



HPS3344M-N

IP Modulator



- ▶ **ATSC/ISDB-T/DVB-T/DVB-C Modulation mode in one device, Modulation dynamic switching (only 2 modes are available for option)**
- ▶ **IPTV1 port+IPTV2 port+ 1 GE/SFP port+2 GE ports+10 FE ports**
- ▶ **License control of carrier number**



Product Overview

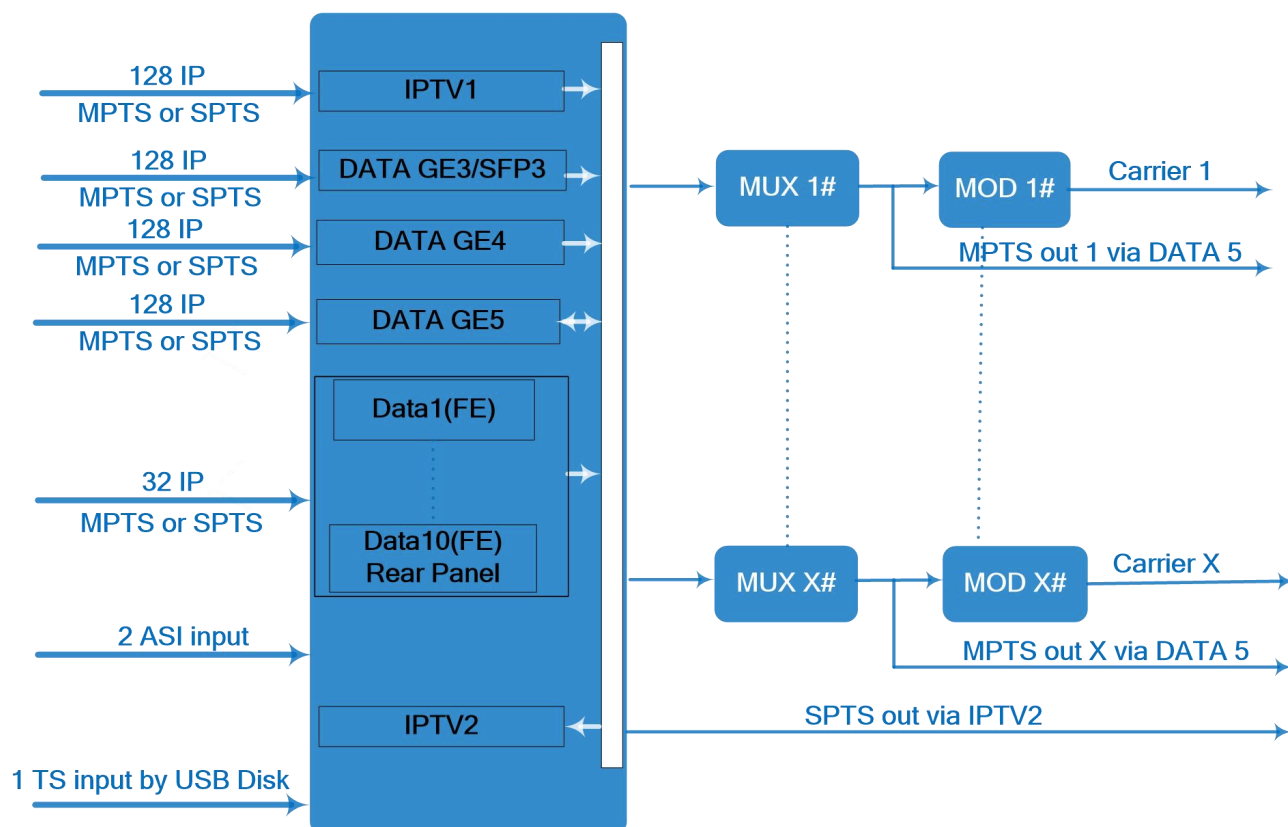
HPS3344M-N IP Modulator is a new generation of Mux-modulating integrated device developed by CATCAST. It supports max 128 IP input channels via GE ports (IPTV1, DATA GE3/SFP3, DATA GE4/5), max 32 IP input channels via the 10 FE ports (DATA FE 1-10), 2 ASI inputs and 1 USB input (TS Playing). It supports max 48 ATSC & 24 ISDB-T & 28

DVB-T & 48 DVB-C non-adjacent out carriers (50MHz~960MHz), and max 48&24&28&48 MPTS outputs as the mirror of the out carriers via DATA 5 and SPTS output via IPTV 2 port. The device is characterized with high integrated level, high performance and low cost, so it is very adaptable for a DTV broadcasting system.

