

TTC 750E ATM Tester

The Single-Tester Solution for ATM Field Testing Worldwide

With the TTC 750E ATM Tester, you can turn up, test, and troubleshoot ATM service anywhere with one easy-to-use unit. This versatile tester is loaded with the interfaces you need in the field – E1/DS1, E3/DS3, STM-1/OC-3c, and ATM-25.

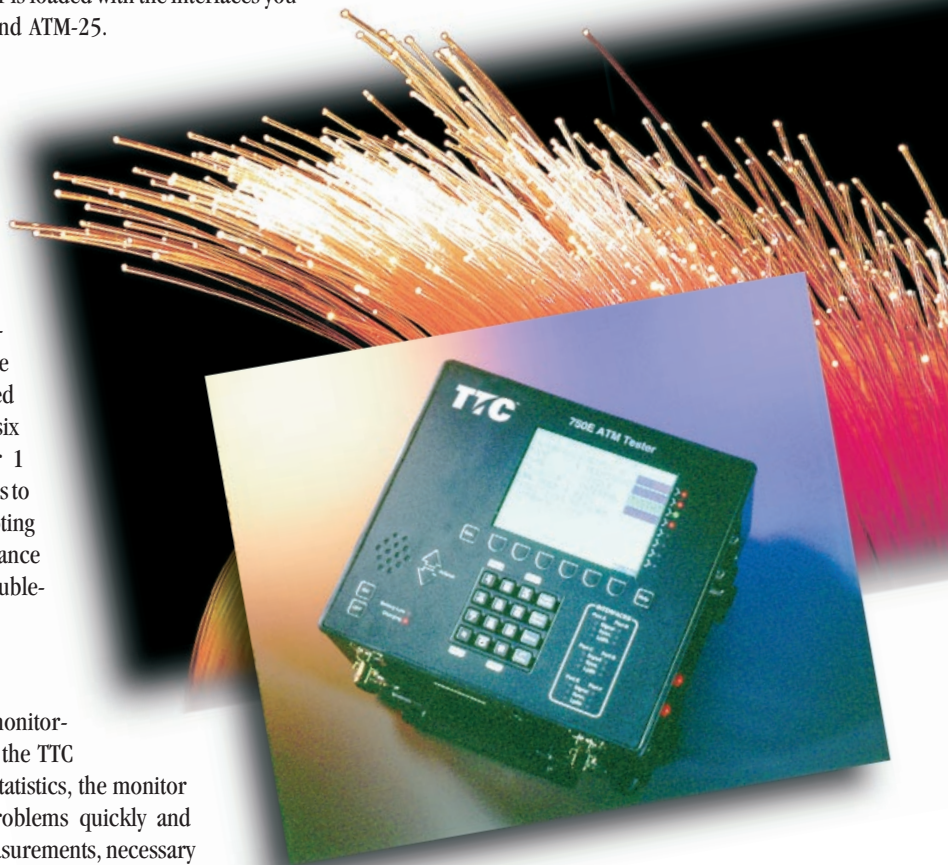
The TTC 750E supports quality of service (QoS) testing, PVC and SVC circuits, physical layer testing, ViTL™ remote control firmware, and much more. Best of all, to protect your investment, the unit is built with change in mind, making upgrades easy.

Terminate Mode

The TTC 750E ATM Tester provides the most comprehensive provisioning and troubleshooting capabilities available in a single integrated test set. The portable battery-powered TTC 750E supports any needed line speed, from 2 Mbps through 155 Mbps, and up to six interfaces. The unit also provides a thorough Layer 1 testing capability for each interface, enabling technicians to verify the physical layer in both turn-up and troubleshooting applications. Highly visible status LEDs provide at-a-glance confirmation of the line's status, simplifying the troubleshooting process.

Monitor Mode

An optional monitor mode permits full-duplex monitoring for any of the supported interfaces. Coupled with the TTC 750E ATM Tester's extensive ATM and physical layer statistics, the monitor mode allows technicians to troubleshoot service problems quickly and efficiently. Comprehensive quality of service (QoS) measurements, necessary to verify network operational parameters, are also included as standard test set features for use in either monitor or terminate modes.



*Any speed you need,
the TTC 750E ATM Tester
has got your ticket*

ATM PVC

Test ATM Quality of Service Now

Speed is of the essence. ATM customers demand fast deployment and dependable service. You can't afford to let them wait. The CE Mark compliant TTC 750E ATM Tester features a simple, soft-key-driven user interface for fast and easy service testing for both provisioning and troubleshooting, as well as physical layer testing. Results are displayed on a large (24 line by 40 character) graphics-capable colour LCD so you get the information you need at a glance.

