



LCM AUTOMATIC TEST SYSTEM MODEL 2917

The technology development of liquid display has been moving toward the features of large scale, high quality, high contrast and fast dynamic response recently that made the Full HD (1920X1080) high resolution specification become a new mainstream in the market. In order to meet the test requirements of today's industries, Chroma 2917 LCM ATS is structured in modularized with integrated signals and power source. The powerful on-line network function and easy-to-use interface are equipped to fulfill the test requirements such as all kinds of standard signal sources, test patterns and voltage/current measurements for various sizes of LCM.

This ATS provides LVDS signals and users can set the settings through mouse and Remote Keypad in accordance with the LCM features to give the production line a most complete and convenient test mode to expedite the productivity. The test functions Chroma 2917 LCM ATS have are:

Modulized Design: To cope with the test requirements of various sizes panels, the design concept of modulization is applied to fit in the specifications of different signals and power modules for application.

Test Program Editor : It contains the parameters settings of power Turn On/ Turn Off, scanning timing, pattern, over and under voltage/current protection (OCP/OVP/UCP/UVP), and real-time voltage Ramp Up/Ramp Down based on the LCM electricity specifications for accurate and comprehensive tests.

Screen Quality Test : Besides the built-in standard patterns, users can define the geometry patterns that composed of various ICONs; moreover, the natural picture file with BMP/JPG filename extension can be imported. In addition the animation function is available for the LCD Response time test. All patterns can be scaled automatically according to the LCM resolution to facilitate the pattern editing preview function.

Timing Setting and Pattern Editing : The ATS allows users to define the test timings and patterns for application as need and provides LVDS signals for comprehensive LCM tests by setting the signal/power supply activation time. Other signals like TMDS / TTL / ANALOG (option) can also be applied for testing.

Output voltage, current measurement and judgment : This system has multiple modularized external power supplies that can be used for different sizes of panels / LED backlight constant current sources (option) and to provide the power source required by LCM control chip, driver chip and backlight module through the USB interface. Also Provide the optional of multi-channel metering system for readback applications.

Test Methods : Mouse and keypad are used to control the cross mark for cell checking and log during test, also the LCM defect types can be built by the test patterns that minimize the test time intensely. Thus the test can be done rapidly no matter it is applied in R&D or production line.

Network Management Control : The system administrator is able to perform the test program maintenance and management, hardware configuration, data upload/download, computing and EDID read/write network on-line function via the network interface for production status control at the first time as well as analysis of production, efficiency and yield rate.

Chroma 2917 LCM ATS integrates the signal source/power source for LCM patterns and electricity specification tests. The user-friendly interface along with simple system programs can be used to edit the Timing / Pattern / Power / Program while the mouse or keypad can be used to log the LCM defects. Moreover, the PC based platform can fully utilize the network function for data collection and analysis that makes it most applicable for production line management.

MODEL 2917

Key Features :

- LCM signal and power source test systems
- Easy for Timing / Pattern / Program editing
- Suitable for Full HD measurement
- The Resolution up to 1920x1080@240Hz, 3840x2160@60Hz
- LVDS 8 channel output
- MPEG/AVI Playback
- High accurate programmable DC source
- Output voltage and current measurement
- Power protection OVP/OCP/UVP/UCP
- EDID read/write
- Cross coordinate defect positioning function
- Network management function (OPT)
- In-line process control and data collection
- Operator authority control
- GO/NOGO fast measurement
- High efficient GUI for easy operation

Main System



Power Module 780W
A291710



Chroma

HIGH PERFORMANCE HARDWARE DEVICES

Chroma 2917 LCM ATS is structured in modularized with integrated signals and power source. The powerful on-line network function and easy-to-use interface are equipped to fulfill the test requirements such as all kinds of standard signal sources, test patterns and voltage/current measurements for various sizes of LCM.



