

DM Lite® Transmitter and 3x1 Auto-Switcher for HDMI®, VGA, and Analog Audio Signal Extension over CATx Cable



- Pairs with a DM Lite® or DMPS Lite™ receiver
- Enables extension of HDMI® video and audio signals
- Converts and extends VGA and analog audio signals
- Auto-switches between two HDMI inputs and one VGA input
- Works with the optional TT-100 series Crestron Connect It™ Cable Caddy
- Links to the receiver via a single CAT5e (or higher) twisted pair cable
- Supports 4K and UHD at up to 130 ft (40 m)
- Supports HD 1080p, WUXGA, and 2K at up to 230 ft (70 m)
- Handles 4K video resolutions up to 4K60 4:2:0 and 4K30 4:4:4
- Handles 3D video and Deep Color
- Supports Dolby® TrueHD, Dolby Atmos®, DTS HD®, DTS:X®, and uncompressed 7.1 linear PCM audio
- Compatible with HDMI, DVI, and Dual-Mode DisplayPort™ sources
- Compatible with VGA, RGBHV, RGBS, RGsB, and YPbPr component sources up to HD 1080p and WUXGA
- HDCP 1.4 compliant
- Passes CEC and EDID signals
- Allows control system integration when paired with an HD-RX-201-C-E or DMPS Lite receiver
- Low-profile surface mount design
- Universal 100-240V power pack included

The HD-TX-301-C-E is a DM Lite® surface-mountable transmitter designed to pair with a DM Lite or DMPS Lite™ receiver to form a signal extender for HDMI® signals. The DM Lite family of products offers a versatile solution for extending HD, UHD, 2K, and 4K video signals, with stereo or surround sound audio, over a single CAT5e (or higher) cable. A cable length of up to 230 ft (70 m) is supported for HD 1080p, WUXGA, and 2K signals, or up to 130 ft (40 m) for UHD and 4K.¹

The HD-TX-301-C-E includes two HDMI inputs and one VGA input. The VGA input is accompanied by a stereo analog audio input. Auto-switching between the HDMI and VGA inputs enables plug-and-play simplicity. Manual input selection is also available via individual buttons on the unit. The VGA input can accept RGB and component video signals by using an appropriate breakout cable or adapter (not included). The audio input is selected in tandem with the VGA input, and can be used by itself with no video source connected. However, it cannot be paired with the HDMI video.

NOTE: When paired with an [HD-RX-201-C-E](#) or DMPS Lite receiver, input selection can be controlled remotely through integration with a Crestron® control system.

The HD-TX-301-C-E is designed to mount on a flat surface beneath a table, behind a credenza, or inside a podium. It can also be attached to a single rack rail in the back of an equipment cabinet. When powered using the provided wall mount power pack, the HD-TX-301-C-E also supplies power to the connected receiver over the link cable. Alternately, a power pack may be connected to the receiver, which in turn supplies power to the HD-TX-301-C-E over the cable.²

For a complete tabletop interface solution with easy pull-out cables and simple one-touch control, a single [TT-100](#) series Crestron Connect It™ Cable Caddy may be installed in the table and connected to the HD-TX-301-C-E mounted below.

NOTE: This product is not addressable from a control system and offers no programmable functionality except when paired with an [HD-RX-201-C-E](#) or DMPS Lite receiver. Otherwise, AV and CEC signals are simply passed through between the transmitter and receiver. The RJ-45 link port on this product is exclusively intended for linking with a single DM Lite or DMPS Lite receiver. It should not be used to connect to any other equipment or network. DM Lite technology is not compatible with PoE, PoDM, DigitalMedia 8G+®, or HDBaseT technology.

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Specifications

Video

Switcher	3x1 manual or auto-switching, audio-follow-video
Input Signal Types	HDMI with Deep Color, 3D, and 4K (DVI and Dual-Mode DisplayPort™ interface compatible ³), VGA/RGB (RGBHV, RGBS, RGsB), component (YPbPr) ⁴
Copy Protection	HDCP 1.4
Maximum Resolution	Common resolutions are listed in the following table.

