dPMR™ — Digital Radio Solutions for Business
What is dPMR™?

dPMR is a 6.25 kHz FDMA based digital radio protocol described in the ETSI technical standards TS 102 490 and TS 102 658. The TS 102 490 standard defines dPMR 446 license-free radio and the TS 102 658 defines Mode 1 peer-to-peer mode, Mode 2 repeater mode and Mode 3 digital trunking. dPMR is specifically targeting highly functional solutions by using lower cost and less complex technology. Details of the dPMR protocol can be found on the dPMR Association website. (http://www.dpmr-mou.org)

The Digital Advantage

• Wider Communication Coverage

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

• Better Audio Quality

dPMR radios incorporate the industry standard DVSI AMBE+2™ vocoder. The vocoder converts the analogue audio signal to a digital signal and reduces unwanted signals such as background noise and acoustic echo to deliver better voice quality and clarity.

• Secure Conversation

Using digital modulation, dPMR radios cannot be easily monitored with an analogue receiver. A 15-bit digital scrambler also adds to the enhanced security of dPMR radios.

• Flexible Migration and Upgrade Path

The dPMR system allows you to scale migration to a digital system at your own pace and needs, while running your existing system. If the radio users increase in the future, or you require expanded communication coverage, the dPMR conventional system can be upgraded to a multi-site system, or grow into a Mode 3 trunking system while using the same subscribers*. This provides investment protection for your communication system.

• IP Network Connectivity

Since the dPMR system uses digital signals, these can be easily converted and transferred to an IP network or IP based applications. This means an increase in communication coverage.

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.

**Table:**

<table>
<thead>
<tr>
<th>ETSI Standards</th>
<th>Tier</th>
<th>Mode</th>
<th>Descriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>TS 102 490</td>
<td>Tier 1</td>
<td>–</td>
<td>License-free (dPMR 446)</td>
</tr>
<tr>
<td>TS 102 658</td>
<td>Tier 2</td>
<td>Mode 1 Direct Peer-to-peer Mode</td>
<td>Conventional Repeater Mode</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mode 3 Digital Trunking Mode</td>
<td></td>
</tr>
</tbody>
</table>

**Diagram:**

- Digital signal is still clearly heard at the fringes of the coverage footprint.
- Analogue signal becomes harder to hear through noise at the edge of the communication range.

**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.
**dPMR™ Calling Features**

**Supplementary Service**

**Pre-emptive emergency:** If all traffic channels are busy, this call service clears down the existing call and gives the highest priority. In a dPMR Mode 3 system, the network will attempt to connect this type of call as quickly as possible.

**Ambience listening:** The ambience listening function allows the dispatcher to turn on the PTT from a remote location and transmit anything the microphone hears for a preprogrammed period.

**Remote kill:** This function disables a lost or stolen radio over the air, eliminating security threats from undesired listeners.

**Remote stun/revive:** The remote stun function temporarily locks out a radio until the revive command is received, or the user password is entered.

**Call back (Radio function):** Up to ten missed incoming calls can be stored to return the call later.

**Call queue:** If a called party or channel is busy, the call queue automatically connects the call when it becomes available.

**Digital voice scrambler:** A built-in digital voice scrambler provides about 32,000 codes scrambler for secure conversations.

**ANI (Automatic Number Identification):** The ANI function shows the alias ID number on the LCD while receiving a call, allowing the radio user to identify who is calling.

**Late entry:** If a group call is in progress when a member of the group turns on the radio or comes into the radio coverage area, this function shows the caller’s name, and allows the user to join the conversation.

**Voice Services**

**Individual call and group call:** Radio to radio, radio to group and radio to all users calls are supported.

**Broadcast call:** One-way voice call to a pre-programmed talkgroup.

**All call:** Radio to all users calls.

**Gateway call:** This is any call through a gateway to or from line connected destinations such as Telephone or SIP Phones. External gateway device required.

