



ADTRAN

# 508VP

MDU GPON Outdoor ONU



## Benefits

- Fully sealed enclosure for go-anywhere deployment flexibility
- Passive cooling for completely silent operation in residential deployments
- Integrated lightning survivability eliminates external protection boxes
- Ultra-low total cost of ownership for triple-play service delivery
- Provides eight ports of vectored VDSL2 and POTS
- IGMPv2 and v3lite proxy with Mediaroom support
- IPv6/DHCPv6, LDRA capable
- Voice signaling via GR-303, TR-08, TR-57, SIP, and MGCP
- Single fiber GPON backhaul
- Supports EFM bonding for greater bandwidth and reach
- Span powered for reliability and low installation cost
- Supports separately configurable interface rates for upstream and downstream
- Flexible traffic management including policing and shaping
- Provisioned from the OLT via OMCI for ease of provisioning and deployment
- Supported by Advanced Operational Environment (AOE) service management

## Overview

**The key to customer retention and continued revenue growth is to offer new, higher-bandwidth services to your customers.** The ADTRAN® 508VP Optical Network Unit utilizes Vectored VDSL2 to allow service providers to realize ultra-broadband speeds over their existing copper infrastructure, economically delivering broadband connections to the home and enabling advanced communication and entertainment services.

The ADTRAN 508VP ONU provides a flexible approach to the successful deployment of broad-band data and voice services in a variety of applications. Fed with GPON and supporting up to eight subscribers with high-speed vectored VDSL2 data and analog POTS service, the 508VP is ideal for deep-fiber deployments to the curb, building, home, distribution point, MDU and other applications where advanced services are required for a small number of subscribers.

The 508VP is a perfect fit for MDUs in GPON FTTH deployments. It is a potent GPON ONU which can be installed in a basement, crawl-space, or on an interior or exterior wall to provide IPTV, ultra-high speed (100 Mbps+) data, and voice services to the subscribers inside over the existing in-building copper infrastructure. Services can be deployed rapidly over existing in-building wiring and with minimal installation and construction costs. Combining the ability to

be deployed in any environment with dramatically lower deployment costs, the 508VP allows carriers to cost-effectively reduce loop lengths and maximize the performance of VDSL2 for every subscriber in their copper network. The solution is purpose-built for the emerging FTThdp or FTThb. The fully sealed housing makes the 508VP ONU a robust and reliable network element that can be deployed in pedestals, poles, low-profile “doghouse” enclosures, and even underground vaults and hand-holes. ADTRAN FTThdp and FTThb architecture can be operationally aligned with FTTH architectures—as an FTTH extension cord. This is because, unlike other DSL acceleration solutions, these FTThdp solutions can be managed (OMCI) and subtended (GPON) just like an FTTH ONT would be. Service providers can leverage their existing fiber infrastructure while updating the electronics to provide state-of-the-art 100 Mbps+ vectored VDSL2 services to retain existing customers or win back those lost to competing technologies.

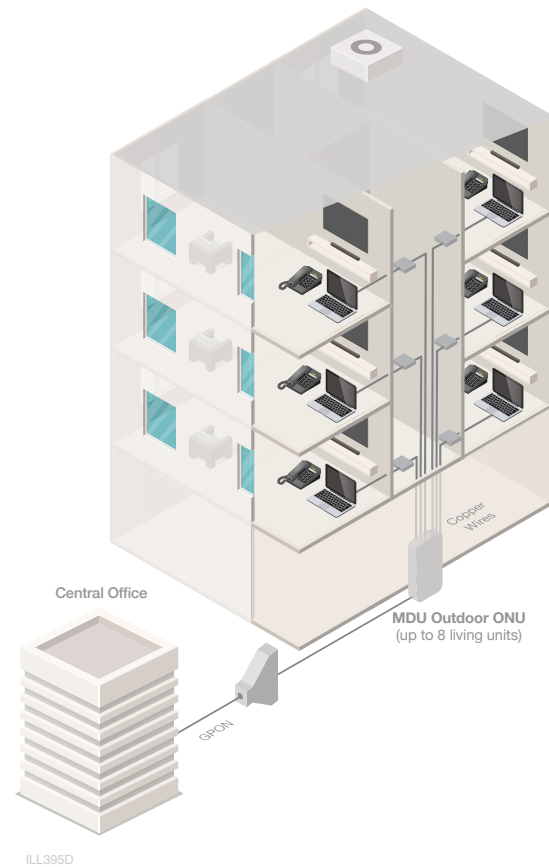
In any network, there are locations where the number of subscribers within a given serving area cannot profitably support the installation of traditional cabinet-based broadband access equipment, or even higher-density outside plant equipment like members of the Total Access® 1100 Series. The 508VP can prove in the business case in these areas and enable advanced service delivery to those subscribers rather than ceding them to a competitor.

