

MSPG-5000

MULTI PROGRAMMABLE GENERATOR



Front View



Rear View



MG-HDMI2.1/12G



MG-HDMI2.1/ARC-1



MG-HDMI2.0/ARC



MG-DISPLAYPORT1.3-2



MG-USB TYPE-C



MG-Analog/DVI



MG-COMPONENT



MG-S-VIDEO/CVBS

SLOT IMAGE

Product Summary

The MSPG-5000 is a high performance slot type multi video test pattern generator.

You can add-on any type signal generator slot such as HDMI, Displayport, DVI, Analog, Component, S-Video, CVBS and audio, up to 6 slots.

Key Features

- All slots individual output
- The user can customize timings and patterns
- Various test patterns and test timings
- Independent slots designed
- Up to 6 slots can be mounted
- EDID and HDCP test patterns
- HDR 10, HLG test timing support
- HDR support (HDR-10 & HLG)

Specifications

HDMI 2.1 SLOT (Model Name : MG-HDMI2.1-12G) / 2Ports

Compliant	HDMI 2.1 Version
Pixel Rate Range	25MHz~1.48GHz / Up to 8Kx4K@60Hz(YCbCr 4:2:0)
Signal Type	TMDS, Fixed Rate Link (FRL - Maximum link : 12Gbps x 4Lane)
Pixel Encoding & Data bit	8K@30Hz_RGB444(8/10/12bit), YCbCr444(8/10/12bit), YCbCr422(8/10/12bit) 8K@60Hz_YCbCr420(8/10/12bit)
Color Space	RGB, BT-601, BT-709, BT-2020, xvYCC-601, xvYCC-709
HDCP	Support HDCP 1.4 and 2.3 Version (FRL mode HDCP 2.3 Only)
Connector	Type A, HDMI 2 Port, eARC/ARC to analog L/R
Digital Audio	L/R (1 Ch support eARC/ARC: Audio Return Channel)

HDMI 2.1 SLOT (Model Name : MG-HDMI2.1/ARC-1) / 1Port

Compliant	HDMI 2.1 Version
Pixel Rate Range	25MHz~1.2GHz / Up to 8Kx4K@60Hz
Signal Type	TMDS, Fixed Rate Link (FRL - Maximum link : 10Gbps x 4Lane)
Pixel Encoding & Data bit	8K@30Hz_RGB444(8/10bit), YCbCr444(8/10bit), YCbCr422(8/10bit) 8K@60Hz_YCbCr420(8/10bit)
Color Space	RGB, BT-601, BT-709, BT-2020, xvYCC-601, xvYCC-709
HDCP	Support HDCP 1.4 and 2.3 Version (FRL mode HDCP 2.3 Only)
Connector	Type A, HDMI 1 Port
Digital Audio	8Ch Audio

Specifications

HDMI 2.0 SLOT (Model Name : MG-HDMI2.0/ARC) / 2Ports	
Compliant	HDMI 2.0 Version
Pixel Rate Range	25MHz~600MHz / Up to 4Kx2K@60Hz (TMDS Clock 600MHz)
Signal Type	RGB, YCbCr
Pixel Encoding & Data Bit	4K@30Hz_RGB444(8/10/12bit), YCbCr444(8/10/12bit), YCbCr422(8/10/12bit) 4K@60Hz_RGB444(8bit only), YCbCr444(8bit only), YCbCr422(8/10/12bit)
Color Space	RGB, BT-601, BT-709, BT-2020, xvYCC-601, xvYCC-709
HDCP	Support HDCP 1.4 and 2.2 Version
Connector	Type A, HDMI 2 Port, ARC 2 port
Digital Audio	8Ch Audio (SPDIF Audio Return Channel)

USB TYPE-C SLOT (Model Name : MG-USB TYPE-C) / 2Ports	
Compliant	DISPLAYPORT 1.3 Version
Pixel Rate Range	Up to 4K(3840x2160@60Hz)
Pixel Encoding & Data Bit	HBR2(4Lanes) RGB444(8/10Bit). YCbCr444(8/10bit), YCbCr(8/10bit) 4Kx2K@60Hz_RGB444(8bit only)
Color Space	RGB, BT-601, BT-709
HDCP	Support HDCP 1.4 and 2.2 Version
Connector	USB TYPE-A (Device) USB TYPE-B (Host) USB TYPE-C (Dual Role Port) Power : External power source connector to MSPW-100W(Optional) Load: External electric load connector to MSDL-100W(Optional)
Power Delivery Source	Up to 25V/5A(100W) with external power test unit MSPW-100W(optional)
Power Delivery Sink	Up to 25V/5A(100W) with external load test unit MSDL-100W(optional)
Digital Audio	I2S, 48KHz, 2Channels

