DIBSYS

DTV Media Processor

Model: DMP500

Product Profile

DMP500 Today's 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, decoding, trans-coding, multiplexing, receiving, descrambling, modulating processing** and the combination of all these functions. DTV Processor is the next generation of intelligent headend processing equipment where the combination of compactness and flexibility leads to a cost-effective solution. Based on our experience, **DMP500** brings operational and economic benefits in Video delivery applications.

DIBSYS

Features

- ❖ High density modular 1RU Chassis with 6 Hot-swappable modules slots
- ❖ Hot Swappable and Dual redundant power supply design
- ❖ Low Power consumption and high reliability in 24/7 no-stop operation
- ❖ Support Re-multiplexing/Grooming: PID remapping, PCR correction, generate PSI/ SI table automatically
- ❖ Support Up to 2 Gbps TS Stream output,2 port RJ45/SFP interface without occupied any module space
- ❖ Easy upgrade to new function with only module replacement via web management
- ❖ Sample of Typical application in digital TV headend equipment

A. 24 Full HD H.264 Encoder;

B. 24 AV MPEG-2 Encoder;

C. 12 Full HD MPEG-2/H.264 Encoder

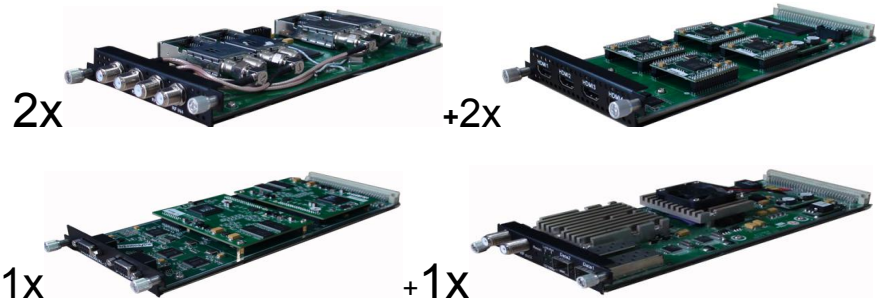
6x 

D. 8 DVB-T/ATSC Modulating Module

E. 6 ISDB-Tb Modulating Module

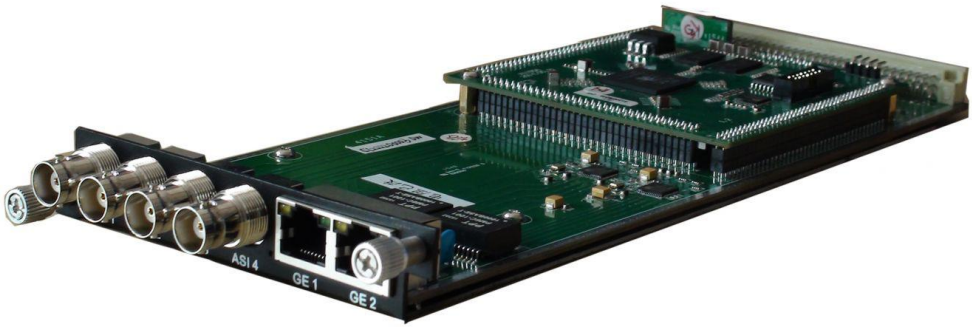
F. Demo of DVB-C Headend Equipment

8 FTA DVB-S2+8 HDMI H264+4 CVBS MPEG2+16QAM modulator =

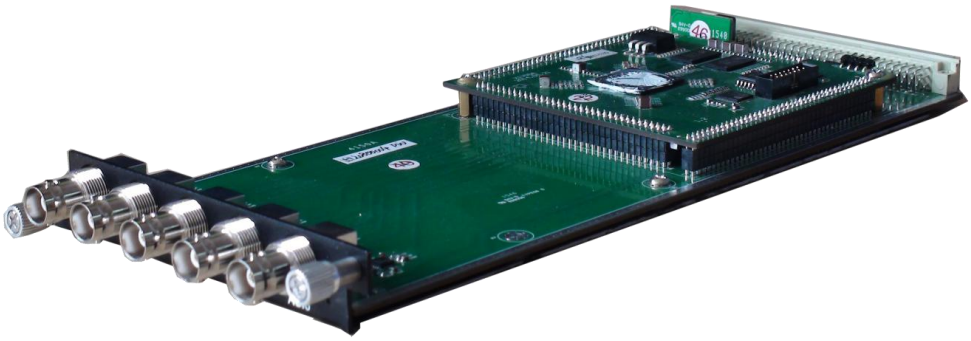


Technical Specifications

4 ASI/IP Multiplexing Module (CX504)	
	ASI inputs/outputs: 4 ASI bi-direction, BNC 75Ω
	IP inputs/outputs: 2 100/1000M Ethernet Port
	Re-multiplexing: PID remapping, PCR correction, generate PSI/ SI table automatically
	Stream In: maximum 4 ASI input, 256×2 IP input
	Stream Out: maximum 4 ASI output , 256×2 IP output

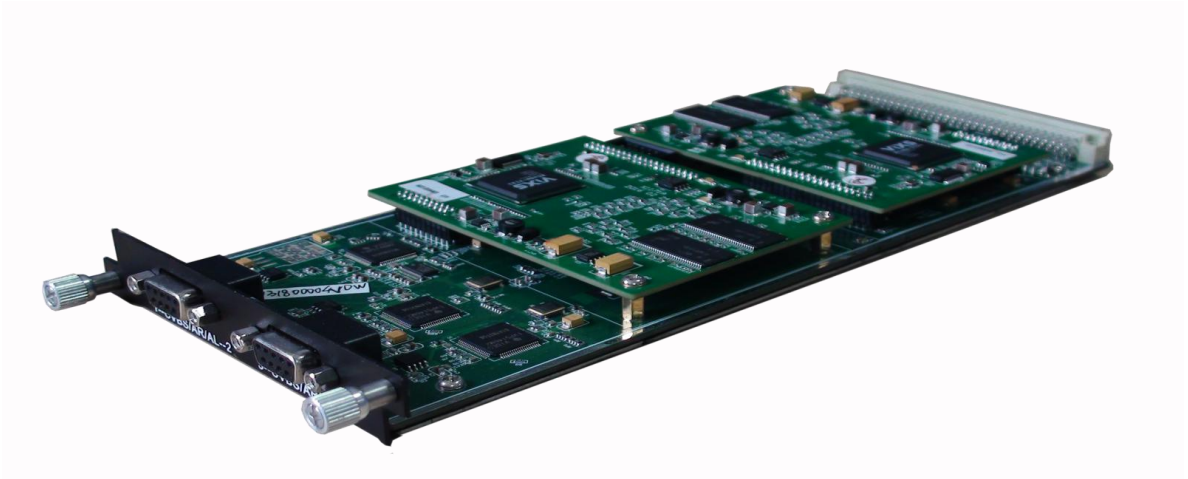


5 ASI Multiplexing Module (CX505)	
	ASI inputs/outputs: 5 ASI bi-direction, BNC 75Ω
	Stream in: maximum 5 ASI input
	Re-multiplexing: PID remapping, PCR correction, generate PSI/ SI table automatically
	Stream out: maximum 5 ASI output



