

D2500

Telecom analyzer



ISDN & Telecom standards
On board support for multiple protocols

WAN & DATACOM
Leased line & Datacom
Pre-Qualification Testing

Flexible Operation
Control all Functions locally
or via Remote Control



The D2500 Telecom Analyzer is the culmination of thirty years of experience that Aethra has in the development and production of test instruments. It has been designed to meet the requirements of technicians working in the Telecoms industry, and its range of capabilities makes it an indispensable toolkit - probably the only tester the engineer needs to carry around with him.

Wide range of features

The D2500 to address a wider range of applications such as Service Verification over PRI, BRI, Frame Relay Links, WAN and ISDN lines, and also testing of DCE/DTE connections over a range of interfaces. Additionally, testing for G.SHDSL, HDSL and IP across the Internet is also provided.

Graphic interfaces

The new, improved Graphical User Interface uses smart windows drop-down menus. This makes navigating around the configuration procedures extremely easy and minimizes time required to achieve proficiency with the tester.

Smart Status™

This feature is always available - even while a test is in progress, thus allowing continuous monitoring of clock frequency, alarms, errors, PCM time-slot status, channel configurations and test parameters, as well as the unit's own device status.

Telecom interfaces

- Basic Rate Access
 - S/T U ITU-T Rec.I.430, ETS 300 012 2B1Q and 4B3T, TS 102 080
- Primary Rate Access Interface
 - E1 CCITT G.703 (2Mbps) / G.704 ITU-T Rec.I.431, ETS 300 011
 - 2Mbit PCM30/CRC, PCM31/CRC, Unframed
- WAN/Datacom (option)
 - Sync X.21/V.11, V.24, V.35, V.36 (RS449), G.703 co-dir
 - Bit Rates 50bps - 2048Kbps (Nx64)
 - Async V.24 (RS232)
 - Bit Rates 50bps - 230400bps
 - V.11/X.21 interface Integrated on board (VX21-2500 option)
 - Clock frequency Measurement (± 1 Hz) and shift management (± 100 ppm)

Protocols supported

- Simulation mode
 - EDSS-1, Q.SIG, 1TR6, TN1R6*, VN4, X.25, X.31, DASS-2, DPNSS, CorNet*-N, -NX, -NQ, -T, PPP, IP, UDP, DHCP, ICMP, TFTP, HTTP, FTP, Frame Relay, EDSS-1, Q.SIG, 1TR6, TN1R6*, VN4, X.25, X.31, DASS-2, DPNSS, CorNet*-N, -NX, -NQ, -T,
- Monitor mode
- Other protocols available V.5.1, V.5.2, N11, DMS100, 5ESS

Operating modes available

- Basic Rate Access
 - BRI TE-S, BRI MON-S, BRI NT-S, BRI NT-U, BRI MON-U (D2022 option), BRI LT-U (LTU-2K option), BRI S/T-Bus wiring test (WT2000 option)
- Primary Rate Access
 - PRI TE-E1, PRI MON-E1, PRI MON-E1 PMP, PRI NT-E1, TE (AB2000N option), MON (AB2000N option)
- POTS/Analog
 - DTE, DCE (VX2000 and VX21-2500 option when required)
- V/X
 - Single, n x 64Kbit timeslot
- Pattern generation

Smart Status™

- G.826/M.2100 (only PRI)
 - ES, SES, BBER, UAS
- ISDN line
 - Layers 1, 2, 3 and B ch status
 - Control leads, test running, loop, clock frequency, clock phasing
- V/X interface
 - FAS, NFAS, MFAS, NMFAS, alarms, errors, sync, CAS channel status,
- 2Mbit
 - DLCI, LMI, and quality test
- Frame Relay (FR2K)

Background monitor

- Modes
 - High impedance and during simulation
- Protocol analysis on-board
- Programmable filters
 - Independent filters' capturing and displaying
- Statistics information
- Analysis of the results stored on PC
 - PC108 for Windows™

Automatic access test

- Fully automated Access test
- Supplementary services automatic test
- Programmable test sequence

Bit error rate test

- G.821 statistics
 - ES, SES, US, DM, PASS/FAIL, S-LOSS
 - User definable 2^{11-1} , 2^{15-1} , 2^{23-1} , All 0's, All 1's, 10101010, 16 bit octet, HDLC frame
- Pseudo-Random bit sequences User Manual, Automatic, Single
- Error Injection

Manual sending

- Types
 - Bit, LFA, LOS, AIS, NMFAS, Sa, RAI (A bit), E bit, CRC, CV, control leads

Generate traffic

- Number of cycles
 - Up to 65535
- Number of parallel calls
 - Up to 30 (PRI)
- Delay between calls
 - User selectable

