








VG-859C
Programmable Video Signal Generator

Specifications				
Data Programming		Remote Box RB-1848 or Software SP-8848		
Analog Outputs			BNC/RGB, YCbCr, D-sub, DVI, D-terminal	
	Dot clock frequency(step)		5.00 to 250.000MHz (0.001MHz step)	
	Scan Mode		Interlaced & Video / Interface & Sync / Non-interlace	
	Display Colors		16,770,000 colors (24-bit true colors)	
	Video Format		RGB or YCbCr	
	Video Level (Accuracy)		0.3 to 1.2V 75Ω(±3% or less)	
	Sync on Green		Available	
	Sync Level (Accuracy)		0.0 to 0.6V 75Ω(±3% or less)	
	Setup Level		0.00 to 0.25V 75Ω	
	Rise / Fall Time		1.5ns or less	
	Separate Sync (Accuracy)		HS, VS, CS (2.0V or more)	
	Horizontal Timing			
	Range		10 to 300KHz	
	Total Pixels(Accuracy)		128 to 8192 dots (1 dot step)	
	Vertical Timing			
	Range		15.6 to 200Hz	
	Total Lines (Accuracy)		4 to 8192 lines (1H step)	
	Serration		Equalizing Pulse on/off, 0.5H/1H/XOR selectable	
DVI Outputs		DVI-I		
	Dot clock frequency(step)		25.000 to 165.000MHz (0.001MHz step)	
	DDC2B		Available(Read / Write / Compare / Edit)	
	HDCP		Available(Ver.1.0)	
	Video Format		TMDS/RGB, YCbCr 4:4:4)	
HDMI outputs		HDMI Type A connector		
Video	Clock Bandwidth		25.000 to 225.000MHz (Pixel Clock : up to 165.000MHz)	
	Display Colors (Normal)		RGB each 24-bit / RGB each 36-bit (Multi-bit Deep Color Mode)	
	Compliant		HDMI Ver.1.3a	
	DDC2B		Available(Read / Write / Compare / Edit) EDID Ver.1.3a 512k Byte	
	HDCP		Available(Ver.1.0 or Ver1.1 with AV-MUTE ON/OFF function)	
	Video Format		TMDS/RGB, 4:4:4, YCbCr 4:2:2 or xvYCC601/709) *1	
	Audio	Channel		Max. 8 channels
Bits per Sample		16, 20, 24-bit		
Sample Rate		32, 44.1, 48, 88.2, 96, 176.4, 192KHz		
Waveform		Sinewave, Sweep		
Amplitude		0-7FFF (in case of 16-bit)		
Frequency Range		20Hz to 20KHz		
Frequency Resolution		20Hz Step		
External Audio Input		S/PDIF(10SLINK(optical), COAX), Analog		
Special Control Mode		Mute, Frequency, Volume		
Analog Audio Outputs		L/R RCA connector		
		Frequency Range		0Hz to 20KHz
	Frequency Resolution		100Hz step	
	Channel		2 channels (L/R)	
	Output Level Range		0 to 200mV	
	Output Level Resolution		50mV step	
	Special Control Mode		Tone(L/R) / Sweep/ Mute	
TV Outputs		Composite, S-Video(S1,S2), YCbCr, RGB		
	Output Mode		NTSC 4.43, NTSC 3.58(M,J), PAL(B,D,G,H,I,K,N,M) SECAM	
	Output Format		Composite(BNC), S-Video(S1,S2 with format control function)	
			SCART (with optional IA-575)	
	Function		Vchip, Closed Caption, Teletext, Macrovision (optional)	
HDTV Signal Outputs		YPbPr, D-terminal(D1 to D5 with format control)		
	Format		SMPTE / EIA / China / Australia	
	Resolution		1080i, p / 720p / 480p	
Data Storage Device		Compact Flash (adapter included) / standard 128MB		
	Flash Memory(Read Only)		450timings + 450patterns	
	Memory Card(R/W)		850timings + 850patterns + 100programs(group)	
	Disk on PC(R/W)		with SP-8848 software, unlimited data storage	
			Standard SP-8848 Windows Software	
Software		Timing & Pattern(incl. bmp/jpeg, C language) Edit, EDID edit, Cursor, etc.		
Control Interface		RS-232C or LAN(10/100BASE-TX) or REMOTE		
General specifications	Power Voltage		AC100 to 120V, AC200 to 240V (50/60Hz)	
	Power Consumption		80W MAX	
	Operating Temperature Range		+5 to 40°C	
	Storage Temperature Range		-10 to 60°C	
	Operating Humidity Range		30 to 80% (non-condensing)	
	Dimensions		370(W) x 73(H) x 320(D)mm (excluding projections)	
	Weight		Approx. 5.5Kg	

*1 Available only for xvYCC special test pattern. This function is under development(as of March 2007), and firmware updates may be required. For details, please inquire to our sales support desk.