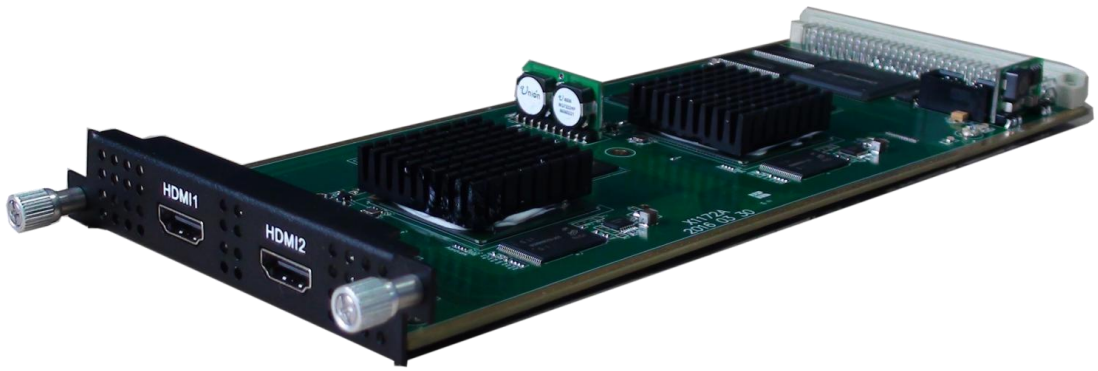
4 CVBS Encoding Module (CX214)	
	Encoder inputs: 4 CVBS video inputs, 4 Stereo Audio inputs (BNC 75Ω)
	Video format: MPEG-2
	Image format: PAL, NTSC SD signal

	Input resolution: 720×480_60i, 544×480_60i, 352×480_60i 352×240_60i, 320×240_60i, 176×240_60i, 76×120_60i720×576_50i, 704×576_50i, 640×576_50i, 352×288_50i320×288_50i, 176×288_50i, 176×144_50i,
	GOP structure: IBBPB
	Video bitrate: 0.1Mbps~8Mbps each channel
	Audio processing: Audio format:MPEG-1 Layer 2, AC3
	Sampling rate: 48KHz
	Resolution: 24-bit
	Audio bitrate: 128Kbps, 192kbps, 256kbps, 320kbps, 384kbps each channel



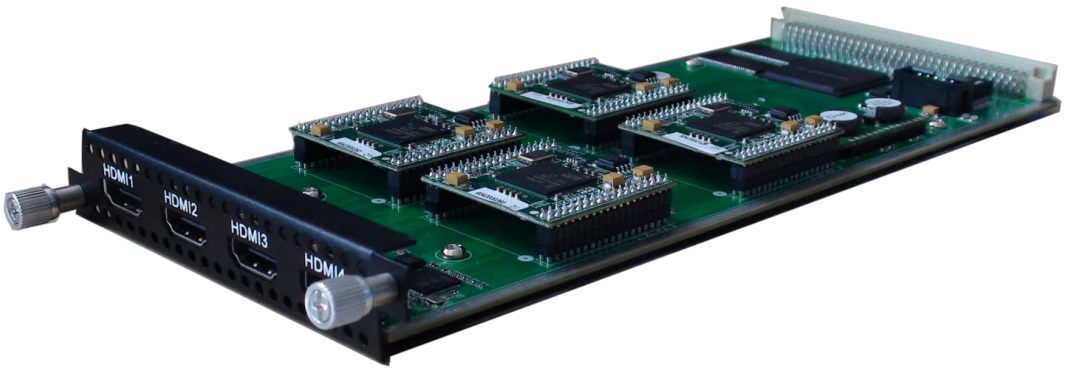
2 HDMI Encoding/Transcoding Module (CX202A)	
	Encoder inputs: 2 HDMI inputs
	Video Encoding
	Video format: MPEG2 & MPEG4 AVC/H.264
	Input resolution: 1920*1080_60i, 1920*1080_50i, 1280*720_60p, 1280*720_50P 720*480_60i, 720*576_50i
	Rate control mode: CBR/VBR
	Aspect ratio: 16:9, 4:3

	Video bitrate: 0.5 ~ 19.5Mbps for H.264 encoding 1 ~ 19.5Mbps for MPEG-2 encoding
	Audio Encoding
	Audio format: MPEG1 Layer II, MPEG2-AAC, MPEG4-AAC, Dolby Digital AC3 (2.0)
	Sampling rate: 48KHz
	Audio bitrate: 64Kbps-320kbps each channel
	Video Tanscoding
	2*MPEG2 HD → 2*MPEG2/H.264 HD
	2*MPEG2 HD → 2*MPEG2/H.264 SD
	4 *MPEG2 SD → 4 *MPEG2/H.264 SD
	2* H.264 HD → 2*MPEG2/H.264 HD
	2* H.264 HD → 2*MPEG2/H.264 SD
	4* H.264 SD → 4 *MPEG2/H.264 SD
	Audio Tanscoding: MPEG-1 Layer 2, AAC and AC3 any-to-any or pass through



