



T1000&T3000

Intelligent Multi-Functional Tester



The T1000 & T3000 are intelligent, multi-functional modular instruments for board-level testing, offering versatile functionality. These comprehensive testers integrate Aethertek's plug-in modules, robust mechanical design, and proprietary test software, tailored to diverse testing needs. The T1000 supports up to 1024 pins, while the T3000 supports up to 3200 pins. Both instruments accommodate various PCBA sizes and address applications in consumer electronics, automotive, and server products.

APPLICATIONS



Automotive
Electronic



Server



Consumer
Electronic

FEATURES

- General Purpose In-Circuit Test / Functional Tester
- In-Line / Automation Interface
- Standard 19" Test Head with 6U Height
- Standard Instrument Module Including :
 - System Management Board
 - Power Supply Unit, 0.8V ~ 24V / 3A
 - 50W Electronic Load Support CC,CV,CR
 - 6.5 Digital Multi-Meter
 - ASMU (ICT Kernel)
 - Open / Short Learning and Test
 - DUT Discharge / Protection
 - R / L / C / D Components test
 - APC64 (ICT Matrix)
 - 64 Pins per Card
 - Support Maximum 1024 (T1000) / 3200 (T3000) Pins
 - DCC
 - I2C / SPI / SWD / Ethernet
 - CAN BUS
 - MIPI

APPLICATION PLATFORM

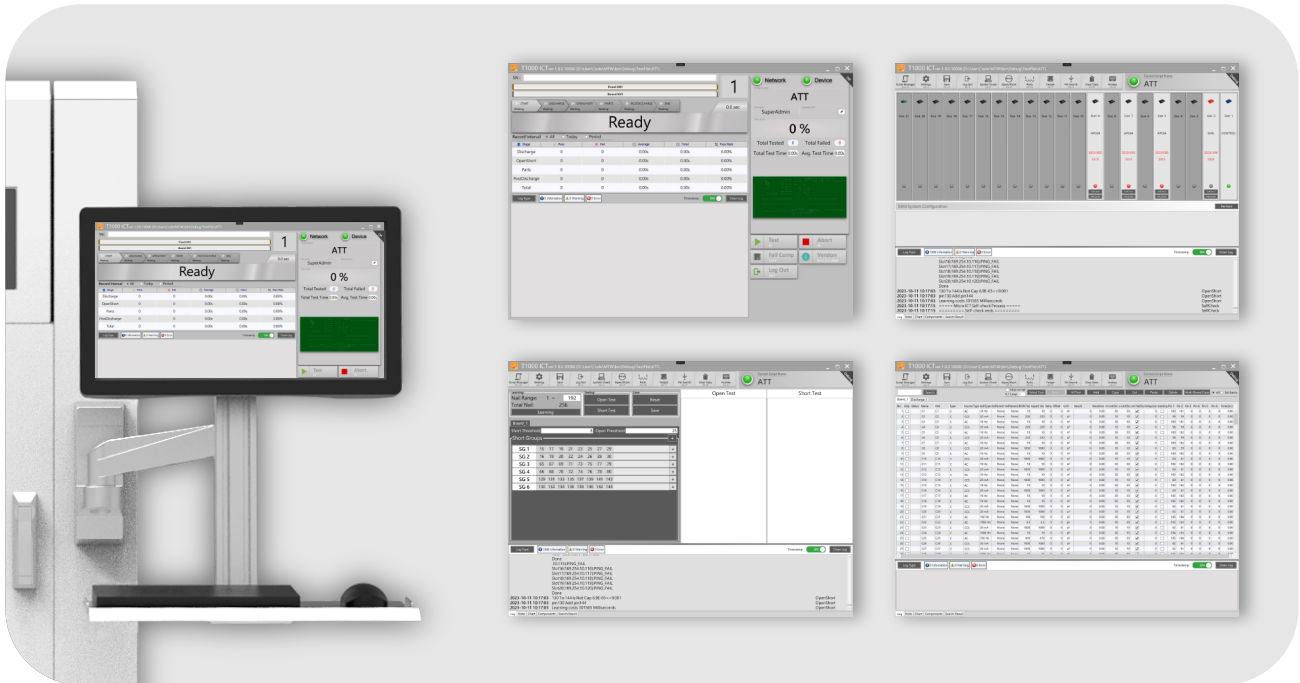


Inline /
Stand Alone ICT

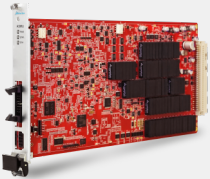


Intelligent
Multi-Functional
Tester

SMART AND FLEXIBLE SOFTWARE INTERFACE



《《《 T1000 MODULES 》》》



Analog Source Measurement Unit (ASMU)

