

# hiX 1148V OSP DSLAM

## 48-port Outside Plant Vectoring DSLAM



### Product Features

- Fully sealed enclosure for go-anywhere deployment flexibility
- Passive cooling for completely silent operation in residential deployments
- Environmental protection level up to IP68
- Provides 48 ports of vectored VDSL2
- Additional 48-port subtending unit for 96-port System Level Vectoring (SLV)
- IGMPv2 and v3 proxy with Mediaroom support
- IPv6/DHCPv6, LDRA capable
- Two 10GE SFP+ for uplink or stacking
- Supports EFM bonding for greater bandwidth and reach
- Supports vectoring, vector-friendly and non-vectoring CPEs (fallback)
- Supports onboard Metallic Line Testing (MELT)
- QoS support
- Flexible traffic management including policing and shaping
- Enhanced VLAN mapping: VLAN translation based on MAC, subnet, protocol and port
- DHCP support with option 82
- Internet Group Management Protocol (IGMP) proxy
- Managed by Element Management System ACI-E
- AC, DC or RFT-V+ powering options build-in

**The key to customer retention and continued revenue growth is to offer new, higher bandwidth services to your customers.** ADTRAN hiX 1148V Outside Plant (OSP) DSLAM utilises Vectored VDSL2 to allow service providers to realise ultra-broadband speeds over their existing copper infrastructure, economically delivering broadband connections to the home and enabling advanced communications and entertainment services.

ADTRAN's hiX 1148V OSP provides a flexible approach to the successful deployment of broadband data and voice services in a variety of applications. Fed with up to two SFP cages, plugged with 1GE SFP, 10GE SFP+ or GPON SFP ONT and supporting up to 48 subscribers with high-speed vectored VDSL2 data, the hiX 1148V OSP is ideal for Fiber to the Curb (FTTC), Fiber To The Distribution Point (FTTdp), Fiber To The Building (FTTB) and other applications where advanced services are required for a small number of subscribers.

For more subscribers, the hiX 1148V can be subtended by a single QSFP+ cable with an additional 48-ports unit, which builds together one network element with 96-ports in system level vectoring mode. The second SFP+ cache can be used for stacking, to build in total 192 ports in two vectoring groups deployed cost-effective at one 10GE fiber. The hiX 1148V OSP is a perfect fit for ONU in P2P Fiber deployments. It can also be used as MDU in a GPON network using a pluggable GPON SFP. In this case the GPON SFP acts as a GPON SFU. It is a potent ONU which can be installed in a basement, crawlspace, or on an interior or exterior wall to provide IPTV, ultra high-speed (100 Mbps+) data, and voice services via Voice over IP. 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 1148V ONU allows carriers to cost-effectively reduce loop lengths and maximise the performance of VDSL2 for every subscriber in their copper network.

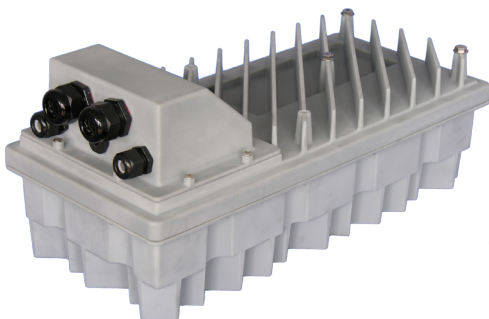
The hiX 1148V OSP is ideally suited for deploying new FTTC networks and upgrading existing networks. Its fully sealed housing makes the hiX 1148V OSP a robust and reliable network element that can be deployed in pedestals, poles, low-profile "doghouse" enclosures, and even underground vaults and hand-holes.

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 and 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 other members of the hiX 5600 Series. The hiX 1148V OSP can prove in the business case in these areas and enable advanced service delivery to those subscribers rather than ceding them to a competitor.