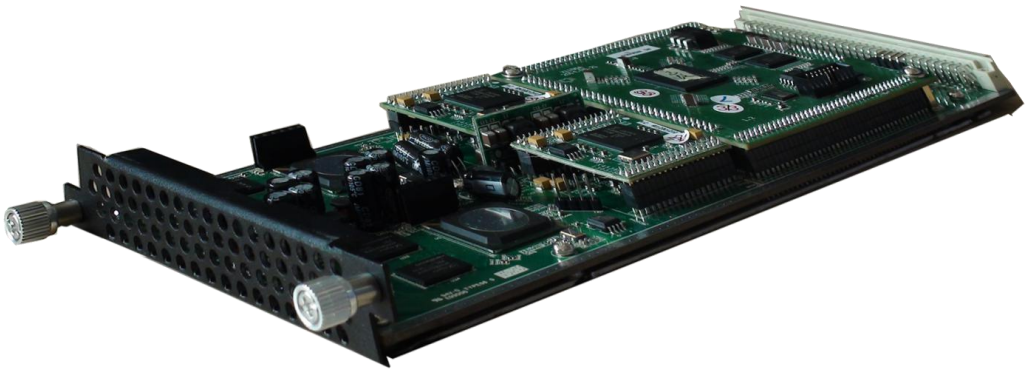
4 HDMI Encoding Module (CX224)	
	Encoder inputs: 4 HDMI inputs

	Video Processing
	Video format: MPEG-4 AVC/H.264 encoding
	Input resolution: 1920×1080_60P, 1920×1080_50P, 1920×1080_60i, 1920×1080_50i, 1280×720_60P,1280×720_50P, 720×576_50i,720×480_60i
	GOP structure: IBBP
	Video bitrate: 0.8Mbps ~ 19Mbps each channel
	Rate Control: CBR/VBR
	Audio processing
	Audio format: MPEG1 Layer II, (MPEG-2 AAC, MPEG-4 AAC Optional), AC3 passthrough
	Sampling rate: 48KHz
	Resolution: 24-bit
	Audio bitrate: 64Kbps ~ 320Kbps each channel
	Audio Gain: 0-400

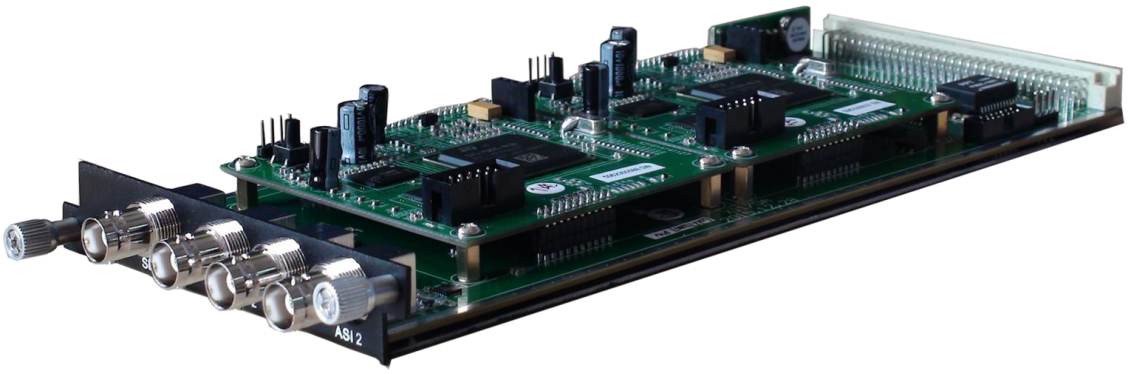


2 IP Transcoding Module (CX202)	
	Resolution: 480i,576i, 720P@50, 720P@60, 1080i@50, 1080i@60, 1080P@50, 1080P@60

	Video Tanscoding: 2*MPEG-2/ H.264/ AVS/AVS+ HD/SD → 2* H.264 HD/SD
	AudioTanscoding: MPEG-1 Layer II, LC-AAC , HE-AAC, AC3,DRA→ MPEG-1 Layer II, LC-AAC , HE-AAC
	Audio bitrate: 64Kbps - 384Kbps
	Rate Mode: CBR,VBR
	GOP Struct: IBBP, IPPP, IBP

