

NQ-E7030

Analog Station Bridge

Installation and Use



The Nyquist Analog Station Bridge (ASB) allows the E7000 solution to use the existing call switch and speaker infrastructure when upgrading from Multicom 2000, Quantum IP, and third-party intercom systems. When used as a networked component of the Nyquist E7000 series paging and intercom solution, the NQ-E7030 permits a “hybrid” system configuration through use of 25V/70V speakers and associated call switches (for example, Bogen CA15C type). The ASB has 24 station connections that attach to 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.

WARNING: To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.

Avertissement: pour réduire le risque d'incendie ou de choc électrique, ne pas exposer cet appareil sous la pluie et l'humidité.

The apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on apparatus.

L'appareil ne doit pas être exposé aux écoulements ou aux éclaboussures et aucun objet ne contenant de liquide, tel qu'un vase, ne doit être placé sur l'objet.

The mains plug is used as disconnect device. The mains plug of apparatus should not be obstructed OR should be easily accessed during intended use. To be completely disconnect the power input, the mains plug of apparatus shall be disconnected from the mains.

La prise du secteur est utilisé pour déconnecter le système. La prise du secteur ne doit pas être obstruée ou doit être facilement accessible pendant son utilisation. Pour être complètement déconnecté de l'alimentation d'entrée, la prise doit être débranchée du secteur.

This equipment is not suitable for use in locations where children are likely to be present.

Equipment is intended for use only in a restricted access area.

When rack-mounted, allow 1RU spacing (1.75 inches) between units for proper ventilation.

- Lorsqu'il est monté en rack, permettez l'espace de 1RU (1.75 pouces) entre les unités pour une ventilation adéquate.

The ventilation should not be impeded by covering the ventilation openings with items, such as newspapers, table-cloths, curtains, etc.

- il convient que l'aération ne soit pas gênée par l'obstruction des ouvertures d'aéra

No naked flame sources, such as lighted candles, should be placed on the apparatus.

- il convient de ne pas placer sur l'appareil de sources de flammes nues, telles que des bougies allumées

The use of apparatus in moderate climates.

- si l'appareil est destiné à être utilisé sous un climat tempéré.


Important Safety Information

WARNING: To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.


CAUTION

RISK OF ELECTRIC SHOCK DO NOT OPEN

CAUTION: TO PREVENT THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE ANY FRONT/BACK COVERS OR PANELS. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED PERSONNEL.



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions.

Always comply with the following basic safety precautions when installing and using the unit:

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Clean only with dry cloth.
6. DO NOT install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
7. DO NOT defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade, or the third prong, are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

Field Wiring

Use generally accepted engineering best practices as established by the EIA and the NEC for system wiring and equipment installation. Test all wiring to ensure it is free from grounds and shorts. Label system wiring at both ends using room numbers as indicated in the architectural graphics package. For system wiring, follow manufacturer's recommendations for device type. All terminal connections must be on barrier strips.

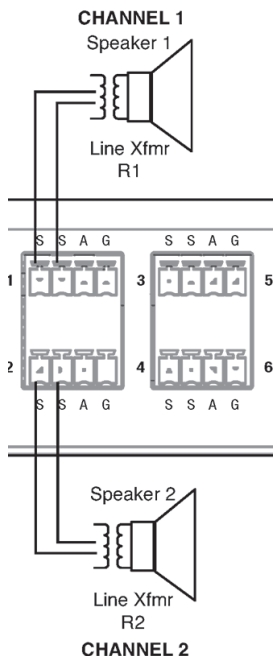
While the system is entirely CAT5 or better cable compatible, it is not advisable to use category wiring for two-way intercom stations in installations where Electromagnetic Field (EMF) interference is a possible concern. In such environments, it is recommended to use West Penn #357, Belden #8724, or equivalent cabling to protect against cross talk and noise induced by EMF interference.

Use CAT5 or better network cabling for all IP-based system devices such as network equipment, system appliances, and VoIP phones. Cable lengths for Ethernet connections should not exceed industry guidelines based on the on the specific category type.

Installation

To install the Nyquist ASB:

1. Ensure the POWER switch is in the off position.
2. Connect the universal mains power line cord into the ASB.
3. Plug the power line cord into the power source.
4. Connect a Cat5 type cable into the Analog Station Bridge's Ethernet port and ensure the other end of the cable is correctly connected to your network.
5. Attach the desired speakers and their associated call switches to the ASB using West Penn 357 cabling (or equivalent) and the pluggable connectors provided, where S terminals connect to the +/- speaker wires and the "G" and "A" terminals connect to the associated wires from the call switch.



