FineTest

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Military and Aerospace Test Systems

Functional ATE & Power Supply Testers

Military and Aerospace Test Systems
Functional ATE Systems
Power Supply Test Systems
Hi-Pot Test Systems
ESS / Burn-In / Vibration Monitoring Systems
Manual Test Systems
Test Fixtures and ITAs
Box Builds and Sub-Assemblies
Switching and I/O Cards
Custom Cabinets and Accessories

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Functional ATE & Power Supply Test Systems
FineTest Test Systems are used in support of projects for direct Military/Aerospace and subcontractors including the following:

- US Air Force
- US Navy
- Raytheon
- Lockheed-Martin
- Harris
- BAE Systems
- DRS Technologies
- GE Aviation
- Boeing
- Honeywell Flight Division
- North Atlantic Industries
- Motorola Satellite
- Israel Aircraft Industries
- Aselsan
- Sandia National Labs
Power Supply Testers

Application: Military AC/DC and DC/DC Power Supplies and Sub-Assemblies
Repair and Test Depot

Features: FineSoft on LabWindows CVI platform
2 Testers connected with Ethernet Hub to Dedicated Server
GPIB Test
128 x 8 Bus Matrix System
Turn-key Multiple Testers including:
ATE, Interface Test Adapters (ITAs), and Test Program Software (TPS)
Equipment: Function Generator
               Timer Counter
               Current Probe
               Valhalla Power Meter
               8 1/2 Digit Multimeter
               3 Phase AC Source 4.5 kVA per Phase
               Single Phase AC Source 1.5 kVA
               12 Programmable DC Power Supplies
               15 Electronic Loads
               2 C Size VXI Mainframes for switching
               User Selectable High Frequency Filter
Power Supply Testers

Front view of duplicate Tester #2

Tester #2 without Table

Close-Up of Differential and Current Probes

System Calibration ITA

System Self-Test ITA with Cover open showing wiring

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San Antonio Air Logistics Center
Kelly AFB, Texas
POWER SUPPLY TEST CENTER

The Advanced Power Supply Tester (APST) is the state-of-the-art system for testing most power supplies and low frequency analog assemblies. The APST is a commercial system produced by FineTest. The tester contains lab quality instrumentation and is programmed using GUI icon based software.

Facilities . . .

The Advanced Power Supply Tester is part of the Airborne/Engine Electronic Software section within the Mission Critical Computer Resources (MCCR) Software Division and it is located in building 178.

Flyer from Kelly AFB about the Testers

Acceptance Test and Training
Power Supply Tester

Full front view of Tester

Application: Military Power Supplies
               Engineering & Production Test

Features: Dual Virginia Panel and ARINC front panel interface
          FineSoft on NI LabWindows/CVI and TestStand platform
          Spectrum Analyzer, Dual 20kW DC Input to UUT
          FineTest Dual DC Interface Unit with
          High Power Programmable Frequency
          AC Insertion to test UUT AC Rejection
Front View showing ARINC Drop Down Interface

Rear View showing side doors open for easy access
Power Supply Tester

continued...

Front view of Tester showing all equipment on pull out shelves

Front view close-up of DC Interface on pullout shelf showing easy access
Close-up ARINC Interface dropped down showing VXI Chassis and Cards
(All signals routed through Ferrite Cores)

FineTest Dual DC Interface Unit
with High Power Programmable Frequency
AC Insertion to test UUT AC Rejection

Acceptance Test and Training
Avionics Manual Test Stations

Application: Avionics Manual Test Station

Features: Manual Switches for UUT Digital I/O and Control, Loads On/Off, Power On/Off, Multiple Test Point Connections to Scope or DMMs, Computer Communication to UUT, Fixture with Safety Cover

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Front view of Stations #1 and #2

Interface Unit is on Slide-Out Shelf, with removable Top and Front Door
DC Monitoring Systems

Front view of two DC Monitoring Systems

Application: Military Design Verification Test

Features: Virginia Panel front panel interface
         FineTest Monitoring Software
FineTest Software monitors all DC Inputs to UUTs with Data-Logging

Accessory Storage Drawer
Cable Access in Front for Clip-On Meter
Pull-out Keyboard Shelf for Data Entry

Side Doors for Easy Access
All Cabling through Ferrite Cores to minimize noise
Power Distribution DVT Tester

Application: 100 Output Power Distribution Test

Features:
- Drop-Down Virginia Panel front panel interface
- FineSoft on LabWindows CVI platform
- CAN communications
- 100x1 High Power Electronic Load Mux
Acceptance Test and Training

Three Duplicate Testers for Production Test
Power Distribution DVT Tester
continued...