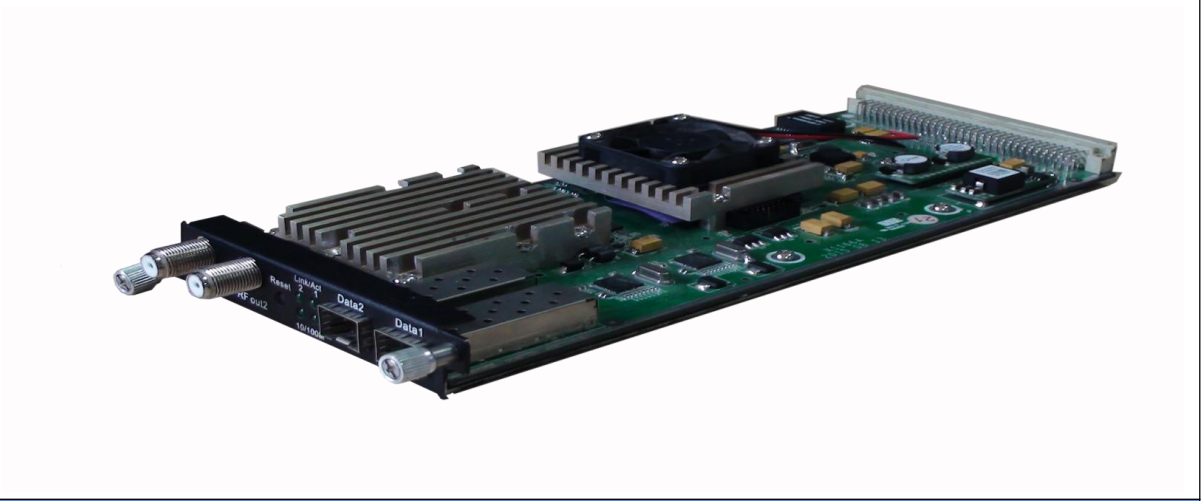


2 HD-SDI Decoding Module (CX702)	
	ASI inputs: 2 ASI bi-direction, BNC 75Ω
	Decoding
	Video Format: MPEG-2/H.264
	Resolution: up to 1080p-25/30f
	Audio Format: MPEG1 Layer2, LC-AAC, HE-AAC, AC3 (2.0/5.1), AC3 Passthrough
	Support Dual Audio Out, CC/Subtitle
	Stream In: 1-2 ASI input
	Video/Audio Out: 2 HD/SD SDI output



16/32 RF Modulating Module (CX316/CX332)	
	IP inputs/outputs: 512×2 IP input, 2 100/1000M Ethernet Port (Optical)
	RF outputs (DVB-C): F type
	16/32 channels of multiplexing, scrambling and modualtion.
	Multiplexing
	Maximum PID Remapping: 180 input per channel
	Function: PID remapping (automatically or manually), Accurate PCR adjusting, generate PSI/ SI table automatically
	Scrambling
	Maximum simulcrypt CA: 4
	Standard: ETR289, ETSI 101 197, ETSI 103 197
	Connection: Local/remote connection
	Modulation
	Standard: EN300 429/ITU-T J.83A/B
	MER: ≥40db
	RF frequency: 50 ~ 960MHz, 1KHz step

	RF output level: -20 ~ +10dbm (87~117 dbμV), 0.1db step for all carriers
	Symbol Rate: 5.0Msps ~ 7.0Msps, 1ksps stepping
	Constellation: 16/32/64/128/256QAM
	Output: 16 non-adjacent carrier outputs within 192M bandwidth
	Output: 32 non-adjacent carrier outputs within 384M bandwidth



