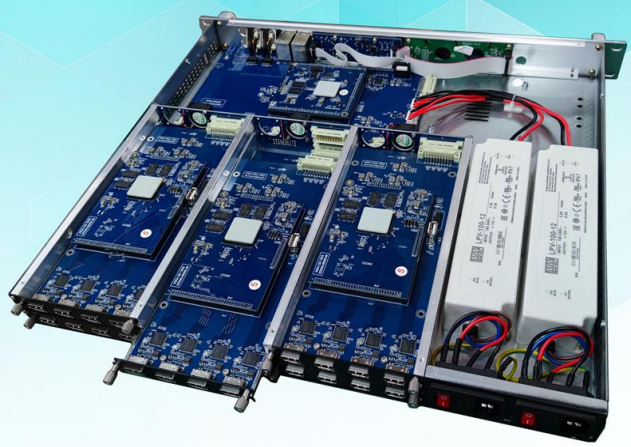
# Q924M12A/Q924M32A

DIBVISION | DIBSYS

## Pluggable & Dual Power
## 24 channels HDMI to 12/32 QAM Encoder Modulator

**Q924M32A** 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, DVB-C (QAM) Modulation, with **12/32 QAM carrier RF** out, Q924M32A can be widely used in Bangladesh, Indonesia, India, Pakistan, Nepal and other countries, for monitoring, training and educating in company, campus, hospital application.

Its pluggable and Hot-swappable module, flexible configuration is making it extremely scalable, reliable with high performance. Q924M32A **FULL HD 1080P@60fps** Encoder,  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.

## 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

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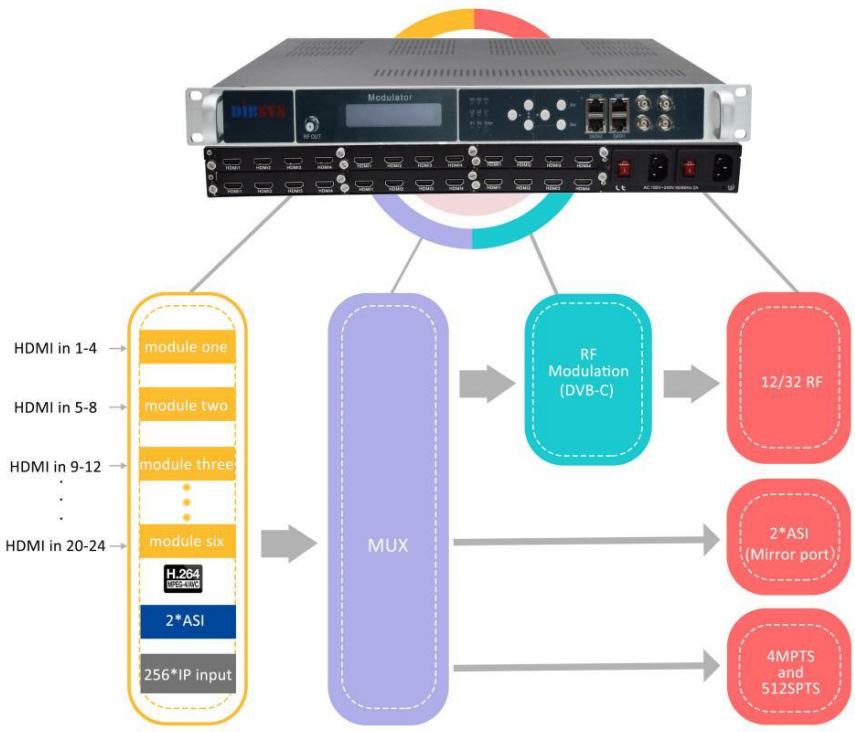
## Key Features

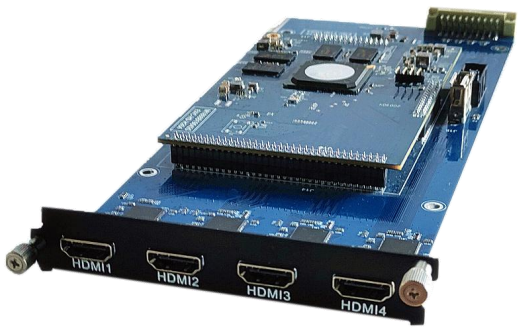
- 6 independent hot-swappable module, 4* HD-MI per module
- flexible encoding&modulating board combination
- DVB-C (QAM) Modulation, 12/32 Carrier RF Out
- H.264 video encoding
- Two separate ASI input for External TS Multiplexing
- Simultaneously 4*MPTS and 512*SPTS over UDP/RTP IP out
- 12/32 separate 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 optional
- 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
- passed the EU CE&RoHS certification



# TECHNICAL SPECIFICATIONS

## Independent hot-swappable module

### HD-MI H.264 encode Module




| | |
|---|---|
| Numbers of Boards | 4 HD-MI ports per module<br>Up to 6 independent hot-swappable module |
| Numbers of Ports | 8; 12; 16; 20; 24 Channels |

| Encoding Format | H.264 | |
|---|---|---|
| Resolution | **input** | **output** |
| | 1920×1080@60/59.94P | 1920×1080@60P, 1280*72060P<br>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 |

Encoding format MPEG-4 AVC/H.264

### 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<br>AAC-LC, AAC-HE v1(SBR), AAC-HE v2(SBR+PS)<br>AC3 optional |
| Sampling rate | 48KHz |
| Resolution | 24-bit |
| Bit-rate | 64kbps, 128Kbps, 192kbps, 224kbps,<br>256kbps, 320kbps, 384kbps |
| 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 | 12 carrier (Q924M12A), 32 carrier (Q924M32A) optional |
| Modulation Mode | DVB-C |

**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** |

### Stream Input/Output

**DVB-ASI outputs**

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

**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<br>Over UDP/RTP IP out in modulation mode<br>MPEG TS over UDP, unicast, and multicast streaming<br>MPEG TS over RTP/RTSP<br>Configurable packet size(2-7)x188Bytes<br>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<br>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 |

## Classic Application

### FTA and Encrypted HD to Coaxial TV transmission