



DM-MD64X64/DM-MD128X128

DigitalMedia™ Switchers

Supplemental Guide

Crestron Electronics, Inc.

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DM-MD64X64/DM-MD128X128: DigitalMedia™ Switchers

Introduction

The DM-MD64X64 and DM-MD128X128 are modular matrix switchers designed for large-scale projects demanding ultimate reliability. They deliver ultrafast signal routing and pure, lossless distribution of HDMI® and other signals to support all of the digital media players, HDTV receivers, computers, cameras, and display devices in any modern facility.

Featuring a scalable blade-based design, the DM-MD64X64 and DM-MD128X128 accommodate inputs and outputs in a rack-mountable design. Occupying 14U of rack space, the DM-MD64X64 is field configurable to handle up to 64 inputs and 64 outputs. Occupying 24U of rack space, the DM-MD128X128 is field configurable to handle up to 128 inputs and 128 outputs. Through a selection of hot-swappable input and output blades as well as a variety of DigitalMedia™ transmitters and receivers, the DM-MD64X64 and DM-MD128X128 support a wide range of signal types.

The front of the DM-MD64X64 and DM-MD128X128 provides a touch screen that enables simplified setup and operation of the switcher. A built-in web server is also provided to enable full operation and monitoring on a computer using a web browser.

This manual provides information about the following:

- Physical description of the connectors, controls, and indicators on the DigitalMedia switchers
- Ethernet setup
- Web interface overview
- Firmware upgrade
- Troubleshooting

In addition, information about each of the DigitalMedia blades is provided in the appendix of this manual. For information about installing the DigitalMedia switchers, refer to the DM-MD64X64/DM-MD128X128 DO Guide (Doc. 7328) at www.crestron.com/manuals.

Physical Description

The following sections provide information about the connectors, controls, and indicators on the front and rear of the DM-MD64X64 and DM-MD128X128.

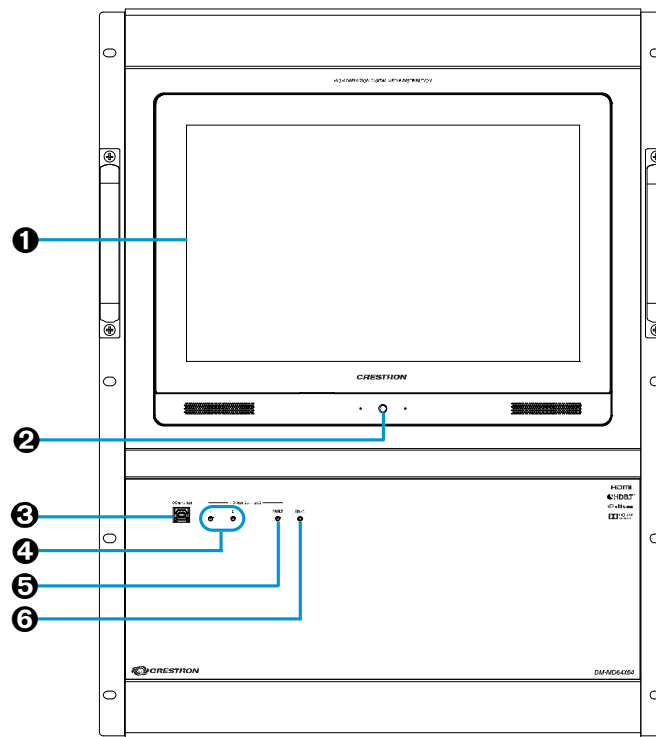
DM-MD64X64

This section provides information about the connectors, controls, and indicators that are available on the front and rear of the DM-MD64X64.

Front View

The following illustration shows the front of the DM-MD64X64.

DM-MD64X64 Front View



- ❶ **Touch Screen:** 15 inch (381 mm) diagonal TFT active matrix color LCD, 15:9 WXGA, 1280 x 768 pixels, resistive touch membrane, amplified speakers; Provides signal routing, video input preview, video and audio signal information, system diagnostics, setup and configuration
- ❷ **Touch Screen Hard Key:** Not used
- ❸ **COMPUTER:** USB Type B female, computer console port (6 foot [~1.8 meter] cable included)
- ❹ **Power Supply LEDs 1-2:** Green LEDs, indicate when each corresponding power supply is functioning

- ⑤ **Power Supply FAULT LED:** Red flashing LED, indicates a fault with a power supply

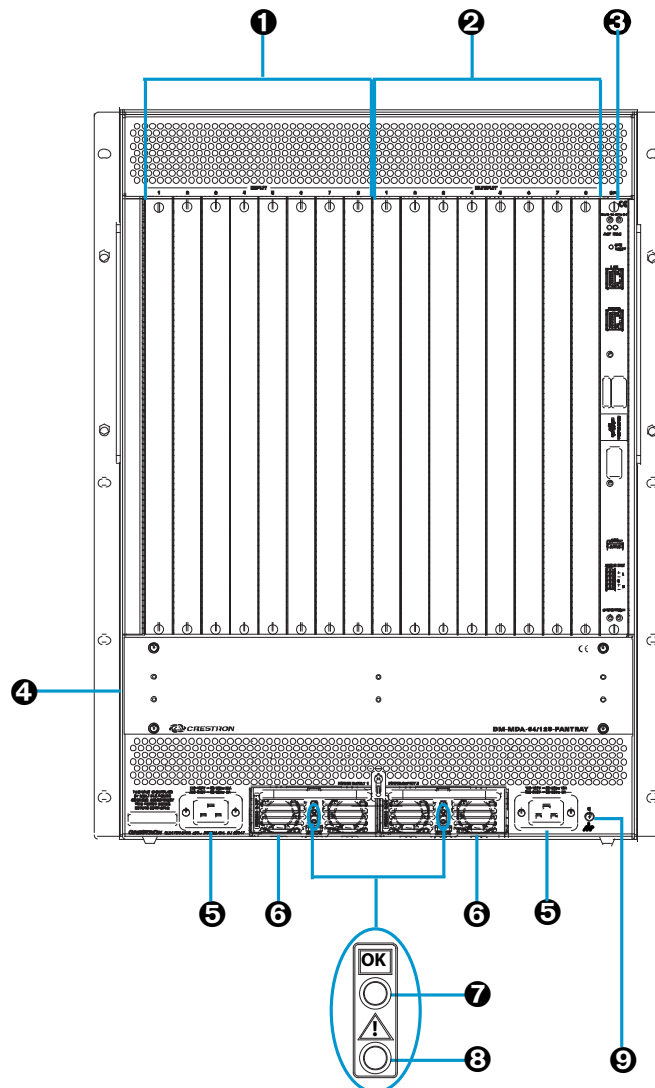
NOTE: Although the DM-MD64X64 continues to operate if a single power supply fails, it is recommended that the failed power supply be replaced as soon as possible to restore power supply redundancy.

- ⑥ **HW-R Button:** Recessed miniature push button for hardware reset, reboots the switcher

Rear View

The following illustration shows the rear of the DM-MD64X64.

DM-MD64X64 Rear View



- ❶ **Input Slots 1-8:** Input blade slots, hot-swappable;
Each slot accepts one DMB series input blade (refer to page 17 for information about the input blades).
- ❷ **Output Slots 1-8:** Output blade slots, hot-swappable;
Each slot accepts one DMB series output blade (refer to page 28 for information about the output blades).
- ❸ **CPU Slot:** Accepts one DMB-4K-CPU-64 blade (included, refer to page 14 for information about the CPU blade)
- ❹ **Fan Tray:** Hot-swappable, Crestron model DM-MDA-64-FANTRAY (included)
- ❺ **100-127V ~ 50/60Hz 16A, 200-240V ~ 50/60Hz 8A:** Two IEC 60320 C-20 mains power inlets;
Mate with removable power cords (included)
- ❻ **POWER SUPPLIES 1-2:** High efficiency (>90%), hot-swappable, variable speed fan cooled power supplies, Crestron model DM-MDA-64-PWS (included);
Demonstrated MTBF: >500,000 hours per power supply;
Redundancy: Complete unit continues to operate at full capacity on one functioning power supply
- ❼ **OK LEDs:** Two green LEDs, indicate when the corresponding power supply is powered and functioning. Flashing green indicates that ac power is being applied and that standby output voltage is available. Solid green indicates that dc output is enabled and operational.
- ❽ **! LEDs:** Two amber LEDs, indicate a fault with the corresponding power supply. Solid amber indicates power supply failure or overcurrent protection of standby voltage. Flashing amber indicates overcurrent protection of the main circuit.
- ❾ **G:** 6-32 screw, chassis ground lug

