

SECTION 27 41 16
INTEGRATED AUDIO-VIDEO SYSTEMS AND EQUIPMENT

Equipment Specified in this section:

DSP-860

DSP-1280

DSP-1281

DSP-1282

DSP-1283

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SECTION 27 41 16 INTEGRATED AUDIO-VIDEO SYSTEMS AND EQUIPMENT

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PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes
 - 1. Audio Digital Signal Processor (DSP)

PART 2 PRODUCTS

2.1 AUDIO DSP

- A. Audio Digital Signal Processor
 - 1. The Audio Digital Signal Processor (DSP) will be purpose built for professional use. Each DSP shall include an internal processor that will provide advance audio controls and shall operate with or without a control system.
- B. Physical
 - 1. The DSP's shall be in a 1RU EIA standard enclosure for rack mounting.
 - 2. Unit depth shall be 14.35 inches, 365mm
 - 3. Internal fan cooling shall provide side-to-side airflow.
 - 4. The DSP shall have a front panel bi-color LED to indicate unit status
 - a. Connection to AC mains
 - b. Connection to a LAN.
 - 5. The front panel Reset shall return the unit to the last saved configuration
 - 6. The rear panel LAN connector shall provide network communications
 - 7. The DSP shall include a Universal Power Supply
 - a. Operational 50-60Hz, 100-240VAC.
- C. Communications
 - 1. The DSP's will be configured, monitored and controlled by the DSP software tool.
 - 2. The DSP software tool shall allow multiple instances to be active on a common network.

3. The DSP software tool channel strip architecture will not require compiling in order to pass audio.
4. Remote communications with the DSP software tool and Touch Panels by same manufacturer will be via standard Ethernet.
 - a. shall support: 10/100/1000 Mbps, auto-switching, auto-negotiating, auto-discovery, full/half duplex, TCP/IP, UDP/IP, CIP, DHCP, SSL, SSH, SFTP (SSH File Transfer Protocol)
5. The DSP shall provide a local Universal Serial Bus (USB) console port connection on a standard USB-B type connector.

D. Audio I/O

1. DSP 12X8 Type
 - a. Shall provide 12 balanced input connections with selectable phantom power for condenser microphones.
 - b. Shall provide 8 balanced output connections.
2. DSP 8x6 Type
 - a. Shall provide 8 balanced input connections with selectable phantom power for condenser microphones
 - b. Shall provide 6 balanced output connections.
3. All Types
 - a. Input connections shall be selectable for balanced line level analog audio signals on Phoenix style removable connectors.
 - b. Each individual channel shall have its own dedicated connection.
 - c. Analog to Digital and Digital to Analog Conversion
 - 1) 24 bit, 48kHz

E. Audio Configuration

1. The channel strip software shall be configurable for instant audio delivery without requiring configuration code compile.
2. Presets shall recall any system configuration
3. Views shall recall any system control screen configuration
4. Channel Strips shall allow for the creation of unique configurations that are repeatable and portable.
5. The Digital Signal Processor shall provide:
 - a. Spectrum analyzer
 - b. Gain controls (Input/Output)
 - c. Any-to-Any Matrix Routing
 - d. Matrix In/Out level trim
 - e. Matrix crosspoint level

F. Filters for all models shall include

1. Equalization
 2. Limiters
 3. Gates
 4. Compressors
 5. Crossovers
 6. Delays
 7. Hi Pass filters
 8. Low Pass filters
 9. Lo and Hi Shelf
 10. Gating style Auto Mixer
- G. Auxiliary channel strips
1. An additional 8 Auxiliary channel strips with comprehensive signal processing shall be provided.
 - a. All Auxiliary Strips shall be routable to any Matrix crosspoint or output Bus.

Specifier Note:

DSP TYPES

DSP TYPE 1 – Crestron DSP-860

DSP TYPE 2 – Crestron DSP-1280

DSP TYPE 3 – Crestron DSP-1281

DSP TYPE 4 – Crestron DSP-1282

DSP TYPE 5 – Crestron DSP-1283

- H. DSP Type 4 and DSP Type 5 shall include:
1. Acoustic Echo Cancellation on all 12 input channels
 2. Separate POTS connector RJ11
 3. Separate VoIP connector RJ45
 4. USB 2.0 audio 8x8 with type B connector
- I. DSP Type 3 and DSP Type 5 shall include:
1. Dante audio connectivity
 2. Separate Primary and Secondary Dante network ports, RJ45
 3. Front panel 5 segment LED indicators referencing:
 - a. Microphone and line in
 - b. Line Out
- J. User Interface Export
1. Touch Panels by same manufacturer shall integrate natively with the DSP for a rich graphic user interface.
 2. Graphic control elements will be selectable and exportable directly from the DSP software tool.

3. The User Interface Export file shall enable the building of touch panels with a drag and drop process.
- K. Compliance
1. The DSP shall be UL listed, Commercial Audio Equipment
 2. Compliant with the RoHS directive.
- L. Warranty
1. The product warranty shall be 3 years.

PART 3 NOT USED

END OF SECTION 27 41 16