

VG-870B/871B・VG-873/874

Programmable Video Signal Generator

Uncompressed 10-bit Moving Picture Function (VM-1819)

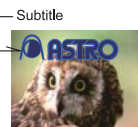
The sequential uncompressed pictures (2D or 3D) are output from all interfaces. This is useful for evaluating picture quality. Maximum 4 scenes are selectable from VT-7001 (2D, HD picture) video library as option.

Recording type	Uncompressed			
Color space	RGB / YPbPr			
Bit length	10-bit			
Resolution	1920×1080			
Color format	4:4:4 / 4:2:2			
Frame rate	60i	50i	24p	24PsF
MAX play time	4:4:4	16sec	19sec	20sec
	4:2:2	24sec	29sec	30sec



Subtitle Scrolling

Subtitle character scrolling functions supported. Users own bitmap(256 colors) character of various languages with edge created by Photoshop or other software is scrolled by different speed and direction.



Sub-pixel patterns

Various types of sub-pixels test patterns enable users to test the flat panel performance more accurately.

Programmable Ramp patterns

Linear Ramp patterns can be set by the designated range of level. This is useful for testing the middle-range level of flat panels.



Setting menu



Programmable Ramp pattern

Options

MPRT testing with APDC patterns

MPRT(Moving Picture Response Time) patterns developed by APDC (Advanced PDP Development Center Corporation) with 0.5 dot scrolling supported. About the auto measurement system, please ask ASTRODESIGN for more details.



For subjective evaluation

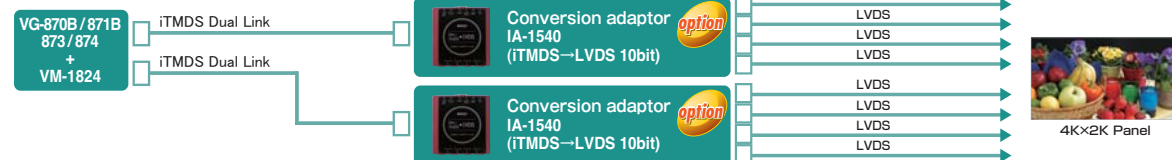


For auto measurement



DVI / iTMDS to LVDS conversion adaptor

LVDS (with IA-1540) MAX12bit(LVDS×8ch)



Remote BOX		Optional Pattern Library		
RB-1870	RB-1871	VT-8001	VT-8500-0004	VT-8500-0007
"Full Key" type with Edit Functions (R&D application)	"Limited Key" type without Edit Functions (Production application)	8,10,12-bit Natural Pictures of "Skin tone chart" and "Yacht harbor" pictures *The copy right belongs to Association of Radio Industries and Businesses	Chinese TV Test Patterns including China Monoscope. 	TV Evaluation Patterns including Circular Zone Plate, 8-bit Natural Pictures like "Skin tone chart" and "Yacht harbor", etc.

Optional Functions					Conversion BOX		Software
VT-8500-0006	VT-8500-0008				IA-1540	IA-1542	SP-8010
HBR(High Bit Rate) / OB(One Bit) Audio Data	AAC / AC3(Dolby Digital) Audio Data	HBR / OB Audio Compliance Test Software License	Macrovision Copy Protection	Otsuka Electronics MPRT2000 support (with Trigger cable)	MPRT 0.25 / 0.125 dot scroll option	HEAC Adaptor	Image Format Converter which converts MAX 16-bit users TIFF format image to VBM (for VG) format image.

Specifications

Storage Media	ATA Compact Flash Card × 1 (MAX 1000 Programs)
External Interface	RS-232C, LAN, Remote
General Specifications	Voltage
	AC100 to 120V, AC200 to 240V, 50/60Hz
	Operating Temperature Range
	+5 to 40°C
Operating Humidity Range	30 to 80% (no condensation)
	Dimensions
	430(W) × 88(H) × 370(D)mm (excluding projected parts)

Dimensions, specifications etc. in this catalog may change without notice for improvement.

ASTRODESIGN, Inc.

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● For more information, please contact us :

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VG870B/871B/873/874-IB3603E-1500-1



VG-870B/871B VG-873/874

Programmable Video Signal Generator



VG-870B : 3 modules are selectable.
VG-873 : HDMI 4K×2K module pre-installed. 2 modules are selectable.



VG-871B : 3 modules are selectable.
VG-874 : HDMI 4K×2K module pre-installed. 2 modules are selectable.



