

# AONT-1512

## GPON SFU/HGU ONT (1GE+1FE+1POTS)

### Feature Summary

- ◆ ITU-T G.984/G988 compliant
- ◆ Indoor wall or table mount
- ◆ one 10/100/1000Base-T & one 10/100 Base-T Ethernet RJ-45 ports
- ◆ One FXS RJ-11 ports
- ◆ VoIP features: SIP, multiple voice codecs, T.38 fax, and various CLASS services
- ◆ Integrated router with features such as IPv4, IPv6, IPoE, PPPoE, NAT, DHCP, DNS, IP Filtering, IP forwarding, Static IP routing, IP QoS and Firewall
- ◆ IPv6 ready logo certified
- ◆ Built-in L2 wire-speed switch with dynamic bridging, 256 MAC addresses, 4k VLANs (802.1q tagged, untagged, port based, priority tagged, double tagged)
- ◆ ToS/DSCP to 802.1p mapping
- ◆ Flexible traffic mapping, policing and shaping
- ◆ IGMPv2/v3 snooping, proxy and filtering, 256 multicast groups
- ◆ MLD snooping
- ◆ Web based GUI for local provisioning and software upgrade
- ◆ Dual managed by ITU-T G.988 OMCI and/or remote management functions as TR-069 and Telnet for provisioning, Diagnostics, monitoring, and software upgrade.



### Applications

The AONT-1511 has been optimized for residential homes to provide triple play services.

### Advanced GPON technology

The AONT-1511 is fully FSAN (ITU-T G.984) compliant with a 1.244 Gb/s upstream and 2.488 Gb/s downstream, Class B+ GPON system.

### Quality of Service

The AONT-1511 supports extensive QoS features, including 802.3x flow control, DSCP to 802.1p mapping, upstream congestion control, and downstream traffic scheduling for premium or time sensitive content. Intelligent and robust buffer and queue management for Ethernet traffic, with individually prioritized queues, ensures that tiered service offerings based on different bit-rates and QoS can be supported.

### Gateway

The AONT-1511 contains both wire-speed L2 switch and L3 routing gateway with port forwarding, NAT and NAPT address translation, built-in PPPoE support for HSI, and an integrated stateful packet inspection firewall with a configurable access control list (ACL) and application-level gateway (ALG). Support for VPN (L2TP, PPTP and IPSec) pass through is also provided. Included as part of the gateway function are DHCP client, DHCP server and DNS server for IPv4 and IPv6.

### Security

The AONT-1511 comes with the latest security features, including MAC address spoofing protection, MAC address filtering, TCP/UDP port filtering.

### Flexible Management

The AONT-1511 is managed from the AOLT-4000 and AOLT-4200 OLT via OMCI. The AOLT in turn is managed with either Alphion Element Management System (AEMS) that provides configuration, profile based provisioning, event and fault management and performance monitoring for the AONT, or with a 3rd party NMS via northbound interface.

# SPECIFICATIONS

## Software Features

### GPON interface

|              |  |
|--------------|--|
| Standard     | Fully ITU-T G.984/G.988 compliant                          |
| Link Budget  | 28 dB (Class B+) ITU G.984.2 Amd1                          |
| Wavelength   | transmit: 1310+/-20nm; receive: 1490+/-10nm                |
| Line rate    | Upstream: 1.244 Gb/s; Downstream: 2.488 Gb/s               |
| Output power | -0.5 to +5.0 dBm   |
| Sensitivity  | -28 dBm (at 10 dB extinction ratio)                        |
| Distance     | up to 20 km (depending on split ratio and reach extension) |
| OLS          | per ITU-T G.984.2amd2                                      |
| Connector    | SC/APC   |
| TC layer     | AES (128-bit key) and FEC RS(255,239)                      |
| DBA          | DBRu mode 0  |
| GEM port     | up to 32   |
| T-CONT       | up to 8  |

