IP ADVANCED RADIO SYSTEM

IP Communication Terminal
IP100H

Remote Communicator
IP100FS

Controller
IP1000C

Full-Duplex Communication That Works Over a Wireless LAN and IP Network*

- **Easy system to set up and use**
- **Up to 100 users can communicate at the same time**
- **Encryption provides extra security**
- **Range is only restricted by your IP network coverage**
- **No licence fee required, no call charges**

ICOM

1/6 17:55
ALL
IP100H

* Requires either HM-153LS, HM-166LS, HS-102 with OPC-2359 or HS-85 with OPC-2144 for full-duplex operation.
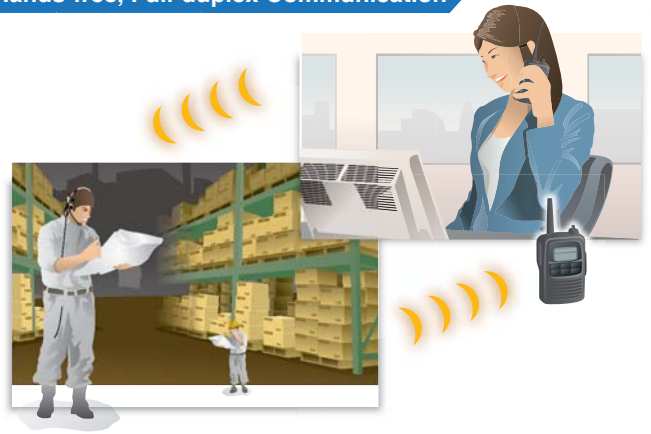
Wireless LAN System Extends Your Communication Coverage.

Individual, Group or Area Communication

Staff spread across an extended site, such as a hotel, can communicate seamlessly.

Hands-free, Full-duplex Communication

With an optional earphone-mic or headset HS-102 or HS-85, the IP100H user can talk and receive simultaneously like a phone call. Hands-free operation allows your staff to carry out other tasks at the same time.

Intra-building Communication
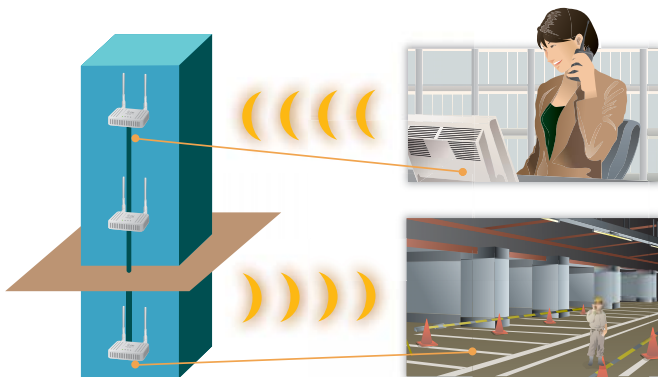
By deploying access points along the IP network, the IP advanced radio system can communicate all the way from the basement to the top floor. The IP100H can access the nearest access point and can roam between access points*. *Same SSIDs are required for roaming use.

Dispersed Sites Communication

If connected over an Internet VPN, the IP100H/IP100FS can communicate between dispersed sites such as offices or shops in different cities.

Application examples

Hotels | Warehouse / Manufacturing | Hospitals | Security

Restaurant / Drive Thru | Supermarkets / Retail Shops

IP Communication Terminal
IP100H

* The IP100H can be used with an internal antenna. (Communication range will decrease to half from/to access points.)

- IPX7 waterproof (1m depth water for 30 minutes) for outdoor work or places prone to get wet.
- Compact 58×95×26.4 mm body and 205g (approximate) lightweight.
- Vibration alert function for incoming calls.

Wireless LAN Access Point
AP–90M

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

Remote Communicator
IP100FS
(Supplied with USB flash drive for use as a USB hardware key)

- The IP100FS can communicate with IP communication terminals from a PC.
- The IP100FS can obtain location information of each IP100H based on the access point being used.
- Can be installed on a Windows® based tablet PC as well as a laptop PC.

Controller
IP1000C

- The IP1000C controls all terminal configurations and voice traffic.
- Capable of controlling up to 100 or 20* terminals (including IP100FSs).
- Links up to 11 IP1000Cs over an IP network (Internet VPN) and increases the number of usable IP100H/IP100FS communication terminals to 1100 units.

  * Depending on the IP1000C version.

