

Multi-Format Pattern Generator



LT 447

The LT 447 is a multiformat generator with different outputs for DVI-D (HDTV and DTV), D-5 connector, component analog HDTV and DTV as GBR or YPBPR, Y/C, composite and D-15 computer monitor outputs. Test patterns (16 standard) include monoscope, colorbar, cross hatch, gray scale, circle, character and many other patterns. Patterns can be stepped through with the auto switching function. Multiformat component outputs are compliant to 29 formats for ISDB, ATSC, DVB and DTV systems based on 1920x1080, 1280x720, 720x480 and 720x570 rasters. Composite outputs are available for NTSC/PAL/SECAM systems. It displays its greatest functionality and capability at multiformat projector production lines and service applications.

Features

- **DVI**

The DVI output is compliant with the Digital Display Working Group standard DVI-D for many formats in HDTV, SDTV SXGA, XGA, SVGA, and VGA.

- **GBR/YPbPr**

Component analog output signals are switchable between GBR and YPBPR to meet the monitor input format requirements.

- **Sync**

Sync signals are available as CS (tri-level or bi-level), HD and VD (bi-level).

- **Monoscope**

Monoscope test patterns for HDTV [16:9] and SDTV [4:3] are installed for DTV formats as standard.

- **S-Video or Y/C Output**

Super-Video is standard with the Y/C signals output as separate Luminance (Y) and Chrominance (C) signals, compliant to S1 and S2.

- **D Output**

The D output is compliant for EIAJ CP-4120 for D5 output.

- **Preset / Recall**

Up to 100 preset conditions consisting of format and pattern can be stored to internal memory. Recall can be selected with arbitrary begin and end memory locations to fit test requirements.

- **Auto Pattern Switching**

Automatic pattern switching function does not miss any tests and speeds test throughput.

- **Remote Control**

The generator's 9-pin D-sub connector can be remote controlled via an RS-232C interface.

- **Digital Signal System**

Highly stable and accurate signals are provided by the digital signal system.

LT 447 Specifications

Format

No.	Format	Standards	Horizontal Frequency (kHz)	Frame Frequency (Hz)	Aspect Ratio	Output Connectors			
						Component Output (BNC) Y,P _B P _R /G,B,R	Composite Output (BNC, RCA Jack)	RGB Output (15-pin mini D-sub) Y,P _B P _R /G,B,R	DVI-D Output
	COMPONENT, HDTV								
01	1920 X 1080/60p	274M	67.432	59.940	16:9	○		○	
02	1920 x 1080/60i (30sF)	274M RP211	33.716	29.970	16:9	○		○	○
03	1920 x 1080/30p	274M	33.716	29.970	16:9	○		○	○
04	1920 X 1080/24p	274M	26.973	23.976	16:9	○		○	○
05	1920 X 1080/48i (24sF)	274M RP211	26.973	23.976	16:9	○		○	
06	1920 X 1080/50p	274M	56.250	50.000	16:9	○		○	○
07	1920 X 1080/25p	274M	28.125	25.000	16:9	○		○	○
08	1920 X 1080/50i (25sF)	274M RP211	28.125	25.000	16:9	○		○	○
09	1280 X 720/60p	296M	44.955	59.940	16:9	○		○	○
10	1280 X 720/30p	296M	22.477	29.970	16:9	○		○	○
11	1280 X 720/24p	296M	17.982	23.980	16:9	○		○	○
12	1280 X 720/50p	296M	37.500	50.000	16:9	○		○	○
13	1280 X 720/25p	296M	18.750	25.000	16:9	○		○	○
	COMPONENT, SDTV								
14	720 x 480/60p	293M	31.469	59.940	16:9 (S)	○		○	○
15	720 x 480/60i	601	15.734	29.970	4:3 or 16:9 (S/L)	○		○	
16	720 x 576/50p	601	31.250	50.000	16:9 (S)	○		○	○
17	720 x 576/50i	601	15.625	25.000	4:3 or 16:9 (S/L)	○		○	
	COMPOSITE								
18	NTSC-M (SETUP ON)	170M	15.734	29.970	4:3 or 16:9 (S/L)		○		
19	NTSC-J (SETUP OFF)	170M	15.734	29.970	4:3 or 16:9 (S/L)		○		
20	NTSC 4.43	—	15.734	29.970	4:3 or 16:9 (S/L)		○		
21	PAL-B	470	15.625	25.000	4:3 or 16:9 (S/L)		○		
22	PAL-M	470	15.734	29.970	4:3 or 16:9 (S/L)		○		
23	PAL-N	470	15.625	25.000	4:3 or 16:9 (S/L)		○		
24	PAL-60	—	15.734	29.970	4:3 or 16:9 (S/L)		○		
25	SECAM	470	15.625	25.000	4:3 or 16:9 (S/L)		○		
	COMPUTER MONITOR								
26	VGA (640X480@60Hz)	VESA	31.469	59.940	4:3	○ (G,B,R Only)		○ (G,B,R Only)	
27	SVGA (800X600@60Hz)	VESA	37.879	60.317	4:3	○ (G,B,R Only)		○ (G,B,R Only)	
28	XGA (1024X768@60Hz)	VESA	48.363	60.004	4:3	○ (G,B,R Only)		○ (G,B,R Only)	
29	SXGA (1280X1024@60Hz)	VESA	63.981	60.020	4:3	○ (G,B,R Only)		○ (G,B,R Only)	

Typical values are listed for time and frequency.

Number of effective lines are as follows:

NTSC-M, NTSC-J, NTSC 4.43, PAL-M, PAL-60:

480 lines

PAL, PAL-N, SECAM:

574 lines

Abbreviations

274M: SMPTE 274M, 293M: SMPTE 293M, 296M: SMPTE 296M

170M: SMPTE 170M, 601: ITU-R BT. 601, 470: ITU-R BT. 470

VESA: VESA Standards

Abbreviations

(S): Squeeze, (S/L): Squeeze/Letter Box Selection

Rear Panel

