

GQ-8398Q

All-In-One MPEG-4 AVC SD Encoder & QAM Trans-modulator



Product Overview

GQ-8398Q is a new generation, highly integrated SD encoder and QAM transmodulator, combining MPEG-2 and MPEG-4 AVC SD encoding, QAM RF reception, transport stream processing and QAM modulation in a 1RU chassis. It's ideal for broadcasters, cable network operators and media providers looking to reduce equipment costs and lower total power consumption for digital television distribution. The GQ-8398Q features versatile functions, high density and superior performance, provides up to eight channels of standard definition(SD) encoding, QAM RF demodulation, ASI-based transport stream input, transport stream multiplexing/re-multiplexing/pass-through, PSI/SI processing, scrambling and four QAM modulation outputs. All of these feeds incoming from local analog PAL/NTSC video & audio media sources, local ASI transport streams and remote QAM RF signals which can be processed into four transport streams and finally distributed to cable network after QAM modulation.

To make this as comprehensive as possible, Web browser and SNMP management are also available for local and remote monitoring and control, this can significantly reduce management time and save operating expense.

Main Features

Encoding Features:

- Up to eight channels MPEG-2/MPEG-4 AVC SD encoding
- High picture quality in ultra low bit rate to reduce network overheads or costs
- MPEG-2 encoding rate range from 0.5 Mbps to 5.5 Mbps
- MPEG-4 AVC encoding rate range from 0.25 Mbps to 5.5 Mbps
- Output resolutions: 480i (NTSC), 576i (PAL)
- Supports VBR/CBR video encoding

TS Mux and Scrambling Features:

- Transport stream multiplexing, re-multiplexing and pass through
- Supports PID filtering, pass-through, PCR auto-correction
- PAT, PMT and SDT insertion
- Supports up to four DVB SimulCrypt CAs and DVB-CSA scrambling
- Supports up to 3Mbps of EMM bandwidth

Modulation/Demodulation Features:

- Four QAM adjacent-channel outputs
- Wide range of modulation output bitrate from 15.5Mbps to 51.6Mbps per QAM channel
- Supported QAM constellation: 16/32/64/128/256QAM
- ITU-T J.83 Annex A/B/C compliant, 6MHz or 8MHz bandwidth
- Self-adaptive filter circuit design ensures outstanding out-of-band rejection

Other Features:

- Web browser and SNMP management for local and remote management and control;
- Front panel control and LCD display for parameter settings and malfunction alarm display
- Local and remote firmware upgrades
- Low power consumption

Technical Specifications

Video/Audio Encoding Input

Analog Video/Audio Input Options

Composite Video	8 x CVBS BNC female, 75Ω
	4 or 8 x Stereo pairs (R&L)
Unbalanced Audio	BNC female, 600Ω Stereo or Mono mode

Video Encoding

Encoding Formats	MPEG-2, MP@ML MPEG-4 AVC: MP@L3
Resolution & Frame Rate	720/704/640/544/352 x 576i@25fps 720/704/640/544/352 x 480i@29.97fps
Aspect Ratio	4:3,16:9
Encoding Rate Mode	CBR, VBR
Video Encoding Rate	MPEG-2 0.5-5.5Mbps per program MPEG-4 AVC 0.25-5.5Mbps per program

Audio Encoding

Encoding Standards	MPEG-1 Layer II
Operation Mode	Stereo or Mono
Volume Control Range	-63dB to 20dB
Supported Sample Rate	32 kHz, 44.1 kHz, 48 kHz
Audio Encoding Rate	192/256/320/384 kbps

RF Input

Number of Inputs	1 x RF Input, 1 x RF Loop Out
Connector Type	F-Type (Female, 75Ω)
Standards	DVB-C (EN300429)
Constellations	16/32/64/128/256 QAM
Frequency Range	50-860MHz
Input Signal Level	-20 to +20dBm (64QAM)

ASI Transport Stream Input

Qty of ASI Input	1 x ASI, 1 x ASI Loop Out
Connector	BNC female, 75Ω

TS Packet Length	188 or 204 Bytes
TS Output Bit Rate	2-60Mbps
Burst TS	Not support

Transport Stream Processing

Functions	Multiplexing and Pass through
PCR	Auto correction
PSI/SI	PSI/SI auto-generation manual insertion
PID	Remapping, filtering, pass-through
PSI/SI Standards	ISO/IEC 13818-1, DVB SI(ESI EN300468)
Real-time Statistics	TS rate, program rate, PID rate

TS Scrambling (option)

Scrambling Algorithm	Comply with DVB-CSA
Numbers of CAS	Four DVB SimulCrypt CA(s)
CAS Interface Protocol	TCP/UDP (via NM interface)
EMM Bandwidth	Up to 3 Mbps per TS
Scrambling Rate	Up to 60 Mbps per QAM channel
Scrambling Level	Program-level

QAM Modulation Output (option)

Output Connector	1 x RF Output 1 x -20dB RF Output (Test Port)
Connector Type	F-Type (Female, 75Ω)
RF Frequency Range	48-870 MHz
Bandwidth	6 or 8MHz
Numbers of Output	Up to four QAM adjacent-channels
Output Bitrate Range	15.5Mbps to 51.6Mbps per QAM channel
Modulation Standards	ITU-T J.83 Annex A, B and C
Constellations	Annex A: 16/32/64/128/256 QAM Annex B: 64/256QAM Annex C: 32/64/128/256 QAM

Symbol Rate	Annex A: 4.2-7 Mbaud Annex B: 5.057 Mbaud Annex C: 4.2-5.3 Mbaud
RF Output Power Level	90-110dBμV (RF output Port) 70-90dBμV (-20dB test port)
MER	≥38dB (64QAM, 6.875Mbaud)
SNR(Out of band)	≥50dB
Return Loss	≥12dB
Gain Fine-tune	0-10dB, Step Size 0.25dB

Network Management

Interface	1 x 10/100 Base-T Ethernet
Connector	RJ-45
Management	Web browser and SNMP

Miscellaneous

Front Panel	3.5" LCD with 6 x Control Button for 2-lines alphanumeric display and parameter settings
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Rear Panel	3 x Dual color LED, for status indications of power, running and Alarm 1 x Power Receptacle(AC Input) 1 x Power switch 1 x Serial Console Port(via RJ-45 connector)
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Power Supply

Input Voltage	90-250 VAC, 50/60Hz
Power Consumption	50W (Typ.)

Environmental

Operating Temperature	0°C to 45°C (32°F to 113°F)
Storage Temperature	-20 to 80°C (-4°F to 176°F)
Operating Humidity	90%, non-condensing

Mechanical

Product Dimensions (W x H x D)	483mm x 44.5mm x 400mm 19" x 1.73" (1U) x 15.8"
Product Weight	Approx. 5Kg (11 lbs)

Rear Panel View (Sample Config.)



GQ-8398Q Rear Panel

Ordering Information

Ordering Codes	Descriptions
GQ-8398Q	8-Ch MPEG-4 AVC SD Encoder-QAM Transmodulator, with 8 x CVBS in, 8 x Unbalanced Stereo Pairs in, 1 x RF in with Loop out, 1 x ASI input with Loop Out, 1 x RF output with -20dB Test Port default one QAM modulation channel supported, without scrambling function
LC-8398Q-QAM2	Enable two QAM channels and DVB SimulCrypt CA(s)
LC-8398Q-QAM3	Enable three QAM channels and DVB SimulCrypt CA(s)
LC-8398Q-QAM4	Enable four QAM channels and DVB SimulCrypt CA(s)

For More Information

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