

IS IP Network Requirement Summary

The Aiphone IS Series has components that are capable of working on an IP network. The IP enabled door stations are the IS-IPDV and IS-IPDVF. The IP enabled master station is the IS-IPMV, and the PC master station is the IS-SOFT. There are also optional control units, the IS-IPC and the IS-CCU, that can connect several non-IP stations to a network to reduce the number of IP addresses required. This is a summary of the requirements from an IT perspective.

Network Hardware

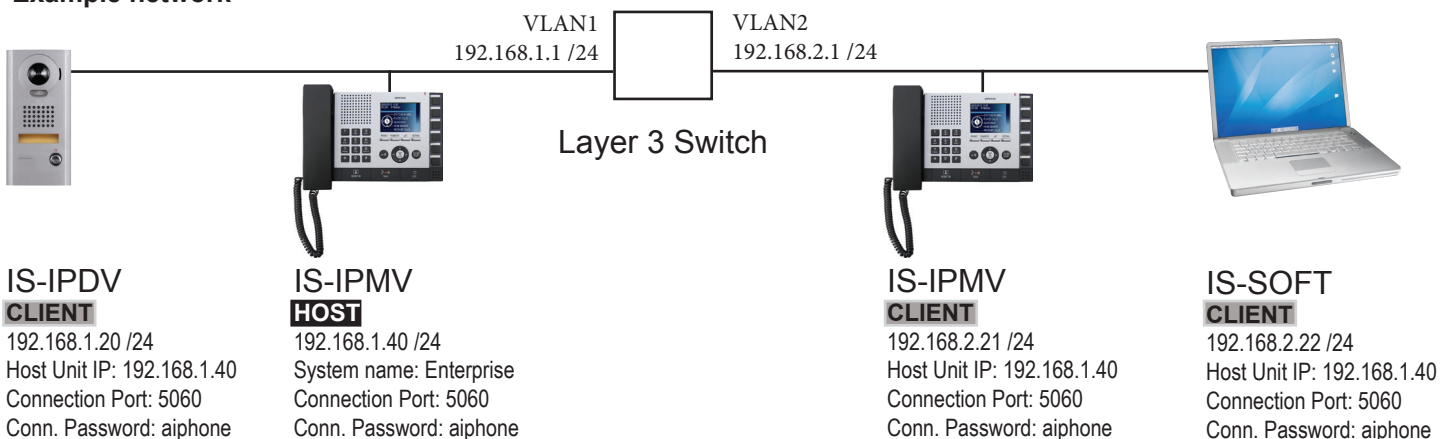
The IS IP devices require a wired connection to a network, but after that point there is flexibility on the choice of hardware and media. Some requirements to keep in mind are:

- PoE is recommended for the IS-IPDV, IS-IPDVF, and IS-IPMV. The IS-SOFT, PC master station software, can be installed on a computer using a wired, Wireless G, or Wireless N connection.
- Enterprise networks require Layer 3 switches or routers to route IGMP data. When there are multiple VLANs or routing between IS devices on separate subnets, the network must route IGMP data or several features will not work.
- Global systems require NAT routers at each *Site*. If these devices will connect via the internet, each *Site* will need to have a Host and each Host will need to be behind a NAT configured router (see page 2 for more details).

Network Layout

A network design can be as simple as a PoE switch or it could be an enterprise network with several routers and layer 3 switches connecting buildings in a campus. After configuring a system like this, some features (like unit scans, video, and paging) may require additional configuration steps on the networking hardware before they will function as intended. Sites requiring more than 32 stations can use the IS-IPC control units with IS hardware products (IS-CCU, IS-MV, IS-DV) to reduce the number of IP addresses required.

Example network



Multicasts: Searches, Video, Paging and Chimes

The IS system uses Multicasts to efficiently send video and paging announcements to many group members. Networks that use multiple subnets will typically require additional work beyond setting up subnets, VLANs, and routing between subnets. Multicasts are capable of being routed, but are not routed by default on any typical Layer 3 switch or router.

Multicast packets can be routed using PIM (Protocol Independent Multicast). Deciding which protocol and which method to use for a particular network layout and configuring that method is beyond the scope of this document. Please refer to the documentation of the layer 3 switch or router or the manufacturer for instructions.