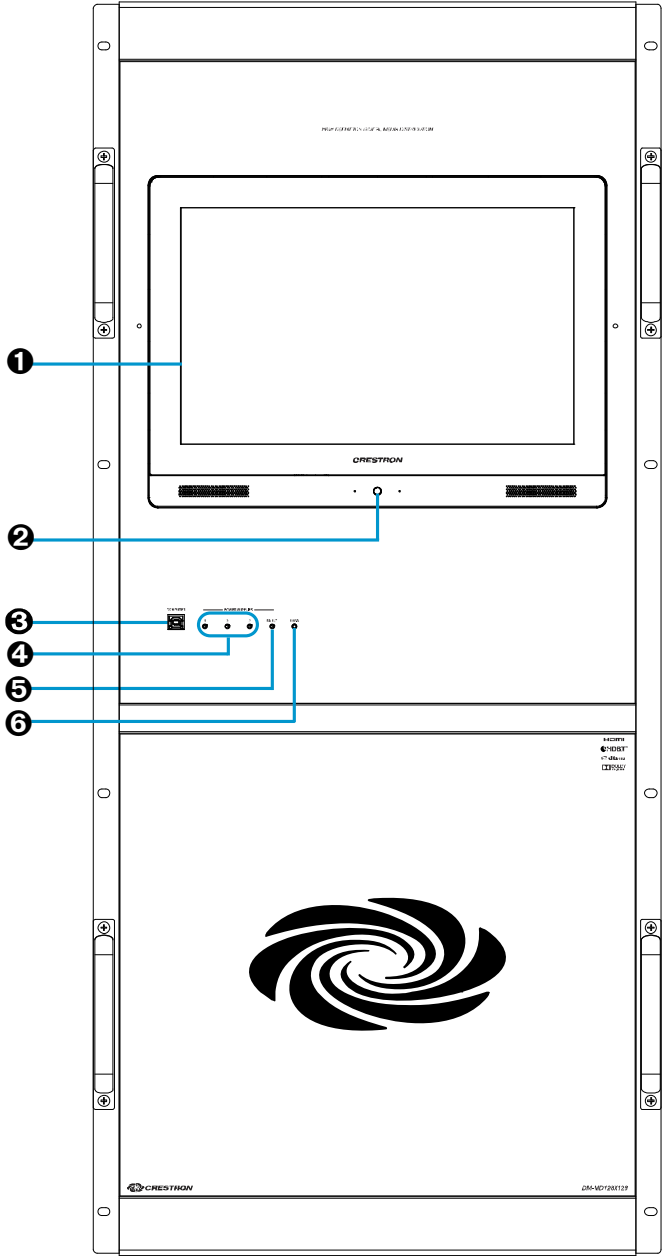
DM-MD128X128

This section provides information about the connectors, controls, and indicators that are available on the front and rear of the DM-MD128X128.

Front View

The following illustration shows the front of the DM-MD128X128.

DM-MD128X128 Front View



- ❶ **Touch Screen:** 15 inch (381 mm) diagonal TFT active matrix color LCD, 15:9 WXGA, 1280 x 768 pixels, resistive touch membrane, amplified speakers;
Provides signal routing, video input preview, video and audio signal information, system diagnostics, setup and configuration
- ❷ **Touch Screen Hard Key:** Not used
- ❸ **COMPUTER:** USB Type B female, computer console port (6 foot [~1.8 meter] cable included)
- ❹ **Power Supply LEDs 1-3:** Green LEDs, indicate when each corresponding power supply is functioning
- ❺ **Power Supply FAULT LED:** Red flashing LED, indicates a fault with a power supply

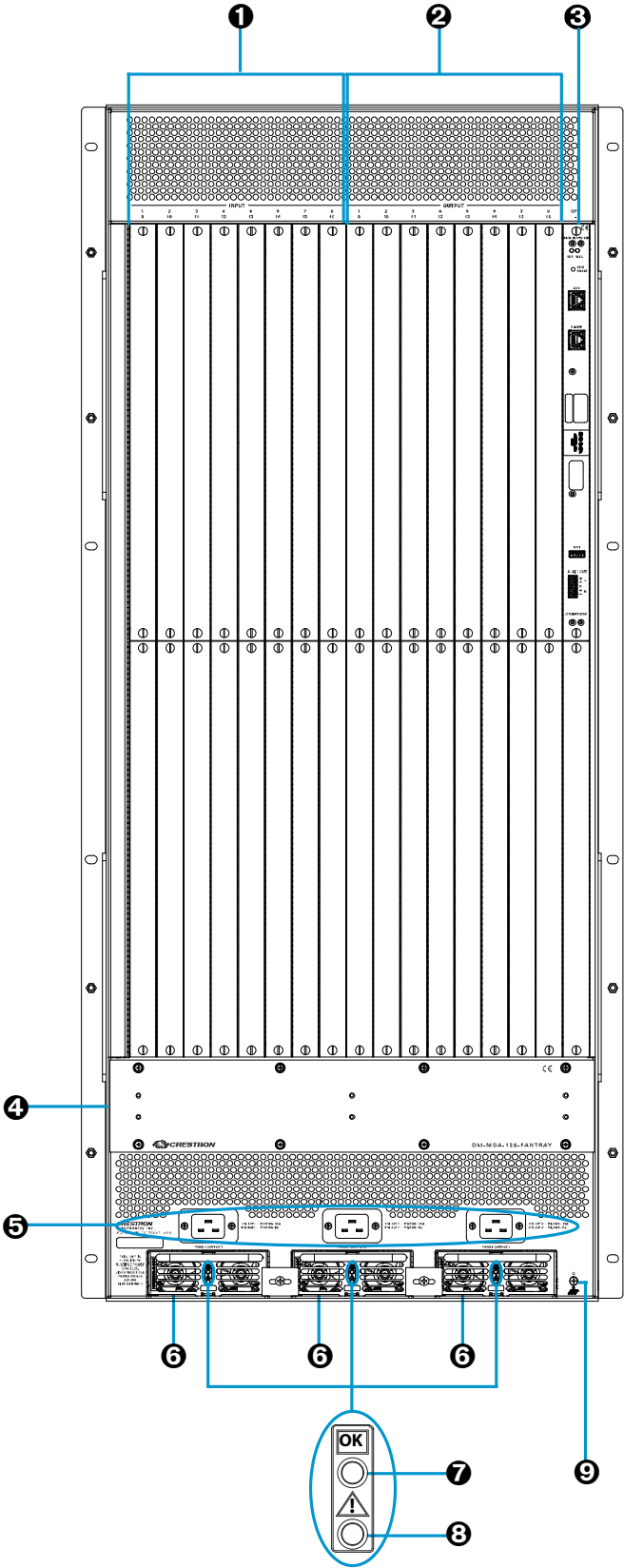
NOTE: Although the DM-MD128X128 continues to operate if a single power supply fails, it is recommended that the failed power supply be replaced as soon as possible to restore power supply redundancy.

- ❻ **HW-R Button:** Recessed miniature push button for hardware reset, reboots the switcher

Rear View

The following illustration shows the rear of the DM-MD128X128.

DM-MD128X128 Rear View



- ❶ **Input Slots 1-16:** Input blade slots, hot-swappable;
Each slot accepts one DMB series input blade (refer to page 17 for information about the input blades).
- ❷ **Output Slots 1-16:** Output blade slots, hot-swappable;
Each slot accepts one DMB series output blade (refer to page 28 for information about the output blades).
- ❸ **CPU Slot:** Accepts one DMB-4K-CPU-128 blade (included, refer to page 14 for information about the CPU blade).
- ❹ **Fan Tray:** Hot-swappable, Crestron model DM-MDA-128-FANTRAY (included)
- ❺ **100–127V ~ 50/60Hz 16A, 200–240V ~ 50/60Hz 8A:** Three IEC 60320 C-20 mains power inlets;
Mate with removable power cords (included)
- ❻ **POWER SUPPLIES 1-3:** High efficiency (>90%), hot-swappable, variable speed fan cooled power supplies, Crestron model DM-MDA-128-PWS (included);
Demonstrated MTBF: >500,000 hours per power supply;
Redundancy: Complete unit continues to operate at full capacity on two functioning power supplies
- ❼ **OK LEDs:** Three green LEDs, indicate when the corresponding power supply is powered and functioning. Flashing green indicates that ac power is being applied and that standby output voltage is available. Solid green indicates that dc output is enabled and operational.
- ❽ **! LEDs:** Three amber LEDs, indicate a fault with the corresponding power supply. Solid amber indicates power supply failure or overcurrent protection of standby voltage. Flashing amber indicates overcurrent protection of the main circuit.
- ❾ **G:** 6-32 screw, chassis ground lug

Ethernet Setup

The DM-MD64X64 and DM-MD128X128 switchers can operate in DHCP or Static IP Address mode. When DHCP is enabled, the IP address is set dynamically. When DHCP is disabled, the IP address is set manually. A fully loaded DM-MD64X64 and DM-MD128X128 can contain up to 145 and 289 Ethernet-enabled devices, respectively, with each device requiring its own IP address. As a result, the DM® switchers operate in Private Network Mode (PNM). PNM controls the Ethernet settings of the connected DM I/O blades and DM endpoints. Using PNM, only the DM switchers require an IP address from the public network, thereby reducing the amount of IP configuration necessary and allowing the DM blades and endpoints to be swappable without reconfiguration.

In a DM system containing a single DM switcher, the DM switcher is the only DM device that requires an IP address. All DM I/O blades and DM endpoints that are connected to the DM switcher are hidden from the public network and cannot be reached directly; instead, all communication is managed through the DM switcher. PNM creates a completely private IP network for all DM blades and endpoints.

NOTE: When connected to a DM switcher, the convenience Ethernet port of a DM endpoint must not be connected to the LAN. A DM endpoint receives its network connection via the DM switcher. The convenience Ethernet port of a DM endpoint is available for connection to a network device such as a PC, Blu-ray™ player, or TV.

In a corporate or university setting, PNM does not heavily impact the network. Ethernet ports on DM endpoints remain visible to the public network. PNM also prevents RSTP (Rapid Spanning Tree Protocol) traffic from reaching the public network.

When multiple DM switchers are cascaded, a unique system ID must be assigned to each switcher. The system ID of each switcher determines the internal IP address to be used by each device in the DM system. The system ID can be set from the front panel touch screen or from a web browser.

