

IX Series



Description

The IX Series is a network-based video intercom platform. It is designed for access entry, internal communication, audio paging, and emergency calling applications. The IX Series stations require a PoE network connection. The emergency call stations and select door stations can connect using a network connection and a local 24V DC power source. The IX Series is a peer-to-peer system, not requiring a centralized server to function, meaning there is no single point of failure.

The IX Series can be expanded exponentially as each IX-MV7 master station has its own address book of 500 stations. The door, room, and emergency stations can each call up to 20 stations at one time.

The IX Series is SIP compliant, allowing stations to receive and make an outgoing phone call when going through a SIP server.

The IX Series stations can be programmed collectively using the IX Support Tool.

IX Series System Features

- Backwards compatible with the original IX Series
- SIP 2.0 compliant
- Video streaming 24/7 (ONVIF Profile S, RTSP)
- ONVIF Profile S IP camera association
- Picture-in-picture
- Two-way video between IX-MV7 master stations, as well as SIP phones that support video
- Door-to-door communication
- Receptionist Mode (let visitor use the master station to place a call, while limiting access)
- Line supervision
- Device check
- Bell schedule
- Call transfer (group or single with re-transfer)

IX Series System Features *continued*

- Message Paging
- 7" TFT color LCD touchscreen on master stations
- microSD card slot for edge device recording
- 8 Speed Dial buttons
- Scan monitor from master stations
- Multiple trigger inputs on most stations
- Multiple contact outputs on most stations
- PoE pass-through on select stations

IX Series Functions

Calling

Any door, emergency, or room station can call up to 20 stations. Each station can be programmed to have one of three levels of call-in priority. The calling group and priority level for each station is determined during the programming of the system.

Call Transfer

Incoming calls to an IX-MV7 can be transferred to another station or group of up to 10 stations. Additionally an IX-MV7 can re-transfer a transferred call to one additional station.

1. Absent Transfer allows a call to immediately be transferred.
2. Delayed Transfer will transfer a call after a specified period of time (1-300 sec).
3. Scheduled Transfer will transfer a call during a specific time of day. 12 schedules can be set for each day.
4. During communication, press the transfer button and select a single destination or a group to transfer the call to.

SIP

The IX-MV7 master stations and door, room, and emergency stations can be integrated with a SIP server to allow communication between any IX Series intercom station and a VoIP phone. The IX-MV7 master can be used as an extension on a SIP server to be used as both the intercom master station and a VoIP phone.

History

The IX-MV7 will display a history of any call that has been placed to it. Up to 500 incoming/outgoing calls can be stored in history. These calls can be returned by accessing the history menu. Even stations that are not in the address book of the master can be called if it is in the master station's history.

Monitor

The IX-MV7 can monitor any door, room, emergency station, or registered ONVIF profile S camera in its address book.

Scan Monitor

The IX-MV7 can Scan Monitor any door, room, or emergency station, and up to 50 registered ONVIF Profile S cameras in its address book. The scan monitor dwell time can be set to 5, 10, or 30 seconds. Up to 9,999 events can be part of the scan monitor group.

Speed Dial

The IX-MV7 master station can have up to 8 speed dial buttons programmed to quickly perform pre-assigned functions. These can be programmed to place a call at any of the three available priority levels, place a page or message page at any of the two available priority levels, monitor or scan monitor a station or network camera, or operate the relay output of a station. An appropriate icon will be displayed on the speed dial button based on how it is configured.

IX Series Functions

Line Supervision

The IX-MV7 master station can monitor the line to each station within its address book. If a station goes offline, the master will be alerted to its loss of signal. This report will be sent when the suspect station loses its connection to the network (time interval is programmable, 10 minutes minimum). Network size and layout may determine the time in which a notification reaches an IX-MV7. Line Supervision can be performed from an IX-MV7 master station or it can be done using the IX Line Supervision Software Tool.