View of left-side door open showing Resistive Load Banks

Features:
- Minimum Resistive Load for all outputs during multiplex testing of each output with electronic load
- Side door access for easy maintenance/repair

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Features:

- 100x1 High Power Load Mux
- Easy Debug/Maintenance/Repair including:
  - Drop-Down Virginia Panel Interface
  - Pull-out sliding shelves for Interface Units
  - All wires labeled and Relays with LEDs indicators
Manual/Automatic Test Station

Application: Military AC/DC Power Supplies

Features: Manual (Touchscreen) and Automatic Operation
FineSoft on LabWindows CVI platform
3 Phase Motor Driven Transformer and Power Meter
Side View with Side Door Open showing
Bus Bars, Control Relays, Resistive Loads
Communications and Relay De-Bounce Cards
easy access for service and maintenance

Close-Up showing Touchscreen Monitor for easy Manual Operation

3 Phase 400 Hz Motor Driven Transformer
ESS, Burn-In and Vibration Monitoring

Application: ESS, Burn-In, and Vibration Monitoring System

Features: 12 Units at a time
FineTest Monitoring Software
FineTest Monitoring Software for 12 Units

Close-Up Opening Slide Out Unit

Slide Out Shelves for Easy Service
ESS, Burn-In and Vibration Monitoring continued...

Hinged ESS System Control Panel with Dual DC Input Voltage Monitors and Two Chamber Temperature Alarm Circuits

ESS UUT Interface for 2 Units with Dual Voltage and Current Monitors, individually controlled DC Input On/Off, Lighted Circuit Breaker and Output Load Pop-Out Fuse
Rear System Interface Panel Close-Up showing 12 Unit Connections for Test Cables from Chamber to System

Rear View showing 12 Thermally Rated and Color Coded UUT Test Cables from Chamber to System

Acceptance Test and Training
Simulator IO Racks

Application: Design Verification Test

Features:
- Drop-Down Virginia Panel front panel interface
- Multiple connections for UUT Simulation/Stimulus
- Build to Print

Front view of Simulator IO Racks #1 and #2

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Front Panel Interface with VPC and High Power

Drop-Down Front Panel for easy service/repair

Close-Up of DC Bus Bars

Rear View showing clean wiring
**Power Supply Testers**

**Application:** Military AC/DC & DC/DC Power Supply/Sub-Assembly Production Test

**Features:**
- JTAG Programming and EEPROM Programming
- RS485 Communications, Integrated Thermal Hood/Chamber
- FineSoft on NI LabWindows CVI & TestStand platform
- Turn-key Multiple Systems including:
  - ATE, Interface Test Adapters (ITAs), and Test Program Software (TPS)
Front view of Tester 4

Duplicate Tester 6 Acceptance Test and Training
Power Supply Testers

continued...

- ITA with hookup for Thermal Hood on top where the UUT is plugged in.
- Duplicate Tester with ITA installed.
- ITA with the Top Cover open and front panel removed to show wiring.

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ITA for multiple output supply with Top Cover and Side Panels open to show wiring and ease of maintenance

Rear view of duplicate ITAs with alternate Thermal Hood hookups

Front view of duplicate ITAs with front panels removed to show wiring

System Self-Test ITA

Self-Test ITA with cover open to show wiring

Front view of Self-Test ITA

Connector side of Self-Test ITA
Power Supply Tester

Application: Military Power Supplies Production Test

Features: FineSoft on NI LabVIEW and TestStand platforms
Integrated Hi-Pot Testing
DC Interface Unit with High Power Programmable Frequency
AC Insertion to test UUT AC Rejection
Front view of Tester with Interface Test Adapter installed

Front top view of Tester showing DC Interface box with sliding rails

Front view of Tester showing Drop-Down Virginia Panel Interface for easy troubleshooting/repair/maintenance
Environmental Stress Screening

Application: Military Power Supplies
Environmental Stress Screening with Monitoring

