AC203x

Multiservice ShDSL Network Termination Device

Flexible
Multiservice ShDSL terminal with E1 and serial interface (up to 2048 kbps)

Convenient and cost-effective
Substitutes outdated leased-line network equipment with inexpensive and highly scalable network infrastructure

Reliable
Provides ATM Circuit Emulation Services (CES), with up to eight independent channels, over E1 and serial interfaces

AC203x is a family of highly flexible Network Termination Units that connect directly a DTE with Serial and/or E1 interface to an ATM network through a ShDSL line. AC2036 and AC2037 models, respectively 2-wire and 4-wire, provide two different operating modes, E1 Cell Bridging and Frame Relay to ATM interworking functionalities.

Configurable Connectivity

AC203x family offer flexible ShDSL Network Termination Points with different operating modes:

- ATM Circuit Emulation Service (CES)
- Frame Relay to ATM Interworking
- Cell Bridging to transport ATM cells between the ShDSL network interface and the E1 service interface
- Time-Division Multiplexing (TDM)

High-Performance Digital Suscriber Line Access Multiplexer Transmission

AC203x, connected to a DSLAM, terminates the ShDSL and many other xDSL links. AC203x cross connects and concentrates up to 128 Virtual Circuit Connections (VCC) over a single or a dual high speed link to the backbone ATM network, reaching up to 4608kbps (4-wire mode). Deploying an inexpensive and highly scalable network infrastructure using AC203x replaces obsolete DCE, HDSL transceivers, TDM cross-connects, and other leased line network equipment.

AC203x

Technical Specifications

LED Indicators
- PWR
- RDY (Fail)
- E1: LOS,LFA,ACT,AIS (alarms)
- ShDSL (Link, Sync)
- VX (Act)

Physical Interfaces
- Balanced E1 G.703/G.704 interface with RJ-45 or external adapter-BALUN for AC2033 and AC2033T models
- Balanced and unbalanced E1 G.703/G.704 interface with RJ-45 or external adapter-BALUN for AC2036/7 models
- VX
  - V.35 (standard V.35 connector) for AC2036 and AC2037 models
  - V.35, V.36/RS.449,X.21/V.11 (ITU-T V.35, ITU-T V.36, ITU-T V.11, TIA/EIA-530, TIA/EIA RS-449, proprietary 25pole female connector1) for AC2033 and AC2033T models
- Local configuration auxiliary interface one RS-232 interface(DB9 cable)

ShDSL Network Interfaces
- ShDSL interface: up to 2312 kbps for 2-wire model, up to 4608 kbps for 4-wire models
- ETSI TS 101 524
- ITU G.991.2
- Line rate
  - up from 200 kbps to 2312 kbps for AC2036
  - up from 200 kbps to 4608 kbps for AC2033/T

Operating Modes
- Circuit Emulation Service forAC2033/T models
- Frame Relay to ATM
- Cell bridging
- Time-Division Multiplexing for AC2033/t models
- Simultaneous Circuit Emulation and Frame Relay to ATM interworking services on E1 and serial interface

Frame Relay
- Support for up to 128 PVCs
- FRF.1 UNI
- Up to 10 classes for traffic policy

Interworking Functions
- Configurable per VCs
- Network Interworking FRF.5
- Service Interworking FRF.8.1
- Transparent mode
- Protocol Translation (RFC2427, RFC2684)

Circuit Emulation Service
- Structured and unstructured data mode
- Playout buffer size
- Partial cell filling
- CES ATM forum atm-vtoa-0078.000

Mixed Mode Features
- Up to 128 ATM VCs
- Up to 128 NIW or SIW channels
- CBR and UBR configurable for VC
- 8 CES channel

Timing
- Local
- Adaptive
- Network

Local Management Interface (LMI)
- Selectable Q.933 Annex A or ANSI T1.617 Annex D)
- Standard or bi-directional procedures
- Management local or remotely configured and operated using a designed ATM VCC

Configuration and Management
- Password Protected Access:
  - 2 login levels
  - Local authentication
- Local Management
  - Console port
  - Extensive CLI
  - Windows® based wizard for configuration and firmware download
- Remote Management (configuring a dedicated VC maintenance and using a remote host)
  - CLI (internal Telnet Server)
  - HTTP (embedded WEB Server)
  - SNMP Agent (v1, v2c)
  - Syslog
  - Ping MIB
- Firmware upgrades: Local and Remote (TFTP client embedded)

Environment
- Operating Temperature: -5° ÷ 45°C (23° ÷ 113°F)
- Non-Operating Temperature: -40° ÷ 70°C (-40° ÷ 158°F)
- Operating Humidity: 10 ÷ 93% (non-condensing)

Compliance & Approvals
- Storage: ETSI EN 300 019-2-1 T 1.3
- Transportation: ETS 300 019-2-2, T 2.3
- Operating Conditions: ETS 300 019-2-3, T 3.2
- EMC: EN 55022, EN 55024, EN 61000-3-2, EN 61000-3-3
- Protection: ITU-T K.21
- Safety: EN 60950-1

Power
- External power supply
- AC input voltage: 100 to 240 Vac
- AC input frequency: 50 to 60 Hz
- AC input current: 0.2 to 0.38 A

Dimensions
- Length 180 mm
- Width 145 mm
- Height 40 mm

Notes
1 *Dedicated cable available*

	ShDSL port	E1 Ifc	Serial Ifc	Operating Modes
AC2036	single	balanced and unbalanced	standard V.35 connector	Cell Bridging FR to ATM Interworking
AC2037	dual	balanced and unbalanced	standard V.35 connector	Cell Bridging FR to ATM Interworking
AC2033	dual	balanced	proprietary 25pole female connector V.35, V36/RS.449, X.21/V.11	Cell Bridging FR to ATM Interworking CES TDM
AC2033T	dual	balanced	na	Cell Bridging FR to ATM Interworking CES TDM

Aethra® SpA
via Matteo Ricci, 10
60126 Ancona (Italy)
Telephone +39.071.218981
Fax +39.071.887077
Video 1 +39.071.2189704
Video 2 +39.071.2189701

Beijing Hong Kong London Madrid
Mexico City Paris Miami São Paulo
Shanghai Shenzhen

Email:info.aethra@aethra.com
www.aethra.com

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