With PNM enabled, a VLAN (virtual LAN) is not used to separate public and private Ethernet traffic. Instead, two physically separate Ethernet ports divide public traffic from private traffic. The main DM switcher CPU is the only device connected to both networks. The CPU may receive an instruction from a device on the public network, such as a Crestron control system, and may then create a new instruction for a private device such as a DM blade or endpoint. Ethernet packets from the public network, however, can never traverse the private network. Similarly, Ethernet packets from the private network can never traverse the public network.

The IP ID can be set from the front panel touch screen or from a web browser. The IP IDs of multiple DM switchers in the same system must be unique.

When setting the IP ID, consider the following:

- The IP ID of each unit must match an IP ID specified in the Crestron Studio® or SIMPL Windows program.
- Each device using IP to communicate with a control system must have a unique IP ID.

DigitalMedia devices that receive their IP address configuration via the DM switcher also receive their IP table configuration from the DM switcher.

User Interface Overview

The DM switchers provide a user interface that allows various functions to be performed. Some of the available capabilities provided by the user interface are as follows:

- Configuration of Ethernet settings
- Routing of video and audio inputs to outputs
- Password control
- Monitoring of blade status


The user interface can be accessed from the front panel touch screen or from a web browser. The front panel touch screen appears after the DM switcher boots up. To access the user interface from a web browser, go to the IP address of the switcher.

Firmware Upgrade

Firmware can be loaded to a DM switcher using an FTP (File Transfer Protocol) client or a USB flash drive.


Using an FTP Client

To upgrade firmware using an FTP client on a computer, do the following:

1. If a USB flash drive is inserted into the USB port on the CPU blade, remove the USB flash drive.
2. Download the latest firmware file from the Crestron website to the PC. The firmware file is named **dm-md64x64_dm-md128x128_X.XXX.XXXX.zip** (X.XXX.XXXX represents the version number).
3. Using the FTP client, connect to the DM switcher by entering the IP address of the switcher.
4. Locate the FIRMWARE folder.
5. Upload the firmware file to the FIRMWARE folder.
6. Using the front panel touch screen, do the following:
 - a. On the main screen of the DM switcher, select .
 - b. The Selection Menu screen appears.
 - c. Select **Firmware**.
 - d. The Firmware Setup screen appears.
 - e. Select **Update**.

Using a USB Flash Drive

To upgrade firmware using a USB flash drive, do the following:

1. Insert a USB flash drive into the USB port on a PC.
2. Download the latest firmware file from the Crestron website to the flash drive—do not download the file to a subfolder on the flash drive. The firmware file is named **dm-md64x64_dm-md128x128_X.XXX.XXXX.zip** (*X.XXX.XXXX* represents the version number).
3. Remove the USB flash drive from the PC, and then insert the flash drive into the USB port of the CPU blade.
4. Using the front panel touch screen, do the following:
 - a. On the main screen of the DM switcher, select .
 - b. The Selection Menu screen appears.
 - c. Select **Firmware**.
 - d. The Firmware Setup screen appears.
 - e. Select **Update**.

Troubleshooting

The following table provides troubleshooting information. If further assistance is required, contact a Crestron customer service representative.

DM-MD64X64 and DM-MD128X128 Troubleshooting

TROUBLE	POSSIBLE CAUSE(S)	CORRECTIVE ACTION
The audio or video is distorted.	The source does not match the EDID capabilities of the destination.	Check the EDID capabilities of the devices in the system.
Video loss occurs.	Various conditions may cause video loss.	Use the DM switcher web interface to determine the cause, and then correct the problem accordingly.
Power supply LED 1, 2, or 3 on the front of the unit is not lit.	The power connection is faulty.	Do the following as necessary: <ul style="list-style-type: none"> • Check the power connection. • Reseat the power supply.*
The power supply FAULT LED on the front of the unit flashes red.	A fault exists with a power supply.	Do the following as necessary: <ul style="list-style-type: none"> • Check the power connection. • Reseat the power supply.* • If the problem persists, replace the power supply.†
The power supply OK LED on the rear of the unit is not lit.	The power connection is faulty.	Do the following as necessary: <ul style="list-style-type: none"> • Check the power connection. • Reseat the power supply.* • If the problem persists, replace the power supply.†
The power supply ! LED on the rear of the unit lights amber.	A fault exists with the power supply due to any of the following conditions: under voltage, over voltage, over temperature, fan failure conditions, or over current protection of standby voltage.	Do the following as necessary: <ul style="list-style-type: none"> • Cycle ac power. • Eliminate the cause of the failure (for example, under voltage, over voltage, or fan failure) as appropriate. If the problem persists, replace the power supply.†
The DM link status LED on a fiber input/output blade flashes green once a second.	The input/output port cannot establish a link to the connected device.	Check the cable connection to the DM switcher and the connected device.

* Before removing a power supply, disconnect the ac power cord from the corresponding power inlet. Connect the ac power cord to the corresponding power inlet after the power supply is installed.

† Although the DM-MD64X64 and DM-MD128X128 continue to operate if a single power supply fails, it is recommended that the failed power supply be replaced as soon as possible to restore power supply redundancy.

Appendix: DigitalMedia Blades

DigitalMedia blades for the DM-MD64X64 and DM-MD128X128 consist of the following:

- CPU blade (refer to the following page)
- Input blades (refer to page 17)
- Output blades (refer to page 28)

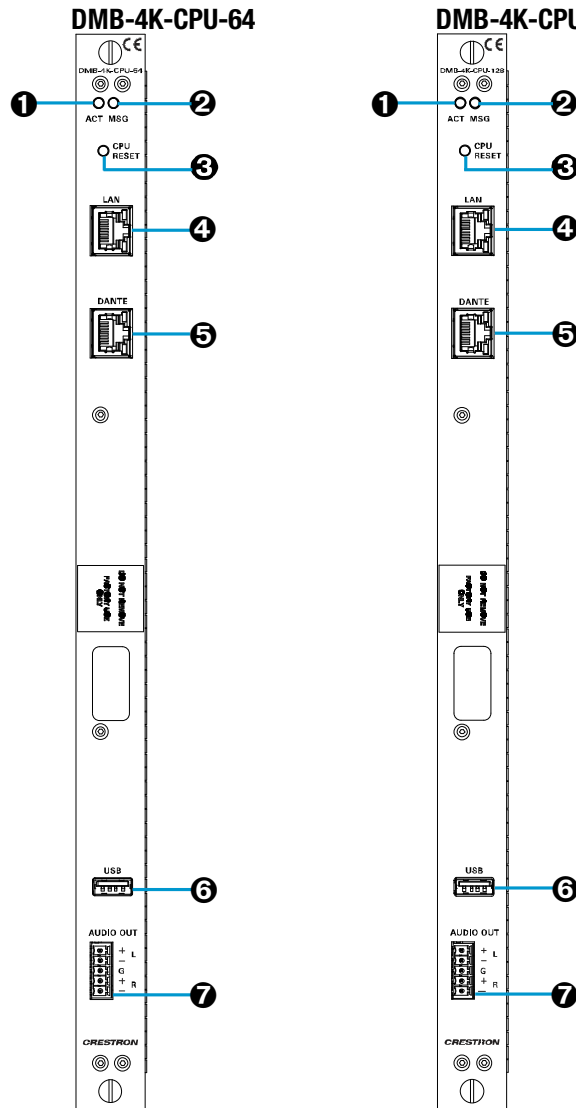
CPU Blade

A CPU blade is included with the DM switchers. The DMB-4K-CPU-64 is the CPU blade for the DM-MD64X64, and the DMB-4K-CPU-128 is the CPU blade for the DM-MD128X128. The DMB-4K-CPU-64 and DMB-4K-CPU-128 enable video preview monitoring of 4K and Ultra HD sources and include a dedicated Dante® audio networking port. The CPU blades can be purchased separately to provide a backup replacement or to upgrade from the previous models (DMB-CPU-64 and DMB-CPU-128). The following sections provide a physical description of the DMB-4K-CPU-64 and DMB-4K-CPU-128 blades as well as information about connections to the blades.

Physical Description

The following illustration shows the DMB-4K-CPU-64 and DMB-4K-CPU-128 connectors, controls, and indicators.

DMB-4K-CPU-64 and DMB-4K-CPU-128 Connectors, Controls, and Indicators



- ❶ **ACT LED:** Green LED, indicates CPU activity
- ❷ **MSG LED:** Red LED, indicates CPU has generated an error message
- ❸ **CPU RESET:** Recessed push button, reboots the CPU and front panel
- ❹ **LAN:** 8-pin RJ-45 female, shielded, with two LED indicators;
10BASE-T/100BASE-TX/1000BASE-T Ethernet port;
Green LED indicates Ethernet link status;
Amber LED indicates Ethernet activity
- ❺ **DANTE:** 8-pin RJ-45 female, shielded, with two LED indicators;
1000BASE-T Dante network port;
Green LED indicates Dante network link status;
Amber LED indicates Dante network activity

NOTE: Dante audio networking requires that the DM switcher be equipped with one or more Dante enabled input or output blades (models DMB-4K-I-HD-DNT and DMB-4K-O-HD-DNT, respectively).

NOTE: If required, the DANTE port can be repurposed as a Service port. To repurpose the DANTE port as a Service port, refer to Answer ID 5347 in the Online Help section of the Crestron website (www.crestron.com).