- HDMI "4K×2K/30p" and "3D(Side-by-Side Full, etc.)" supported by VG-873/874
- 4K×2K/120p, 1080/240p timing supported by iTMDS, DisplayPort and V-by-One HS
- Various digital interfaces (DisplayPort, eDP, 4K×2K iTMDS, V-by-One HS, SDI)
- High Bit Rate / One-Bit Audio (optional)
- Uncompressed 10-bit moving picture playing function (optional)

VG-870B/871B・VG-873/874

Programmable Video Signal Generator

VG-870B and VG-873 perform front button operation. VG-871B and VG-874 needs remote box or software operation.
VG-870B / 871B : maximum 3 modules are selectable.
VG-873 / 874 : maximum 2 modules are selectable.

PC Analog Unit (VM-1811)

Video Output	Analog	BNC, D-Sub 15pin VG-870 : 5 to 300MHz VG-871 : 5 to 250MHz 0.3 to 1.2V 0 to 250mV RGB each 10bit HS / VS TTL CS(Bi-level) 300mV ※on Sync : 0 to 600mV CS(Tri-level) ±300mV ※on Sync : 0 to ±600mV DVH (Single Link, HDCP supported)
	Dot Clock	25 to 165MHz RGB each 8bit HDCP supported
Video Output	Dot Clock	25 to 165MHz RGB each 8bit HDCP supported
	Colors(MAX)	Copy Protect

TV Encoder Unit (VM-1812)

Video Output	Analog	BNC, S-Video, Composite, D-Terminal, D-Sub 15pin, SCART×2 RGB / YPaPr 5 to 165MHz RGB each 8bit 1080p / 1080i / 720p HDTV SDTV NTSC / PAL / SECAM PC Functions Programmable / Internal Timing Teletext, Closed Caption, V-chip, Macrovision (Option)
	Dot Clock	25 to 165MHz RGB each 8bit 1080p / 1080i / 720p HDTV SDTV NTSC / PAL / SECAM PC Functions Programmable / Internal Timing Teletext, Closed Caption, V-chip, Macrovision (Option)
Video Output	Dot Clock	25 to 165MHz RGB each 8bit 1080p / 1080i / 720p HDTV SDTV NTSC / PAL / SECAM PC Functions Programmable / Internal Timing Teletext, Closed Caption, V-chip, Macrovision (Option)
	Colors(MAX)	Copy Protect

DVI Unit (VM-1814)

Video Output	Digital	DVI-D×2ch ch1 : Dual Link ch2 : Single Link (HDCP)
	Dot Clock	25 to 165MHz : Single Link 50 to 330MHz : Dual Link RGB each 16bit (10 to 16bit : MAX 165MHz)
Video Output	Dot Clock	25 to 165MHz : Single Link 50 to 330MHz : Dual Link RGB each 16bit (10 to 16bit : MAX 165MHz)
	Colors(MAX)	Copy Protect

LVDS Unit (VM-1815)

Video Output	Digital	LVDS×4 (MDR 26pin) 20 to *135MHz : Single Link 40 to 270MHz : Dual Link 80 to 340MHz : Dual Link RGB each 16bit (16bit : MAX 240MHz)
	Dot Clock	25 to 165MHz : Single Link 50 to 330MHz : Dual Link RGB each 16bit (10 to 16bit : MAX 165MHz)
Video Output	Dot Clock	25 to 165MHz : Single Link 50 to 330MHz : Dual Link RGB each 16bit (10 to 16bit : MAX 165MHz)
	Colors(MAX)	Copy Protect

4Kx2K Unit (VM-1824)

Video Output	Digital	DVI-I (Digital only) Dual Link×2 (HDCP supported in Single Link) DVI Mode 8bit 25 to 165MHz : Single Link 50 to 330MHz : Dual Link 12bit 25 to 150MHz : Single Link 50 to 300MHz : Dual Link Multi ch Mode 10 to 16bit 25 to 165MHz : Dual Link 50 to 330MHz : Quad Link 4K×2K Mode (Full HD 240Hz) 8 to 12bit 297 to 660MHz : Quad Link
	Dot Clock	25 to 165MHz : Single Link 50 to 330MHz : Dual Link 12bit 25 to 150MHz : Single Link 50 to 300MHz : Dual Link Multi ch Mode 10 to 16bit 25 to 165MHz : Dual Link 50 to 330MHz : Quad Link 4K×2K Mode (Full HD 240Hz) 8 to 12bit 297 to 660MHz : Quad Link
Video Output	Dot Clock	25 to 165MHz : Single Link 50 to 330MHz : Dual Link 12bit 25 to 150MHz : Single Link 50 to 300MHz : Dual Link Multi ch Mode 10 to 16bit 25 to 165MHz : Dual Link 50 to 330MHz : Quad Link 4K×2K Mode (Full HD 240Hz) 8 to 12bit 297 to 660MHz : Quad Link
	Colors(MAX)	Copy Protect

