SECTION 27 41 16

INTEGRATED AUDIO-VIDEO SYSTEMS AND EQUIPMENT

GUIDE SPECIFICATION

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Specifier: Please see PART 4 for a listing of products specified in this Guide Specification.

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# GENERAL

NOT USED in this Guide Specification. Specifier shall Specify PART 1 administrative and procedural requirements as needed.

# PRODUCTS

## USB over Network with Routing, Local / Remote Pair

Specifier Note:

*The DM NUX USB over Network with Routing (DM-NUX-L2 and DM-NUX-R2) deliver reliable, high-speed USB signal extension and routing for USB 1.0, 1.1, and 2.0 devices throughout a home, business, or campus for distances up to 300 ft. (100 m).*

### Basis of Design

#### Crestron DM-NUX-L2

#### Crestron DM-NUX-R2

### Device Definition

#### Devices with the following characteristics:

##### High-speed USB signal extension for most USB 1.1 or 2.0 devices

##### Point-to-point USB signal extension support

##### USB signal extension over Ethernet support

##### Compatibility with wall plate form-factor USB over Network with Routing devices by same manufacturer

##### Compatibility with AVoIP endpoints by same manufacturer that support USB 2.0 signal extension

##### Compatibility with proprietary HDBaseT-based AV system by same manufacturer

Specifier Note:

*All USB endpoints must be on the same layer 2 domain as the control system or DigitalMedia system. Follow accepted guidelines for proper installation and configuration of the local area network to ensure optimum performance.*

##### Local endpoint Virtual Hub support of up to (5) remote endpoints

##### Signal routing via control system or proprietary AV system by same manufacturer

##### Plug-and-play compatibility with most types of USB 1.1 and 2.0 devices and hosts

##### No drivers required with Windows®, macOS®, or Linux® operating systems

##### USB over Ethernet or CAT5e (or better) data transfer rate of up to 480 Mbps

##### Mass Storage Acceleration maximizes USB 2.0 bulk transfer rates

### Device Architecture

#### Enclosure

##### Construction: Black anodized aluminum

##### Mounting: Freestanding or surface mount (mounting bracket included)

##### Dimensions

###### Height: 1.02 in. (26 mm)

###### Width: 3.94 in. (100 mm)

###### Depth: 2.99 in. (76 mm)

##### Environmental Operating Conditions

###### Temperature: 32° to 122° F (0° to 50° C)

###### Humidity: 20% to 80% RH (non-condensing)

### Connectors

#### Local Endpoint

##### Link

###### (1) 8-pin RJ45 connector, female

###### Connects to an Ethernet network or directly to a Remote endpoint

Specifier Note:

*For a direct link connection (not on a network) between the Local and Remote endpoints, use high quality, solid core CAT5e (or better) unshielded twisted pair (UTP) cable. To comply with the European Directive (CE), Crestron recommends using high-quality, solid core CAT5E (or better) shielded twisted pair (STP) cable. If connecting either endpoint through a wall jack, a stranded patch cord may be used. The maximum aggregate cable length is 330 ft (100 m) between units. The minimum cable length is 6 ft (1.8 m)*

##### USB

###### (1) USB Type B connector, female

###### USB B to A cable included

###### USB 2.0 device port for connection to the USB host computer, media server, game console, annotator, codec, etc.

##### Config: For factory use only

#### Remote Endpoint

##### 24V 1A

###### (1) 2.1 x 5.5 mm DC power connector; 24 VDC power input

###### Power pack included

##### Link

###### (1) 8-pin RJ45 connector, female

###### Connects to an Ethernet network or to the Link port on the Local endpoint

Specifier Note:

*For a direct link connection (not on a network) between the Local and Remote endpoints, use high quality, solid core CAT5e (or better) unshielded twisted pair (UTP) cable. To comply with the European Directive (CE), Crestron recommends using high-quality, solid core CAT5E (or better) shielded twisted pair (STP) cable. If connecting either endpoint through a wall jack, a stranded patch cord may be used. The maximum aggregate cable length is 330 ft (100 m) between units. The minimum cable length is 6 ft (1.8 m)*

