NLB 60E

Overview and Functions

The network bridge and system controller shall provide an interface between multiple power amplifiers equipped with NomadLink monitoring/control facilities and a host computer running associated DeviceControl software. Communication between the network bridge and system controller and the host computer shall be over an Ethernet LAN using TCP/IP protocols. The IP address for the network bridge and system controller and system controller shall be entered manually from the front-panel or set remotely by a DHCP server. Communication between the network bridge and system controller and the power amplifiers shall be over a daisy-chained subnet with interconnections on Cat-5 cable using RJ45 connectors. The subnet shall accommodate as many as 60 amplifiers and as many as 480 amplifier channels. The distance between the network bridge and system controller and any amplifier, or between any two amplifiers, shall be up to 300 m (980 ft.) and total length of the subnet cabling shall be up to 700 m (2300 ft.) when the network forms a closed loop. When the network is an open daisy-chain, total length shall be up to 400 m (1300 ft). The network bridge and system controller shall be able to detect a closed loop network, and report an error if the loop is broken. The network bridge and system controller shall provide phantom power through the network, thereby maintaining a network connection when amplifiers are powered off or malfunctioning. Mute on/off function for all channels in the subnet shall be accessible on front-panel buttons. General faults as well as individual amplifier faults shall be indicated with a red Fault LED on the front-panel and on the character display. The network bridge and system controller shall offer three general purpose input (GPI) connections for external control purposes; one GPI shall sense voltage (above or below +10 VDC) while two GPIs shall sense contact closure. GPI's shall be user configurable to operate amplifier subnet power on/off and mute channels.

Connectors, Controls, and Indicators

The following connectors shall be provided on the rear-panel: one EtherCon RJ45 for Ethernet; two EtherCon RJ45 for loop subnet (NomadLink) In and Out; one 2-pole Phoenix input for voltage sensing GPI; and two 2-pole Phoenix inputs for contact-closure GPI. The following connector shall be provided on the front-panel: one standard RJ45 Ethernet in parallel with the rear-panel Ethernet connection.

The following controls shall be provided on the front-panel: six navigation and parameter selection keys, and two momentary switches to activate global power on or off for all power amplifiers connected to the subnet.

The following LED indicators shall be provided on the front-panel: front-panel operation locked (yellow), fault warning (red), amplifier subnet muted (red); NomadLink (subnet) connected and active (blue); Ethernet connected (orange), and Ethernet active (yellow). A 2 x 16 character display with white text on blue background shall display network status and parameters.

Power Supply

The network bridge and system controller shall have a universal power supply with automatic selection of AC line sources from 100 V to 240 V at 50 Hz or 60 Hz. Power consumption shall be less than 20 watts.

Physical

The network bridge and system controller shall be 483 mm (19 in.) wide, 44 mm (1.75" or 1 U) high, and 208 mm (8.2 in.) deep. Weight shall be 2.25 kg (5 lbs.). Housing shall be plated and painted steel with an anodized aluminum front-panel.

The network bridge and system controller shall be approved for use as specified by CE and CSA. The network bridge and system controller shall be the Lab.gruppen NomadLink Bridge & System Controller NLB 60E.