Input Type	Scan Type	Resolution	Frame Rate	Color Sampling	Color Depth
HDMI	Progressive	4096x2160 DCI4K or 3840x2160 4K UHD	24 Hz	4:4:4	30 bit
			30 Hz	4:4:4	24 bit
			30 Hz	4:2:2	36 bit
			60 Hz	4:2:0	24 bit
	2560x1600 WQXGA	60 Hz	4:4:4	36 bit	
HDMI	Interlaced	1920x1080 HD 1080p	60 Hz	4:4:4	36 bit
			30 Hz	4:4:4	36 bit
VGA/RGB	Progressive	1600x1200 UXGA	60 Hz	n/a	n/a
		1920x1200 WUXGA	60 Hz	n/a	n/a
Component	Progressive	1920x1080 HD 1080p	60 Hz	n/a	n/a
	Interlaced	1920x1080 HD 1080i	30 Hz	n/a	n/a

NOTE: Common resolutions are shown; other custom resolutions are supported at pixel clock rates up to 300 MHz for HDMI or 165 MHz for VGA.

Audio

Input Signal Types	HDMI (Dual-Mode DisplayPort interface compatible ³), analog stereo
Digital Formats	Dolby Digital®, Dolby Digital EX, Dolby Digital Plus, Dolby TrueHD, Dolby Atmos, DTS®, DTS ES, DTS 96/24, DTS HD High Res, DTS HD Master Audio, DTS:X, LPCM up to 8 channels
Analog Formats	Stereo 2-channel
Analog-To-Digital Conversion	24-bit 48 kHz

Analog Performance

Frequency Response: 20 Hz to 20 kHz ±0.5 dB;
S/N Ratio: >93 dB, 20 Hz to 20 kHz
A-weighted;
THD+N: <0.005% @ 1 kHz;
Stereo Separation: >80 dB

Communications

HDMI	HDCP 1.4, EDID, CEC pass-through
USB	USB host for one TT-100 series cable caddy
DM Lite Link	Proprietary link for connection between one DM Lite transmitter and DM Lite or DMPS Lite receiver only

NOTE: Supports management of HDCP and EDID only when paired with an [HD-RX-201-C-E](#) or DMPS Lite receiver; supports management of CEC between the connected HDMI device and a control system only when paired with an HD-RX-201-C-E or DMPS Lite receiver.

Connectors

HDMI 1 – 2 INPUT	(2) HDMI Type A connectors, female; HDMI digital video/audio inputs (DVI and Dual-Mode DisplayPort interface compatible ³)
VGA 3 INPUT	(1) HD15 connector, female; RGB (VGA) or component video input; ⁴ Formats: RGBHV, RGBS, RGsB, and YPbPr
AUDIO INPUT	(1) 3.5 mm TRS mini phone jack; Unbalanced stereo line-level audio input ⁴ ; Maximum Input Level: 2 Vrms; Input Impedance: 44k Ohms
24 VDC 1.25A	(1) 2.1 x 5.5 mm DC power connector; 24 VDC power input; PW-2412WU power pack included;

NOTE: This connection powers both the transmitter and receiver.²

TO RX (DM Lite)	(1) 8-pin RJ-45 connector, female, shielded; DM Lite link port for connection to a DM Lite or DMPS Lite receiver ¹
SERVICE	(1) USB Type A connector, female; USB host port for one TT-100 series cable caddy

Controls and Indicators

TO RX (DM Lite)	(2) LEDs on RJ-45 connector, green LED indicates DM Lite link status, amber LED indicates a valid video signal
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PWR	(1) Bi-color green/amber LED, indicates operating power is supplied from the power pack via the 24 VDC input or from the receiver via the DM Lite link, turns amber while booting and green when operating
AUTO	(1) Push button to enable/disable auto-switching mode, and (1) green LED to indicate auto-switching mode is enabled
INPUT 1 – 3	(3) Push buttons for manual input selection, and (3) bi-color green/amber LEDs to indicate the current active input and signal presence at each corresponding input
SETUP	(1) Red LED and (1) recessed push button for Ethernet setup (only when paired with an HD-RX-201-C-E or DMPS Lite receiver)

