicast network Mixing audio function for bridge mode



Supplied Accessories

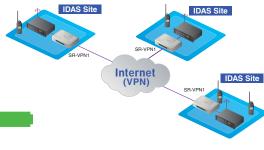
- AC adapter, BC-207S Ferrite core
- Spare quick connectors Utility software CD

SIMPLE VPN ROUTER FOR RADIO OVER IP









FEATURES

- Up to 32 IPsec VPN tunnels with 1000BASE-T gigabit Ethernet Broadband IP connection is separately required for Internet connection.
- 3DES, AES-128, AES-192 or AES-256 encryption
- IPsec wizard provides simple step-by-step instructions
- IPv4 multicast routing for VE-PG3 Dynamic DNS client function

Supplied Accessory

AC adapter, BC-207S

VIRTUAL RADIO / PC DISPATCH

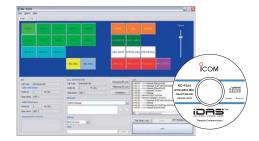
REMOTE COMMUNICATOR

IRC-FS10



FEATURES

- Remote communicator for dPMR™ Mode 2 and analogue radio system VE-PG3 is required for analogue radio system.
- Up to eight different dPMR Mode 2 and analogue radio systems can be programmed
- Up to 40 buttons programmable. Short data message, status and DTMF can be sent
- Caller ID, called ID, name and call type information are displayed
- Optional HM-154 or SM-26 microphone can be used with the RC-FS10 Optional CT-23 PTT microphone adapter is required.



Supplied Accessories

- Installation CD USB cable
- Digital converter, CT-24

OPTIONS FOR HANDHELD TRANSCEIVERS

				В	ATTERY PACK	S			
MODEL NAME	BP-277EX Intrinsically Safety (Li-ion) 7.4 V/1800 mAh (min.) 1900 mAh (typ.)	BP-227AXD Intrinsically Safety (Li-ion) 7.4 V/1850 mAh (min.) 1950 mAh (typ.)		BP-283 (Li-ion) 72 V/ 1910 mAh (min.) 2010 mAh (typ.)	BP-232WP (Li-ion) 7.4 V/2200 mAh (min.), 2350 mAh (typ.)	BP-280 (Li-ion) 7.2 V/2280 mAh (min.) 2400 mAh (typ.)	BP-279 (Li-ion) 7.2 V/1485 mAh(min.) 1570 mAh (typ.)	BP-278 (Li-ion) 7.2 V/1130 mAh (min.) 1190 mAh (typ.)	BP-274 (Li-ion) 7.4 V/1800 mAh (min.) 1900 mAh (typ.)
IC-F3400DPT/DPS/DP IC-F4400DPT/DPS/DP			V	V					
IC-F3262DT/DS IC-F4262DT/DS					V				
IC-F1000D IC-F2000D						✓	V	✓	
IC-F1000T/S IC-F2000T/S						✓	✓	✓	
IC-F1000 IC-F2000						V	V	>	
IC-F3202DEX IC-F4202DEX	~								
IC-F51 ATEX IC-F61 ATEX		V							
IC-F51V IC-F61V									✓
IC-F29DR						>	✓	>	
IC-F29SR						✓	✓	✓	

	В	ATTERY CASE	:S			DESKTOP	CHARGERS		
MODEL NAME	BP-240 LR03 (AAA) ×6 cells	BP-261	BP-226 LR6 (AA) ×5 cells	BC-212EX*1 Intrinsically Safety Rapid charger	BC-219 Rapid charger	BC-160 Rapid charger	BC-171 Regular charger	BC-213 Rapid charger	BC-119N Rapid charger
IC-F3400DPT/DPS/DP IC-F4400DPT/DPS/DP					~				
IC-F3262DT/DS IC-F4262DT/DS	~	V				~	~		
IC-F1000D IC-F2000D								~	
IC-F1000T/S IC-F2000T/S								~	
IC-F1000 IC-F2000								✓	
IC-F3202DEX IC-F4202DEX				~					
IC-F51 ATEX IC-F61 ATEX									(AD-100 is required)
IC-F51V IC-F61V			~						
IC-F29DR								~	
IC-F29SR								~	

 $^{^{\}star 1}$ The battery charger, BC-212EX \boldsymbol{must} not be used in an explosive atmosphere.

	DES	SKTOP CHARG	ERS	M	ULTI-CHARGE	RS	CHARGER ADAPTERS			
MODEL NAME	BC-152N Regular charger	BC-190 Rapid charger		BC-214*2 Rapid multi- charger	BC-197*3 Rapid multi- charger	BC-121N Rapid multi- charger	AD-132* ² For BP-283, or BP-284	AD-122* 3 For BP-232WP	AD-130 *2 For BP-278, BP-279 or BP-280	
							""			
IC-F3400DPT/DPS/DP IC-F4400DPT/DPS/DP				✓ (Use with AD-132)			(Use with BC-214)			
IC-F3262DT/DS IC-F4262DT/DS					(Use with AD-122)			(Use with BC-197)		
IC-F1000D IC-F2000D				✓ (Use with AD-130)					(Use with BC-214)	
IC-F1000T/S IC-F2000T/S				(Use with AD-130)					(Use with BC-214)	
IC-F1000 IC-F2000				✓ (Use with AD-130)					(Use with BC-214)	
IC-F3202DEX IC-F4202DEX										
IC-F51 ATEX IC-F61 ATEX	~					(Use with AD-100)				
IC-F51V IC-F61V	~	~			(Use with AD-128)					
IC-F29DR				(Use with AD-130)					(Use with BC-214)	
IC-F29SR				(Use with AD-130)					(Use with BC-214)	

^{*2} Either AD-130 or AD-132 is supplied with the BC-214, depending on version. *3 Either AD-122 or AD-128 is supplied with the BC-197, depending on version. The IC-F3202DEX/F4202DEX and IC-F51/F61 ATEX intrinsically models should only be used with the specified intrinsically safe approved options.

