



ADTRAN

# 1148VX

## 48-Port Sealed, Vectored FTTN



VDSL2



Sealed



Low TCO



Vectoring

## Benefits

- Environmentally sealed, temperature hardened standalone VDSL2 FTTN solution enables rapid deployment of ultra-broadband services
- Delivers 100 Mbps over 3000ft from the node using bonded, vectored VDSL2
- Provides silent operation and low profile construction abiding to strict residential zoning rules
- Supports IPTV video service
- Can be mounted on a pole, pedestal, cross-box or remote terminal delivering ultra-low Total Cost of Ownership (TCO)
- Allows system scalability from 48 to 384 subscribers, with field-upgradeable 384-port system-level vectoring (SLV)
- Reduces installation cost via flexible powering options (span, AC and DC powering)

## Overview

### Accelerating Gigabit Services

Premium broadband services are fueling the need for pushing fibre deeper into the network and closer to the end user. However, the cost of delivering Fibre-to-the-Home (FTTH) can be both cost-prohibitive as well as time consuming, particularly in remote and rural locations. Next-generation broadband technologies such as Bonded and Vectored VDSL2 allow service providers to utilise existing copper infrastructure in combination with sealed Fibre-to-the-Node (FTTN) solutions to cost-effectively deliver ultra-broadband (100+ Mbps) and IPTV services to subscribers in all areas.

### Faster Time-to-Market

The ADTRAN 1148VX compact sealed FTTN solution allows service providers to realise 100 Mbps speeds with their existing copper infrastructure, economically delivering ultra-broadband services to the home using vectored VDSL2.

ADTRAN designed the standalone, weather-proof 1100 Series FTTN systems to be mounted on a pole, pedestal, cross-box, remote terminal or other challenging locations, eliminating the need for expensive cabinet enclosures, heat exchangers and site construction, which account for a large portion of the total cost of deployment. This allows for ultra-broadband services deployment within days, instead of months, dramatically lowering deployment costs.

### Cost-Effectively Expand Broadband Footprint

Integrated 10 Gigabit Ethernet switching in the 1148VX Host units allows connecting up to four 1148VX nodes to create an FTTN system that scales to 192 ports in a single managed node. With an external VRM, up to eight 1148VX nodes (384-subscribers) can be supported in a single managed node, accommodating long-term growth and lowering initial circuit costs. This eliminates the need for complex binder management required by less capable 48-port only board-level vectoring solutions. Ethernet Ring Protection Switching (ERPS) support enables resilient connexion of multiple nodes while minimising aggregation port cost.

The 1148VX is a future-proof solution with four 1/10GigE or GPON/10G PON uplinks ports. As demand grows, the system can be upgraded to 10G uplinks to deliver higher broadband speeds and enhance customer satisfaction.

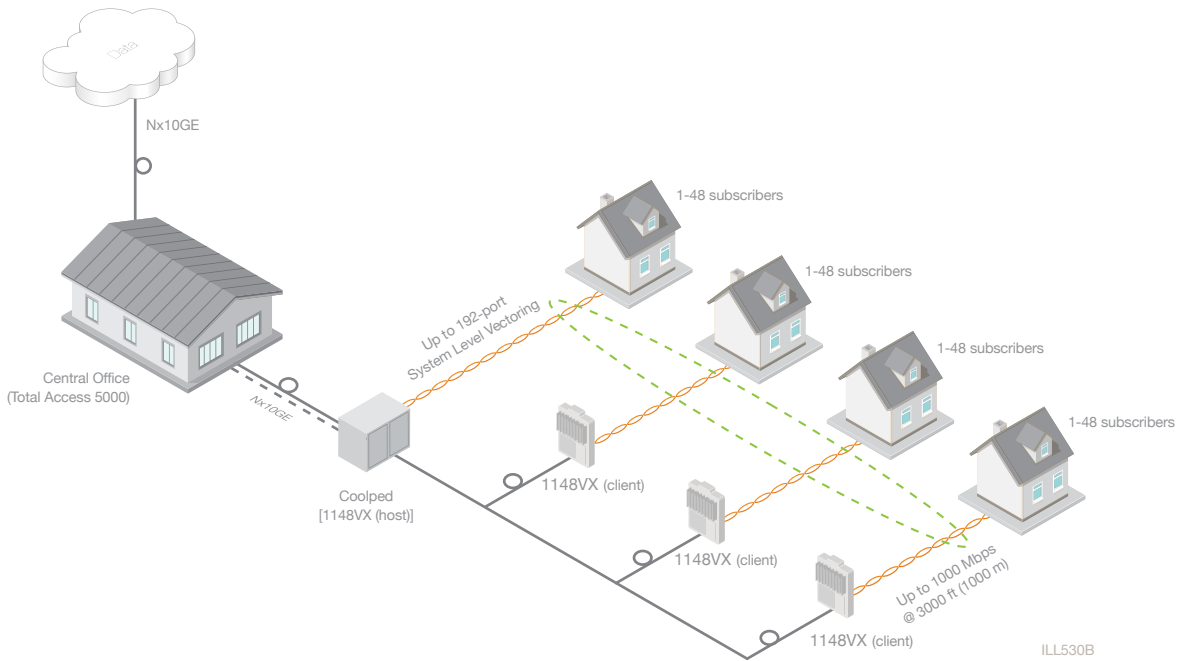
Integrated primary protection eliminates the need for extra equipment and provides the absolute smallest footprint for the 1148VX vectored VDSL2 system.