Options							
Remote BOX (with editing function)	Remote BOX	SCART BOX	DTV Card	Built-in pattern card for 8/10/12 bit image	Software for max.16bit tiff to VBM(VG format) converting	Built-in pattern card for China TV test pattern library	License
RB-1848	RB-614C	IA-575	VT-8000	VT-8001	SP-8010	VT-8500-0004	1) Macrovision function 2) Max.12-bit Multi-bit
			 Monoscope pattern Circular zone plate etc.				

Restrictions
•Analog output and CS output Tr/Tf differ from high definition TV BTA or SMPTE standards.
•Analog output and CS output Tr/Tf differ from NTSC standards.
•Tri-level SYNC setting is in units of four dots.
•VS signal is output based on vertical reference phase point.
•The amplitude level of the synchronization output of the positive pole is linked with the synchronization output level of the negative pole.
•Simultaneous output of color difference signal and RGB is not possible.
•Output of NTSC/PAL/SECAM for VBS and S-terminal output is OFF except for specified timing.
•The DVI signal setting is in units of one dot for single link 25 - 100MHz, and two dots for 100MHz - 165MHz.
•In HDCP mode, DVI shall be output from either one of the HDMI connectors. (selectable)

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

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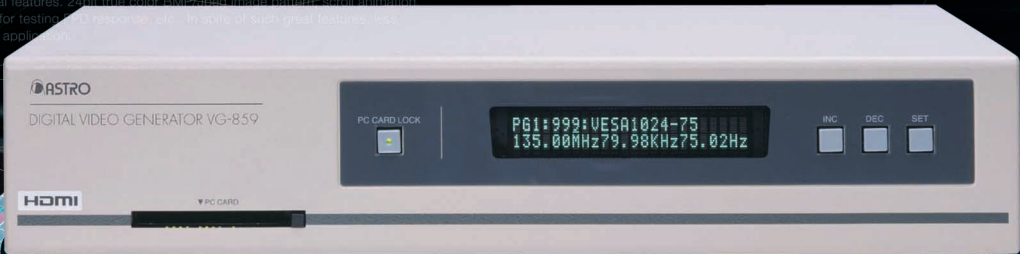
VG859C-IB3204E-1000-1



VG-859C
Programmable Video Signal Generator

A programmable video signal generator that supports the latest HDMI standard, Ver1.3a (EIA/CEA-861D), and is optimal for next-generation FPD TV testing.

New HDMI Supported Portable Video Signal Generator
The VG-859C is the most significant programmable video signal generation unit supporting the measuring of all display fields, not just PC monitor displays, but also FPD television that corresponds to digitization of broadcast and the development of advanced technology display devices. Next generation TV digital interface (HDMI(High-Definition Multimedia Interface : EIA / CEA-861B standard)) is supported. Abundant analog output channels are provided (BNC, D-Sub-15, D terminal, DVI-I, VBS, and S terminal). Supports RGB, color difference, trilevel sync and standard television signals with Macrovision(optional), Teletext, Vchip, Closed Caption such additional features. 24bit true color DVI-deep image pattern-scroll animation pattern with 1 dot/1H high accuracy for testing and development of such great features, less expensive, so suitable for production application.



VG-859C
HDMI Portable Video Signal Generator



VG-859C

Programmable Video Signal Generator

A programmable video signal generator that supports the latest HDMI standard, Ver1.3a (EIA/CEA-861D), and is optimal for next-generation FPD TV testing.

The VG-859C is a portable video generator that supports every display measurement fields, such as inspection field for FPD TV sets which support digitalized broadcast and digitalized interface, and development field for highly advanced display devices and sophisticated PC monitors.

Using with an optional remote BOX (RB-1848, etc) allows data editing and program executing. For digital output, the VG-859C supports DVI as well as HDMI (High Definition Multimedia Interface) Ver.1.3a (the latest version of HDMI).

It can inspect the new features of HDMI 1.3a, such as Deep Color (up to RGB12bit), xvYCC, and Lipsync. For analog output, the VG-859C has a wide variety of output ports (BNC, Dsub15pins, D-terminal, DVI-I, S-terminal), and supports RGB signals, color difference signals, tri-level synchronization signals, and TV standard signals.

