

# IP Radio

License-free radio for wireless network (WLAN)

## License-free radio for wireless networks (WLAN)

Icom's new radio system for wireless networks is a product that bridges the gap between license-free and licensed radio devices. The system can be connected to an existing WLAN network and allows full duplex communication with reliable sound quality.

Icom's new WLAN-based radio system offers scalable, license-free communication that uses standardized wireless network products as infrastructure. In several cases, said infrastructure is already in place.

### License-free system

No radio licenses are necessary for the system as it uses standard WLAN networking products as infrastructure. The system uses the IEEE 802.11 a/b/g/n standard.

### Scalable system

Communications are distributed across WLAN access points in an IP network which makes it easy to expand the system.

### Secure encrypted communication

The wireless security protocols WPA-PSK and WPA-PSK2 encrypt the calls.

### Simultaneous use

Many users in the system can transmit simultaneously. When a headset is connected to the IP100H, users can talk concurrently in full duplex – similar to talking on a regular telephone.

### Localization of users

IP100FS software can connect to the network and be used as a fixed radio. It can call a user, send a message and can easily see which access point each user is connected to.

### Easy maintenance

Most programming takes place wirelessly over the network eliminating the need to gather all radios every time a change is made.

### Reliable sound quality

Since communication over a WLAN offers a wider frequency bandwidth and QoS priority packet delivery, the sound quality is higher than in a traditional radio communication system and is comparable to regular telephone communication.

## AREAS OF USE

- Warehouses
- Restaurants/Cafés
- Hotels/Museums
- Shopping Malls/  
Department Stores
- Security/Guards
- Hospitals/Care



# IP100H

Icom's IP100H WLAN or IP radio is a compact, yet powerful device. Measuring only 95 mm high (~3.7 inches) and weighing 205 grams (~7.2 ounces), the IP100H is one of the smallest professional radios on the market.

The IP100H is a wireless network radio and can move freely within the network. Adding several access points can easily expand coverage for your radio system.

The IP1000C controller that connects to the wireless network allows grouped users to hear and talk with another group. Individual calls are also possible. Full duplex communication (as with a regular telephone) can be used if enabled in the IP1000C controller and if a headset is connected to the IP100H.

- Compact size, and lightweight
- Up to 27 hours with standard BP-271
- Supports full duplex with headset connected
- Reliable sound quality
- High security with encrypted communication\* (\*AES Encryption)
- Vibration function for incoming calls
- Waterproof in accordance with IPX7

## INCLUDED

- BP-271 Li-Ion battery
- MP-127 belt clip
- Wrist strap
- Short stub antenna
- Antenna Cover (used for internal antenna)



## Built-in antenna\*

IP100H can be used even without an external antenna in a wireless network with good coverage.

\*Reduced range



## IP1000C

The IP1000C is Icom's wireless network system and keeps track of the radios in your network. IP1000C can also communicate with third-party manufacturers' WLAN access points allowing for great flexibility. It easily installs with existing networks or new wireless networks.

- Manages up to 100 IP100H/IP100FS devices in a single IP1000C
- Up to 11 IP1000C can be interconnected to increase total number of IP100 radios on a network
- Can be used in all standard wireless networks
- Easy to install
- Manages individual, group, or all-area calls
- OPC-1402 - Serial cable (option)



## IP100FS

IP100FS is an IP-based PC-dispatcher and serves as an additional radio in your network. It handles all types of calls such as individual and group calls or text messages. Messages can be sent as free text or predefined. The program also has a map feature that allows you to see which radio stations are connected to the respective access point.

- Functions like a traditional radio in the system
- Uses the computer's built-in sound system
- Map function
- CT-23 PTT microphone adaptor (option)
- SM-26 Desktop microphone (option)
- HM-152 Hand Microphone (option)



## AP-90M

AP-90M is Icom's own compact WLAN access point. It handles the use of both 5 and 2.4 GHz spectrum bands with a built-in high safety standard for encryption. The access point is equipped with various features such as load balancing, packet filters, and support for the PoE function. The entire functionality of the system can be monitored with the use of RS-AP3 software.

- IEEE802.11a/b/g/n/ac compatibility
- Handles 5 and 2.4 GHz bands simultaneously
- IEEE802.11af PoE compatible
- External antenna

# IP radio system

## IP radio for wireless network gives you different communication options

### Individual group or area call

Users at a hotel, for example can move around and communicate freely throughout the network.

