

Programmable Video Pattern Generator

MODEL 2227/2327

Key Features :

- Analog pixel rate 250MHz
- TMDS pixel rate 165MHz
- TV NTSC/PAL/SECAM signal support
- S-Video / VBS composite output
- 2 level SDTV & 3 level HDTV Format
- HDCP V.1.0 support
- Closed Caption function support
- V-Chip function support
- Y/Pb/Pr, Y/Cb/Cr, Y/R-Y/B-Y output
- One-pixel resolution
- Display size up to 4096x2048 max
- Picture for BMP format support
- DDC2B Read / Write
- PC remote control
- Storing data with memory cards
- Supporting Gamma calibration
- ESD circuit protection built-in



Model 2227

PROGRAMMABLE VIDEO PATTERN GENERATOR MODEL 2227/2327

Chroma 2227/2327 Video Pattern Generators not only combine the signals of analog (250MHz) and digital (165MHz) to provide the VESA standard video signal source for LCD Monitor/CRT Monitor, it also integrates the TV (NTSC / PAL/SECAM) signal to fit in the multi-media display applications for the newly risen LCD TV, PDP TV, LCOS TV and DLP RPTV industries. Users can utilize the software application, VPG PLUS, either on PC or on the Video Pattern Generator itself to edit various timing parameters, patterns and test procedures. Its complete test functions can fully meet the requirements for R&D, production test and quality assurance in all video related industries.

Analog/TMDS/SDTV/HDTV Signals Support

The 2227/2327 Video Pattern Generators equipped with microprocessor and precision Phase Locked Loop (PLL) circuit have accuracy up to 25PPM/1PPM after calibration are featured in high accuracy, high stability and high speed. Moreover, all of its horizontal timing parameters are in one-pixel resolution, which can provide the video signal with 256-color per pixel. For analog signal output, its pixel frequency can up to 250MHz and the RGB signals meet the RS-343A standard. It also supports Y/R-Y/B-Y, Y/Pb/Pr, Y/Cb/Cr and sync signals for tri-level output to fulfill the test requirements for HDTV.

The digital signal is in TMDS output with pixel frequency from 25~165MHz and test screen resolution up to UXGA. Its DVI-I Connector containing digital, analog and DDC2B signals meet the DDWG DVI standard. In addition Electrostatic Discharge (ESD) and Surge are designed for protection.

As to the TV output spec, the image and chromaticity of 2227/2327 meet the regulations of

NTSC/PAL/SECAM, which the output signals include VBS composite signal with BNC and Y/C (Luminance/Chrominance) image/chromaticity separation signal with S-Video output connector.

Chroma 2227/2327 Video Pattern Generators have built in rich timing files and various patterns selections to increase the product usage as well as to decrease the engineer workload for setting operation. The embedded NVRAM memory device and optional memory card allow users to save the data files of accomplished settings for recall. The parameters for output patterns and timings can be programmed by PC via RS232C and loaded to memory card via the 22xx Series VPGs, meanwhile the operation sequences can be programmed and controlled by VPGplus on PC via RS232C interface. VPGplus provides a convenient operating environment for VPG users. Users can set the VPG parameters for the data of timing, pattern, program and icon, etc.

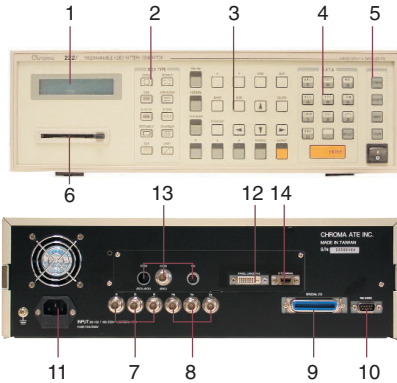
Following the rising market of multi-media display the competition and demand for product quality are getting more and more severe as consumers often request and search for higher pixels with less bad cells as well as low cost video display products before purchasing. Under this circumstance, the Chroma 2227/2327 Video Pattern Generators with high resolution test quality can meet the multi-media display applications at present, and the features described above make the Video Pattern Generator a indispensable testing tool for the RD engineers and production manufacturers.

