We Engineer Confidence

MG-DA-61x series
Ultra-slim HDMI 2.0a splitter and distribution amplifier

User Guide V1.0

Jan-2019

In this document

Introduction

The Magenta Research MG-DA-61x series of ultra-slim HDMI 2.0 Splitters and Distribution Amplifiers provide a high-performance solution for distributing HDMI signals with video output up to 4K2K@60Hz (YUV444) resolutions and HDR (High Dynamic Range Imaging) support, which gives the most life like video experience. Support is also offered for up to 32 audio channels with sampling rates up to 192kHz and passthrough of 7.1 channels of digital audio including high resolution digital audio formats such as LPCM 7.1CH, Dolby TrueHD, Dolby Digital Plus, DTS-HD Master Audio and Dolby Atmos.

Features

- Supports HDMI 2.0 and up to 4K@60Hz 4:4:4.
- HDCP 2.2
- HDR
- 3D pass through
- Down-scaling on outputs
- 18Gbps high bandwidth
- Ultra Slim less than 18mm in height
- Advanced EDID management
- Supports CEC pass through

In the box

- 1x HDMI 2.0 Splitter
- 2x Mounting Ears with 4 Screws
- 4x Plastic Cushions
- 1x Power Adapter
- 1x User guide
- 1x Safety, liability, and warranty guide

Note: *Please contact your distributor immediately if any damage or defect in the components is found.*

Operation controls and functions

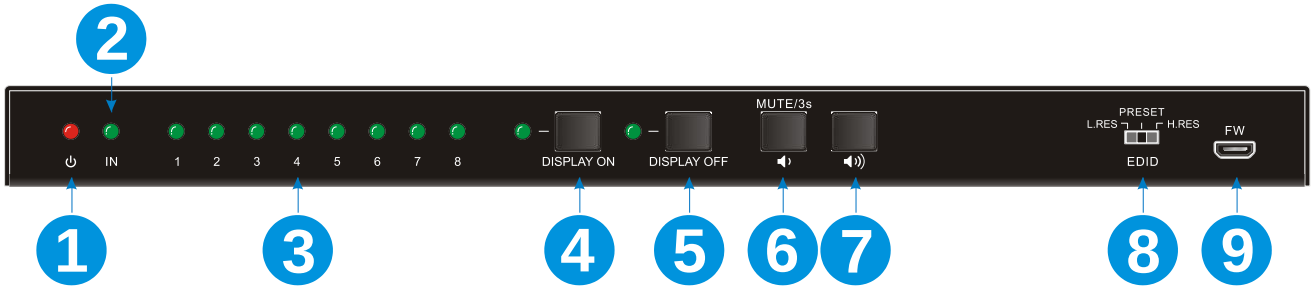
For best results, use high quality HDMI cables that comply with HDMI 2.0.

Front panel MG-DA-612 and MG-DA-614

MG-DA-614 shown

Number	Name	Description
1	Power LED	The LED illuminates red when power is applied
2	Input LED	The LED illuminates blue when there is HDMI input
3	Output LEDs	The LED illuminates blue when there is HDMI output on the corresponding channel
4	EDID	4-pin DIP switch for EDID settings and audio selection. See EDID Management for more details.
5	FIRMWARE	Micro-USB port for firmware upgrade

