

## NDP-JTH NEXSYS HUB

### Product Information

Crest Audio's NexSys Hub is an integral part of any NexSys computer-controlled network that needs to support more than 32 amplifiers or nodes.

The maximum number of amplifiers connected to one NexSys bus is limited by the NexSys Network's adherence to the "ANSI TIA/EIA-485" recommended standard (or "RS-485"). A NexSys bus, which consists of multiple amps connected by a length of twisted-pair cable with two termination-resistors, is limited by RS485 to a maximum of 32 amplifiers. The NexSys Hub, acting as a repeater, allows for the connection of multiple NexSys buses.

Thus, the Hub extends NexSys computer control beyond the RS-485 node limitation to a maximum of 1024 amplifiers.

The figure below shows a typical NexSys Network that is designed to control more than 32 amps. Each Hub resides on the bus that is connected to the NexSys BusServer card. This bus is defined as the "primary bus". Each Hub is responsible for passing network data from the primary bus to all amplifiers residing on its 'secondary bus'. Thus, in effect, every amplifier in the NexSys network is "connected" to the BusServer card. (Note that a Hub cannot be connected to the secondary bus of another Hub on the network.)

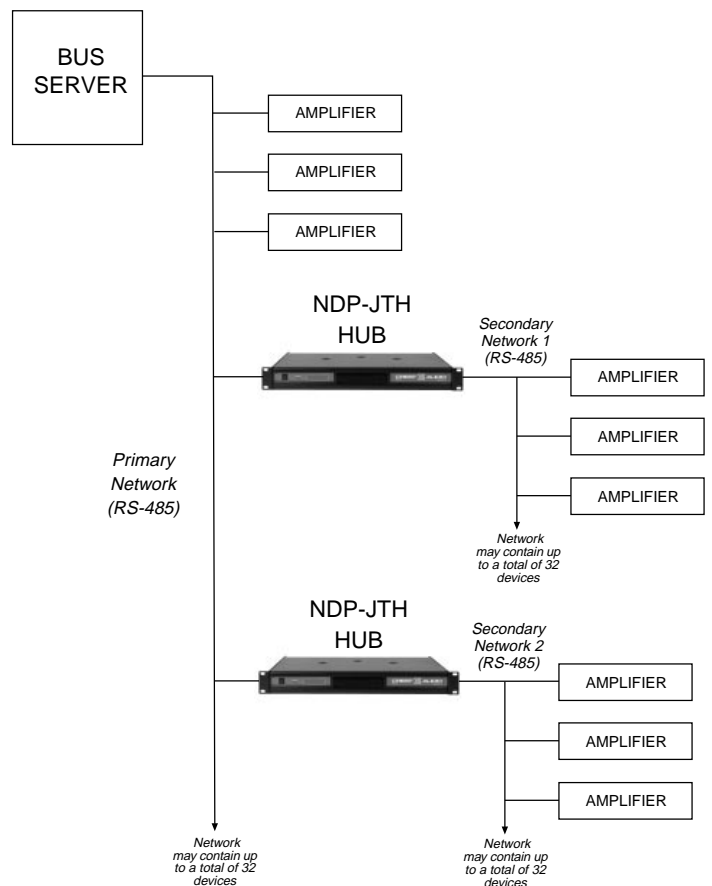
### Programmable Control I/O

Eight programmable control ports are available on the Hub. They can serve as either inputs or outputs. When configured as an input, the Hub can sense a switch closure, a variable DC voltage, or a 3-contact potentiometer. Inputs may then be interfaced to NexSys and/or the Event Scheduler in order to automate NexSys functions from external controls. When configured as an output, the Hub can drive a TTL signal. NexSys and/or the Event Scheduler may then be interfaced to external devices or indicators.

Crest Audio NexSys Hubs are manufactured exclusively in our USA facility, using only the highest quality selected internal components.

### Features

- Extends NexSys control to up to 1024 devices
- Two electrically-isolated, balanced NexSys busses
- NexSys busses and 8 user-programmable control I/O ports use Phoenix COMBICON® connections; TTL and relay-driving outputs available
- Front panel status indication and power switch
- Rear panel data present indicators
- IEC power receptacle
- 1 rack unit high; width & depth same as Crest Audio's CK family of Power Processing amplifiers
- Five year warranty



### Electrical Specifications

<b>AC Line Current</b>	Maximum: 165 mA., @ 120V Typical: 65 mA., @ 120V
<b>NexSys Interface</b>	One pair primary NexSys bus connections, one pair secondary NexSys bus connections; both electrically isolated, on standard two wire RS-485, single unshielded twisted pair
<b>I/O Connector Function</b>	pin 1: 470Ω pullup to +5V pin 2: I/O pin 3: selectable reference - circuit ground (factory); or user reference  (pin 3 selection globally configures all 8 control I/O ports)
<b>I/O Input Voltage Range</b>	0 to 8V
<b>I/O Max Sink Current</b>	80mA per output, 500mA total
<b>I/O Breakdown Voltage</b>	40V
No internal clamp diodes provided on I/O	

### Architect's & Engineer's Specifications

The network Hub shall contain two electrically isolated Crest Audio NexSys busses. One bus shall be dedicated to the primary network (which includes the network's bus server). The other bus shall be dedicated to the secondary network and provide access to as many as 32 additional NexSys network nodes. Any node on the secondary network shall be accessible to the bus server through the network hub. Each NexSys bus shall conform with RS485 electrical serial protocol.

The network hub shall poll the status of each node on the secondary network independently from the bus server. The hub shall also send commands to nodes on the secondary network as dictated by the bus server on the primary network.

The network hub shall contain eight programmable control ports to accommodate external inputs to NexSys via switch closure, variable DC voltage, or 3-contact potentiometers. The control ports shall also have TTL outputs and relay-driving outputs available to control external devices from NexSys.

The front panel shall include an on/off power switch and an LED to indicate power status. The rear panel shall be fitted with the two sets of dual rotary switches with the purpose of assigning NexSys data bus addresses to the hub. It shall also be fitted with data present indicators, and the following 5mm, 3-pin Phoenix COMBICON® connectors: two for NexSys primary network access, two for NexSys secondary network access, and eight for programmable I/O control ports.

An IEC AC mains socket shall be provided on the rear panel. 120V and 220V versions shall be available. A single AC mains cord having an appropriate plug for the intended operating voltage shall be provided. Dimensions shall be 19" (483mm) wide, 1.75" (44mm) high, and 17.13" (435mm) deep. The network hub shall be designated the Crest Audio model NDP-JTH.

### Block Diagrams

