

GoWide E1 AAL1

SHDSL E1 AAL1 Network Termination Unit

KEY FEATURES

- AAL1 Circuit Emulation of E1 or FE1
- E1 G.703/G.704 Customer Interface
- Single or Dual Pair SHDSL ATM Network Interface
- Compatible with Major SHDSL DSLAM Vendors

MAJOR APPLICATIONS

- ISDN PRI/PRA and E1 Leased Line Services
- 2.048 Mbps or Nx64 Kbps Services
- PABX Voice Transport
- Interoffice Trunking

INTRODUCTION

Symmetricom's GoWide™ SHDSL E1 AAL1 is a Circuit Emulation Network Termination Unit (CeNTU) enabling carriers to use SHDSL to provide traditional G.703 and G.704 E1 termination. GoWide E1 AAL1 offers a cost effective way to transport voice traffic from a PABX, TDM Multiplexer, Nx64K leased line or GSM base station across the ATM backbone.

Given the current installed base of DSLAMs and the need to migrate services onto a unified platform and network, it is evident that ATM SHDSL termination in a DSLAM and Customer Located Equipment (CLE) yields the most economical solution to offer E1 service.

GOWIDE E1 AAL1 TECHNOLOGY

Based on the worldwide G.shdsl (ITU-T G.991.2) standard and E1 unstructured/structured (G.703/G.704) standard, GoWide E1 AAL1 provides advantages such as unrivaled reach (over 4.5 Km), excellent tolerance to noise and efficient spectrum management. All of these advantages will enable carriers to provide reliable legacy services over copper using SHDSL increasing end user satisfaction with lower system cost.

GoWide E1 AAL1 has been designed to interoperate with existing GSM base station equipment, PABX, TDM multiplexers and routers already deployed at business locations. Additionally, GoWide E1 AAL1 has been designed to work with existing DSLAMs and ATM switches to ensure an end-to-end solution for E1 transport.

GoWide E1 AAL1, with its integrated G.shdsl single pair or dual pair (4-wire) technology, enables E1 delivery beyond the coverage area serviced by traditional HDSL. GoWide E1 AAL1 can be configured to use a single pair delivering a full rate E1 ATM 2.048 service for 3.5 Km, dual pair (4-wire) mode delivering full rate for 4.5 Km and fractional E1 AAL1 service as far as 6 Km.

Integrated with robust and reliable SHDSL Embedded Operation Channels (EOC) messaging and ATM Operations, Administration, and Maintenance (OAM) management features, GoWide E1 AAL1 reduces maintenance and deployment costs while delivering reliable E1 service.

GoWide E1 AAL1 design, manufacturing, and support are performed entirely by Symmetricom, a recognized leader in Network Synchronization and Timing. Symmetricom's manufacturing facilities are fully ISO 9001 certified and meet Telcordia GR-2981 CORE requirements.

For services on your Symmetricom products, including Extended Warranty, Spares Support, Training, etc., please contact Symmetricom Global Services (SGS) at 1-888-367-7966 (USA toll-free) or 1-408-428-7907 (worldwide).