Main Unit

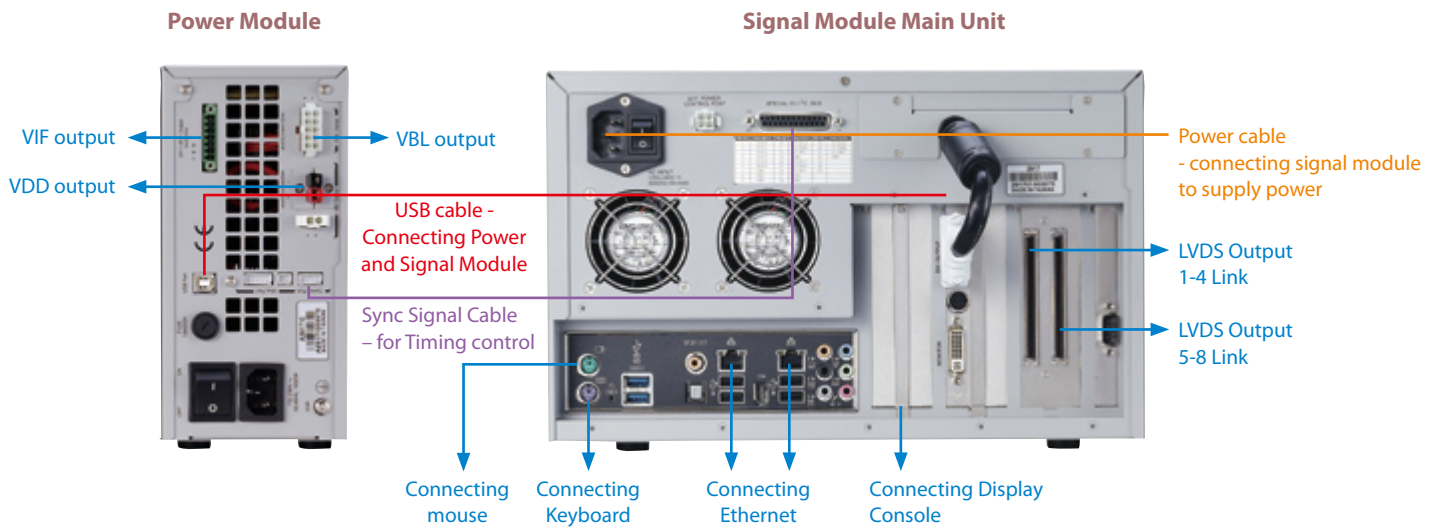
- ✓ Support 2 port LAN
- ✓ Integrated all test signals with LVDS
- ✓ Provide LVDS Signal Output
- ✓ Support 2 / 4 / 8 ch Data Output