Specifications

DISPLAYPORT1.3 SLOT (Model Name : MG-DISPLAYPORT1.3-2) / 2Ports

Compliant	DISPLAYPORT 1.3 Version
Pixel Rate Range	8Kx4K@30Hz(7680x4320@30Hz), 5k(5120x2160@60Hz), 4K(3840x2160@120Hz) / HBR3
Signal Type	RGB, YCbCr
Color Space	RGB, BT-601, BT-709
HDCP	Support HDCP 1.4 and 2.2 Version
Output Format	RGB444, YCbCr444(8,10,12bit), YCbCr422(8,10,12bit)
Digital Audio	I2S, 48KHz, 2Channels

ANALOG/DVI SLOT (Model Name : MG-ANALOG/DVI)

ANALOG	Port	1Port
	Pixel Rate Range	8~250MHz
	Video Signal Type	R,G,B (Load 75 ohms, 0~1.0V Programmable)
	Output Connector	15P D-Sub
	Separate Sync	HS, VS(3.0V~5.5Vp-p Programmable) / Inherited Sync Level is 4.8Vp-p
	Analog Audio	Stereo L, R
DVI	Port	1Port
	Compliant	DVI 1.0 Support
	Pixel Rate Range	*Dual Link : 25~330MHz
	Transfer Type	*Single TMDS 24Bit Input Mode / *Dual TMDS 12Bit Input Mode
	HDCP	Support HDCP 1.3
	Video Signal Type	RGB
	Output Connector	DVI-D (DVI 1Port, Single/Dual)
	Analog Audio	Stereo L, R

Specifications

COMPONENT SLOT (Model Name : MG-COMPONENT) / 1Port

Output Mode	Y, Pb, Pr (480i/p, 576i/p, 720p, 1080i/p, for ATSC and DVB Format)
Output Connector	BNC
Analog Audio	RCA L, R

S-VIDEO / CVBS SLOT (Model Name : MG-S-VIDEO/CVBS) / 1Port

Output Mode	*NTSC M,J (3.58MHz) / *NTSC443 (4.4MHz) *PAL B,D,G,H,I (4.434MHz) / * SECAM (For=4.406MHz)
Subcarrier Stability	25ppm (± 25 Hz / 1MHz)
Video Output	Composite (BNC), S-Video *Signal : CVBS (Connector : BNC) / *Signal : Y/C (Connector : 4Pin-Mini Din)
Note	Closed Caption, V-Chip, Teletext
Analog Audio	RCA L, R

Common Specifications

MG-CPU	USB Port	Master Electronics Co., Ltd main program update port only.
	DEBUG Port	Master Electronics Co., Ltd debugging port only.
	SUB	Safety mode button
	LAN	Master Electronics Co., Ltd debugging and update port only.
	CPLD	Master Electronics Co., Ltd CPLD update port only.
Scan & Function Group	Scan Storage	99 Group (1 Group : 24 Step)
	Function Storage	99 Group (1 Group : 32 Step)
Time & Pattern Data	Timing	999 Timing (User : 1~500, Default : 501~999)
	Pattern	999 Pattern (User : 1~500, Default : 501~999)

Specifications

Common Specifications		
Digital Audio Common Spec.	Sample Rate	32 / 44.1 / 48 / 88.2 / 96 / 176.4 / 192 KHz
	Number of Channel	8 Channels
	Bit per Sample	24
	Waveform	Sine Wave
	Frequency Range	20Hz to 24KHz / 5Hz step
	Level Range	0dB to -110dB 0.5dB step
	External Audio Input	Optical, Coaxial
	Special Control Mode	Fix, Sweep, Swap, Optical, Mute
Analog Audio Common Spec	Frequency Range	20Hz to 24KHz / 5Hz step
	Level Range	0mVrms to 900mVrms / 5mVrms, 0~18dB
	Waveform	Sine Wave
	Number of Channel	2 Channels
	Connector	RCA
	Special Control Mode	Fix, Sweep, Swap, Optical, Mute
Others	User Interface	*Remote controller (name: MSRC-009L) *Possible to Timing Parameter Edit / *USB, RS-232C
General Spec	Power Consumption	100~240VAC, 50/60Hz Auto Switch
	Operating Conditions	*Temperature : 0~40℃ / *80% Humidity, Non-condensing
	Dimension (WxDxH)	440x350x148 (162) mm Weight : 7.5Kg / Slot 1EA : 0.3Kg / Cover Slot : 0.2Kg

※ Notes

Rev. 2 | 26.09.16

* Specifications and design are subject to change without prior notice