1-Port Gigabit Ethernet over Coaxial Converter

High Performance Gigabit Ethernet over Coaxial Solution
To fulfill the needs of long distance and higher speed required Ethernet over Coaxial applications, PLANET Technology offers a new-generation Ethernet over Coaxial Converter, VC-232G. It features 1 1000BASE-T RJ45 port and 1 BNC female connector with a compact-sized metal housing, making the placement of the unit convenient. Working well with a pervasive coaxial network, the VC-232G provides an excellent bandwidth of up to a total duplex data rate of 300Mbps which can extend a maximum distance up to 1.4km. It is ideal for extending the distance and signal conversion by transmitting the Ethernet data from the coaxial cable to another 100-meter UTP cable for any type of IP network device such as HD IP camera, wireless access point, NVR and digital signage.

Superior Upstream and Downstream Transmission
The VC-232G is based on the two-core networking technology, Gigabit Ethernet and VDSL2 (Very-high-data-rate Digital Subscriber Line 2). The VC-232G offers a stable yet high-speed point-to-point network access up to a duplex data transmission of 300Mbps. It provides 2 selective transmission modes -- asymmetric mode or symmetric mode -- for the transmission of upstream and downstream signals.

- Asymmetric mode – downstream up to 200Mbps and upstream up to 100Mbps
- Symmetric mode – downstream up to 150Mbps and upstream up to 150Mbps

The symmetric mode provides similar transmission rate on both downstream and upstream. On the other hand, the asymmetric mode performs higher transmission quality in short range. In all, when the VC-232G is in symmetric mode, it provides better upstream performance, and when it is in asymmetric mode, it gives better downstream performance.

IP Ethernet over Long Distance Existing Coaxial Cables
The VC-232G is also a Long Reach Ethernet (LRE) solution which provides a quick replacement and smooth migration solution from existing analog system to full digital system. A normal UTP cable can only be extended up to 100 meters, but with the VC-232G, the distance for Ethernet networking can be extended up to 1,400 meters (4,593ft.), which is ideal for the following network applications:

- Long-distance IP network devices
- Distance video education
- IP digital signage
- Electronic billboards
- Cable TV to IPTV
- Other applications
If you have coaxial cable in your existing environment, you can install a pair of the VC-232G very simply without the need to build additional network wires, thus saving costs for network construction.

**Easy and Flexible Installation**

The VC-232G offers two operation modes, the client-side CPE and central-side CO, making any network applications easy and flexible. The CPE or CO mode can be adjusted by using the built-in DIP switch. For point-to-point connection, one VC-232G in CPE mode and the other one in CO mode must be set up as a pair of converters to perform the connection. This enables the administrator to efficiently manage the network over coaxial cable, making long-distance transmission better.

**Applications**

**Point-to-Point Application -- LAN to LAN Connection**

One set of the VC-232G could be used to link two local Area networks that are located in different places. Through the coaxial cable, it could set up a 200/100Mbps asymmetric backbone, but one VC-232G must be **Master (CO mode)** and the other one is **Slave (CPE mode)**.

**Point to Point Application**
Community/Campus Surveillance and Security over IP

To take advantage of digital surveillance system and keep the benefits of coaxial cable, the VC-232G helps the community, campus and enterprises to upgrade analog camera system to IP camera surveillance without using additional new wires. The VC-232G is a switching architecture with one RJ45 port and one BNC Ethernet over Coaxial port. Just plug in the UTP cable of IP camera to Ethernet port and the existing coaxial cable to the BNC connector to easily deploy and extend the distance with signal conversion by transmitting the Ethernet data from the standard coaxial cable.
Specifications

Product: VC-232G

Hardware Specifications

- **TP interface**: 1 1000BASE-T RJ45 auto-MDI/MDI-X ports
- **1 BNC female Ethernet over Coaxial**

VDSL Interface

- **Cabling**: Coaxial cable: 75 ohm
  - RG-6/U cable, less than 1200/1000 ft
  - RG-59/U cable, less than 302/1000 ft
- **Maximum Distance**: Max. 1400m with data transmission (4,593 ft.)

