

Universal Edge QAM

AQ1000 Series



- **1 GHz Bandwidth**
- **High-density 1RU platform**
- **96 QAM channels**
- **8×1000Base-T TX and SFP Uplink with Redundancy**
- **MPEG-2/MPEG-4/H.264 /HDTV/SDTV**
- **Applications: IPTV, VOD, DOCSIS3.0, Switched Digital Video**
- **ITU-T J.83 Annex A/B**
- **Optional DVB-CA and Scrambling**
- **Internal Web Server**
- **SNMP management**

AQ1000 Series 1RU Universal Edge QAM Modulator supports 4 QAM Modules in full configuration. Each module has 6 RF ports with 4 QAM channels per port, for a total of 48 or 96QAM (8MHz) channels in a one rack unit chassis. With the unique ability to perform high density QAM modulation, the AQ1000 allows cable operators to deliver more digital video services today and to make a smooth migration to next generation architectures, enabling the delivery of on demand Video and advanced Data services.

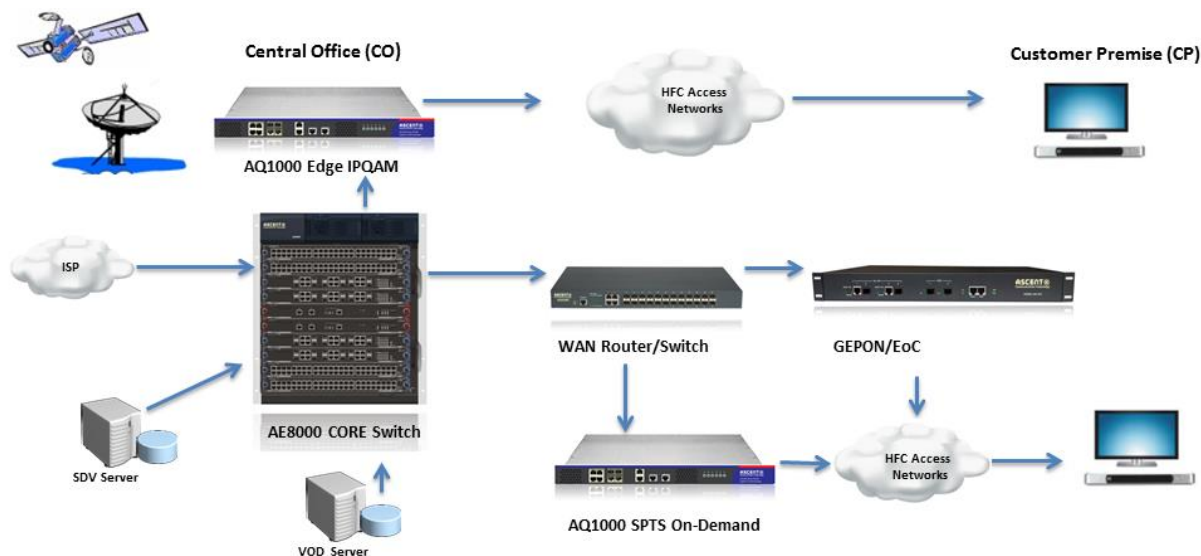
AQ1048/1096 1RU chassis is designed with hot-swappable QAM modules. Each channel provides VOD, broadcast, SDV or DOCSIS 3.0 high-speed data transmission. Data can be received via 8 Gigabit-Ethernet ports, which support SFP/RJ-45 input and data backup. Each QAM channel can carry as many as 64 programs and supports program formats in a very broad range. The formats supported include HD, SD, MPEG-2, H.264, VBR, CBR, Data Broadcast, Private Data, Internet Data, SPTS and MPTS, etc. AQ1000 complies with MPEG-2 transport standard. Network de-jittering, MPEG multiplexing, PSI Extraction and Insertion have been provided.

AQ1000 series offers unique features and a high degree of flexibility for Cable Operators and Multi-media services providers to quickly deploy their advanced digital video services, while laying the groundwork for other services additions in the future.

