

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

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;



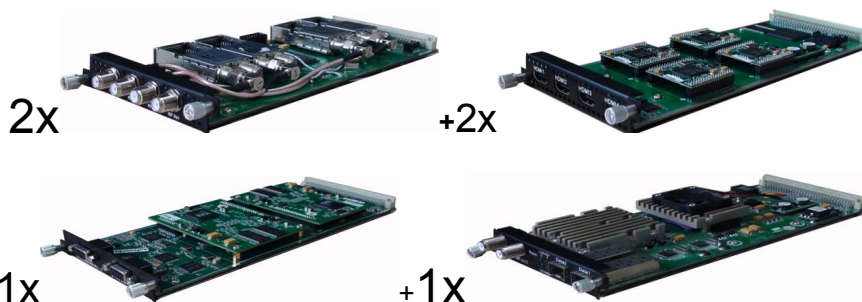
C. 12 Full HD MPEG-2/H.264 Encoder



6x

D. 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)

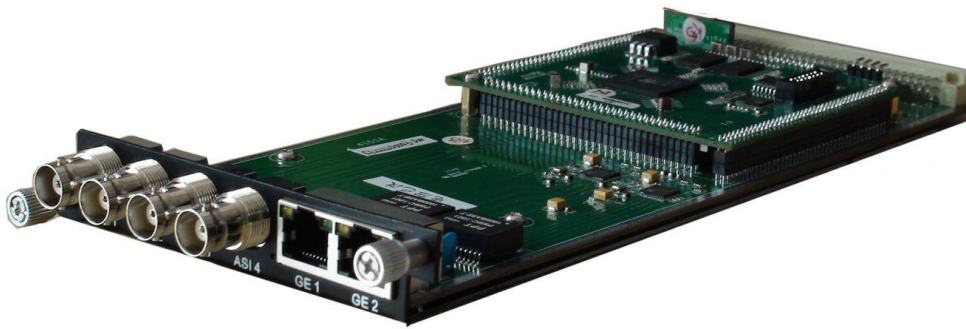
ASI inputs/outputs: 4 ASI bi-direction, BNC 75Ω

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



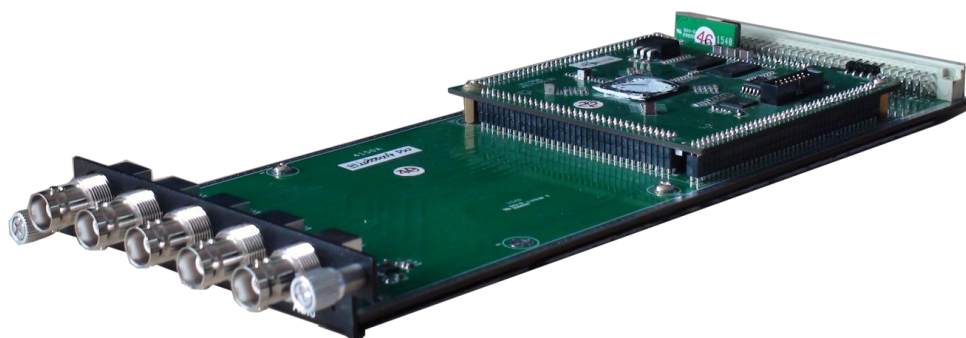
5 ASI Multiplexing Module (CX505)

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_60i
720×576_50i, 704×576_50i, 640×576_50i, 352×288_50i
320×288_50i, 176×288_50i, 176×144_50i,

GOP structure: IBBPB

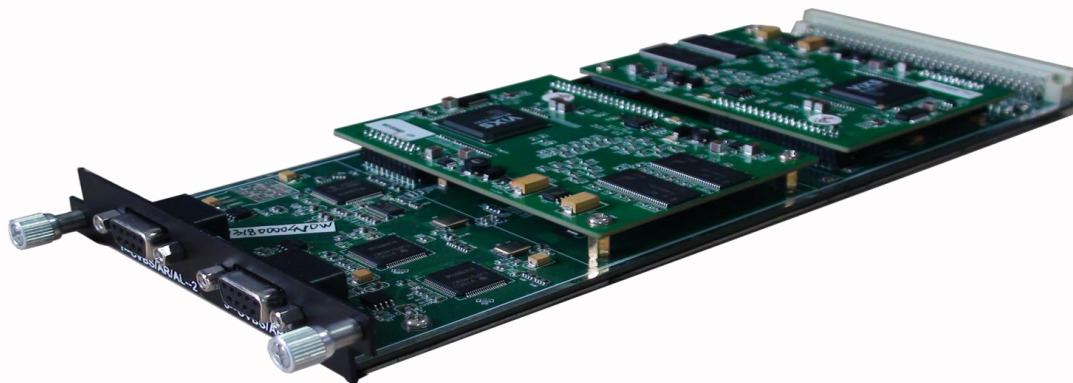
Video bitrate: 0.1Mbps~8Mbps each channel