**Data Services**

**Short Data Message (SDM):** A data service that supports a variety of standard formats – Binary Code, Text and GPS.

**Status call:** 32 preprogrammed status messages can be sent and received. The status call can be used as a trigger for special functions such as ambience listening, remote stun/kill/revive and GPS data delivery.

**Transparent data call:** This function uses a dPMR radio as a data modem allowing data communication on a 6.25 kHz channel such as for a remote telemetry system or data applications.

**GPS data delivery:** Sends GPS position data with Status, SDM and emergency calls. Position data can be used for GPS-based vehicle management applications.

---

<table>
<thead>
<tr>
<th>Features</th>
<th>Mode 3</th>
<th>Mode 1/2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual Call</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Group Call</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Broadcast Call</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>All Call</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Gateway Call</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Short Data Message (SDM)</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Status Call</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Transparent Data Call</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>GPS Data Delivery</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Emergency Call &amp; Alert</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Pre-emptive Emergency</td>
<td>✔</td>
<td>–</td>
</tr>
<tr>
<td>Ambience Listening</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Remote Kill/Stun/Revive</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Call Back* (* Radio function)</td>
<td>✔ (Maximum 10 stack)</td>
<td>–</td>
</tr>
<tr>
<td>Call Queue</td>
<td>✔</td>
<td>–</td>
</tr>
<tr>
<td>Digital Voice Scrambler*</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>ANI* (* Radio function)</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Late Entry to Group Call</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Call Set-up</td>
<td>✔</td>
<td>✔</td>
</tr>
</tbody>
</table>

* *Individual call only.*

---

**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?
dPMR™ Conventional Modes

dPMR™ Conventional Mode (Mode 1/ Mode 2)

dPMR Mode 1 and Mode 2 are the digital conventional modes for small user systems and/or for low density traffic systems. Mode 1 is peer-to-peer communications and Mode 2 is repeater/infrastructure added to Mode 1.

The analogue PMR system users who are mainly running 5-Tone or BIIS signaling can easily migrate to the digital conventional mode. “Call setup and clear down” operation is implemented for familiarity for analogue users. dPMR radios are designed to coexist with analogue radio systems, and can receive both analogue and digital mode signals on a single channel.

In Mode 2 conventional systems, up to 16 repeater sites can be interconnected over an IP network, and you can build low complexity multi-site systems.

- Flexible migration solution from analogue to digital
- Up to 16 repeater sites • Up to 60000 subscribers
- Web based system administration
  System software updates and configuration online
- Status call • Data call (SDM)
- Transparent data call
- Digital/Analogue dual mode*
  * VE-PG3 required to relay analogue voice traffic over the IP network.
- RC-FS10 creates a IP-based virtual radio station on a PC and works as a simple dispatch
- Interconnect with IP phone, analogue radio and IP advanced radio systems with the VE-PG3 RoIP gateway
- Voting scan function allows selection of a repeater from multiple repeater sites, depending on the RSSI level

Examples of dPMR™ End Users

- Local governments (City councils)
- Humanitarian Users
- Utilities (Power Plants)
- SMR services
- Security/Prisons
- B&I Users (Manufacturers)
- Airports/Transportation

Up to 16 repeater sites can be connected over an IP network.
**dPMR™ Mode 3 Digital Trunking**

In a dPMR Mode 3 digital trunking system, when a user requests a call through a dedicated control channel, the trunking controller automatically allocates one of the traffic channels and sets up the call. The system can accommodate a large number of users on a limited number of repeater channels with high efficiency. The System Control Software can interconnect multiple trunking controllers over an IP network, so the system can be expanded from a single site system to multiple sites and increases coverage.

**Centralized Control Channel Trunking**

The dPMR Mode 3 trunking system uses a centralized control channel system. The control channel is independent of the traffic channels and continuously transmits a control signal. The system allocates a traffic channel for the whole duration of a call and can provide quick response during a series of calls. The dPMR Mode 3 trunking system is suited to controlling a large number of users and congested traffic channels.