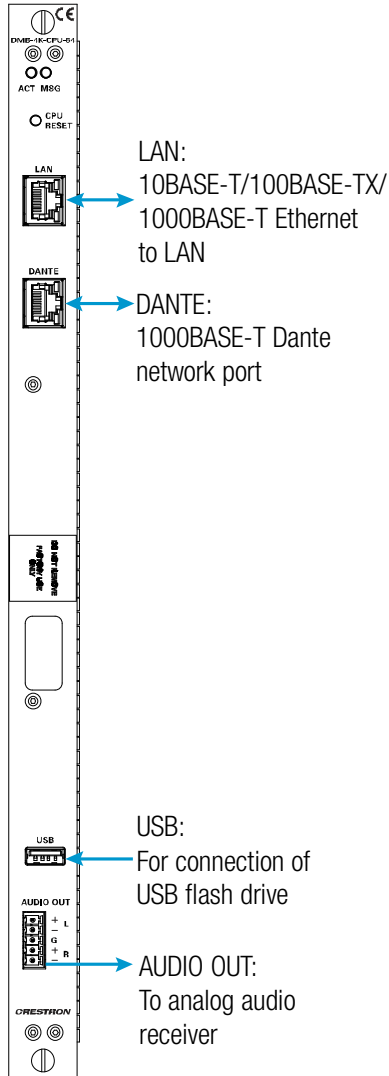
- ❻ **USB:** USB Type A female; USB 2.0 host port for connection of a USB flash drive;
For saving or loading of configuration and EDID settings and for updating firmware
- ❼ **AUDIO OUT:** 5-pin 3.5 mm detachable terminal block;
Balanced/unbalanced stereo line level output;
Output Impedance: 200 Ω balanced, 100 Ω unbalanced;
Maximum Output Level: 4 Vrms balanced, 2 Vrms unbalanced

Connections

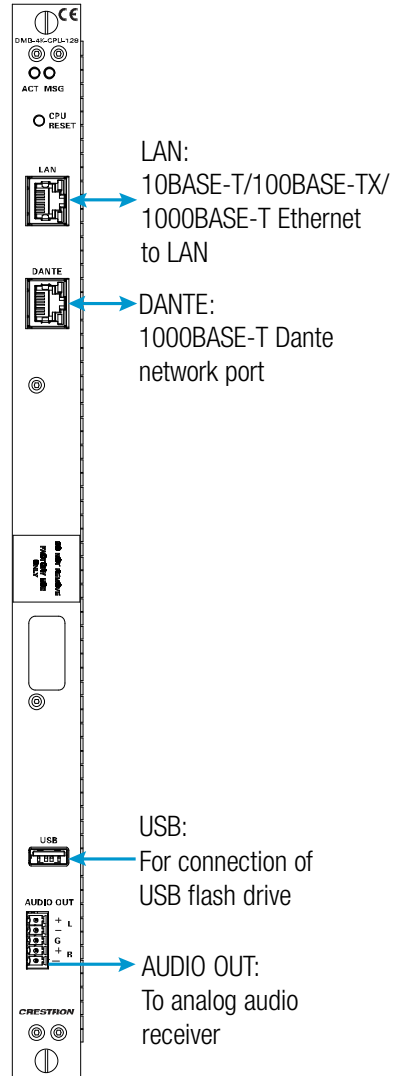
The following illustration provides information about connections to the DMB-4K-CPU-64 and DMB-4K-CPU-128 blades. Connect the CPU blade of the DigitalMedia switcher as required for the application.

DMB-4K-CPU-64 and DMB-4K-CPU-128 Connections

DMB-4K-CPU-64



DMB-4K-CPU-128



Input Blades

DMB series input blades include the following:

- DMB-4K-I-C, 8-channel HDBaseT® certified 4K DigitalMedia 8G+® input blade (refer to the following page)
- DMB-4K-I-HD, 8-channel 4K HDMI input blade (refer to page 20)
- DMB-4K-I-HD-DNT, 8-channel 4K HDMI and Dante input blade (refer to page 22)
- DMB-I-S, 8-channel DigitalMedia 8G™ fiber input blade (refer to page 24)
- DMB-I-S2, 8-channel DigitalMedia 8G single-mode fiber input blade (refer to page 26)

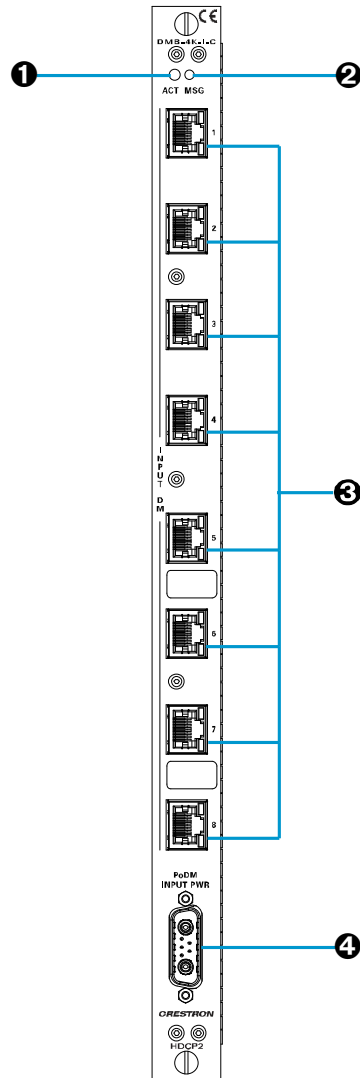
DMB-4K-I-C

The DMB-4K-I-C provides eight independent 4K DM 8G+® inputs, which are also compatible with the HDBaseT standard and are HDCP 2.2 compliant. The DMB-4K-I-C supports video resolutions up to 4K and Ultra HD and handles 3D video and Deep Color. The DMB-4K-I-C also supports Dolby® TrueHD, Dolby Atmos®, DTS HD®, DTS:X®, and uncompressed 7.1 linear PCM audio. The following sections provide a physical description of the DMB-4K-I-C and information about connections to the blade.

Physical Description

The following illustration shows the DMB-4K-I-C connectors, controls, and indicators.

DMB-4K-I-C Connectors, Controls, and Indicators

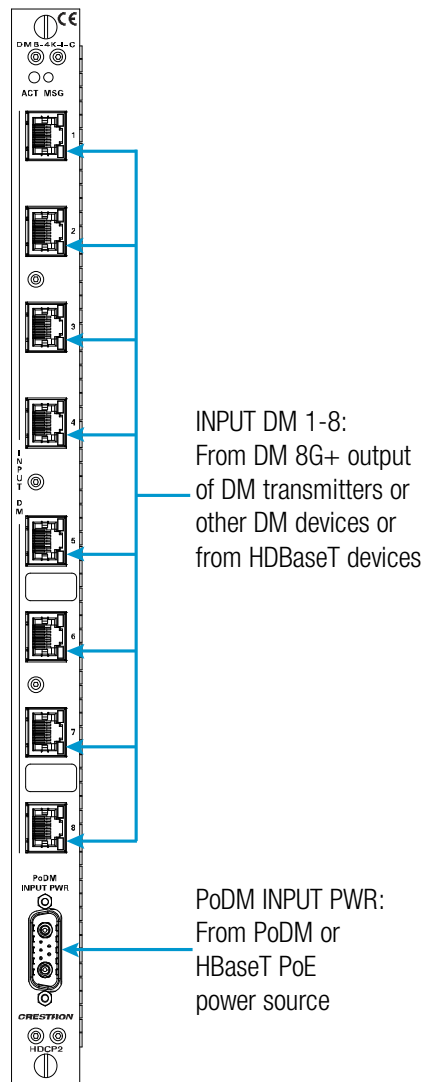


- ❶ **ACT LED:** Green LED, indicates blade activity
- ❷ **MSG LED:** Red LED, indicates that an error message has been generated
- ❸ **INPUT DM 1-8:** 8-pin RJ-45 female with two LED indicators;
 - DM 8G+ inputs, HDBaseT standard compliant;
 - PoDM PSE port (HDBaseT PoE compatible);
 - Green LED indicates DM link status;
 - Amber LED indicates video and HDCP signal presence
- ❹ **PoDM INPUT PWR:** Combo D-Sub 7w2, male;
 - 48 Vdc power input for PoDM power supply;
 - Enables PoDM and HDBaseT PoE power supply

Connections

The following illustration provides information about connections to the DMB-4K-I-C. Connect the blade as required for the application.

DMB-4K-I-C Connections



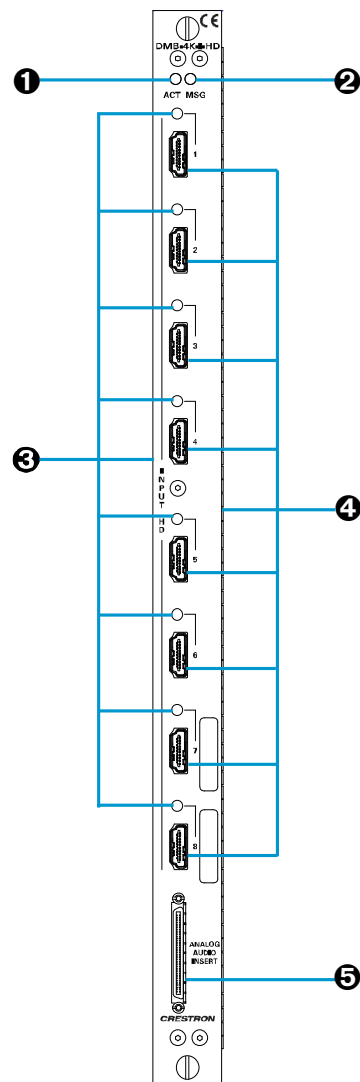
DMB-4K-I-HD

The DMB-4K-I-HD provides eight independent 4K HDMI inputs that are HDCP 2.2 compliant. The DMB-4K-I-HD supports video resolutions up to 4K and Ultra HD and handles 3D video and Deep Color. The DMB-4K-I-HD also supports Dolby TrueHD, Dolby Atmos, DTS HD, DTS:X, and uncompressed 7.1 linear PCM audio. Stereo analog audio inputs can also be enabled using the optional AUD-BOB-1602 analog audio breakout box (sold separately). The following sections provide a physical description of the DMB-4K-I-HD and information about connections to the blade.

