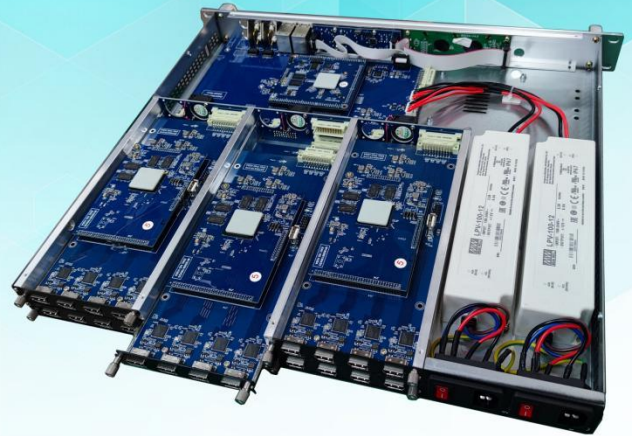


Q9

Pluggable Multi-Channel 1080P60FPS/AAC H.264 H.265 Encoder Modulator

DVB-C CABLE DVB-T TERRESTRIAL ISDB-T ATSC DTMB IPTV

DIBVISION | DIBSYS



Q9 video platform, digital systems demand powerful, flexible, multipurpose video processing and compact solutions that allow the service provider to support new network architectures.

This 1RU case comes with 6 independent hot-swappable module slots, each module can be configured individually based on the applications including encoding, modulating processing and the combination of all these functions. Built in modulation board, Q9 support DVB-C (QAM), DVB-T (COFDM), ATSC-T, ISDB-T, DTMB Modulation.

Its pluggable and Hot-swappable module, flexible configuration is making it extremely scalable, reliable with high performance. Q9 is an efficient, low-cost digital TV headend device, which can be used in public place such as metro, market hall, theatre, hotels, resorts for advertising. It also can be used for monitoring, training and educating in company, campus, hospital.

Focusing on benefits

high PCR precision

- audio and video synchronization
- code stream transmitting stably in the network
- smooth and stable video play

Low network jitter and PCR jitter

- up to 8*MPTS with null packets
- each MPTS is less than 100Mbps
- can be used in 100Mbps network environment

powerful stream processing capability

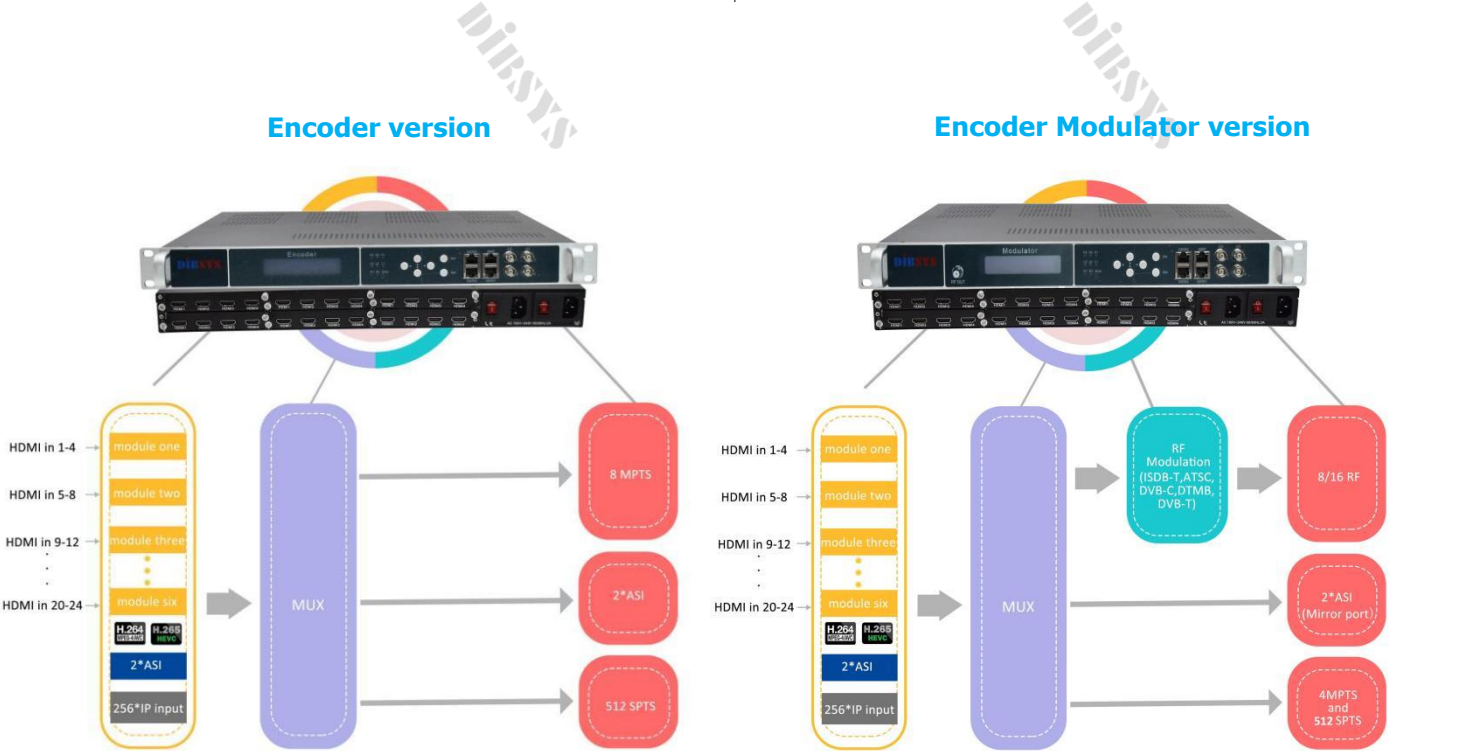
- Highly integrated--- ①24 channels HDMI encoding, ②up to 8*MPTS build in MUX, ③512 *SPTS Demux outputs
- Widely used in convert MPTS of DTV to SPTS of IPTV
- PID filtering, re-mapping and PSI/SI rebuilding and editing supported