Service Testing

Provisioning

- Support for QoS measurements necessary to verify dependability, accuracy, and speed of service for both PVC and SVC links
- Selectable header data includes virtual path identifier (VPI), virtual channel identifier (VCI), and cell loss priority (CLP) field manipulation, service data unit (SDU), and congestion (CNGST)
- Selectable test cells consistent with ITU O.191 and compatible with TTC's FIREBERD 6000 test set
- Configurable for generation of continuous bit rate (CBR), unspecified bit rate (UBR), and variable bit rate (VBRrt and VBRnrt) cell streams at full line speeds
- User-selectable cell stream parameters, including peak cell rate (PCR), sustained cell rate (SCR), maximum burst size (MBS), and cell delay variation tolerance (CDVT)
- Support for up to eight (SVC) or 12 (PVC) simultaneous user-defined cell streams

Troubleshooting

- Auto-detection of all active VPI/VCI combinations, with extensive statistics on each pair, including cell throughput, PCR, and CLP cell count
- Additional statistics for lost cells, misinserted cells, congested cells, and cell errors available in termination mode
- General reporting of correctable (single) and uncorrectable (multiple) header error control (HEC) errors, verifying the switches' ability to detect and correct single errors

- Operations, administration, and maintenance (OAM) support and analysis for loopback, continuity check, alarm indication signal (AIS) and far-end receive failure (FERF), and performance management cells
- Optional full-duplex monitoring capability for ATM-25, E1/DS1, E3/DS3, and STM-1/OC-3c interfaces
- Remote control supports long term maintenance/manufacturing functions using ViTL software

Physical Layer Testing

- Signal loss, frame loss, yellow alarm, and AIS displayed via easy-to-see LEDs
- Thorough Layer 1 statistics including frame, far-end block errors (FEBE), and BIP errors
- Bit error rate testing (BERT) with pseudo-random and fixed patterns appropriate to each specific interface

**Graphics-capable colour display and
soft-key-driven user interface
simplify ATM testing**



SVC QoS

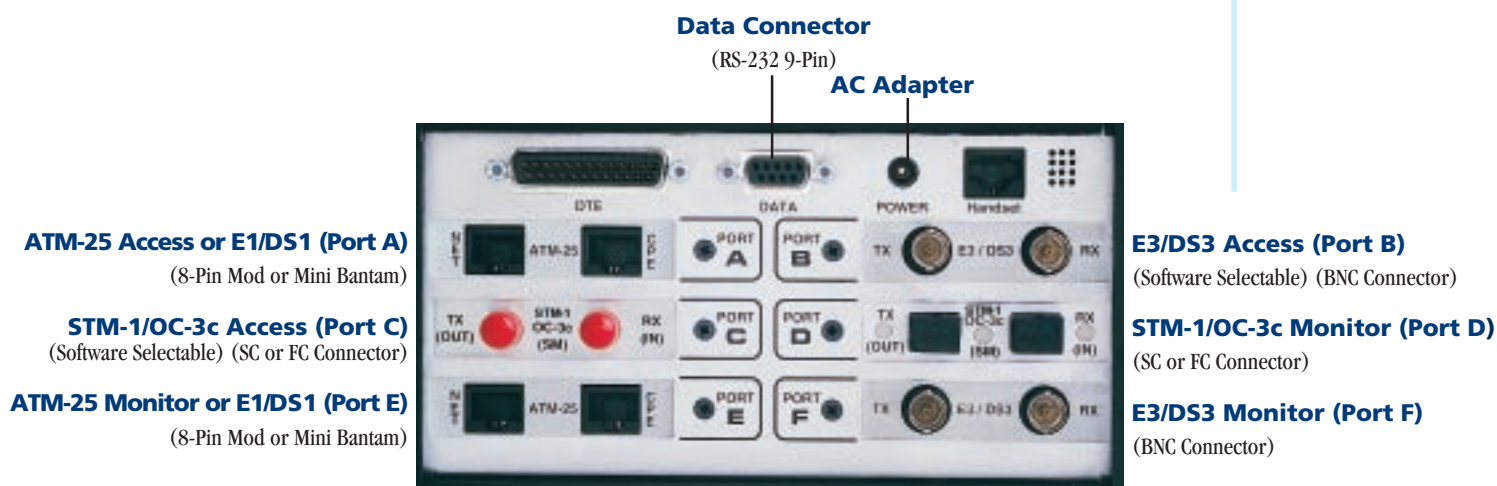
... And in the Future

We continually strive to exceed your expectations for product excellence and customer service. As part of TTC's ISO 9001-certified quality system, instruments are subjected to shock, vibration, and environmental testing prior to design approval to ensure durability. All instruments undergo full functional testing before shipment. TTC backs every instrument we make with an industry-leading three-year warranty.