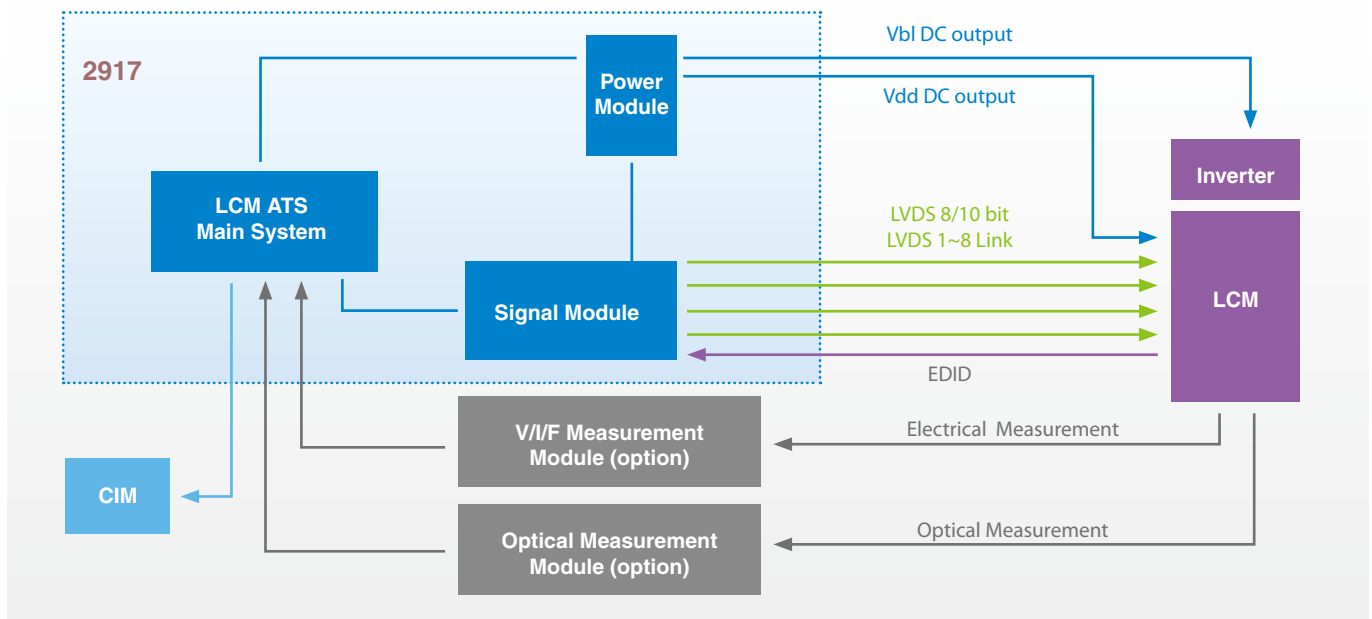
Power Module Series

- ✓ 4~8 channel Power Source (Depend on Model)
- ✓ OCP/OVP/OVP/UVI Protection
- ✓ SM Bus, I²C

2917 System Connection



2917 System Application Block Diagram



LCM MASTER II SOFTWARE

The Chroma 2917 LCM ATS utilizes the PC based system to integrate the signal source /power source for LCM patterns and electricity specification tests, also equips with easy-to-use system program for Timing / Pattern / Power / Program editing, mouse or keypad for LCM defect log, system self test for electricity judgment and rapid selection for defect types greatly reduce the test time in production line.

The Graphic user interface

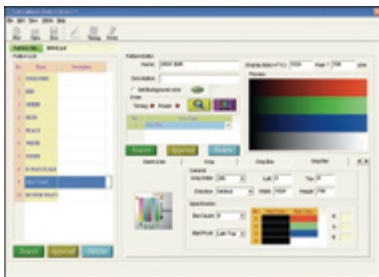


LCM MASTER II

- ✓ Easy for Timing / Pattern / Program editing
- ✓ MPEG/AVI/Motion Playback
- ✓ JPG/BMP/GIF Picture Playback
- ✓ EDID read/write
- ✓ Cross coordinate defect positioning function
- ✓ In-line process control and data collection
- ✓ Operator authority control
- ✓ GO/NOGO fast measurement
- ✓ MES Network management function (OPT)

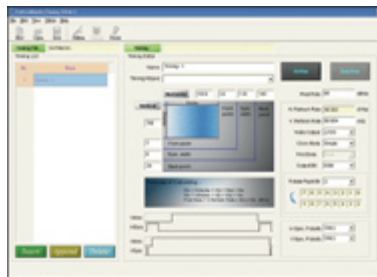
Pattern Master

Pattern Edit Screen



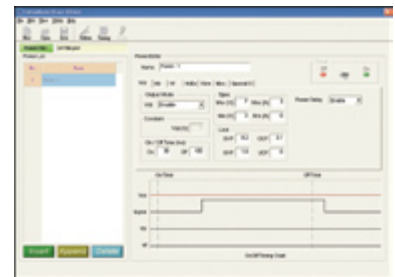
- More than 23 types of ICON for patterns creation
- Various ICON composition for logic computing
- Support BMP / JPG File Picture
- Support MPEG/AVI Motion Picture
- Moving Picture for Response Testing
- Various resolution auto scaling
- Real Time preview function

Timing Edit Screen



- H / V Display, Sync, Back Porch, Front- Porch, setting
- H / V Sync Polarity +/- setting
- Pixel rate setting
- Clock Mode, 6 / 8 / 10 bit link setting
- Bit Rotate setting
- Real Time Simulation

Power Edit Screen



- Multi-channel DC source setting
- OVP / OCP / UVP / UCP setting
- Vdd / Signal / Vbl On/Off sequence setting
- Vdd / Vbl / Idd / Ibl spec judgment
- Power Sweep setting
- Real Time Simulation

