



GoWide 18.4i

G.shdsl Multilink Access Concentrator and Aggregator

KEY FEATURES

- Delivers high-speed services over copper wires where previously fiber cables were required.
- G.shdsl International standard
- Serves up to eight remote G.shdsl access devices for up to 18.4 Mbps of combined throughput
- Provides data service up to 15 Mbps
- Consolidates corporate data, Internet, on net and off net voice via multi-link access
- Aggregates traffic of existing CPE equipment
- Increases reliability of access links via patent-pending ATM bonding technology
- Offers four T1 and one Fractional T3 data ports for data access
- Four T1 channelized voice ports
- Flexible quality of service accommodates real time services
- Replaces need for T1 CSU/DSU

MAJOR APPLICATIONS

- Fractional T3 service over copper
- High-Speed Internet/Intranet access
- LAN-to-WAN Connectivity
- ATM-based LAN-to-LAN Connectivity at Ethernet Speed
- Campus/Multi-tenant Applications
- Video Conferencing
- Distance Learning
- Voice over IP

INTRODUCTION

GoWide™ 18.4i is a G.shdsl multilink access concentrator and aggregator. GoWide 18.4i concentrates up to eight remote 2.3 Mbps G.shdsl access device for a total of 18.4 Mbps of combined throughput. Similarly, GoWide18.4i aggregates up to eight copper pairs to deliver fractional T3 service, and burstable bandwidth from 1.5 Mbps (one T1) up to 15 Mbps (ten T1s). New services – such a native Ethernet speeds – may also be provided by GoWide 18.4i.

GOWIDE 18.4i TECHNOLOGY

GoWide 18.4i uses up to eight G.shdsl circuits, to deliver burstable bandwidth of up to 15 Mbps for data applications plus T1 voice connections. GoWide 18.4i provides end-to-end service, operating with any G.shdsl, ATM based, digital subscriber line access multiplexer (DSLAM). GoWide 18.4i is an ideal solution for delivery of fractional T3 services (FT3) over copper pairs. Now, high-speed access services are made easy in those locations where fiber facilities are non-existent or cost prohibitive.

Based on the worldwide G.shdsl standard (ITU-T G.991.2), GoWide 18.4i provides businesses such advantages as unrivaled rate and reach, excellent tolerance to noise, and robustness from physical link diversity. These advantages enable service providers to provide increased end user satisfaction at low system cost.

GoWide 18.4i's design operates with existing TDM based PBX telephone switches and ATM based routers. The result is quick migration of installed equipment to higher-speed service.

GoWide 18.4i's integrated bonding technology – or the ability to logically bundle multiple physical links into a single logical “fat pipe” – enables dynamic delivery of high-speed, business class, symmetric DSL access up to 15 Mbps for end-to-end voice and data connectivity across an ATM network. Additionally, the multilink technology allows facility redundancy which improves availability.

GoWide 18.4i scales as network and bandwidth needs expand. Once installed, aggregate data speeds may be provisioned from 1.5 Mbps (one T1) up to 15 Mbps (ten T1s) over the network without the need for additional expensive truck rolls. The result is reduced capital costs and operating expenses through device consolidation.

GoWide 18.4i's design, manufacturing, and support are performed entirely by Symmetricom, a recognized leader in mission critical network elements. Symmetricom's manufacturing facilities are ISO 9001 certified and meet Telcordia GR-2981 CORE requirements. In addition, GoWide 18.4i is backed by Symmetricom's world-class Customer Technical Assistance Center (CTAC). CTAC delivers 24/7/365 technical support coverage in over 80 countries throughout North America, South America, Europe, Asia and Africa. Additional services such as installation and telephone support are available through Symmetricom's Global Services Division.