Power

Power Pack (included)	Input: 100-240 VAC, 50/60 Hz; Output: 1.25 Amps @ 24 VDC; Model: PW-2412WU
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NOTE: The transmitter and receiver are powered together using a single power pack connected at either the transmitter or receiver.²

Environmental

Temperature	32° to 104° F (0° to 40° C)
Humidity	20% to 90% RH (non-condensing)
Heat Dissipation	19.4 BTU/hr

Construction

Chassis	Metal, black finish, with (2) integral mounting flanges, vented sides
Mounting	Freestanding, surface mount, or attach to a single rack rail

Dimensions

Height	1.11 in (28 mm)
Width	7.70 in (196 mm)
Depth	5.12 in (130 mm)

Weight

20.0 oz (567 g)

Compliance

Regulatory Models	HD-TX-301-C-E
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UL® Listed for US and Canada, CE, IC, FCC Part 15 Class B digital device

Maximum DM Lite Link Cable Length

Resolution	CAT5e (or higher), DM-CBL-ULTRA DM® Ultra Cable, or DM-CBL-8G DM 8G® Cable ¹
1920x1080 FHD 1080p	230 ft (70 m)
1920x1200 WUXGA	
1600x1200 UXGA	
2048x1080 DCI 2K	
2048x1152 QWXGA	
2560x1080 UWFHD	130 ft (40 m)
2560x1440 WQHD	
2560x1600 WQXGA	
3840x2160 4K UHD	
4096x2160 DCI 4K	

Models

HD-TX-301-C-E

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Available Accessories

PW-2412WU

Wall Mount Power Pack, 24VDC, 1.25A, 2.1mm, Universal (Quantity 1 included)

HD-RX-101-C-1G-E-B-T

DM Lite – HDMI® over CATx Receiver, Wall Plate, Black Textured

HD-RX-101-C-E

DM Lite – HDMI® over CATx Receiver, Surface Mount

HD-RX-201-C-E

DM Lite – HDMI® over CATx Receiver, Room Controller, 2x1 Auto-Switcher, HD Scaler, Surface Mount

HD-RX-4K-210-C-E

DMPS Lite™ 4K Multiformat 2x1 AV Switch and Receiver

HD-RX-4K-410-C-E

DMPS Lite™ 4K Multiformat 4x1 AV Switch and Receiver

HD-RX-4K-410-C-E-SW4

DMPS Lite™ 4K Multiformat 4x1 AV Switch and Receiver with 4-Port Ethernet Switch

HD-RX-4K-510-C-E

DMPS Lite™ 4K Multiformat 5x1 AV Switch and Receiver

HD-RX-4K-510-C-E-SW4

DMPS Lite™ 4K Multiformat 5x1 AV Switch and Receiver with 4-Port Ethernet Switch

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DM-CBL-ULTRA-PC-5

DigitalMedia™ Ultra Patch Cable, 5 ft (1.5 m)

DM-CBL-ULTRA-PC-50

DigitalMedia™ Ultra Patch Cable, 50 ft (15 m)

DM-CONN-ULTRA-RECP-20

DigitalMedia™ Ultra Keystone RJ-45 Jack, 20-Pack w/Termination Tool

DM-RPP-K24

DigitalMedia™ 24-Port Keystone Patch Panel

DM-CBL-8G-NP-SP1000

DigitalMedia 8G™ Cable, Non-Plenum, 1000 ft spool

DM-CBL-8G-P-SP1000

DigitalMedia 8G™ Cable, Plenum, 1000 ft spool

DM-8G-CONN-WG-100

Connectors with Wire Guide for DM-CBL-8G DigitalMedia 8G™ Cable, 100-Pack

DM-8G-CRIMP-WG

Crimping Tool for DM-8G-CONN-WG-100

DM-CBL-ULTRA-NP-SP1000

DigitalMedia™ Ultra Cable, Non-Plenum Type CMR, 1000 ft spool

DM-CBL-ULTRA-P-SP1000

DigitalMedia™ Ultra Cable, Plenum Type CMP, 1000 ft spool

DM-CBL-ULTRA-LSZH-SP1000

DigitalMedia™ Ultra Cable, Low Smoke Zero Halogen, 1000 ft spool (Available only in Europe)