Functionality

- **DIP-1**: Select CO or CPE mode
- **DIP-2**: Select G.INP or Interleaved mode
- **DIP-3**: Select Band Profile (Asymmetric or Symmetric)
- **DIP-4**: Select SNR of 12dB or 8dB

Dimensions (W x D x H): 70 x 97 x 26 mm

Weight: 185g

Power Requirement: DC 5V, 2A external power

LED Indicators

- **Power**: Green
- **1000BASE-T LNK/ACT**: Green
- **VDSL**: Green
- **CO**: Green
- **CPE**: Green

Housing: Metal

System Specifications

VDSL-DMT

- ITU-T G.993.1 VDSL
- ITU-T G.997.1
- ITU-T G.993.2 VDSL2 (Profile 17a/30a Support)
- ITU-T G.993.5 G. Vectoring
- ITU-T G.998
- G.INP

Standards Conformance

- IEEE 802.3ab Gigabit Ethernet
- IEEE 802.1p Class of Service
- ITU-T G.993.1 VDSL
- ITU-T G.997.1
- ITU-T G.993.2 VDSL2 (Profile 17a/30a Support)
- ITU-T G.993.5 G.Vectoring and G.INP
- ITU-T G.998

Regulatory Compliance: FCC Part 15 Class A, CE

Environment

- **Temperature**: Operating: 0~50 degrees C
  - Storage: -10~70 degrees C
- **Humidity**: Operating: 5~95% (non-condensing)
  - Storage: 5~95% (non-condensing)

Performance

TP interface: 1 1000BASE-T RJ45 auto-MDI/MDI-X ports

<table>
<thead>
<tr>
<th>Distance (meter)</th>
<th>Interleave (Upstream/Downstream: Mbps)</th>
<th>Symmetric</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Asymmetric</td>
<td>8dB</td>
</tr>
<tr>
<td>200m</td>
<td>88/168</td>
<td>78/145</td>
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<tr>
<td>400m</td>
<td>75/160</td>
<td>69/137</td>
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<tr>
<td>600m</td>
<td>59/129</td>
<td>48/118</td>
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<tr>
<td>800m</td>
<td>32/110</td>
<td>26/94</td>
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</table>

<table>
<thead>
<tr>
<th>Distance (meter)</th>
<th>G.INP (Upstream/Downstream: Mbps)</th>
<th>Symmetric</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Asymmetric</td>
<td>8dB</td>
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<tr>
<td>200m</td>
<td>95/200</td>
<td>89/181</td>
</tr>
<tr>
<td>400m</td>
<td>82/175</td>
<td>71/156</td>
</tr>
<tr>
<td>600m</td>
<td>59/151</td>
<td>46/136</td>
</tr>
<tr>
<td>800m</td>
<td>37/122</td>
<td>30/102</td>
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*As there are various resistance values in the category of RG-59/U or RG-6/U cable, the actual data rate will vary on the quality of the copper wire and environmental factors.
Diagram

Dimensions (unit = mm)

Ordering Information

VC-232G  1-Port 1000T Ethernet over Coaxial Converter

Related Products

<table>
<thead>
<tr>
<th>Product</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>VC-231G</td>
<td>1-Port 10/100/1000T Ethernet to VDSL2 Converter</td>
</tr>
<tr>
<td>VC-234G</td>
<td>4-Port 10/100/1000T Ethernet to VDSL2 Bridge</td>
</tr>
<tr>
<td>MC-1500</td>
<td>15-Slot Media Converter Chassis</td>
</tr>
<tr>
<td>MC-1500R</td>
<td>15-Slot Media Converter Chassis (AC Power)</td>
</tr>
<tr>
<td>MC-1500R48</td>
<td>15-Slot Media Converter Chassis (DC Power)</td>
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<tr>
<td>MC-700</td>
<td>7-Slot Media Converter Chassis</td>
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</tbody>
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