Device Check

The IX-MV7 master station can perform a device check for each IX Series station within its address book. The device check will notify the master to the status of each station's speaker, microphone, call button, and auxiliary inputs. The device check can be done manually at the master or it can be scheduled for a specific day/time of the week.

Device Check can be performed from an IX-MV7 master station or it can be done using the IX Line Supervision Software Tool.

Picture-in-Picture

The IX-MV7 can associate an ONVIF profile S IP camera with any station in its address book. This allows the IX-MV7 to view both the intercom's camera image and the network camera's image at the same time. One image will be displayed in a large viewing area on the 7" screen, while the other image will be displayed in a small box within the larger image. Tapping the smaller image will swap image locations, allowing the user to rotate between views.

Receptionist Mode

The IX-MV7 can be configured as a virtual receptionist. In Receptionist Mode the IX-MV7 will have up to four different touch buttons displayed. The buttons can be programmed to call a group of up to 20 stations, select a name, select from a directory, or dial a number. A company image, a greeting image, and a reception image can be uploaded to the station. Receptionist mode will limit calling functions, and prevent monitoring and paging functions.

Paging

The IX-MV7 has the ability to make live paging announcements to all stations in its directory or to 50 predefined groups of stations. Paging announcements are limited to 10 minutes. There are two levels of paging, normal page and urgent page. An urgent page will override a normal page.

Message Paging

The IX-MV7 has the ability to play prerecorded messages as a paging announcement. The user determines how many times a message is repeated. Message paging can be triggered manually, by speed dial, or by a trigger input on the IX-MV7.

Answering a Page

All IX Series stations, except the IX-DVF-RA, and IX-SSA-RA can answer a page. Answering a page will end the page and directly connect the answering station with the paging station.

Bell Schedule

The IX Series has the ability to play a daily or weekly bell schedule over all stations or a group of stations. Each bell schedule can have a total of 50 events per day.

Function Sounds

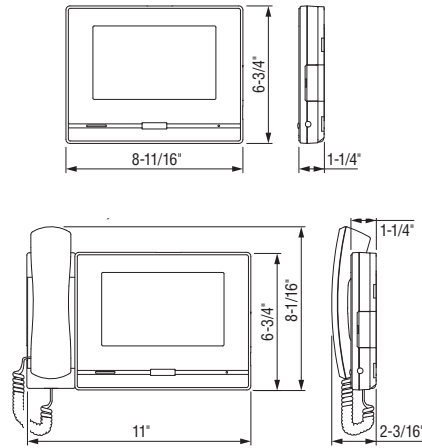
Custom sound files can be uploaded to all IX Series stations. These sound files can be used for specific functions, such as door release activation, verification that a call has been placed, to identify a specific station when it calls in, or to play a message when an error occurs.

Door to Door Calling

The IX Series door stations have the ability to answer calls from other door stations. A master station is not required. A call can be answered by pressing the call button. Once the call is answered, press the call button again to terminate the call.

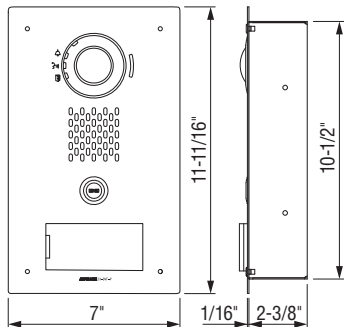
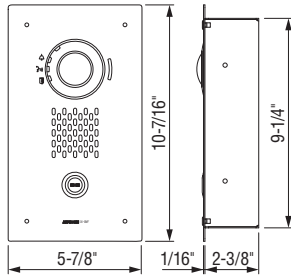
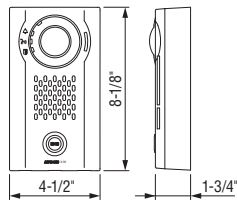