Full-duplex Communication

With an optional earphone-mic or headset HS-102 or HS-85, the IP100H can talk and receive at the same time. All users in the system can communicate simultaneously.
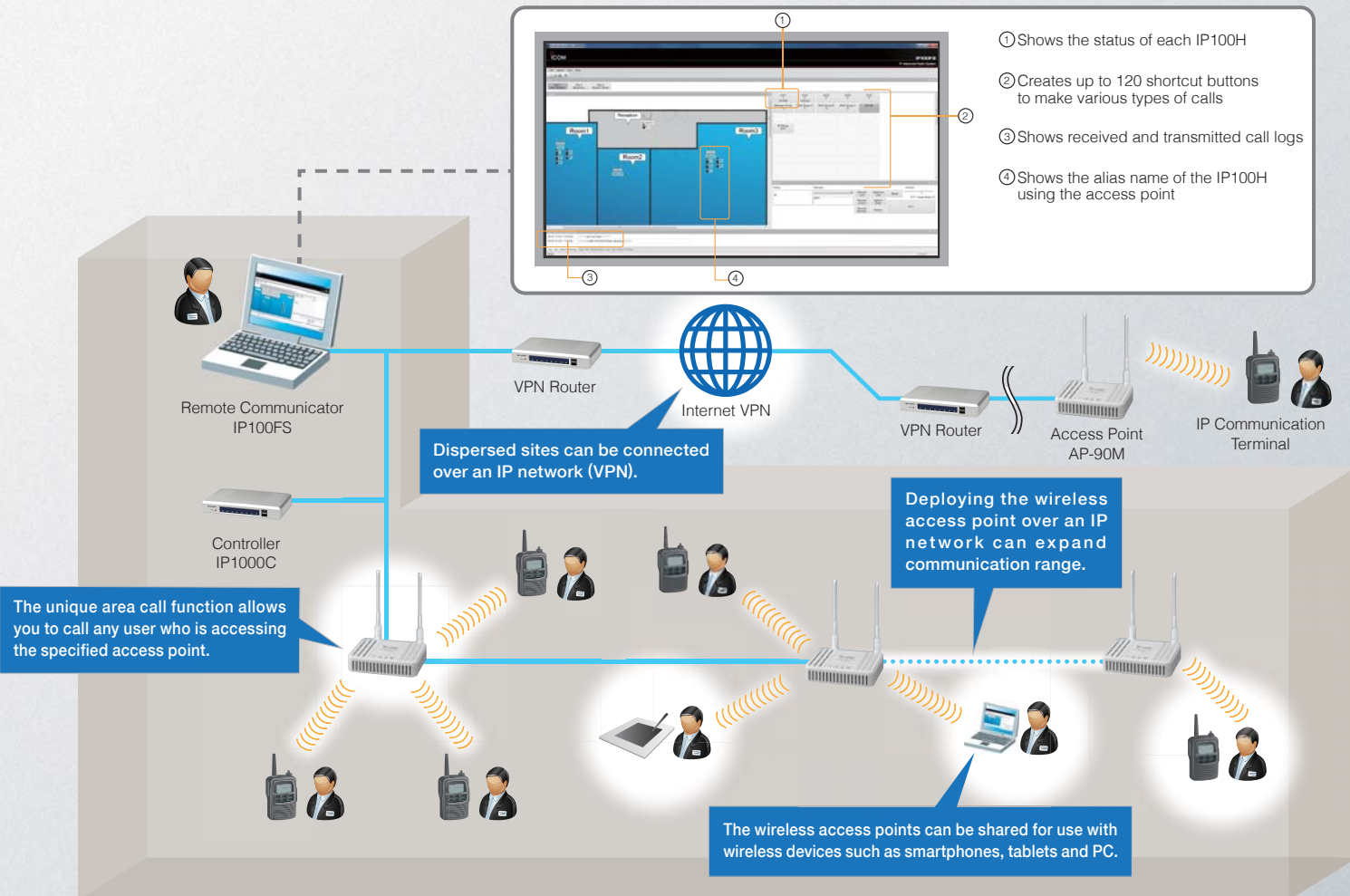
Status and Short Data Messaging

The IP100H/IP100FS can send status and short data messages* to other users.

* The IP100H can send only preprogrammed messages.

High Security

The wireless LAN security protocols (WPA-PSK (TKIP/AES), WPA2-PSK (TKIP/AES)) encrypt your private conversations.