# ADTRAN 508VP

The ADTRAN 508VP ONU works seamlessly with the Total Access 5000 Series Multiservice Access and Aggregation Platform. Functioning as a highly capable GPON OLT and flexible carrier-class access platform, the Total Access 5000 bridges the gap between existing and next-generation network architectures like Active Ethernet and GPON. It makes a carrier's access network capable of meeting a variety of legacy and emerging system requirements. Its Ethernet architecture allows carriers to increase bandwidth while offering differentiated capabilities. Coupled with the 300 and 400 Series ONTs and the 508VP ONU, it provides an end-to-end FTTP deployment strategy that is supported by a common management solution.

The 508VP GPON MDU ONU leverages the industry-leading converged voice and data functionality widely deployed in ADTRAN integrated access, IP gateway, and Voice over IP (VoIP) platforms, with millions of ports currently deployed. The ONU provides unmatched SIP and MGCP interoperability with a host of major softswitch vendors, as well as integrated statistics and tools that allow carriers to quickly and easily troubleshoot network configuration issues and monitor performance.

This outdoor ONU provides a flexible solution that enables service providers to economically meet their most challenging objectives. With the ability to economically deliver ultra-broadband services using field-proven outside plant technology, aligned with emerging FTTP architectures, this MDU Outdoor ONU is ready for the broadband demands of the future.



# MDU GPON Outdoor ONU

## Product Specifications

### Mechanical

- **Dimensions:** 17.3 in. x 10.0 in. x 3.3 in. (H x W x D)  
(43.9 cm x 25.4 cm x 8.4 cm)
- **Weight:** 16 lbs (7.3 kg)
- **Outdoor Mounting:** Pedestal, wall, handhole, doghouse

### Interfaces

#### Network

- Single-fiber GPON (ITU-T G.984, 2.5 Gbps downstream, 1.2 Gbps upstream)
- Integrated 5-foot fiber tail with SC termination

### Subscriber

- 8 VDSL2 + 8 POTS with integrated primary protection
- Integrated 5-foot copper tail with 710 termination

### Ethernet Services

- 802.1D bridging
- Virtual switch based on 802.1q VLAN
- VLAN tagging/detagging per Ethernet port
- VLAN stacking (Q-in-Q) and VLAN translation
- Class of Service based on VLAN-ID, 802.1p bit
- Marking/remarking of 802.1p
- IGMP v2 and v3lite snooping

### DSL Performance

- VDSL2 5-Band Profile 8a-d, 12a-b, 17a
- ADSL2+ ITU-T G.992.5
- ADSL2 ITU-T G.992.3/4

### POTS Performance

- **Loop Reach:** 1560W including handset

### Signaling Modes

- Loop Start
- Ground Start

### Power

- **Line Power:** Up to 2 line-powering pairs  
(+/- 190 VDC per pair)

### Regulatory Standards

- GR-487-CORE, Issue 2
- NEBS Level 3
- GR-1089-CORE, Issue 3
- GR-63-CORE, Issue 2
- UL 60950-1/21/22
- FCC Part 15
- RoHS 6 of 6 Compliant

### Environmental

- **Operating Temperature:** -40° F to +158° F  
(-40° C to +70° C)
- **Storage Temperature:** -40° F to +185° F  
(-40° C to +85° C)
- **Relative Humidity:** 100%, condensing

## Ordering Information

Equipment	Part No.
ADTRAN 508VP MDU GPON Outdoor ONU	1179870F1

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