IX-MV7 & IX-MV7-H Master Station



| | |
|-----------------------|---|
| Power Source | PoE (IEEE 802.3af class 0) |
| Power Draw | 4.32W |
| Camera | 1/3" CMOS, 720p |
| Min. Illumination | 5 Lux |
| Audio Codec | G.711 (μ -law, A law), G.722 |
| Video Codec | H.264/AVC, Motion JPEG |
| Trigger Inputs | 4 |
| Contact Outputs | 2 (24V AC/DC, 1A) |
| Speaker Output | 8 Ω , 1/2 Watt |
| Port Security | IEEE 802.1X |
| Protocols | IPv4, IPv6, TCP, UDP, SIP, HTTP, HTTPS, RTSP, RTP, RTCP, IGMP, MLD, SMTP, FTP, DHCP, NTP, DNS |
| UL/cUL Listing | 62368-1 |
| Operating Temperature | 32° ~ 104°F (0° ~ 40°C) |
| Dimensions: | IX-MV7: 6-3/4" H x 8-11/16" W x 1-1/4" D IX-MV7-H: 8-1/16" H x 11" W x 2-3/16" D |

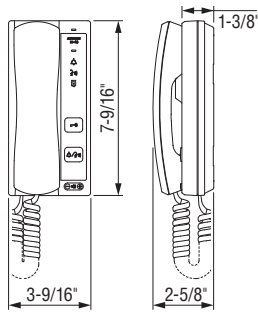
IX-DV, IX-DVF, & IX-DVF-P Video Door Station



| | |
|-----------------------|--|
| Power Source | PoE (IEEE 802.3af class 0) with PoE pass-through |
| Power Draw | 5.28W |
| Camera | 1/3" CMOS, 1.2 megapixel |
| Min. Illumination | 5 Lux |
| Audio Codec | G.711 (μ -law, A law), G.722 |
| Video Codec | H.264/AVC, Motion JPEG |
| Trigger Inputs | 6 |
| Contact Outputs | 2 (24V AC/DC, 1A) |
| Port Security | IEEE 802.1X |
| Protocols | IPv4, IPv6, TCP, UDP, SIP, HTTP, HTTPS, RTSP, RTP, RTCP, IGMP, MLD, SMTP, FTP, DHCP, NTP, DNS |
| UL/cUL Listing | 62368-1 (excl. IX-DVF-P) |
| Operating Temperature | -40° ~ 140°F (-40° ~ 60°C) |
| Ingress Protection | IX-DV: IP54 IX-DVF, IX-DVF-P: IP65 |
| Impact Protection | IK08 |
| Dimensions: | IX-DV: 8-1/16" H x 4-1/2" W x 2-1/16" D IX-DVF: 10-7/16" H x 5-7/8" W x 2-3/8" D IX-DVF-P: 11-11/16" H x 7" W x 2-3/8" D |

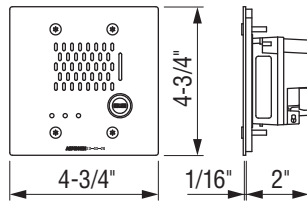
| | |
|-------------|------------------------|
| Card Reader | HID multiCLASS SE RP10 |
|-------------|------------------------|

IX-RS Sub Station



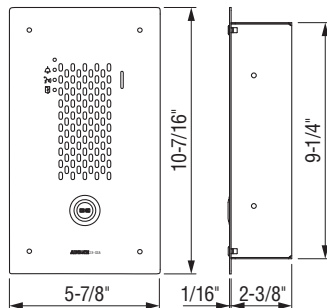
| | |
|-----------------------|--|
| Power Source | PoE (IEEE 802.3af class 0) |
| Power Draw | 4.32W |
| Audio Codec | G.711 (μ -law, A law), G.722 |
| Trigger Inputs | 1 |
| Contact Outputs | 1 (24V AC/DC, 1A) |
| Speaker Output | 8 Ω , 2 Watt |
| Port Security | IEEE 802.1X |
| Protocols | IPv4, IPv6, TCP, UDP, SIP, HTTP, HTTPS, RTSP, RTP, RTCP, IGMP, MLD, SMTP, FTP, DHCP, NTP, DNS |
| UL/cUL Listing | 62368-1 |
| Operating Temperature | 32° ~ 104°F (0° ~ 40°C) |
| Dimensions | 7- ⁹ / ₁₆ " H x 3- ⁹ / ₁₆ " W x 2- ⁵ / ₈ " D |

