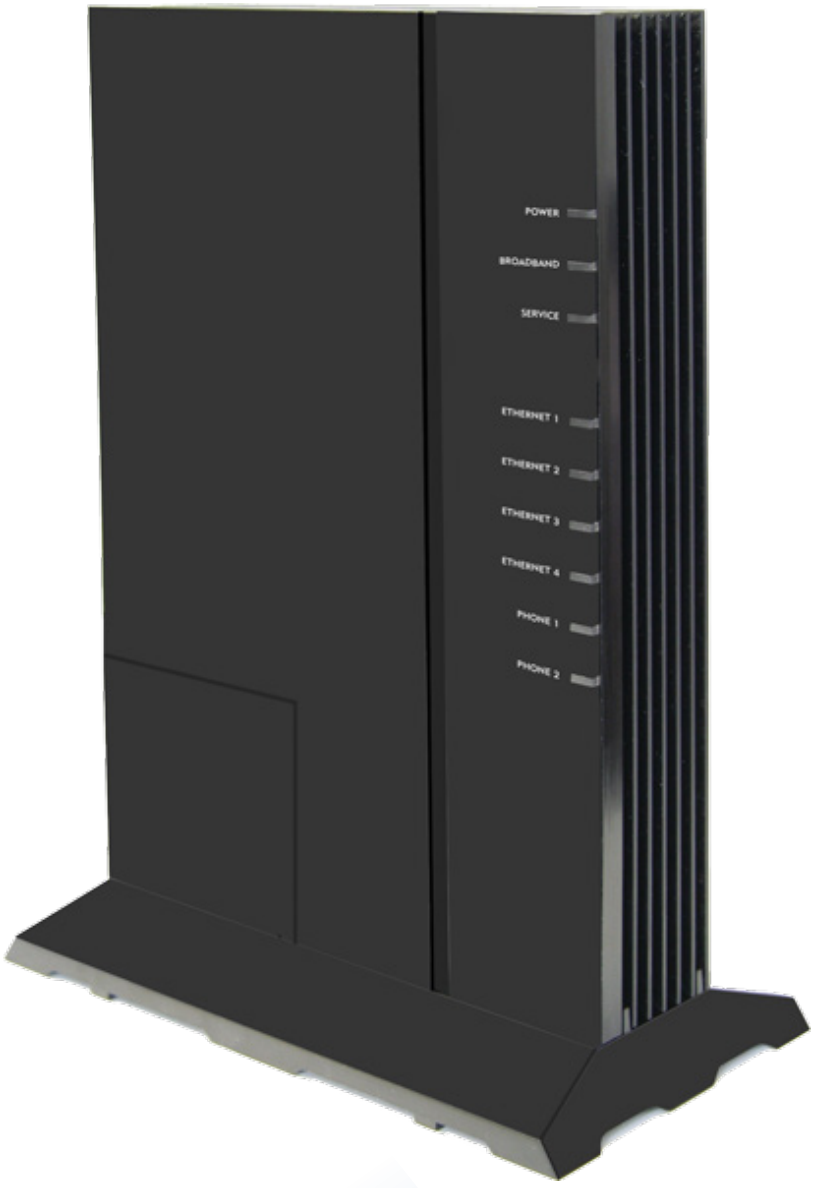
812G GigaHub®

DATA SHEET

DESCRIPTION

The Calix 812G GigaHub® is a next generation premises service delivery platform that supports broadband connectivity to the home. This high-performance system integrates a 2.5 GPON optical WAN interface with switching and routing functions that manage premises network traffic at speeds up to 1 Gbps. The GigaHub service interfaces include: four gigabit Ethernet (GE) ports for IPTV video and data services, two integrated voice lines supporting carrier grade VoIP and network-based TDM voice circuits.



GIGABIT SUBSCRIBER EXPERIENCE

The 812G GigaHub is an integrated access and gateway solution that delivers advanced network management and software features to unleash the Gigabit experience. The GigaHub premises service delivery platform terminates a GPON fiber optic link at the subscriber's premises and provides Gigabit Ethernet interfaces for customer multi-media devices. The 812G GigaHub enables residential subscribers to receive Gigabit broadband data, IP video, and VoIP or TDM based voice on a single fiber. The GigaHub solution delivers HD and UHD video and data throughout a subscriber's home with control and management of an increasingly video-rich and mobile broadband environment.