SPTS stream for IPTV

- 512 *SPTS Demux outputs for Community, Campus, Hospital IPTV

Key Features

- 6 independent hot-swappable module, 4* HD-MI per module
 - flexible encoding&modulating board combination
 - Optional DVB-C (QAM), DVB-T (COFDM), ATSC-T, ISDB-T, DTMB Modulation, 8/16 Carrier RF Out per port; optional 12/32 Carrier RF Out for DVB-C
 - H.264/H.265 video encoding
 - Two separate ASI input for External TS Multiplexing
 - Simultaneously 4*MPTS and 512*SPTS over UDP/RTP IP out in modulation mode
 - Simultaneously 8*MPTS and 512*SPTS over UDP/RTP IP out in encoder mode
 - 8/16 separate multiplexing and Up-converter modulating adjacent carrier out
 - support multiplexing function: multiplex any input to RF or MPTS output
- Audio encoding: MPEG-1 Layer 2, AAC-LC, AAC-HE v1(SBR), AAC-HE v2(SBR+PS), AC3 (H.265 version)
 - Selectable the Value of PCR PID same as Video PID
 - Non adjacent-frequency supported
 - Support TTL editing
 - PSI/SI editing & inserting
 - PID Remapping & Filtering
 - Selectable LOGO,QR code,OSD insertion for every, All or Each module of local channel
 - Support PCR correct and PCR interval adjusting
 - Easy-to-Use System Management via Web
 - Redundancy Power Supply
 - dual power supply
 - Remote WEB reboot supported



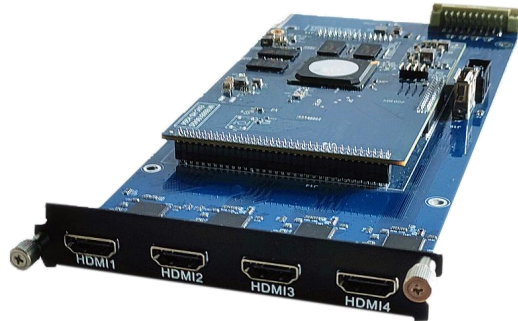
independent hot-swappable Model Q9 sereis compare with Q3 series

Model	Chassis	Power	Encoding format	Audio format	DATA port	TS IN/OUT	ASI IN/OUT	RF channels
Q3	Non Pluggable	Single power	H.264	MPEG-1 Layer 2, HE-AAC, LC-AAC	1*GBE	128*SPTS/MPTS input 8*MPTS + 512*SPTS output	2*in/2*out	None
Q9	Pluggable	Dual power	H.264 H.264/H.265 (optional)	MPEG-1 Layer 2, HE-AAC, LC-AAC AC3(only H.265 version)	3*GBE	256*SPTS/MPTS input 8*MPTS + 512*SPTS output	2*in/2*out	None
Q3M	Non Pluggable	Single power	H.264	MPEG-1 Layer 2, HE-AAC, LC-AAC	1*GBE	4RF:128*SPTS/MPTS input 1*MPTS + 128*SPTS output 8RF:128*SPTS/MPTS input 8*MPTS + 512*SPTS output	2*in/2*out	4/8*RF
Q9M	Pluggable	Dual power	H.264 H.264/H.265 (optional)	MPEG-1 Layer 2, HE-AAC, LC-AAC AC3(only H.265 version)	3*GBE	256*SPTS/MPTS input 8*MPTS + 512*SPTS output	2*in/2*out	8/16*RF 12/32*RF for DVB-C optional

