**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.*

## **SUMMARY**

### Section Includes:

#### AV Switcher

## **RELATED REQUIREMENTS**

### Section 27 15 00 - Communications Horizontal Cabling

### Section 27 41 16 - Audio-Video Systems and Equipment

## **REFERENCES**

### Abbreviations and Acronyms

#### AV - Audio-Video

# **PRODUCTS**

## **AV Switcher:**

### Type 2

#### Basis of Design Switcher

##### Crestron HD-MD402

*Specifier Note:*

*The HD-MD402 is a 4K60 4:2:0 AV switcher that provides a cost-effective solution for professional AV applications. The HD-MD402 provides four HDMI® inputs, one mirrored HDMI and DM Lite output, and one independent DM Lite® output. The DM Lite outputs extend HDMI® signals over a CATx (CAT5e or higher) twisted pair cable. For HD 1080p, WUXGA, and 2K signals, a CATx cable length of up to 230 ft (70 m) is supported. For UHD and 4K signals, a CATx cable length of up to 130 ft (40 m) is supported.*

*Please see the following link for additional information:*

*https://www.crestron.com/Products/Video/HDMI-Solutions/HDMI-Switchers/HD-MD402*

### Functional Requirements

#### AV Switching

##### 4K video presentation switching

##### Multiformat 4K video presentation switching

##### Automatic or controlled source selection

###### The Switcher shall support input switching with the following options:

Automatic switching to active input

Manual switching via integrated selection buttons

Remote switching via control processor by same manufacturer

Remote switching via web interface

##### Single cable 4K video extension

###### Built-in transmission transmit connections

###### Signal transmission up to 230 feet.

###### Minimum cable type supported: UTP/STP CAT5e

##### Switching Capacity

###### 4 inputs to 2 outputs

#### Device Control

##### Automatic on/off state control of display device via built-in serial communication port

##### Custom control of RS-232 device via control processor by same manufacturer

#### Audio

##### Balanced audio output

### Features

#### Built-In Device Configuration Software

*Specifier Note: Please see the following link for additional information:*

*https://www.crestron.com/Products/Featured-Solutions/AV-Framework*

##### Hardware Products

###### Control and AV Products utilized in this system shall be supported by a single web-based configuration software utility.

*Specifier Note: Please see the following link for a list of supported hardware:*

*https://www.crestron.com/Products/Featured-Solutions/AV-Framework*

##### Configuration Software Utility

###### Software shall support the following:

System configuration through web browser, specialized software shall not be required.

A Configuration guide and help information shall be available within web browser screen.

Device Configuration

Source setup

Display setup

Setup of user interface devices by same manufacturer

Manufacturer shall provide multiple user interface options.

*Specifier Note: The following user interfaces are supported: TSW-series 7 inch and 10 inch touch screens as well as various button panels.*

Setup of supported AV switching devices by same manufacturer

Setup of supported devices

Security

Secure access through full user/group management or Active Directory integration

Hardware level security using 802.1X authentication

TLS, SSL, SSH, and SFTP network security protocols

Deployment

A single configuration file shall be network deployable to multiple rooms.

### Device Architecture

#### Physical Form factor

##### Surface mount or rack mountable

### Compliance

#### UL® Listed for US and Canada, CE, 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**

### Crestron HD-MD402