Easy System to Set Up and Use

The IP1000C programs almost all terminal configurations over the air. Individual PC programming via cable connection is not required. (Except initial setup)

① Shows the status of each IP100H

② Creates up to 120 shortcut buttons to make various types of calls

③ Shows received and transmitted call logs

④ Shows the alias name of the IP100H using the access point

Remote Communicator IP100FS

VPN Router

Internet VPN

VPN Router

Access Point AP-90M

IP Communication Terminal

Dispersed sites can be connected over an IP network (VPN).

Controller IP1000C

Deploying the wireless access point over an IP network can expand communication range.

The unique area call function allows you to call any user who is accessing the specified access point.

The wireless access points can be shared for use with wireless devices such as smartphones, tablets and PC.
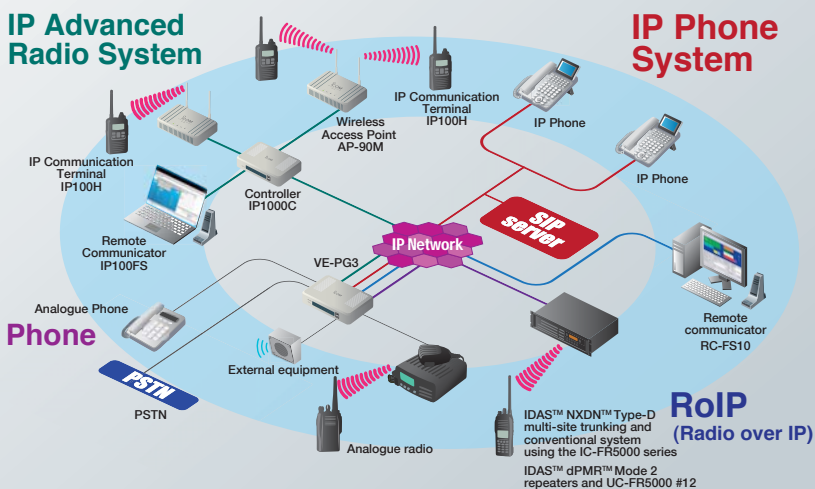

RoIP GATEWAY

IP Phone and Transceiver Interconnection

With a VE-PG3 RoIP gateway, the IP advanced radio system can interconnect with an IP phone, IDAS™ NXDN™*1, IDAS™ dPMR™ Mode 2 digital and analogue transceivers.
When used with an IP phone system, the IP100H can be used as a phone handset for making internal or external calls.*2

*1 NXDN™ Type-D multi-site trunking and conventional system using the IC-FR5000/FR5200H series.
*2 For interconnection with other equipment, verification tests are required before the installation. The IP100H can call a preprogrammed phone number only. (Cannot manually enter phone numbers to make a call.)

RoIP Gateway
VE-PG3

Interconnection image The IP communication terminals, radios and telephones can communicate with each other within the doughnut shaped blue ring.

IP Advanced Radio System

IP Phone System

IP Communication Terminal IP100H

IP Phone

Wireless Access Point AP-90M

IP Communication Terminal IP100H

Controller IP1000C

SIP server

IP Phone

IP Network

Remote Communicator IP100FS

VE-PG3

Remote communicator RC-FS10

Analogue Phone

Phone

External equipment

PSTN

PSTN

Analogue radio

IDAS™ NXDN™ Type-D multi-site trunking and conventional system using the IC-FR5000 series

IDAS™ dPMR™ Mode 2 repeaters and UC-FR5000 #12

RoIP
(Radio over IP)

IP ADVANCED RADIO SYSTEM

SPECIFICATIONS

IP100H

Wireless standards	IEEE 802.11 a/b/g/n
Frequency range	2.4–2.4835GHz, 5.15–5.35, 5.47–5.85GHz
Dimensions (W×H×D)*1	58×95×26.4 mm; 2.28×3.74×1.04 in (with BP-271)
Weight (approx.)	205g; 7.2oz (with BP-271 and antenna)
Operating time*2	More than 20 hours (with BP-271)
RF output power	Less than 10mW/MHz
Voice Codec	G.711 μ-law (64kbps)
AF output power (10% distortion)	Internal SP 400mW (typ., 16Ω load), External SP 200mW (typ., 8Ω load)
Security	WEP (64/128-bit), WPA-PSK (TKIP/AES), WPA2-PSK (TKIP/AES)
Operating temperature	–10°C to +60°C; +14°F to +140°F

*1 Projections are not included. *2 Tx: Rx: Stand-by=1:1:8 duty cycle

Supplied accessories
- BP-271 Li-ion battery pack
- MB-127 belt clip
- Hand strap
- Antenna
- Antenna cap

IP100FS (System requirements)