Physical Description

The following illustration shows the DMB-4K-I-HD connectors, controls, and indicators.

DMB-4K-I-HD Connectors, Controls, and Indicators

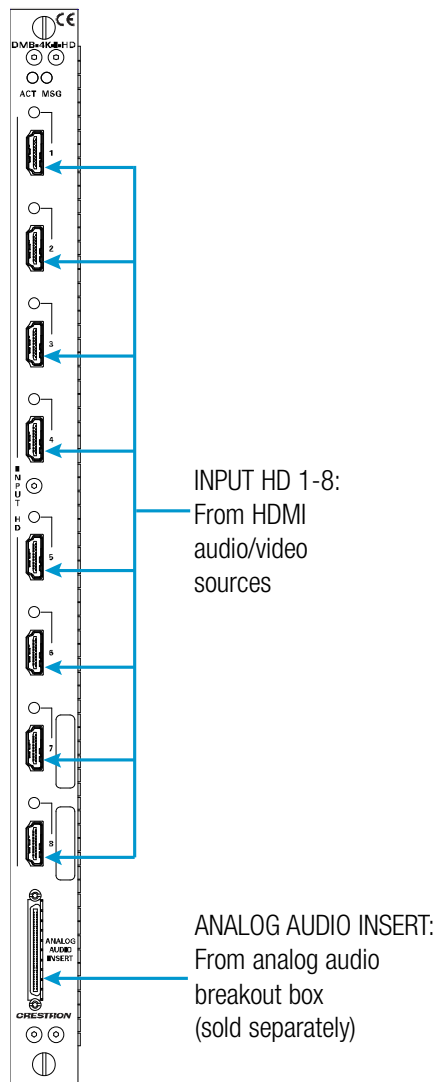


- ❶ **ACT LED:** Green LED, indicates blade activity
- ❷ **MSG LED:** Red LED, indicates that an error message has been generated
- ❸ **INPUT HD 1-8 LEDs:** Bicolor red/green LEDs, red indicates video lock and green indicates HDCP status for each corresponding input
- ❹ **INPUT HD 1-8:** 19-pin Type A HDMI female; HDMI digital video/audio inputs (DVI and Dual-Mode DisplayPort compatible)
- ❺ **ANALOG AUDIO INSERT:** 68-pin VHDCI female; Input Impedance: 10k Ohms balanced/unbalanced; Maximum Input Level: 4 Vrms balanced, 2 Vrms unbalanced

Connections

The following illustration provides information about connections to the DMB-4K-I-HD. Connect the blade as required for the application.

DMB-4K-I-HD Connections



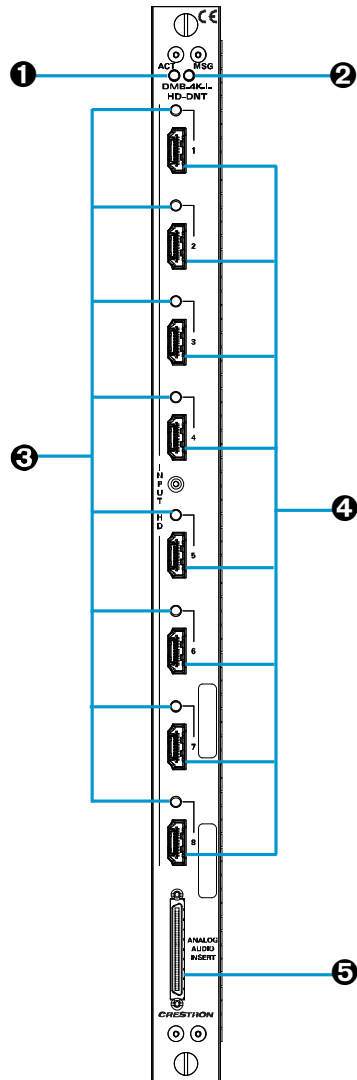
DMB-4K-I-HD-DNT

The DMB-4K-I-HD-DNT provides eight independent 4K HDMI inputs that are HDCP 2.2 compliant. The DMB-4K-I-HD-DNT supports video resolutions up to 4K and Ultra HD and handles 3D video and Deep Color. The DMB-4K-I-HD-DNT also supports Dolby TrueHD, Dolby Atmos, DTS HD, and uncompressed 7.1 linear PCM audio. The DMB-4K-I-HD-DNT also supports Dante audio networking, which allows for interfacing with other Dante enabled equipment over the local area network to send and receive streaming stereo audio on any or all of the eight input channels. Stereo analog audio inputs can also be enabled using the optional AUD-BOB-1602 analog audio breakout box (sold separately). The following sections provide a physical description of the DMB-4K-I-HD-DNT and information about connections to the blade.

Physical Description

The following illustration shows the DMB-4K-I-HD-DNT connectors, controls, and indicators.

DMB-4K-I-HD-DNT Connectors, Controls, and Indicators

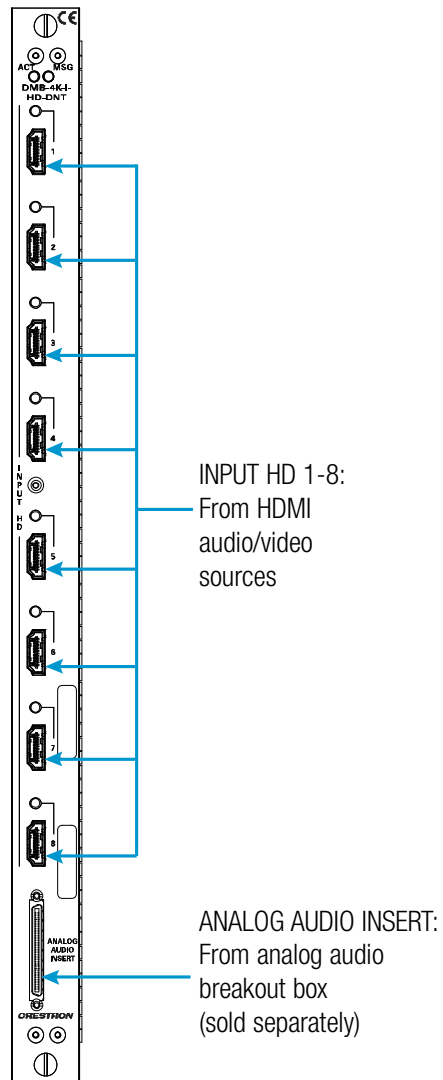


- ❶ **ACT LED:** Green LED, indicates blade activity
- ❷ **MSG LED:** Red LED, indicates that an error message has been generated
- ❸ **INPUT HD 1-8 LEDs:** Bicolor red/green LEDs, red indicates video lock and green indicates HDCP status for each corresponding input
- ❹ **INPUT HD 1-8:** 19-pin Type A HDMI female; HDMI digital video/audio inputs (DVI and Dual-Mode DisplayPort compatible)
- ❺ **ANALOG AUDIO INSERT:** 68-pin VHDCI female; Input Impedance: 10k Ohms balanced/unbalanced; Maximum Input Level: 4 Vrms balanced, 2 Vrms unbalanced

Connections

The following illustration provides information about connections to the DMB-4K-I-HD-DNT. Connect the blade as required for the application.

DMB-4K-I-HD-DNT Connections



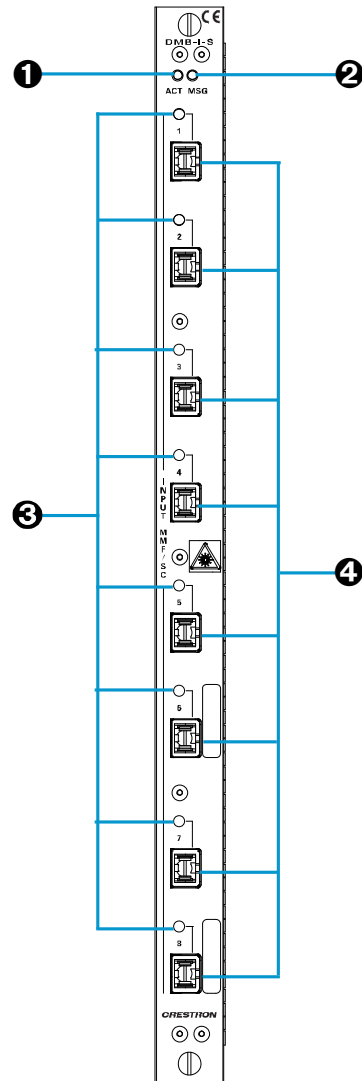
DMB-I-S

The DMB-I-S provides eight independent DM 8G[®] multimode fiber inputs that are HDCP compliant. The DMB-I-S handles video resolutions up to Full HD 1080p, computer resolutions up to WUXGA, and 3D video and Deep Color. Dolby TrueHD, DTS HD, and uncompressed 7.1 linear PCM audio signals are also supported. The following sections provide a physical description of the DMB-I-S and information about connections to the blade.