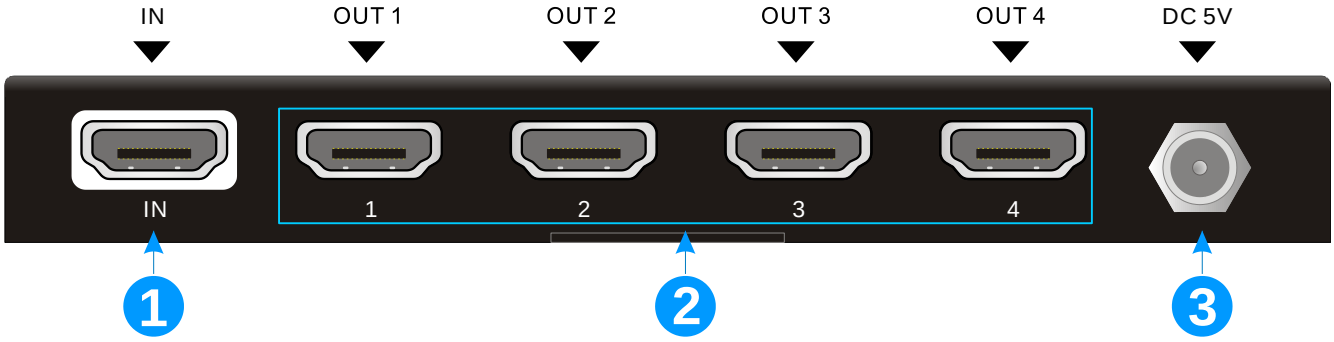
Front panel MG-DA-618



Number	Name	Description
1	Power LED	The LED illuminates red when power is applied.
2	Input LED	The LED illuminates green when there is HDMI input.
3	Output LEDs	The LED illuminates green when there is HDMI output on the corresponding channel.
4	DISPLAY ON	Press the button to turn on displays.
5	DISPLAY OFF	Press the button to turn off displays.
6	VOLUME DOWN/MUTE	Press the button to decrease the volume from the displays. Press and hold for three seconds to mute the displays.
7	VOLUME UP	Press the button to unmute or increase the volume from the displays.
8	EDID	Use the switch to select an EDID mode. See EDID Management for more details.
9	FIRMWARE	Micro-USB port for firmware upgrade.

Rear panel

MG-DA-614 shown



Number	Name	Description
1	INPUT	Type-A female HDMI input port to connect a HDMI source
2	OUTPUTS	Four type-A female HDMI output ports to connect HDMI displays
3	DC 5V*	DC barrel port to connect a DC AC power adapter

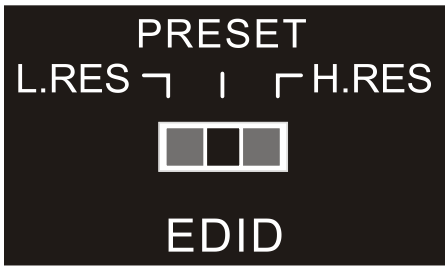
**12V for MG-DA-618*

DIP switch operation

EDID management

The Extended Display Identification Data (EDID) is used by the source device to match its video resolution with the connected display. By default, the source device obtains its EDID from the first connected display.

If you have a MG-DA-618, use the DIP switch on the front panel and the 4-pin DIP switch on the rear panel in combination to set the EDID to a fixed value to ensure compatibility in video resolution.

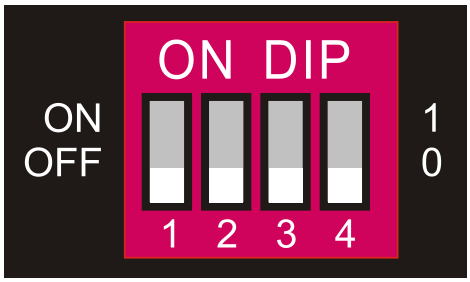


Front DIP switch of the MG-DA-618

Switch Status	Description
L.RES	The splitter reads all EDID information from all connected displays and chooses the one with lowest resolution passing to the source.
PRESET	In this mode, the 4-pin DIP switch on the rear panel can be used to select a predefined EDID and customize a specific EDID as need.
H.RES	The splitter reads all EDID information from all connected displays and chooses the one with highest resolution passing to the source.