Operating system	Windows® 8/Windows® 8.1 (32-bit/64-bit) Windows® 7 (32-bit/64-bit) SP1 or later, Windows Vista® (32-bit/64-bit) SP2 or later, (Except for Windows® RT)
CPU	Intel® Core™ 2 Duo Processor E6600/ 2.4GHz or better
Memory	2GB or higher
Hard disk space	1GB of disk space (for saving log files)
Audio	DirectSound compatible audio (Frequency response up to 20kHz, sampling rate 48kHz)
Display resolution	1920×1080 pixel recommended 1024×768 pixel minimum
Other	USB 2.0 port, 10Mbps or faster Ethernet interface, speaker, microphone or headset

IP1000C

Power supply	100–240V AC (With supplied AC adapter)
Operating temperature	0°C to +40°C; +32°F to +104°F
Dimensions (W×H×D)*3	232×38×168 mm; 9.13×1.5×6.61 in
Weight (approx.)	750g; 1.65lb (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

*3 Projections are not included.

Supplied accessories
- BC-207S AC adapter
- Cushion sheets
- Ferrite core

AP-90M

|	
Power supply	12V DC ±10% or PoE (IEEE802.3af compatible)
Dimensions (W×H×D)*4	120×29×103 mm; 4.72×1.14×4.06 in
Weight (approx.)	300g; 10.6oz (Main unit only)
Wired LAN	RJ-45 connector × 1 1000BASE-T/100BASE-TX/10BASE-T (Auto MDI/MDI-X)
Wireless LAN	IEEE 802.11 a/b/g/n/ac
Frequency range	2.4–2.4835GHz, 5.15–5.35, 5.47–5.85GHz
Security	WEP (64/128/152-bit), WPA, WPA2, WPA-PSK, WPA2-PSK
Operating temperature	0°C to +40°C; +32°F to +140°F

*4 Projections are not included.

Supplied accessories
- Mounting bracket

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

OPTIONS

For IP100H
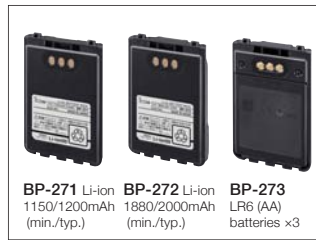
BP-271 Li-ion 1150/1200mAh (min./typ.)
BP-272 Li-ion 1880/2000mAh (min./typ.)
BP-273 LR6 (AA) batteries ×3

Rapid charger

BC-202   BC-123S*
*BC-123SA for 120V AC, SE for 230V AC.

Multi-charger

BC-157S

BC-211

Headsets (Full-duplex operation)

HS-102 Earphone type. OPC-2359 is required.
HS-85 Over-the-head type. OPC-2144 is required.

Earphone-microphones (Full-duplex operation)

HM-153LS   HM-166LS
Use HM-153LS or HM-166LS for full-duplex operation also.

Speaker-microphones (Simplex operation)

HM-183LS IPX7 Waterproof   HM-186LS

Headsets (Simplex operation)

HS-94* Earhook type
HS-95* Behind-the-head type
HS-97* Throat type

* Either OPC-2006LS or OPC-2328 is required when using any of these headsets.

- **MB-127:** Belt Clip. Same as supplied.
- **OPC-2144:** Slim L-Type plug adapter cable.
  Required when using either HS-85, HM-153, HM-166 or SP-13.
- **OPC-2006LS:** Plug adapter cable
- **OPC-2328:** PTT switch cable
  Either OPC-2006LS or OPC-2328 is required when using any of HS-94, HS-95 or HS-97.
- **OPC-2359:** PTT switch cable
  OPC-2359 is required when using HS-102.
- **OPC-478UC + OPC-2144:** Setup cables.
  Both cables are required for initial setup.

For IP100FS

PTT microphone adapter

CT-23

AC adapter

BC-147S*
For use with CT-23

Desktop microphone

SM-26

For IP1000C

Hand microphone

HM-152

Serial cable

OPC-1402

*BC-147SA for USA plug, SE for EURO plug, SV for Australia plug.

For AP-90M

AC adapter

BC-207S

Access point management software

Security Dashboard
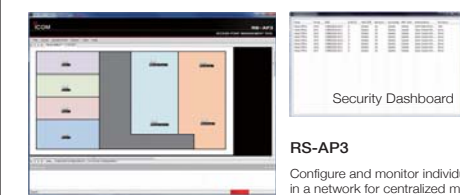
RS-AP3

Configure and monitor individual/all access points in a network for centralized management.

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