



## *VoIP Speaker Configuration Manual*

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# Configuring Nyquist VoIP Speakers

Nyquist, an Internet Protocol (IP) network based intercom and paging solution, uses two types of Voice over IP (VoIP) talkback speakers:

- VoIP Ceiling Speaker NQ-S1810CT
- VoIP Wall Baffle Speaker NQ-S18110WT

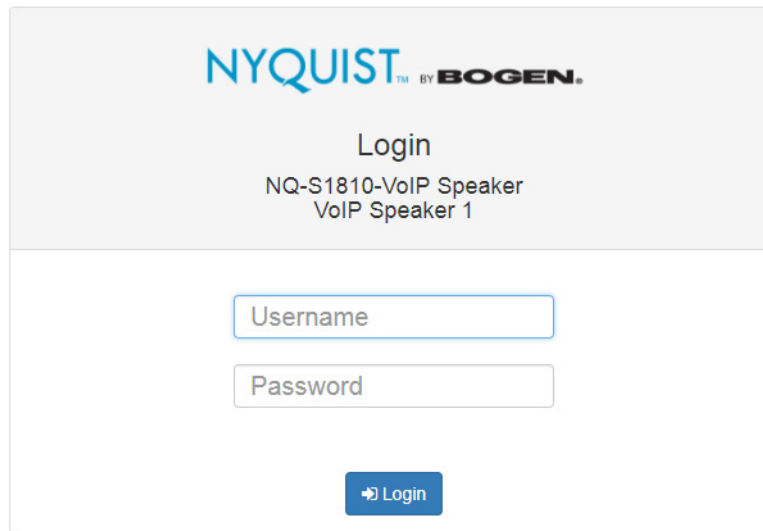
The ceiling talkback speaker assembly consists of an 8" cone speaker and VoIP module pre-assembled onto a 13" steel ceiling grille painted with bright white enamel.

The VoIP wall baffle talkback speaker assembly consists of an 8" cone speaker and VoIP module pre-assembled onto a bright white injection molded wall baffle speaker enclosure.

Both types of speakers are 802.3af compliant and are designed to facilitate rapid and efficient deployment using existing network Power over Ethernet (PoE) ports. These VoIP speakers enable the ease of placement wherever needed within a facility.

You can let the Nyquist server automatically discover and configure the Nyquist VoIP speakers, or you can manually configure the speakers through their web-based user interface (web UI). The following sections describe the process for manual configuration. For informa-

tion about using Nyquist's automatic configuration process, refer to the *Nyquist System Administrator Manual*.

The image shows a web browser window displaying the login page for a Nyquist appliance. At the top, the logo "NYQUIST BY BOGEN" is visible. Below the logo, the text "Login" is centered, followed by "NQ-S1810-VoIP Speaker" and "VoIP Speaker 1". There are two input fields: "Username" and "Password". Below these fields is a blue button with a right-pointing arrow and the text "Login".

**Figure 1, Nyquist Appliance Login**

*To access the appliance's UI:*

**Note:** Do not use third-party Chrome browser extensions with the Nyquist user interface.

- Step 1 Access the appliance's web UI by doing one of the following:
- On your web browser, enter the IP address for the appliance as the URL.
  - From the Nyquist web UI navigation bar, select **Stations**, select **Stations Status**, navigate to the device that you want to configure, and then select the **Link** icon.

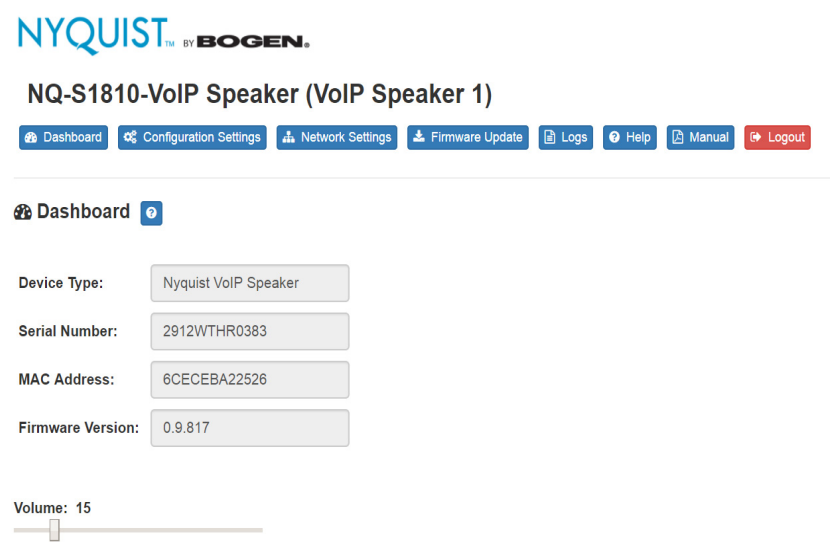
- Step 2 At the Nyquist Appliance - Login page, enter username and password, and then select **Login**.|

The default username is **admin**; the default password is **bogen**.

The dashboard for the selected appliance appears.

