

V/X & FRAME RELAY

WAN & DATACOM OPTIONS FOR AETHRA'S TEST INSTRUMENTS



Complete test suite

For WAN & DATACOM services

Installing and maintaining facilities

To detect simple and complex faults over the line

Line status always under control

Control leads monitoring and Frame Relay statistics

OVERVIEW

The optional items FR2K (Frame Relay) and VX2000 (V/X interfaces) are successful tools used for installing, maintaining and troubleshooting E1 and WAN/DATACOM circuits.

VX2000 provides a useful line-quality BER test and expand its potentiality to the Internet world with the IP Ping test.

The option works perfectly with V.35, V.36, V.11/X.21 and V.24 interfaces and allows the main test equipment to simulate both DTE and DCE terminals through the use of appropriate cables.

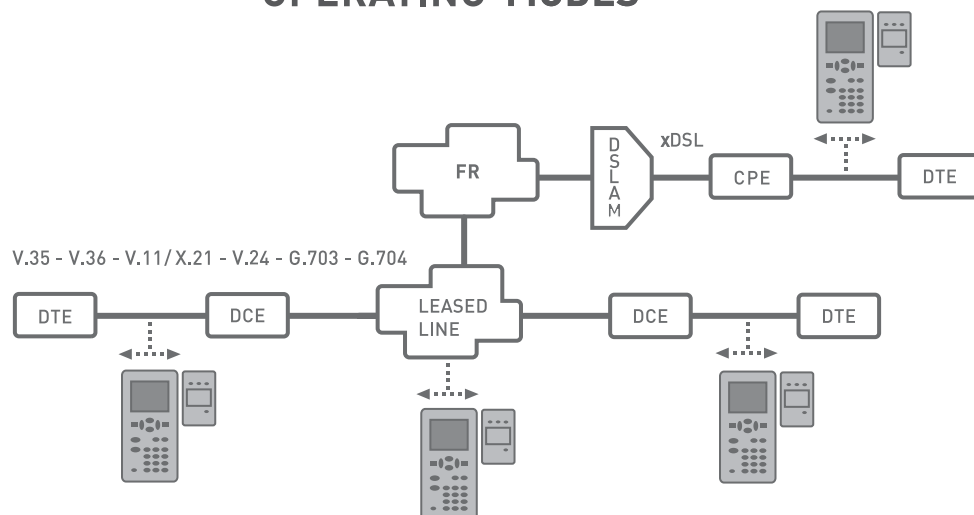
With FR2K option, the Aethra® testers (D2000^{PRO} and D2010) are able to solve Frame Relay services installation problems and perform basic throughput testing and troubleshooting of those services over Wide Area Network (WAN) links.

The SMART STATUS page, besides showing the status of the running test and of the device itself, provides the user a complete report about valid and invalid frames with relative FECN, BECN, DE bits and DLCIs statistics, as well as control leads status for V/X interfaces.

FEATURES AT A GLANCE

- Multi-interface capability: G.703, co-directional, G.704, E1, V.35, V.36, V.11/X.21 and V.24
- Line quality test with full information and IP facilities for Internet applications
- Control leads monitoring
- Frame Relay heartbeat control with quality tests for commissioning and maintenance operations
- Frame Relay statistics with DLCI, LMI and line status information
- Compatible with Aethra testers D2000^{PRO} and D2010

OPERATING MODES



TECHNICAL SPECIFICATIONS

V/X INTERFACES [VX2000]

• V.11/X.21 Line code	CCITT (ITU-T) Rec. V.11 NRZ, NRZI (with SPK-2K kit)
• V.35/V.36/V.24	CCITT (ITU-T) Rec. V.35/V.36/V.24
• G.703/G.704	64K-2.048Mbps
• G.703 co-dir	64K-256Kbps

PROTOCOLS SUPPORTED

• Frame Relay [FR2K]	FRF.1.1, FRF.3.1, FRF.12.1, FRF.14
• IP suite	RFC791, 792, 1618, 1661, 2427

OPERATING MODES AVAILABLE

• Simulation	DTE, DCE
Flow control	User defined
V.24	Synchronous, Asynchronous

SMART STATUS™

• Control leads	C103, C104, C108, C107, C105, C106, C109, C141, I, C, B
• V/X line [VX2000]	Test running, loop, clock phasing, clock frequency measurement, round trip delay
• Clock frequency measurement Display range/Resolution	2MHz/± 100Hz
• Clock phasing error detector Result	Automatic phasing errors detection due to inversion of the clock signal
• Frame Relay [FR2K]	DLCLs, LMI and quality test, FECN, BECN, DE, NLPID, FRF.12

LOOP-BOX FEATURES

• Loop	Loop back of incoming data via Smart Status™ menu.
• Loop3 request (LL)	C141 user defined in DTE mode

BIT ERROR RATE

• G.821 statistics	ES, SES, US, DM, Pass/Fail, S-loss
• See D2000 ^{PRO} or D2010 Technical Specifications for further info	

IP LAYER

• Protocols	IPv4, UDP, DNS, DHCP, ICMP, TFTP
• See D2000 ^{PRO} or D2010 Technical Specifications for further info	

FRAME RELAY [FR2K]

• LMI	ITU-T Q.933, ANSI T1.617, original LMI CISCO
• Logical Types	UNI, CPE, NNI

DTE MODE, BIT RATE, SYNCHRONOUS INTERFACE

• Transmission Clock External source	C114 is switched over C113
• Reception Clock External source	C115, C114
External rate	50bps - 2.048Mbps
co-dir, NRZI (X.21)	64, 128, 256Kbps
• V.11 Byte Timing Control	External source, No care

DCE MODE, BIT RATE, SYNCHRONOUS INTERFACE

• Transmission Clock Source	Internal (C115)
Clock phasing	It is possible to select the rise or the falling edge for transmission clock
• Reception Clock Source	Internal (C114), External (C113)
Predefined Internal clock rates	48, 64, 128, 192, 256, 320, 384, 512, 640, 768, 960, 1024, 1280, 1536, 1920, 2048Kbps
co-dir, NRZI (X.21)	64, 128, 256Kbps
External rate	50bps - 1.024Mbps
with SPK-2K kit	50bps - 2.048Mbps

MISCELLANEOUS

• Connectors Line interface connection	DB25 poles female
Connection to Aethra tester	DB15 poles male (on the device)
• LEDs	Power on, Mode, Data Tx, Data Rx

ENVIRONMENTAL CHARACTERISTICS

• Dimension Weight	≈200 gr
Dimensions (mm)	84 (w) x 150 (l) x 32 (d)
• Power	Through Aethra's test equipment

TEMPERATURE

• Storage/Transport	- 40°C to +70°C
• Operating, nominal	- 5°C to +45°C
• Humidity, non-condensing	≤ 93% RH @ 40°C
• CE Marking	Class B (residential devices)

OPTIONS

• DTE cables kit	X.21/V.11, X.21bis/V.35, V.36, V.24
• DCE cables kit	X.21/V.11, X.21bis/V.35, V.36, V.24

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