FIG. 1 GoWide E1 AAL1 network termination unit

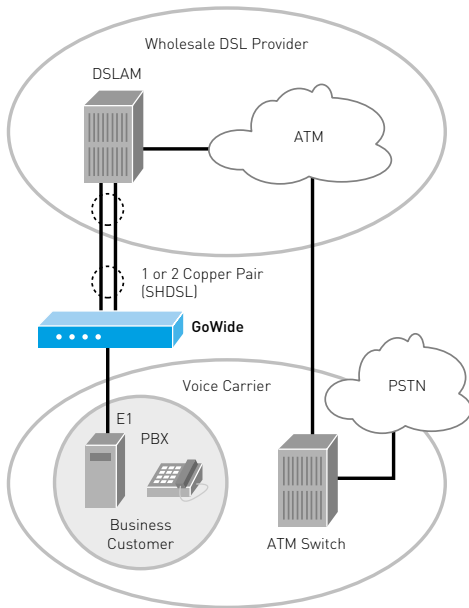


FIG.2 General E1 PRI Application

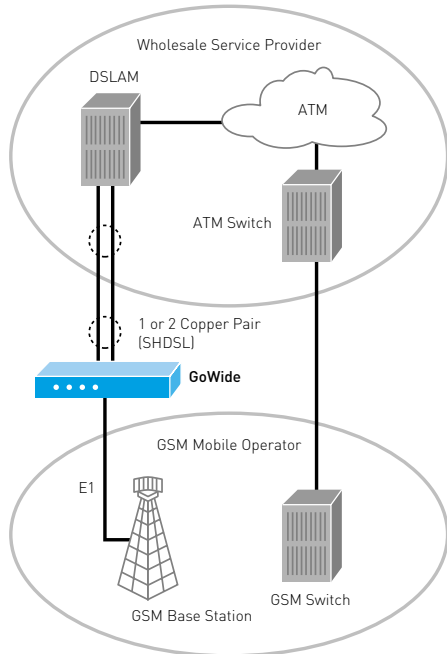


FIG.3 GSM Base Station Backhaul Application

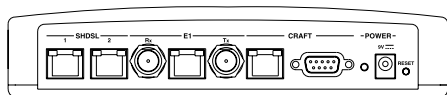


FIG.4 GoWide E1 AAL1 I/O panel

Feature Specifications

SHDSL FEATURES

- ITU-T G.shdsl (G.991.2)
- Configurable: 2-wire or 4-wire mode
- Signal format: TC-PAM
- Data rate:
 - 192Kbps ~ 2.312 Mbps for 2-wire mode
 - 364KBPS ~ 4.608 Mbps for 4-wire mode
- Connectors: 2xRJ-45
- Impedance: 135 Ohms

E1 FEATURES

- ITU-T E1 G.703/704
- Signal format: HDB3
- Data rate: 2.048 Mbps
- Connectors: RJ-45 and BNC
- Impedance: 120 Ohms and 75 Ohms

CIRCUIT EMULATION FEATURES

- CAS & CCS Transparency
- NTR (Synchronous) and Adaptive Timing
- Structured Data Transfer (SDT)
- Unstructured Data Transfer (UDT)
- I.363.1

ATM FEATURES

- ITU-T I.610 OAM F4/F5

MANAGEMENT FEATURES

- Local and in-band management
- Console port for local management
- Telnet configuration
- Command line interface
- Firmware & configuration upload/download
- Alarm status and power indicators
- Event logging
- SNMP

PHYSICAL INTERFACES

- Two G.shdsl ports (RJ-45)
- One E1 port (RJ-45 & BNC)
- LED indicators: Power, SHDSL SYNC, E1 SNYC, ATM Active
- DB9 & RJ-45 craft ports

PHYSICAL SPECIFICATIONS

- Height: 28.1 mm (1.5 in.)
- Width: 203.2 mm (8 in.)
- Depth: 167.6 mm (6.6 in.)
- Weight: 0.5 kg (1.1 lbs.)

POWER REQUIREMENTS

- External power supply: 220-240 VAC, 50Hz, 1A
- Device power: 9V DC
- Power consumption: 6.75W
- Battery backup optional
- 48V DC optional

OPERATING ENVIRONMENT

- Temperature: -5° to 45° C (23° to 113° F)
- Humidity: 5% to 90% RH non-condensing

REGULATORY APPROVALS

- CE Mark
- ETS 300019 1.3, class 3.1E
- EN 60950 Amendment 4 and EN 41003. NT is class II
- EN 300 386-2, EMC directive 89/336/EEC
- EN 55022 class B (1998)
- EN 55024 (1998)
- ETS 300 019-2-2 class T2.3 (ordinary transport)
- EN 60950
- CEI 38
- ITU K.45 (enhanced level)
- ETS 300 046-3 for customer interface

GOWIDE PRODUCT FAMILY

PRODUCT NAME	PART NUMBER
GoWide 2.3	990-91021-XY
GoWide 4.6	990-91022-XY
GoWide 9.2	990-91023-XY
GoWide 2.3 E1 ATM	990-91051-XY
GoWide 4.6 E1 ATM	990-91052-XY
GoWide 2.3 E1 AAL1	990-91061-XY
GoWide 4.6 E1 AAL1	990-91062-XY
	X = 0 for US
	X = 1 for Continental Europe
	X = 2 for United Kingdom
	Y = Release Number



SYMMETRICOM, INC.
 2300 Orchard Parkway
 San Jose, California
 95131-1017
 tel : 408.433.0910
 fax : 408.428.7896
 info@symmetricom.com
 www.symmetricom.com

SYMMETRICOM EMEA
 150 Wharfedale Road
 Winnersh Triangle, Nr. Wokingham
 Berkshire
 RG41 5RB, United Kingdom
 tel : 44 (0) 1189 699 799
 fax : 44 (0) 1189 277 520
 info@symmetricom.com

SYMMETRICOM LATIN AMERICA
 1560 Sawgrass Corporate Parkway
 4th Floor
 Sunrise, Florida
 33323
 tel : 954.331.4592
 fax : 954.331.4601
 info@symmetricom.com

SYMMETRICOM ASIA PACIFIC
 Unit 1005, Jubilee Centre
 42-46 Gloucester Road
 Wan Chai
 Hong Kong
 tel : 852.2529.7180
 fax : 852.2529.7190
 info@symmetricom.com