Power Supply Functional Test System

Mid-to-High Power Test 5600 Series

- ❑ **Waveform digitizing measurement system**
- ❑ **Fast test speeds**
- ❑ **Enterprise-ready Test Executive**

APPLICATION

The 5600 Series Power Supply Test System is a high performance ATE platform that makes all critical measurements through a waveform digitizer. This allows more comprehensive measurements, higher test speeds, smaller cabinet/footprint size and ultimately, a simpler, more reliable system. The 5600 targets mid-to-large AC-DC or DC-DC power supplies and can be configured from a wide variety of power stimulus options.

GREATER TESTING CAPABILITY

More complete testing of power supplies, bulk converters, and rectifiers is now possible through the Digital Measurement System (DMS) that is core to the 5600 System. The DMS works by immediately digitizing analog signals for digital processor analysis. Through this technique, the DMS replaces several single-function instruments and extracts extensive information on UUT performance in a single pass.

LOWER TESTING COSTS

The 5600 establishes a new standard in lowering unit-testing costs by dramatically improving tester throughput. Because there is a minimum ensemble of instruments required to perform testing, switching between instruments is minimized and test speed is significantly improved. Further gains are achieved with the powerful 32-bit, multi-threaded test executive that contains a speed-tuned execution engine.

READY-TO-RUN TEST EXECUTIVE

The new *em*Power® Test Executive is optimized for power supply test within a computer-controlled manufacturing environment. It is a ready-to-run application that assures the fastest path to testing power supplies. Straightforward factory integration is achieved with software interfaces based on Microsoft® ActiveX/COM (Common Object Model) standards. These interfaces make it compatible with internal network communication and reporting protocols, as well as third-party extensions. Faster test program development is achieved through an intuitive, notebook-like guide that leads one through the entire sequence of building a test program and data-logging the results.

5600 SERIES SPECIFICATIONS

SYSTEM CONTROL

Rack Server: 3.33 GHz, 533 MHz, 512k Cache

Memory: 512 MB

Drives: 80 GB HD, 24 X CD-RW/DVD ROM

Monitor: 17-inch flat panel display

Mouse & Keyboard: Included

SOFTWARE

Operating System: MS Windows® XP Professional

Test Executive: *em*Power®- an integrated environment for creating, debugging, running and collecting data during functional testing of power supplies. Includes a test routine library and interactive instrument panels. Fully network-compatible.

Custom Test Programming Languages: To extend the user-modifiable test routine library written in Visual Basic, test programs can also be written in any language supporting the Microsoft™ ActiveX control interface, including LabVIEW and LabWindows CVI.

DIGITAL MEASUREMENT SYSTEM

MEASUREMENT	RANGE/BANDWIDTH	RESOLUTION	ACCURACY
DC Volts	± 2, 20, 200, 500 V	0.003% FS	0.01% R + 0.01% FS
AC Volts RMS	14, 140, 350 Vrms	0.004% FS	±1.0% R + 0.065% FS
DC Peak Volts	± 20, 200, 500 V	0.012% FS	1.0% R + 0.02% FS
RMS Noise 10Hz-1MHz	70 mV, 350 mV, 3.5 V	0.012% FS	1.0% R + 0.5% FS
Peak to Peak Noise 5 kHz to 100 MHz	100 mV, 500 mV, 5 V	0.02% FS	1.0% R + 2.0% FS
Frequency	10 Hz, 5 MHz	1/100 ns	0.016% R
Timing	0 to 7 minutes	100 ns	0.02% R + 200 ns
Waveform Capture	DC to 100 MHz	0.003%	1% FS
Phase Angle	0 to 360°	1°	± 1% @ 50/60 Hz
THD (2-64th)	0 to 100%	0.01%	1% R

I/O MODULE (EXPANDABLE TO 8)

MULTIPLEXER

Input channels: 16, differential
Output channels: 2, differential
Bandwidth (-3db)
Output 1: 100 MHz
Output 2: 10 MHz
Max voltage: ± 500V
Max current: 100 mA

GENERAL PURPOSE RELAYS

Quanity: 8 DPDT
Contact rating: 5 A, 30 VDC or 120/240 VAC

RELAY DRIVERS

Quantity: 16
Rating: 48 V@ 500 mA

DIGITAL DRIVERS

Quantity: 16
Rating: 100 mA, 70 VDC, 0.5 W

DIGITAL RECEIVERS

Quantity: 8 total consisting of two groups of four, each group with a common programmable threshold
Input Voltage: ± 10 VDC
Accuracy: 1%

STIMULUS INSTRUMENTATION OPTIONS (Contact factory for higher power solutions)

AC/DC SOURCE

Power: 4.5 kVA/3000 W/1ø
AC Voltage: 140/280 Vrms
DC Voltage: 100/200/400 VDC
Current: 25 Arms/50 ADC
Peak Current: 200 A
Frequency: 40 to 500 Hz

AC HIGH-POWER SOURCES

Power: 3 to 45 kVA, 1 or 3ø
Voltage: 400 Vrms

DC HIGH-POWER SOURCES

Power: 5, 10, 15 kW
Voltage: *to* 600 V
Current: *to* 500, 1000, 1400 A

DC HIGH-POWER LOAD

Power: 6 kW (parallelable for higher power)
Voltage: 0.25 to 6.6, 20, 66, 120 V
Current: 0 to 120, 1200 A
Modes: CC, CV, CP, CR, SC & Pulse

MODULAR POWER SUBSYSTEM

(6 any type modules/chassis, like modules parallelable)

DC Sources
Power: 450 W
Voltage/Current: 20 V/60 A, 40 V/30 A, 80 V/15 A or 450 V/8 A

DC Loads
Power: 300 W
Voltages: 0.7 to 120 V or 2.1 to 450 V
Current: 60 A

PHYSICAL

CONFIGURATION	SIZE (HWD)	WEIGHT	OPERATING TEMP	FACILITY POWER
Single Bay	57 x 23 x 30-inch	~ 500 lb	0° to 50° C	US & Intl. options available
Dual Bay	57 x 46 x 30-inch	~1000 lb	max power derates > 38°	

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