

IXG Series Network Security Summary

Stations and Devices

IX and IXG Series stations are PoE-powered and require a wired connection and must reside on the same logical network. with the exception of the Aiphone IXG Mobile App.

Entrance Station:	IXG-DM7-HID
Tenant Station:	IXG-2C7
Master Stations:	IX-MV7-*, IX-RS-*, IXG-MK
Door Stations:	IX-EA, IX-DV, IX-DVF-*, IX-SSA-*, IX-SS-2G
Adaptors:	IXGW-GW, IXGW-LC
Mobile App:	“Aiphone IXG”

Support Tool Software Information

The IXG Support Tool is used to batch configure all stations simultaneously, by finding each station on the network by its MAC address. The IXG Series is designed to function on managed or enterprise-level networks, however, the broadcast method used to find stations during the programming process may require advanced network configuration to allow network-wide broadcasts.

It is possible **Windows Defender or other firewalls and anti-virus software may prevent this broadcast search for stations**. Typically, temporarily disabling these for a short time during the programming process prevents interruption or failure.

It is recommended, when possible, that stations and adaptors are placed on the same unmanaged network as the programming PC for initial programming. Once configured, the stations may be removed from this environment and deployed where needed.

Download and install the IXG Support Tool programming software. The latest version of Support Tool and IXG Series station firmware can always be found here <https://www.aiphone.net/support/software-documents/ixg/>

Support Tool and Line Supervision Software Minimum System Requirements

OS: Windows 7 (Professional, Enterprise, Ultimate), Windows 8 (Pro, Enterprise), Windows 8.1 (Pro, Enterprise) Windows 10 (Home, Pro, Enterprise)
CPU: 32 bit (x86) or 64 bit (x64) of 1 GHz
RAM: 4GB or more
Screen Resolution: 1280 x 768

Support Tool and Line Supervision Software ID and Passwords

Administrator ID: admin (max. 32 characters)
Administrator Password: admin (max. 32 characters)
Property Management ID: admin (max. 32 characters)
Property Management Password: admin (max. 32 characters)

Security and Communication

The IXG Series supports the use of **HTTPS** and **SSL/TLS (v1.0, 1.1, and 1.2)**, providing the ability to upload signed certificates to encrypt and secure authentication. Support Tool allows centralized certificate management, with the ability to upload **CA certificate** .

SSH (SFTP over SSH) is used when uploading a setting file to stations using the IXG Support Tool, but not during typical operation. This is a critical function, therefore SSH cannot be disabled.

HTTPS is used when uploading from IXG Support Tool to the IXG Cloud server. This may require whitelisting the following URL: ***.ap-northeast-1.amazonaws.com** (this * is a wildcard representing multiple subdomains).

IEEE 802.1X authentication is supported.

Hash Algorithms: MD5, SHA1, SHA256

Communication

SIP Connection Port: 5060

Audio codec: G.711 (μ -law, A-law)

Video codec: H.264/AVC, Motion JPEG

Video Encoder 1 (Intercom Communication)

RTP Video: Start 30000 - End 31000

RTP Audio: Start 20000 - End 21000

Video Encoder 2 (Secondary HD Streaming)

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

RTP Audio: Start 22000 - End 33000

Minimum / Maximum Frame Rate (FPS): 1 / 30

Minimum / Maximum Bitrate: 32 / 2048

Minimum / Maximum Resolution (Encoder 2): 320x240 / 1280x960

By default, **IXG stations use Unicast when placing outbound calls to other stations**, but may utilize Multicast in network environments that would benefit from the method. When Paging to more than 50 stations Multicast is required, and a Multicast address must be set in Support Tool. If Multicast is used, either for calling or when required for large paging groups any address in the 224.0.0.0 to 239.255.255.255 range may be used.

Addressing

The IXG Series offers Batch I addressing or can be manually set for each device using the 'IXG Support Tool'. Each IXG station is set to the same default static IP address (192.168.1.160) that can be manually changed or set to DHCP during the programming process.

IPv4: 192.168.1.160 (1.0.0.0-223.255.255.254)

Subnet Mask: 255.255.255.0 (128.0.0.0-255.255.255.254)

Default Gateway: - (1.0.0.0-223.255.255.254)

IPv6: - (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-FE9F:FFFF:FFFF:FFFF:FFFF:FFFF:FFFF)

DNS Primary Server IPv4: - (1.0.0.1-233.255.255.254)

IPv6: - (::FF:0-FE9F:FFFF:FFFF:FFFF:FFFF:FFFF:FFFF)

Secondary Server IPv4: - (1.0.0.1-233.255.255.254)

IPv6: - (::FF:0-FE9F:FFFF:FFFF:FFFF:FFFF:FFFF:FFFF)

NTP IPv4: ntp.jo.aiphone-app.net (1.0.0.0-223.255.255.255 or Hostname)

IPv6: - (::FF:0-FE9F:FFFF:FFFF:FFFF:FFFF:FFFF:FFFF or Hostname)

Ports and Protocols

The information below contains the most common and critical ports and protocols for the IXG Series. Some are used only during the initial programming process, others during general use and optional feature functions.

Port	Type	Service or Protocol	Notes
5060	UDP	Internal SIP communication between Aiphone devices	
8740	UDP	Keep-alive during door release	
8620	SSL	Door release command	
65011	TCP	Option Relay Output control	
65030	UDP	Lift Control Adaptor control	
123**	UDP	NTP	IXGW-GW Gateway must have an assigned NTP server address to function
53**	UDP	DNS	IXGW-GW Gateway must have an assigned DNS server address to function
25	TCP	SMTP	Email notification
443	TCP	HTTPS (TLS 1.2)	Secure Web Access for certification server control
22*	TCP	SFTP over an SSH session	Setting File Upload for Support Tool
8883**	TCP	Secure MQTT	Call control server connection to Cloud Server
8700*	UDP	Broadcast	Station Search and Association functions with Support Tool
55550	UDP	Paging Delivery	
59900	TCP	Message Page Delivery	
65000	UDP	Multicast Paging Delivery	
55552 - 56552	UDP	RTP Range used when paging	
10000-20000**	UDP	SRTP/SRTCP, DTLS, ICE(STUN)	IXG-GW and IXG Mobile App cloud server communication
20000 - 21000 30000 - 31000	UDP	RTP Audio and Video ranges for Encoder 1	Intercom to Intercom communication
22000 - 23000 32000 - 33000	UDP	RTP Audio and Video ranges for Encoder 2	Intercom to 3rd Party Streaming

* IXG Support Tool function / ** IXG App functionality

Additional IXG App Information

A reachable DNS and NTP server must be assigned to the IXGW-GW Mobile App Gateway. A generic DNS server, such as 8.8.8.8, may be used. Note that the IXG Support Tool has a preset NTP server for the IXGW-GW Gateway. However, this NTP server is located outside of the United States and using a local NTP server is suggested.

Reference the following Hostnames if firewall whit -listing is required for external network communication.

*.ixg.aiphone-app.net : 443
 iot.ap-southeast-2.amazonaws.com : 8883
 *.compute-1.amazonaws.com : 10000-20000

*: wildcard representing multiple subdomains

For more details about the features and information above, please contact Technical Support.