TECHNICAL SPECIFICATIONS

Independent hot-swappable module

HD-MI H.264/H.265(optional) encode Module



Numbers of Boards	4 HD-MI ports per module
Numbers of Ports	Up to 6 independent hot-swappable module
	8; 12; 16; 20; 24 Channels
Encoding format	MPEG-4 AVC/H.264
	H.264/H.265 (optional)

Encoding Format	HEVC/H.265, H.264	
Resolution	input	output
	1920×1080@60/59.94P	1920×1080@60P, 1280*72060P 1920×1080@30P, 1280*720@30P
	1920×1080@60i/59.94i	1920×1080@30P, 1280*720@30P
	1920×1080@50P	1920×1080@50P, 1280*720@25P
	1920×1080@50i	1920×1080@25P, 1280*720@25p
	1280×720@60/59.94P	1280×720@60P, 1280*720@30P
	1280×720@50P	1280×720@50P, 1280*720@25P
	720×576@50i	720×576@25P
	720×480@60i	720×480@25P

Video Processing

Bit-rate	1Mbps~13Mbps
Rate Control	CBR
Select to configure Logo, Caption and QR Coder in any Position of Video Picture (only for HD-MI inputs)	

Audio Processing

Encoding	MPEG-1 Layer 2, AAC-LC, AAC-HE v1(SBR), AAC-HE v2(SBR+PS), AC3 (H.265 version)
Sampling rate	48KHz
Resolution	24-bit
Bit-rate	64kbps, 128Kbps, 192kbps, 224kbps, 256kbps, 320kbps, 384kbps (mpeg-1 layer 2)
Audio Gain	0-255

Built in Modulation module

Connector	1 Port, F-Type, 75
Output Return Loss	14 dB
MER	≥40dB
RF output level	-35 ~ -5dbm, 1db step
RF frequency	50 ~ 960Mhz, 1KHz step
separate control	Frequency difference range (0-40M)
Numbers of RF Channel	8 carrier by default, 16 carrier Max. DVB-C:12 carrier, 32 carrier optional
Modulation Mode	DVB-C, DVB-T, ATSC, ISDB-T, DTMB

DVB-T Standard

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

Constellation	ARIB STD-B31
Guard Interval	DQPSK, QPSK, 16QAM, 64QAM
Transmission Mode	1/32, 1/16, 1/8, 1/4
Code rate	2K, 4K, 8K(this mode do not support SPTS out)
BandWidth	1/2, 3/4, 5/6, 7/8
	6Mhz

ATSC Standard

Constellation	ATSC A/53
	8 VSB

DTMB Standard

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

Stream Input/Output

DVB-ASI outputs

2 Separate ASI (Select from modulation Channels or MPTS channel)
75Ω, BNC, 188Bytes
MPEG TS over DVB-ASI (EN 50083-9)
1-200Mbps

Total Bitrate

DVB-ASI inputs

Connector	2*BNC female, 75Ω
Number of Input Ports	Dual separate ASI ports
Signal Level	200-800mVp-p
Packet Length	188 bytes
Maximum bit-rate per port	≤100Mbps

IP inputs/outputs

Number of port	3*100/1000M GbE Port
2*RJ45 port (input)	128*IP for each port
1*RJ45 port (output)	simultaneously 4*MPTS and 512*SPTS
	Over UDP/RTP IP out in modulation mode
	simultaneously 8*MPTS and 512*SPTS over
	UDP/RTP IP out in encoder mode
	MPEG TS over UDP, unicast, and multicast streaming
	MPEG TS over RTP/RTSP
	Configurable packet size(2-7)x188Bytes
	Filter Null Packet

Multiplexing

Maximum EIT Remapping	180 input per channel
EIT remapping by automatically or manually	
PSI/SI	SDT/PMT/TOT/PAT/BAT/CAT/TDT/NIT
	Accurate PCR adjusting

System

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

Environment

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