- MDA Kernel
- DC Voltage Source
- DC Current Source
- AC Voltage Source
- Voltage Measurement
- Precision ADC



System Control Card (SCC)

- System Control Card (SCC)
- Built – in Ethernet Switch
- System Communication Interface
- Backplane Traffic Control



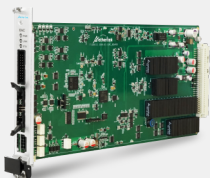
Power Supply Unit (PSU)

- 4-CH Programmable Power Supply
- Max. 30W per Channel
- Max 3 A
- Voltage Output 1.5 V ~ 20 V
- OCP / OVP



Analog Pin Card 64 – Channel (APC64)

- Reed Relays Base Design
- 6 – wire Measurement Connection
- Primary Bus (Force : MP, Sense : MS)
- Secondary Bus (Force : SP, Sense : SS)
- Guarding Bus (Force : GP, Sense : GS)
- Support Maximum Nodes :
1024 (T1000) / 3200 (T3000)



Extended Application Card (EAC)

- Fixture Control
- General Purpose I / Os
- Frequency Measurement
- 24 V / 5 V Power Supply
- 1 – Programmable Power Supply
- Max. Power 30 W
- Max 5 A
- Voltage Output 1.5 V ~ 20 V
- OCP / OVP



Digital Communication Card (DCC)

- Digital Communication Bus (Master)
- SPI
- I2C
- UART
- CAN
- MIPI
- General Purpose I / Os
- 5 V / 3.3 V Power Supply



Serial Scan Test Card **SSTC**



Serial Scan Test Card (SSTC) is a compact, USB-connected boundary-scan controller supporting IEEE 1149.1 and 1149.6. With four independent TAP channels, programmable I/O levels, and per-channel isolation, it enables fast interconnect, AC loop-back, and connector testing for server and system motherboards.

FEATURES

- Four independent TAP channels (TCK / TDI / TMS / TRST / TDO)
- Optional daisy-chain scan configuration for multi-device chains
- IEEE 1149.1 boundary-scan interconnect test
- IEEE 1149.6 AC (capacitive) loop-back test
- Programmable I/O drive levels, 0.8 V – 4.5 V, up to 50 mA per pin
- Isolation relay on every TAP channel
- Two GPIO signals per TAP connector
- USB 2.0 host interface; no complex programming
- Cross-platform software: Windows / macOS / Linux
- Compact, fan-less desktop enclosure

APPLICATIONS



Server



Automotive
Electronic

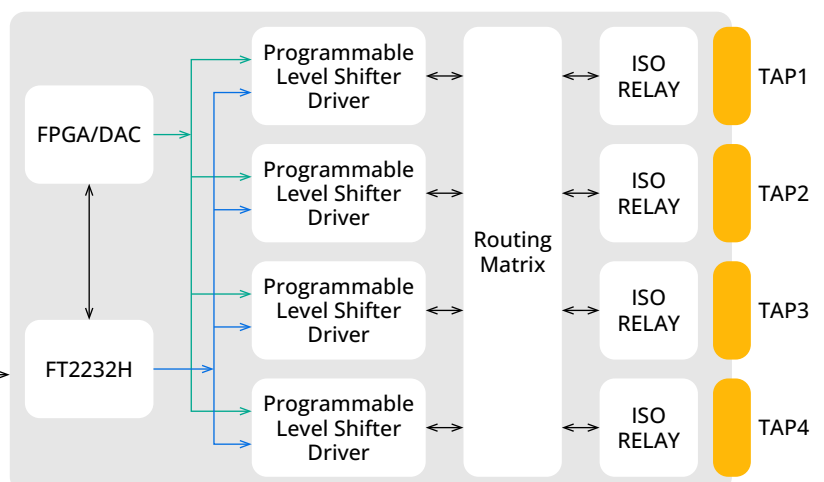


Consumer
Electronic

SYSTEM ARCHITECTURE

The host PC connects via USB 2.0 to an on-board FT2232H bridge, interfacing with the FPGA and programmable DAC. Four independent channels control level shifters, matrix routing, and isolation relays to TAP1–TAP4, enabling flexible voltage and scan-path configuration.