Key Features

- High density, 96 QAM channels, 1RU Box
- Highly flexible, each RF output connector provides 8~24 frequencies
- Each QAM channel supports 64 programs, with up to 42 video and audio programs
- ITU-T J.83 Annex A (DVB) / Annex B (ATSC)
- Supports MPEG-2/MPEG-4/H.264 HD / SD programs and other data standards
- Supports SPTS, MPTS and DATA Broadcasting, PID Filtering and Remapping
- Supports PSI/SI Extraction and Insertion
- Supports CBR / VBR program to jitter (de-jitter) network delay up to 1000ms
- Compatible with a variety of video server
- Supports PCR Re-generate and outputs ≤ 80 ns PCR jitter
- Optional DVB-CA Conditional Access and Scrambling
- Supports Unicast and Multicast
- RF direct transfer technology
- 50 MHz to 1000 MHz output, MER ≥ 45 dB CNR ≥ 55 dB
- Control using web browser or SNMP via a separate redundant Ethernet control interface
- Built-in Web Server browser access control

Application Diagram



Specifications

Input

Physical Ports	8 × SFP + 8 × RJ45 (AQ1096-SHELF-AC2)
Protocol	IP, UDP, IGMP supported
Redundancy	4 + 4
Supported SFP	Optical 850, 1310, 15xxnm, Electrical 1000Base-T
Optical Return Loss	Support for power SFP: 1000Base-T
Jitter	Peak up to 1000 ms

Output

Standard Format	ITU-T J.83 Annex A (DVB)/Annex B(ATSC)
QAM Signal Constellation	64QAM/128QAM/256QAM
Frequency Range	50 MHz to 1000 MHz
RF Output Port	24 F Connectors (4 QAM per RF)
MER	≥40 dB(pre-EQ), ≥45dB (post-EQ)
SNR	≥58 dB
CNR	≥55 dB
Frequency Step	1 kHz
Frequency Precision	±12 ppm
Symbol Rate	5000 kS/s to 7000 KS/s
Level Adjustable Range	17 dB
Output Level	1ch 60 dBmV, 2ch 57 dBmV, 3ch 55 dBmV, 4ch 53 dBmV

Control Interface

Control Network Port	1 RJ45 Ethernet port
CA control Network Port	1 RJ45 Ethernet port
DTI	1 × 1
RS232	1
EMS	SNMP network management, WEB Interface, TCP Control

Characteristics Processing

Supported Features	Broadcast Video, VOD/SDV, Multicast, Private Data, PSI Extraction and Regeneration, SI Insert
Encryption and CA	Pre-encryption input, Optional DVB CA scrambling
Program Number	6144

General Characteristics

Operating Temperature	0 °C to +40 °C
Storage Temperature	-40 °C to +70 °C
Operating Humidity	5 % to 95 % RH (non-condensing)
Power Consumption	220 W
Power Supply	Dual AC 110 V to 240 V, 50/60 Hz, 12A
Dimensions (W x D x H)	443 mm × 440 mm × 43 mm
Weight	6.8 kg

Ordering Information

AQ1000 IPQAM Series	Description
AQ1096-RF1-AC2	AQ1096 Narrowcast IP Edge QAM: 1 RF modules with Broadcast License (up to 96QA M per Chassis) Dual AC P/S module
AQ1096-RF2-AC2	AQ1096 Narrowcast IP Edge QAM: 2 RF modules with Broadcast License (up to 96QA M per Chassis) Dual AC P/S module
AQ1096-RF4-AC2	AQ1096 Narrowcast IP Edge QAM: 4 RF modules with Broadcast License (up to 96QA M per Chassis) Dual AC P/S module
AQ1096-SHELF-AC2	AQ1000 Narrowcast IPQAM Main Platform, 4 RF modules slots (module not include d), Dual PS AC
AQ10-RF-4X6-02	AQ1000 Narrowcast IPQAM 4x6 RF module card with Broadcast License

Contact Information

Ascent Communication Technology Ltd

AUSTRALIA

140 William Street, Melbourne
Victoria 3000, AUSTRALIA
Phone: +61-3-8691 2902

HONG KONG SAR

Unit 9, 12th Floor, Wing Tuck Commercial Centre
177 Wing Lok Street, Sheung Wan, HONG KONG
Phone: +852-2851 4722

CHINA

Unit 1933, 600 Luban Road
200023, Shanghai CHINA
Phone: +86-21-60232616

USA

2710 Thomes Ave, Cheyenne
WY 82001, USA
Phone: +1-203 816 5188

EUROPE

Pfarrer-Bensheimer-Strasse 7a
55129 Mainz, GERMANY
Phone: +49 (0) 6136 926 3246

VIETNAM

15 /F TTC Building, Duy Tan Street, Cau Giay Dist.
Hanoi, VIETNAM
Phone: +84 243 795 5917

WEB: www.ascentcomtec.com **EMAIL:** sales@ascentcomtec.com

Specifications and product availability are subject to change without notice.

Copyright © 2016 Ascent Communication Technology Limited. All rights reserved.

Ver. ACT_AQ1000_IPQAM_Datasheet_V1f_Aug_2016