

## LCM Tester

### MODEL 27013

#### Key Features:

- LVDS Signals support
  - 1 / 2 / 4 Channel output
  - Color depth 6 / 8 / 10bits
  - 2 output port
  - Pixel rate up to 330MHz (1 Link 135MHz / 2 Link 270MHz / 4 Link 330MHz)
- The Resolution up to 2560x1600 / 60Hz
- 30 sets Timing / Power / Program selection
- 64 sets Pattern
- Vdd output 3.3~13V / 3.5A programmable
- Vbl Internal / External Support
- DC Power protection OCP
- EDID Read / Write / Compare
- 10 sets EDID data store
- Auto / Manual Pattern switch
- Auto Pattern switch delay time setting
- Power on sequence for signal / Vdd / Vbl
- RGB Signal reverse Hot Key
- Control by RS232



## LCM TESTER MODEL 27013

Chroma 27013 is a portable tester that supports high resolution and large scale LCM with the signals, power supply and test patterns required for LCD Module test.

Users can edit various timing parameters and patterns on PC via software applications. Auto execution or one-key manual control on the device can switch the Timing / Pattern / Program mode rapidly. The easy and convenient operation along with compound key usage made the 27013 LCM Tester most applicable for R&D / Quality Assurance / Quality Verification/ Services / Sales areas for LCM related tests.

27013 LCM Tester contains the following features:

#### 1. Compling with Full HD 120Hz Test

27013 LCM Tester has LVDS signals with dot frequency 330MHz ( 1 Link 135MHz / 2 Link 270MHz / 4 Link 330MHz ) that can test the screen resolution up to 2560x1600 / 60Hz pixels to meet the test requirements for standard test signal of various panels today and Full HD 120Hz (Double frame rate.)

#### 2. Providing, Measuring & Determining Output Power

The system provides 3.3~13V / 3.5A VDD output and 12V, 24V / 4A VBL output power for users to set auto test by LCM's electrical features. Each output channel is able to simulate the timing relationship of power on / off and over voltage protection function. Protection occurs when the power parameter exceeds the predefined range.

#### 3. Complete Test Patterns

The large capacity of memory provides 30 Timings / 64 Patterns with many built-in standard test patterns. 27013 LCM Tester not only can generate

the patterns of 10Bit grayscale, pure color, stripes, text and cross.

#### 4. Separate RGB Signal Control

The panel of 27013 LCM Tester has several rapid one-key operation modes which include: R, G, B & Inversion signal separation and resume - it can separate or resume one of the RGB signals in the display screen ; while the Inversion reverses the pattern display on the screen.

Timing / Pattern / Program / Power mode - users can create the test program specially for UUT by the PC software application and conduct one-key operation from the panel directly.

The VDD rapid key is able to switch the built-in 3 fixed voltage settings 3.3V / 5V / 12V directly to meet the power output conditions for most LCM tests rapidly.

#### 5. RS232 Interface for Data Upload/ Download

27013 LCM Tester with PG MASTER software can edit the test programs and upload/download edited data through the RS-232 interface data control box. Users can update test programs on different testers via the data control box directly without controlling by PC to save the time effectively.

Chroma 27013 carried complete test functions with highly accurate signals and power source. It adopts 20 x 4 LCD screen in compact size with friendly user interface, and its small-scale design can be used flexibly on various tests to satisfy the work unit that needs to move often. The powerful function and fast test speed make it the best tool for production test.



# Chroma

## PANEL DESCRIPTIONS

### Rear View



1. LCD Display
2. Red/Green/Blue Color on/off
3. RGB Inversion
4. Signal/Power on/off switch
5. Timing/Pattern/Program/Power select
6. EDID Function
7. System Power on/off

### Top View

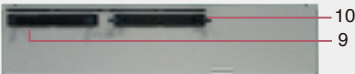


### Side View



8. Up/Down select
9. LVDS Channel 3-4 output
10. LVDS Channel 1-2 output
11. Data Download
12. AC Power Input
13. VBL Input
14. VBL Output