DM-CONN-20

Connectors for DM-CBL-ULTRA DigitalMedia Ultra Cable, 20-Pack

CBL-HD-6

High-Speed HDMI® Cable, 18 Gbps, 6 ft (1.8 m)

CBL-HD-LOCK-8

Locking High-Speed HDMI® Cable, 10.2 Gbps, 8 ft (2.4 m)

CBL-HD-DVI-6

HDMI® to DVI Interface Cable, 6 ft

CBL-VGA-6

VGA Cable, 6 ft

CBL-VGA-AUD-6

VGA Cable w/Mini-TRS Stereo Audio, 6 ft

CBL-AUDIO-6

Mini-TRS Stereo Audio Cable, 6 ft

TT-100-B-T

Crestron Connect It™ Cable Caddy w/120V Outlet, No Cables, Black Textured

TT-100-GRY-T

Crestron Connect It™ Cable Caddy w/120V Outlet, No Cables, Gray Textured

TT-101-B-T

Crestron Connect It™ Cable Caddy w/Cables & 120V Outlet, Black Textured

TT-101-GRY-T

Crestron Connect It™ Cable Caddy w/Cables & 120V Outlet, Gray Textured

TT-110-B-T

Crestron Connect It™ Cable Caddy, No Cables or Outlet, Black Textured

TT-110-GRY-T

Crestron Connect It™ Cable Caddy, No Cables or Outlet, Gray Textured

TT-111-B-T

Crestron Connect It™ Cable Caddy w/Cables, No Outlet, Black Textured

TT-111-GRY-T

Crestron Connect It™ Cable Caddy w/Cables, No Outlet, Gray Textured

Notes:

1. For the DM Lite link cable, use Crestron [DM-CBL-8G](#) DigitalMedia 8G™ cable, Crestron [DM-CBL-ULTRA](#) DigitalMedia™ Ultra cable, or third-party CAT5e or higher. The maximum cable length is 230 ft (70 m) for resolutions up to 2K or 130 ft (40 m) for higher resolution signals up to 4K. Refer to the "Maximum DM Lite Link Cable Lengths" table for a more detailed overview. Shielded cable and connectors are required when bundling multiple cables in a wire run, and are recommended for all applications to safeguard against unpredictable environmental electrical noise which may impact performance at resolutions above 1080p. Wire and cables are sold separately. DM Lite devices are not compatible with DigitalMedia 8G+, HDBaseT, PoE, PoDM, or any other CATx based interface or network.
2. The power pack may be connected to either the transmitter or receiver. Only one power pack is required. Do not connect more than one power pack. DM Lite devices are not compatible with PoE or PoDM.
3. The HDMI input requires an appropriate adapter or interface cable to accommodate a DVI or Dual-Mode DisplayPort signal. [CBL-HD-DVI](#) interface cables are available separately.
4. The VGA input requires an appropriate breakout cable or adapter to accommodate an RGB or component video signal.

This product may be purchased from select authorized Crestron dealers and distributors. To find a dealer or distributor, please contact the Crestron sales representative for your area. A list of sales representatives is available online at www.crestron.com/How-To-Buy/Find-a-Representative or by calling 855-263-8754.

This product is covered under the Crestron standard limited warranty. Refer to www.crestron.com/warranty for full details.

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

Certain Crestron products contain open source software. For specific information, please visit www.crestron.com/opensource.

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HDMI

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