Notice

The combined impedance of the ASB's 24 ports measured with an LCR bridge set to 500 Hz cannot be less than 4Ω .

$$\frac{1}{Z_1} + \frac{1}{Z_2} + \frac{1}{Z_3} + \dots + \frac{1}{Z_x} = \frac{1}{Z_{\text{Total}}}$$

Z_x represents the total number of speaker transformers connected to a given ASB. Measure the impedance of each transformer connected to the S/S terminals and plug it into the formula as 1/Z₁, 1/Z₂, etc.

The 1/x key on a scientific calculator can be used to find the value of 1/Z Total.

A single port cannot exceed 40W. If all 24 ports are being used, each port cannot have more than 4W. The total power of all taps on all ports should not exceed 96W.

6. If the Nyquist Digital Call Switch is being installed using the CAN Bus, refer to the *Nyquist NQ-E7020 Digital Call Switch Application Manual*.

7. Press the POWER switch to power up the system.

Viewing and Understanding LEDs

Two LEDs appear on the front of the ASB. One is labeled POWER and appears as solid red during initial power up, flashes green during a boot sequence, and appears solid green when fully booted.



The STATUS LED uses the following indicators to provide information about the appliance:

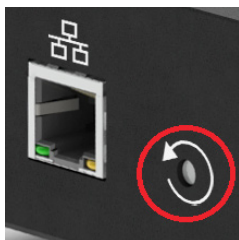
- Flashing red – No network connection found.
- Solid blue – The ASB is in an uninitialized state and is not associated to a server. (The server may be in a discovery mode.)
- Solid green – The ASB is registered to a Nyquist server and is in normal operation.
- Flashing green – The ASB has an IP address but is not registered with the Nyquist server.
- Solid red – The ASB needs to be rebooted or re-set so that the Nyquist application can resume.
- Flashing Blue – The ASB is updating.

Clipping, Protection, and Temperature Indicators

In addition to the LEDs that appear on the actual appliance, separate amplifier module signal clipping, protection mode, and temperature status indicators appear in the ASB's web-based user interface. For more information about these status indicators, refer to the *Nyquist Analog Station Bridge Configuration Manual*.

Using the Reset Button

The Reset button allows you to restart the ASB or to reset the appliance's configuration settings to the factory default settings. For more information about resetting configuration settings, refer to the *Nyquist Analog Station Bridge Configuration Manual*.



Notice

Every effort was made to ensure that the information in this manual was complete and accurate at the time of printing, however, all information is subject to change.

Compliance

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Limited Warranty, Exclusion of Certain Damages

The NQ-E7030 is warranted to be free from defects in materials and workmanship for five (5) years from the date of sale to the original purchaser. Any part of the product covered by this warranty that, with normal installation and use, becomes defective (as confirmed by Bogen upon inspection) during the warranty period will be repaired or replaced by Bogen, at Bogen's option, with new or refurbished product, provided the product is shipped insured and prepaid to: Bogen Factory Service Department: 4570 Shelby Air Drive, Suite 11, Memphis, TN 38118, USA. Repaired or replacement product(s) will be returned to you freight prepaid. This

warranty does not extend to any of our products that have been subjected to abuse, misuse, improper storage, neglect, accident, improper installation or have been modified or repaired or altered in any manner whatsoever, or where the serial number or date code has been removed or defaced.

THE FOREGOING LIMITED WARRANTY IS BOGEN'S SOLE AND EXCLUSIVE WARRANTY AND THE PURCHASER'S SOLE AND EXCLUSIVE REMEDY. BOGEN MAKES NO OTHER WARRANTIES OF ANY KIND, EITHER EXPRESS OR IMPLIED, AND ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED AND EXCLUDED TO THE MAXIMUM EXTENT ALLOWABLE BY LAW. Bogen's liability arising out of the manufacture, sale or supplying of products or their use or disposition, whether based upon warranty, contract, tort or otherwise, shall be limited to the price of the product. IN NO EVENT SHALL BOGEN BE LIABLE FOR SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, LOSS OF PROFITS, LOSS OF DATA OR LOSS OF USE DAMAGES) ARISING OUT OF THE MANUFACTURE, SALE OR SUPPLYING OF PRODUCTS, EVEN IF BOGEN HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES OR LOSSES. Some States do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from State to State.

Products that are out of warranty will also be repaired by Bogen Factory Service Department -- same address as above or call 201-934-8500, at owner's expense. Returned products which do not qualify for warranty service, may be repaired or replaced at Bogen's option with a previously



repaired or refurbished items. The parts and labor involved in these repairs are warranted for 90 days when repaired by the Bogen Factory Service Department. All parts and labor charges as well as shipping charges will be at the owner's expense.

All returns require a Return Authorization number. For most efficient warranty or repair service, please include a description of the failure.

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