IX-SS-2G 2-Gang Audio Door Station



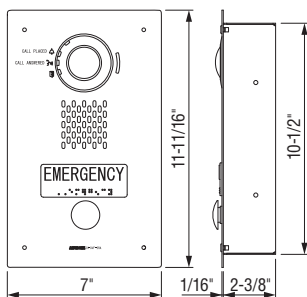
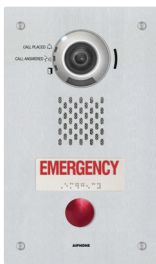
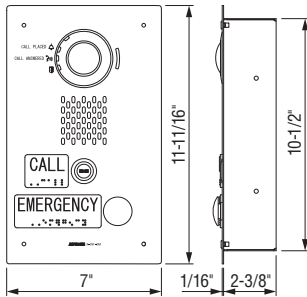
| | |
|-----------------------|---|
| Power Source | PoE (IEEE 802.3af class 0) |
| Power Draw | 3.36W |
| Audio Codec | G.711 (μ -law, A law), G.722 |
| Trigger Inputs | 1 |
| Contact Outputs | 1 (24V AC/DC, 1A) |
| Port Security | IEEE 802.1X |
| Protocols | IPv4, IPv6, TCP, UDP, SIP, HTTP, HTTPS, RTSP, RTP, RTCP, IGMP, MLD, SMTP, FTP, DHCP, NTP, DNS |
| UL/cUL Listing | 62368-1 |
| Operating Temperature | -40° ~ 140°F (-40° ~ 60°C) |
| Ingress Protection | IP65 |
| Impact Protection | IK08 |
| Dimensions | 4- ³ / ₄ " H x 4- ³ / ₄ " W x 2" D |

IX-SSA Audio Door Station



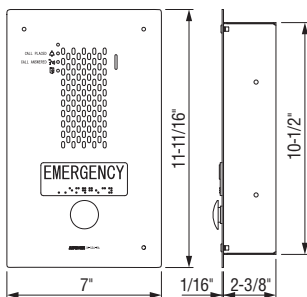
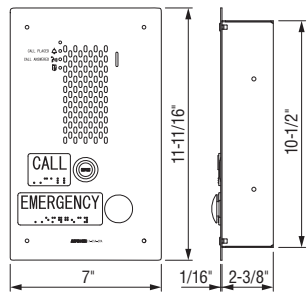
| | |
|-----------------------|--|
| Power Source | PoE (IEEE 802.3af class 0) with PoE pass through |
| Power Draw | 3.36W |
| Audio Codec | G.711 (μ -law, A law), G.722 |
| Trigger Inputs | 6 |
| Contact Outputs | 2 (24V AC/DC, 1A) |
| Port Security | IEEE 802.1X |
| Protocols | IPv4, IPv6, TCP, UDP, SIP, HTTP, HTTPS, RTSP, RTP, RTCP, IGMP, MLD, SMTP, FTP, DHCP, NTP, DNS |
| UL/cUL Listing | 62368-1 |
| Operating Temperature | -40° ~ 140°F (-40° ~ 60°C) |
| Ingress Protection | IP65 |
| Impact Protection | IK08 |
| Dimensions | 10- ⁷ / ₁₆ " H x 5- ⁷ / ₈ " W x 2- ³ / ₈ " D |