### Communication in a building\*

The IP100H connects to the closest access point and then automatically moves between the different points in the network.

\*For proper IP configuration, contact your local IP Professional.

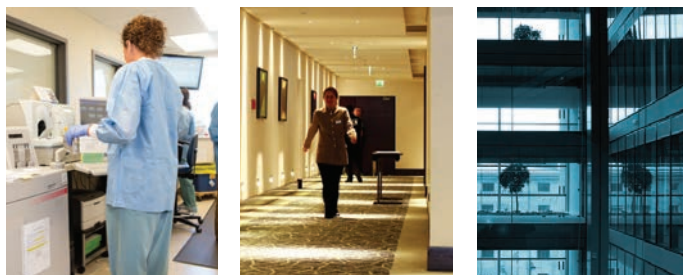
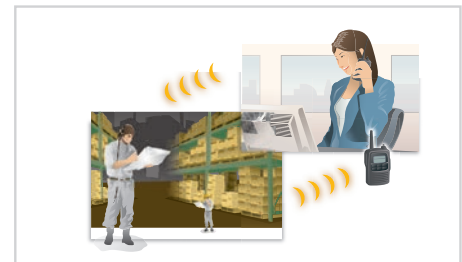
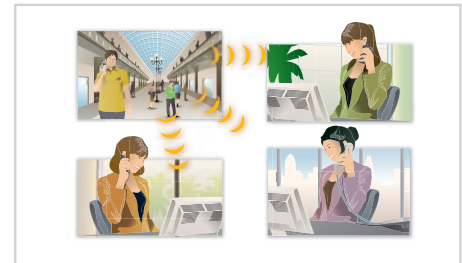
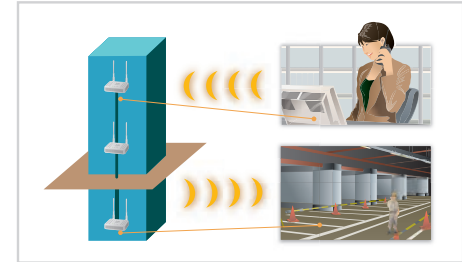
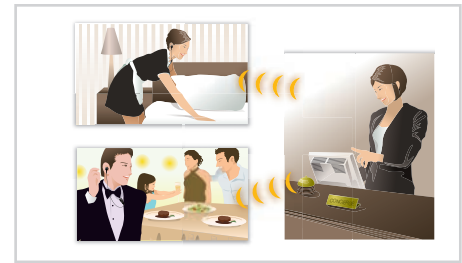
### Communication between different locations

Allows communication between separate locations access points if the networks have been connected with VPN's by an IP professional.

### Hands-free with full duplex communication\*

Hands-free operation allows you to communicate in the system while performing other tasks. You can also use full duplex in a group call.

\*Vox headset required



## Radio systems for hospitals, hotels or offices

### Radio systems for an existing wireless network

With Icom's new IP radio, you can quickly establish a high quality network in a building by properly programming and connecting an IP1000C to an existing WLAN network.

You can upload groups and individuals to the network and control the entire system through a computer. The IP100FS software on the computer also has a map feature which makes it easy to locate all users.

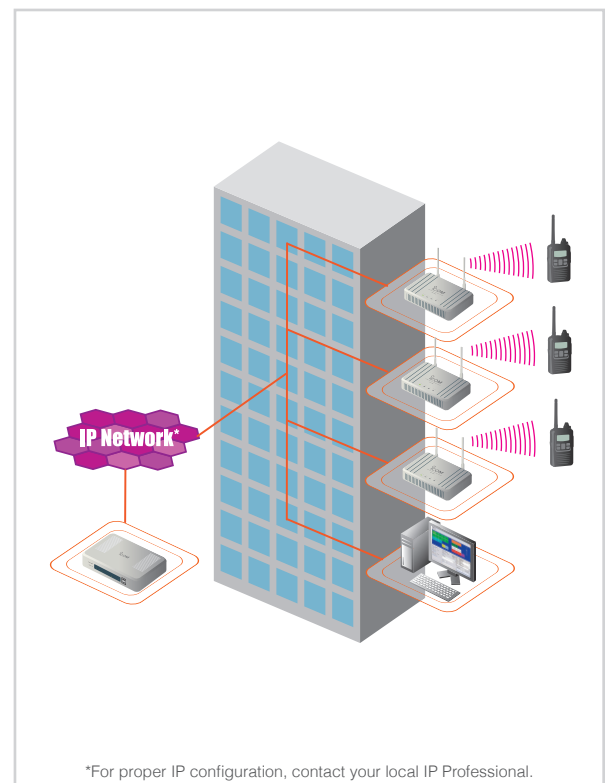
### AREAS OF USE

An IP radio system is ideal for users who want to create a radio network using their own wireless network. Many hotels and offices have already invested in a wireless network, making this system a smooth and cost-effective solution.

