

ADTRAN 508G Series

G.fast Outdoor ONU



Product Features

- Fully sealed enclosure for go-anywhere deployment flexibility
- Passive cooling for completely silent operation in residential areas
- Ultra-low Total Cost of Ownership (TCO) for triple-play service delivery
- Provides 8 ports of vectored G.fast or VDSL2
- Span-, local- or reverse-powered for increased flexibility and reliability
- Supports IPTV video service
- Bypass relay function for smooth migration and zero-touch provisioning concept
- Advanced traffic management supports business services
- Single fibre Gigabit Ethernet backhaul
- GPON ONT SFP uplink option
- Supports EFM bonding for greater bandwidth and reach
- Supports both FTTCab and FTTH operational models
- Persistent Management Agent (PMA) supported by Access Integrator Ethernet (ACI) and AOE
- Advanced line measurement function SELT, DELT and MELT option



Premium broadband services are fueling the need for pushing fibre deeper into the network and closer to the end user. As this occurs, it provides an opportunity for network operators to leverage next-generation broadband technologies like VDSL2, G.fast and vectoring.

The ADTRAN 508G G.fast ONU is one of the first vectored G.fast and VDSL2 units on the market that allows service providers to realize ultra-fast broadband approaching Gigabit speeds over existing copper infrastructure. It rapidly enables advanced communications and entertainment services to previously hard-to-connect subscribers. Now, if a location has a phone line it can also be served with premium broadband.

It is part of a comprehensive family of G.fast products supporting the complete range of G.fast deployment scenarios. Because of the high number of Distribution Points (DPs), which are access termination points, covering only a few potential subscribers, the economics of Fibre-to-the-DP (FTTdp) are very different from Fibre-to-the-Node (FTTN) or Fibre-to-the-Cabinet (FTTCab). Also, very different from typical FTTN/FTTCab deployments, FTTdp deployment scenarios are varied-DP. The copper termination point can be a location on/in a pole, hand-hole, man-hole, a small outdoor cabinet/pedestal or basement of a Multi-dwelling Unit (MDU).

The most cost-effective solutions for DPs support long-term operation without requiring direct touch DP installation or maintenance. They also must be able to support a positive operator business case for only a small number of served subscribers. Concepts for simplified installation like “zero-touch” customer turn-up processes allow a single truck roll/site visit for hardware installation and then a zero-touch turn-up for every subsequent customer. The ADTRAN G.fast family provides a remote-controlled bypass system for each subscriber, supporting a smooth migration from existing DSL services.

With the G.fast product family, ADTRAN introduces the Persistent Management Agent (PMA) concept for zero-touch installation and easy management of thousands of nodes in the field.

This device provides a flexible approach to the successful deployment of broadband data in a variety of applications. Fed with Active Ethernet or GPON and supporting up to 8 subscribers with high-speed vectored 106 Mhz G.fast or VDSL2 data service, the 508G is ideal for deep-fibre deployments to the curb, building, home, distribution point, MDU, or other applications where advanced services are required for a small number of subscribers.

The 508G is a potent FTTCab or FTTH ONU which can be installed in a basement, crawlspace, or on an interior or exterior wall to provide IPTV, ultra-high-speed (up to 1 Gbps) data, and voice services to the subscribers inside over the existing in-building copper infrastructure. Services can be deployed rapidly and with minimal installation and construction costs. Combining the ability to be deployed in any environment with dramatically lower deployment costs, the 508G allows carriers to cost effectively reduce loop lengths and maximize the performance of G.fast for every subscriber in its copper network. It also enables operators to invest in a full FTTH network over a longer period of time, making the cost more manageable.

The 508G is purpose-built for the emerging FTTdp or Fibre-to-the-Building (FTTB) markets. Its fully sealed housing makes the 508G ONU a robust and reliable network element that can be deployed in pedestals, on poles, in low-profile “doghouse” enclosures, and even underground vaults and hand-holes. ADTRAN FTTdp and FTTB architectures can be operationally aligned with FTTH architectures with common OMCI provisioning, etc., improving efficiency.