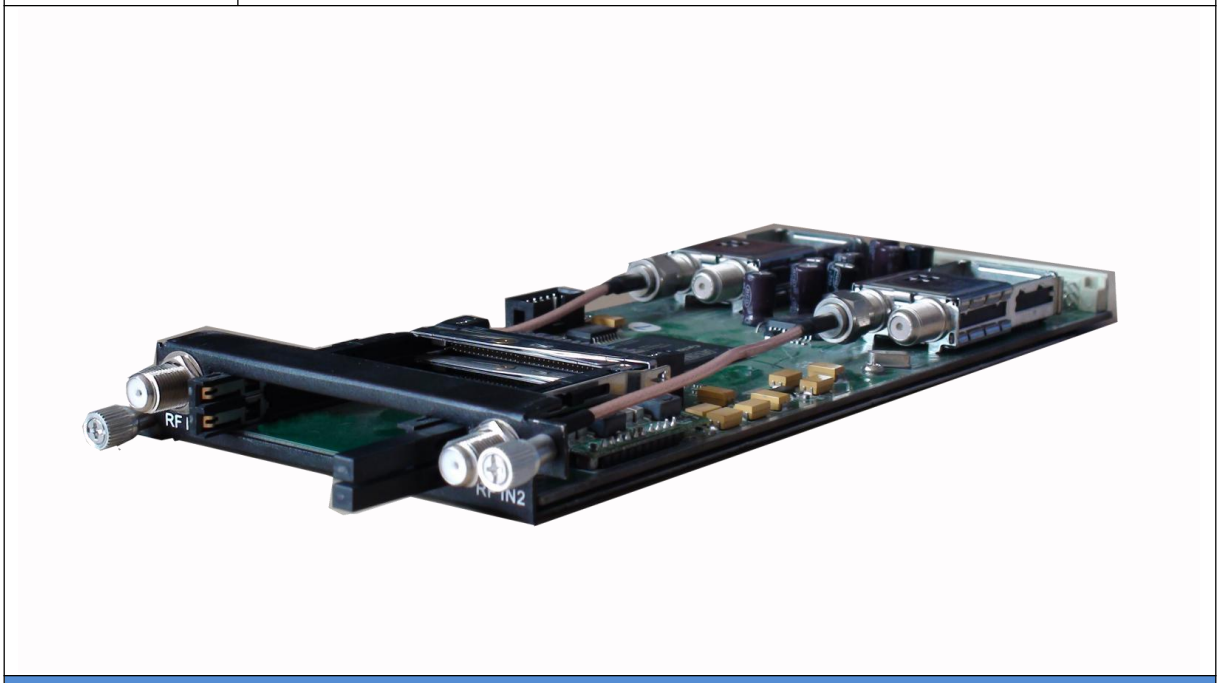
8 DVB-T/ATSC Modulating Module (CX308T/CX308A)	
	Module Specifications
	Input: 512×2 IP input over UDP/RTP, 2GE Ports (RJ45/SFP) —— CX308T 256 IP input over UDP/RTP, 2GE Ports (RJ45/SFP) —— CX308A
	Output: 8 IP output over UDP/RTP/RTSP, unicast/multicast, 2 GE Ports (RJ45/SFP)
	Trans Rate: Max 840Mbps/GE Port
	RF Output (F type): 8 non-adjacent carrier outputs within 192M bandwidth
	Multiplexing
	Channel Number: 8 multiplexing channels
	Maximum PID Remapping: 180 input per channel
	Function: PID remapping (automatically or manually), Accurate PCR adjusting, generate PSI/ SI table automatically
	Modulation: CX308T (8*DVB-T)

