NQ-E7010 Input/Output Controller
Configuration Manual

BOGEN®
COMMUNICATIONS, INC.

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Configuring the Nyquist Input/ Output (I/O) Controller

The NQ-E7010 I/O Controller allows Nyquist to recognize third-party switch contact closures and to provide external circuits. Configuration rules can be set for each input and output port on this appliance, so, for example, you can set a rule that if a contact is opened than an alarm sounds.

Contact closures can be set for specific dates and times using the **Configure Schedule** button on the I/O Controller's Edit Station page. For example, suppose you want to schedule an output that unlocks a door at 7:30 each weekday morning. You can set up an output contact closure schedule for 7:30 am Monday through Friday. When the Activity Time occurs, the contact is closed, which in turn triggers a 3rd party contact switch that closes the door.

You can let the Nyquist server automatically discover and configure the I/O Controller, or you can manually configure it through the I/O Controller's web-based user interface (web UI).
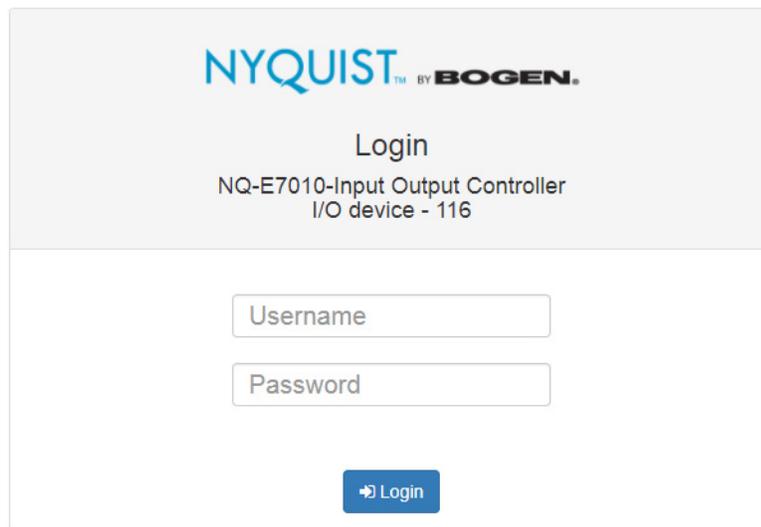
A short press of the appliance's **Reset** button reboots the device. If you press the **Reset** button for 10 seconds, the appliance returns to the factory default configuration settings. Returning to the default configuration settings does not change the appliance's firmware.

The following sections describe the process for manual configuration. For information about using Nyquist's automatic configuration process, refer to the **Nyquist System Administrator Manual**.

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To access the appliance's UI:

Step 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 **Stations**, select **Stations Status**, navigate to the device that you want to configure, and then select the **Link** icon.

NYQUIST BY **BOGEN**.

Login

NQ-E7010-Input Output Controller
I/O device - 116

Username

Password

➔ Login

Figure 1, Nyquist Appliance Login

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.

Figure 2, I/O Controller Dashboard

1 Using the Dashboard

The dashboard displays the following read-only fields:

Table 1, Appliance Dashboard Read-Only Fields

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

The dashboard also contains the following buttons:

Table 2, Appliance Dashboard Buttons

Dashboard	Refreshes the dashboard.
Configuration Settings	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.
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, check for updates, restore 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 Nyquist I/O Controller Configuration Manual.
Logout	Logs out of the appliance's dashboard.

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.

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:	172.31.100.2
Netmask:	255.255.255.0
Gateway:	172.31.100.1
VLAN ID:	100
VLAN Priority:	5 - Voice ▾
NTP Server:	pool.ntp.org
TFTP Server:	172.31.100.1
DHCP Server Override:	Yes ▾
DHCP Enabled:	Yes ▾
Reboot Appliance:	No ▾

💾 Save

Figure 4, Network Settings

Network settings are described in the following table:

Table 3, Network Settings

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

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Table 3, Network Settings (Continued)

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. This field is read only.
TFTP Server	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: `/srv/tftp.` This is the only directory exposed by the TFTP server.
DHCP Server Override	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.
DHCP Enabled	Indicates if the device is enabled to use DHCP.
Reboot Appliance	Allows you to save the network options and reboot the appliance.

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.

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

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**.

Figure 5, Appliance Configuration Settings

The following table describes the Configuration tab settings:

Table 4, Configuration Settings

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

SIP Username	Provide the username used for Session Initiation Protocol (SIP) device registration.
SIP Password	Provide the password used for SIP device registration.
SIP Confirm Password	Re-enter the password used for SIP device registration.
Server	Identifies the IP address of the Nyquist server.
Local Port	Identifies the local port.

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.
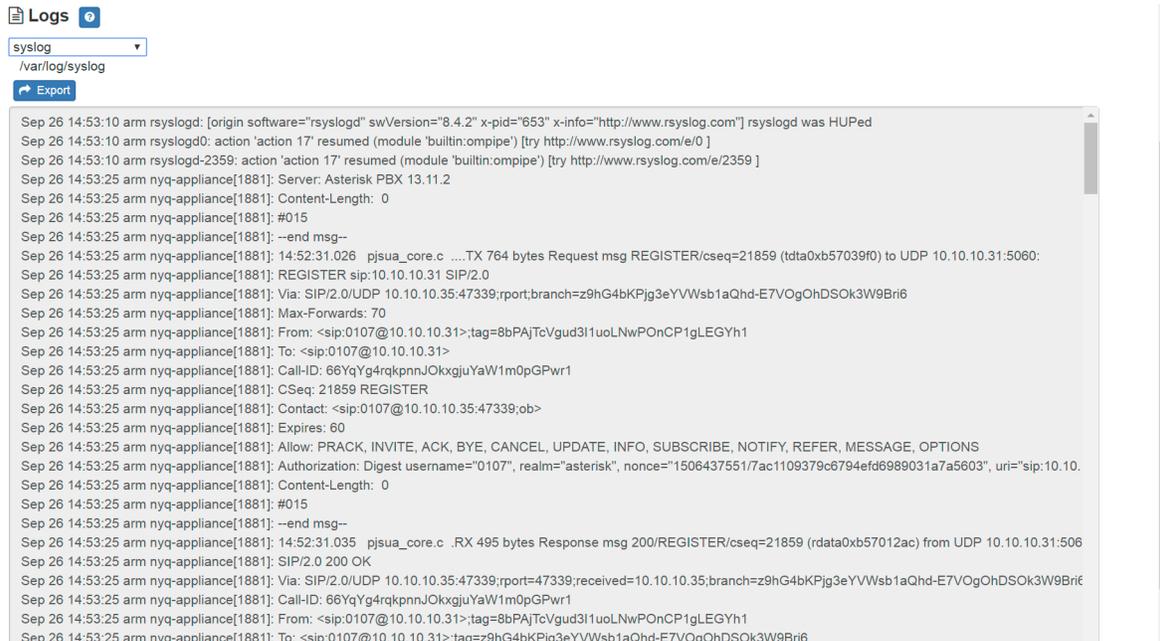
To view a log file:

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

Log	Description
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.
btmp	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.

Table 5, Logs (Continued)

Log	Description
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.
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).