Physical Description

The following illustration shows the DMB-I-S connectors, controls, and indicators.

DMB-I-S Connectors, Controls, and Indicators

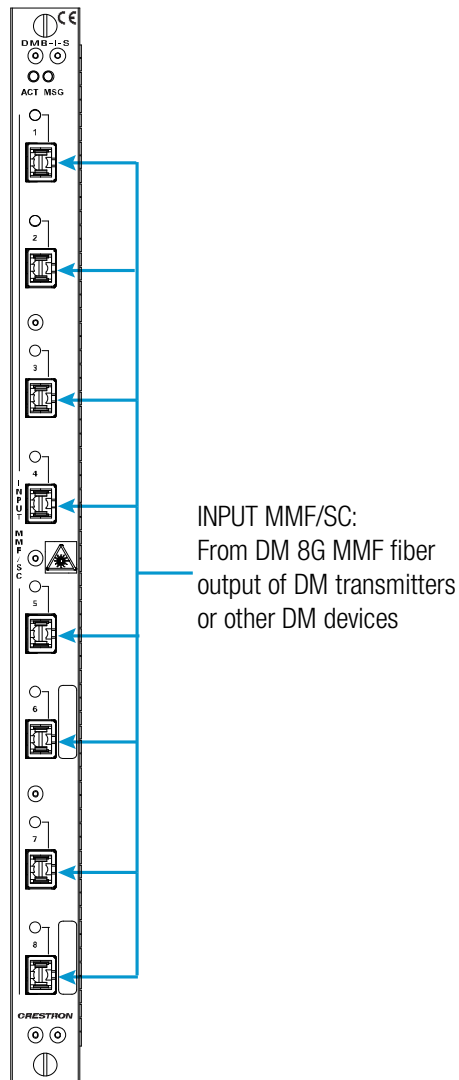


- ❶ **ACT LED:** Green LED, indicates blade activity
- ❷ **MSG LED:** Red LED, indicates that an error message has been generated
- ❸ **INPUT MMF/SC 1-8 LEDs:** Green LEDs, indicate DM link status for each corresponding input
- ❹ **INPUT MMF/SC 1-8:** SC female optical fiber connectors; DM 8G multimode fiber inputs

Connections

The following illustration provides information about connections to the DMB-I-S. Connect the blade as required for the application.

DMB-I-S Connections



NOTE: Fiber optic cable connectors and cable ends should be protected from contamination and scratching at all times. When a cable is not connected, protect the optical transceivers on the blade by using the included caps. Fiber ends should be handled carefully and the cable should not be bent or coiled tightly.

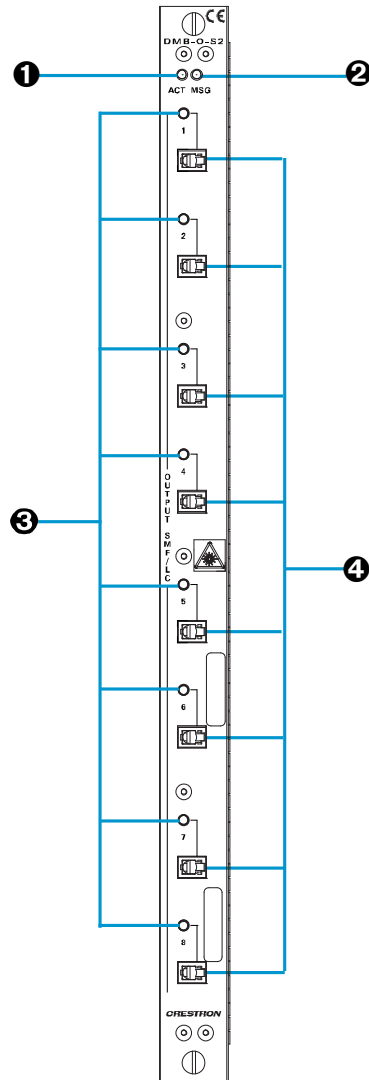
DMB-I-S2

The DMB-I-S2 provides eight independent DM 8G single-mode fiber inputs that are HDCP compliant. The DMB-I-S2 handles video resolutions up to Full HD 1080p, computer resolutions up to WUXGA, and 3D video and Deep Color. Dolby TrueHD, DTS HD, and uncompressed 7.1 linear PCM audio signals are also supported. The following sections provide a physical description of the DMB-I-S2 and information about connections to the blade.

Physical Description

The following illustration shows the DMB-I-S2 connectors, controls, and indicators.

DMB-I-S2 Connectors, Controls, and Indicators

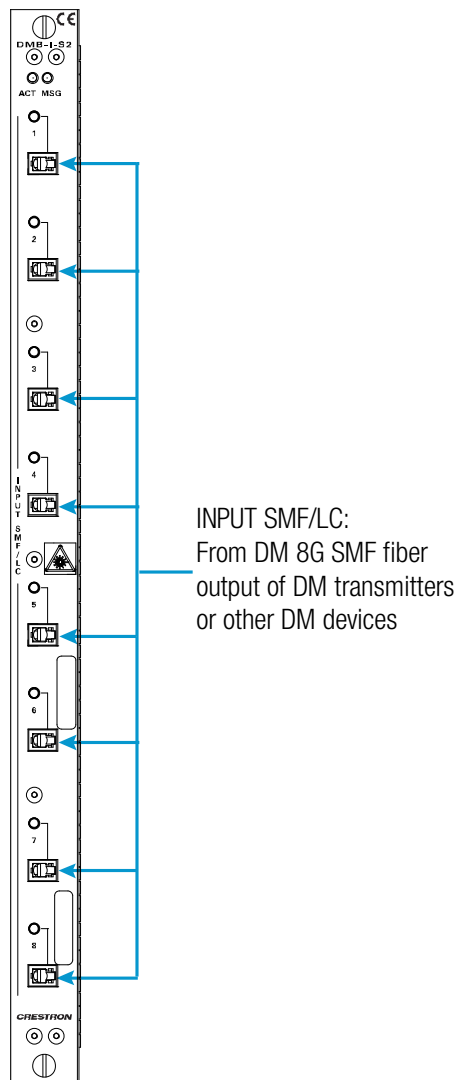


- ❶ **ACT LED:** Green LED, indicates blade activity
- ❷ **MSG LED:** Red LED, indicates that an error message has been generated
- ❸ **INPUT SMF/LC 1-8 LEDs:** Green LEDs, indicate DM link status for each corresponding input
- ❹ **INPUT SMF/LC 1-8:** LC female optical fiber connectors; DM 8G single-mode fiber inputs

Connections

The following illustration provides information about connections to the DMB-I-S2. Connect the blade as required for the application.

DMB-I-S2 Connections



NOTE: Fiber optic cable connectors and cable ends should be protected from contamination and scratching at all times. When a cable is not connected, protect the optical transceivers on the blade by using the included caps. Fiber ends should be handled carefully and the cable should not be bent or coiled tightly.

Output Blades

DMB series output blades include the following:

- DMB-4K-O-C, 8-channel HDBaseT certified 4K DigitalMedia 8G+ output blade (refer to the following page)
- DMB-4K-O-HD, 8-channel 4K scaling HDMI output blade (refer to page 29)
- DMB-4K-O-HD-DNT, 8-channel 4K HDMI and Dante output blade (refer to page 33)
- DMB-O-S, 8-channel DigitalMedia 8G fiber output blade (refer to page 35)
- DMB-O-S2, 8-channel DigitalMedia 8G single-mode fiber output blade (refer to page 37)

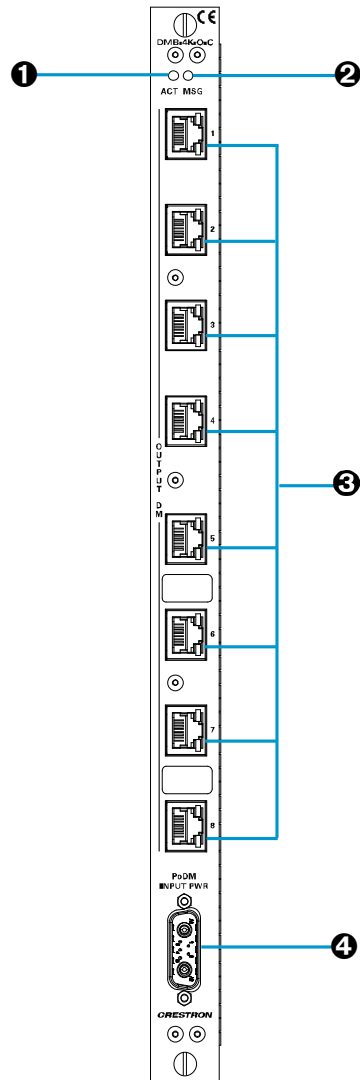
DMB-4K-O-C

The DMB-4K-O-C provides eight independent 4K DM 8G+ outputs, which are also compatible with the HDBaseT standard and are HDCP 2.2 compliant. The DMB-4K-O-C supports video resolutions up to 4K and Ultra HD and handles 3D video and Deep Color. Dolby TrueHD, Dolby Atmos, DTS HD, and uncompressed 7.1 linear PCM audio is also supported. The following sections provide a physical description of the DMB-4K-O-C and information about connections to the blade.

Physical Description

The following illustration shows the DMB-4K-O-C connectors, controls, and indicators.

