G420i GPON VoIP GATEWAY

The G420i is a next-generation Gigabit Passive Optical Network (GPON) integrated access device (IAD). It is a cost-effective solution for point-to-multipoint; fiber-to-the-premises network architecture in which passive optical splitters are used to allow a single optical fiber to serve multiple premises. Compliant with the ITU-T G.984 GPON standards, the device supports maximum downstream rates up to 2.5Gbps and upstream rates up to 1.25Gbps.

**BENEFITS**

GPON:
- ITU-T G.984 GPON compliant
- Supports bandwidth maximum downstream rates up to 2.5Gbps and upstream rates up to 1.25Gbps
- Supports transmission distance up to 20km
- Triple-wavelength: Tx at 1310nm and Rx at 1490nm for data and Rx at 1550nm for video

Management:
- Supports OMCI (ONT Management and Control Interface) remote management
- TR-069

**FEATURES**

VoIP:
- Voice over IP compliant with SIP standards
- Two FXS ports for connecting to regular telephones
- Supports FAX Transmission: T.38 fax relay, G.711 pass-through
- Supports mini-IP PBX Features

**APPLICATIONS**

Ideal for
- Home, SOHO and Office users
With this technology, users can enjoy high-speed GPON services and bandwidth-consuming multimedia applications such as interactive gaming, video streaming and real-time audio much easier and faster than ever before. The G420i supports the ONT Management and Control Interface (OMCI), which ensures that the GPON ONT router is easy to configure, activate and manage remotely from a Optical Line Terminal (OLT). By reducing call-outs, deployment and support costs of the ONT device are greatly reduced.

MINI IP-PBX FOR VoIP CALLS

The G420i is compliant with SIP standard (RFC3261) and supports SIP registrar. The unique feature of the gateway is that it can be used as a mini IP-PBX that supports up to 20 user accounts for SIP extensions and 2 SIP accounts for making economical VoIP calls provided by Internet Telephony Service Providers (ITSP). This router series integrates two FXS ports allowing users to make or receive phone calls over the Internet simply by connecting the device to their existing telephone set. This state-of-the-art feature is ideal for SOHO users, delivering free communication between branch offices and client sites. Making VoIP calls is just as easy as dialing an extension number!

OMCI REMOTE MANAGEMENT

In order to meet the ITU-T G.984.4 requirements for OMCI (ONT Management Control Interface), and defined compatibility and message transfer between OLT and ONT, and Management Information Base (MIB) physical device management, the G420i uses OpenCon’s OMCI management. This tool is field-proven and interoperable with other GPON Systems with OMCI capabilities for both OLT and ONT equipment. OpenCon’s OMCI management has been thoroughly tested to consistently meet ITU-T G.984.4 and is approved by the Full Service Access Network (FSAN) Group.

APPLICATION DIAGRAM
SPECIFICATIONS

GPON Compliance
- Compliant with ITU-T G.984 GPON standards
- G.984.1 General characteristics
- G.984.2 Physical Media Dependent (PMD) layer specifications
- G.984.3 Transmission convergence layer specifications
- G.984.4 Management and control interface

Network Protocols and Features
- NAT, static routing and RIP-1 / 2
- Universal Plug and Play (UPnP) compliant
- Dynamic Domain Name System (DDNS)
- Virtual Server and DMZ
- SNTP, DNS relay and IGMP proxy

Firewall
- Built-in NAT Firewall
- Stateful Packet Inspection (SPI)
- DoS attack prevention including IP Spoofing, Land Attack, Smurf Attack, Ping of Death, TCP SYN Flooding, etc.
- Packet Filtering - port, source IP address, destination IP address, MAC address
- URL Content Filtering - string or domain name detection in URL string

Quality of Service Control
- Supports the DiffServ approach
- Traffic prioritization and bandwidth management based-on IP protocol, port number and address

VoIP
- Compliant with SIP standard: RFC3261
- Two RJ-11 FXS ports for connecting to regular telephones
- Supports two SIP accounts for connecting to Internet Telephony Service Provider (ITSP)
- Supports SIP extensions
- Supports G.711 A/μ law, and G.729 Audio CODEC standards
- Supports FAX Transmission: T.38 fax relay, G.711 pass-through
- Supports Telephone Features: silence suppression, Voice Activity Detection (VAD), Comfort Noise Generation (CNG), G.168 echo cancellation, packet loss concealment
- Supports mini-IP PBX Features: Call Waiting, Call Transfer, Call Hold, Call Forward, Speed Dial, Direct

- Inward Dialing (DID), Do Not Disturb (DND), Caller ID, Call Detail Record, Call blocking*3, 3-way conference*3, Meeting Room*3
- Adaptive jitter buffer support
- DTMF: In-band/out-of-band (RFC2833) / SIP INFO

IPTV Applications*2
- IGMP proxy and snooping for video service
- Virtual LAN (VLAN)
- Quality of Service (QoS)

Management
- Quick Installation Wizard and Auto-scan for GPON settings
- Web-based GUI for remote and local management
- Firmware upgrades and configuration data upload and download via web-based GUI
- Embedded Telnet server for remote and local management
- SNMP v3, MIB-I and MIB-II support
- Supports DHCP server/ client/ relay
- OMCI supports remote management
- TR-069

HARDWARE SPECIFICATIONS

Physical Interface
- WAN: SC/APC GPON port
- Telephone: 2-port FXS
- LAN: 4-port 10/100Mb auto-crossover (MDI/MDI-X) Switch
- Factory default reset button
- Power jack
- Power switch

Physical Specifications
- Dimensions: 7.28” x 4.86” x 1.38”
  (185 x 123.5 x 35mm)
- Power Requirements: Input: 12V DC, 1A

Operating Environment
- Operating temperature: 0 to 40 °C
- Storage temperature: -20 to 70 °C
- Humidity: 20 to 95% non-condensing

*Notes:
Specifications on this datasheet are subject to change without prior notice. IPTV application may require subscription to IPTV services from a Telco / ISP

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