FIG.1 GoWide 18.4i G.shdsl Multilink Access Concentrator

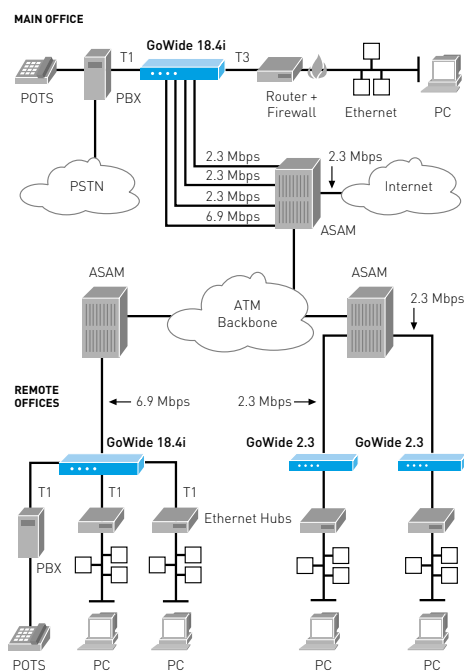


FIG.2 Intranet & Internet Application

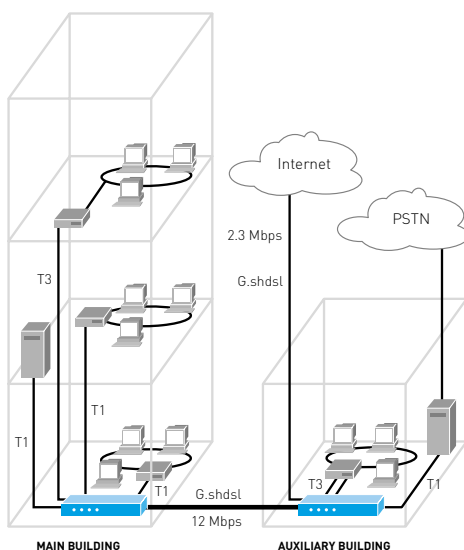


FIG.3 Campus/MTU Application

Feature Specifications

SHDSL FEATURES

- Standard: ITU-T G.shdsl [G.991.2]
- Signal Format: TC-PAM
- Data Rate: 64 Kbps ~ 18.4 Mbps
- Connector: RJ-45
- Impedance: 135 ohms

ATM FEATURES

- AAL2 and AAL5 Adaptation layers
- ATM Forum UNI 3.1
- Up to 128 PVCs
- QoS: CBR, VBR & UBR
- Voice: T1 PCM over ATM Channel Associated Signaling
- Data: ATM via T1 or T3 external router(s)
- Voice over ATM
- RFC 1483 Bridge

MANAGEMENT FEATURES

- Command line oriented via console port
- Telnet via 10/100BaseT port
- Security: user authentication under password protection
- OAM (I.610) F5 loop-back support

SYSTEM TIMING (RJ-45)

- Recovered network reference from G.shdsl ports, or T1 Voice ports

PHYSICAL INTERFACES

- T1 Data Customer Interface (RJ-45)
4 T1 ports for connection to router with ATM output
Line Rate: 1.544 Mbps +/- 75 bps
clear channel
Framing: D4 (SF)/ESF
ANSI T1.403 (ADM)
Line Code: AMI/B8ZS
- T1 Voice (RJ-45)
4 T1 channelized voice ports
Line Rate: 1.544 Mbps +/- 75 bps
Framing: D4 (SF)/ESF, ANSI T1.403
Line Code: AMI/B8ZS

PHYSICAL INTERFACES (CONT.)

- T3 Data Customer Interface (BNC)
1 T3 port for connection to router with ATM output
Line Rate: 44.736 Mbps +/- 20 ppm
fractional DS3
clear channel
Line Code: B3ZS
Standard: ANSI T1.404-1994,
Network-to-customer DS3
Metallic Interface Specification
Framing: Cbit/M23 (ADM)

PHYSICAL

- Dimensions: 43.7mm x 439.4mm x 304.8mm
[1.72" x 17.3" x 12"]
- Weight: 2.72Kg (6 lbs)

POWER

- AC Power: auto ranging 90-250 VAC,
50-60 Hz, IEC connector
- Power Consumption: 35 watts

ENVIRONMENT

- Operating Temperature: -5 to 50° C (23 to 113° F)
- Storage Temperature: -20 to 70° C (-4 to 158° F)
- Relative Humidity: up to 95%, non-condensing

STANDARDS COMPLIANCE

- Safety: UL 1950 3rd edition
- Emissions: FCC Part 15 Class A,
GR-1089-Core
- Immunity: GR1089-Core
- Environmental: GR-63 Core, ISTA
Transportation and Handling
- Network certification: FCC Part 68

GOWIDE PRODUCT FAMILY

PRODUCT NAME	PART NUMBER
GoWide 2.3	990-91021-x2
GoWide 4.6	990-91022-x1
GoWide 9.2	990-91023-x1
GoWide 18.4i	990-91001-x1



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