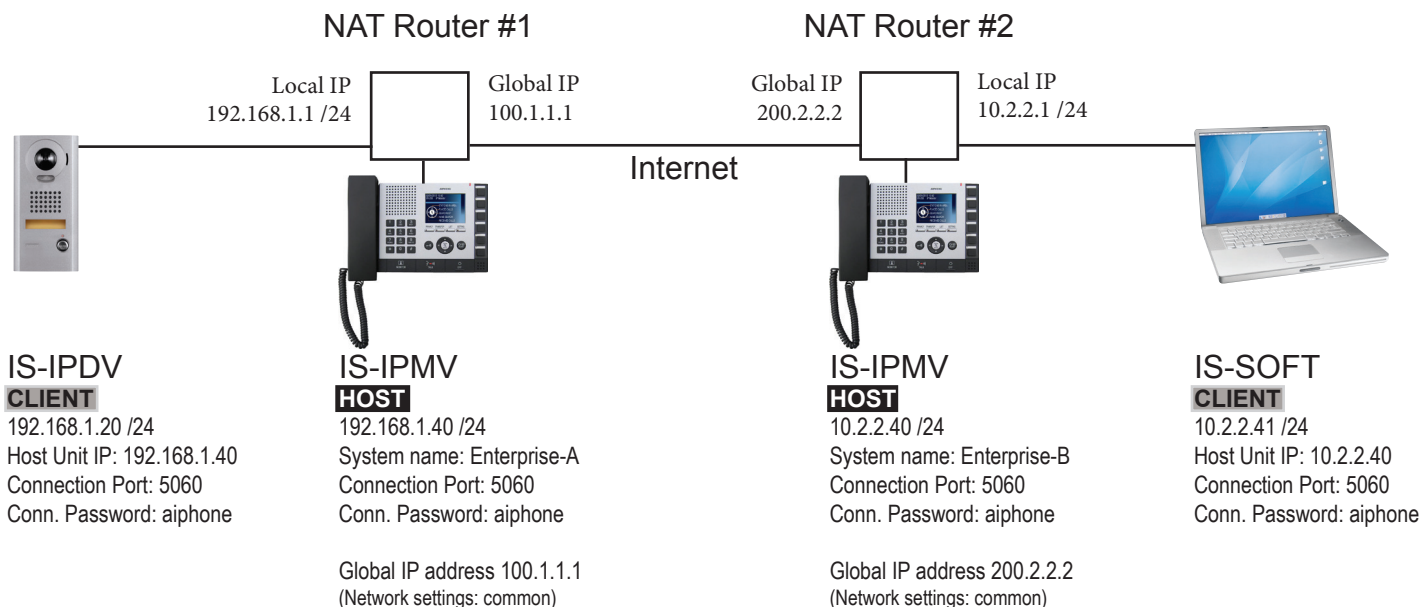
Networks that cannot route Multicasts should use a Global System configuration (see page 2 for more details).

Sites in a Global System

There are a variety of reasons why a Global System configuration should be implemented. These include:

- Exceeding the 32 IP address limit for a *Site*, (1 Host and 31 Clients)
- Devices using separate internet connections that are not connected by a VPN
- Some portion of the network hardware does not support IGMP routing, such as a fiber link, a VPN, or a router

Example Global System



Ports

Each Host will have a unique list of ports to be forwarded, depending on the composition of the system. When a *Site* has been completely programmed, go to **IP unit registration** and click the **Port forwarding setting** button to see what ports will be required for the *Site*. The example *Site Enterprise-A* is shown below.

- 1 connection port, for establishing Site to Site connections as well as local connections
- 7 common ports for Site to Site calling
- 1 port for each door to receive audio
- 2 ports for each master to receive video and audio
- Up to 7 ports for each IS-IPC, for various functions

Port forwarding setting

*For the router setting information, see the operation manual supplied with the unit.

*Source IP address : 100.1.1.1

Source Port	Destination IP Address	Destination Port	Protocol
5060	192.168.1.40	5060	UDP
50800 - 50803	192.168.1.40	50800 - 50803	UDP
50804 - 50806	192.168.1.40	50804 - 50806	UDP

*Source IP address : 100.1.1.1

Source Port	Destination IP Address	Destination Port	Protocol	Unit name
50901 / 50902	192.168.1.40	50901 / 50902	UDP	IS-IPMV 1
50905	192.168.1.20	50905	UDP	IS-IPDV 1

Support

If you have questions, please contact Aiphone Technical Support at (800) 692-0200 and select Technical Support (option 1), then select the IP Support queue (option 2).

Pre-installation IS Network Information Sheet

Host Unit Settings (A host unit must be a physical device, such as a IS-IPDV, IS-IPDVF, IS-IPMV, or IS-IPC)

Network setting: Individual

System name: _____ (1-24 alphanumeric characters)

DHCP used: _____ (Y/N) - Aiphone recommends using a Static address, or DHCP reservation.

Static IP address: _____ *Default is 192.168.0.39*

Subnet Mask: _____

Default Gateway: _____

Primary DNS Server: _____

Secondary DNS Server: _____

MAC Address: _____ Found on actual device.

Unit name: _____ (0-24 alphanumeric characters)

Web (Interface access) port: 443 (Not Adjustable)

Connection Port: _____ (1024-65535) *Default is 5060.*

Connection Password: _____ (1-16 alphanumeric characters)
Default password is aiphone

Network setting: Common

UPnP used: _____ (Y/N)

Global (WAN) IP address: _____ Global (WAN) IP address must be static.

Connection Port global (WAN): _____ Set in Individual Network Setting window.

System data port: 43998 / 43999 (Not Adjustable)
43998 used for system check and clock synchronization
43999 used for system boot control

IP unit search multicast address: 239.197.40.41 (Not Adjustable) - Used to identify a unit on the network.

IP unit search multicast port: 41900 (Not Adjustable) - Used to identify a unit on the network.

Multicast address:

1:	_____	<i>Default is 239.0.1.1</i>
2:	_____	<i>Default is 239.0.1.2</i>
3:	_____	<i>Default is 239.0.1.3</i>
4:	_____	<i>Default is 239.0.1.4</i>
5:	_____	<i>Default is 239.0.1.5</i>

Multicast address 1 is used for paging between sites, 2 used for paging in site, 3 used for chime in a site, requires the IS-IPC to be host, 4 used for in site video, 5 used for remote site video.

Audio/video port: _____ - _____ (1024 - 65535) - *Default is 50800 - 50814*

Email setting:

Email source address: _____

SMTP server: _____

SMTP server port: _____ 1-65535

Email log in ID: _____ *Required field*

Email password: _____ *Required field*

Pre-installation IS Network Information Sheet

Administrator setting:

Administrator ID: _____ (1-16 alphanumeric characters) - *Default is aiphone*
Password: _____ (1-16 alphanumeric characters) - *Default is aiphone*

**Bandwidth = 8Mbps per active session with video set at highest quality.*

Client settings:

#	Unit Name	MAC Address	IP Address	ID	Password
1					
2					
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