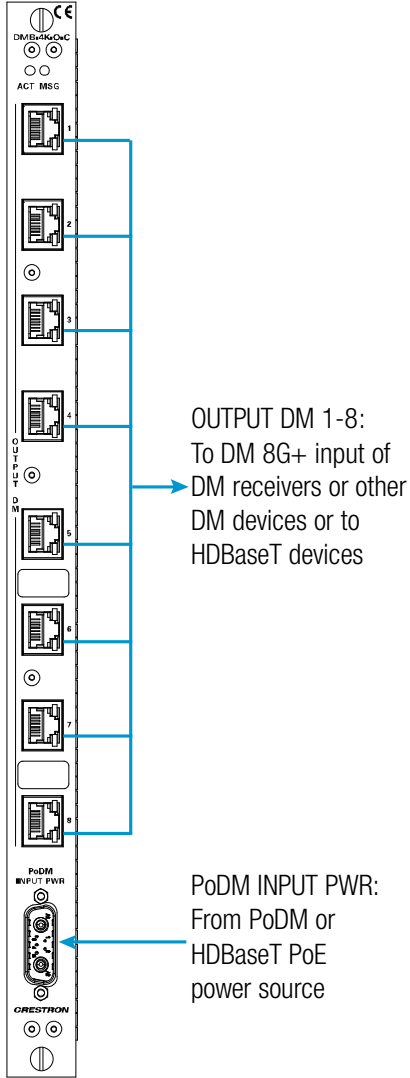
DMB-4K-O-C Connectors, Controls, and Indicators



Connections

The following illustration provides information about connections to the DMB-4K-O-C. Connect the blade as required for the application.

DMB-4K-O-C Connections



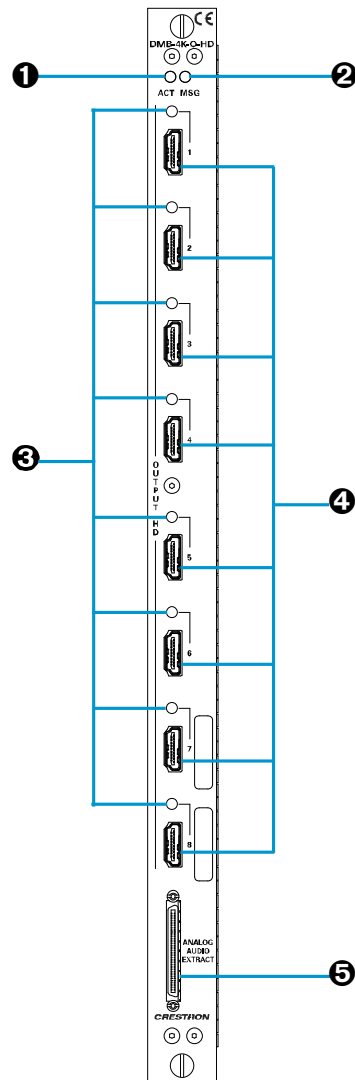
DMB-4K-O-HD

The DMB-4K-O-HD provides eight independent 4K HDMI outputs that are HDCP 2.2 compliant. Each output also provides a 4K/60 scaler. The scaler can upscale video and computer sources to match the native resolution of any screen up to Ultra HD and 4K, and can also downscale 4K, UHD and ultra-high-resolution computer signals to enable viewing on 1080p and lower resolution displays. The DMB-4K-O-HD supports Dolby TrueHD, Dolby Atmos, DTS HD, and uncompressed 7.1 linear PCM audio. Stereo analog audio outputs can also be enabled using the optional AUD-BOB-1602 analog audio breakout box (sold separately). The following sections provide a physical description of the DMB-4K-I-HD and information about connections to the blade.

Physical Description

The following illustration shows the DMB-4K-O-HD connectors, controls, and indicators.

DMB-4K-O-HD Connectors, Controls, and Indicators

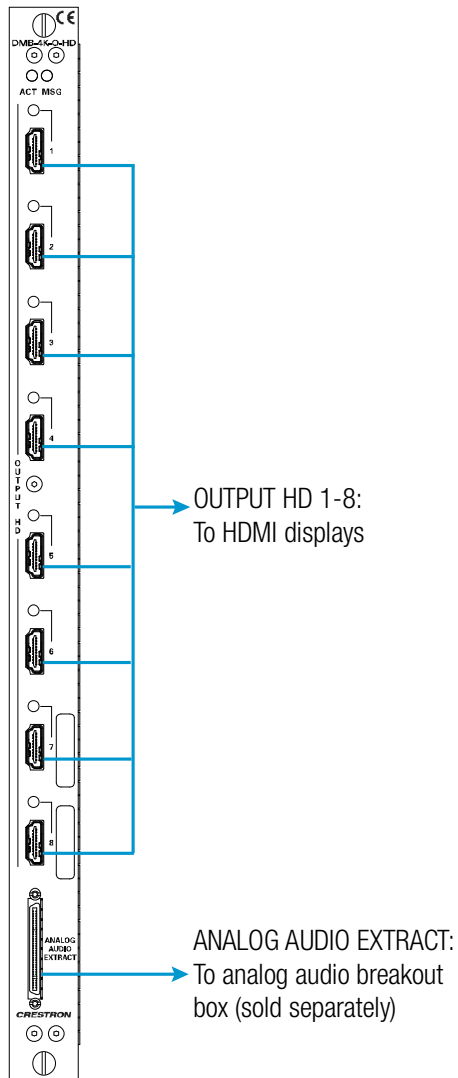


- ❶ **ACT LED:** Green LED, indicates blade activity
- ❷ **MSG LED:** Red LED, indicates that an error message has been generated
- ❸ **OUTPUT HD 1-8 LEDs:** Bicolor red/green LEDs, red indicates video lock and green indicates HDCP status for each corresponding output
- ❹ **OUTPUT HD 1-8:** 19-pin Type A HDMI female; HDMI digital video/audio outputs (DVI compatible)
- ❺ **ANALOG AUDIO EXTRACT:** 68-pin VHDCI female; Output Impedance: 200 Ohms balanced, 100 Ohms unbalanced; Maximum Input Level: 4 Vrms balanced, 2 Vrms unbalanced

Connections

The following illustration provides information about connections to the DMB-4K-O-HD. Connect the blade as required for the application.

DMB-4K-O-HD Connections



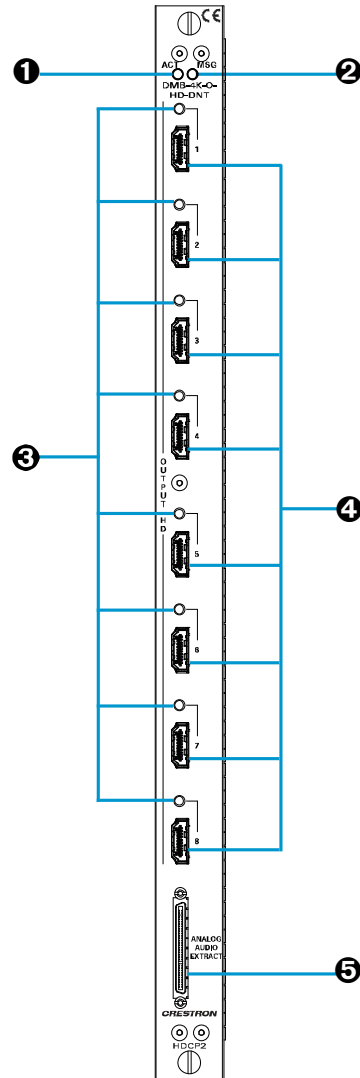
DMB-4K-O-HD-DNT

The DMB-4K-O-HD-DNT provides eight independent 4K HDMI outputs that are HDCP 2.2 compliant. Each output also provides a 4K/60 scaler. The scaler can upscale video and computer sources to match the native resolution of any screen up to Ultra HD and 4K, and can also downscale 4K, UHD and ultra high resolution computer signals to enable viewing on 1080p and lower resolution displays. The DMB-4K-O-HD-DNT supports Dolby TrueHD, Dolby Atmos, DTS HD, and uncompressed 7.1 linear PCM audio. The DMB-4K-O-HD-DNT also supports Dante audio networking, which allows for the routing of stereo audio output signals to other Dante enabled equipment over the local area network. Stereo analog audio outputs can also be enabled using the optional AUD-BOB-1602 analog audio breakout box (sold separately). The following sections provide a physical description of the DMB-4K-I-HD-DNT and information about connections to the blade.

Physical Description

Connectors, controls, and indicators are shown below.

DMB-4K-O-HD-DNT Connectors, Controls, and Indicators

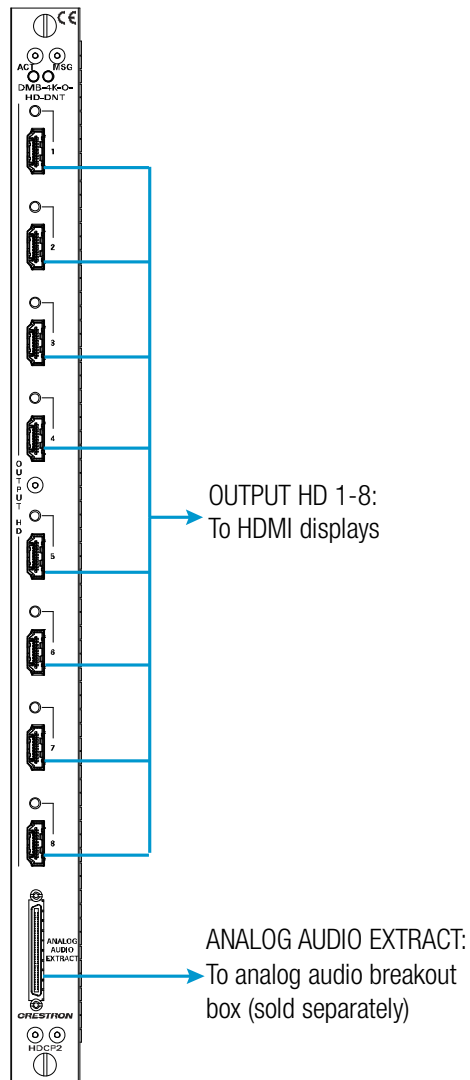


- ❶ **ACT LED:** Green LED, indicates blade activity
- ❷ **MSG LED:** Red LED, indicates that an error message has been generated
- ❸ **OUTPUT HD 1-8 LEDs:** Bicolor red/green LEDs, red indicates video lock and green indicates HDCP status for each corresponding output
- ❹ **OUTPUT HD 1-8:** 19-pin Type A HDMI female; HDMI digital video/audio outputs (DVI compatible)
- ❺ **ANALOG AUDIO EXTRACT:** 68-pin VHDCI female; Output Impedance: 200 Ohms balanced, 100 Ohms unbalanced; Maximum Input Level: 4 Vrms balanced, 2 Vrms unbalanced

Connections

DMB-4K-O-HD-DNT connections are shown below. Connect the blade as required for the application.