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

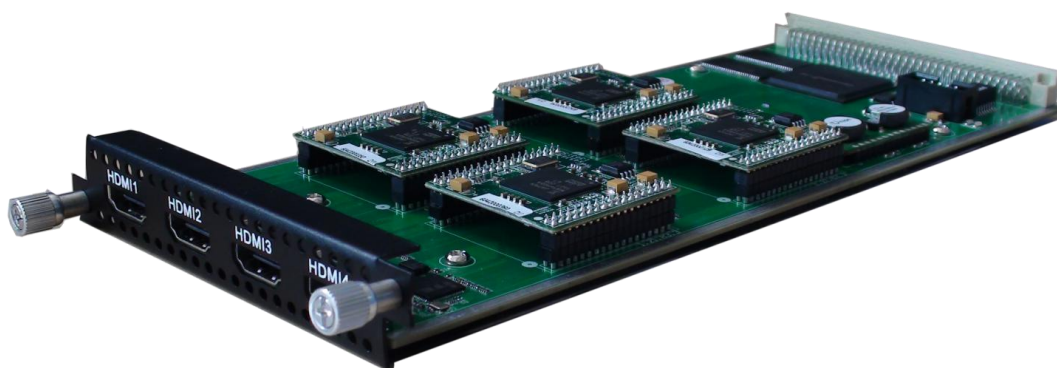
4 *MPEG2 SD → 4 *MPEG2/H.264 SD
2* H.264 HD → 2*MPEG2/H.264 HD
2* H.264 HD → 2*MPEG2/H.264 SD
4* H.264 SD → 4 *MPEG2/H.264 SD
Audio Tanscoding: MPEG-1 Layer 2, AAC and AC3 any-to-any or pass through



4 HDMI Encoding Module (CX224)

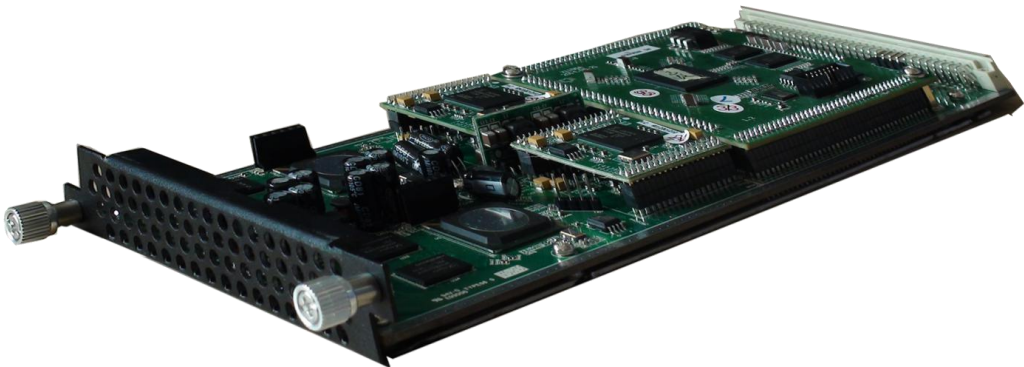
Encoder inputs: 4 HDMI inputs
Video Processing
Video format: MPEG-4 AVC/H.264 encoding
Input resolution: 1920×1080_60P, 1920×1080_50P, 1920×1080_60i, 1920×1080_50i, 1280×720_60P, 1280×720_50P, 720×576_50i, 720×480_60i
GOP structure: IBBP
Video bitrate: 0.8Mbps ~ 19Mbps each channel
Rate Control: CBR/VBR
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