OPTIONS FOR HANDHELD TRANSCEIVERS

	CHARGER	ADAPTERS		AC ADA	APTERS		CHARGER BRACKET	CIGARETTE LI	GHTER CABLE
MODEL NAME	AD-128 *3 For BP-274	AD-100 For BP-227AXD	BC-1235*4 12 V/1 A	BC-145S*4 16 V/0.93 A	BC-1475*4 12 V/0.25 A	BC-157S 12 V/7.5 A	MB-130	CP-23L	
			180	287	787	Se de la constant de		EP?	
IC-F3400DPT/DPS/DP IC-F4400DPT/DPS/DP			(Use with BC-219)			(Use with BC-214)		(Use with BC-219)	
IC-F3262DT/DS IC-F4262DT/DS			(Use with BC-160)		(Use with BC-171)	(Use with BC-197)	(Use with BC-160)	(Use with BC-160)	
IC-F1000D IC-F2000D			(Use with BC-213)			(Use with BC-214)	(Use with BC-213)	(Use with BC-213)	
IC-F1000T/S IC-F2000T/S			(Use with BC-213)			(Use with BC-214)	(Use with BC-213)	(Use with BC-213)	
IC-F1000 IC-F2000			(Use with BC-213)			(Use with BC-214)	(Use with BC-213)	(Use with BC-213)	
IC-F3202DEX IC-F4202DEX			(Use with BC-212EX)						
IC-F51 ATEX IC-F61 ATEX		(Use with BC-119N or BC-121N)		(Use with BC-119N)	(Use with BC-152N)	(Use with BC-121N)			
IC-F51V IC-F61V	(Use with BC-197)		(Use with BC-190)		(Use with BC-152N)	(Use with BC-197)	(Use with BC-190)	(Use with BC-152N)	
IC-F29DR			(Use with BC-213)			(Use with BC-214)	(Use with BC-213)	(Use with BC-213)	
IC-F29SR			(Use with BC-213)			(Use with BC-214)	✔(Use with BC-213)	(Use with BC-213)	

 $^{^{\}star4}\ BC-123SA/BC-145SA/BC-147SA\ for\ US\ plug.\ SE\ for\ EURO\ plug.\ SV\ for\ Australia\ plug.\ BC-123SUK/BC-145SUK\ for\ UK\ plug.$

	DC POWE	R CABLES			SPEA	KER-MICROPH	IONES		
MODEL NAME	OPC-656	OPC-515L	HM-203EX Intrinsically Safety	HM-222	HM-184/H	HM-168LWP Waterproof connector	HM-158LA	HM-159LA	HM-171GPW Waterproof connector GPS 1P67
IC-F3400DPT/DPS/DP IC-F4400DPT/DPS/DP	(Use with BC-214)	(Use with BC-219)		~					
IC-F3262DT/DS IC-F4262DT/DS	✔(Use with BC-197)				~				
IC-F1000D IC-F2000D	(Use with BC-214)					V	V	~	✓
IC-F1000T/S IC-F2000T/S	(Use with BC-214)					'	>	V	
IC-F1000 IC-F2000	(Use with BC-214)					V	V	V	
IC-F3202DEX IC-F4202DEX			~						
IC-F51 ATEX IC-F61 ATEX									
IC-F51V IC-F61V	✔(Use with BC-197)	(Use with BC-152N)					~	~	
IC-F29DR	(Use with BC-214)					V	V	V	
IC-F29SR	(Use with BC-214)					~	V	v	

		SPEAKER-MI	CROPHONES		EARPHONE-M	ICROPHONES	HEADSETS		
MODEL NAME	HM-138	HM-168	HM-169	HM-170GP	HM-153LA	HM-166LA	HS-94 Earhook type with boom microphone	HS-94LWP Earhook type with waterproof connector	HS-95 Behind-the-head type
IC-F3400DPT/DPS/DP IC-F4400DPT/DPS/DP			V	V	~0	O	(Use with VS-4MC)	0	(Use with VS-4MC)
IC-F3262DT/DS IC-F4262DT/DS							(Use with VS-4MC)		(Use with VS-4MC)
IC-F1000D IC-F2000D					V	~	(Use with VS-4LA or OPC-2004LA)	V	(Use with VS-4LA or OPC-2004LA)
IC-F1000T/S IC-F2000T/S					V	~	(Use with VS-4LA or OPC-2004LA)	V	(Use with VS-4LA or OPC-2004LA)
IC-F1000 IC-F2000					V	~	(Use with VS-4LA or OPC-2004LA)	V	(Use with VS-4LA or OPC-2004LA)
IC-F3202DEX IC-F4202DEX									
IC-F51 ATEX IC-F61 ATEX	~								
IC-F51V IC-F61V	~	~	V	~			✓(Use with VS-1SC)		(Use with VS-1SC)
IC-F29DR					V	V	(Use with VS-4LA or OPC-2004LA)	V	(Use with VS-4LA or OPC-2004LA)
IC-F29SR					v	v	(Use with VS-4LA or OPC-2004LA)	V	✓(Use with VS-4LA or OPC-2004LA)