To further protect your investment, the TTC 750E ATM Tester features a field-upgradeable firmware card for software enhancements and additional interface slots to support future testing requirements. We can provide firmware upgrades to support evolving service developments through a three-year Firmware Enhancement Option. TTC also provides practical, hands-on training that can be tailored to your specific needs.

Connector Interface Panel

External test access connectors are housed on the right side of the unit under a weather-sealed cover:



The connectors annotated as Ports C-F are expansion slots that are not populated as part of the base ATM-25/E3/DS3 or 2M/E3/DS3 configurations. Future options requiring new interface connectors will be supported via these four slots.

Summary

Thank you for your interest in the TTC 750E ATM Tester. If you have any questions about TTC or the TTC 750E's features, specifications, and capabilities, call your local sales engineer or visit us on the Internet at www.ttc.com.

Specifications

Line Connectors

ATM-25 (Modular)
E1/DS1 (Modular and Bantam)
E3/DS3 (BNC)
STM-1/OC-3c - SC or FC (Single or Multi-Mode) - *Option*
STM-1/STS -3c - *Option*

Line Build-Out

DS3
E1/DS1

Modes of Operation

Terminate Emulate NTU
ATM-25 (HEC)
E1/DS1 (HEC or PLCP)
E3/DS3 (HEC or PLCP)
STM-1 COAX - *Option*
Half Duplex Monitor - *Standard*
Full Duplex Monitor - *Option*
ATM-25 (HEC) TxRx
E1/DS1 (HEC or PLCP)
E3/DS3 (HEC or PLCP) TxRx
STM-1/OC-3c TxRx
STM-1 COAX TxRx - *Option*
Wrap Mode - *Option*:
Any two interfaces (TxRx) operating simultaneously

ATM Cell Generation

Up to twelve simultaneous cell streams; each independently configurable:
- Continuous Bit Rate (CBR)
- Variable Bit Rate (VBRrt and VBRnrt)
- Unspecified Bit Rate (UBR)
- TTC Test Cells and ITU O.191
Full Line Rate
Full Transmit Header Manipulation

Permanent and Switched Virtual Circuit Support

UNI 3.0, 3.1, 4.0, Q.2931

Quality of Service Testing

Simultaneous analysis for all four cell streams:
- Cell Transfer Delay Time with Histogram
- Cell Delay Variation
- Cell Loss Ratio
- Cell Error Ratio
- Misinsertion Rate

ATM/TC Analysis - UNI and NNI

Auto Scan (ID active virtual channels)
VPI & VCI Filters
HEC Field Analysis
PLCP Statistics
PLCP Alarms

Statistics

Monitor Mode
Total Cells
Peak Cell Rate
Average Throughput
HEC Errors
Correctable
Uncorrectable
Cell Loss Priority Count
Loss of Cell Delineation
PT Counts

Statistics (cont'd)

Terminate Mode
In addition to above:
Lost Cells
Cell Payload Errors
Misinserted Cells

Physical Layer Analysis

ATM-25
Loss of Signal and Frame Sync
Alarm
BERT (Layer 1)
E1/DS1
Loss of Signal and Frame Sync
AIS/Yellow
BERT (Layer 1)
Rx Signal Level (dB)
E3/DS3
Loss of Signal and Frame Sync
AIS/Yellow
BERT (Layer 1)
STM-1/OC-3c, STM-1 COAX/STS 3c
Loss of Signal and Frame Sync
BERT (Layer 1)
Rx Signal Level (dB) - *Optical Only*

Physical Layer Statistics

ATM-25
Code Violations
DS1/E1
LCV
F-Bit Error
OOF
BPV
Frame Errors
CRC-6 Errors
E3/DS3
Line Code Violations
DS3 Errors
OOF Count
STM-1/OC 3c
Line Path Section
OOF
Bip
REI

Status LEDs

For All Physical Interfaces:
Signal, Sync, Loopback LEDs
Eight (8) Soft LEDs

Controls

Keypad
Color Graphics LCD
User-Friendly Menu Structure with Soft Keys
Data Port (RS-232) (Test Statistics and Remote Control)
ViTL (Virtual Test Link) Software

General

Rugged Metal Housing with Protective Lid
Quick Reference Lid Label
Soft Pack Carrying Case - *Standard*
Test Cables - *Standard*
Three Year Warranty - *Standard*

Power

Rechargeable Battery with AC Adapter/Charger
2-8 Hours Continuous Use
Auto Shut-Off Mode

Firmware

Replaceable Firmware Card
Three Year Firmware Enhancement Option



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OPTIMIZING NETWORK PERFORMANCE



TTC[®] 750E

ATM Tester



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