

MLS 608 D Series

Eight Input Switcher with ProDSP™

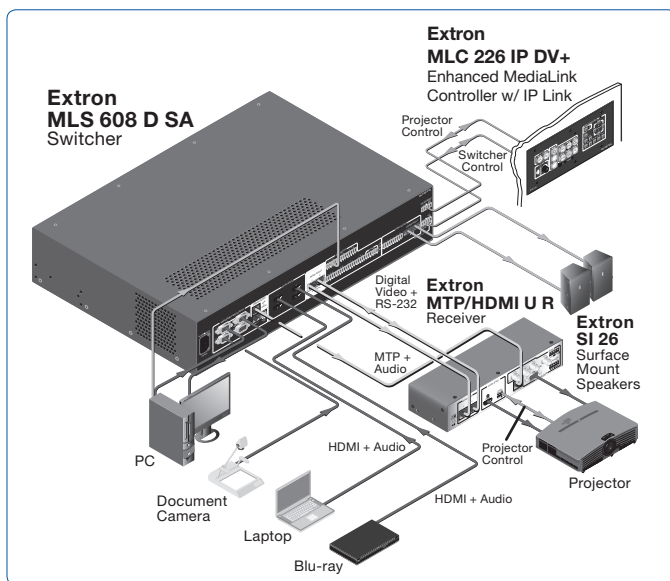


DESCRIPTION

The Extron **MLS 608 D Series** switchers are simple-to-use, eight input, multi-format switchers designed to integrate digital and analog sources. All signals are transmitted over CAT 5-type cable to the included MTP/HDMI U R Twisted Pair Receiver. The MLS 608 D Series feature Extron ProDSP™ digital audio processing, which provides an extensive array of easy-to-use tools for audio system setup and fine-tuning. The MLS 608 D Series offers digital video switching with four HDCP-compliant, HDMI inputs, and analog video switching with four universal inputs, including an Extron Universal MTP Twisted Pair input. It outputs HDMI twisted pair signals and analog MTP Twisted Pair to the included receiver, providing a complete digital and analog video and audio switching system.

SERIES FEATURES

- Multi-input switcher for digital and analog video signals
- ProDSP™ audio signal processing
- Transmits HDMI and analog video, plus audio and RS-232 over CAT 5-type cables
- Includes MTP/HDMI U R Twisted Pair Receiver
- EDID Minder® automatically manages EDID communication between connected devices
- HDMI audio de-embedding
- HDCP compliant
- Cable equalization for each HDMI input
- Sends 720p, 1080i, and XGA (1024x768) HDMI signals over 200 feet (60 meters), 1080p/60 and 1920x1200 HDMI signals over 100 feet (30 meters) with standard CAT 5e cable
- Four input analog universal video switching
- Controllable via TouchLink™ Control System, MediaLink® Controller, front panel buttons, or RS-232
- Two mic level inputs with 48 volt phantom power
- Available with integrated stereo or mono 70 volt power amplifier

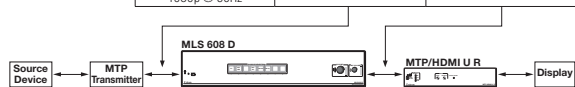


SPECIFICATIONS

VIDEO — MLS ANALOG INPUTS

Signal transmission distance, analog

| Resolutions | High Quality Signal | |
|--------------------------------|--------------------------------|------------------------------|
| | Input (MTP transmitter to MLS) | Output (MLS to MTP/HDMI U R) |
| 1024x768 @ 60Hz, 75Hz | 450' (135m) | 450' (135m) |
| 720p @ 60Hz | 400' (125m) | 400' (125m) |
| 1920x1200 @ 60Hz, 1080p @ 60Hz | 300' (90m) | 250' (75m) |



VIDEO — MLS DIGITAL INPUTS

| | |
|---------------------|----------------------------------|
| Maximum data rate | 6.75 Gbps (2.25 Gbps per color) |
| Maximum pixel clock | 225 MHz |
| Resolution range | Up to 1920x1200 or 1080p @ 60 Hz |
| Formats | RGB and YCbCr digital video |
| Standards | DVI 1.0, HDMI 1.3 compatible |