OPTIONS FOR HANDHELD TRANSCEIVERS

	HEAD	SETS	PLUG ADAPTER CABLE	PTT SWITCH CABLE	VOX/PTT CASE	ACC ADAPTER		BELT CLIPS	
MODEL NAME	HS-95LWP Behind-the-nead type with waterproof connector	HS-97 Throat microphone type	OPC-2004LA VOX operation	VS-4LA/MC Manual PTT operation (Photo shows VS-4LA)	VS-1SC	AD-118 Allows you to use 6-pin Hirose plug accessories	MB-94EX Intrinsically Safety	MB-136 MB-93 MB-86 Swivel type	MB-133 MB-98 MB-94/R Alligator type
IC-F3400DPT/DPS/DP IC-F4400DPT/DPS/DP		(Use with VS-4MC)		(Use VS-4MC)		V		✓ (Use MB-136)	✓ (Use MB-133)
IC-F3262DT/DS IC-F4262DT/DS		(Use with VS-4MC)		(Use VS-4MC)		~		✓ (Use MB-93)	✓ (Use MB-94/R)
IC-F1000D IC-F2000D	~	(Use with VS-4LA or OPC-2004LA)	~	(Use VS-4LA)					✓ (Use MB-133)
IC-F1000T/S IC-F2000T/S	~	(Use with VS-4LA or OPC-2004LA)	~	(Use VS-4LA)					✔(Use MB-133)
IC-F1000 IC-F2000	V	(Use with VS-4LA or OPC-2004LA)	V	(Use VS-4LA)					✔(Use MB-133)
IC-F3202DEX IC-F4202DEX							~		
IC-F51 ATEX IC-F61 ATEX								✓ (Use MB-86)	✔(Use MB-98)
IC-F51V IC-F61V		(Use with VS-1SC)			V			✔(Use MB-86)	✔(Use MB-98)
IC-F29DR	V	(Use with VS-4LA or OPC-2004LA)	V	(Use VS-4LA)					✓ (Use MB-133)
IC-F29SR	~	(Use with VS-4LA or OPC-2004LA)	~	✔(Use VS-4LA)					✓ (Use MB-133)

	LEATI	HER BELT HAN	IGERS	LEATHE	R CASES		ANTE	NNAS	
MODEL NAME	MB-96N	MB-96F	MB-96FL	LC-184 For IC-F3400DPT/DPS, F4400DPT/DPS	LC-186 For IC-F3400DP, F4400DP	FA-S81V 136-150 MHz FA-S82V 148-160 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-S24V 136-150 MHz FA-S59V 150-174 MHz FA-S27U 400-470 MHz FA-S56U 450-520 MHz	
IC-F3400DPT/DPS/DP IC-F4400DPT/DPS/DP	V	~	~	~	~	~			
IC-F3262DT/DS IC-F4262DT/DS	~	~	~				~		
IC-F1000D IC-F2000D							V		
IC-F1000T/S IC-F2000T/S							V		
IC-F1000 IC-F2000							V		
IC-F3202DEX IC-F4202DEX							V		
IC-F51 ATEX IC-F61 ATEX		~						~	
IC-F51V IC-F61V	V	~	~					~	
IC-F29DR									
IC-F29SR									

	CUT AN	TENNAS	HIGH GAIN ANTENNAS	ST	UBBY ANTENN	IAS
MODEL NAME	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	FA-S81VS 136-150 MHz FA-S82VS 150-160 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
IC-F3400DPT/DPS/DP IC-F4400DPT/DPS/DP	~			~		
IC-F3262DT/DS IC-F4262DT/DS		~	~		~	
IC-F1000D IC-F2000D		~	~		~	
IC-F1000T/S IC-F2000T/S		~	~		~	
IC-F1000 IC-F2000		V	V		~	
IC-F3202DEX IC-F4202DEX						
IC-F51 ATEX IC-F61 ATEX						~
IC-F51V IC-F61V						~
IC-F29DR						
IC-F29SR						