# 1      Using the Dashboard

A volume slider appears at the bottom of the speaker dashboard. The volume can be adjusted on a scale from 0 to 100.



**Figure 2, Nyquist Speaker Dashboard**

The dashboard displays the following read-only fields:

**Table 1, Appliance Dashboard Read-Only Fields**

<b>Device Type</b>	Identifies the physical device used by the station.
<b>Serial Number</b>	Identifies the serial number for the device.
<b>MAC Address</b>	Specifies the Media Access Control (MAC) address, which is a unique identifier assigned to network interfaces for communications on the physical network segment.
<b>Firmware Version</b>	Provides the firmware version installed on the station.

The dashboard also contains the following buttons:

**Table 2, Appliance Dashboard Buttons**

<b>Dashboard</b>	Refreshes the dashboard.
<b>Configuration Settings</b>	Accesses the Configuration Settings page where you can either manually set various options, such as the SIP Username, or select to receive configuration settings from the server.
<b>Network Settings</b>	Accesses the Network Settings page where you can view and set network settings, such as the static IP address.
<b>Firmware Update</b>	Accesses the Firmware Update page where you can view the current Nyquist version, check for updates, restore factory settings, and reboot the appliance.
<b>Logs</b>	Accesses log files, which record either events or messages that occur when software runs and are used when troubleshooting the appliance.
<b>Help</b>	Accesses the appliance's online help.
<b>Manual</b>	Displays the <i>Nyquist VoIP Speaker Configuration Manual</i> .
<b>Logout</b>	Logs out of the appliance's dashboard.

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## 2 Updating Firmware

When you select **Firmware Update** from the appliance's web UI, the Firmware Update page appears. From this page you can determine which Nyquist version the appliance is using and if an update is

required. You can also use this page to restore factory settings and to reboot the appliance.

**Note:** A Nyquist appliance connected to the Nyquist network receives a configuration file from the Nyquist server that includes the latest firmware available from the server. If the firmware is later than the one installed on the appliance, an automatic firmware update occurs unless the **Firmware** parameter for the station is left blank. Refer to the *Nyquist System Administrator Manual* for more information.


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### **Firmware Update**

✓ Current Nyquist Version: 0.9.765  
New Nyquist Version: None

 Upload Firmware

 Restore Factory Settings

 Reboot Appliance

**Figure 3, Firmware Update Page**

**To use the Firmware Update page:**

- Step 1 On the appliance web UI's main page, select **Firmware Update** to ensure you have the latest firmware version.
- Step 2 Select **Upload Firmware** to upload firmware from the server to the appliance.

If you select this option, a popup screen appears that allows you to select the file that you want to upload. You can navigate to the file's location. After you select the file, select **Upload**. If Nyquist discovers a new firmware version, the Firmware Update page displays an

- Update Firmware** button. Select this button if you want to update the appliance's firmware to the new version.
- Step 3      If you want to return your appliance to its original state (undoing firmware updates), select **Restore Factory Settings**.
- Step 4      Select **Reboot Appliance** to restart your appliance.

### 3      **Setting Network Tab Parameters**


Network settings can be configured dynamically by the Nyquist server or manually by using the appliance's web UI.

*To manually configure network settings:*

- Step 1      On the appliance web UI's main page, select **Network Settings**.
- Step 2      Select your desired network settings.
- Step 3      Select **Save**.

## Network Settings

Static IP:	<input type="text" value="172.31.100.2"/>
Netmask:	<input type="text" value="255.255.255.0"/>
Gateway:	<input type="text" value="172.31.100.1"/>
VLAN ID:	<input type="text" value="100"/>
VLAN Priority:	<input type="text" value="5 - Voice"/>
NTP Server:	<input type="text" value="pool.ntp.org"/>
TFTP Server:	<input type="text" value="172.31.100.1"/>
DHCP Server Override:	<input type="text" value="Yes"/>
DHCP Enabled:	<input type="text" value="Yes"/>
Reboot Appliance:	<input type="text" value="No"/>

 Save

**Figure 4, Network Settings**

Network settings are described in the following table:

**Table 3, Network Settings**

<b>Static IP</b>	Identifies the fixed IP address assigned to the appliance by a system administrator.
<b>Netmask</b>	Identifies the subnetwork subdivision of an IP network.

**Table 3, Network Settings (Continued)**

<b>Gateway</b>	Identifies the address, or route, for the default gateway.
<b>VLAN ID</b>	Identifies the Virtual Local Area Network (VLAN) for this appliance. Values range from 0 to 4094.
<b>VLAN Priority</b>	Identifies the priority of the network traffic on the VLAN. Priority can range from 0 through 7.
<b>NTP Server</b>	Identifies the IP address or the domain name of the Network Time Protocol (NTP) Server. This field is read only.
<b>TFTP Server</b>	Identifies the IP address of the Trivial File Transfer Protocol (TFTP) server. TFTP is used by Nyquist VoIP phone and appliance provisioning. A TFTP server runs on the Nyquist server on port 69 (the standard TFTP port #).
	Device provisioning files are stored on the Nyquist server in directory: <code>/srv/tftp</code> . This is the only directory exposed by the TFTP server.
<b>DHCP Server Override</b>	Indicates if you want to override the TFTP server information provided by the Dynamic Host Configuration Protocol (DHCP) via option_66.
	DHCP supplies IP addresses to the Nyquist server and associated devices. It also supplies the TFTP server IP address or name via option_66.
<b>DHCP Enabled</b>	Indicates if the device is enabled to use DHCP.
<b>Reboot Appliance</b>	Allows you to save the network options and reboot the appliance.

