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## GPON ONT G-200A2 Platform Briefing

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VERSION3

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*Partnership for the Next Generation Broadband CPE*

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## Overview

To deliver triple-play services to the subscriber in Fiber-to-the-Building or Fiber-to-the-Premises application, the GPON ONU G-200A2 for MDU (Multi-Dwelling Unit) incorporates interoperability, key customers' specific requirements and cost-efficiency.

Equipped with ITU-T G.984 compliant 2.5G Downstream and 1.25G Upstream GPON interface, the G-200A2 ONU supports the full Triple Play of services including voice, video (IPTV or VoD), and high speed internet access.

Compliant with standard OMC1 definition, ONU G-200A2 is manageable at remote side and supports the full range FCAPS functions including supervision, monitoring, and maintenance.

## ■ Service

### Data

The G-200A2 ONU is delivered with up to twenty-four 10/100 Base-T interfaces, supporting:

- Auto-negotiation and MDI/MDIX auto-sensing
- Built-in layer-2 switch
- Advanced data features such as VLAN tag manipulation, classification, and filtering

### Voice

The G-200A2 ONU is delivered with up to twenty-four POTS interface ports for carrier-grade voice services, supporting:

- 3 REN per line(48 REN totally), balanced Ring at 55V RMS, DTMF dialing and pulse dialing
- Multiple voice codec
- Echo Cancelling, VAD, CNG
- Supporting static or dynamic jitter buffer
- Various CLASS services - Caller ID, Call Waiting, Call Forwarding, Call Transfer, etc.
- SIP (RFC3261) or MEGACO v2 (H.248)
- Support multiple country-profiles

To enable VoIP access, the G-200A2 ONT supports interfacing external IAD box or Home Router with voice capability through the Ethernet Interface.

### Video

The G-200A2 ONU supports video contents delivered in the form of data (by multicast or unicast).

In case where multicast technology is used for delivering video contents through data channel, the ONT supports the dedicated multicast GEM port on the Downstream. So the video contents are received and processed by all the ONTs through the unified channel and this greatly improves the bandwidth efficiency.

In addition, the ONT supports IGMP snooping function to be applied for further optimization. When IGMP snooping is enabled, the ONT monitors the member joining and leaving activities at the Ethernet service port, and then selectively delivers the multicast streams.

## ■ Interface

Product	10/100 Base-T interface	POTS interface
G-200A2	24	24

## ■ Specification

### Dimensions

- 440mm x220mm x 44mm (W x D x H, without bracket)
- 483mm x220mm x 44mm (W x D x H, with bracket)

### Power Supply

- 3-PIN AC Power Connector
- 8-PIN UPS Power input
- Grounding Conductor
- Dying Gasp support
- Power Consumption: less than 46W

### Working Environment

- Temperature: -10°C ~ 55°C
- Humidity: 5% ~ 95% relative humidity

### Safety & EMI

- CE certificate
- FCC/UL compliant
- Lightning Protection:
  - Instant Surge 4 KV for power interface
  - Instant Surge 1.5 KV for user interface

### Environmental Directive

- WEEE, RoHS6

### Installation

- Rack mounting & Wall mounting

### GPON Interface

- Compliant with ITU-T G.984 GPON standards
- SFF type laser, SC/APC connector
- CIG patented BoSA on board optical solution
- 1.244 Gbps Burst Mode Upstream Transmitter
- 2.488 Gbps Downstream Receiver
- Compliant with ITU-T G.984.2 Amd1, Class B+
  - 0.5dBm ~+5dBm launch power, -27dBm sensitivity, and -8dBm overload
- Wavelengths:
  - US 1310nm, DS 1490nm
- Laser compliant with FCC 47 CFR Part 15, Class B, and FDA 21 CFR 1040.10 and 1040.11, Class I, ONT support Class C or Class C+ optics as an option
- Support G.984.5 Blocking Filter as an option

### GPON QoS

- Multiple T-CONTs per device
- Multiple GEM Ports per device
- Flexible mapping between GEM Ports and T-CONT
- Activation with automatic discovered SN and password in conformance with ITU-T G.984.3
- AES-128 Decryption with key generation and switching
- FEC (Forward Error Correction) in both directions
- DBA reporting by piggyback reports in the

- DBRu (mode 0)
- 802.1p mapper service profile on U/S
- Mapping of GEM Ports into a T-CONT with priority queues based scheduling
- Support Multicast GEM port and incidental broadcast GEM port.

## **Ethernet Interface**

- 10/100 Base-T interface with RJ-45 connectors
- Ethernet port auto negotiation or manual configuration
- MDI/MDIX automatically sense
- Hardware priority queues on the downstream direction in support of CoS
- 802.1D bridging
- Virtual switch based on 802.1q VLAN
- VLAN tagging/de-tagging per Ethernet port
- VLAN stacking (Q-in-Q) and VLAN Translation
- IP ToS/DSCP to 802.1p mapping
- Class of Service based on UNI, VLAN-ID, 802.1p bit, ToS/DSCP
- Marking/remarking of 802.1p
- IGMP v2/v3 snooping
- Broadcast/Multicast rate limiting

## **POTS Interface**

- Telco-50 connector
- 3-REN per line, 48 REN totally
- Balanced Ring, 55V RMS
- DTMF Dialing and Pulse Dialing
- Multiple Codecs:
  - G.711 ( $\mu$ -law and A-law)
  - G.729 (A and B)
  - G.723.1
- Echo Cancellation

- Voice Activity Detection and Comfortable Noise Insertion
- SIP (RFC3261)
- MEGACO v2 (H.248)
- RTP (RFC3550/3551)
- DTMF encoding by RELAY or IN-BAND method
- Support various CLASS services - Caller ID, Call Waiting, Call Forwarding, Call Transfer, Call Toggle, Three Way Calling, Distinctive Ringing, etc.
- G.711 for FAX, modem connection
- T.38 FAX
- Country specific ring tone generation
- Metallic Loop Testing

## **Management Interface**

- 1 console interface
- 1 management interface
- 4 PIN ALARM input interface (support 3 alarms)

## **LED**

- LED for System
  - POWER
  - ALARM
  - NET
  - MGMT
- LED for POTS
  - SIGNAL
  - RTP
- LED for ETHERNET(per port)
  - MODE
  - LINK

## **OAM**

- Standard compliant OMCI (the embedded operations channel) interface as defined by ITU-T G.988

- Provisioning all kinds of services including Ethernet, VoIP etc.
- Alarming and performance monitoring
- Remotely software image download over OMCI, as well as activation and rebooting
- Hold two software sets with software image integrity checking and automatic rollback
- Local access interface for debugging and maintenance

## ■ Enclosure



## ■ Contact Information

### **Cambridge Industries USA Inc.**

2445 Augustine Dr., 6th FL.

Santa Clara, CA 95054

Tel: +1(408)606-2200

Email: [nasales@cigtech.com](mailto:nasales@cigtech.com)

### **CIG Shanghai Co., Ltd.**

5/F, Building 8, 2388 ChenHang Road

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Shanghai, China 201114

Tel: +86-21-8023 3300

Email: [sales@cigtech.com](mailto:sales@cigtech.com)

[www.cigtech.com](http://www.cigtech.com)

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