DisplayPort Unit (VM-1820A)

Video Output	Digital	DisplayPort×2 VESA DisplayPort Ver.1.1a MAX 270MHz (1 port), MAX 340MHz (2 ports) 1, 2, 4 Lanes Each 10bit (RGB, YCbCr 4:4:4)
	Dot Clock	25 to 165MHz : Single Link 50 to 330MHz : Dual Link 12bit 25 to 150MHz : Single Link 50 to 300MHz : Dual Link Multi ch Mode 10 to 16bit 25 to 165MHz : Dual Link 50 to 330MHz : Quad Link 4K×2K Mode (Full HD 240Hz) 8 to 12bit 297 to 660MHz : Quad Link
Video Output	Dot Clock	25 to 165MHz : Single Link 50 to 330MHz : Dual Link 12bit 25 to 150MHz : Single Link 50 to 300MHz : Dual Link Multi ch Mode 10 to 16bit 25 to 165MHz : Dual Link 50 to 330MHz : Quad Link 4K×2K Mode (Full HD 240Hz) 8 to 12bit 297 to 660MHz : Quad Link
	Colors(MAX)	Copy Protect

DisplayPort, eDP Unit (VM-1826)

Video Output	Digital	DisplayPort×2 VESA DisplayPort Ver.1.1a, eDP MAX 330MHz (1 port), MAX 660MHz (2 ports) 1, 2, 4 lanes per port Each 10bit (RGB, YCbCr 4:4:4)
	Dot Clock	25 to 165MHz : Single Link 50 to 330MHz : Dual Link 12bit 25 to 150MHz : Single Link 50 to 300MHz : Dual Link Multi ch Mode 10 to 16bit 25 to 165MHz : Dual Link 50 to 330MHz : Quad Link 4K×2K Mode (Full HD 240Hz) 8 to 12bit 297 to 660MHz : Quad Link
Video Output	Dot Clock	25 to 165MHz : Single Link 50 to 330MHz : Dual Link 12bit 25 to 150MHz : Single Link 50 to 300MHz : Dual Link Multi ch Mode 10 to 16bit 25 to 165MHz : Dual Link 50 to 330MHz : Quad Link 4K×2K Mode (Full HD 240Hz) 8 to 12bit 297 to 660MHz : Quad Link
	Colors(MAX)	Copy Protect

SDI Unit (VM-1821)

Video Output	Video Format	SD×4 lines NTSC, PAL : (SMPT-259M) HD×4 lines 1080p30, 1080i60 etc. : (SMPT-274M/SMPT-296M / SMPT-260M) 3G×4 lines 1080p60, 720p60 etc. : (SMPT-425M) DUAL×2 lines 1080p60 etc. : (SMPT-372M)
	Dot Clock	25 to 165MHz : Single Link 50 to 330MHz : Dual Link 12bit 25 to 150MHz : Single Link 50 to 300MHz : Dual Link Multi ch Mode 10 to 16bit 25 to 165MHz : Dual Link 50 to 330MHz : Quad Link 4K×2K Mode (Full HD 240Hz) 8 to 12bit 297 to 660MHz : Quad Link
Video Output	Dot Clock	25 to 165MHz : Single Link 50 to 330MHz : Dual Link 12bit 25 to 150MHz : Single Link 50 to 300MHz : Dual Link Multi ch Mode 10 to 16bit 25 to 165MHz : Dual Link 50 to 330MHz : Quad Link 4K×2K Mode (Full HD 240Hz) 8 to 12bit 297 to 660MHz : Quad Link
	Colors(MAX)	Copy Protect

V-by-One HS Unit (VM-1825)

Video Output	Digital	2ch (1ch supports 4 lanes.) *MDR 26-pin connector Normal MODE 8 to 10bit 20 to 75MHz (1Lane) 40 to 150MHz (2Lane) 80 to 300MHz (4Lane)
	Dot Clock	25 to 165MHz : Single Link 50 to 330MHz : Dual Link 12bit 25 to 150MHz : Single Link 50 to 300MHz : Dual Link Multi ch Mode 10 to 16bit 25 to 165MHz : Dual Link 50 to 330MHz : Quad Link 4K×2K Mode (Full HD 240Hz) 8 to 12bit 297 to 660MHz : Quad Link
Video Output	Dot Clock	25 to 165MHz : Single Link 50 to 330MHz : Dual Link 12bit 25 to 150MHz : Single Link 50 to 300MHz : Dual Link Multi ch Mode 10 to 16bit 25 to 165MHz : Dual Link 50 to 330MHz : Quad Link 4K×2K Mode (Full HD 240Hz) 8 to 12bit 297 to 660MHz : Quad Link
	Colors(MAX)	Copy Protect

