

2440

Occam Networks 2440 series GPON Optical Network Terminal GPON IP Triple Play services gateway

The ON 2440 series of optical network terminals (ONTs) provides GPON fiber access termination for the BLC 6000 Broadband Loop Carrier system. The ON 2440 features two lifeline POTS ports to interface to in-home telephone wiring. It also features four copper Ethernet service ports enabling flexible data and entertainment offerings.



Design Philosophy

The ON 2440 can be mounted outside a residence or business delivering voice, video and data services to homes, SOHO and small enterprises. The 2440 electronics are in a separate replaceable module which is hinged and secured with a security tool.

Flexible Service Delivery

Multiple high-definition TV channels and streaming internet applications can easily exceed 100 Mbps of bandwidth. The ON 2440 ONT with its ITU G.984 standard 2.5 Gbps downstream/1.2 Gbps upstream GPON optical link can easily accommodate the need for bandwidth-hungry applications.

Lifeline POTS and VoIP

The ON 2440 series of ONTs is designed to deliver two lifeline POTS lines, as well as VoIP using 10/100/1000 Mbps Ethernet. This VoIP capability allows cost-effective delivery of multiple managed voice lines.

10/100/1000 Ethernet

All members of the ON 2440 series of products include three 10/100 Mbps Ethernet ports and one 10/100/1000 Mbps Ethernet port. Uses include internet data, IPTV, business VPN/intranet, dedicated gaming, security monitoring (fire, flood, intrusion), and utilities (water, electric, gas) meter data collection.

- > High Definition Access™ enabled Residential Gateway (RG)
- > ITU-T G.984 full-rate GPON compliant
- > Multiple services ready (VoIP, Internet data, RF Video, IP Video, Lifeline POTS)
- > Environmentally hardened SFR and MDU enclosures

OCCAM



The future of Telco services puts new demands on the access network. DSL growth with Internet streaming content, fiber to the home, residential video and Triple Play, enterprise Ethernet, VoIP, and expansion into new service areas will all have a major impact. For carriers to remain profitable while service offerings become more complex, the network must get simpler.

Making the network simpler requires new thinking. Occam's BLC 6000 Broadband Loop Carrier uses IP as a simple, common service delivery protocol for all services and uses Ethernet transport to provide economical, highly scalable bandwidth. The BLC 6000 integrates the functions of an NGDLC, DSLAM, OLT, Optical Mux, Ethernet switch, and VoIP gateway into an environmentally hardened loop carrier system to simplify the network and deliver all services to all customers from a single platform.

The BLC 6000 is the industry's first complete loop carrier system designed to economically scale from dozens to thousands of users, deliver narrowband to gigabit services, and leverage the power and cost effectiveness of IP and Ethernet.

– Preliminary –
The information is
subject to change

Specifications

Features

- > FTTP GPON customer located equipment (CLE)
- > Multiple services delivery: voice (lifeline POTS and VoIP), data, and IP video

Superior Voice and Video Quality

- > Voice prioritization
- > Layer 3 TOS marking
- > 802.1p
- > 802.1q
- > ITU G.711 PCM voice (mu-law)
- > Superior echo cancellation
- > Automatic fax/modem detection
- > RTP voice packet encapsulation
- > RTSP voice jitter management
- > Automatic tone generation: dial, busy, ring-back, stutter, distinctive ring
- > DTMF detection and generation
- > Caller ID and call waiting
- > Call forwarding, hold, three-way calling

Lifeline POTS

- > Two POTS FXS ports
- > 5 REN per POTS line (distance-dependent)
- > Supports SIP directly to softswitch

Enhanced Layer 2 Switching

- > 802.1q VLAN tagging
- > IGMP snooping
- > 802.1p Layer 2 CoS

Outdoor version

- > Hardened for extended temperature use
- > Wall mounted enclosure
- > UPS-powered for protection from AC power outage

Routing and Provisioning

- > IPSec / VPN pass-through
- > RFC 2068 HTTP
- > Static and dynamic IP address assignment
- > Dynamic Host Configuration Protocol (DHCP) server, client and relay

Quality of Service

- > 802.1q VLANs (up to 16 per ONT)
- > Voice and video priority over data: 802.1p
- > Traffic shaping

Video

- > IGMPv2 snooping with fast leave
- > Supports up to four simultaneous IPTV video streams
- > IP over HPNAv3 to set-top box or media converter (ON 2445 only)

PON Interface

- > ITU-T G.984.1, G.984.2, G.984.3, G.984.4
- > Input wavelength -- 1480 nm (nominal)
- > GPON -- single 9/125um fixed, non-removable laser (single mode)
- > Input signal strength -- minimum -27 dBm, maximum -8 dBm
- > Output wavelength -- 1310 nm (nominal)
- > Optical output launched power -- minimum 0.5 dBm, maximum 5.0 dBm
- > Input RF wavelength -- 1550 nm (nominal)
- > Input RF sensitivity - minimum -6 dBm, maximum +1 dBm

LAN Interface

- > Three 10/100BaseTX Ethernet ports
- > One 10/100/1000BaseTX Ethernet port
- > RJ-45 connectors

LAN Cabling

- > 10BaseT UTP, CAT3 or CAT5, 333 feet (100 meter) maximum
- > 100BaseTX UTP, CAT5, 333 feet (100 meter) maximum

HPNA Interface (ON 2445 only)

- > F-connector
- > Up to 320Mbps data rate
- > HPNA v3.1 compliant (ITU G.9954) Spectral Mode B (12-28MHz)
- > Concurrent operation with RF video

RF Video (ON 2444 and ON 2445 only)

- > F-connector
- > 75 ohms impedance (nominal)
- > Analog bandwidth -- minimum 54 MHz, maximum 550 MHz
- > Analog RF CATV
- > 14.5 to 22 dBmV @ 550 MHz
- > Power tilt 2.5 dB to 7.5 dB (difference between 54 and 879 Mhz)
- > Digital bandwidth -- minimum 550 MHz, maximum 865 MHz
- > Digital video

Management

- > Web-based management via GUI of serving OLT blade
- > IP configuration
 - Static
 - Dynamic using DHCP
- > Secure software download/ upgrade via OMCI
- > Remote automatic bulk provisioning

General Dimensions

- > Remote automatic bulk provisioning
- > Enclosure 12.6" (32 cm) high x 9.75" (24.8 cm) wide x 3" (7.6 cm) deep
- > Electronics enclosed and separately replaceable

Power (Contact Occam for recommended power system)

- > Input voltage 12VDC (nominal)
- > Input current 750mA (nominal)
- > 8 hours battery backup time rated capacity with UPS option
- > Optional power meter ring for use with outdoor UPS

Environmental

- > Operating temperatures: -40C to +55C (-40F to +131F)
- > Operating Humidity: 10% to 90% non-condensing
- > Wind-driven rain protection, salt-, fog- and dust-resistant

Emissions and Safety Regulations

- > FCC Class B, UL, CUL, CE



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