NXU-2A™

Network Extension Unit

JPS Interoperability Solutions

The NXU-2A embodies RoIP technology to enable radio communications to be interconnected across the room or around the world.

Benefits

- Enables the formulation of low cost, extremely flexible radio communications networks.
- Multiplexes voice audio and data over a standard Ethernet network.
- Allows use of existing network infrastructure, thereby eliminating the need for leased lines and microwave sites.
- Eliminates need for in-band signaling to indicate active PTT condition.
- Facilitates centralized control of a communications network from a single computer.
- The NXU-2A offers adjustable transmit and receive audio delay, VMR COR type, connectionless mode (WAIS), multicast mode, factory reset, and QoS support of DSCP.
- Fully compatible with our with our WAIS, ACU, and PCNXU RoIP interfaces.

NXU-2A Overview

The NXU-2A connects communications equipment to a digital network using RoIP (Radio over Internet Protocol) technology. It is intended for use with radio communications, any four-wire device, and JPS products such as the ACU gateways.

The NXU-2A is a general purpose stand-alone device that interfaces full duplex audio, one RS-232 port and four status bits onto an Ethernet network. A pair of NXU-2As can form a simple system that creates a transparent communications link between the two. One of a pair of units is set up as the server, the other as the client. The audio, RS-232, and status bits appear to be simply extended between the server and the client. The NXU-2A offers superior audio quality with a minimal use of network bandwidth.

Network Details

The NXU-2A is an 10/100 BASE-T Ethernet device and each unit has a unique ethernet address and a RJ-45 physical jack. A 10/100BASE-T device operates at 100Mbps and interconnects to a hub (star topology) using standard CAT 5 twisted pair cable.

The maximum cable length between an NXU-2A and its hub port is 100 meters. With the right connective equipment, the NXU-2A's Ethernet port can be linked up with virtually any kind of LAN, WAN, or the internet, no matter the topology or cable system in use.

System Overview

Any NXU-2A can be set up as a server or a client depending on system requirements. The RS-232 connection allows for different baud rates between the server and client. The NXU-2A monitors its network connection and adjusts its parameters automatically to provide optimum performance under varying network conditions.

Front panel indicators display the unit's status. Initial configuration is done through the NXU-2As serial port, but once set up, a standard web browser can be used over the network to monitor and change the unit's settings and to perform diagnostics. The NXU-2A provides a number of different compression settings to accommodate a wide range of applications from voice-only to voice-plus-tone signaling.

Designed for years of continuous operation in mission critical applications and remote locations, the NXU-2A has no moving parts and requires no periodic shutdown or maintenance. Start up upon power on is typically 5 seconds.

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Network Extension Unit

RX Audio Input

Input Impedance: Balanced 47k ohms, Transformer coupled

Input Level: 0 dBm nominal; +15 dBm clipping

Frequency Response: 10Hz to 3600 kHz +/- 2dB

TX Audio Output

Output Impedance: Unbalanced 10 ohms, AC coupled

Output Level: 0 dBm nominal; +15 dBm clipping into a 600 ohm load

Frequency Response: 10 Hz to 3350 Hz +/- 2dB

Distortion: 0.5% or less (excepting Vocoder)

COR and AUX Input

Input Impedance: 47k ohm pullup to +5V

Polarity: Active low or high, selectable

Threshold: +2.5V nominal

Protection Up To: +/- 100VDC

PPT and AUX Output

Output Type: Open drain, 47k ohm pullup to +5V

Maximum Sink Current: 100mA

Max. Open Circuit Voltage: 100mA

Serial Interface

Interface Type: RS-232, Asynchronous, Full Duplex

Baud Rates: 300; 1200; 2400; 4800; 9600; 19,200; 38,400; 57,600; 115,200 bps

Connector: DB-9 Male, standard PC/AT DCE Pinout

Network Interface

Interface Type: 10/100BASE-T Ethernet, 100Mbps; RJ-45

Protocols: Audio-UDP, RS-232-TCP

Audio Vocoder: GSM compliant (13 Kbps), G.723 ADPCM (16, 24, 32 Kbps), G.711 (64 Kbps) selectable

General/Environmental

Programming: RS-232, HTTP (web) or Telnet

Front Panel: Power, Busy, Link Active, and Channel Active LEDs

Rear Panel: Audio data, Serial, Network, and Power Connectors

Audio/Data Connector: DB-15 Female

Input Power: +11 to +15VDC @ 0.5A max. 12VDC wall cube supplied (12V DC nominal)

Power Connector: Coaxial jack, 2.5mm ID, 5.5mm OD; center pin positive; reverse polarity protected

Temperature: Operating; -20 to +60 degrees C. Storage; -40 to +85 degrees C

Humidity: Up to 95% @ 55 degrees C

Size and Weight: 1.7”H x 6.75” W x 8.25” D (4.3 x 17.5 x 21cm) 1.1lbs (2.4kg)

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