CatCast

EHP230

DTV Headend Processor

Outline

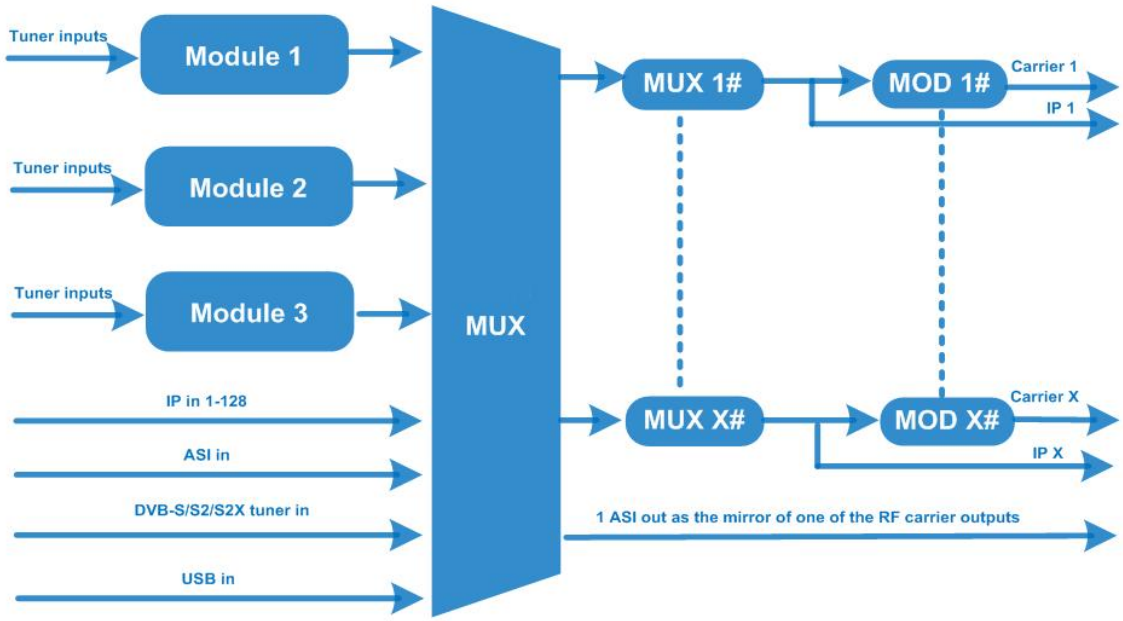
EHP230 is a high-performance and cost-effective DTV Headend Processor designed by Catcast. It support max 3 modules inputs(demodulating/descrambling module at present), after multiplexing and modulating process, then it gives 16 DVB-C or 8 DVB-T or 8 ATSC or 6 ISDB-T non-adjacent carriers output within 192MHz bandwidth. To meet customers' various requirements, this device is also equipped with 128 IP inputs over UDP and RTP, 1 USB input, 1 ASI input and 1 DVB-S/S2/S2X input and 1 ASI out and 16/8/8/6 MPTS outputs over UDP and RTP/RTSP. Its pluggable structure design greatly facilitates the change of modules as needed. Moreover, the CAMs/CIs accompanied and BISS modules can descramble the programs input from Tuner inputs.

EHP230 can be upgraded and controlled through network system, which allows it to be widely used in setting up digital broadcasting network and very adaptable to newly generation CATV broadcasting system

Key Features

- **Modularized plug-in design, 1U chassis and 3 module slots**
- **Support flexible combination of the different type of modules**
- **maximum 128 IP input(MPTS/SPTS) over UDP and RTP protocol from DATA 1 port**
- **1 ASI input and 1 DVB-S/S2/S2X tuner input for multiplexing**
- **1 USB Player (Insert the USB Flash drive with "xxx.ts" videos in EHP230 and play back the content in an easy way; file system FAT 32)**
- **Support 16 groups multiplexing/DVB-C modulating**
- **Support 8 groups multiplexing/DVB-T/ATSC modulating---Optional**
- **Support 6 groups multiplexing/ISDB-T modulating---Optional**
- **Support 1 ASI out as mirror of one of RF output carriers**
- **Support 16 MPTS IP output over UDP, RTP/RTSP –DVB-C RF out**
- **Support 8 MPTS IP output over UDP, RTP/RTSP-- DVB-T/ATSC RF out**
- **Support 6 MPTS IP output over UDP, RTP/RTSP-- ISDB-T RF out**
- **Support accurate PCR adjusting, PID Remapping, PSI/SI rebuilding and editing**
- **Web-based NMS management**

Principle Chart



Chassis Specifications

Input	3 Modules inputs(see the module specification) 1 ASI in for re-multiplexing 128 IP(SPTS/MPTS) inputs over UDP and RTP, RJ45, 1000M/100M DATA 1 , Unicast/Multicast 1 DVB-S/S2/S2X tuner in for re-multiplexing 1 USB Player input for re-mux (“xxx.ts” video)			
Multiplexing	Maximum PID Remapping	256 input per channel		
	Function	A/V PID Filtering		
		PID remapping (automatically or manually)		
		Accurate PCR adjusting		
		Generate PSI/ SI table automatically		
Modulation	DVB-C	QAM Channel	16 non-adjacent carriers output (maximum bandwidth 192MHz)	
		Standard	EN300 429/ITU-T J.83A/B	
		MER	≥40db	
		RF frequency	50~960MHz, 1KHz step	
		RF output level	-20~+3dbm, 0.1db step	
		Symbol Rate	5.0Msps~7.0Msps, 1ksps stepping	
			J.83A	J.83B
		Constellation	16/32/64/128/256QAM	64/256 QAM
		Bandwidth	8M	6M
	DVB-T	Standard	EN300744	
		FFT mode	2K,4K, 8K	
		Bandwidth	6M, 7M, 8M	
		Constellation	QPSK, 16QAM, 64QAM	
		Guard Interval	1/4, 1/8, 1/16, 1/32	
		FEC	1/2, 2/3, 3/4, 5/6, 7/8	
		MER	≥42 dB	
		RF frequency	50~960MHz, 1KHz step	
		RF out	8 non-adjacent carriers output (maximum bandwidth 192MHz)	
		RF output level	-20~ +3dBm, 0.1db step	
	ATSC	Standard	ATSC A/53	
		Bandwidth	6M	
		Constellation	8VSB	
		FEC	RS(208 188)+Trellis	
		MER	≥40dB	
		ACL	-55 dBc	
		RF frequency	50~960MHz, 1KHz step	

