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## Description

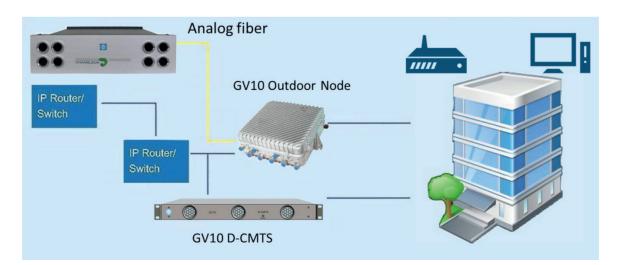
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GV10 I is a DOCSIS 3.0 cable edge device for the delivery of video, data and voice services over coax. One of the first products to support a Distributed Access Architecture (DAA), the GV10 I delivers DOCSIS/EuroDOCSIS/J-DOCSIS CMTS services today, with Universal EdgeQAM capabilities coming soon.

Compact and cost-effective GV10 I moves a service provider's RF requirements out of the headend or hub and places them deep in the fiber network, simplifying headend design and operation to resolve space and power constraints, lower capital and operational expenses, and provide service flexibility.GV10 allows Telcos and MSOs - and premise owners - to utilize a single device to deliver triple-play services to dense coax infrastructures, such as multiple dwelling units (MDUs), office buildings, college campuses and hospitality locations.

## **Applications**

- CCAP-ready: DOCSIS/EuroDOCSIS/ J-DOCSIS CMTS and Universal EdgeQAM (future) capabilities
- GigE, GPON or EPON network interface
- 960 Mbps downstream/160 Mbps upstream
- 16 Downstreams
- 64/256QAM modulation
- 4 Upstreams QPSK/16QAM/32QAM/64QAM modulation
- Up to 500 subscribers
- Downstream and upstream channel bonding with partial service support



## **Technical Information**

| Downstream Channels             |   |
|---------------------------------|---|
| Number of Channels              | 16  |
| Throughput                      | 960 Mbps  |
| Frequency Range                 | 54-1006 MHz   |
| Amplitude Frequency Response    | <ul> <li>&lt; 0.25 dB (within any QAM carrier)</li> <li>&lt; 2 dB (between any two QAM channels on same RF port)</li> </ul> |
| QAM Modulations                 | ITU-T J.83 - Annex A (8 MHz),<br>B (6 MHz), C (6 MHz)   |
| QAM Constellations              | Annex A/B/C: QAM 64, 256  |
| QAM Agility                     | Window size of 192 MHz  |
| MER<br>Unequalized<br>Equalized | - > 39 dB (Typical: > 42 dB)<br>- > 45 dB (Typical: > 48 dB)  |
| BER (pre FEC)                   | < 1 x 10-10   |

| opstream channels      |  |
|------------------------|--|
| Number of QAM Channels |  |

| Number of QAM Channels | 4  |
|------------------------|--|
| Throughput             | 160 Mbps (≤ 40.96 Mbps per channel)  |
| Channel Width          | 1.6 MHz, 3.2 MHz, 6.4 MHz  |
| Frequency Range        | 5-85 MHz   |
| Frequency Response     | +/- 1 dB   |
| Modulation Type        | QPSK, 16-QAM, 32-QAM, 64-QAM,<br>128-QAM, 256-QAM (128 QAM,<br>256-QAM for S-CDMA for extended<br>Broadcom-based cable modems) |
| Modulation Method      | A-TDMA, S-CDMA   |
| Specifications         | DOCSIS 3.0, C-DOCSIS   |
| Monitoring             | MER, BER, CNR  |
| Input Power Level      | -13 to 23 dBmV per channel   |

| General |  |
|---------|--|
| General |  |

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| Power Supplies         | One                              |
|------------------------|----------------------------------|
| Input Voltage Range    | 85-264 VAC                       |
| Power Consumption      | < 45 W                           |
| Dimensions (W x H x D) | 43.4 cm x 4.3 cm x 32.4 cm (1RU) |
| Weight                 | 5.0 lbs/2.3 kg                   |

| DOCSIS Features                              |
|--|
| Single MAC domain                            |
| DS & US channel bonding with partial service |
| CM support: DOCSIS 2.0 & 3.0                 |
| Maximum service flows: 1,024                 |

DOCSIS classification

Load balancing (CM count and bandwidth utilization-based)

Forward Error Correction

Concatenation/Fragmentation

Multicast replication, Multicast DSID Forwarding (MDF) support Baseline Privacy Interface Plus (BPI+) - DES encryption

Upstream ToS (Type of Service) overwrite

Upstream Scheduling: Best effort, UGS, UGS-AD, rtPS, nrtPS

| Network Management     |  |
|------------------------|--|
| Management Options     | CLI, SNMP                              |
| SNMP Support           | DOCSIS & IETF MIBs                     |
| Logging and Monitoring | Alarms status monitoring<br>Syslog     |
| Secure Access          | SSHv2, TACACS+ AAA                     |
| RF Monitoring          | Separate US and DS RF monitoring ports |

| Interfaces          |  |
|---------------------|--|
| NSI Port            | One RJ45 port or one port sup-<br>porting pluggable optical or copper<br>pt-to-pt or pt-to-mpt GigE, GPON or<br>EPON networks  |
| Total Throughput    | 1 Gbps Full duplex   |
| RF Ports            | Two, each port assignable as a DS,<br>US or combined DS/US channel (the<br>identical RF spectrum is served from<br>both ports) |
| RF Monitoring Ports | Two (one DS, one US)   |
| RF Port Connectors  | F-type, 75 $\Omega,$ color coded for US and DS   |

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