This device comes with different powering variants including both remote and reverse powering (where the 508G will be powered from the customer side). This enables operators to handle a large number of units and reduce the expense of AC power construction.

The ADTRAN 508G works seamlessly with ADTRAN’s widely deployed hiX5600 and Total Access 5000 Series Multiservice Access Nodes (MSANs) bridging the gap between existing and next-generation network architectures.



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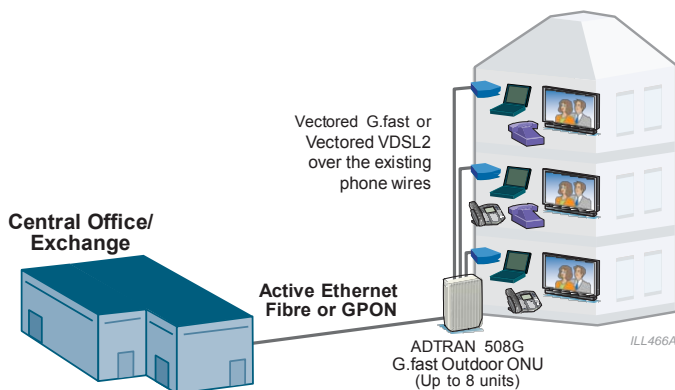
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ADTRAN 508G Series

G.fast Outdoor ONU



Product Specifications

Mechanical

- **Dimensions:** 43.9 cm x 25.4 cm x 8.4 cm (H x W x D) (17.3 in. x 10.0 in. x 3.3 in.)
- **Weight:** 7.3 kg (16 lbs.)
- **Outdoor Mounting:** Pedestal, Pole, Wall, Hand-hole, Dog House-style Cabinets

Interfaces

Network

- Two optical P2P 1 Gbps SFP
- GPON ONT SFP Option

Subscriber

- 8 G.fast and VDSL2 All Digital Loop
- Integrated Copper Tail

DSL Performance

- 106 MHz G.fast according to ITU-T G.9700 and G.9701
- VDSL2 Five-band Profile 8a-d, 12a-b, 17a
- G.vector ITU-T G.993.5
- Configurable G.fast Start Frequency \geq 2.2 MHz
- Downstream to Upstream Ratio Ranges from 1:1 to 10:1
- SRA, SOS, Physical Layer Retransmission

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 (CoS) Based on VLAN-ID, 802.1p Bit
- Marking/Remarking of 802.1p

IPTV Support

- Internet Group Management Protocol v2 and v3
- Dynamic Host Configuration Protocol Support with Option 82

Power

- **Local DC Power:** -42 VDC to -56 VDC
- **Local AC Power:** 100-240 VAC, 50/60 Hz
- **Forward Line Power:** 1 to 2 Line-powering Pairs (+/- 190 VDC per Pair)
- **Reverse Line Powering:** 1 to 8 Subscriber Lines (fair balanced)

Bypass Function

- Relay-function per Subscriber Port

Regulatory Standards

- ETSI EN 300 019
- ETS 300 753
- DTAG TS 0364/96
- ETSI EN 300 386
- DTAG 1TR9
- ETSI ES 201 468
- ETSI EN 60950-1, -21 and -22 without ETSI
- ITU-T K.35
- ITU-T K.45

Environmental

- **Operating Temperature:** -40° C to +55° C (-40° F to +131° F)
- **Storage Temperature:** -40° C to +85° C (-40° F to +185° F)
- **Relative Humidity:** 100%, Condensing, Fully Submersible

Ordering Information

Equipment	Part No.
ADTRAN 508G G.fast ONU RFT-V/DC Power Variant	11321707F1
ADTRAN 508G G.fast ONU Reverse Power Variant	11321707F2
ADTRAN 508G G.fast ONU Local AC Power Variant	11321707F3



ADTRAN is an ISO 9001, ISO 14001, and a TL 9000 certified supplier.

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