**Single Site**

- <4 Channels × 1 Site Model>

- Up to 32 channels per site
- Minimum 2 channel single site trunking
- Up to 32 site multi-site trunking (256 site planned) with System Control Software, CS-FC5000SCS
- Channel license system. Four channel activation key is supplied with the IC-FC5000E
- CS-FC5000 web based management software allows to connect multiple clients
- Individual and group calls, including broadcast
- Status call • Short data message
- Call Queuing
- Emergency Call with Pre-emption

**Multi-Site**

- <6 Channels × 3 Sites Model>

**Continued Feature Enhancements (Planned)**

In combination with various applications or external devices, the following services will be provided.

- Telephone interconnect • 3rd party application interface • Voice recording • System administration enhancements
- 3rd party dispatcher/AVL interface and SDK
### Features

- 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.
dPMR™ Digital Radios / Intrinsically Safe Radio

COMPACT, WATERPROOF DIGITAL BUSINESS RADIO

<<<IC-F1000D IC-F2000D
IC-F1000D IC-F2000D
(IC-F1000D (5 W)
IC-F2000D (4 W)

VHF DIGITAL TRANSCEIVER

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 (RX) • Short data message / Status (RX beep) • MIL-STD rugged construction • GPS position data with optional HM-170GPW • 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

* May differ or not supplied, depending on version.

<<<IC-F3000D IC-F4000D
IC-F3102D IC-F4102D
IC-F3102D IC-F4102D
(IC-F3102D (5 W)
IC-F4102D (4 W)

UHF DIGITAL TRANSCEIVER

FEATURES

- dPMR™ Mode 1/2 digital and analogue
- Loud and clear audio
- 111.5 mm height compact body
- IP54 water resistance and dust-protection
- Channel announcement function

- Radio stun/kill/revive (RX) • Ambience listening (RX) • Short data message / Status (RX beep) • MIL-STD rugged construction • GPS position data with optional HM-170GP • Lone worker function • Built-in 2-Tone, 5-Tone, CTCSS and DTCS • BIIS 1200 PTT ID • DTMF autodial • Internal VOX capability

Supplied Accessories

- Battery pack, BP-265 • Desktop charger, BC-193*
- AC adapter, BC-123SE* • Belt clip, MB-124

* May differ depending on version.

<<<IC-F3200D IC-F4200D
IC-F3200D IC-F4200D
IC-F3200D IC-F4200D
(IC-F3200D (1 W)
IC-F4200D (1 W)

VHF DIGITAL TRANSCEIVER

FEATURES

- dPMR™ Mode 1/2 digital and analogue
- Loud and clear audio
- 111.5 mm height compact body
- IP54 water resistance and dust-protection
- Channel announcement function

- Radio stun/kill/revive (RX) • Ambience listening (RX) • Short data message / Status (RX beep) • MIL-STD rugged construction • GPS position data with optional HM-170GP • Lone worker function • Built-in 2-Tone, 5-Tone, CTCSS and DTCS • BIIS 1200 PTT ID • DTMF autodial • Internal VOX capability

Supplied Accessories

- Battery pack, BP-277EX • Desktop charger, BC-212EX
- AC adapter, BC-133SE/SUK* • Belt clip, MB-94EX

* May differ depending on version. Please ask your dealer to ensure the ATEX and IECEx ratings are acceptable for the intended place of use. The IC-F3200DEX/IC-F4200DEX Intrinsically Safe models should only be used with the specified Intrinsically Safe approved options.
**dPMR™ Digital Mobile Radios**

**VHF DIGITAL TRANSCEIVER**  
**IC-F5400DP**  
(25 W, Colour LCD)  
**UHF DIGITAL TRANSCEIVER**  
**IC-F6400DP**  
(25 W, Colour LCD)

**VHF DIGITAL TRANSCEIVER**  
**IC-F5400DPS**  
(25 W, Segment LCD)  
**UHF DIGITAL TRANSCEIVER**  
**IC-F6400DPS**  
(25 W, Segment LCD)

**IDAS™ TAKES YOU TO A NEW LEVEL OF “SMART”**

**FEATURES**

- High resolution colour LCD (IC-F5400DP/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.

