

# Model 5600 Universal Test System



*Universal Mid-to-High Power Test System for Testing Power Supplies  
with DC Outputs*

## Features

- Maximum configuration flexibility with multi-bay capacity
- Digital measurement system (DMS)
  - 2 waveform digitizers
  - 2×16, 100MHz multiplexer
- Expandable input measurement channels
- Common interface panel
- *emPower™* Test Executive

## Applications

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.



*Model 5600 Single cabinet Universal Test System*

## Ready-to-Run Test Executive

The new *emPower®* 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. Straight forward 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.

# Model 5600 Universal Test System Specifications

SYSTEM CONTROL	
PC	Rack Server, 3.33 GHz, 533 MHz, 512k Cache
Memory	512 MB
Drives	80 GB HD, 24 X CD-RW/DVD ROM
Monitor	17" Flat Panel
Accessories	Mouse & Keyboard

SOFTWARE	
Operating System	Windows XP Professional
Test Executive	emPower® - 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 Program 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 SYSTEM MEASUREMENT			
Measurement	Range/Bandwidth	Resolution	Accuracy
DC Volts	± 2, 20, 200, 500 V	0.003% FS	0.01% R + 0.01% FS
AC RMS Volts	14, 140, 350 V	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 to 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 (2-64 <sup>th</sup> )	0 to 100%	0.01%	1% R

I/O MODULE (Expandable to 8)			
<b>Multiplexer</b>		<b>Relay Drivers</b>	
Input Channels	16, differential	Quantity	16
Output Channels	2, differential	Rating	48 V@500 mA
Bandwidth (-3db)		<b>Digital Drivers</b>	
Output 1	100 MHz	Quantity	16
Output 2	10 MHz	Rating	100 mA, 70 VDC, 0.5 W
Max Voltage	± 500 V	<b>Digital Receivers</b>	
Max Current	100 mA	Quantity	8 total consisting of two groups of four, each group with a common programmable threshold
<b>General Purpose Relays</b>		Input Voltage	± 10 VDC
Quantity	8 DPDT	Accuracy	1%
Contact Rating	5 A, 30 VDC or 120/240 VAC		

STIMULUS INSTRUMENTATION OPTIONS (Contact factory for higher power solutions)					
<b>AC/DC Source</b>		<b>DC High-Power Sources</b>		<b>Modular Power Subsystem (6 any type modules/chassis, like modules parallelable)</b>	
Power	4.5 kVA/3000 W/1ø	Power	5, 10, 15 kW	<b>DC Sources</b>	
AC Voltage	140/280 Vrms	Voltage	to 600 V	Power	450 W
DC Voltage	100/200/400 VDC	Current	to 500, 1000, 1400 A	Voltage/Current	20 V/60 A, 40 V/30 A, 80 V/15 A or 450 V/8 A
Current	25 Arms/50 ADC	<b>DC High-Power Load</b>		<b>DC Loads</b>	
Peak Current	200 A	Power	6 kW (parallelable for higher power)	Power	300 W
Frequency	40 to 500 Hz	Voltage	0.25 to 6.6, 20, 66, 120 V	Voltages	0.7 to 120 V or 2.1 to 450 V
<b>AC High-Power Sources</b>		Current	0 to 120, 1200 A	Current	60 A
Power	3 to 45 kVA, 1 or 3ø	Modes	CC, CV, CP, CR, SC & Pulse		
Voltage	400 Vrms				

PHYSICAL				
Configuration	Size (HxWxD)	Weight	Operating Temp	Facility Power
Single Bay	57 x 23 x 30 in (1448 x 584 x 762 mm)	~500 lbs/cabinet	0-50° C max power derates > 38°	All US and Intl. options available
Dual Bay	57 x 46 x 30 in (1448 x 1168 x 762 mm)	~1000 lbs/cabinet	0-50° C max power derates > 38°	All US and Intl. options available

