

WANsuite® 5160/5165

Broadband Access Solutions

HIGHLIGHTS

- T1 WAN access device/IP router
- TDM, Frame Relay, PPP
- IP router enables IP packet routing
- In-line T1 probe capabilities
- WANsight™ – Web-server interface for remote access with password lockout
- Supports DHCP server and client; TCP server
- NAT/NAPT, PPP/NAPT for secure, flexible IP configuration
- Built-in service aware technology for real-time measurement of bandwidth utilization, network delay and verifying SLAs
- Supports SNMP v.2 with email notification
- Supports up to 128 DLCIs
- Dual T1 termination
- Network APS
- Serial DBU
- APS on data ports



Verilink's WANsuite® family is a portfolio of next-generation, intelligent WAN access devices. The WANsuite family ranges from low-cost CSU/DSUs to fully Integrated Access Devices (IADs). The WANsuite 5160/5165s are intelligent IADs. Based on the Motorola MPC860 processor and running at 40 MHz, these units deliver up to 50 MIPS of CPU power, providing increased performance at significant cost savings. The WANsuite platform provides a migration path that protects customers' investments as they transition to emerging network services.

IP router enables IP packet routing using static or dynamic protocols. As next-generation access devices, the WANsuite 5160/5165s provide T1/FT1 network solutions to a variety of applications-related problems. These applications include intelligent IAD, leased line, TDM, Frame Relay, Frame Relay statistics and diagnostics, in-line probe, PPP, IP routing and Supervisory Control and Data Acquisition (SCADA).

The WANsuite family also offers simplified, cost-effective, end-to-end network management capabilities. WANsight™ technology provides Web-based tools that immediately benefit network managers in terms of higher performance, lower cost, reduced complexity, increased manageability, and application readiness.

The WANsuite family gives both service providers and enterprise customers the ability to verify SLAs, isolate performance problems, determine appropriate bandwidth needs, and monitor network trends to aid in future capacity planning.

We at Verilink continually seek solutions to problems associated with space limitations, high network costs, and configuration. The WANsuite next-generation access devices give our customers greater flexibility and higher capacity than single-purpose devices – for about the same price.



WANSuite 5160/5165 T1/FT1 CSU/DSU, Router
 Network: 2 ports; 1 primary, 1 selectable: DSX or network

PART NUMBER AND DESCRIPTION

F-5160-001 - -111: WANSuite 5160 AC power
 1100021: WANSuite 5160 DC power
 1100008: WANSuite 5165 AS 2000
 Cables and accessories included with units:
 9-1544-619-009: RJ-48/RJ-48 Pin to Pin, 9 ft
 33-00221: DB-9M to DB-9F, 6 ft

SERIAL INTERFACE

DTE Port: Software-selectable V.35, EIA-530, RS-232
 Data Rate: Sync: 1200 - 115200 bps and Nx64 (N=1 to 24); Async: 300 - 115200 bps
 Connection: DB-25 female

NETWORK INTERFACE

Line Rate: 1.544 Mbps (\pm 50 bps)
 Data Rate: Nx56/64 kbps to 1.536 Mbps, where N=1 to 24 DSOs
 Line Code: AMI or B8ZS
 Line Framing: D4 or ESF
 Protocol: TDM, Frame Relay, PPP
 Connection: RJ-48C jack, 100 ohms \pm 5%
 Input Signal: DS1, +1 to -27 dB (ALBO)
 Output Signal: 3.0 V
 Mode: Long-haul (T1), short-haul (DSX)
 DSX-1 Level: 0-110, 111-220, 221-330, 331-440, 441-550, 551-660, >661 ft
 Line Build Out: 0, -7.5, -15, -22.5 dB
 Line Protection: 1000 V protection, fused input and output per GR 1089
 Jitter Control: per TR 62411 and T1.403

ETHERNET INTERFACE

Connection: 8-pin modular
 Compatibility: 10/100 Base-T, Autosensing
 Protocols: ARP, RIP1, RIP2, OSPF, TCP/IP, un-numbered