Wideband dot clock

The dot clock supports a maximum of 250MHz analog output, a maximum of 165MHz digital DVI output (through custom conversion), and a maximum of 225MHz digital HDMI output (maximum pixel clock is 165MHz), and can be finely set in units of 1KHz. High-definition displays at HD (1080/60p) and QXGA (2048x1536) or higher resolutions can also be supported.

HDMI standard Ver.1.3a

The VG-859C supports the latest standard (Ver. 1.3a) of the HDMI digital interface (EIA / CEA-861D), and the InfoFrame setting parameters are also standard-compliant.

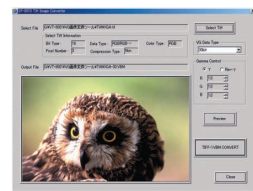
*Only linear PCM audio is supported. Uncompressed and lossless audio formats such as SACD and Dolby TrueHD are not supported.

Deep Color output (max. RGB 12-bit)

RGB/Y444 can switch between RGB 8-bit/10-bit/12-bit output. Can display up to RGB each 12-bit 4096-level linear ramp patterns and composite ramp patterns, optimal for multi-level testing, through optional license input. By using the optional SP-8010 software, 10/12-bit tiff format natural images can also be Saved on the VG and output as a pattern.



Ramp pattern for comparing the graduation

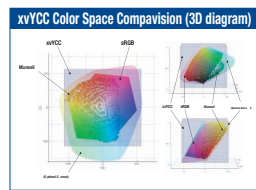
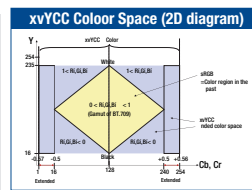
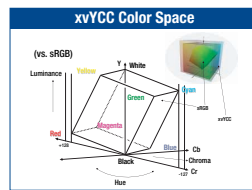


SP-8010 software image

xvYCC / Lipsync test function (under development)

The xvYCC (xvYCC709/xvYCC601) video standard, with a color gamut surpassing current HDTV, and a video and audio delay (Lipsync) test function are supported.

*These functions are under development (as of March 2007), and firmware updates may be required. For details, please inquire to our sales support desk.



Support for CEC function

Support for transmission and reception of CEC (Consumer Electronics Control) commands over the HDMI output, and simple display of the communication results on Sink (TV) equipment.



DDC/CI / HDCP EDID OK/NG simple test function

Can DDC/CI simple communication test function, HDCP (High-band Width Digital Content Protection) authentication test, and EDID checksum OK/NG pass-fail results as a pattern.

*The DDC/CI simple communication test function is under development (as of March 2007), and firmware updates may be required. For details, please inquire to our sales support desk.

HDCP Encrypted Video		MULTI : 0/ 16
1. DDC/CI	PASS	00000000
2. HDCP	PASS	00000000
3. EDID	PASS	00000000
4. DDC/CI	PASS	00000000
5. HDCP	PASS	00000000
6. EDID	PASS	00000000
7. DDC/CI	PASS	00000000
8. HDCP	PASS	00000000
9. EDID	PASS	00000000
10. DDC/CI	PASS	00000000
11. HDCP	PASS	00000000
12. EDID	PASS	00000000
13. DDC/CI	PASS	00000000
14. HDCP	PASS	00000000
15. EDID	PASS	00000000
16. DDC/CI	PASS	00000000
17. HDCP	PASS	00000000
18. EDID	PASS	00000000
19. DDC/CI	PASS	00000000
20. HDCP	PASS	00000000
21. EDID	PASS	00000000
22. DDC/CI	PASS	00000000
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25. DDC/CI	PASS	00000000
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28. DDC/CI	PASS	00000000
29. HDCP	PASS	00000000
30. EDID	PASS	00000000
31. DDC/CI	PASS	00000000
32. HDCP	PASS	00000000
33. EDID	PASS	00000000
34. DDC/CI	PASS	00000000
35. HDCP	PASS	00000000
36. EDID	PASS	00000000
37. DDC/CI	PASS	00000000
38. HDCP	PASS	00000000
39. EDID	PASS	00000000
40. DDC/CI	PASS	00000000
41. HDCP	PASS	00000000
42. EDID	PASS	00000000
43. DDC/CI	PASS	00000000
44. HDCP	PASS	00000000
45. EDID	PASS	00000000
46. DDC/CI	PASS	00000000
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172. DDC/CI	PASS	00000000
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