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

~	: Applicable	: Not applicable

SPECIFICATIONS FOR HANDHELD TRANSCEIVERS

		IC-F3400DPT/DPS/DP IC-F4400DPT/DPS/DP	IC-F3262DT/DS IC-F4262DT/DS	IC-F1000D IC-F2000D	IC-F1000/T/S IC-F2000/T/S	IC-F3202DEX IC-F4202DEX	IC-F51 ATEX IC-F61 ATEX	IC-F51V IC-F61V	IC-F29DR	IC-F29SR
Frequency	,	136–174 MHz	136–174 MHz	136–174 MHz	136–174 MHz	136–174 MHz	136–174 MHz	136–174 MHz	Analogue; 446.0-446.1 MHz	Analogue; 446.0-446.1 MHz
coverage		380–470 MHz	400–470 MHz	400–470 MHz	400–470 MHz	400–470 MHz	400-470 MHz	400–470 MHz	Digital; 446.1–446.2 MHz *1	-
Number of channels	of	4000/1024 channels*2 128 zones	512 channels 128 zones	128 channels *3	128 channels *4	16 channels	128 channels 8 zones	128 channels 8 zones	Analogue; 8 ch Digital; 16 ch	Analogue; 8 ch
Channel	spacing	6.25, 12.5, 20, 25 kHz	6.25, 12.5, 20, 25 kHz	6.25, 12.5, 20, 25 kHz	12.5, 20, 25 kHz	6.25, 12.5, 20, 25 kHz	12.5, 20, 25 kHz	12.5, 20, 25kHz	6.25, 12.5kHz	12.5 kHz
Dimensio (W × H × D Projections included)		53.6 × 123.5 × 29.3 mm (with BP-283)	53.5 × 142.7 × 39.5 mm (with BP-232WP)	52.2 × 111.8 × 30.3 mm (with BP-280)	52.2 × 111.8 × 24.5 mm (with BP-279)	63 × 144 × 50 mm (with BP-277EX)	56 × 97 × 36.4 mm (with BP-227AXD)	56 × 97 × 35.2 mm (with BP-274)	52.2 × 186.1 × 30.3 mm (with BP-280)	52.2 × 186.1 × 24.5 mm (with BP-279)
Weight (a	pprox.)	300 g (with BP-283, belt clip & FA-S81US)	410 g (VHF)400 g (UHF) (with BP-232WP, belt clip & ant.)	260 g (With BP-280 & belt clip)	240 g (with BP-279)	466 g (VHF) 460 g (UHF) (with BP-277EX, belt clip & ant.)	295 g (with BP-227AXD)	274 g (VHF) 278 g (UHF) (with BP-274)	270 g (With BP-280 and belt clip)	240 g (With BP-279)
RF outpu (High)	t power	5 W (VHF/UHF)	5 W (VHF/UHF)	5 W (VHF) 4 W (UHF)	5 W (VHF) 4 W (UHF)	1 W (VHF/UHF)	1 W (VHF/UHF)	5 W (VHF) 4 W (UHF)	500 mW ERP	500 mW ERP
Frequenc stability	у	±1.0 ppm	±1.0 ppm	±1.0 ppm	±2.5 ppm	±1.0 ppm	±2.5 ppm (VHF) ±2.0 ppm (UHF)	±2.5 ppm	±1.0 ppm	±2.5ppm
	(20 dB SINAD, emf)	−4 dBµV typ.	−4 dBµV typ.	-5/-5/-2 dBµV typ. (W/M/N)	−4 dBµV typ.	−4 dBµV typ.	−4 dBµV typ.	−4 dBµV typ.	26.5 dBμV/m	26.5 dBµV/m
Sensitivity	(5% BER, emf)	-	−8 dBµV typ.−	−8 dBµV typ.	-	−8 dBµV typ.	-	-	−8 dBµV typ.	-
	(1% BER, emf)	-11/-6 dBμV typ. (DN/DVN)	_	_	_	_	-	_	_	_
	(W/M/N)	76/76/68 dB typ.	78/78/68 dB typ.	77/74/69 dB typ. (VHF) 75/74/69 dB typ. (UHF)	76/72/53 dB typ. (VHF) 73/73/56 dB typ. (UHF)	78/75/70 dB typ. (VHF) 74/72/66 dB typ. (UHF)	75/75/65 dB typ.	75/75/65 dB typ.	81.29 dBμV/m	81.29 dBμV/m
Selectivity	(Digital)	65 dB typ.	60 dB typ.	59 dB typ. (VHF) 58 dB typ. (UHF)	-	62 dB typ. (VHF) 57 dB typ. (UHF)	-	_	58 dB typ.	_
Intermodu	(W/M/N)	67 dB typ.	67 dB typ.	69 dB typ. (VHF) 70 dB typ. (UHF)	68 dB typ. (VHF) 67 dB typ. (UHF)	67 dB typ.	67 dB typ.	67 dB typ.	86.29 dBµV/m	86.29 dBμV/m
lation	(Digital, emf)		73 dBμV typ.	74 dBμV typ.		73 dBμV typ.			74 dBμV typ.	
AF output	Internal SP	800 mW typ.	800 mW typ.	800 mW typ.	800 mW typ.	800 mW (typ. 32Ω)		700 mW typ.	800 mW typ.	800 mW typ.
power	External SP	900 mW typ.	1000 mW typ.	400 mW typ.	400 mW typ.	400 mW (typ. 32Ω)	500 mW typ.	500 mW typ.	400 mW typ.	400 mW typ.

DN (Digital Narrow): 12.5 kHz. DVN (Digital Very Narrow): 6.25 kHz

^{*3} Up to 16 selected channels out of 128 can be allocated to the channel knob. *4 IC-F1000/F2000 (Non-LCD type): Up to 16 selected channels out of 128 can be allocated to the channel knob.

		IC-F3400DPT/DPS/DP IC-F4400DPT/DPS/DP	IC-F3262DT/DS IC-F4262DT/DS	IC-F1000D IC-F2000D	IC-F1000/T/S IC-F2000/T/S	IC-F3202DEX IC-F4202DEX	IC-F51 ATEX IC-F61 ATEX	IC-F51V IC-F61V	IC-F29DR	IC-F29SR
	Mode 1/ Mode 2	V	V	~	-	V	-	-	-	-
dPMR™	Mode 2 Multi-site	V	V	~	_	V	_	_	_	_
	Mode 3 Trunking	✓ *3	V	_	_	-	_	_	_	_
Voice Scrar	mbler (Digital)	V	V	~	_	V	_	_	_	_
Voice	Inversion	V	V	_	~	_	V	V	_	_
Scrambler	Non-rolling	-	_	_	_	-	V	_	_	_
(Analogue)*1	Rolling	-	_	_	_	-	V	_	_	_
CTCSS/DTC	S encoder/decoder	~	V	~	~	~	V	~	~	V
2-Tone	encoder/decoder	V	V	~	~	V	V	V	_	_
5-Tone	encoder/decoder	~	V	~	~	V	V	~	_	_
DTMF auto	dial	~	~	~	~	~	V	~	_	_
DTMF deco	oder	✓ *4	✓ *4	_	_	_	_	_	_	_
BIIS 1200		V	V	√ *5	✓ *5	✓ *6	V	V	_	_
MDC 1200		~	-	_	√ *7	_	_	V	_	_
Man down	function	V	✓ *8	~	~	_	_	_	_	_
Motion dete	ection sensor	V	_	~	~	_	_	_	_	_
Intrinsically	y safe	-	_	_	_	V	V	_	_	_
Channel an	nnouncement	~	-	~	~	V	_	_	V	V
Vibration a	lert	V	-	_	_	-	-	✓ *8	_	_
Voice recor	rder	V	_	_	_	_	_	✓ *8	_	_
GPS receiv	er	~	✓ *8	HM-171GPW	_	_	_	HM-170GP	_	_
Operating t	time*2	10 hours with BP-283 16 hours with BP-284	12/10.5 hours*9 with BP-232WP	18 hours with BP-280 12 hours with BP-279	20 hours with BP-280 14 hours with BP-279	21.5/19 hours with BP-277EX (VHF/UHF)	16.5 hours with BP-227AXD	9–10 hours with BP-274	26 hours with BP-280 17 hours with BP-279	33 hours with BP-280 21 hours with BP-279
IP rating		IP68 (1 m depth 1 hour)	IP67	IP67	IP67	IP67	IP67	IP67	IP67	IP67
MIL-STD re	quirements	MIL-810 G	MIL-810 G	MIL-810 G	MIL-810 G	MIL-810 G	MIL-810 F	MIL-810 F	MIL-810 G	MIL-810 G

^{*}¹ Inversion type voice scrambler is not compatible with UT-109R/UT-110R voice scrambler. *² 5:5:90 duty cycle, power save ON. *³ Upgrade licence required.

