Analog Station Bridge Configuration Guide

NQ-E7030

BOGEN.
COMMUNICATIONS, INC.

Contents

Configuring the Analog Station Bridge

The Nyquist Analog Station Bridge (ASB) allows the Nyquist solution to use the existing analog call switch and speaker infrastructure when upgrading from Multicom 2000, Quantum Multicom IP, and third-party intercom systems. When used exclusively as a networked component of the Nyquist paging and intercom solution, the Nyquist ASB permits a hybrid Internet Protocol (IP)/analog system configuration through use or connection of analog 25V speakers and associated analog call switches (for example, CA15C type). This ASB has 24 station connections that attach to wired speakers and their associated call switches. While each connection has its own Session Initiation Protocol (SIP)–addressable Station ID, the ASB itself uses a single network IP address.

The Nyquist server can automatically discover and configure the ASB, but you can also manage the device, and manually configure some settings, through the ASB's web-based user interface (web UI).
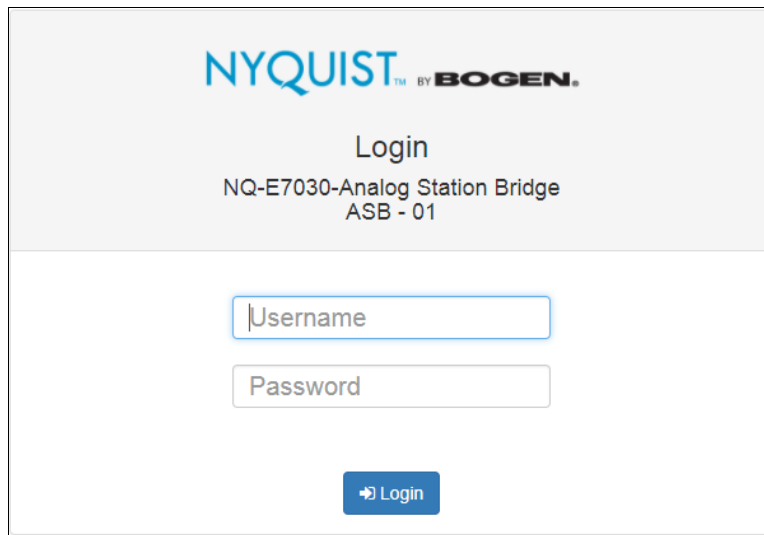
A short press of the appliance's **Reset** button reboots the device. If you press the **Reset** button for 10 seconds, the appliance returns to the factory default configuration settings. Returning to the default configuration settings does not change the appliance's firmware.

The following sections describe settings and configurations that can be applied to this device which are not controlled by the Nyquist server. For information about using Nyquist's automatic configuration process, refer to the *Nyquist System Administrator Guide*.

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

To access the appliance's UI:

1 Access the appliance's web UI by doing one of the following:

   a) On your web browser, enter the IP address for the appliance as the URL.

   b) From the Nyquist web UI navigation bar, select **Bridge Devices**, then select the **Link** icon to open the device web interface for the selected device.

   c) From the Nyquist web UI navigation bar, select **Stations**, select **Appliance Status**, navigate to the device that you want to configure, and then select the **Link** icon.

Figure 1. Nyquist Appliance Login

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

The dashboard for the selected appliance appears.