EASY TO INSTALL, ACTIVATE, AND MAINTAIN

With the 812G GigaHub, Calix has redefined how to install and activate residential services at a subscriber's premises. Using the Calix Smart Activate feature and a phone or laptop, a field technician can install and apply the subscriber's service profile without special equipment or assistance from the central office. Calix also provides an innovative software portfolio, including management via Calix Support Cloud (CSC), which allows the service provider to configure, activate and upgrade the GigaHubs quickly from a remote location using in-band management or TR-069. Extensive troubleshooting capabilities, remote software downloads, and easy-to-use service activation ensure that broadband services are delivered and maintained without needless truck rolls and hardware upgrades. Employing GigaHubs allows service providers to reduce their operational expenses while effectively delivering the Gigabit experience to their subscribers. With powerful cloud enhanced Flow and Wi-Fi Advisor software, service providers are able to gain meaningful insights into their usage trends to improve network efficiency, to diagnose wireless issues and provide resolutions to increase subscriber satisfaction.

TRUE CARRIER GRADE VOICE SOLUTION

The 812G GigaHub delivers a truly agile and responsive service platform with lifeline voice in the event of local AC power loss. An optional, carrier grade 120-240 V AC, 50-60 Hz AC to 12 V DC Uninterruptible Power Supply (UPS) provides battery backup of voice services compliant to Telcordia GR-909. The 812G GigaHub can monitor battery status, battery charge and battery life, and report results through the Calix Management System (CMS).

KEY ATTRIBUTES

- Standards-based Full Service Access Network (FSAN), ITU-T GPON compliant
- Home Gateway:
  - Layer 2 bridge and Layer 3 routing for High Speed Internet (HSI) data and IPTV video services
  - DHCP server options
  - DHCP (IPoE) and PPPoE network connections
  - Network Access Translation (NAT), public to private IP addressing
  - Configurable IP address schemes, subnets, static- IP addresses
  - DNS server
  - Bridge port assignment and data traffic mappings
  - Port forwarding
  - Firewall and security
  - Application and website filtering
  - Selectable forwarding and blocking policies
  - DMZ hosting
  - Parental controls, time of day (ToD) usage
  - Denial of service (DoS) protection
  - MAC filtering
  - Time/Zone support
  - Universal Plug-and-Play (UPnP)
- Two voice lines:
  - FXS ports, ANSI
  - Carrier grade SIP, H.248, MGCP VoIP
  - TDM GR-303/TR-08 Mode II/GR-57, GR-08 (TR-08 Mode I) voice services
- Four Gigabit Ethernet (GE) interfaces:
  - Symmetrical 1 Gbps bandwidth for residential IPTV and data services
  - Multi-rate 10/100/1000 BASE-T Ethernet, auto-negotiating
- Supports multiple data service profiles
- Traffic management and Quality of Service (QoS):
  - 802.1Q VLANs
  - 802.1p service prioritization
  - Q-in-Q tagging
  - Multiple VLANs
  - Rate limiting
  - DiffServ
  - Pre-defined QoS on service type
- IPTV, IGMPv2, and IGMPv3:
  - IGMP Snooping and Proxy
  - IGMP Fast Leaves
- Calix Support Cloud (CSC)
- Gateway Management:
  - TR-069
  - Local Home Gateway GUI, access provisionable
  - Remote WAN side GUI access
  - Default username/password
  - Set-up persistence, factory reboot support
- Indoor mounting:
  - Wall and Structured Wiring Enclosure (SWE) mount with fiber management
  - Desktop mounting stand
- Optional voice lifeline service power source with in-home battery backup and alarm monitoring
- AC to 12 V DC power adapter available for non-lifeline services

SPECIFICATIONS

DIMENSIONS

- Width: 5.9 in (15.0 cm)
- Height: 7.9 in (20.0 cm)
- Depth: 1.5 in (3.8 cm)
- Weight: 14 oz (0.4 kg)