VIDEO INPUT AND LOOP-THROUGH MLS

| | | |
|--------------------|---------------|--|
| Number/signal type | Analog | 3 RGBHV, RGBS, RGsB, RsGsBs, component video, S-video, or composite video input |
| | Digital video | 1 RGBHV, RGBS, RGsB, RsGsBs loop-through 1 analog proprietary signal from an Extron MTP transmitter 4 HDMI (or DVI*) digital video |
| Connectors | | 4 female 15-pin HD: 3 for input, 1 for buffered loop-through 1 female RJ-45 for MTP input 4 female HDMI |

VIDEO OUTPUT — MLS

| | |
|------------------------|---|
| Minimum/maximum levels | |
| Resolution range | Up to 1920x1200 or 1080p @ 60 Hz |
| Maximum resolution | 1920x1200 or 1080p @ 60 Hz (for digital output) |

Signal transmission distance, digital

| Resolutions | 8-bit Color Depth | | |
|------------------------------------|----------------------|------------|---------------------|
| | CAT 5/5e/6 Cable UTP | STP | Extron STP201 Cable |
| 1024x768, 720p, 1080i @ 60Hz | 200' (60m) | 200' (60m) | 200' (60m) |
| 1600x1200, 1920x1200, 1080p @ 60Hz | 100' (30m) | 100' (30m) | 100' (30m) |



NOTE: Shielded twisted pair cable provides added protection from outside interference and increases overall signal transmission distance. Extron strongly recommends using shielded twisted pair for optimal performance.

AUDIO INPUT — MLS

| | |
|--------------------|--|
| Number/signal type | 7 stereo, line level, balanced/unbalanced (inputs 1-3, 5-8 analog) 2 mono, line level, balanced/unbalanced (mic/line level inputs) 1 proprietary analog signal (mono, from MTP input 4) 4 stereo, de-embedded from HDMI (2-channel, PCM only, from HDMI inputs 5-8) |
| Impedance | >10k ohms unbalanced, 20k ohms balanced, DC coupled |

| | |
|-----------------------|--|
| Nominal level | Mic/line input: Mic level, -60 dBV (1 mVrms) when mic gain is set to +40 dB All other inputs: +4 dBu (1.23 Vrms) when level is set to 0 dB |
| Maximum level | Mic/line input: +21 dBu when Mic gain is set to 0 dB Input 4: +15 dBu, unbalanced when output 3 gain is set to 0 dB All other inputs: +21 dBu when input gain is set to 0 dB |
| Input gain adjustment | Mic/line input: -18 dB to +80 dB, adjustable per input All other inputs: -18 dB to +24 dB, adjustable per input |
| Mic phantom power | +48 VDC (can be switched on or off) |

NOTE: 0 dBu = 0.775 Vrms, 0 dBV = 1 Vrms, 0 dBV ≈ 2 dBu.

AUDIO OUTPUT - LINE LEVEL (ALL MODELS) — MLS

| | |
|--------------------|---|
| Number/signal type | 2 stereo or dual mono, balanced/unbalanced (fixed or variable, selectable) 1 dual mono, balanced/unbalanced (fixed or variable, selectable), via MTP |
|--------------------|---|

AUDIO OUTPUT - POWER AMPLIFIER (AMPLIFIER MODELS ONLY) — MLS

| | |
|--------------------|---|
| Number/signal type | MA model: 1 mono, 70 V line SA model: 1 stereo (default) or 2 mono, 2 channels total |
| Load impedance | MA model: 123 ohms minimum SA model: 4 or 8 ohms |
| Amplifier type | Class D |
| Output power | MA model: 40 watts (rms), 70 V, 1 kHz, 1% THD SA model: 20 watts (rms) per channel, 4 or 8 ohms, 1 kHz, 1% THD |

