

PMOLED Panel Test System

PMT - 01

Visual tests, and Open/Short and Breakdown tests
can be done only with it!

Major Features

- **Visual tests and characteristics tests can be done only with the PMT-01.**

Only with the single system all the tests can be done by switching power supplies for visual tests, and open/short and breakdown tests instantly, saving cycle time and working space greatly.

- **Measurement of high repeatability and stability.**

Original technology of MECC enabled measurement of high repeatability in breakdown tests. That solved unstable test results caused by an avalanche phenomenon of diodes which happens when reverse bias is applied.

- **High-speed characteristics tests**

The PMT-01 integrates 16 channels of measurement circuits for open/short tests and breakdown tests, which amazingly reduced cycle time taken with conventional test devices.

- **Meeting needs for productions.**

By the use of the original software of the PMT-01 64 or more test conditions can be easily created and be registered. In addition, automatic judgment can be quickly made by entering pass/fail limits in advance.

- **Meeting needs for various panels.**

The PMT-01 can drive panels of which resolution is up to 960 x 256 pixels, which meets needs for QVGA panels and 160 x 3 x 256 resolutions.



PMT-01(BOS-01+PMD-03)

Original Technology of MECC realized high-speed
and highly-stable measurement!!

Specifications

BOS-01 power supply for characteristics tests

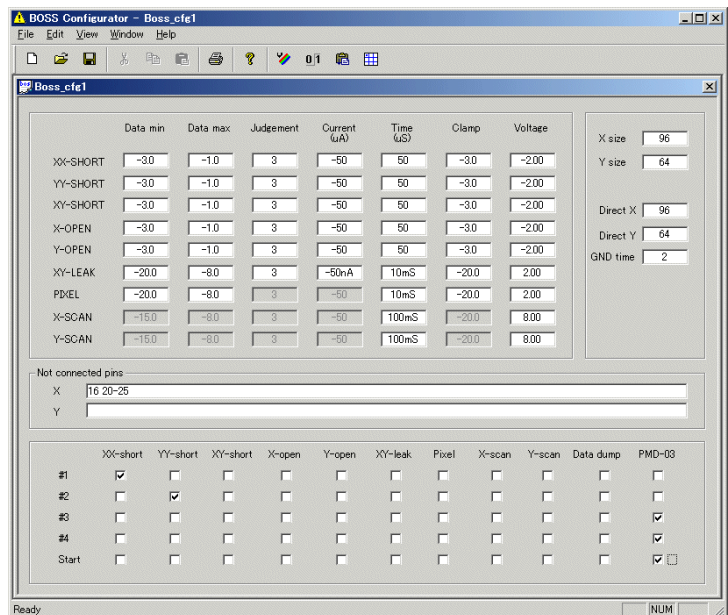
- Performance in open/short tests
Constant-current output range: 0 to 200uA
Voltage measurement range: 0 to -3V
- Performance in breakdown tests
Constant-current output range: 0 to 200nA
Voltage measurement range: 0 to -20V
- Function to count failed locations
Counts failed locations and terminates tests when they exceeds preprogrammed limits.
- Display of test results on a monitor screen.

PMD-03 power supply for visual tests

- Column (X) driver
Output signals: Expandable up to 960 channels
Brightness signals (PWM): Constant-current circuit
Precharge voltage: RGB separately or a single voltage for RGB
Discharge voltage: 0V (Ground level)
Output current: Constant-current circuit
5uA to 1mA (0V to +25V)
Output voltage: 5V to +25V
- Row (Y) driver
Output signals: Expandable up to 256 channels
Output voltage range: 0V to 25V
Output current: 200mA

[Screen to program test conditions for BOS-01](#)

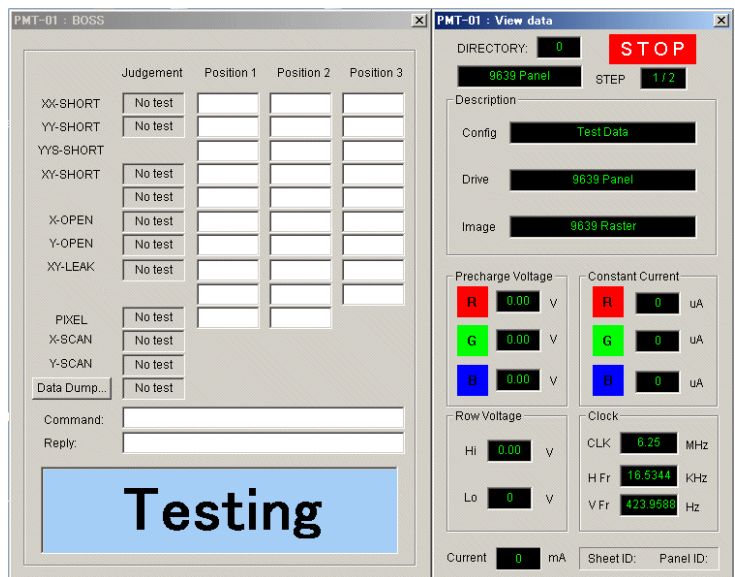
Screen to program test conditions for breakdown and open/short tests. Parameters such as short, open, leakage, scan, not-connected-pins, panel size (pixel size), whether test results be saved or not and whether visual test be made or not can be programmed on this screen. (Screen of User's PC)



[Display screen of the PMT-01](#)

Left:
Screen to display measurement results from the BOS-01, displaying test results for each parameter, failed pin numbers, leakage current values, final judgments, etc.