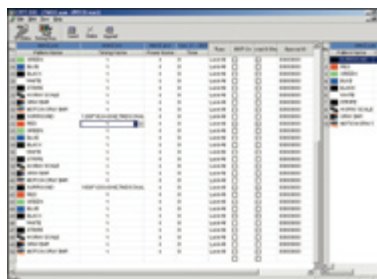
GO NOGO

Main Test Screen



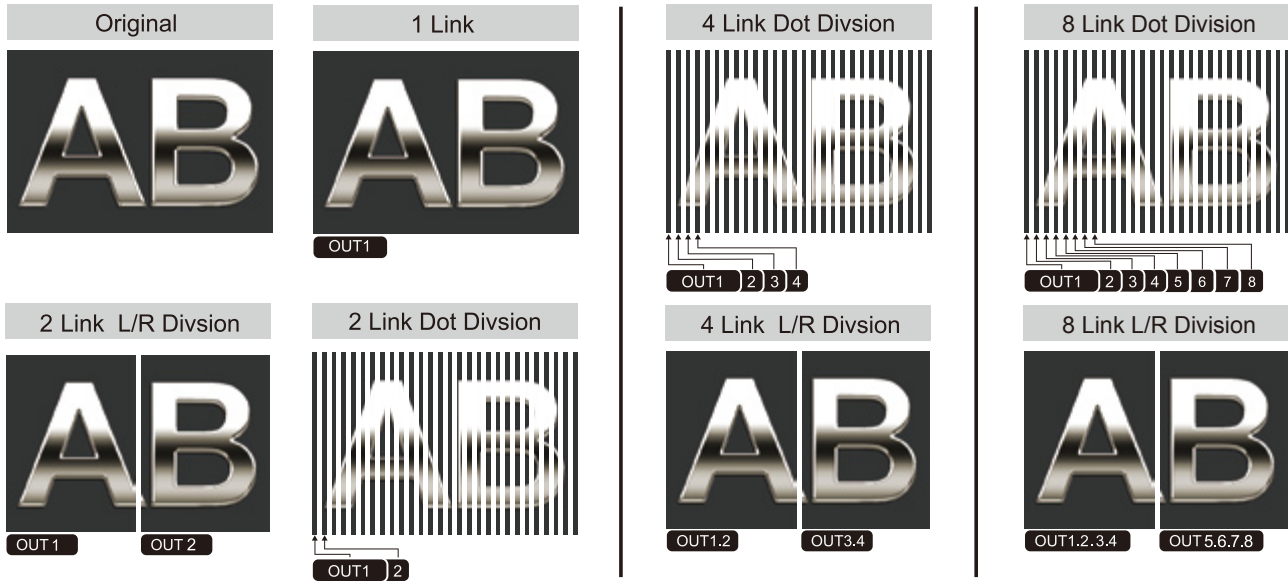
- High Efficiency Design for operation
- In-Line or off-Line Mode
- Power Condition Display (V, I by 2D)
- Over Rang Display (OVP,OCP,UVP,UCP)
- Barcode Management
- Production Authorise Control (Lot No, Model No, ID No, Test Time, Fail Rate, Fail Code...)
- Operation Authorise Control (Factory, Area, Production Line, Operator and etc)

Test Program Edit Screen



- Provide TIMING / PATTERN / POWER for LCM test
- Provide Loop function
- Provide Pre-test function
- Design for PE Management

4/8 LINK DATA MAPPING



SPECIFICATION

Model	2916
LVDS Interface	
Resolution	640x480; 800x600; 1024x768; 1152x864; 1280x768; 1280x960; 1280x1024; 1400x1050; 1600x900; 1600x1024; 1600x1200; 1920x1080; 1920x1200; 1280x800; 1366x768; 1280x854; 2560x1600; 3840x2160
Pixel Rate	1 Link up to 135 MHz 2 Link up to 270 MHz (150 MHz x 2) 4 Link up to 540 MHz (150 MHz x 4) 8 Link up to 1.08GHz (135MHz x 8)
Signal	6/8/10 Bit and support bit rotate (10 Bit for Gray Scale)
Data Swap	+ or -
H,V Sync Polarity	+ or -

Power Source			
Channel	DC1	DC2	DC3~DC4
Output Voltage	2-20V	5-50V	0-5V
Output Current	10A	22A	0-1A
Power Consumption	132W	500W	15W
Programmable Resolution			
Output Voltage	20mV	20mV	-
Current Protect	20mA	20mA	-
Meter Ratings			
Read back Voltage	0-22V	0-55V	-
Read back Current	0-11A	0-24.2A	-
Meter Resolution			
Voltage	100mV	100mV	-
Current	100mA	100mA	-
On / Off Sequence Resolution			
Turn-On/Off	1ms	1ms	1ms
I ² C BUS Function			
SDA	3.3 / 5V / device select		
SCL	50~100KHz		
DIM Function			
Analog	Analog function 0~12/0.1V step		
V-PWM Function			
Vpwm	3.3 / 5V / FV Selectable		
Fout	100~15KHz		
Dout	0~100% 1% Step		
SMBUS Function			
SDA	3.3 / 5V / device select		

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

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