	Standard: ETSI EN300 744
	MER: ≥40db
	RF Frequency: 50~960MHz, 1KHz step
	Constellation: QPSK/16QAM/64QAM
	Bandwidth: 6/7/8 MHz
	Trans mode: 2K/4K/8K
	FEC: 1/2, 2/3, 3/4, 5/6, 7/8
	RF Output Level: -20~+10dbm (for all carriers), 0.5db stepping
	Modulation: CX308A (8*ATSC)
	Standard: ATSC A/53
	MER: ≥40db
	RF Frequency: 50~960MHz, 1KHz step
	Constellation: 8VSB
	Bandwidth: 6MHz
	FEC: RS(208 188)+Trellis
	RF Output Level: -20~+10dbm (for all carriers), 0.5db stepping

6 ISDB-Tb Modulating Module (CX306I)	
	Module Specifications
	input: 32×6 IP input over UDP/RTP, 2 GE Ports (RJ45/SFP)
	output: 6 IP output over UDP/RTP, unicast/multicast, 2 GE Ports (RJ45/SFP)
	Trans Rate: Max 840Mbps/GE Port
	RF output (F type): 6 channels of multiplexing and modulation
	Multiplexing
	Input Channel: 192
	Maximum PID Remapping: 180 input per channel
	Function: PID remapping (automatically or manually), Accurate PCR adjusting, generate PSI/ SI table automatically
	Modulation
	Standard: ARIB STD-B31
	Bandwidth: 6M
	Constellation: QPSK, 16QAM, 64QAM
	Guard Interval: 1/32, 1/16, 1/8, 1/4
	Transmission Mode: 2K, 4K, 8K
	Code rate: 1/2, 2/3, 3/4, 5/6, 7/8
	MER: ≥40dB
	RF frequency: 50~960MHz, 1KHz step
	RF output level: -20dBm~+10dBm (87~117dbμV), 0.1dB stepping

2 DVB-S/S2 Descrambling Module (CX902)		
DVB-CI: 2 independent common interface slots		
Standard: DVB-S/S2		
	DVB-S	DVB-S2
Input Frequency:	950-2150MHz	950-2150MHz
Symbol Rate:	QPSK 2~45Mbauds	QPSK 1 - 45Mbauds 8PSK 2 ~ 30Mbauds
FEC Demodulation:	1/2, 2/3,3/4,5/6,7/8	1/2, 3/5, 2/3, 3/4, 4/5,5/6,8/9, 9/10
Signal Strength: -65 ~ -25dBm		
Stream in: 2 Tuner input		
Stream out: 1ASI output 2 IP output over UDP protocol, 1000M Base-T		
Support Diseqc function		
Multiplexing		
Maximum PID Remapping: 256 input		
Function:PID remapping (automatically or manually), Accurate PCR adjusting, generate PSI/ SI table automatically		
Descrambling		

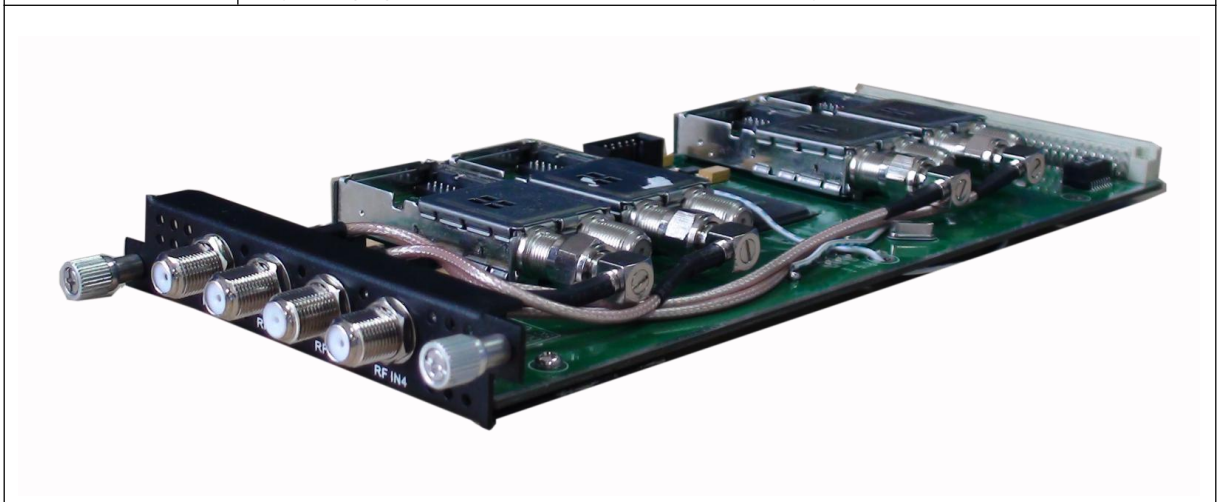
	CAM/CI Quantity: 2
	BISS Mode: Mode 1, Mode E; up to 120Mbps (Optional as required)