► System Block Diagram



KEY BENEFITS

- Solve the pain points of high-density board testing and capitalize on AI and server business opportunities
- Rapid deployment and integration with factory operations
- Hardware and software integration ecosystem



HARDWARE SPECIFICATIONS

TAP Channels	4 independent channels	Isolation	Isolation relay per TAP channel
Scan Modes	Single-device and daisy-chain scan	Per-TAP Signals	TCK / TDI / TMS / TRST / TDO, GND, 2x GPIO
I/O Drive Voltage	0.8V – 4.5V, programmable	Host Interface	USB 2.0
Drive Current	Up to 50 mA per pin	Self-Test	On-board DAC voltage self-check
Level Setting	Per-channel programmable VOH / VIL (on-board DAC)	Operating System	Windows / macOS / Linux
Standards	IEEE 1149.1, IEEE 1149.6	Enclosure	Compact fan-less desktop, 4 front ports (P1–P4)

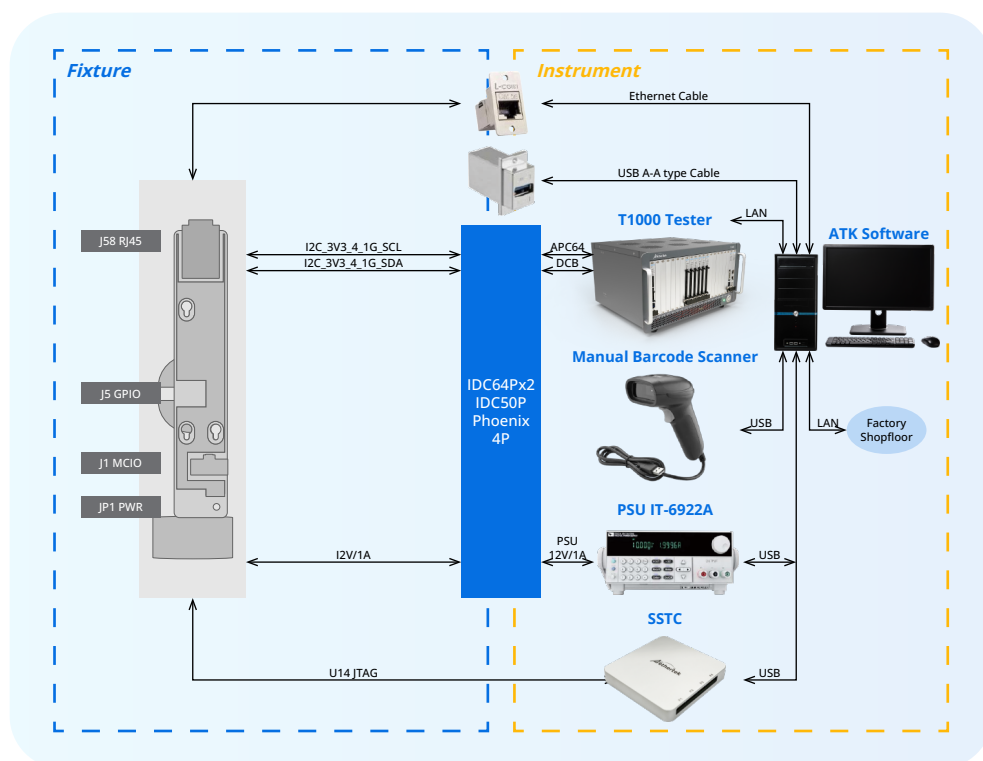
CORE JTAG TESTS

- Idcode
- Rreg_Len
- Integrity
- Disable
- Usercode

ADVANCED TEST FUNCTIONS

- Opens & Shorts Detection
- Pull-up / Pull-down Verification
- Omni Probe Functional Test
 - I²C
 - LED / Relay
 - SPI
 - EEPROM / Flash

APPLICATION SCENARIOS



- Boundary-scan interconnect testing (IEEE 1149.1) on assembled PCBs — verifying solder joints and net connectivity without physical probes.
- AC-coupled loop-back testing (IEEE 1149.6) for high-speed differential nets.
- Rapid connector detection on server and system motherboards when paired with an optional I/O test card.
- Multi-device scan chains — testing several JTAG devices in a single daisy chain.
- Integration into a T1000 production test station, working alongside the tester, PSU and fixture under ATK software.

◀ Example: Production Test Station

The SSTC integrates into the station over USB and drives the fixture JTAG (U14) alongside the T1000 tester.