**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.

**Detached Controller***  
Optional RMK-5  
and separation cable required.

A detached controller head with the separated RF unit is a simple to install in almost any vehicle.

**Dual Head Controller***  
Optional RMK-7, hand microphone  
and separation cables required.

Suitable for double cab vehicles. Install the controller head to front and rear seats respectively.

**COMMANDMIC™ and Detached Controller***  
Optional RMK-5, COMMANDMIC, HM-218  
and separation cables required.

The COMMANDMIC is handy for installing a work platform on the rear part of the vehicle.

---

* Detached Controller, Dual head and COMMANDMIC configurations are for IC-F5400DP/IC-F6400DP only.
dPMR™ Digital Radios

**VHF DIGITAL TRANSCEIVER**

IC-F5062D (25 W)  
IC-F6062D (25 W)

**UHF DIGITAL TRANSCEIVER**

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

**VHF DIGITAL TRANSCEIVER**

IC-F5122D (25 W)  
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) (Optional OPC-1939 or OPC-2078 required)  • Remote kill, stun and revive (RX)  • Ambient listening (RX)  • Voting scan  • BIS 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

**dPMR™ 446 Digital Licence-Free 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)
- 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.
VITAL ROIP GATEWAY / VPN ROUTER / REMOTE COMMUNICATOR

REMOTE RADIO / PC DISPATCH

RC-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

VE-PG3

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

SR-VPN1

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
VALUE, PERFORMANCE AND FLEXIBILITY

- **dPMR™ Mode 2 digital and analogue FM with auto selection**
- **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.

**Options**

- **UR-FR5100** (136–174MHz, 25 W)
- **UR-FR6100** (400–470MHz, 25 W)
- **UR-PA5000** (VHF 50 W, 100% duty), **UR-PA6000** (UHF 50 W, 100% duty)
- **OPC-2202 CONNECTION CABLE** Connect between the repeater and the PA unit.
- **UC-FR5000 (12)** NETWORK CONTROLLER For dPMR Mode 2 multi-site net- working
- **UC-FR5000SE** ETHERNET BOARD Required for each repeater to connect with IC-FC5000E

**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
- Additional channel activation key is required when deploying five or more channels in a site
- Call queuing and emergency call with pre-emption

**Supplied Accessories**

- DC power cable

---

**Features**

- 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
**Function Comparison Chart**