: Available - : Not available

^{*1} As of October 2016, some countries have yet to allocate the 446.1–446.2 MHz digital PMR 446 frequency range. We suggest you confirm the allocation status in your country before you use.

^{*2} Upgrade licence required to enable 4000 channel capacity. IC-F3400D/F4400D (Non-LCD type): Up to 32 selected channels out of 1024 can be allocated to the channel knob.

^{*4} Possible as a kind of 5-Tone format. *5 PTT ID and emergency call. *6 PTT ID only. *7 Limited functions. *8 Depending on version. *9 Non GPS/GPS type.

OPTIONS FOR MOBILE TRANSCEIVERS AND REPEATERS

				HAN	ID MICROPHO	NES			
MODEL NAME	HM-221	HM-211T with DTMF keypad	HM-220 Heavy-duty type	HM-220T Heavy duty type with DTMF keypad	HM-211 Noise Canceling Mic	HM-152	HM-152T with DTMF keypad	HM-148G Heavy-duty type	HM-148T Heavy duty type with DTMF keypad
IC-F5400DP, IC-F6400DP	~	~	~	~					
IC-F5400DPS, IC-F6400DPS	V	~	~	~					
IC-F5062D, IC-F6062D					V	~	✓	V	✓
IC-F5122D, IC-F6122D					V	~	✓	V	V
IC-F5022, IC-F6022						~	V	V	V
IC-F5012, IC-F6012						~	~	V	~
IC-FR5100, IC-FR6100						~	V		
IC-FR5100H, IC-FR6100H						~	V		

	DESKTOP MI	CROPHONES	EXTERNAL	SPEAKERS	S	EPARATION K	IT	COMMANDMIC™	SEPARATION CABLES
MODEL NAME	SM-29	SM-26	SP-30	SP-35 2 m cable SP-35L 6 m cable	RMK-5	RMK-7 Dual head	RMK-3	HM-218 Secondary controller for use with RMK-5	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
IC-F5400DP, IC-F6400DP	V		V	~	✓ (Separation cable is required)	(Separation cable is required)		(Separation cable is required)	V
IC-F5400DPS, IC-F6400DPS	~		~	~					
IC-F5062D, IC-F6062D		~	~	~			✓(OPC-609 is required)		
IC-F5122D, IC-F6122D		~	~	~					
IC-F5022, IC-F6022		~		~					
IC-F5012, IC-F6012		V	V	~					
IC-FR5100, IC-FR6100		~		~					
IC-FR5100H, IC-FR6100H		~		~					

	SEPARATIO	ON CABLES	GPS ANTENNA	ACC C	ABLES	CHANNEL MODULES	POWER AMPLIFIERS	NETWORK CONTROLLER	ETHERNET BOARD
MODEL NAME	OPC-2373 (19 m) OPC-2374 (8 m) For use with HM-218, COMMANDMIC		UX-241	OPC-1939 (15-pin) OPC-2078 (25-pin) (Photo shows OPC-1939)	OPC-2202 UR-PA5000/PA6000 connection cable	UR-FR5100 136-174 MHz, 25 W UR-FR6100 400-470 MHz, 25 W	UR-PA5100 136-174 MHz, 50 W 100% duty UR-PA6100 400-470 MHz, 50 W 100% duty	UC-FR5000 For dPMR Mode 2 multi-site networking	UC-FR5000SE For connection with IC-FC5000E
IC-F5400DP, IC-F6400DP	V		V						
IC-F5400DPS, IC-F6400DPS			~						
IC-F5062D, IC-F6062D		V							
IC-F5122D, IC-F6122D				✓ *					
IC-F5022, IC-F6022				V					
IC-F5012, IC-F6012				V					
IC-FR5100, IC-FR6100					~	V	V	~	~
IC-FR5100H, IC-FR6100H					~		Built-in	~	~

* No digital modulation "IN" using accessory cables.