Hospitals, hotels, restaurants, shopping centers and companies that conduct business indoors would benefit most from this system.

### ADVANTAGES

- Simple handling and easy installation
- Convenient small devices with reliable sound quality can be used in the system
- User groups can share a common channel and communication can be in simplex or full duplex, depending on programming
- Cost-effective
- Built-in security



# OPTIONS IP100H

## BATTERIES



BP-271  
7.4V/1150mAh (min.)  
1200mAh (typ.)  
(Li-Ion)



BP-272  
7.4V/1880mAh (min.)  
2000mAh (typ.)  
(Li-Ion)



BP-273  
LR6 (AA) batteries x3

## CHARGERS



BC-202  
Battery charger  
incl. BC-123S



BC-211  
6-port charger  
incl. AD-127  
shown with BC-157S

## ADAPTOR



BC-201 AC-adaptor  
for AP-90M

## SPEAKER-MICROPHONES



HM-186LS



HM-153LS



HM-166LS

## HEADSET ADAPTOR



OPC-2328 PTT for  
VOX, 2.5 mm



OPC-2006LS  
Adaptor cable  
2.5 mm

## HEADSET



HS-94 Earhook type  
OPC-2006LS / OPC-2328  
required



HS-95 Behind the ear  
type  
OPC-2006LS / OPC-2328  
required



HS-97 Throat type  
OPC-2006LS / OPC-2328  
required

## SET-UP CABLES



OPC-478UC



OPC-2144

## BELT CLIP



MB-127  
Belt Clip

## OPTIONS – IP100FS



CT-23  
PTT microphone adapter



SM-26  
Desktop Microphone



HM-152  
Hand microphone

## OPTIONS – IP1000C



OPC-1402  
Serial cable

### Glossary

LAN = Local Network

WLAN = Wireless network

VLAN = Virtual network

IP = Internet protocol

Full duplex = Both parties can talk in two directions simultaneously

## TECHNICAL DATA IP100H

Frequency range	2412-2472 MHz (13 channels) 5180-5700MHz (19 channels)
WLAN standard	IEEE 802.11 a/b/g/n
Dimensions (wxhxd)	58x95x26.4 mm (with BP-271) 2 9/23 x 3 47/64 x 1 9/64 in.
Weight	205 g (with BP-271 and antenna) 7.2312 oz.
Operating time	over 20 hours (with BP-271)
RF output	Less than 10mW/MHz
Voice codec	G.711 $\mu$ -law (64kbps)
AF output	Internal 400mW (16 $\Omega$ ) External 200mW (8 $\Omega$ )
Security key	WEP (64/128-bit) WPA-PSK (TKIP/AES) WPA2-PSK (TKIP/AES)
Temperature	-10° to +60°

## TECHNICAL DATA IP100FS

Operating system	Windows 8/Windows 8.1 (32bit/64bit) Windows 7 (32bit/64bit) SP1 or later Windows Vista (32bit/64bit) SP2 or later Windows XP (32bit) SP3 (64bit) SP2 or later (except WindowsRT)
CPU	IntelCore 2 Duo Processor E6600/2.4GHz or better
Memory	2GB or more
Hard disk space	1GB of disk space (for log files)
Audio	DirectSound audio (frequency range up to 20kHz, sampling rate 48kHz)
Screen resolution	1920x1080 pixels (1024x768 min)
Other	USB 2.0 port, 10Mbps or faster Ethernet interface, speaker, microphone or headset

## TECHNICAL DATA IP1000C

Power supply	100-240V AC (with supplied AC adaptor)
Temperature	0° to +40°
Dimensions (bxhxd)	232x168x38 mm 9 9/64 x 6 39/64 x 1 1/2 in
Weight	750 g 26.455 oz
LAN	RJ-45 connection x 4 1000BASE-T/100BASE-TX/10BASE-T (AUTO MDI/MDI-X)
USB	Standard A x 2
Service connection	RS-232C (RJ-11) connection