ADVANCED FEATURES

NAT/NAPT, PPP/NAPT
 DHCP server/client
 TCP server
 IP Host Access List

MANAGEMENT INTERFACE

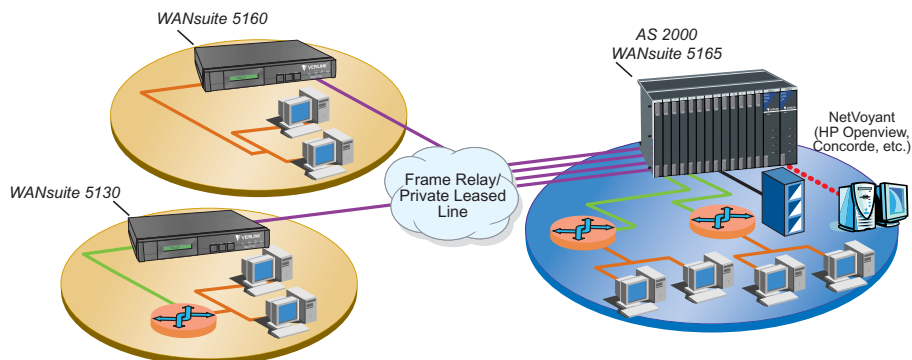
WANSight (embedded Web-server interface), VT100, Telnet, SNMPv.2, local supervisory port, Ethernet port

INDUSTRY LISTINGS

FCC Compliance: Part 15 Subpart B, Class A, Part 68
 US Safety: UL 1950 3rd Edition
 Canadian Safety: CSA C22.2 No. 950-95
 Industry Canada: CS-03, Issue 8
 BellCore: GR-1089-Core Part 3

DIAGNOSTICS

Performance: 15-min, 24-hr, and 30-day monitoring (sampled every second)
 Network Loops: Line, Payload, or Maintenance
 DTE Port Loops: V.54 and Local
 BERT: Marks, QRSS, 511, 2047, 215, and Spaces
 T1 Performance Statistics: ES, SES, LOSS, UAS, CSS, BPVS, OOFSAISS, RAS,
 Originate Ping
 Email notification on trip events



Legend

| | | | | | | | |
|--|-----------------------------|--|---------------|--|-----|--|------|
| | Main Office | | Router | | LAN | | V.35 |
| | Remote Office | | Management PC | | T1 | | DBU |
| | Frame Relay/ Leased Line | | PBX | | | | |

TIMING

Network 1, Network 2, Internal, Serial 1, Serial 2

POWER REQUIREMENTS

Power: AC 100-240 V / DC 18-150 V auto-ranging

MECHANICAL

WANSuite 5160

Mounting: Desktop, rack, or wall
 Dimensions: 11.75 in. (29.8 cm) W, 1.86 in. (4.7 cm) H,
 8.75 in. (22.2 cm) D
 Weight: 2.1 lb (0.97 kg)

WANSuite 5165

Mounting: Desktop or rack-mount in AS2000 Shelf
 Dimensions: 0.94 in. (2.39 cm) W,
 8.2 in. (20.83 cm) H, 9.94 in. (25.25 cm) D
 Weight: 15.2 oz (430.91 g)
 Shelf Option: Dual-line, Quint-line, Multi-line

ENVIRONMENTAL

Operating Temperature: 0 to 50 °C (32 to 122 °F)
 Storage Temperature: -20 to 65 °C (-4 to 149 °F)
 Humidity: 95% maximum, non-condensing

FRAME RELAY STATISTICS COLLECTED IN 96 15-MINUTE INTERVALS

Tx/Rx frames and octets
 Tx/Rx mgmt frames and octets
 Rx frames with FECN, BECN
 Rx invalid frames
 Tx/Rx status inquiry frames
 Tx/Rx status response frames
 Rx invalid LMI frames
 Peak/Average throughput
 Rx frames with DE bit set
 Tx excess CIR and Be

VERILINK'S SERVICE AWARE TECHNOLOGY

Layer 3 Statistics and Up: IP, PPP, TCP, UDP, FTP, TFTP, SNMP, RIP1, RIP2, BOOTP, SMTP, HTTP, ICMP, OSPF, L2TP, H.323
 Peak and Average Throughput on Up to 10 User Definable Filters: DLCI, IP address, or IP port number
 Top talkers

VERIFY SERVICE LEVEL AGREEMENTS (FRF.13)

Frame delivery ratio
 Data delivery ratio
 Round trip delay
 Service availability in seconds

SUPERVISORY CONTROL AND DATA ACQUISITION (SCADA)

Diagnostics: Data monitor and RTU loopback
 Asynchronous multicasting
 SCADA traffic prioritization
 Encryption per DLCI

WARRANTY AND SUPPORT

Five-year warranty