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## 4      **Setting Configuration Tab Parameters**

The easiest way to configure Nyquist appliances is to obtain configuration settings from the Nyquist server by selecting **Get Configuration From Server**. However, you can manually configure an appliance through the appliance's Web UI.

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**Note:** Manual configuration will be overwritten by the server once the appliance is connected and discovered by the server.

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### ***To manually configure your Nyquist appliance:***

- Step 1      On the appliance Web UI's main page, select **Configuration Settings**.
- Step 2      Select your desired settings.
- Step 3      Select **Save**.

**Configuration Settings**

Get Configuration From Server

Web Username:

Web Password:

Web Confirm Password:

SIP Username:

SIP Password:

SIP Confirm Password:

Server:

Local Port:

	IP Address	Port Number	Volume
Emergency-All-Call:	<input type="text" value="239.0.5.1"/>	<input type="text" value="6001"/>	<input type="text" value="25"/>
All-Call:	<input type="text" value="239.0.5.2"/>	<input type="text" value="6002"/>	<input type="text" value="25"/>
Audio Distribution:	<input type="text" value="239.0.5.3"/>	<input type="text" value="6003"/>	<input type="text" value="20"/>
Multicast 1:	<input type="text" value="239.0.5.10"/>	<input type="text" value="6010"/>	<input type="text" value="20"/>

Save

**Figure 5, Appliance Configuration Settings**

The following table describes the Configuration tab settings:

**Table 4, Configuration Settings**

<b>Web Username</b>	Provide a web username for this appliance.
<b>Web Password</b>	Provide a web password for logging into the appliance.
<b>Web Confirm Password</b>	Re-enter the password used to log into the appliance.

**Table 4, Configuration Settings (Continued)**

<b>SIP Username</b>	Provide the username used for Session Initiation Protocol (SIP) device registration.
<b>SIP Password</b>	Provide the password used for SIP device registration.
<b>SIP Confirm Password</b>	Re-enter the password used for SIP device registration.
<b>Server</b>	Identifies the IP address of the Nyquist server.
<b>Local Port</b>	Identifies the local port.
<b>Emergency-All-Call</b>	Identifies the IP address, port number, and volume used for emergency all-calls pages.
<b>All-Call</b>	Identifies the IP address, port number, and volume used for all-calls pages.
<b>Audio Distribution</b>	Identifies the IP address, port number, and volume used for audio distribution.
<b>Multicast #</b>	Identifies the multicast IP address for a zone that the speaker is included in. If a speaker is added to multiple zones, the multicast IP address for each zone appears.

## **5 Accessing Log Files**

A log file records either events or messages that occur when software runs and is used when troubleshooting the appliance. From the appliance's web-based UI, log files can be viewed directly or exported via download to your PC, Mac, or Android device and then copied to removable media or attached to an email to technical support.

## To view a log file:

- Step 1 On the appliance Web UI's main page, select **Logs**.
- Step 2 From the drop-down menu, select the log that you want to view.

Multiple versions of the same log and zipped copies of the log may be available.

- Step 3 To export the file, select **Export**.  
A link to a .txt file appears in the screen's lower left.



**Figure 6, Logs**

Available logs are described in the following table:

**Table 5, Logs**

<b>Log</b>	<b>Description</b>
alternatives.log	Contains information by the update-alternatives, which maintain symbolic links determining default commands.
auth.log	Contains system authorization information, including user logins and authentication methods that were used.
bootstrap.log	Contains information actions, errors, and warnings that occur during booting of the appliance.
btmpt	Contains information about failed login attempts.
daemon.log	Contains information logged by the various background daemons that run on the system.
debug	Contains errors and debug information.
dmesg	Contains kernel ring buffer information. When the system boots up, the screen displays information about the hardware devices that the kernel detects during the boot process. These messages are available in the kernel ring buffer, and whenever a new message comes, the old message gets overwritten.
dpkg.log	Contains information that is logged when a package is installed or removed using dpkg command.
faillog	Contains user failed login attempts.
kern.log	Contains information logged by the kernel and recent login information for all users.
lastlog	Contains information on the last login of each user.
messages	Contains messages generated by Nyquist.
php5-fpm.log	Contains errors generated by the PHP script.
syslog	Contains list of errors that occur when the server is running and server start and stop records
user.log	Contains information about all user level logs.

**Table 5, Logs (Continued)**

<b>Log</b>	<b>Description</b>
wtmp	Contains historical record of users logins at which terminals, logouts, system events, and current status of the system, and system boot time.
wvdialconf.log	Contains basic information about the modem port, speed, init string, and Internet Service Provider (ISP).