IX-DVF-2RA & IX-DVF-RA Video Emergency Station



| | |
|-----------------------|---|
| Power Source | PoE (IEEE 802.3af class 0) with PoE pass through |
| Power Draw | 5.28W |
| Camera | 1/8" CMOS, 1.2 megapixel |
| Min. Illumination | 5 Lux |
| Audio Codec | G.711 (μ-law, A law), G.722 |
| Video Codec | H.264/AVC, Motion JPEG |
| Trigger Inputs | 6 |
| Contact Outputs | 2 (24V AC/DC, 1A) |
| Port Security | IEEE 802.1X |
| Protocols | IPv4, IPv6, TCP, UDP, SIP, HTTP, HTTPS, RTSP, RTP, RTCP, IGMP, MLD, SMTP, FTP, DHCP, NTP, DNS |
| UL/cUL Listing | 62368-1 |
| Operating Temperature | -40° ~ 140°F (-40° ~ 60°C) |
| Ingress Protection | IP65 |
| Impact Protection | IK08 |
| Dimensions | 11-11/16" H x 7" W x 2-3/8" D |

IX-SSA-2RA & IX-SSA-RA Audio Emergency Station



| | |
|-----------------------|---|
| Power Source | PoE (IEEE 802.3af class 0) with PoE pass through |
| Power Draw | 3.36W |
| Audio Codec | G.711 (μ-law, A law), G.722 |
| Trigger Inputs | 6 |
| Contact Outputs | 2 (24V AC/DC, 1A) |
| Port Security | IEEE 802.1X |
| Protocols | IPv4, IPv6, TCP, UDP, SIP, HTTP, HTTPS, RTSP, RTP, RTCP, IGMP, MLD, SMTP, FTP, DHCP, NTP, DNS |
| UL/cUL Listing | 62368-1 |
| Operating Temperature | -40° ~ 140°F (-40° ~ 60°C) |
| Ingress Protection | IP65 |
| Impact Protection | IK08 |
| Dimensions | 11-11/16" H x 7" W x 2-3/8" D |

Network Requirements Summary

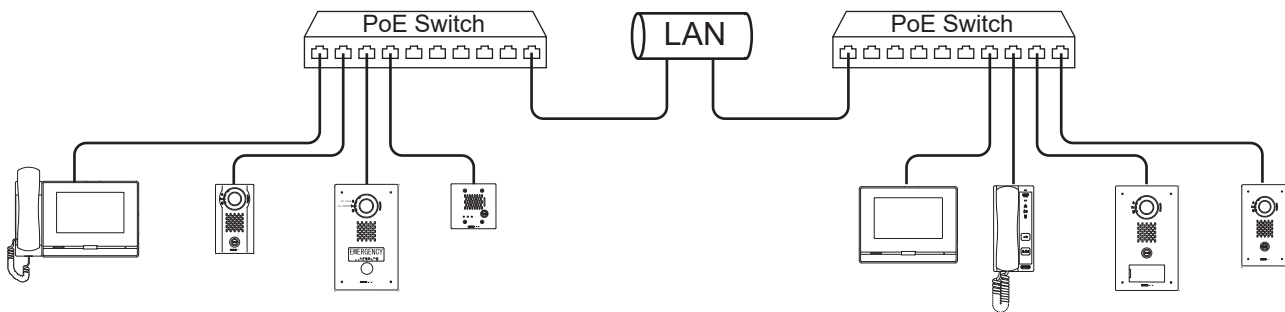
The Aiphone IX Series is an IP network intercom system. IP enabled video door stations include the IX-DV, IX-DVF, IX-DVF-P, IX-DVF-2RA, and IX-DVF-RA. IP enabled audio only door stations include the IX-SS-2G, IX-SSA, IX-SSA-2RA, and IX-SSA-RA. The IP enabled master station is the IX-MV7(H), and the official 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 cannot 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 VPNs, 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 Support Tool is recommended to be used for programming. The IX Series utilizes the following IP address and port ranges by default. 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)