| | |
|--|--|
| CONTROL/REMOTE - SWITCHER - MLS | |
| Serial control port | 1 bidirectional RS-232: 1 rear panel 3.5 mm captive screw connector, 5 pole (uses 3 poles) |
| USB control ports | 1 front panel female mini USB B |
| CONTROL/REMOTE - EXTERNAL DEVICE (PASS-THROUGH) - MLS | |
| Serial control port input | Bidirectional RS-232 via (1) 3.5 mm captive screw connector, 5 pole (uses 3 poles) |
| GENERAL — MLS | |
| Power supply | Internal Input: 100-240 VAC, 50-60 Hz MLS 608 D: 1.0 A MLS 608 D MA, MLS 608 D SA: 1.2 A |
| Power consumption | Full load (amp output at 1/8 power) MLS 608 D: 42 watts MLS 608 D MA: 56 watts MLS 608 D SA: 54 watts Standby: 4 watts |
| Auxiliary power output | Port 1: 12 watts, 12 VDC, on a 2 pole connector Port 2: 7.2 watts, 12 VDC, on a 5 pole connector shared with the serial control port |
| Rack mount | Yes, with included brackets |
| Enclosure dimensions | 3.5" H x 17.5" W x 12.0" D (2U high, full rack wide) (8.9 cm H x 44.4 cm W x 30.5 cm D) (Depth excludes connectors, knob, and buttons. Width excludes rack ears.) |
| Regulatory compliance | Safety: CE, c-UL, UL Compliances: CE, C-tick, FCC Class A, ICES, VCCI Environmental: Complies with the appropriate requirements of RoHS, WEEE |
| VIDEO - MTP/HDMI U R | |
| MTP input | Gain: Unity Maximum resolution: Analog: Up to 2048x1080 or 1080p at 60 Hz |
| HDMI digital input | Maximum data rate: 4.95 Gbps (1.65 Gbps per color) Maximum pixel clock: 165 MHz Maximum resolution: Digital: Up to 1920x1200 or 1080p at 60 Hz Standards: DVI 1.0, HDMI 1.2 |
| VIDEO OUTPUT - MTP/HDMI U R | |
| Number/signal type | Analog output: 1 RGBHV, RGBS, component video (bi-level and tri-level), S-video, composite video (follows input type) HDMI digital output: 1 single link HDMI (or DVI-D*) |
| SYNC - ANALOG OUTPUTS - MTP/HDMI U R | |
| Output type | RGBHV, RGBS, Component video (bi- or tri-level) |
| Standards | NTSC 3.58, NTSC 4.43, PAL, SECAM |
| AUDIO OUTPUT - FROM MTP INPUT - MTP/HDMI U R | |
| Number/signal type | 2 mono, balanced/unbalanced |
| CONTROL/REMOTE - EXTERNAL DEVICE (PASS-THROUGH, UNIDIRECTIONAL OR BIDIRECTIONAL) FROM MTP INPUT - MTP/HDMI U R | |
| NOTE: This port is not used when the MTP/HDMI U R is used with an MLS 608 D Series switcher. | |
| Serial control port input/output | RS-232 via (1) 3.5 mm, 5 pole captive screw connector (3 poles are used) |
| GENERAL - MTP/HDMI U R | |
| Recommended cable type | Shielded (recommended) or unshielded MTP input: CAT 5/5e/6 HDMI digital input: CAT 5/5e/6, Extron STP201 |
| NOTE: Shielded twisted pair cable provides added protection from outside interference and increases overall signal transmission distance. Extron strongly recommends using shielded twisted pair for optimal performance. | |
| Power supply | External Input: 100-240 VAC, 50-60 Hz Output: 12 VDC, 1 A, 12 watts |
| Power consumption | 9.8 watts |
| Enclosure dimensions | 1.7" H x 8.75" W x 3.0" D (half rack wide) (4.3 cm H x 22.2 cm W x 7.6 cm D) (Depth excludes connectors.) |

For complete specifications, please go to www.extron.com

MLS 608 D Eight Input Switcher with ProDSP™

UNIQUE FEATURES

- No audio amplifier
- Variable preamp audio output



| MODEL | VERSION DESCRIPTION | PART # |
|---|--|------------|
| MLS 608 D  | Variable Preamp Output - No Amplifier..... | 60-1052-01 |

MLS 608 D MA Eight Input Switcher with ProDSP™

UNIQUE FEATURES

- Mono 70 volt power amplifier with 40 watts rms output



| MODEL | VERSION DESCRIPTION | PART # |
|--|---|------------|
| MLS 608 D MA  | 40 Watt 70 Volt Mono Power Amplifier..... | 60-1052-02 |

MLS 608 D SA Eight Input Switcher with ProDSP™

UNIQUE FEATURES

- Stereo power amplifier with 20 watts rms output per channel into 4 or 8 ohms



| MODEL | VERSION DESCRIPTION | PART # |
|--|---------------------------------------|------------|
| MLS 608 D SA  | 2x20 Watt Stereo Power Amplifier..... | 60-1052-03 |