Using the Dashboard

The ASB dashboard displays information about the ASB, including LEDs and temperature output that provides status of the ASB. You can also make temporary adjustments to the ASB volume using a volume slider that appears at the bottom of the ASB dashboard. The volume can be adjusted on a scale from -42 dB to 0 dB.
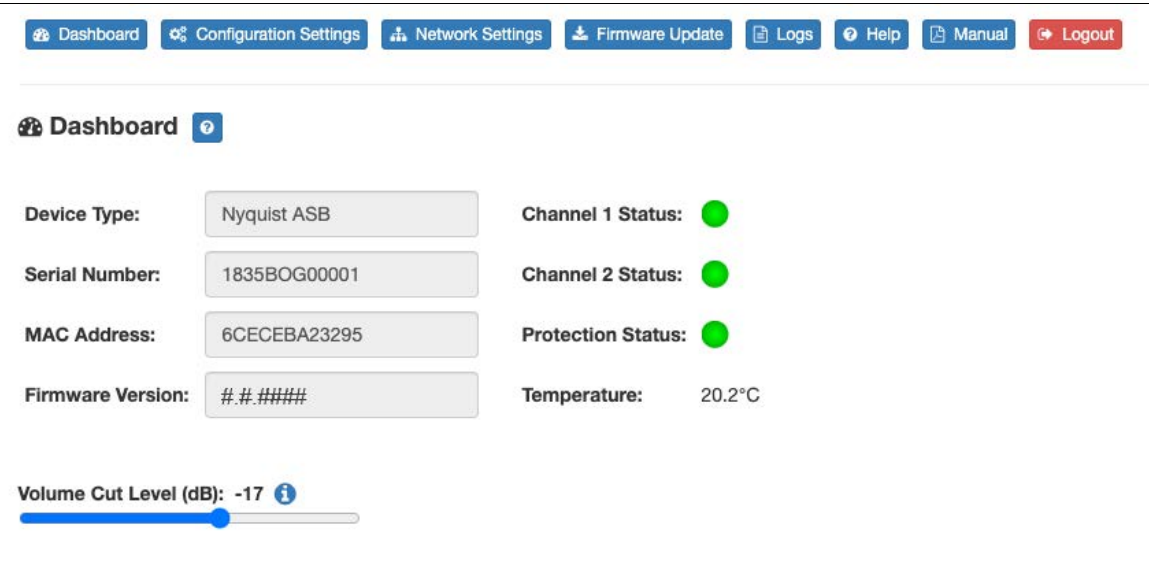
Figure 2. Nyquist Analog Station Bridge Dashboard

The dashboard displays the following fields:

Table 1. Appliance Dashboard Fields

Device Type	Displays the model of this device.
Serial Number	Displays the serial number for the device.
MAC Address	Displays the Media Access Control (MAC) address, which is a unique identifier assigned to network interfaces for communications on the physical network segment.
Firmware Version	Displays the firmware version installed on the station.

Real-time statuses that can be viewed from the dashboard are described in the following table:

Table 2. ASB Status Indicators

Channel 1/2 Status	Provides clipping status for Channel 1 and 2. Clipping is sound distortion that occurs when an amplifier attempts to deliver an output voltage or current that is beyond its maximum capability. If this indicator is green, the channel is not clipping. Red means the channel is clipping. Gray means that the appliance's web UI is not receiving data from the appliance's web server, indicating that the ASB may be offline or rebooting.
Protection Status	Indicates if the ASB is in partial shutdown mode to protect the built-in two-channel amplifier module.
	In this case, the appliance itself may remain "on" as indicated by its front panel Status and Power LEDs. However, the ASB's amplifier module senses various faults that can be caused by factors such as incorrect speaker wiring (for example, shorts or too low an impedance). These faults can overload the amplifier output capability (overcurrent/clipping) and/or amplifier thermal conditions (overheating).
	If the indicator is green, the amplifier module is operating in a normal capacity. If the indicator is red, the amplifier module is in protection mode and audio will not be passed to any ASB port. If the cause is temporary or intermittent (for example, signal clipping), the amplifier module will quickly return to normal mode.
	If the system remains in protection mode for an extended period of time, this likely indicates some sort of wiring fault or low-impedance condition is present that must be rectified.
	When the indicator is gray, the ASB's web UI is not receiving protection status information from the appliance's web server. This usually indicates that the network connection has been interrupted or dropped or that the device is rebooting.

