

IX Series Network Requirements Summary

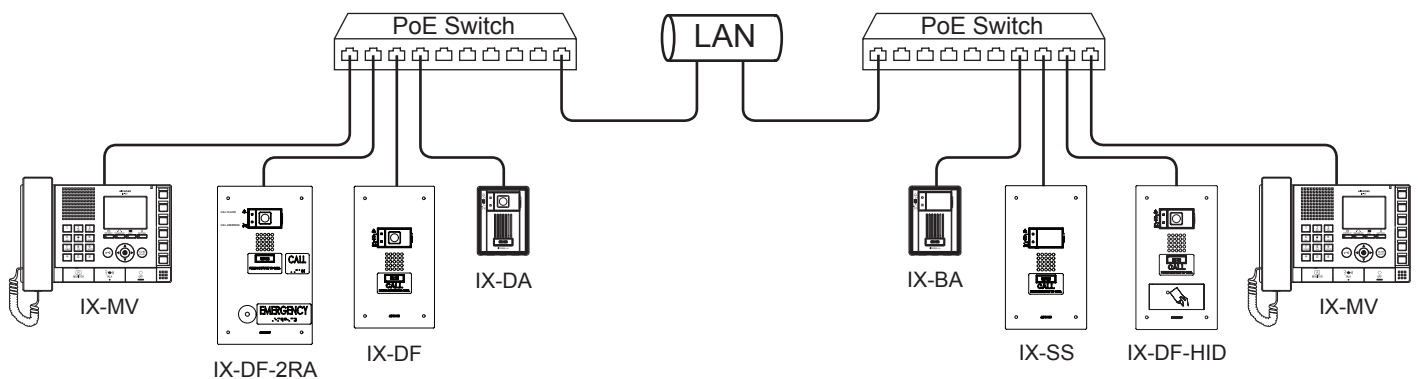
The Aiphone IX Series is an IP network intercom system. IP enabled video door stations include the IX-DA, IX-DF, IX-DF-HID, IX-DF-RP10, and IX-DF-2RA. IP enabled audio only door stations include the IX-BA, IX-SS, IX-SS-RA, and IX-SS-2RA. The IP enabled master station is the IX-MV, and the official app is called “IX Mobile”.

IX Series stations require a wired connection to a network (with the exception of IX Mobile), with some flexibility on choice of hardware and media. The following are requirements to keep in mind:

- A Class 0 PoE connection is required for all IX Series stations.
 - Class 0: 15.4 watts at PoE port; .44 to 12.95 watts at station
- All IX Series stations and mobile devices using the IX Mobile app are required to be on the same logical network. NAT routing is not possible on the IX Series, meaning public IP addresses can not be used to reach external networks. A VPN connection is one way to enable multiple sites using the IX Series to communicate with one another.
- The IX Series can utilize either Unicast or Multicast for video broadcasting across the network.
 - When Multicast is the desired method of transmission: Any Layer 3 routing must include IGMP between switches and routers, including VPN's, to properly broadcast video between devices.

Network Layout

A network design can be as simple as a single PoE switch or as complicated as utilizing multiple switches, routers and VPN's. The only requirement is the entire system exists on the same logical network.



Unicast and Multicast

The IX Series can utilize either Unicast (default) or Multicast to efficiently send video and paging announcements to group members. Multicast is required when paging 50 or more stations in a single group. Networks using multiple subnets will often require additional work beyond setting up subnets, VLANs, and routing between subnets if using Multicast. Unicast uses a more direct method of communication between IX Series stations, circumventing most network restrictions seen when using Multicast. 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 for instructions.

Pre-installation IX Series Network Information: Defaults (Ranges)

The IX Series utilizes the following IP address and port ranges by default. The IX Support Tool is recommended to be used for programming. If a specific network requirement is not called out, then by default it is blank. All information may be customized unless otherwise stated.

IX Support Tool

IX Support Tool ID: **admin** (maximum 32 characters)

IX Support Tool Password: **admin** (maximum 32 characters)

System Name: (maximum 64 characters)

Note: System name is crucial to restoring system data and making programming changes.

Addressing (IP, Subnet Mask, Gateway, Multicast, DNS, NTP)

The IX Series offers Batch IP addressing via the IX Support Tool.

IPv4 address: **192.168.1.160** (1.0.0.0-223.255.255.255)

IPv4 Subnet Mask: **255.255.255.0** (128.0.0.0-255.255.255.255)

IPv4 Default Gateway: - (1.0.0.0-223.255.255.255)

IPv6 address: - (2000::0-3FFF:FFFF:FFFF:FFFF:FFFF:FFFF:FFFF:FFFF or
FD00::0-FDFF:FFFF:FFFF:FFFF:FFFF:FFFF:FFFF:FFFF)

IPv6 Default Gateway: - (::FF:0-FEFFF:FFFF:FFFF:FFFF:FFFF:FFFF:FFFF)

Multicast Addresses (Unicast is default setting):

Multicast IPv4: - (244.0.0.0-239.255.255.255)

Multicast IPv6: - (FF10::0-FF1F:FFFF:FFFF:FFFF:FFFF:FFFF:FFFF:FFFF)

DNS settings follow the same rules and limits listed above, with the availability of having a primary and secondary server.

NTP IPv4: - (1.0.0.0-223.255.255.255 or Hostname)

NTP IPv6: - (::FF:0-FEFFF:FFFF:FFFF:FFFF:FFFF:FFFF:FFFF or Hostname)

Synchronization Interval: **24 Hours** (1-255 Hours)

Ports

NTP Port: **123** (1-65535)

SIP Connection Port: **5060** (1-65535)

Video Encoder 1 (for intercom)

RTP Video: Start **30000** (1-65534) End 31000 (1-65535)

RTP Audio 1: Start **20000** (1-65534) End 21000 (1-65535)

Video Encoder 2 (for streaming to VMS)

RTP Video: Start **32000** (1-65534) End 33000 (1-65535)

RTP Audio 2: Start **22000** (1-65534) End 23000 (1-65535)