



HEP200

DTV Headend Processor

NEW



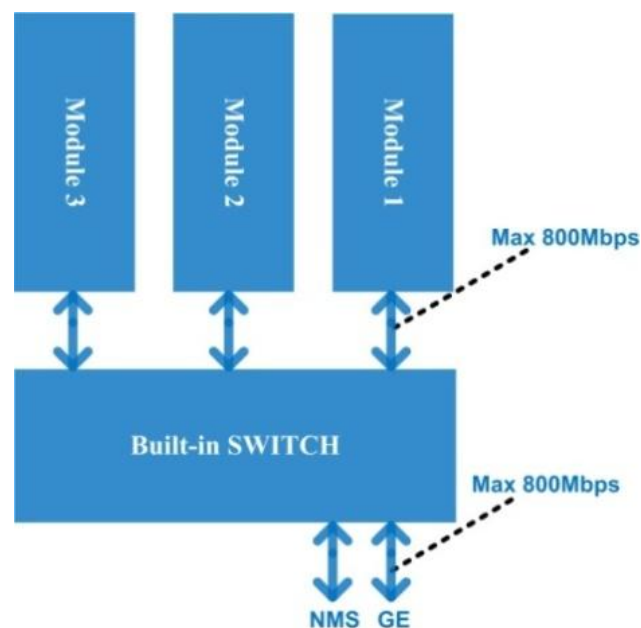
Product Outline

HEP200 DTV head-end processor is the newest generation of professional head-end processing equipment. This 1-U case comes with 3 independent module slots, and it can be combined with different modules as your head-end system according to your operation requirements. Each module can be configured individually based on the applications including encoding, decoding, trans-coding, multiplexing, descrambling and modulating processing. HEP200 head-end processor brings a whole new level of intelligence and high performance to the network at a cost effective price.

Key Features

- Modularized plug-in design, 1U chassis and 3 slots
- Support flexible combination of any different type of modules
- HDMI input (1.4), HDCP 1.4; SDI input---Optional
- Support HEVC /H.265 and MPEG 4 AVC/H.264 video encoding
- Support IBBP GOP structure
- News Channel/Movies:1Mbps full HD; Sports Channel: 2 Mbps full HD
- Ultra low bit rate: save 75% bandwidth
- Support DVB-C/DVB-T/ATSC/ISDB-T Modulating
- Maximum 800M data processing
- Support 1 GE bi-direction(Data port), RJ45 interface
- Support Web management, Update via web

Principle Chart



Technical specification

4 HDMI/SDI Encoding Module



HX224V

Module Specifications:

Input: 4×SDI/HDMI (1.4) input, HDCP 1.4

Output: 1 MPTS and maximum 4 SPTS output over UDP/RTP/RTSP; IPv4, IPv6 output

Video Encoding:

Video format: **HEVC/H.265** & MPEG 4 AVC/H.264

Resolution:

HDMI:

3840×2160_30P, 3840×2160_29.97P;

(Encoding 2 CHs per module for H.265, and encoding 1 CH for H.264)

1920×1080_60P, 1920×1080_59.94P, 1920×1080_50P;

(Encoding 4 CHs per module for H.265, and encoding 2 CHs for H.264)

1280×720_60P, 1280×720_59.94P, 1280×720_50P

(Encoding 4 CHs per module for H.264 and H.265)

SDI:

1920×1080_60P, 1920×1080_59.94P, 1920×1080_50P;

(Encoding 4 CHs per module for H.265, and encoding 2 CHs for H.264)

1280×720_60P, 1280×720_59.94P, 1280×720_50P

(Encoding 4 CHs per module for H.264 and H.265)

Input: 1920×1080_60i, 1920×1080_59.94i, 1920×1080_50i

Output: 1920×1080_60P, 1920×1080_59.94P, 1920×1080_50P

(Encoding 4 CHs per module for H.265, and encoding 2 CHs for H.264)

Chroma: 4:2:0

Bit rate: 0.5Mbps~20Mbps (each channel)

Rate Control: CBR/VBR

GOP structure: IBBP, IPPP

Audio Encoding:

Audio format: MPEG-1 Layer 2, LC-AAC, HE-AAC, HE-AAC V2, AC3

Passthrough

Sampling rate: 48KHz

Bit-rate (each channel):

48Kbps~384Kbps (MPEG-1 Layer 2 & LC-AAC)

24 Kbps~128 Kbps (HE-AAC)

18 Kbps~56 Kbps (HE-AAC V2)

16 QAM Modulating Module



HX316

Module Specifications:

Data input: 128 IP input from front panel Data port

512 IP input over UDP/RTP, 2 GE Ports (RJ45/SFP),

Data output: 16 IP output over UDP/RTP/RTSP, unicast/multicast, 2 GE Ports (RJ45/SFP)

Trans Rate: Max 840Mbps/GE Port

RF output (F type): 16 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 (DVB-C)

MER: $\geq 40\text{db}$ RF frequency: 50~960MHz, 1KHz step

RF output level: $-20\sim+10\text{dbm}$ ($87\sim117\text{ dB}\mu\text{V}$), 0.1db step for all carriers

Symbol Rate: 5.0Msps~7.0Msps, 1ksps stepping

Constellation: 16/32/64/128/256QAM

RF Output: 16 non-adjacent carrier outputs within 192M bandwidth

8 DVB-T/ATSC Modulating Module



HX308T/HX308AT

Module Specifications:

Data input:

128 IP input from front panel Data port

256 IP input over UDP/RTP, 2GE Ports (RJ45/SFP) ——— DX308T

256 IP input over UDP/RTP, 2GE Ports (RJ45/SFP) ——— DX308AT

Data 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 channels of multiplexing and modulation

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: HX308T (8*DVB-T)

Standard: ETSI EN300 744 MER: $\geq 40\text{db}$

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: $-20\sim+10\text{dbm}$ (for all carriers), 0.5db stepping

Modulation: HX308AT (8*ATSC)

Standard: ATSC A/53 MER: $\geq 40\text{db}$ RF Frequency: 50~960MHz, 1KHz step

Constellation: 8VSB Bandwidth: 6MHz FEC: RS (208 188)+Trellis

RF Output Level: $-20\sim+10\text{dbm}$ (for all carriers), 0.5db stepping

RF Output: 8 non-adjacent carrier outputs within 192M bandwidth

8 ISDB-Tb Modulating Module



HX308I

Module Specifications:

Data input: 128 IP input from front panel Data port

192 IP input over UDP/RTP, 2 GE Ports (RJ45/SFP)

Data 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 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: $\geq 40\text{dB}$

RF frequency: 50~960MHz, 1KHz step

RF output level: -20dBm~+10dBm (87~117dBμV), 0.1dB stepping

RF Output: 6 non-adjacent carrier outputs within 192M bandwidth

Equipment Specifications:

Base Unit Parameters

Dimension(W×L×H): 440mm×324mm×44mm
Approx weight: 6kg
Environment: 0~45°C(work); -20~80°C(Storage)
Power requirements AC 110V± 10%, 50/60Hz, AC 220 ± 10%, 50/60Hz