DMB-4K-O-HD-DNT Connections



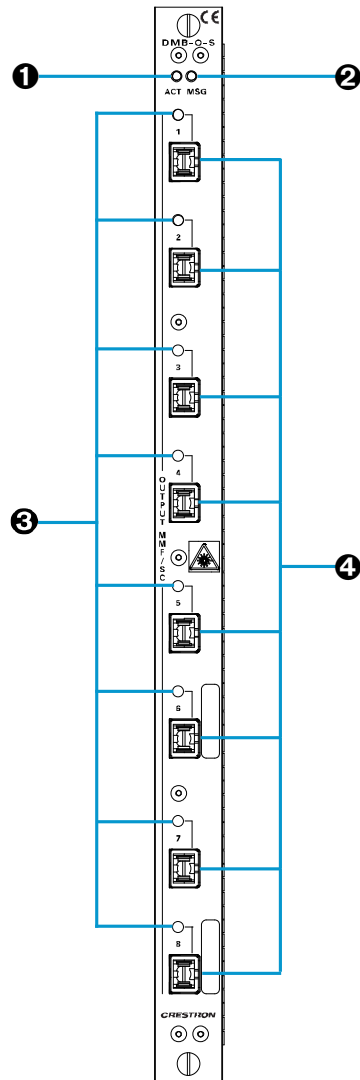
DMB-O-S

The DMB-O-S provides eight independent DM 8G multimode fiber outputs that are HDCP compliant. The DMB-O-S handles video resolutions up to Full HD 1080p, computer resolutions up to WUXGA, and 3D video and Deep Color. Dolby TrueHD, DTS HD, and uncompressed 7.1 linear PCM audio signals are also supported. The following sections provide a physical description of the DMB-O-S and information about connections to the blade.

Physical Description

The following illustration shows the DMB-O-S connectors, controls, and indicators.

DMB-O-S Connectors, Controls, and Indicators

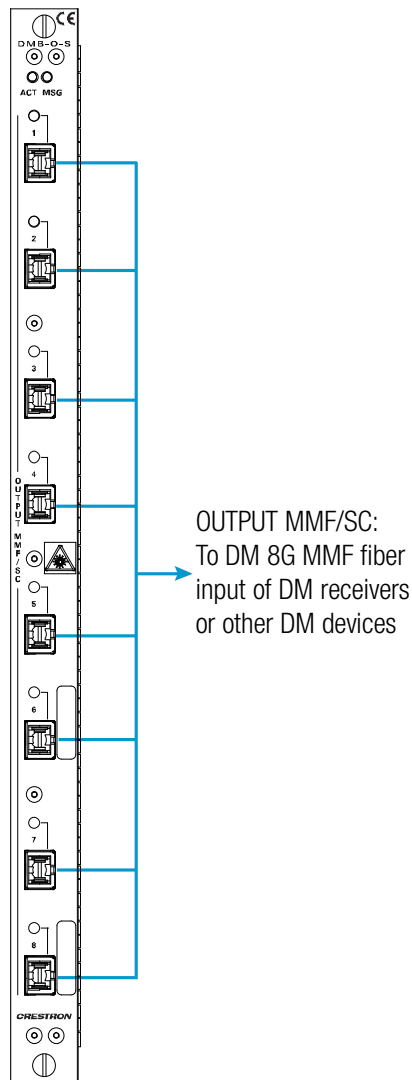


- ❶ **ACT LED:** Green LED, indicates blade activity
- ❷ **MSG LED:** Red LED, indicates that an error message has been generated
- ❸ **OUTPUT MMF/SC 1-8 LEDs:** Green LEDs, indicate DM link status for each corresponding output
- ❹ **OUTPUT MMF/SC 1-8:** SC female optical fiber connectors; DM 8G multimode fiber outputs

Connections

The following illustration provides information about connections to the DMB-O-S. Connect the blade as required for the application.

DMB-O-S Connections



NOTE: Fiber optic cable connectors and cable ends should be protected from contamination and scratching at all times. When a cable is not connected, protect the optical transceivers on the blade by using the included caps. Fiber ends should be handled carefully and the cable should not be bent or coiled tightly.

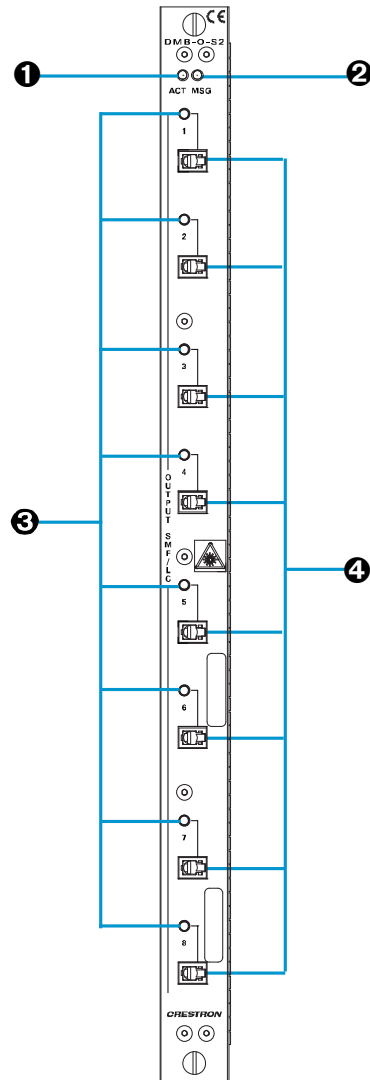
DMB-O-S2

The DMB-O-S2 provides eight DM 8G single-mode fiber outputs that are HDCP compliant. The DMB-O-S2 handles video resolutions up to Full HD 1080p, computer resolutions up to WUXGA, and 3D video and Deep Color. Dolby TrueHD, DTS HD, and uncompressed 7.1 linear PCM audio signals are also supported. The following sections provide a physical description of the DMB-O-S2 and information about connections to the blade.

Physical Description

The following illustration shows the DMB-O-S2 connectors, controls, and indicators.

DMB-O-S2 Connectors, Controls, and Indicators

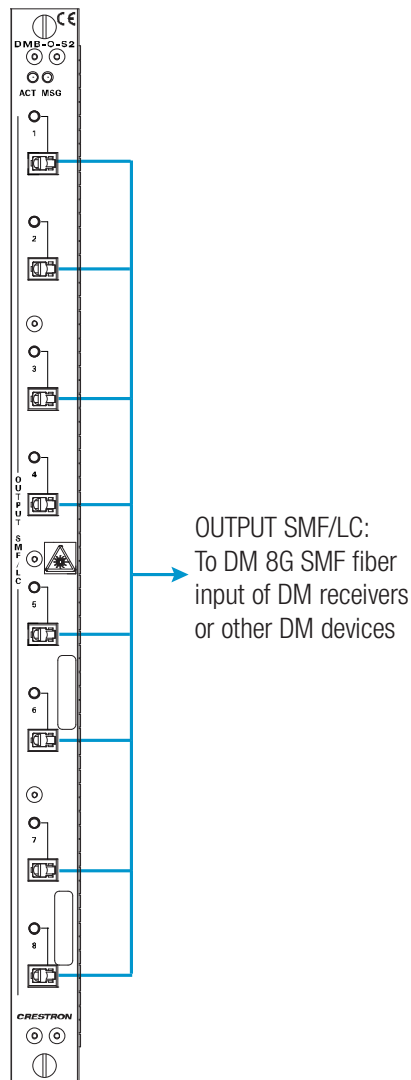


- ❶ **ACT LED:** Green LED, indicates blade activity
- ❷ **MSG LED:** Red LED, indicates that an error message has been generated
- ❸ **OUTPUT SMF/LC 1-8 LEDs:** Green LEDs, indicate DM link status for each corresponding output
- ❹ **OUTPUT SMF/LC 1-8:** LC female optical fiber connectors; DM 8G single-mode fiber outputs

Connections

The following illustration provides information about connections to the DMB-O-S2. Connect the blade as required for the application.

DMB-O-S2 Connections



NOTE: Fiber optic cable connectors and cable ends should be protected from contamination and scratching at all times. When a cable is not connected, protect the optical transceivers on the blade by using the included caps. Fiber ends should be handled carefully and the cable should not be bent or coiled tightly.

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Specifications subject to
change without notice.