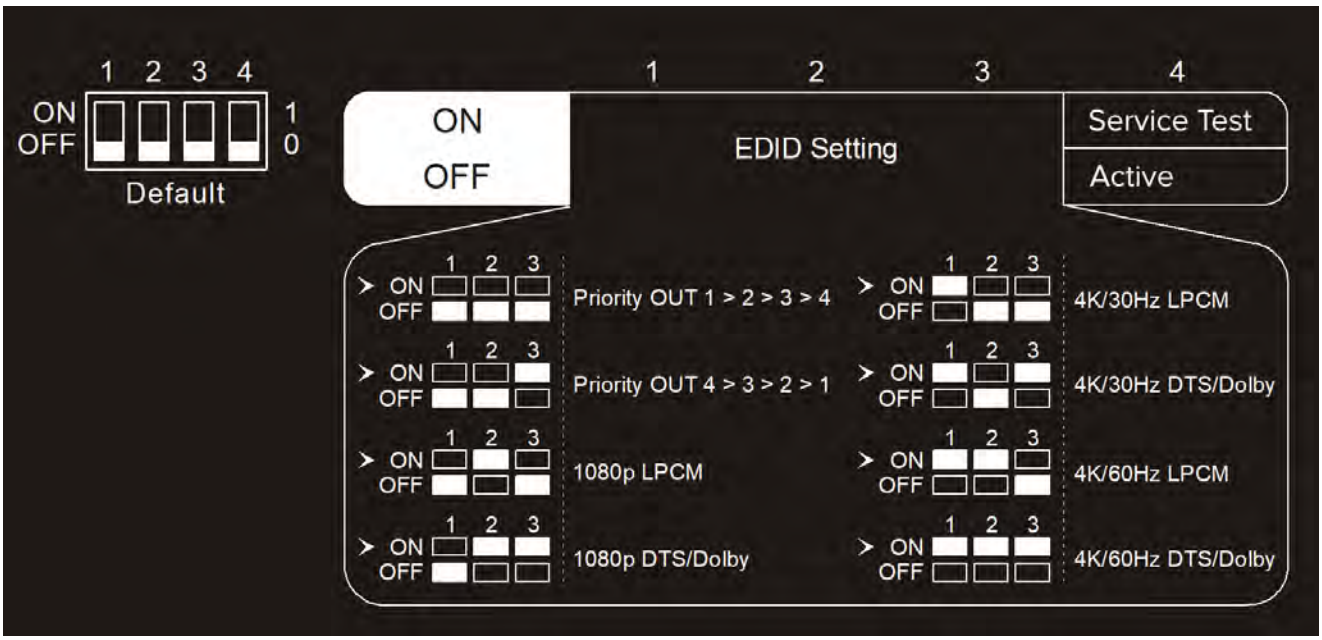
Predefined EDID setting

If you have a MG-DA-618, switch the 3-pin DIP on the front panel to PRESET, and then use the 4-pin DIP switch on the rear panel to set the EDID to a built-in fixed value.
If you have a MG-DA-612 or a MG-DA-614, use the 4-pin front DIP switch only.
The switch represents **0** when in the lower (**OFF**) position, and **1** when in the upper (**ON**) position.
Switches 1-3 are used for EDID setting.



Front DIP switch for MG-DA-612 and MG-DA-614, rear DIP switch for the MG-DA-618

The DIP switch status and its corresponding setting are shown on the base of the product.



Use the following table to determine the settings for the 4-pin DIP switch for specific video resolution and audio capabilities.

Switch Status	Video Resolution	Audio Format
000	Obtains EDID from the first detected display starting at HDMI output 1>2>3>4	
001	Obtains EDID from the first detected display starting at HDMI output 4*>3>2>1	
010	1080P	LPCM
011	1080P	DTS/Dolby
100	3840x2160@30Hz HDR	LPCM
101	3840x2160@30Hz HDR	DTS/Dolby
110	3840x2160@60Hz HDR	LPCM
111	3840x2160@60Hz HDR	DTS/Dolby

**MG-DA-618 starts at output 8>7>6>etc*

Service mode

Service mode is for manufacturer use only. Do not set switch 4 to **ON**.

Switch Status	Mode	Service
OFF (0)	Active (Default)	This is the default position and is required for normal use
ON (1)	Service	This setting is for manufacturer use only. Do not use this setting.

Video down-scaling

The product supports video resolution down-scaling, the 4K input can be automatically scaled to 1080P on the output for compatibility with 1080P display, shown in the below chart.

	Input			Output	
#	**Resolution**	**Frame Rate**	**Color Space**	**Scaling**	**New resolution**
1	3840x2160	60	4:4:4	Supported	1080P@60Hz 4:4:4
2	3840x2160	30	4:4:4	Supported	1080P@30Hz 4:4:4
3	3840x2160	24	4:4:4	Supported	1080P@24Hz 4:4:4
4	3840x2160	60	4:2:0	Supported	1080P@60Hz 4:2:0
5	3840x2160	30	4:2:0	Supported	1080P@30Hz 4:2:0
6	3840x2160	24	4:2:0	Supported	1080P@24Hz 4:2:0
7	3840x2160	60	4:2:2	Supported on MG-DA-618 only	N/A
8	3840x2160	30	4:2:2	Supported on MG-DA-618 only	N/A
9	3840x2160	24	4:2:2	Supported on MG-DA-618 only	N/A

Firmware upgrade

Please follow the below steps to upgrade firmware by the Micro-USB port:

1. Connect the splitter to the PC with USB cable.
2. Power on the splitter, and then the PC will automatically detect a U-disk named of “BOOTDISK”.
3. Double-click to open the U-disk, a file named of “READY.TXT” will be showed.
4. Copy the latest upgrade file (.bin) to the “BOOTDISK” U-disk directly.
5. If the filename “READY.TXT” automatically turns to “SUCCESS.TXT”, the firmware was upgraded successfully. If the firmware upgrade failed, please check the file (.bin) and then follow the above procedure to operate again.
6. Remove the USB cable after firmware upgrade.

Ordering information

MG-DA-612	1x2 4K60 HDMI 2.0 Splitter with HDCP 2.2 and down scaling
MG-DA-614	1x4 4K60 HDMI 2.0 Splitter with HDCP 2.2 and down scaling
MG-DA-618	1x8 4K60 HDMI 2.0 Splitter with HDCP 2.2 and down scaling
PS-05-10-LK	Replacement PSU for MG-DA-612 and MG-DA-614
PS-12-10-LK	Replacement PSU for MG-DA-618

Regulatory compliance

This product has been tested for compliance with appropriate FCC and CE rules and regulations. The power adaptor/supply has been tested for compliance with appropriate UL, CUL, CE, PSE, GS Rules, regulations and/or guidelines. This product and power adapter is RoHS compliant.

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