



Overture 500 Series

Overture extends its award-winning Ethernet service delivery portfolio with the addition of the 500 Ethernet-over-PDH demarcation devices. The 500 series provides a cost-effective solution for bonding multiple PDH signals (T1 or E1) into a single Ethernet connection, delivering over 10 Mbps of Ethernet service capacity to any business customer regardless of rate, reach, or facility availability issues.

The 500 operates in bookended mode, or in conjunction with Overture's 6100 Multi-Service Access Solution, to extend Ethernet services to any customer regardless of the intermediate access network. The 6100 can deliver Ethernet and TDM services over copper or fiber networks, utilizing dedicated facilities or leased service access technologies, delivering traditional and next generation services over any type of access network. The 6100, in cooperation with Overture's 400 (Ethernet-over-copper), 500 (Ethernet-over-PDH), and 600 (Ethernet and TDM over copper) products, allows carriers to deliver Ethernet and TDM services to their customers, providing an easy migration for TDM customers to the packet networks of today and tomorrow.

The 500 series delivers Ethernet services in a compact, economical package that easily scales in capacity and service ubiquity as part of Overture's unique access portfolio. The 500 comes in 4-circuit and 8-circuit variants, supporting up to 16 Mbps of connectivity (in E1 mode, with 12 Mbps of connectivity in T1 mode). A robust service model including flexible VLAN manipulation, traffic shaping, traffic policing, and hierarchical traffic management allows carriers to guarantee the delivery of multiple services competing for the limited bandwidth over an access connection. The 500 also benefits from Overture's years of experience deploying end-to-end service OAM standards such as 802.1ag and Y. 1731, with quick and easy methods for monitoring service performance and availability across any network.

The 500 series is a plug-and-play demarcation device, where the central 6100 platform will automatically update, configure, and monitor all attached 500 devices -no additional configuration is needed to get a customer up and running. Extensive debugging and troubleshooting capabilities eliminate costly truck rolls. The product also provides a comprehensive, user-friendly command-line interface (CLI), SNMP, and an embedded Web Manager that requires no client software – all of which can be accessed over any in-band or out-of-band IP interface.

The 500 series is a temperature hardened, NEBS3 certified, full front access device, making it universally deployable in any environment - from the central office to a customer premise to a cell tower. With Overture's 500, carriers can cost-effectively deploy high-speed Ethernet-over-PDH services to business sites and cell towers that do not have access to fiber and which cannot be reached by copper.



APPLICATIONS

- Ethernet Business Services via Ethernet over TDM
- Mobile Wireless Backhaul
- Transparent LAN Services
- Dedicated Internet Access
- Private Line Ethernet Services
- Layered VoIP Transport
- Multi-Tenant T1/E1
- Services VPNs

KEY FEATURES:

- 4 or 8 ports of bonded T1/E1 (EoTDM) for 3, 5 or 10Mbps Ethernet Services
- 2 Ports of Native Ethernet
- Compatible with 6100 and can be bookended
- Advanced QoS
- Extensive SLA Management
- Robust Security
- L3 Routing Support
- L2/Ethernet functionality equivalence with 400 Series
- MEF 9, 14, 21 Certified
- NEBS level 3 Certified
- Carrier-Class OAM
- 99.999% Availability
- CPEs managed by CO device
- Environmentally Hardened



TECHNICAL SPECIFICATIONS

INTERFACES

- 4 or 8 Port T1/E1 that is software definable to support Ethernet over T1/E1 (EoTDM) RJ-45 connectors
- 2 Ports Ethernet - IEEE 802.3 10/100 BASE-TX via RJ-45 connectors
- Craft Interface RS-232 via RJ-45 connector

ETHERNET & ROUTING FEATURES

- DHCP server, NAT firewall, ACLs, Static Routes, RIPv2
- IGMP Snooping
- MEF E-LINE
- 802.1q VLANs, VLAN stacking (aka Q-in-Q), S-VLAN
- 802.1p Prioritization
- 802.3x Flow Control and pause frames
- MAC Filtering
- All Ethernet Ports perform auto-negotiation, Full or half duplex
- VLAN Tag ID writing, stacking, stripping, and re-writing and VLAN Bundling and VLAN Pruning
- RFC 791 IP, RFC 792 ICMP, RFC 793 TCP, RFC 768 UDP, RFC 826 ARP, RFC 1122 Host Requirements
- Auto/Manual MDI/MDIX
- Local Switching between Ethernet Ports
- 2,000 Byte MTU