Parallel Unit (VM-1816)

Video Output	Digital	Parallel×2 (Half-pitch 68-pin) 0.1 to 100MHz : Single Link 0.2 to 200MHz : Dual Link RGB each 16bit (16bit : MAX 100MHz)
	Dot Clock	25 to 165MHz : Single Link 50 to 330MHz : Dual Link 12bit 25 to 150MHz : Single Link 50 to 300MHz : Dual Link Multi ch Mode 10 to 16bit 25 to 165MHz : Dual Link 50 to 330MHz : Quad Link 4K×2K Mode (Full HD 240Hz) 8 to 12bit 297 to 660MHz : Quad Link
Video Output	Dot Clock	25 to 165MHz : Single Link 50 to 330MHz : Dual Link 12bit 25 to 150MHz : Single Link 50 to 300MHz : Dual Link Multi ch Mode 10 to 16bit 25 to 165MHz : Dual Link 50 to 330MHz : Quad Link 4K×2K Mode (Full HD 240Hz) 8 to 12bit 297 to 660MHz : Quad Link
	Colors(MAX)	Copy Protect

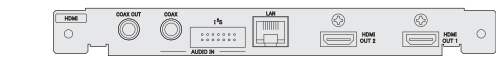
4Kx2K Unit (VM-1824-A)

Video Output	Digital	DVI-I (Digital only) Dual Link×2 (HDCP supported) DVI Mode 8bit 25 to 165MHz : Single Link 50 to 330MHz : Dual Link 12bit 25 to 150MHz : Single Link 50 to 300MHz : Dual Link Multi ch Mode 10 to 16bit 25 to 165MHz : Dual Link 50 to 330MHz : Quad Link 4K×2K Mode (Full HD 240Hz) 8 to 12bit 297 to 660MHz : Quad Link
	Dot Clock	25 to 165MHz : Single Link 50 to 330MHz : Dual Link 12bit 25 to 150MHz : Single Link 50 to 300MHz : Dual Link Multi ch Mode 10 to 16bit 25 to 165MHz : Dual Link 50 to 330MHz : Quad Link 4K×2K Mode (Full HD 240Hz) 8 to 12bit 297 to 660MHz : Quad Link
Video Output	Dot Clock	25 to 165MHz : Single Link 50 to 330MHz : Dual Link 12bit 25 to 150MHz : Single Link 50 to 300MHz : Dual Link Multi ch Mode 10 to 16bit 25 to 165MHz : Dual Link 50 to 330MHz : Quad Link 4K×2K Mode (Full HD 240Hz) 8 to 12bit 297 to 660MHz : Quad Link
	Colors(MAX)	Copy Protect

HDMI Units

HDMI 300MHz Video Signal Generator VG-873 / 874

HDMI Unit



Main Features

- HDMI TMDS Clock 300MHz supported.
- 4K×2K (3840×2160/24p, 25p, 30p and 4096×2160/24p) and 1080/120p timings
- 1080/60p of 3D format (Side-by-Side Full and Frame Packing)
- HDMI 16-bit video output (within limited dot clock frequency)
- HEAC (HDMI Ethernet and ARC) Test function

Video Output	Digital	Function Dot Clock	HDMI×2 4K×2K, 3D, HEAC, ARC, CEC 25-300MHz (8bit) TMDS Clock : MAX 300MHz *MAX 150MHz for 16bit RGB each 16bit
			32 / 44.1 / 48 / 88.2 / 96 / 176.4 / 192KHz HBR / One Bit audio (option) HDMI, COAXIAL (for ARC test) COAXIAL, I2S (Option)
Video Output	Digital	Function Dot Clock	HDMI×2 3D, ARC, CEC 25 to 165MHz (TMDS clock : 25 to 225MHz) *MAX 150MHz for 12bit RGB each 12bit
			32 / 44.1 / 48 / 88.2 / 96 / 176.4 / 192KHz HBR / OB audio (option) HDMI, COAXIAL (for ARC testing) COAXIAL, I2S (option)

Note: VG-873 and VG-874 are equipped with HDMI output unit as default.
2 more modules are selectable.

