

# AF3400

## High Density ShDSL Modular Transmission System



### Flexible

Modular, rack mounted ShDSL Transmission System for ATM services (FR/ATM interworking, Cell Bridging)

### Cost-Effective

Allow carriers to provide services with guaranteed QoS to users unreachable by DSLAM and to save resources on their legacy network infrastructure

### Increased Density

Each line module is equipped with 4 pairs ShDSL and 4 E1 interface



AF3400 is an enhanced version of the AF3000 family.

AF3400 is a modular, rack mounted ShDSL transmission system that provides high-speed access to telecommunication networks via existing copper pairs. AF3400 provides up to 4 pairs ShDSL line interface and up to 4 E1 interface on each line module.

### Operating Modes

The AF3400 is a flexible ShDSL Transmission equipment supporting different operating modes on E1 interface:

- Frame Relay to ATM interworking
- E1-UNI over ShDSL "Cell bridging".

### Transport Applications and Future Implementations

In FR/ATM IW and Cell Bridging operating modes, AF3400 enables Carriers to provide services with guaranteed QoS to users unreachable by DSLAM allowing migration from a TDM to an ATM Network. It also enables Carriers to save ports on their legacy HDSL and FR/ATM IW equipment reducing costs of Network Creation.

### Flexible Management of ShDSL Solutions

AF3400 offers ATM services for the widest variety of ShDSL solutions and allows a flexible configuration and management via AF3400 Element Management System (EMS). AF3400 is a ETSI or 19" rack-mountable system.

# AF3400

## Technical Specifications

### Components and Modularity

- Rack: Up to 7 subracks on each ETSI rack (ETSI ETS-300 119)
- Subrack: 8 line modules (AF3005) one supervisory module (AF3003) triple redundant dc battery power inputs
- Line Module (AF3005): 4 ShDSL and 4 E1 (G.703/G.704) I/F an independent dc/ac converter program code and configuration files
- Supervisory module (AF3003): RS-232 and Eth 10BaseT I/F for: Alarm reporting, event monitoring Line module configuration and sw upgrade

### E1 Interfaces

- E1 port, full E1 UNI (as per af-phy-0064\_000) and fractional E1UNI (as per af-phy-0130\_000) are supported
- TX
  - Line Code: HDB3
  - Nominal Impedence:75 Ohm
- RX
  - Line Code: HDB3
  - Nominal Impedence:75 Ohm
  - SNR: > 18dB
  - Jitter Tolerance: ETSI TS 101 135

### ShDSL Interface

- ETSI TS 101 524-1 and -2

### Service Functions

- Frame Relay to ATM Interworking:
  - FR/ATM PVC service interworking (SIW) according to FRF. 8.1 either in transparent or translated mode
  - FR/ATM PVC network interworking (NIW) according to FRF.5; supported multiplexing modes:
    - (a) One-to-One: Each FR logical connection is mapped to a single ATM PVC
    - (b) Many-to-One: Multiple FR logical connections are multiplexed into a single ATM PVC
  - Up to 128 NIW and SIW channels supported
  - Up to 10 Frame Relay Traffic Classes configurable and usable for all the FR-PVCs
  - PVC management by Link Management Interface (LMI) compliant to ITU-T Q.933 Annex A or T1.617 (Annex D) and compatible with CISCO-like implementations
- Cell Bridging:
  - AF3400 acts as a VP/VC ATM switch
  - On E1 port, full E1 UNI (as per af-phy-0064.000) and fractional E1 UNI (as per af-phy-0130.000) supported

### Environment

- Operating Temperature:  $-5^{\circ} \pm 45^{\circ}\text{C}$  ( $23^{\circ} \pm 113^{\circ}\text{F}$ )
- Non-Operating Temperature:  $-40^{\circ} \pm 70^{\circ}\text{C}$  ( $-40^{\circ} \pm 158^{\circ}\text{F}$ )
- Operating Humidity:  $10 \pm 93\%$  (non-condensing)