TRAFFIC MANAGEMENT

- 8 COS Classifications Mapped to 4 Queues
- Queue management using Customizable Weighted Fair Queuing, Strict Priority, and Combination
- COS based upon 802.1p, VLAN ID (802.1q), DSCP, and fixed per port
- Traffic Policing with dual leaky bucket algorithm
- Traffic Rate Shaping
- Broadcast, Multicast, and Unknown Storm Control T1/E1 Operating Modes:
- T1/E1 Native TDM Operating Mode:
- Timing: ITU G.823/E1 Interface, G.824, T1.101/T1 Interface
- DSX-1 Interface (Short Haul) per ANSI T1.102
- E1 Interface per G.703, Section 6
- Line Rate: T1: 1.544 Mbps; E1: 2.048 Mbps (software selectable)
- Line Coding: T1: B8ZS; E1: HDB3 (software selectable)
- Framing: T1: SF, ESF, Transparent; E1:

- Multiframe, CRC Multi Frame, Transparent (software selectable)
- DS1/E1 Line Build Out (0 - 660 feet) Remote and Local Loopbacks
- Performance Monitoring
- Internal and loop timing sources

MECHANICAL

- Compact 1 RU size, full front access
- Dimensions: Width 8.5" (216mm); Height: 1.38" (35mm); Depth: 9.08" (231mm)
- Weight: 3.0 lbs (1.36 kg)
- Rack Mounting in 19" and 23" EIA/ANSI and WECO racks;
- 600mm wide ETSI racks

MANAGEMENT, SECURITY, AND DIAGNOSTICS

- Craft Interface RS-232 via RJ-45 connector
- Imbedded Web GUI (Web Manager), Command Line Interface
- Telnet (client and server)
- FTP and TFTP
- RFC 1155 TCP/IP management
- RMON
- IEEE 802.3ah OAM
- SNTPv3 - Time Synchronization
- Error logging and SNMP Trap alarms based on GR-474-CORE and GR-883-CORE
- SSHv2, HTTP/HTTPS, SSL
- TACACS+ and RADIUS
- Management IP Access Control List
- Audit Log, Event Log, Boot Log, and Syslog
- Link Trace, Ping, L2 Ping, Trace Route
- Test TCP, Link Loss Forwarding
- Auto Discovery
- IEEE 802.1ag CFM

- Y.156SAM
- ITUY.1731ETH-OAM
- CLEI Coded
- Traffic Generator/Monitor

ELECTRICAL:

- Power: 14 Watts typical at -48 VDC with Redundant Feeds
- Optional AC/DC 120/240 power supply (both variants available)
- Input Voltage: -48V

CERTIFICATIONS AND COMPLIANCE:

- NEBS Level 3 (GR-63-CORE and GR-1089-CORE)
- GR-3108 Class 1 and 2
- T1/E1 ports meet all OSP requirements
- ANSI T1.403
- MEF Certifications: MEF 9 and MEF 14
- FCC Part 15 Class A / FCC Part 68
- EN 55022 Class A
- ITU K.20/K.21
- ETSI EN 300 386
- ETSI 300 019, T1.2, T2.2, T3.1E
- Safety: 60950-1, with CB scheme with allcountry deviation
- CE Mark
- R&TTE 1999/5/EC

ENVIRONMENTAL

- Environmentally hardened with extended temperature range, -40°C (-40°F) to +65°C (+149°F)
- Storage and Transportation Temperature: -40C (-40F) to +70C (+158F)
- Operating Humidity: 5% to 85%
- Storage and Transportation Humidity: 5% to 95% non-condensing

ORDERING INFORMATION

MODEL NUMBER	DESCRIPTION
504-A-2E	CPE 4 pair Ethernet over T1/E1 CPE - 2 10/100BASE-TX port with system s/w dual - 12VDC power feeds
508-A-2E	CPE 8 pair Ethernet over T1/E1 CPE - 2 10/100BASE-TX port with system s/w dual - 12VDC power feeds
504-D-2E	CO 4 pair Ethernet over T1/E1 CPE - 2 10/100BASE-TX port with system s/w dual - 48VDC power feeds
508-D-2E	CO 8 pair Ethernet over T1/E1 CPE - 2 10/100BASE-TX port with system s/w dual - 48VDC power feeds
FLTR-01	400/500/600 replacement fan filter (includes 10 fan filters)

Overture Networks, Inc.

Research Triangle Park, NC

tel: 919.337.4100

www.overturenetworks.com

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