Table 2. ASB Status Indicators (Continued)

Temperature	Provides a snapshot of the amplifier module's temperature in degrees Celsius during any transition (that is, change state) on the Channel 1, Channel 2, or Protection Status indicators.
	Note: The ASB's UI displays the temperature reading from the latest update; it does not receive or display continuous real-time amplifier module temperature readings.
Volume	Sets the volume for the speaker during an intercom call or page. This is a temporary adjustment that allows the user to experiment with the loudness of the speaker. To make permanent adjustments, change the various cut level settings on the Nyquist System Controller.
	The value can be adjusted between -42 dB and 0 dB.

The following buttons are available at the top of all pages in the application.

Table 3. Appliance Dashboard Buttons

Dashboard	Displays the dashboard.
Configuration Settings	Accesses the Configuration Settings page where you can view and set various options or select to receive configuration settings from a Nyquist server.
Network Settings	Accesses the Network Settings page where you can view and set network settings, such as the static IP address.
Firmware Update	Accesses the Firmware Update page where you can view the current Nyquist version, update firmware to a new version, restore the configuration to factory settings, and reboot the appliance.
Logs	Accesses log files, which record either events or messages that occur when software runs and are used when troubleshooting the appliance.
Help	Accesses the appliance's online help.
Manual	Displays the appliance's configuration manual.
Logout	Logs out of the appliance's dashboard.

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 firmware version the appliance is using and if an update is available. You can also load a firmware release, install the loaded firmware, restore the configuration to factory defaults, and 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 different from 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 Guide* for more information.

Figure 3. Firmware Update Page

To use the Firmware Update page:

1   On the appliance web UI's main page, select **Firmware Update** to view or update the firmware version.

2   If you already have a firmware file you would like to install to the appliance, select **Upload Firmware** to upload the firmware file from your computer to the appliance. 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**.

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3 The page displays the uploaded firmware version ("New Nyquist Version") and an **Update Firmware** button appears. Select this button if you want to update the appliance's firmware to the uploaded version.

4 If you want to return your appliance to its original factory configuration, select **Restore Factory Settings**.

5 Select **Reboot Appliance** to restart your appliance.

Table 4. Firmware Update settings

Current Nyquist Version	Shows the version of the appliance's currently installed firmware.
New Nyquist Version	Shows the version of the firmware that has been loaded, though not installed, onto the appliance.
Update Firmware	Available only when a new firmware version has been loaded onto the appliance (as specified in New Nyquist Version).
	Installs the loaded firmware. A reboot may be required after installation.
Upload Firmware	Prompts the user to specify a firmware file, which will then be loaded (though not installed) onto the appliance.
	Note: To obtain the firmware file for a specific version, please contact Bogen Customer Service.
Restore Factory Settings	Returns the appliance to its original factory configuration.
	Note: This does not install the original appliance firmware. The firmware will not be changed.
Reboot Appliance	Restarts the appliance.

Network Settings 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:

1 On the appliance web UI's main page, select **Network Settings**.

2 Select your desired network settings.

3 Select **Save**.

Figure 4, Network Settings

Network settings are described in the following table:

Table 5, Network Settings

IP Address	Identifies the IP address assigned to the appliance.
Netmask	Identifies the subnetwork subdivision of an IP network.
Gateway	Identifies the address, or route, for the default gateway.
VLAN ID	Identifies the Virtual Local Area Network (VLAN) for this appliance. Values range from 0 to 4094.
VLAN Priority	Identifies the priority of the network traffic on the VLAN. Priority can range from 0 through 7.
NTP Server	Identifies the IP address or the domain name of the Network Time Protocol (NTP) Server.

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TFTP Server　　　　　　　　Identifies the host name or IP address of the Trivial File Transfer Protocol (TFTP) server.

The specified TFTP server can be used to automatically set this device's **Configuration** settings via the **Get Configuration from Server** button.

If **TFTP Server from DHCP** (see below) is set to "Yes", this value will be auto-configured via DHCP option 66, assuming the DHCP server has been configured to provide option 66. For details, see the documentation for your DHCP server.

Note: A TFTP server runs on the Nyquist server on port 69 (the standard TFTP port) and the optional Nyquist DHCP service automatically provides this TFTP address via option 66.