### Compliance & Approvals

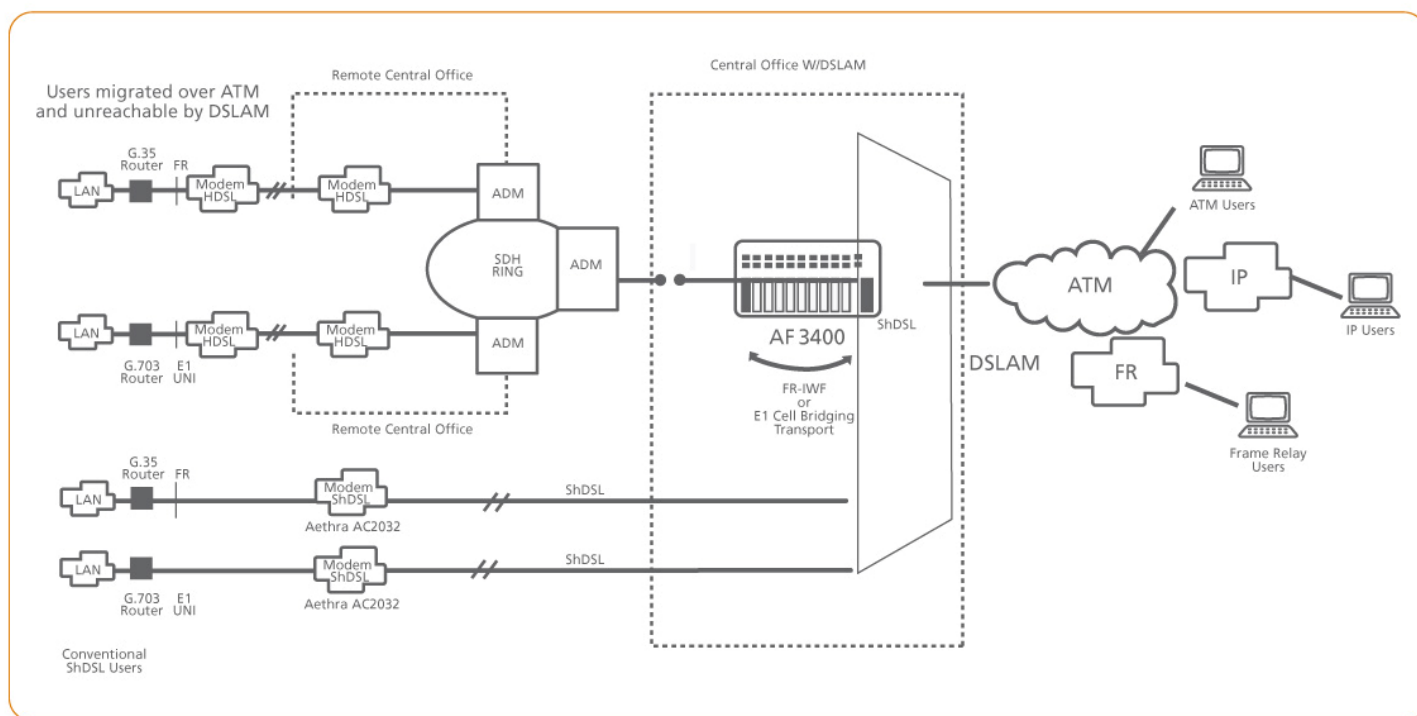
- Storage: ETSI EN 300 019-2-1 T 1.3
- Transportation: ETS 300 019-2-2, T 2.3
- Operating Conditions: ETS 300 019-2-3, T 3.2
- EMC: EN 55022, EN 55024, EN 61000-3-2, EN 61000-3-3
- Protection: ITU-T K.21
- Safety: EN 60950-1

### Power

- Input Voltage 36-72 Vdc
- Max Power Consumption < 55 W

### Dimensions

- Width 600 mm
- Deep 300 mm
- Height 2200 mm



### 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](http://www.aethra.com)