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

SPECIFICATIONS FOR MOBILE TRANSCEIVERS AND REPEATERS

				ı		ı			
		IC-F5400DP/DPS IC-F6400DP/DPS	IC-F5062D IC-F6062D	IC-F5122D IC-F6122D	IC-F5122DD IC-F6122DD	IC-F5022 IC-F6022	IC-F5012 IC-F6012	IC-FR5100H IC-FR6100H	IC-FR5100 IC-FR6100
Frequency	,	136–174 MHz	136-174 MHz	136-174 MHz	136-174 MHz	136-174 MHz	136-174 MHz	136–17	4 MHz
coverage		380–470 MHz	400-470 MHz	400-470 MHz	400-470 MHz	400-470 MHz	400-470 MHz	400-47	0 MHz
Number o channels	of	4000/1024 channels *1 128 zones	512 channels 128 zones	128 channels 8 zones	128 channels	128 channels 8 zones	8 channels	32 cha	innels
Channel spacing		6.25, 12.5, 20, 25 kHz	6.25, 12.5, 20, 25 kHz	6.25, 12.5, 20, 25 kHz	6.25, 12.5 kHz	12.5, 20, 25 kHz	12.5, 20, 25 kHz	6.25, 20, 25	
Power sup requirement		13.2 V DC	13.2 V DC	13.2 V DC	13.2 V DC	13.2 V DC	13.2 V DC	13.2	/ DC
Dimensio (W × H × D; are not inclu	Projections	174 × 55 × 150 mm	160 × 45 × 150 mm	150 × 40 × 117.5 mm	150 × 40 × 134.7 mm	150 × 40 × 117.5 mm	150 × 40 × 117.5 mm	483 × 88	< 260 mm
Weight (a	pprox.)	1.5 kg	1.3 kg	800 g	900 g	800 g	800 g	8.1 kg	5.6 kg
RF output (High)	t power	25 W	25 W	25 W	25 W	25 W	25 W	50 W	25 W
Frequency	y stability	±1.0 ppm	±1.0 ppm	±1.0 ppm	±1.0 ppm	±2.5 ppm	±2.5 ppm	±0.2 kH ±0.5 kH	
	(20 dB SINAD, emf)	−4 dBµV typ.	−4 dBµV typ.	−4 dBµV typ.	-	−4 dBµV typ.	−4 dBµV typ.	0 dBμV	(min.)
Sensitivity	(5% BER, emf)	_	−8 dBµV typ.	−8 dBµV typ.	_	_	_	-	-
	(1% BER, emf)	–11/–6 dBµV typ. (DN/DVN)	_	_	-4/-5 dBμV typ. (DN/DVN)	_	_	0 dBµ	V typ.
Selectivity	(W/M/N)	75/75/71 dB typ.	85/83/75 dB typ.	80/80/70 dB typ. (VHF) 75/75/70 dB typ. (UHF)	-	75/75/65 dB typ.	75/75/65 dB typ.	86/83/77 dE 80/78/70 dE	
Selectivity	(Digital)	65 dB typ.	_	65 dB typ. (VHF) 60 dB typ. (UHF)	64/60 dB typ. (DN/DVN)	_	-	67 dB ty 63 dB ty	
Intermodulation	(Analogue)	65 dB typ.	70 dB typ.	67 dB typ.	_	67 dB typ.	67 dB typ.	72 dE	3 typ.
rojection	(Digital, emf)	-	-	-	68/66dB typ. (DN/DVN)	-	-	76 dBμV t 74 dBμV t	
AF output (Internal S		4 W typ.	4 W typ.	4 W typ.	_	4 W typ.	4 W typ.	3.5	W

	IC-FC5000E
Power supply requirements	12 V DC
$\begin{array}{l} \textbf{Dimensions} \\ (\textbf{W} \times \textbf{H} \times \textbf{D}; \textbf{Projections} \\ \textbf{are not included}) \end{array}$	483 × 44 × 219 mm
Weight (approx.)	2.25 kg
LAN	RJ-45 connector × 4 (100BASE-TX)
WAN	RJ-45 connector × 1 (100BASE-TX)
LED	Power, Error, Status
Conformity standard	ETSI TS 102 658

DN (Digital Narrow): 12.5 kHz. DVN (Digital Very Narrow): 6.25 kHz

^{*1} Upgrade licence required to enable 4000 channel capacity. IC-F5400DS/F6400DS (Segment type display): Channel indication is possible for up to 99 selected channels out of 1024.

		IC-F5400DP/DPS IC-F6400DP/DPS	IC-F5062D IC-F6062D	IC-F5122D IC-F6122D	IC-F5022 IC-F6022	IC-F5012 IC-F6012	IC-FR5100/H IC-FR6100/H
	Mode 1/ Mode 2	V	V	V	_	_	~
dPMR™	Mode 2 Multi-site	V	~	·	_	_	UC-FR5000 *3 (#12 required)
	Mode 3 Trunking	√ *2	√ *³	_	-	-	UC-FR5000SE *8
Voice Scrambler	(Digital)	~	V	~	_	_	~
	Inversion	V	V	-	_	_	~
Voice Scrambler (Analogue)*1	Non-rolling	_	UT-109R *4	_	UT-109R *4	UT-109R *4	UT-109R *4
(Analogue)	Rolling	_	UT-110R *4	_	UT-110R *4	UT-110R *4	UT-110R *4
CTCSS/DTCS	encoder/decoder	V	V	V	V	V	~
2-Tone	encoder/decoder	~	V	V	V	V	_
5-Tone	encoder/decoder	~	V	~	V	V	~
DTMF autodial		V	V	V	V	V	~
DTMF decoder		✓ *5	√ *5	_	_	_	_
BIIS 1200		V	V	✓ *6	✓ *6	✓ *6	_
MDC 1200		V	-	_	V	V	_
Lone worker fund	ction	V	V	V	V	V	_
Channel announ	cement	~	-	_	-	_	_
Voice recorder		V	-	_	-	_	_
GPS receiver		Built-in (UX-241 antenna required)	-	-	-	-	
IP rating		IP55	IP54*7	-	-	-	_
MIL-STD requirer	nents	MIL-810 G	MIL-810 F	MIL-810 F	MIL-810 F	MIL-810 F	MIL-810 F

*8 IC-FC5000E external controller required. The IC-FR5100/H, FR6100/H cannot be used as a base station in dPMR Mode 3.

UT-109R : Required internal unit (Eg. UT-109R) : Available : Not available



^{*1} Inversion type voice scrambler is not compatible with UT-109R/UT-110R voice scrambler. *2 Upgrade licence required. *3 Depending on version.

*4 Either one of these options can be installed. *5 Possible as a kind of 5-Tone format. *6 PTT ID only. *7 IP dust and water tests were performed on the controller and RMK-3 only.