##### USB

###### (4) USB Type A connectors, female

###### USB 2.0 host ports for connection of USB devices such as mice, keyboards, and other USB devices

###### Available USB power: Up to 600 mA at each port concurrently; up to 1 A when two or fewer ports are in use

Specifier Note:

*A web camera may not be used when five or more DM-NUX-R2 endpoints are paired. Video from two cameras connected to a DM-NUX-R2 may not be viewed on different applications simultaneously. Any 1.0/1.1 devices require a USB hub.*

##### Config: For factory use only

### Controls and Indicators

#### Local Endpoint

##### Activity: (1) Amber LED, indicates data activity over the Link connection

##### Host: (1) Green LED, indicates a valid connection to the USB host

##### Link: (1) Green LED, indicates a valid Link connection to the Remote endpoint

##### Pair: (1) Pushbutton, used to establish a connection with a Remote endpoint

##### Power: (1) Blue LED, indicates operating power is supplied via the USB host

#### Remote Endpoint

##### Activity: (1) Amber LED, indicates data activity over the Link connection

##### Host: (1) Green LED, indicates a valid connection to the USB host at the Local endpoint

##### Link: (1) Green LED, indicates a valid Link connection to the Local endpoint

##### Pair: (1) Pushbutton, used to establish a connection with a Local endpoint

##### Power: (1) Blue LED, indicates operating power is supplied via the power supply

### Power

#### Local Endpoint: USB powered via the USB host interface

#### Remote Endpoint

##### Input: 100-240 VAC, 50/60 Hz

##### Output: 0.75 A @ 24 VDC

### Compliance

#### Regulatory Model: M201947001

#### CE, IC, FCC Part 15 Class B digital device

## USB over Network Wall Plates with Routing, Local / Remote Pair

Specifier Note:

*The DM NUX USB over Network with Routing (DM-NUX-L2 and DM-NUX-R2) deliver reliable, high-speed USB signal extension and routing for USB 1.0, 1.1, and 2.0 devices throughout a home, business, or campus for distances up to 300 ft. (100 m).*

### Basis of Design

#### Crestron DM-NUX-L2-1G

#### Crestron DM-NUX-R2-1G

### Device Definition

#### Devices with the following characteristics:

##### High-speed USB signal extension for most USB 1.1 or 2.0 devices

##### Point-to-point USB signal extension support

##### USB signal extension over Ethernet support

##### Compatibility with USB over Network Extenders with Routing by same manufacturer

##### Compatibility with proprietary HDBaseT-based AV system by same manufacturer

Specifier Note:

*All USB endpoints must be on the same layer 2 domain as the control system or DigitalMedia system. Follow accepted guidelines for proper installation and configuration of the local area network to ensure optimum performance.*

##### Local endpoint Virtual Hub support of up to (5) remote endpoints

##### Signal routing via control system or proprietary AV system by same manufacturer

##### Plug-and-play compatibility with most types of USB 1.1 and 2.0 devices and hosts

##### No drivers required with Windows®, macOS®, or Linux® operating systems

##### USB over Ethernet or CAT5e (or better) data transfer rate of up to 480 Mbps

##### Mass Storage Acceleration maximizes USB 2.0 bulk transfer rates

### Device Architecture

#### Enclosure

##### Construction: Metal, black finish with white or black polycarbonate label overlay

##### Flush Wall Mount: Mounts in an unobstructed North American 1-gang electrical box

###### To be used in conjunction with decorator style faceplate by same manufacturer

##### Dimensions

###### Height: 4.12 in. (105 mm)

###### Width: 1.72 in. (44 mm)

###### Depth: 1.95 in. (50 mm)

##### Environmental Operating Conditions

###### Temperature: 32° to 122° F (0° to 50° C)

###### Humidity: 20% to 80% RH (non-condensing)

### Connectors

#### Local Endpoint

##### 24 V 0.75 A

###### (1) 2-pin 3.5 mm detachable terminal block

###### 24 VDC power input

Specifier Note:

*A ferrite bead is provided to reduce or prevent EMI (electromagnetic interference). When using a power source other than PoE, Crestron recommends installing this ferrite bead on the power supply cable close to the device.*

##### LINK

###### (1) 8-pin RJ45 connector, female

###### Connects to an Ethernet network or directly to a Remote endpoint

###### IEEE 802.3af

Specifier Note:

*For a direct link connection (not on a network) between the Local and Remote endpoints, as a minimum, use high quality, solid core CAT5e (or better) unshielded twisted pair (UTP) cable. To comply with the European Directive (CE), Crestron recommends using high-quality solid core CAT5e (or better) shielded twisted pair (STP) cable. If connecting either endpoint through a wall jack, a stranded patch cord may be used. The maximum aggregate cable length is 330 ft (100 m) between units. The minimum cable length is 6 ft (1.8 m). Do not connect the LINK ports to any other USB extender, including the USB-EXT-2, USB-EXT-2-LOCAL-1G, and USB-EXT-2-REMOTE-1G.*

##### USB

###### (1) USB Type B connector, female

###### USB 2.0 device port for connection to the USB host computer, media server, game console, annotator, codec, etc.

##### CONFIG: For factory use only

#### Remote Endpoint

##### 24 V 0.75 A

###### (1) 2-pin 3.5 mm detachable terminal block

###### 24 VDC power input

##### LINK

###### (1) 8-pin RJ45 connector, female

###### Connects to an Ethernet network or to the Link port on the Local endpoint

Specifier Note:

*For a direct link connection (not on a network) between the Local and Remote endpoints, use high quality, solid core CAT5e (or better) unshielded twisted pair (UTP) cable. To comply with the European Directive (CE), Crestron recommends using high-quality, solid core CAT5E (or better) shielded twisted pair (STP) cable. If connecting either endpoint through a wall jack, a stranded patch cord may be used. The maximum aggregate cable length is 330 ft (100 m) between units. The minimum cable length is 6 ft (1.8 m)*

###### IEEE 802.3af

##### USB

###### (4) USB Type A connectors, female

###### USB 2.0 host ports for connection of USB devices such as mice, keyboards, and other USB devices

##### CONFIG: For factory use only

### Controls and Indicators

#### Local Endpoint

##### ACT: (1) Amber LED, indicates data activity over the LINK connection

##### HOST: (1) Green LED, indicates a valid connection to the USB host

##### LINK: (1) Green LED, indicates a valid LINK connection to the Remote endpoint

##### PAIR: (1) Pushbutton, used to establish a connection with a Remote endpoint

##### PWR: (1) Blue LED, indicates operating power is supplied via the USB host

#### Remote Endpoint

##### ACT: (1) Amber LED, indicates data activity over the LINK connection

##### HOST: (1) Green LED, indicates a valid connection to the USB host at the Local endpoint

##### LINK: (1) Green LED, indicates a valid LINK connection to the Local endpoint

##### PAIR: (1) Pushbutton, used to establish a connection with a Local endpoint

##### PWR: (1) Blue LED, indicates operating power is supplied via the power supply

### Power

#### Local Endpoint

##### USB powered via the USB host interface

##### IEEE 802.3af powered device

##### Optional ferrite bead provided to reduce or prevent EMI (electromagnetic interference)

#### Remote Endpoint

##### Input: 100-240 VAC, 50/60 Hz

##### Output: 0.75 A @ 24 VDC

### Compliance

#### IC, FCC Part 15 Class B digital device

# EXECUTION

NOT USED in this Guide Specification. Specifier shall Specify PART 3 On-Site work as needed.

# APPENDICES

## SPECIFIED PRODUCTS

Specifier Note: This Article includes Crestron products specified in this Guide Specification document. This Article is for reference only and should not be required in actual project manual unless included in an overall system equipment list.

### Crestron DM-NUX-L2

### Crestron DM-NUX-R2

### Crestron DM-NUX-L2-1G

### Crestron DM-NUX-R2-1G

## Input / Output Connection Diagrams

### DM-NUX-L2



### DM-NUX-R2



### DM-NUX-L2-1G



### DM-NUX-R2-1G