Features: FineTest Monitoring Software
Thermal Chamber integration
FineSoft on LabWindows CVI platform
Rear view of System showing Color-Coded Temperature Rated Cables that connect the System to the UUTs inside the Thermal Chamber.
Side view with Cabinet Side Door Open showing easy access to Communication Boards, Thermocouple/Temperature Monitor, 400Hz Input AC Voltage Monitors, AC Cycling Relays
Close-Up of 3 Dual Port Digital Communication Boards

Close-Up of Thermocouple/Temperature Monitor to record temperature inside thermal chamber and disconnect Input Power to the UUTs if out of limits

Close-Up of 6 Relays to switch AC Input Voltage On/Off to the UUTs for AC Cycling Tests

Close-Up of 3 Phase 400Hz AC Input Voltage Monitor to immediately disconnect Input Power to the UUTs if the Input Voltage is out of limits
Power Supply Tester

Full front view of Tester

Application: Military Power Supplies
Engineering & Production Test

Features: Virginia Panel front panel interface
FineSoft on NI LabVIEW and TestStand platform

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Tester during Acceptance Test and Training

Front View of Interface Test Adapter

Adapter Opens to allow easy access to wiring

Side View Rear View

Front View of ITA with Cover Removed
allows access to test points
with clips for Scope and DMM Probes

Close-Up clips for Scope Probes
Power Supply Tester

Application: Military AC/DC and DC/DC Power Supplies
High Volume Production

Features: FineSoft on LabWindows CVI platform
Motor Driven Transformer
Tektronix TDS Oscilloscope
Front view of an ITA showing UUT Status Line LEDs

Front view of roll-up ITA

Duplicate Tester 2
ESS, Burn-In and Vibration Monitoring

Application: ESS, Burn-In, and Vibration Monitoring System

Features: 6 Units at a time
FineTest Monitoring Software
FineTest Monitoring Software with Unit Installation/Configuration

Close-Up Opening Slide Out Unit

Slide Out Shelves for Easy Service

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ESS, Burn-In and Vibration Monitoring

ESS System Interface Unit with Dual 3Phase 400Hz AC Input Monitors and Two Chamber Temperature Alarm Circuits

ESS UUT Interface Unit with Dual Voltage and Current Monitors and individually controlled AC Input On/Off with Circuit Breaker and Indicators

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Rear System Interface Panel Close-Up showing
Thermocouple Connections, AC Input Power Connections,
6 Unit Connections for Test Cables from Chamber to System,
Cable Hooks for Test Cables

Rear View with Door Open showing
Cable Arms for Each Pull-Out Box
6 Unit Test Cables from Chamber to System

Rear View of System
Power Supply Tester

Application: Military Power Supplies
Engineering & Production Test

Features: Virginia Panel front panel interface
FineSoft on Agilent VEE platform
Power Supply Testers

Application: Military AC/DC Power Supplies Production Test

Features: Virginia Panel front panel interface
          Kikusui Electronic Loads
          FineSoft on LabWindows CVI platform
Tester 1 and 2 on the Production Floor
Power Supply Tester

Application:
- AC/DC Power Supplies
- DC/DC Power Supplies
- Production Test

Features:
- FineSoft on LabWindows CVI platform
- Finesoft on HP Basic platform
- FineTest PAD Command

Front view of Tester # 2
Front view of Tester #1 on the production floor
Power Supply Tester

Application: Military: DC/DC Power Supplies
Production Test

Features: FineSoft on LabView platform
FineSoft on TestStand platform
Side-mount Computer and Monitor Arm

Side view of Tester with Interface Test Adapter and UUT

Front view of Tester with Interface Test Adapter and UUT
Power Supply Tester

Application: AC/DC and DC/DC Power Supplies

Features:
- All High Frequency Matrix
- Timer/Counter and Function Generator
- Engineering Quick Connect front panel interface
- FineSoft on LabWindows DOS platform
Power Supply Tester

Application: Satellite DC/DC Power Supplies
Production Test

Features: Virginia Panel front panel interface
FineSoft on LabWindows CVI platform
Integrated with Production Line
Power Supply Tester

Application: Military AC/DC and DC/DC Power Supplies
Calibration, Repair and Test Depot

Features: FineSoft on LabWindows CVI
Finesoft on HP Basic platform
FineTest PAD Command
Engineering Quick Connect front panel interface
8 1/2 digit Multimeter