OPTIONS FOR IP ADVANCED RADIO SYSTEM, RoIP & VPN ROUTER

	BATTER	Y PACKS	BATTERY CASE	DESKTOP CHARGER	MULTI-CHARGER	AC ADA	PTERS	DC POWE	R CABLE
MODEL NAME	BP-272 (Li-ion) 7.4 V/1880 mAh (min.) 2000 mAh (typ.)	BP-271 (Li-ion) 7.4 V/1150 mAh (min.) 1200 mAh (typ.)	BP-273 LR6 (AA) ×3 cells	BC-202 Rapid charger	BC-211 Rapid multi- charger	12 V/1 A	BC-157S 12 V/7.5 A For use with BC-211	OPC-656 For use with BC-211	
	-	= =====================================	***		6 6 6 6		B	S.	
IP100H	~	V	~	~	~	V	V	V	

 $^{^{\}star 1}$ BC-123SA for US plug. SE for Europe plug. SV for Australia plug.

	SPEAKER-MI	CROPHONES	EARPHONE-M	EARPHONE-MICROPHONES		HEADSETS				
MODEL NAME	HM-183LS IPX7	HM-186LS	HM-153L5*2	HM-166LS*2	HS-94*3 Earhook type with boom microphone	HS-95*3 Behind-the-head type	HS-97*3 Throat microphone type	HS-102*2 Earphone type	HS-85*2 Over-the-head type with PTT switch	
IP100H	~	~	~	~	(Use with OPC-2006LS or OPC-2328)	(Use with OPC-2006LS or OPC-2328)	(Use with OPC-2006LS or OPC-2328)	✔(Use with OPC-2359)	✓(Use with OPC-2144)	

^{*2} Requires either HM-153LS, HM-166LS, HS-102 with OPC-2359 or HS-85 with OPC-2144 for full-duplex operation.

 $^{^{*3}}$ HS-94, HS-95 and HS-97 headsets are simplex mode operation only.

	PLUG ADAP	TER CABLES	PTT SWITC	H CABLES	BELT CLIP
MODEL NAME	OPC-2006LS VOX operation	OPC-2144 Slim L-type plug	OPC-2328	OPC-2359	MB-127 Alligator type
			49	0	
IP100H	✓	✓	✓	✓	✓

	DIGITAL VOICE CONVERTER	AC ADA	APTERS		AUDIO CONNE	CTION CABLE	S	HAND MICROPHONE	DESKTOP MICROPHONE
MODEL NAME	CT-24	BC-207S 12 V /3.5 A	BC-1475*4 12 V/0.25 A	OPC-2273 For VHF marine transceiver 5 m	OPC-2274 For IC-FR5100/H series 5 m	OPC-2275 For mobile transceiver 5 m	OPC-2276 For HM-152 or SM-26 5 m	HM-152	SM-26
VE-PG3	~	~		~	~	~	~	(Use with OPC-2276)	(Use with OPC-2276)
SR-VPN1		~							
AP-90M		~							
IP100FS			(Use with CT-23)					(Use with CT-23 and BC-147S)	(Use with CT-23 and BC-147S)
RC-FS10			(Use with CT-23)					(Use with CT-23 and BC-147S)	(Use with CT-23 and BC-147S)

^{*4} BC-147SA for US plug. SE for EURO plug. SV for Australia plug.

	MICROPHONE ADAPTER	ACCESS POINT MANAGER	SERIAL CABLE
MODEL NAME	CT-23	RS-AP3	OPC-1402A For maintenance use
VE-PG3			
SR-VPN1			~
AP-90M		V	
IP100FS	~		
RC-FS10	V		

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

SPECIFICATIONS FOR IP ADVANCED RADIO SYSTEM, RoIP & VPN ROUTER

	VE-PG3
	VE-PG3
Power supply	100-240 V AC 12 V DC $\pm 10\%$ (with supplied AC adapter)
$\begin{array}{l} \text{Dimensions} \\ (\text{W} \times \text{H} \times \text{D}; \text{projections not included}) \end{array}$	232 × 38 × 168 mm
Weight (approx.)	800 g
Regulatory compliance	FCC (Part 15 Class B/Part 68), TIA968-B ICES-003, ICCS-03, CE mark, ETSI ES 203 021 ETSI EG 201 121 (Advisory Note), ETSI TS 102 027-2 V4.1.1 (2006-07), ITU-T G.711
LAN/WAN	RJ-45 connector × 2 100BASE-TX/10BASE-T (AUTO MDI/MDI-X)
TRX 1/2 port	Analog audio/transmit control 2.54 mm pitch quick connector (4 terminals ×3)×2
EXT 1/2 port	General audio/transmit control/Relay circuit 2.54 mm pitch quick connector (4 terminals ×3)×2
Telephone set port	RJ-11 connector ×1
Telephone line port	RJ-11 connectors ×2
USB (USB 2.0)	Standard A receptacles ×2
Internet protocol	IPv4
Supported protocol	SIP
Codec	G.711 µ-law, AMBE+2 [™] (Optional CT-24 required)

	SR-VPN1
Power supply	100-240 V AC 12 V DC ±10% (with supplied AC adapter)
Dimensions (W × H × D; projections not included)	232 × 38 × 168 mm
Weight (approx.)	800 g
Regulatory compliance	FCC (Part 15 Subpart B), ICES-003, EN55022, EN55024, EN61000-3-2, EN61000-3-3
WAN	RJ-45 connector × 2 1000BASE-T/100BASE-TX/10BASE-T (AUTO MDI/MDI-X)
LAN	RJ-45 connector × 4 with switching function 1000BASE-T/100BASE-TX/10BASE-T (AUTO MDI/MDI-X)
USB	Standard A receptacles ×2
Maintenance console	RS-232C (RJ-11) connector
Internet protocol	IPv4
Dynamic DNS	Supported
IPsec tunnels	Up to 32
Encryption	3DES, AES-128, AES-192, AES-256
Authentication	MD5, SHA-1
IKE keying method	Pre-shared key
NAT traversal	Supported
Multicast protocol	VE-PG3 supported