Model 2327

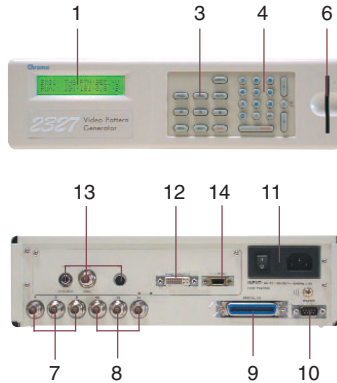


Chroma

Programmable Video Pattern Generator



Chroma Model 2227



Chroma Model 2327

- 1.LCD Display
- 2.Icon Keys: For icon type selection
- 3.Function Key: Timing & Pattern
- 4.Alphanumeric Keys: For data input
- 5.Config Key: General information setting
- 6.Memory Card: For storage memory expansion
- 7.Analog Signal Output R.G.B.
- 8.Sync Output
- 9.I/O Port
- 10.RS-232 Interface
- 11.AC Input
- 12.DVI Output
- 13.TV Output
- 14.HDTV output: D5-Terminal

SPECIFICATIONS

ANALOG OUTPUT

Display Size	2048X2048 / 4096X2048(Option)
Pixel Rate Range	3.126~250MHz
Video Level	R, G, B (75 ohms) 0~1.0V programmable
Sync on Green / Level	0~0.5V On/Off programmable
White Level	0~1.2V programmable
Black Level	7.5 IRE / 0 IRE programmable

HORIZONTAL TIMING

Total Pixels	128~8192 pixels / 1 pixels resolution
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VERTICAL TIMING

Total Pixels	6~4096 lines (non-interlace) 6~2047 lines (interlace) / 1 line resolution
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COMPOSITE SYNC

H OR V,H XOR V,with RS-343A Equalization & Serration Pulse

SEPARATE SYNC

Hs,Vs,Xs

TMDS OUTPUT

Pixel Rate Range	25MHz~165MHz
EDID	Read / Write / Compare / Edit / Analyzer
HDCP	Support HDCP V.1.0 Production-Key
Compliant	DVI 1.0 specification
Video Signal Type	RGB or YCbCr
Sampling Mode	4:4:4

TV OUTPUT

Output Mode	NTSC 443	NTSC M,J	PAL BDGHI	SECAM	
Subcarrier Frequency	4.433618	3.579545	4.433618	4.462500	
Subcarrier Stability	+50				Hz
Video Output	Composite (BNC,RCA),S-Video Burst On/Off (NTSC,PAL) Contrast programmable Brightness programmable Saturation programmable Hue programmable				
Closed Caption Support (NTSC)	C1~C4, T1~T4 V-CHIP				

SDTV OUTPUT : All SDTV Timing can be programmable

Timing	Progressive Mode		Interlace Mode		Standard
	Frame Rate (Hz)	Frame Rate (Hz)	Frame Rate (Hz)	Frame Rate (Hz)	
720X483	59.94	60/1.001	59.94I	60/1.001	SMPTE 293 ITU 601 SMPTE 170M
	720X576	50P	50	50I	25 ITU 601

HDTV OUTPUT

Timing	Progressive Mode		Interlace Mode		Standard
	Frame Rate (Hz)	Frame Rate (Hz)	Frame Rate (Hz)	Frame Rate (Hz)	
1920X1080	60P	60	60I	30	SMPTE 274
	59.94P	60/1.001	59.94I	30/1.001	SMPTE 274
	50P	50	50I	25	SMPTE 274
	30P	30			SMPTE 274
	29.97P	30/1.001			SMPTE 274
	25P	25			SMPTE 274
	24P	24			SMPTE 274
1920X1035	23.98P	24/1.001			SMPTE 274
			60I	30	SMPTE 240
1280X720			59.94I	30/1.001	SMPTE 240
	60P	60			SMPTE 296
	59.94P	60/1.001			SMPTE 296
	50P	50			SMPTE 296

DATA STORAGE DEVICE

Flash Memory (read only)	100 timings + 100 patterns
NVRAM (R/W)	300 timings + 100 patterns + 100 programs
Memory Card (R/W)	Unlimited data storage

OTHERS

AC Input	90~132 V / 180~250 V,47~63 Hz auto range
Operation/Storage Temp.	+5~+40 deg.C / -20~+60 deg.C
Humidity	20~90 %

DIMENSION / WEIGHT

2227	430x133x380 mm/9.0 kg	16.9x5.2x15 inch/19.82 lb
2327	318x100x320 mm/5.0 kg	12.5x3.9x12.6 inch/11.01 lb

*All specifications are subject to change without notice

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