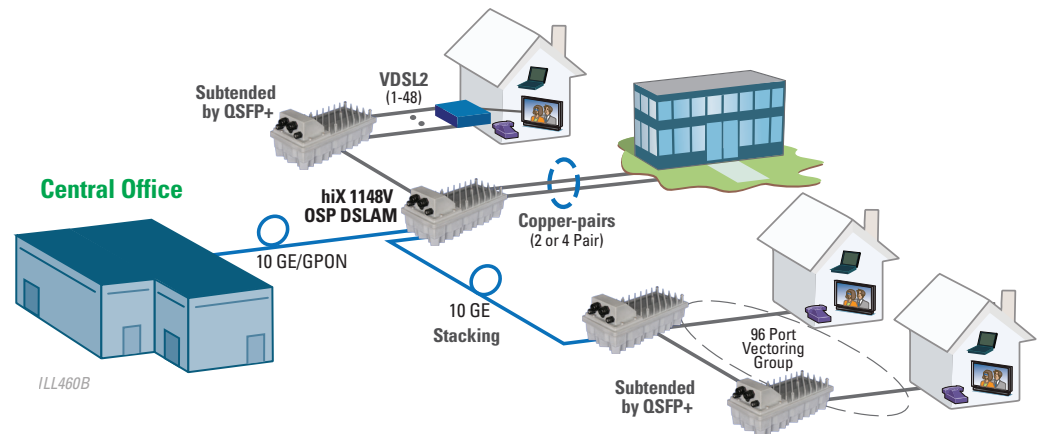
hiX 1148V ONU works seamlessly with ADTRAN's widely deployed hiX5600 MSAN platform as well as with Total Access 5000 Series Multiservice Access and Aggregation Platform. Derived from the hiX5600 architecture the hiX1148V OSP supports the same feature set, VDSL2 vectoring capabilities and performance and the same look and feel. The SNMP and CLI interface is direct derived from hiX5600 and the node can be managed by the same Element manager ACI. 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.

ADTRAN's hiX 1148V OSP provides a flexible solution that allows service providers to economically meet their most challenging objectives. With the ability to economically deliver ultra-broadband services using field-proven outside plant technology, hiX 1148V OSP is ready for the broadband demands of the future.



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## 48-port Outside Plant Vectoring DSLAM



### Product Specifications

#### Mechanical

- **Dimensions:**  
470 mm x 220 mm x 145 mm (H x W x D)
- **Weight:** 14 kg
- **Outdoor Mounting:** Pedestal, Wall, Pole, Underground Vaults and Hand-holes

#### Interfaces

- 48 VDSL2 – Application without Splitter (B Mode or ADL)
- 2x 1G SFP or 10G SFP+ for Uplink  
Optional with Redundancy or Stacking
- QSFP+ Interface for Subtending and Vectoring Engine

#### Capacities

- 25 Gbit/s Switching Capacity Non Blocking
- Oversubscription per 48 Port Group: 1.92
- 48 Vectored VDSL2 Interfaces
- 48 Port Board and 96 Port System Level Vectoring
- 2.5 Gbit/s Uplink Rate per 48-port Group

#### Regulatory Standards

- ETSI EN 300 019
- ETS 300 753
- DTAG TS 0364/96
- ETSI EN 300 386
- DTAG 1TR9
- ETS ES 201 468
- ETSI EN 60950
- ITU-T K.27/31/35
- ITU-T K.45  
(with External Over-voltage Protection)
- ITU-T G.993.2, Annex B
- ITU-T G.992.5, Annex J
- ITU-T G.992.3, Annex J  
Spectrum-compatible with G.992 Annex B
- ITU-T G.993.5
- Board Level with 48 Lines  
System Level with 96 Lines

- EFM Bonding ITU-T G.998.2  
Two- and Four-pair Bonding
- **Line Test:** MELT, DELT Single Wire Interruption Detection
- **Wetting Current:** Approximately 2mA

#### Service Modes

- VDSL2 Profiles and Band Plans
- Two-pair and Four-pair EFM Bonding on Card Level
- PSD Shaping
- Virtual Noise
- RFI Bands (up to 16 RFI Bands at once, Pre-configured or Programmable)
- Power Back-off (Upstream and Downstream)
- Upstream and Downstream Bit Rate Independently Configurable
- Adjustable Minimum Impulse Noise Protection (INP)
- Adjustable Maximum Delay
- Vectoring According to ITU-T G.993.5

#### Environmental

- **Operating Temperature:** -25° C to +65° C
- **Storage Temperature:** -45° C to +45° C
- **Relative Humidity:** Up to 100% Condensing

#### Management

- ACI-E
- Remote Management via SNMP and CLI
- Subtended System is Managed as one Network Element

### Ordering Information

| Equipment                    | Part No.   |
|------------------------------|------------|
| hiX 1148V AC or DC           | 11321705F1 |
| hiX 1148V RFT-V+             | 11321705F2 |
| hiX 1148V Subtended AC or DC | 11321704F1 |
| hiX 1148V Subtended RFT-V+   | 11321704F2 |

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