

Q9

DIBSYS

Mpeg-2/H.264 SD HD Encoder Modulator



Q9 ultra-high quality video encoder modulator is especially well-suited for satellite, terrestrial broadcast and premium cable or Hotel applications, as well as various other kinds of content aggregation today. The hardware platform has been widely deployed for **MPEG-2** and **MPEG-4 AVC HD** broadcasting applications with impressive audio encoding features: MPEG1 Layer II, AC3 and AAC audio encoding.

Q9 it offers codec and transport flexibility, interoperability and feature richness, and equipped with 2/4/6 channels HDMI or HD-SDI inputs and multiple codec standard, delivering the highest compression performance in all formats — SD MPEG-4 AVC, HD MPEG-4 AVC, SD MPEG-2, HD MPEG-2, — allowing users to broadcast more channels. It allows you to use your existing coaxial cables to send HD channels to TVs with built-in digital DVB-C/ DVB-T/ISDB-T/ATSC/DTMB tuners.

With an Q9 encoder modulator platform, you can integrate your existing digital system with products that bring your system up to speed with the latest IP/RF technology. The signals source could be from satellite receivers, closed-circuit television cameras, Blue-ray players, and antenna etc. Its output signals are to be received by TVs, STB and etc with corresponding standard.

Features

- 2/4/6 channels HDMI per chassis (1-RU), SDI optional
- Optional DVB-C (QAM), DVB-T (COFDM), ATSC-T, ISDB-T, DTMB Modulation (can selectable in WEB management), **4*Carrier RF Out**
- 128*IP input over UDP and RTP
- Superior-quality low-bitrate MPEG-2 and MPEG-4 AVC encoding of SD or HD video pre-processing technologies
- Automatic SD & HD Detection
- Audio encoding: MPEG1 Layer II, Dolby Digital AC3, AAC
- Support low latency mode
- VCT(Virtual Channel Table) support for 8VSB ATSC and DVB-C QAM
- Flexible GOP structures with B-frame and P-frame insertion in

Manual

- The dialogue normalization function of AC3 encoding nicely
- CC (Closed Caption) EIA 608 and EIA 708
- Simultaneous output via 2/4/6*SPTS/1*MPTS over UDP/RTP IP
- 2*ASI output as mirror of MPTS
- CBR & VBR rate control
- PCR correction to accurately correct several PCR of the input data
- PID remapping, PSI/SI information creation by automatic or external
- Low power consumption and high reliability with MTBF(Mean Time Between Failure) ≥ 87600 Hours
- Easy-to-Use System Management via Web

Applications

- Distribute Full-HD Video to All TVs Over Existing TV Coax
- Advertising, monitoring, training and educating
- Upgrade all your analog Head-ends to digital TV Solution
- Enterprise, Hotel, campus, hospital, Public Place
- Works with Digital TV transmitter in wireless TV broadcasting

TECHNICAL SPECIFICATIONS

Encoder Part

Input Interfaces

Number of Channels 2/4/6 Ports

HDMI 1.4a HDCP

Connector BNC (75 Ohm)

Stream output

2 ASI output as mirror of MPTS

RTP/RTSP

7x188bytes TS packet length
2*1000M Base-T Ethernet interface, Data 1 and Data 2
Multicast, Unicast

Video Processing

Resolution

Input

Output 1920*1080@60p, 1920*1080@50p, 1920*1080@60i,
1920*1080@50i, 1440*1080@60i, 1440*1080@50i,
1280*720@60p, 1280*720@50P, 720*576@50p,
720*576@50i, 720*576@30p, 720*576@25p,
720*480@60p, 720*480@60i, 720*480@30p,
720*480@25p, 320*240@60p, 320*240@50p,
320*240@30p, 320*240@25p, 320*180@60p,
320*180@50p, 320*180@30p, 320*180@25p,
960*540@50i, 704*576@50i, 704*480@60i,
640*576@50i, 640*480@60i,
544*576@50i, 544*480@60i,

MPEG-2 Bit-rate 1.0 Mbps ~ 19 Mbps

H.264 Bit-rate 0.8 Mbps ~ 19 Mbps

Levels Level 5.2-5.1
Level 4.2-4.0
Level 3.2-3.0
Level 2.2

GOP Structure B frame=2(<=3); P frame=4(<=6)

Chroma 4:2:0 (MPEG-2/AVC)

Audio Processing

Encoding MPEG1 Layer II, AAC, AC3

Resolution 24 bit

Audio Gain 0 – 400%
dialogue

Data Processing

PSI/SI Edition PMT PID, VIDEO, Audio, PCR PID, Service ID
Program Name, Service Provider
PCR Interval

VCT Mode: CVCT, TVCT
Major/Minor Channel Number
Modulation Mode/Carrier Frequency/TSID

Multiplexing

Maximum PID
Remapping 180 input per channel

Accurate PCR adjusting

Modulation Part

Connector 1 Port, F-Type, 75
Output Return Loss 14 dB
MER ≥40dB
RF output level -30 ~ -10dbm, 0.1db step
RF frequency 47-860Mhz, 1KHz step
Numbers of RF Channel 4
Modulation Mode DVB-C, DVB-T, ATSC, ISDB-T, DTMB

DVB-T Standard

EN300744
FFT mode 2K, 8K
Bandwidth 6M, 7M, 8M
Constellation QPSK, 16QAM, 64QAM
Guard Interval 1/4, 1/8, 1/16, 1/32
FEC 1/2, 2/3, 3/4, 5/6, 7/8

DVB-C Standard

J83.A (DVB-C, J83.B, J83.C)

Carrier	ANNEX A	Annex B		Annex C
Constellation (QAM)	16,32,64,128, 256	64	256	64/256
Bandwidth (Mhz)	8	6	6	6
Symbol Rate (Mbaud)	5-7	5.057	5.361	4.2-5.3

ISDB-T Standard

ARIB STD-B31
Constellation DQPSK, QPSK, 16QAM, 64QAM
Guard Interval 1/32, 1/16, 1/8, 1/4
Transmission Mode 2K, 4K, 8K
Guard Interval 1/32, 1/16, 1/8, 1/4
Code rate 1/2, 3/4, 5/6, 7/8
BandWidth 6Mhz

ATSC Standard

ATSC A/53
Constellation 8 VSB

DTMB Standard

GB20600-2006
Constellation 4QAM, 16QAM, 32QAM, 64QAM
Code rate 0.4, 0.6, 0.8
Guard Interval 420, 595, 945

System

Local interface LCD + control buttons
Remote management Web/NMS
NMS interface RJ45, 100M
Language English

Environment

Voltage range 100 to 120/200 to 240V AC ±10%; 50/60Hz
Power consumption 60W
Operation Temperature 0 ~ 45℃
Storage Temperature -20 ~ 80℃
Dimensions 482mm (L) * 380mm (W) * 44mm (H)
Weight 4.5 kg

Management

Configuration Web Interface
Port RJ45, 100BaseT
Language English

Environment

Voltage range AC 110V± 10%, 50/60Hz, AC 220 ± 10%, 50/60Hz
Operation Temperature 0 ~ 45℃
Storage Temperature -20 ~ 80℃
Dimensions 482mm (L) x 400mm (W)x 44mm (H)
Weight 4.5 kg