4 FTA Tuner Module (CX904)

	DVB-S2 inputs: 4 Tuner inputs, BNC 75Ω		
	Standard: DVB-S/S2		
		DVB-S	DVB-S2
	Input Frequency:	950-2150MHz	950-2150MHz
	Symbol Rate:	QPSK 2~45Mbauds	QPSK 1~45Mbauds 8PSK 2~30Mbauds 16APSK 1~45 Msps 32APSK1~32 Msps
	FEC Demodulation:	1/2, 2/3,3/4,5/6,7/8	1/2, 3/5, 2/3, 3/4, 4/5,5/6,8/9, 9/10
	Signal Strength: -65 ~ -25dBm		
	Support Diseqc function		
	Multiplexing		
	Maximum PID Remapping: 256 input		

	Function:PID remapping (automatically or manually), Accurate PCR adjusting, generate PSI/ SI table automatically



Environment	
	Base Unit Parameters
	Dimension(W×L×H): 482mm×410mm×44mm
	Approx weight: 8kg
	Environment: 0 ~ 45℃(work); -20 ~ 80℃(Storage)
	Power requirements: AC 110V± 10%, 50/60Hz, AC 220 ± 10%, 50/60Hz
	Power consumption : 20W

Typical Product Recommendation

Product Name	Model	Qty	Function
24Ch H.264 Full HD Encoder	**4HDMI Encoding Module Model: (CX224)**	6	24 HDMI HD/SD H.264/MPEG1 L2 (opt-AAC); 2*MPTS over IP/1*ASI out
24Ch MPEG-2 SD Encoder	**4CVBS Encoding Module Model: (CX214)**	6	24 AV SD Mpeg-2/ Mpeg1 L2 and AC3 2*MPTS over IP/1*ASI out

12Ch MPEG-2/H.264 Full HD Encoder	**2HDMI Encoding/ Transcoding Module Model: (CX202A)**	6	12 HDMI HD/SD inputs, Mpeg-2/H264; Mpeg1/2, AAC, AC3 2*MPTS over IP/1*ASI out
24Ch MPEG-2/H.264 Broadcast Transcoder	**2HDMI Encoding/ Transcoding Module Model: (CX202A)**	6	24Ch SD or 12Ch HD IP inputs Mpeg-2/H.264; Mpeg1/2, AAC, AC3 2*MPTS over IP/1*ASI out
IP to DVB-T/ATSC Modulator	**8*DVB-T/ATSC Modulating Model (CX308T) Model (CX308A)**	1	512*2 IP input ---Model (CX308T) 256 IP input ---Model (CX308A) 8 non-adjacent carrier outputs within 192M bandwidth
IP to ISDB-T Modulator	**6*ISDB-Tb Modulating Model (CX306I)**	1	32×6 IP input; 6 IP output 6 channels of multiplexing and modulation
Demo DVB-C digital Head-end system	**16/32 RF Modulating Module Model: (CX316/CX332)**	1	Always select 16 QAM Channel RF
	4 FTA Tuner Module Model: (CX904)	1	4 FTA DVB-S2 RF inputs
	4 HDMI Encoding Module Model: (CX224)	2	8Ch HDMI HD encoding
	4CVBS Encoding Module Model: (CX214)	2	8Ch CVBS Mpeg-2 SD encoding

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