X.25/X.31

- Modes
 - SVC, PVC
- Logical Types
 - DTE, DCE
- Tests
 - Traffic generator, Echo port

IP

- Modes
 - IP routed, IP over PPP (Client and Server)
- IP address supported
 - Static, Dynamic
- Authentication protocol^{PPP}
 - PAP, CHAP (MD5)
- Protocols
 - IPV4, UDP, DNS, DHCP, ICMP, TFTP, HTTP, FTP

Frame relay (FR2K)

- Frame Relay Forum
 - FRF.1.1, FRF.3.1, FRF.12.1, FRF.14
- IP over PPP
- Type of traffic
 - ITU-T Q.933, ANSI T1.617, original LMI CISCO
- LMI
 - UNI, CPE, NNI
- Logical Types
 - FECN, BECN, DE, NLPID, DLCI, FRF.12
- QoS statistics

U-BUS loop qualification

- U-Bus voltage measurement
- Loop resistance measurement (Ω)
- Programmable simulation "NT-load" over U-Bus
- Activation/Deactivation time measurement (msec.)

History and predefined tests features

Saving and recalling of 10 different setup and results for each kind of test

Connectors

- Primary Access interface
 - RJ45 120 Ω , BNC 75 Ω
- V.11/X.21
 - DB-15
- S/T Basic Access interface
 - RJ45 (ISO 8877)
- U Basic Access interface
 - RJ45 (ISO 8877)
- RS232
 - DB-9 (V.28 CCITT ISO4902)
- Handset
 - 4 wires RJ9. Balanced, 600 Ω
- Power in
 - External AC/DC adapter
- Power out
 - Mini-DIN 4 wires connector

Environmental characteristics

- Dimension
 - Weight, with battery ≈ 1 kg
 - Dimensions, with holster (mm) 130 (w) x 260 (l) x 65 (d)
- Power
 - Battery Type Rechargeable, Ni-MH
 - Battery life ≈ 3 hours @ 25°C, LCD back-lit off
 - External AC/DC adapter 115/230Vac $\pm 10\%$ @ 50/60 Hz

Temperature

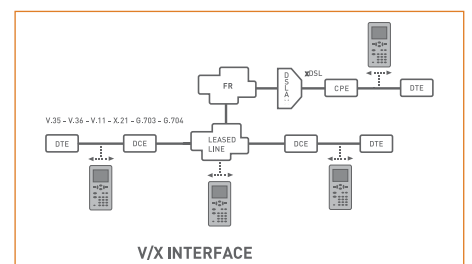
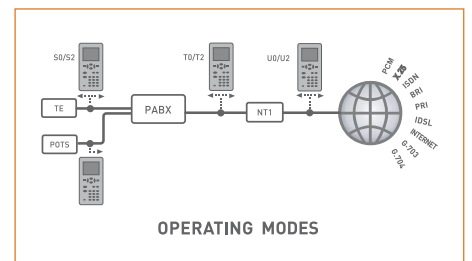
- Storage/Transport
 - 40°C to +70°C
- Operating, nominal
 - 5°C to +45°C
- Operating, limits
 - 10°C to +55°C
- Humidity, non-condensing
 - $\leq 93\%$ RH @ 40°C
 - $\leq 70\%$ RH @ 55°C
- User's Safety Aspects
 - EN 61010-1, EN 60950, EN 41003
 - EN 55022, EN55024, EN 61000-3-2 / -3-3
 - Class B (residential devices)
- EMC Aspects
- CE Marking

Miscellaneous

- LCD display
 - 240x200 Graphic display wide bright an back-lit
- Internal microphone & loudspeaker
- Upgradable firmware
- MultiMediaCard™ memory extension
 - MMC2000 Option

Options

- INET2500
 - HTTP, FTP Internet download
- VX21-2500
 - X.21 / V.11 interface
- WT2000
 - S0/T0 wiring test
- AB2000N
 - Analog (POTS) line adapter
- LT-U2K
 - BRI LT-U simulation
- D2022-Q
 - BRI U (2B1Q) interface monitor
- D2022-T
 - BRI U (4B3T) interface monitor
- MMC2000
 - MMC Memory extension
- VX2000
 - DTE/DCE Datacom tester
- FR2K
 - Frame Relay test suite
- PC108XP EXPERT license
 - More performing version for protocol analysis and remote management
- KCX21-DXE2500
 - X21/MII DTE/DCE CABLE KIT
- KCX2K-DTE
 - Cable Kit for VX2000 DTE simulation mode
- KCX2K-DCE
 - Cable Kit for VX2000 DCE simulation mode



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