<table>
<thead>
<tr>
<th>Function</th>
<th>IC-F400DPT/DPS/D</th>
<th>IC-F3262DT/DS</th>
<th>IC-F1000D</th>
<th>IC-F3200DX/DPS/D</th>
<th>IC-F310D</th>
<th>IC-F4000D/P/DPS/D</th>
<th>IC-F6002D</th>
<th>IC-F6122D</th>
<th>RC-FS10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions (WxHxD) (without projections)</td>
<td>53.6 x 123.5 x 39.5 mm (with BP-283)</td>
<td>53.5 x 142.7 x 39.5 mm (with BP-232WP)</td>
<td>12.2 x 118 x 30.3 mm (with BP-280)</td>
<td>63 x 144 x 50 mm (with BP-277EX)</td>
<td>58 x 115 x 36.5 mm (with BP-265)</td>
<td>174 x 55 x 150 mm</td>
<td>160 x 45 x 150 mm</td>
<td>150 x 40 x 117 mm</td>
<td>–</td>
</tr>
<tr>
<td>Weight (approx.)</td>
<td>300 g (BP-283, belt clip &amp; FA-SB1US)</td>
<td>40 g (VHF) 40 g (UHF) (with BP-323VR, belt clip &amp; ant.)</td>
<td>260 g (with BP-280 &amp; belt clip)</td>
<td>461 g (VHF) 461 g (UHF) (with BP-277TX, belt clip &amp; ant.)</td>
<td>320 g (VHF) 310 g (UHF) (with BP-265, belt clip &amp; ant.)</td>
<td>1.5 kg</td>
<td>1.3 kg</td>
<td>800 g</td>
<td>–</td>
</tr>
<tr>
<td>RF output power (High)</td>
<td>5 W</td>
<td>5 W</td>
<td>5 W (VHF), 4 W (UHF)</td>
<td>1 W</td>
<td>5 W (VHF), 4 W (UHF)</td>
<td>25 W</td>
<td>25 W</td>
<td>25 W</td>
<td>–</td>
</tr>
<tr>
<td>dPMR*</td>
<td>Mode 1</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Mode 2 Multi-site</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Mode 3</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Digital/Analog Mode (Mode 1/2)</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>OTAP</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>OAA</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Number of Call ID List</td>
<td>(Max. 1000 ID)</td>
<td>(Max. 500 ID)</td>
<td>(Max. 500 ID)</td>
<td>(Max. 500 ID)</td>
<td>(Max. 500 ID)</td>
<td>(Max. 1000 ID)</td>
<td>(Max. 500 ID)</td>
<td>(Max. 500 ID)</td>
<td>(Max. 1000 ID)</td>
</tr>
<tr>
<td>Group call</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Individual call</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>All call</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>ANI</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Data call</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>SOI (Short Data Message)</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Transparent modem</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>GPS</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Status call</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Power ON/OFF status call</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>GPS request status</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Status poll</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Emergency call &amp; alert</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>––</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Emergency type</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Emergency</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Emergency, Lone worker, Man Down, Stationary, Motion</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Emergency, Lone worker, Man Down, Stationary, Motion</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Emergency, Lone worker, Man Down, Stationary, Motion</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Emergency, Lone worker</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Emergency, Lone worker</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Emergency, Lone worker</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Emergency, Lone worker</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Emergency, Lone worker</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Emergency, Lone worker</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Emergency, Lone worker</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Emergency, Lone worker</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Emergency, Lone worker</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Pre-emergency (Mode 3)</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Ambience Listening</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Remote Store/Revive/Kill</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>DTMP dialling call</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Late Entry</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Call back (Mode 3)</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Digital Voice Scrambler</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Call log</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Incoming history</td>
<td>10 5 –</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>50</td>
</tr>
<tr>
<td>Outgoing history</td>
<td>10 5 –</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>50</td>
</tr>
<tr>
<td>GPS receiver</td>
<td>Built-in</td>
<td>Built-in</td>
<td>––</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Built-in (With LCD screen required)</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>External GPS receiver</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>External GPS receiver required</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

*1 Upgrade licence required to enable 4000 channel capacity. IC-F3400D/P/F4400D/P (Non-LCD type): Up to 32 selected channels out of 1024 can be allocated to the channel knob.
*2 Selection of the selected channels out of 128 can be allocated to the channel knob.

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.

Icom Inc. and the Icom logo are registered trademarks of Icom Incorporated (Japan) in the Japan, the United States, the United Kingdom, Germany, France, Spain, Russia, Australia, New Zealand, and/or other countries. IDAS, IDAS logo, COMMANDMIC and AQUAQUAKE are trademarks of Icom Incorporated. dPMR and the dPMR logo are trademarks of the dPMR MoU Association. AMBE+2 is a trademark and property of Digital Voice Systems, Inc. The Bluetooth word mark and logos are trademarks registered by Bluetooth SIG, Inc. and any use of such marks by Icom Inc. is under license. All other trademarks are the properties of their respective holders.

Icom Inc.
1-32, Kami-mi-mari, Hirano-ku, Osaka 547-0003, Japan
Phone: +81 (0) 6 6793 5302 Fax: +81 (0) 6 6793 0013 www.icom.co.jp/world

Count on us!

Icom America Inc.
13421 Willow Road
Kirtland, WA 98334, U.S.A.
Phone: +1 (206) 414-8155 Fax: +1 (206) 414-1509
E-mail: sales@icomamerica.com
URL: http://www.icomamerica.com

Icom Inc.
10HS012E © 2009–2016 Icom Inc.