ATE Introduction

Advantech IA Technical Support Team
ATE ( Automatic Test Equipment ): 
A test platform to integrate **power generation**, **signal switch/acquisition/analysis** and **report history multi-function**.

- Electric components (digital, analog electric component single function measurement)
- Full test of goods in factory production line.
- Fundamental function inspection of semiconductor component
- Optic product (ex: Fiber signal measurement)
- Signal simulation and measurement of LCD
- Power test and monitor of electric car/motorcycle
- Vibration data monitor system of large machine and generator
- The research of biomedical optic technology
- Vibration test system of CD-ROM
ATE Instruction

ATM-4023/4001 System

- Motion control card
- GPIB interface (PCI-1670)
- Data acquisition card: AI/AO/DI/DO/Counter
  - Multiplexer/Matrix/General Purpose (Signal switch)

- AWG (Arbitrary waveform generator)
- Power supply

- DMM (digital multi-meter)
- Counter
- Oscilloscope

- Fixed jig
- UUT (Unit Under Test)

- Motion control on conveyor

Your ePlatform Partner
At present, ATE series has three types:
1. In-circuit ATE
2. Analog ATE
3. Digital ATE

In Taiwan:
- Majority production is in-circuit ATE and it has good quality
- Analog ATE is few or just for OEM
- Digital ATE depends on import and just for integration
In-circuit ATE

Low Cost, Low Performance, One test Function

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Analog ATE

Middle Cost, Middle Performance

GPIB Interface

Measure Data form Test fixture

Scan Barcode

High speed automated functional test, with full diagnosis.

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Digital ATE

- Start / Stop Processor
- Read / Write Memory
- Fill / Check Memory
- Read / Write I/O
- RAM Test
  (SRAM, DRAM, SDRAM, DDR SDRAM, RAMBus...)
- ROM CRC/Checksum
- Breakpoints
- Run UUT

High Cost, High Performance, Powerfully Function

Your ePlatform Partner
Front-accessible IO Industrial PC
- ATM-4000 series

ATM-4023:
- Front-accessible I/O (on/off switch, USB ports*2, Front ISA or PCI cable wiring)
- 6.4" TFT information display with function and cursor key
- Flexible mechanical design for versatile mounting solution for wall mount, rackmount, and desk-top
- Optional keyboard & touch pad
- External power and HDD LED indicator
- 8-slot backplane for half-sized card, including pure PCI*8, pure ISA*8

ATM-4001:
- 4U height 19" Rackmount chassis with 6.4" TFT display, slim keyboard and touch pad
- Front accessible USB
- All-in-one IPC system provides low-cost and space saving
- Functional screen for Industrial Automation Monitoring and Controlling
- Cost effective solution for IPC server with KVM clients
- Built-in membrane key, standard IPC platform for SI/VAR equipment makers
- Telecom/Power Station portal and platform for test and measurement equipments

Your ePlatform Partner
Front-accessible IO Industrial PC
- ATM-4000 series
Intelligent Computer-Based Instruments

Traditional Instruments

Functions are defined by hardware vendor

Computer-Based Instruments

Functions are defined by user
Advantages of Computer-Based Instruments

- High resolution
- High transmission speed
- Trigger and control other instruments simultaneously
- High integrated
- Customized ATE system by software
- Smaller volume
- Utilize PC high speed operation function
- High resolution display
Application

Mix mode IC testing
Avionics Applications - Jet Engine Testing

- Analog Signal Conditioning and Acquisition
- Discrete Signal Conditioning and Acquisition
- Frequency-encoded signals
- Throttle Control
- Synchro Signals
- Vibration Analysis
- MIL-STD-1553
Automatic Test Systems Application

- Avionics - Jet Engine Test
- Military Avionics
- Satellite - Power System and Payload Test
- Telecommunications - Cellular Phone Applications
- Medical - Pacemaker Test
- Digital Test - Vision Inspection Equipment Test
- Guidance - Ring Laser Gyro Assembly Test
- Defense - Radar System Test
- Weapons Test - Torpedo Electronics Test
- Industrial Test - Servo Motor Test
- Semiconductor Test - Hybrid Testing