		RF out	8 non-adjacent carriers output (maximum bandwidth 192MHz)
		RF output level	-20~+3dbm (for all carriers), 0.5db stepping
	ISDB-T	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 out	6 non-adjacent carriers output (maximum bandwidth 192MHz)
		RF output level	-20dBm~+3dBm, 0.1dB stepping
Stream output	1 ASI output as mirror of one of RF output carriers 16 MPTS output over UDP and RTP/RTSP as mirror of 16 DVB-C carriers, 8 MPTS output over UDP and RTP/RTSP as mirror of 8 DVB-T/ATSC carriers(Optional) 6 MPTS output over UDP and RTP/RTSP as mirror of 6 ISDB-T carriers(Optional) 1*100M/1000M Base-T Ethernet interface, DATA 2		
System function	Network management (WEB)		
	Chinese and English language		
	Ethernet software upgrade		
Miscellaneous	Dimension (W×L×H)	482mm×380mm×44mm	
	Environment	0~45℃(work)；-20~80℃（Storage）	
	Power requirements	AC 110V± 10%, 50/60Hz, AC 220 ± 10%, 50/60Hz	

Module Specifications

HP902A 2 Tuner Descrambling Module

Stream in:

2 Tuner input, F Type,

Stream out:

1 MPTS output to EHP230 chassis for re-multiplexing

DVB-CI:
2 independent common interface slots
Standard:
DVB-S/S2/S2X;

DVB-S
Input Frequency: 950-2150MHz
Symbol Rate: QPSK 1~45Msps
Signal Strength: -65~ -25dBm
FEC Demodulation: 1/2, 2/3, 3/4, 5/6, 7/8

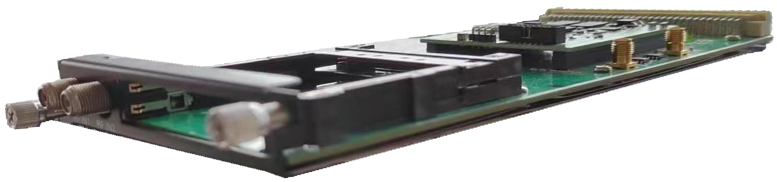
DVB-S2
Input Frequency: 950-2150MHz
Symbol rate: QPSK/8PSK 1~45Msps
16APSK 1~45 Msps
32APSK1~32 Msps
FEC Demodulation: 1/2, 2/3, 3/4,5/6,7/8, 4/5,5/6,8/9, 9/10

DVB-S2X
Input Frequency: 950-2150MHz
Symbol rate: QPSK/8PSK/16APSK 0.5~45 Msps;
8APSK/32APSK: 0.5~40Msps
FEC Demodulation:
QPSK: 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10, 13/45, 9/20, 11/20
8PSK: 3/5, 2/3, 3/4, 5/6, 8/9, 9/10, 23/36, 25/36, 13/18
8APSK: 5/9-L, 26/45-L
16APSK: 2/3, 3/4, 4/5, 5/6, 8/9, 9/10,1/2-L, 8/15-L, 5/9-L, 26/45, 3/5, 3/5-L, 28/45, 23/36, 2/3-L, 25/36, 13/18, 7/9, 77/90
32APSK: 3/4, 4/5, 5/6, 8/9, 2/3-L, 32/45, 11/15, 7/9

Support Diseqc function

Multiplexing:
Maximum PID Remapping: 256 output pids
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; 32 BISS Keys

HP942A 4 frequencies Descrambling Module



Stream in:
4 frequencies input(each RF in interface for 2 frequencies locking), F Type,
Stream out:
1 MPTS output to EHP230 chassis for re-multiplexing
DVB-CI:
2 independent common interface slots
Standard: DVB-C (J.83 A/C)/J.83B/ DVB-T/DVB-T2/ISDB-T switchable

Standard: DVB-C (J.83 A/C); J.83B
Input Frequency: 60MHz~890MHz
Symbol rate: 1000~9000Ksps
Constellation: 16/32/64/128/256 QAM; 64/256 QAM for J.83B

Standard: DVB-T/T2
Frequency In: 60MHz~890MHz
Bandwidth: 5/6/7/8M bandwidth
PLP supported for DVB-T2

Standard: ISDB-T
Input Frequency: 60-890MHz

Multiplexing:
Maximum PID Remapping: 256 output pids
Function: PID remapping (automatically or manually), generate PSI/ SI table automatically
Descrambling:
CAM/CI Quantity: 2
BISS Mode: Mode 1, Mode E; 32 BISS Keys

Updated date: 22 April, 2022
**This is a draft spec and some parameters are possible to get changed later.*