If this value is unspecified, the **TFTP Server from DHCP** will automatically be set to "Yes", this field will become read-only, and DHCP will be used to configure this setting. To change this value, the **TFTP Server from DHCP** setting must be set to No, which makes the field editable.

TFTP Server from DHCP　　　"Yes" means the device will use the DHCP option 66 value to retrieve an address for the TFTP Server from DHCP.

"No" means the device will ignore the DHCP option 66 value and use the manually configured value of the TFTP Server (see above).

DHCP Enabled　　　　　　　Indicates if the device is enabled to use DHCP to retrieve its IP configuration.

Reboot Appliance　　　　　Indicates that this appliance should reboot when the Save button is clicked.

Configuration Settings Tab Parameters

The way to configure Nyquist appliances is to obtain configuration settings from the Nyquist server.

To view the Nyquist appliance configuration:

1 On the appliance Web UI's main page, select **Configuration Settings**.

2 View the configuration settings.

Figure 5. Configuration Settings for ASB

Table 6. Configuration Settings

Get Configuration from Server	Retrieves configuration settings (i.e., web username, server, and local port) from the TFTP server specified in the Network Settings (see Table 1 on page 1).
Web Username	Displays the web username for this appliance.
Emergency-All-Call	Identifies the IP address, port number, cut level (volume), and station list used for emergency all-call pages.
All-Call	Identifies the IP address, port number, cut level (volume), and station list used for all-call pages.
Audio Distribution	Identifies the IP address, port number, cut level (volume), and station list used for audio distribution.

Table 6. Configuration Settings (Continued)

Multicast #	Identifies the IP address, port number, cut level (volume), and station list used for the multicast audio stream of one (or more) zones.

The following parameters appear for each of the 24 ports associated with the Analog Station Bridge.

Port Number	Shows the port number of the Analog Station Bridge.
Port Type	Shows the device type to which the port connects (speaker only, analog call switch and speaker, or digital call switch and speaker).
Account ID	Shows the SIP account (IP address) associated with the device preceded by the extension of the device associated with this port.
Local Port	Shows the port used for SIP.
Username	Shows the username or extension for the station associated with the port.
Digital Call Switches	Shows by serial number the Digital Call Switch assigned to the ASB port.

Digital Call Switch Management

You can assign digital call switches to ports on an ASB via the appliance's **Configuration Settings** tab. If an analog switch was configured as a station with a type of **Digital Call Switch & Speaker**, it will also appear on the Configuration Settings/Digital Call Switch Management page. (Refer to the Managing Stations and Zones section of the *E7000 Series System Administrator Guide*.)

Figure 6. Manage Ports

To assign a digital call switch to a port:

1 On the appliance Web UI's main page, select **Configuration Settings**.

2 Select the **Manage** button next to the Digital Call Switches column.

3 On the Configuration Settings/Digital Call Switch Management page that appears, drag each **Available Digital Call Switch** to its port.

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You can assign multiple digital call switches to the same port. If an analog call switch was configured as a station with the type of **Digital Call Switch & Speaker**. (Refer to the Managing Stations and Zones section of the *E7000 Series System Administrator Manual*.)

4   When done, select **Save All Changes**.

Accessing Log Files

A log file records events and messages that occur when software runs, to be 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, where they can be copied to removable media or attached to an email for technical support.

To view a log file:

1   On the appliance Web UI's main page, select **Logs**.

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.

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

Figure 7, Logs

Available logs are described in the following table. If a log file is empty, however, it will not appear in the drop-down list of available logs.

Table 7, Logs

Log	Description
ampws.log	Contains information about protection status and logs protection events with temperature information at the time of event.
auth.log	Contains system authorization information, including user logins and authentication methods that were used.
btmp	Contains information about failed login attempts.
daemon.log	Contains information logged by the various back-ground daemons that run on the system.
debug	Contains errors and debug information.
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.
wtmp	Contains historical record of users logins at which terminals, logouts, system events, and current status of the system, and system boot time.