Other HDMI Units

HDMI Unit (VM-1817)



Video Output	Digital	Function Dot Clock	HDMI×2 CEC 25 to 165MHz (TMDS clock : 25 to 225MHz) RGB each 12bit
			32 / 44.1 / 48 / 88.2 / 96 / 176.4 / 192KHz HBR / OB audio (option) RCA (L/R) RCA ×1 (COAXIAL), TOSLINK, I2S (Option)
Video Output	Digital	Function Dot Clock	HDMI×2 3D, ARC, CEC 25 to 165MHz (TMDS clock : 25 to 225MHz) *MAX 150MHz for 12bit RGB each 12bit
			32 / 44.1 / 48 / 88.2 / 96 / 176.4 / 192KHz HBR / OB audio (option) HDMI, COAXIAL (for ARC testing) COAXIAL, I2S (option)

HDMI Unit (VM-1822)



Video Output	Digital	Function Dot Clock	HDMI×2 3D, ARC, CEC 25 to 165MHz (TMDS clock : 25 to 225MHz) *MAX 150MHz for 12bit RGB each 12bit
			32 / 44.1 / 48 / 88.2 / 96 / 176.4 / 192KHz HBR / OB audio (option) HDMI, COAXIAL (for ARC testing) COAXIAL, I2S (option)
Video Output	Digital	Function Dot Clock	HDMI×2 3D, ARC, CEC 25 to 165MHz (TMDS clock : 25 to 225MHz) *MAX 150MHz for 12bit RGB each 12bit
			32 / 44.1 / 48 / 88.2 / 96 / 176.4 / 192KHz HBR / OB audio (option) HDMI, COAXIAL (for ARC testing) COAXIAL, I2S (option)

Features

HDMI

3D (supported by VM-1822 and VG-873 / 874)

Test patterns of 3D format specified in HDMI standard are supported.
By using the software "3D Image Editor" in SP-8870-3DT, users own Left and Right separate 2D image can be converted to 3D image format.
Various 3D test patterns are pre-installed, and they are displayed with 3D InfoFrame setting.

CEC (Consumer Electronics Control) commands communication test

ARC (Audio Return Channel) test function

AAC / AC3 Option

AAC(Dolby Digital) and AC3 digital audio that are supported by the latest flat panel display is supported.

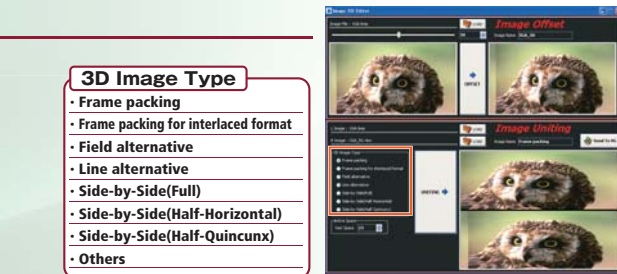
HBR / OB Full Audio Option

In addition to AAC and AC3, HBR(High-Bit-Rate) and OB(One-Bit) audio that is defined in the HDMI standard is supported.
By using the I2S interface, audio is embedded and output.
Compatible with the VG-849C-A "HBR/OB Audio Compliance Tester" and compliance test software is available as option.

4K×2K/60p, 1080/240p timings supported (VM-1824 / VM-1824A / VM-1825 / VM-1826)

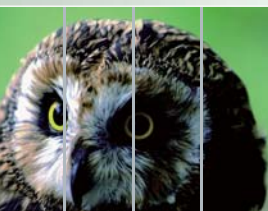
- Digital interfaces, such as iTMDS / DVI, V-by-One HS and DisplayPort, support 4K×2K/60p and 1080/240p timings.
- By using two VM-1824, VM-1824A, VM-1825 or VM-1826, 4K×2K/120p timing is supported.

Note) some action functions like Motion Blur, Sinewave / Ramp / Window scroll and Window flicker patterns are not supported.

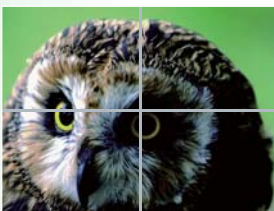


3D Image Type

- Frame packing
- Frame packing for interlaced format
- Field alternative
- Line alternative
- Side-by-Side(Full)
- Side-by-Side(Half-Horizontal)
- Side-by-Side(Half-Quincunx)
- Others



Vertical split mode



Cross split mode