PON CHARACTERISTICS

- Max. split: 64 GPON
- Max. reach: 58 km (36 miles) with C+/FEC Maximum Optical Distribution Network(ODN)
- Attenuation:
  GPON Class B+, 28 dB
  GPON Class C+, 32 dB
- 1490 ± 10 nm optical receiver: -27 to -8 dBm (Class B+); -30 to -8 dBm (Class C+ with FEC)
- 1310 ± 20 nm optical transmitter: 0.5 to 5.0 dBm

INTERFACES

- Telephony: Two RJ-11 connectors
- Data/IPTV: Four 10/100/1000 BASE-T Ethernet ports, RJ-45 connectors
- PON: Single 9/125 µm (single mode) fiber, SC/APC connector, minimum 50 dB return loss
- Power: 8-pin connector with 7-conductor power and alarm cable

TELEPHONY

- General: SIP, H.248, MGCP or TDM Gateway (GR-303, GR-57, TR-08 Mode I, TR-08 Mode II)
- Number of lines: 2
- RENs per line: 5 maximum
- RENs per unit: 10 maximum
- Drop length: Maximum 500 feet (152.4 m)
- DS0 Output: 23.5 mA

DATA

- Drop length: 328 feet (100 m) maximum using CAT5 cable
- Auto MDI/MDIX crossover for 1000BASE-TX, 100BASE-TX, and 10BASE-T ports
- Traffic Management and QoS: 802.11Q VLAN; 802.11p voice, video, data and management priorities; Q-in-Q tagging; rate limiting

REMOTE MANAGEMENT

- OAM&P via Calix Management System (CMS)
- TR-069 remote management
- TR-064 CPE management
- TR-098 Internet Gateway Device Data Model
- TR-104 Provisioning Parameters for VoIP CPE

ENVIRONMENTAL

- Operating temperature: Indoor ambient temperature, 0° to 40°C (32° to 104°F)
- Operating/storage relative humidity: 8 to 95 % non-condensing

CERTIFICATION AND COMPLIANCE

- Emissions:
  - FCC Part 15 Class B
  - IC ICES-003 Class B
  - CISPR-22
- Safety:
  - UL 60950 and UL 1697 approved
  - IEEE: 802.3, 802.3AB, 802.3U, 802.11p, 802.11Q

POWERING AND ALARMS

- Power: 8-pin connector with 7-conductor power and alarm cable
- Input voltage: 12 V DC (nominal), 10 V DC (min), 15 V DC (max)
- External Power Adapter: 12 V DC, 2.5 A
- Typical Power: 5 W, Max Power: 8 W (812G)
- Optional residential battery backup source: UPS mounted at subscriber's residence
- Battery backup time rated capacity: 8 hours based on Telcordia GR-909 calculation methods using recommended UPS. Contact Calix for recommended UPS

ORDERING INFORMATION

CALIX 812G GIGAHUBS

100-04257..... 812G – 1 GigaHub, 2 POTS, 4 GE – UPS Power Interface

CALIX 812G UPS AND UPS CORDS

100-04068..... Indoor UPS, 12 V 7.2 AH 36 W, Black – AM Type B Grounded
100-04337..... Indoor UPS, 12 V 7.2 AH 36 W, Black – AM Type B Floating
100-03893..... Indoor UPS Power Cord, 7 pin UPS to 8 pin ONT Male, 1M Black
100-03894..... Indoor UPS Power Cord, 7 pin UPS to 8 pin ONT Male, 3M Black
100-03895..... Indoor UPS Power Cord, Un-terminated to 8 pin ONT Male, 6M Black

CALIX 812G POWER ADAPTER

100-04125..... Power Adapter CPA5 12 V 2.5 Amp – 8-pin connector with 7-conductor power and alarm cable
100-04141..... Power Adapter CPA5 12 V 2.5 Amp – EU Type C w/ 8-pin connector

SALES PACKAGES

000-00901..... 812G-1 GigaHub, 2 POTS, 4 GE – AM Type A Power Adapter w/ 8-pin connector
000-00902..... 812G-1 GigaHub, 2 POTS, 4 GE – EU Type C Power Adapter w/ 8-pin connector

ACCESSORIES

100-05074......GigaHub Wall Mount Fiber Management Bracket (Quantity 10)*

* The GigaHub 812G (V1) comes with a Wall Mount Fiber Management Bracket. Additional quantities (of 10) can be ordered with the part number listed above.