### Ethernet interface

|              |   |
|--------------|---|
| FE/GE port   | 2 RJ-45 connectors  |
| Standard:    | 10/100/1000Base-T with rate and duplex auto-negotiation and MDI/MDIX auto sensing<br>10/100Base-T with rate and duplex auto-negotiation and MDI/MDIX auto sensing |
| Flow control | per 802.3x  |

### Voice interface

|           |  |
|-----------|--|
| POTS      | 1 RJ-11 connectors   |
| Interface | 5 REN per line, loop start, balanced and unbalanced ringing, country specific impedance, DTMF dialing, metallic loop testing |

### Power

|            |   |
|------------|---|
| AC adapter | input: 100-240VAC, 50/60Hz; output: 12VDC, 1.0A |
| Control    | power on/off switch                             |

### Physical

|                   |  |
|-------------------|--|
| Temperature       | 0 to 40 °C                                 |
| Humidity          | 10% to 90% non-condensing                  |
| Dimension         | 152mm(W) x 105mm(D) x 38mm(H)              |
| Weight            | <0.4kg                                     |
| Mounting          | wall or table                              |
| Power consumption | 12 watts (max)                             |
| LEDs              | Power, GPON, Alarm, Internet, VoIP1 LAN1-2 |

### L2 Features

|            |  |
|------------|--|
| Bridging   | 802.1d transparent bridging, 256MAC table  |
| VLAN       | 4,095 VLANs, untagged, priority tagged, port based, 802.1q tagged VLAN, 802.1ad double tagged VLAN, VLAN translation |
| Multicast  | IGMPv2/v3 snooping, 256 multicast groups   |
| QoS        | 802.1p, IP ToS/DSCP to 802.1p mapping, 802.1p remarking  |
| Scheduling | SP, WRR  |

### Gateway features for IPv4 and IPv6

|     |   |
|-----|---|
| WAN | PPPoE, DHCP client or static IP, NAT/NAPT, port forwarding, port triggering |
| LAN | DHCP server and relay agent, DHCP option 60, DNS relay                      |

### IPv6 support

|               |                           |
|---------------|---------------------------|
| Certification | IPv6 Ready Logo certified |
| Mode          | Dual stack                |

### Firewall

|                |   |
|----------------|---|
| Type           | Stateful packet inspection  |
| Filtering      | DoS attack prevention, IP source/destination filtering, TCP/UDP port source/destination filtering, MAC source filtering |
| ALGs           | FTP, SIP, H.323, RSTP   |
| VPN            | PPTP, L2TP, IPsec pass-through  |
| Access control | Parental Controls   |

### VoIP

|            |  |
|------------|--|
| Protocols  | SIP (RFC3261), SDP (RFC2327), RTP/RTCP (RFC3550/3605), RFC2833   |
| CLASS      | caller ID, call waiting, call forwarding, call transfer, 3-way conference, etc.  |
| Codec      | ITU-T G.711 ( $\mu$ & a law), G.723.1, G.729a/b, echo cancellation, voice activity detection, silence suppression and comfort noise generation |
| Fax        | ITU-T T.30, T.38   |
| IP address | DHCP client or static IP configuration   |
| IOP        | Proven interoperability with major soft switch and voice gateway vendors   |

### Management

|        |                                  |
|--------|----------------------------------|
| Local  | Web based GUI                    |
| Remote | ITU-T G.988 OMCI, TR-069, Telnet |

### Regulatory compliance

|               |   |
|---------------|---|
| Certification | CE compliant  |
| EMC           | EN55022, CISPR-22 Class B   |
| Safety        | EN60950/UL60950   |
| Laser safety  | IEC-60825-1 Class 1 laser safety per G.664  |
| Transient     | EN/IEC61000-4-4(2001) level 2   |
| Immunity      | Radiated RF: EN/IEC61000-4-3(2002) level 2<br>Conducted RF: EN/IEC61000-4-6(2001) level 2 |
| Surge         | EN/IEC61000-4-5(2001) 0.5 KV (line) and 1.5 KV (earth)                                    |
| ESD           | EN/IEC61000-4-2(2001) contact level 2, air discharge level 3                              |
| Hazardous     | RoHS6, WEEE   |

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