# ADTRAN 1148VX

## Lower Operation and Maintenance Costs

Developed with concern for carrier-field needs, the 1148VX comes with customer-accessible cables that allow for quick replacement of units in the field. Several cable lengths with MS2 or 710 type connectors or unterminated stub are available to accommodate the needs of all service providers. The 1148VX can be remotely provisioned and managed using TL1, Telnet, or SNMP, as well as ADTRAN's next-generation open, SDN-ready Mosaic Cloud Platform providing service providers a path to a Software Defined Access (SD-Access) Network.

RFT-V span, 100-240 VAC, and -48 VDC local powering options are offered within the unit, eliminating the need to order and spare different part numbers for different applications. Span powering from the central office allows for the centralization of battery backup and greatly reduces deployment costs. The 1148VX uses 1 to 8 powering pairs from the central office with the actual pair count dependent on the desired deployment range.



# 48-Port Sealed, Vectored FTTN

## Product Specifications

### Mechanical

- **Dimensions:** 56.9 cm x 42.1 cm x 15.6 cm (22.4 in. x 6.57 in. x 6.4 in.) (H x W x D)
- **Weight:** 19 kg (42 lbs)
- **Outdoor Mounting:** Pole, Pedestal, Cross-box, Remote Terminal, other challenging locations

### Access

- 48 subscriber ports of VDSL2 for high speed internet.
- Well-suited for 100Mbps services delivery

### Network

- 4 x 1/2.5/10GE or GPON/10G PON SFP interfaces
- Resilient Ethernet Ring per ITU-T G.8032 (ERPS))

### DMT Specifications

- **Modulation Type:** Discrete Multi-Tone (DMT)
- **Mode:** Full Duplex, Non-overlapped
- **Standards:** T1.413;G.992.1 Annex A; G.992.2 Annex A; G.992.3; G.992.4; G.992.5
- **Number of Pairs (DSL plus POTS):** 48 (one per loop)
- **Downstream Data Rate:**
  - ◆ ADSL2: > 12 Mbps
  - ◆ ADSL2+: > 25 Mbps
  - ◆ VDSL: > 110 Mbps
- **Upstream Data Rate:**
  - ◆ ADSL: Annex A mode – > 1.2 Mbps
  - ◆ ADSL2+: Annex M mode – > 2.5 Mbps
  - ◆ VDSL: Up to 50 Mbps
- **DSL Service Range:** 18,000 feet (5.5 km)

### DSL Standards

- ITU G.993.2 (VDSL2)
- ITU G.992.3 (ADSL2)
- ITU G.992.5 (ADSL2+)
- ITU G.993.5 (G.vector)
- G.998.1 (ATM Bonding)
- G.998.2 (EFM Bonding)

### VDSL2 Profiles and PSDs

- Profiles 8a-d, 12a-b, 17a
- Annex A and Annex B PSDs

### IPTV Services Support

- Internet Group Management Protocol (IGMP) v2 and v3
- Dynamic Host Configuration Protocol (DHCP) Support with option 82

