

MSPG-5000

MULTI PROGRAMMABLE GENERATOR



전면 / Front View



후면 / 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

슬롯 사진

제품 개요

MSPG-5000은 다양한 표준 신호(HDMI, Displayport, DVI, Analog, Component, S-Video, CVBS)를 지원함으로써 LCD TV, LED TV, TV, Monitor, 프로젝터 등 디스플레이 제품 개발 및 생산에 필요한 핵심 장비입니다.

본 제품은 슬롯 방식의 신호기로 최대 6개의 슬롯까지 장착 가능한 장비입니다.

주요 기능 | Key Features

- 모든 포트가 개별 출력 지원
- 다양한 테스트 패턴 및 타이밍 (편집 가능)
- 슬롯 방식의 신호기 (최대 6개의 슬롯 장착 가능)
- USB로 간편하게 업데이트 및 백업 가능
- EDID 테스트 패턴 및 HDCP 테스트 패턴 지원
- eARC/ARC/CEC 지원
- HDR 10, HLG 테스트 타이밍 지원

제품 사양 (Specifications)

HDMI 2.1 SLOT (모델명 : 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 (모델명 : 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

제품 사양 (Specifications)

HDMI 2.0 SLOT (모델명 : 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 (모델명 : 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

제품 사양 (Specifications)

DISPLAYPORT1.3 SLOT (모델명 : 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 (모델명 : 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

제품 사양 (Specifications)

COMPONENT SLOT (모델명 : 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 (모델명 : 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

공통사항		
MG-CPU	USB Port	(주)마스타전자 전용 타이밍&패턴/메일 프로그램 업데이트 포트
	DEBUG Port	(주)마스타전자 전용 디버깅용 포트
	SUB	안전 모드 진입을 위한 SUB 버튼
	LAN	(주)마스타전자 전용 업데이트 및 디버깅용 포트
	CPLD	(주)마스타전자 전용 업데이트 포트
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)

제품 사양 (Specifications)

공통 사항		
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	*리모컨 (모델명: 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)	319x350x150 (162) mm Weight : 4Kg / Slot 1EA : 0.3Kg / Cover Slot : 0.2Kg

※ 참고사항

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* 예고 없이 디자인 및 사양은 변경될 수 있습니다.