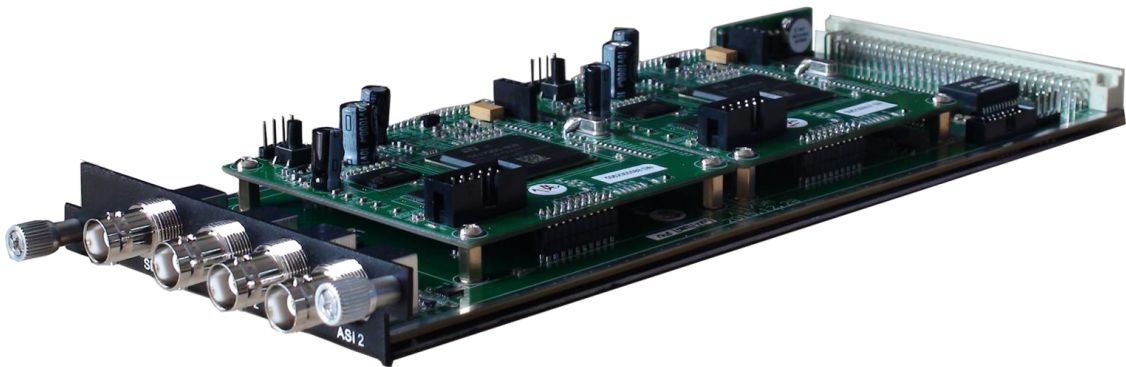
2 IP Transcoding Module (CX202)

	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 modulation.

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



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: 1 ASI output 2 IP output over UDP protocol, 1000M Base-T

Support Diseqc function

Multiplexing

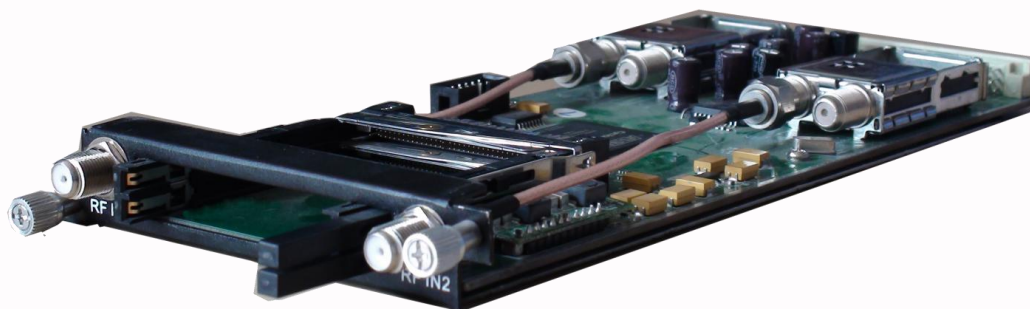
Maximum PID Remapping: 256 input

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 32APSK 1~32 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

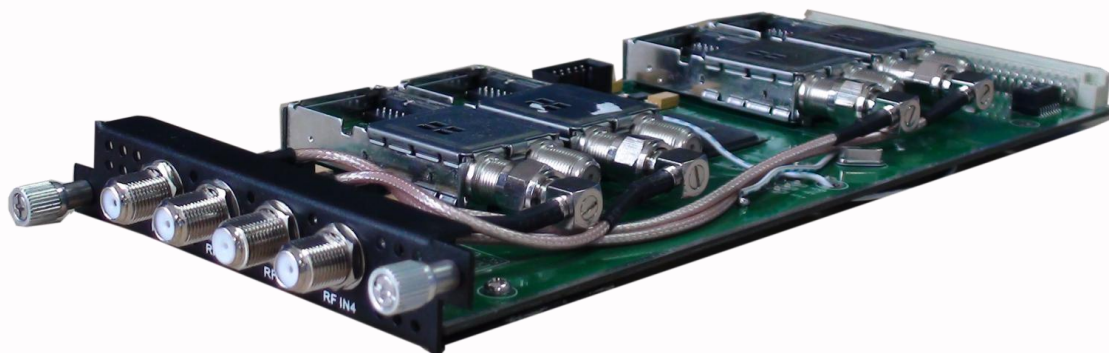
Signal Strength: -65 ~ -25dBm

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°C(work); -20 ~ 80°C(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
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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