

Streaming Output Card for DM[®] Switchers

- > Modular output card for a DM-MD8X8, DM-MD16X16, or DM-MD32X32 switcher
- > Provides a single streaming output
- > Allows high-definition AV signal distribution over IP with no distance limitations
- > Supports streaming at resolutions up to 1080p30 and bitrates up to 25 Mbps
- > Employs high-quality H.264 video and AAC stereo audio encoding^[3]
- > Built-in scaler ensures fast, trouble-free switching between disparate sources^[2]
- > Supports PIP windowing, audio mixing, and single-frame switching between any two inputs
- > Allows streaming via the Control LAN or a dedicated Content LAN
- > Occupies a single output card slot

The DMC-STRO is an output card designed for use with any card-based Crestron[®] DigitalMedia[™] Switcher. It provides a single H.264 streaming output to allow for the distribution of high-definition video and stereo audio to Crestron touch screens, mobile devices, digital signage displays, remote buildings, and global offices over Ethernet and the Internet.

High-performance H.264 streaming capability enables enterprise-wide distribution of HD content over an IP network. Streaming expands the capabilities of DM[®] to remove all distance limitations and allow distribution to virtually any device — anywhere in the world. Streaming is an essential component of any complete DM system for the routing of signals to Crestron touch screens, to another DM switcher, or to any device via a streaming receiver^[1]. Large-scale streaming to computers and mobile devices can be facilitated through integration with a streaming media system such as Wowza[®] or Kaltura[®].

Streaming via a DM switcher affords the ability to distribute any combination of sources to virtually any device anywhere. The DMC-STRO supports streaming at resolutions up to HD 1080p, with bitrates up to 25 Mbps. Built-in scaling enables fast, trouble-free switching between sources of any type or resolution^[2]. Audio support includes stereo signals, as well as multichannel surround sound signals downmixed to stereo via a “DSP” type DM switcher input card.^[3] High-quality video and audio is maintained using high-performance H.264 video and AAC audio compression. The encoded video and audio can be output as independent RTP streams or encapsulated in an MPEG-TS (MPEG-2 Transport Stream) container. HDCP management ensures that protected content cannot be distributed via streaming.

The DMC-STRO’s streaming output is actually fed internally by two separate switcher outputs, allowing any two of the switcher’s input sources to appear picture-in-picture or side-by-side in a single stream. Instant, single-frame switching between two full screen images is also possible. The audio signals from both input sources can also be mixed, allowing both signals to be heard simultaneously.

DigitalMedia provides many deployment options to address a wide range



of streaming applications and accommodate each organization’s specific IT requirements. DM supports both unicast and multicast streaming, with or without RTSP (Real Time Streaming Protocol). Streaming connections can be configured to stream directly to one or more specific IP addresses, or to use RTSP to manage the configuration of numerous connections automatically. The streaming output can be configured to stream via the dedicated “CONTENT LAN” port on the DMC-STRO, or via the DM switcher’s LAN port, allowing the option to isolate control and content onto separate networks or combine them on a single network.

To configure a DM switcher complete with input and output cards, cables, and other peripherals, please use the online [DigitalMedia Switcher Configuration Tool](#).

Please refer to the *DigitalMedia Resources Webpage* at <http://www.crestron.com/dmresources/> for additional design tools and reference documents.

SPECIFICATIONS

Streaming

Video Format: H.264 (MPEG-4 part 10 AVC)

Audio Format: AAC stereo

Bitrates: Up to 25 Mbps

Streaming Protocols: RTP, RTSP, SDP

Container: MPEG-2 transport stream (.ts) or none

Session Initiation Modes: By receiver (unicast), by transmitter (unicast), multicast via RTSP, multicast via UDP

Video

Streaming Output Resolutions: 360p60, 480p30, 480p60, 720p10, 720p15, 720p30, 720p60, 1080p10, 1080p15, 1080p30

Input Source Resolutions, Progressive: 640x480@60Hz, 720x480@60Hz (480p), 720x576@50Hz (576p), 800x600@60Hz, 848x480@60Hz, 852x480@60Hz, 854x480@60Hz, 1024x768@60Hz, 1024x852@60Hz, 1024x1024@60Hz, 1280x720@50Hz (720p50), 1280x720@60Hz

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(720p60), 1280x768@60Hz, 1280x800@60Hz, 1280x960@60Hz, 1280x1024@60Hz, 1360x768@60Hz, 1365x1024@60Hz, 1366x768@60Hz, 1400x1050@60Hz, 1440x900@60Hz, 1600x900@60Hz, 1600x1200@60Hz, 1680x1050@60Hz, 1920x1080@24Hz (1080p24), 1920x1080@25Hz (1080p25), 1920x1080@50Hz (1080p50), 1920x1080@60Hz (1080p60), 1920x1200@60Hz, 2048x1080@24Hz, 2048x1152@60Hz, plus any other resolution allowed by HDMI up to 165MHz pixel clock

Input Source Resolutions, Interlaced: 720x480@30Hz (480i), 720x576@25Hz (576i), 1920x1080@25Hz (1080i25), 1920x1080@30Hz (1080i30), plus any other resolution allowed by HDMI up to 165MHz pixel clock

Audio

Input Source Format: 2-channel PCM ^[3]

Audio Controls: Volume: Adjustable 0% to 100%, plus mute;

Bass: ±15.0 dB;

Treble: ±15.0 dB;

Delay: 0.0 to 40.0 ms;

Source 1 – 2 Mix Level: -80.0 to 0.0 dB

Connectors

CONTENT LAN: (1) 8-pin RJ45 female;

10Base-T/100Base-TX/1000Base-T Ethernet port;

Provides a dedicated LAN connection for streaming only, used in lieu of streaming via the switcher's main LAN port

Indicators

CONTENT LAN: (1 each) green & amber LEDs; green indicates Ethernet link status, amber indicates Ethernet activity

Construction

Plug-in card, occupies (1) DM switcher output card slot, includes metal faceplate w/black finish

Weight

6.2 oz (176 g)

MODELS & ACCESSORIES

Available Models

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Notes:

1. For applications requiring a streaming receiver, use the **DMCI** DM card interface with **DMC-STR** streaming input card (sold separately).
2. Handles input sources with resolutions up to 1080p60, UXGA, and WUXGA.
3. Supports streaming of 2-channel audio only, which may originate at the switcher input or transmitter as a stereo analog or digital signal, or as a digital multichannel signal if downmixed to stereo using a "DSP" type input card. **DMC-HD-DSP** and other DSP type input cards are sold separately.

This product may be purchased from an authorized Crestron dealer. To find a dealer, please contact the Crestron sales representative for your area. A list of sales representatives is available online at www.crestron.com/salesreps or by calling 800-237-2041.

The specific patents that cover Crestron products are listed online at: patents.crestron.com.

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