



**MATRIX**

**ICOM**

# IP ADVANCED RADIO SYSTEM

**License-Free Full-Duplex Voice Communication  
Over Wireless LAN and IP Networks**



IP100H HANDSET

If your mine or industrial operation has an existing Wi-Fi-enabled network, Matrix has an easy, low-cost way to add individual, group or area voice communications through VoIP or RoIP handsets.

Icom's WLAN-based radio system offers scalable, license-free communication that uses simple, standardized wireless network products.

#### **LICENSE-FREE SYSTEM**

No radio licenses are necessary for the system as it uses standard WLAN networking products as infrastructure.

#### **SCALABLE SYSTEM**

Communications are distributed across WLAN access points on 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 easily see the access point to which each user is connected.

#### **RELIABLE SOUND QUALITY**

Sound quality is higher than in a traditional radio communication system and is comparable to regular telephone communication.

- **Easy to set up and use**
- **Handles up to 100 users**
- **Encryption for added security**
- **No license fee or call charges**

  
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## THE BASIC SYSTEM



### NETWORK SYSTEM LINK

The IP1000C wireless Network System Link keeps track of the radios in your network. It can also communicate with third-party manufacturers' WLAN access points, allowing for great system flexibility.

The Network System Link is easy to set up with existing networks or new wireless networks.

- Manages up to 100 IP Radios
- Up to 11 System Links can be interconnected to increase the total number of IP Radios on a network
- Can be used in all standard wireless networks
- Easy to install
- Manages individual, group and all-area calls
- OPC-1402 - Serial cable (optional)

### Converter Mode

- Interconnect between IP phone, analog phone and radio networks
- Phone calls can be initiated by radio users

### Bridge Mode

- Site-to-site radio communication over an IP network
- Site-to-multisite radio communication
- Cross band, cross category (VHF/UHF land mobile, marine VHF and air band) connection

### Common Features

- Interconnect between IDAS™ NXDN™, IDAS™ and IP Advanced Radio System
- Optional RC-FS10 software for virtual PC dispatch station
- Public address, siren, warning light and external equipment connection

# ICOM IP ADVANCED RADIO SYSTEM



### LAN RADIO PHONE

The IP110H is a compact, lightweight wireless LAN radio with simultaneous TalkListen™ Function.

- All, Group, Talkgroup, Individual and Telephone Calls
- 1000 mW loud audio from internal speaker
- Optional Bluetooth® headset, VS-3
- IP67 / IP54 waterproof and dust-tight
- Battery can be charged through the USB Type-C™ cable
- More than 20 hours of operating time
- WPA2, WPA-Enterprise security
- Audio is recorded for instant review
- Vibration alert function
- Motion/Stationary detection, man down and lone worker functions
- Over-the-Air programming
- Compatible with the IP100H WLAN radio

**If you have an existing Wi-Fi system, this is all you need to add VoIP or RoIP.**

## IDEAL FOR OPERATIONS WITH AN EXISTING WI-FI SYSTEM

- Metal/Non-metal Mines
- Coal Mines (Outby)
- Warehouses
- Industrial Operations
- Shopping Malls/Department Stores
- Security/Guard Communications
- Hospitals/Care Centers
- Hotels/Museums



### ACCESS POINT

The AP-90M is Icom's compact, proprietary WLAN access point. It handles the use of both 5 and 2.4 GHz spectrum bands with built-in high-level encryption.

The Access Point is equipped with various features, such as load balancing, packet filters and support for 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



### PC DISPATCHER (OPTIONAL)

The IP100FS is an IP-based, centralized PC-dispatcher that 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 a 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 (optional)
- SM-26 desktop microphone (optional)
- HM-152 hand microphone (optional)

## LICENSE-FREE VoIP OR RoIP FOR WIRELESS NETWORKS (WLAN)

- 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

## NO WI-FI IN YOUR MINE OR INDUSTRIAL OPERATION?

Matrix has several system options to help you add Wi-Fi to your operation plus the expertise to advise you on the best overall solution based on your communications objectives.

- New modular networking system that is easy to expand as your needs grow
- Extending Wi-Fi reach on an existing network
- Adding Wi-Fi communications as a secondary system to fill in "dark spots"





## ACCESSORIES / OPTIONS

### HEADSETS



**HS-94 Earhook**  
OPC-2006LS /  
OPC-2328 Required



**HS-95 Behind-the-Ear**  
OPC-2006LS /  
OPC-2328 Required



**HS-97 Throat**  
OPC-2006LS /  
OPC-2328 Required

NOTE: When a headset is connected to the IP100H, users can talk concurrently in full duplex – similar to talking on a regular phone.



- Comes with:
- BP-271 Li-Ion battery
  - MP-127 belt clip
  - Wrist strap
  - Short stub antenna
  - Antenna Cover (used for internal antenna)
  - Battery charger not included

### BATTERIES



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



**BP-273**  
LR6 (AA)  
Batteries x 3

### SERIAL CABLE



**OPC-1402**  
For use with IP1000C

### BATTERY CHARGERS



**BC-202**  
Battery Charger  
incl. BC-123S



**BC-211**  
6-port Charger  
incl. AD-127  
(shown with BC-157S)



### TECHNICAL DATA IP1000C

Power supply	100-240V AC (with supplied AC adaptor)
Temperature	0° to +40°
Dimensions (bxhxd)	232x168x38 mm 9 <sup>9</sup> / <sub>64</sub> x 6 <sup>39</sup> / <sub>64</sub> x 1 <sup>1</sup> / <sub>2</sub> 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

### PC DISPATCHER OPTIONS



**CT-23**  
PTT Microphone  
Adapter



**SM-26**  
Desktop Microphone



**HM-152**  
Hand Microphone

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