		IP100H
Wireless standards		IEEE 802.11 a/b/g/n
Frequency coverage*1		2.4–2.4835 GHz, 5.15–5.35, 5.47–5.85 GHz
Dimensions (W × H × D; projections not included)		58 × 95 × 26.4 mm (with BP-271)
Weight (approx.)		205 g (with BP-271 and antenna)
RF output power		Less than 10 mW/MHz
Voice Codec		G.711µ-law (64 kbps)
AF output power	Internal SP	400 mW (typ., 16 Ω at 10% distortion)
	External SP	200 mW (typ., 8 Ω at 10% distortion)
Security		WEP(64/128-bit), WPA-PSK(TKIP/AES), WPA2-PSK(TKIP/AES)
Operating time (1:1:8 duty cycle.)		More than 20 hours (with BP-271)

	IP1000C
Power supply	100–240 V AC (with supplied AC adapter)
Dimensions (W × H × D; projections not included)	232 × 38 × 168 mm
Weight (approx.)	750 g (Main unit only)
LAN	RJ-45 connector × 4 1000BASE-T/100BASE-TX/ 10BASE-T (AUTO MDI/MDI-X)
USB	Standard A receptacles ×2
Maintenance console	RS-232C (RJ-11) connector

	AP-90M
Wireless LAN	IEEE 802.11 a/b/g/n/ac
Frequency coverage*2	2.4–2.4835 GHz, 5.15–5.35, 5.47–5.85 GHz
Power supply	12 V DC ±10% or PoE (IEEE802.3af compatible)
Dimensions (W × H × D; projections not included)	120 × 29 × 103 mm
Weight (approx.)	300 g (Main unit only)
Wired LAN	RJ-45 connector × 1 1000BASE-T/100BASE-TX/ 10BASE-T (Auto MDI/MDI-X)
Data rates (theoretical value)	11 Mbps, 54 Mbps, 300 Mbps, 866.7 Mbps
Security	WEP (64/128/152-bit), WPA, WPA2, WPA-PSK, WPA2-PSK

^{*2} Authorized frequency range and channels may differ depending on

Your local distributor/dealer:

All stated specifications are subject to change without notice or obligation. Read all instructions enclosed with the transceiver carefully and completely before using the transceiver.

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ICOM Inc. 1-1-32, Kami-minami, Hirano-Ku, Osaka 547-0003, Japan Phone: +81 (06) 6793 5302 Fax: +81 (06) 6793 0013 Icom America Inc.

Icom France s.a.s.

Zac de la Plaine.

Asia Icom Inc.

6F No. 68, Sec. 1 Cheng-Teh Road, 6F No. 68, Sec. 1 Cheng- leh Hoz Taipei, Taiwan, R.O.C. Phone: +886 (02) 2559 1899 Fax: +886 (02) 2559 1874 E-mail: sales@asia-icom.com URL: http://www.asia-icom.com

No.101, Building 9, Caifuxingyuan Park, No.188 Maoting Road, Chedun Town, Songjiang District, Shanghai, 201611, China Phone: +86 (021) 6153 2768 Fax: +86 (021) 5765 9987

Shanghai Icom Ltd.

E-mail: bjicom@bjicom.com URL: http://www.bjicom.com

12421 Willows Road NE.

12421 Willows Hoad NE, Kirkland, WA 98034, U.S.A. Phone: +1 (425) 454-8155 Fax: +1 (425) 454-1509 E-mail: sales@icomamerica.com URL: http://www.icomamerica.com Icom Canada

Glenwood Centre #150-6165 Highway 17A, Delta, B.C., V4K 5B8, Canada Phone: +1 (604) 952-4266 Fax: +1 (604) 952-0090 mail: info@icomcanada.com URL: http://www.icomcanada.com

Icom Brazil

Rua Itororó, 444 Padre Eustáquio Belo Horizonte MG. CEP: 30720-450, Brazil Phone: +55 (31) 3582 8847 Fax: +55 (31) 3582 8987 E-mail: sales@icombrazil.com

Icom (Europe) GmbH

Communication Equipment Auf der Krautweide 24 Aut der Krautweide 24 65812 Bad Soden am Taunus, Germany Phone: +49 (6196) 76685-0 Fax: +49 (6196) 76685-50 E-mail: info@icomeurope.com URL: http://www.icomeurope.com

Icom Spain S.L.

Ctra. Rubi, No. 88 "Edificio Can Castanyer" Bajos A 08174, Sant Cugat del Valles, Phone: +34 (93) 590 26 70 Fax: +34 (93) 589 04 46 E-mail: icom@icomspain.com

Icom (UK) Ltd.

Blacksole House, Altira Park, Herne Bay, Kent, CT6 6GZ, U.K. Phone: +44 (0) 1227 741741
Fax: +44 (0) 1227 741742
E-mail: info@icomuk.co.uk
URL: http://www.icomuk.co.uk

URL: http://www.icomspain.com

E-mail: icom@icom-france.com URL: http://www.icom-france.com Icom (Australia) Pty. Ltd.

28c de la l'aline, 1 Rue Brindejonc des Moulinais, BP 45804, 31505 Toulouse Cedex 5, France Phone: +33 (5) 61 36 03 03 Fax: +33 (5) 61 36 03 00

Unit 1 / 103 Garden Road, Clayton, VIC 3168 Australia Phone: +61 (03) 9549 7500 Fax: +61 (03) 9549 7505 E-mail: sales@icom.net.au

Icom New Zealand

39C Rennie Drive, Airport Oaks, Auckland, New Zealand Phone: +64 (09) 274 4062 Fax: +64 (09) 274 4708 E-mail: inquiries@icom.co.n URL: http://www.icom.co.n

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