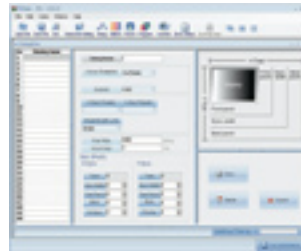
### Front View



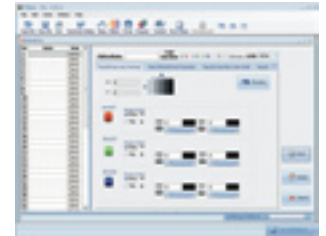
## PG MASTER SOFTWARE



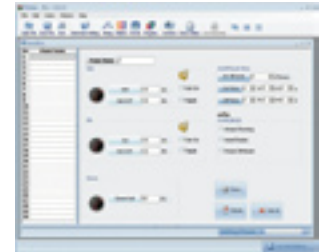
### Hardware Setting



### Timing Setting



### Pattern Setting



### Power Setting

## SPECIFICATIONS

<b>Model</b>	27013		
<b>Output</b>	LVDS		
<b>Option</b>	DataBank		
<b>LVDS interface</b>			
<b>Resolution</b>	Up to 2560x1600 / 60Hz , 1920X1080 / 120Hz		
<b>Pixel Rate</b>	1 link up to 135MHz / 2 link up to 270MHz / 4 link up to 330MHz		
<b>Color Deep</b>	6/8/10bits Programmable (10bit for gray scale)		
<b>Output mode</b>	2 Channel x2 / 4 Channel x1		
<b>Connector</b>	Box Header 50Pin		
<b>Power Requirement</b>			
<b>Input (AC)</b>	90~264 Vac		
<b>Output (DC)</b>	Vdd : 3.3V~13V, 3.5A programmable Vbl : Internal 12V / 24V 4A Max External 25V / 26A Max		
<b>Vdim</b>	0V~7V Step 0.1V		
<b>Inverter Voltage</b>	On: 5V , Off: 0V		
<b>Power Sequence Resolution</b>			
	Vdd	Signal	Vbl
<b>Turn-on</b>	1ms	1ms	1ms
<b>Turen-off</b>	1ms	1ms	1ms
<b>Operation</b>			
<b>Pattern Control</b>	64 sets auto/manual (30 sets by editing)		
<b>Timing Control</b>	30 sets by editing		
<b>Program Control</b>	30 sets by editing		
<b>EDID Application</b>			
<b>EDID 1</b>	Read / Write / Compare		
<b>EDID 2</b>	Read / Write / Compare		
<b>EEDID</b>	Read / Write / Compare		
<b>EDID store</b>	10 sets EDID Data store		
<b>Environment</b>			
<b>Operation Temperature</b>	0~40°C		
<b>Storage Temperature</b>	-20~70°C		
<b>Humidity</b>	0~80%		
<b>Dimension (H x W x D)</b>	69 x 309.3 x 271.5 mm / 2.74 x 12.18 x 10.69 inch		
<b>Weight</b>	2.9 kg / 6.39 lbs		

\* All specifications are subject to change without notice. Please visit our website for the most up to date specifications.

Developed and Manufactured by :

### CHROMA ATE INC.

致茂電子股份有限公司  
**HEADQUARTERS**  
 No. 66, Hwa-Ya 1st Rd.,  
 Hwa-Ya Technology Park,  
 Kuei-Shan Hsiang,  
 Taoyuan County 33383  
 Taiwan  
 Tel: +886-3-327-9999  
 Fax: +886-3-327-8898  
 http://www.chromaate.com

**CHINA**  
**CHROMA ELECTRONICS**  
**(SHENZHEN) CO., LTD.**  
 8F, No.4, Nanyou Tian An  
 Industrial Estate, Shenzhen,  
 China PC: 518052  
 Tel: +86-755-2664-4598  
 Fax: +86-755-2641-9620

**JAPAN**  
**CHROMA JAPAN CORP.**  
 11F NARA Building II 2-2-8  
 Shinyokohama, Kouhokuku,  
 Yokohama City 222-0033  
 Kanagawa, Japan  
 Tel: +81-45-470-2285  
 Fax: +81-45-470-2287  
 http://www.chroma.co.jp

**U.S.A.**  
**CHROMA ATE INC. (U.S.A.)**  
 7 Chrysler Irvine, CA 92618  
 Tel: +1-949-421-0355  
 Fax: +1-949-421-0353  
 Toll Free: +1-800-478-2026  
 http://www.chromaus.com  
 E-mail: info@chromaus.com

**EUROPE**  
**CHROMA ATE EUROPE B.V.**  
 Morsestraat 32, 6716 AH Ede,  
 The Netherlands  
 Tel: +31-318-648282  
 Fax: +31-318-648288  
 http://www.chroma.eu.com  
 E-mail: sales@chromaeu.com

Distributed by:

Worldwide Distribution and Service Network