### Ethernet Services Support

- Single Stack VLAN and Double Stack VLANs
- (Q-in-Q) Manipulation
- Flexible Traffic Classification
- Ingress Policing and Egress Shaping
- IGMP Snooping and Proxying

### Security

- Management AAA via RADIUS and TACACS+
- SSHv1/v2, SFTP, and HTTPS

### Diagnostics

- Self Test

### Management

- **Local:** Local Craft Interface (DB9, RS-232)
- **Remote:** TL1, Telnet, SNMP, Mosaic Cloud Platform, Advanced Operational Environment (AOE) Management Suite

### Environmental

- **Operating Temperature:** –40° C to 65° C (–40° F to 149° F)
- **Storage Temperature:** –40° C to 85° CF (–40° F to 285° F)
- **Relative Humidity:** 95%, Non-Condensing
- **Environmentally Hardened:** Fully Sealed, Watertight

### Power

- **Local DC Power:** –48 VDC
- **Local AC Power:** 100-240 VAC, 50/60 Hz,
- Auto-ranging AC Power Supply
- **Line Power:** 1 to 8 Line-Powering Pairs

### Regulatory Standards

- GR-487-CORE, Issue 4
- NEBS Level 3
- GR-1089-CORE, Issue 6
- GR-63-CORE, Issue 4
- UL 60950-1/22
- RoHS Compliant
- FCC Part 15

# ADTRAN 1148VX

## Ordering Information

| Equipment Options                                | Part No.            |           |           |
|--|---------------------|-----------|-----------|
| 1148VX Host, ANSI                                | 1179932F1           |           |           |
| 1148VX Client, ANSI                              | 1179930F1           |           |           |
| 1148VX Host, CALA                                | 1179933F1           |           |           |
| 1148VX Client, CALA                              | 1179931F1           |           |           |
| OSP System-Level Vectoring Resource Module (VRM) | 1179937F1           |           |           |
| 1148VX 384-Port VRM                              | 1179938F1           |           |           |
| OSP SLV Adapter Module                           | 1179939F1           |           |           |
| OSP SLV Cable                                    | 1179851G1           |           |           |
| 1148V Host to Client Expansion Cable             | 1179830G1           |           |           |
| <b>Accessories</b>                               |                     |           |           |
| 1148VX (4th Gen) Pole Mount Bracket              | 1179779G1           |           |           |
| 1148VX (4th Gen) Wall Mount Bracket              | 1179779G2           |           |           |
| 1148VX (4th Gen) Coolped Mount Bracket           | 1179779G4           |           |           |
| 24PR Sealed Power Node                           | 1179880G1           |           |           |
| <b>Cable** Options</b>                           |                     |           |           |
| <b>Power</b>                                     |                     |           |           |
| 11xx DC Power Cable (20 feet)                    | 1179810G2           |           |           |
| 11xx AC Power Cable (20 feet)                    | 1179810G7           |           |           |
| Span Power (MS2 Connectors) (20 feet)            | 1179814G2           |           |           |
| Span Power (710 Connectors) (20 feet)            | 1179814G4           |           |           |
| Span Power (MS2, CAT5 Power/DMT) (5 feet)        | 1179817F2           |           |           |
| Span Power (710, CAT5 Power/DMT) (5 feet)        | 1179817F1           |           |           |
| Alarm Input Cable (10 feet)                      | 1179810G5           |           |           |
| <b>POTS, POTS/DSL, Fiber</b>                     |                     |           |           |
|  | 5 ft. 15 ft. 20 ft. |           |           |
| Cable Kit, 1148V, CAT5 AMP (MS2)                 | 1179815F2           |           | 1179815F4 |
| Cable Kit, 1148V, CAT5 AMP (710)                 | 1179815G1           |           | 1179815F3 |
| Cable Kit, 1148V CAT5 STUB                       |                     | 117815F7  | 1179815F8 |
| 100-Pair 24 AWG (MS2)                            | 1179816F1           |           | 1179816F2 |
| 100-Pair 24 AWG (710)                            | 1179816F4           |           | 1179816F5 |
| Cable Kit, 1148V, 24AWG STUB                     |                     | 1179816F7 | 1179816F8 |

\*\*Additional cable lengths available for quote. Please email support@adtran.com or call 888-4ADTRAN for pre-sales support.



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### I61179932F1-8C

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