Right:
Screen to display test conditions from the PMD-03, displaying programmed currents, voltages, clocks, folders, test step numbers, etc. (Monitor screen of the PMT-01)



Power Supply for Visual Tests : PMD-03

◆ GENERAL SPECIFICATION				
Ambience (Indoor)	Temperature	5 to 40°C		
	Humidity	30% to 80% (Without dews)		
Line voltage		85VAC to 264VAC		
Line frequency		50Hz/60Hz		
Power consumption		500VA or less (at 100VAC input)		
Dimension		430mm(W) x 421mm(D) x 299mm(H)		
Weight		20kg or less		
◆ Clock Generator (Standard signal generator)				
Clock Generator				
Output signals		REMOTE OUTPUT : Mini-DIN 6-pin connector for 3wire signals to the REMOTE BOX. Test terminals : Four (4) test terminals for MCK, H.Sync, V.Sync and GND.		
Output amplitude		MCK, H.Sync, V. Sync : 0 to 3.3V		
Switch		Halves cycles of MCK, H.Sync and V.Sync signals.		
Range of frequencies		6.25MHz to 12.5MHz Program in the step of 31.25kHz 12.5MHz to 25MHz Program in the step of 62.5kH 25MHz to 50MHz Program in the step of 0.125MHz 50MHz to 100MHz Program in the step of 0.25MHz		
Accuracy of oscillation frequencies		Programmed value ±0.005% or less		
Resolution of H.Sync signal		320 to 4095		
Resolution of V.Sync signal		1 to 4095		
Number of memory outputs		Timing 16 channels (for internal signals) Video 24 channels; 8-bit x 3 (R/G/B) * Internal use only. No outputs.		
CPU board				
CPU board		PCA6751-266 (Advantech) CPU: Intel Pentium MMX 266MHz		
Operation System		Microsoft Windows 98		
EtherNet Interface		NetBeui or TCP/IP		
Output connectors		VGA	Monitor output	VGA ports
		RJ-45	EtherNet	10BASE-T
		COM-1	Serial port	RS-232 for a serial PC mouse
		PS2	AT keyboard	For a PC keyboard
Floppy disk (FD) unit				
The unit to transmit data about timing signals, power supply voltages and video signals created with another PC from a floppy disk to a hard disk. For 1.44MB format.				
Hard disk (HD) unit				
The memory unit to memorize the operating system, the control software of this equipment, and values of calibrated output voltages. Data for 64 different panels can be stored and be selected.				
◆ Column Driver (Column driver 1,2 are standard configuration. 8 column drivers are available at the maximum.)				
Output signals				
120 channels of outputs per board.		Expandable to 960 at the maximum		
Brightness signal (PWM)		Constant-current circuit.		
Precharge voltage setting		Three (R/G/B) different level setting or at the same level.		
Discharge voltage setting		At the same level.		

Electrical characteristics Load conditions: Length 500mm Load at 100pF (cable from PMD JOINT BOX)	
Output current	5 μ A to 1mA, 0V to +25V constant-current control
Output voltage	0 to +25V, constant-voltage control
Programming accuracy	Constant-current circuit : Full-scale 1.0% +/-5digits or less Constant-voltage circuit : Full-scale 1.0% +/-5digits or less *Including errors between channels.
Rise and fall time	Constant-voltage circuit : 20nsec or less (with the amplitude at 5Vp-p)
Overshoot	Constant-voltage circuit : 10% or less
◆ Row Driver (Row driver 1 is standard configuration. Row driver 2 is an option.)	
Signal output	
128 channels of Row Driver signal outputs per board. Constant-voltage control. Amplitude control apply to all the 128 channels.	
Electrical characteristics Load conditions: Length 500mm Load at 100pF (cable from PMD JOINT BOX)	
Output range and amplitude	Range 0V to 25V, Low=0V and High=10 to 25V
Output current	200mA
Inflow current	500mA (Resistance when ON : 10 Ω or less)
Programming accuracy	+/-0.1V or less against programmed values
Rise and fall time	50nsec or less (at 18Vp-p at amplitude)
Overshoot	10% or less
◆ PMD PC Software *1	
Configuration Editor	
To program	1) Amplitude of timing signals, 2) Power supply voltages, 3) Power sequence to start and stop the equipment, 4) ON/OFF of control signals
Drive Pattern Editor	
To program	1) Mastering clock frequency, 2) Horizontal and vertical frequency, 3) Number of sub-frames, 4)Default setting of phases of timing signals, 5)Cursor system, 6)Zone, 7) Waveforms of timing signals
Image Editor	
To generate and edit video signal patterns. Images in bitmap(BMP) files can be also available.	
PMDFloppy	
To transfer the data created with the above software to the PMD-03 using a floppy disk, or via EtherNet	
◆ PMD HW Software	
Software to control the entire PMD-03 system. The operating system is Windows98, which is used only to control the hardware.	
◆ RS232C Software	
Optional software to control the PMD-03 from external PC via RS-232C. It is possible to customize according to the control contents onerously	

*1 Please refer to the PMD-03 operation manual for more details.

Available operating systems (OS) are Windows95/98, WindowsNT, Windows2000, Windows XP.