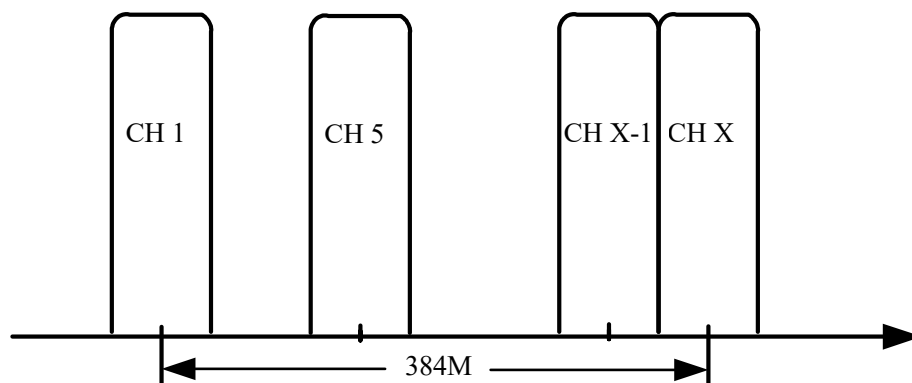
Key Features

- **Support multi-protocol MPTS/SPTS inputs over UDP/RTP/RTSP/HLS/HTTP/SRT via IPTV1, max 128 IP input channels, 100Mbps-300Mbps data processing (up to the actual protocols/network conditions etc)**
- **MPTS/SPTS input over UDP and RTP via DATA GE3/SFP3, DATA GE4/5, max 128 IP input channels per port, max 840Mbps data processing per port, IGMP V2/V3**
- **MPTS/SPTS input over UDP and RTP via the 10 FE ports, max 32 IP input channels per port, about 80Mbps data processing per port, , IGMP V2/V3**
- **Support multi-protocol SPTS output over UDP/RTP/RTMP/RTSP/HLS/HTTP/SRT via IPTV2, max 64 IP output channels, 100Mbps-300Mbps data processing (up to the actual protocols/network conditions etc)**
- **MPTS output over UDP/RTP via DATA GE 5, max 48/24/28/48 IP output channels (as the mirror of out carriers as per modulation mode)**
- **Max 48 ATSC/24 ISDB-T /28 DVB-T /48 DVB-C non-adjacent carriers output within 384 MHz bandwidth**
- **ATSC/ISDB-T/DVB-T /DVB-C modulation mode in one device, Modulation dynamic switching (only two modulation modes can be chosen in on device)**
- **Supports accurate PCR adjusting**
- **Supports PID remapping and PSI/SI editing , PIDs remapping per channel**
- **Supports up to 256 PID per out channel**
- **Supports 2ASI inpu**
- **Support 1 USB Player (Insert an USB disk with “xxx.ts” files and play back the content in an easy way; file system FAT 32)**
- **Support Web-based Network management**

Inner Principle Chart



Carrier Setting Illustration:



Specifications

Input	Input	Max 128 IP input channels per port via GE ports (IPTV1, DATA GE3/SFP3, DATA GE4/5)
		Max 32 IP input channels per port via FE ports (DATA FE 1-10)
		2ASI inputs, BNC interface
		1 USB Player input for re-mux (“xxx.ts” file)
	Transport Protocol	over UDP/RTP, unicast and multicast, IGMP V2/V3 via

		DATA GE3/SFP3 and DATA GE4/5; over UDP/RTP/RTSP/HLS/HTTP/SRT via IPTV1 port	
	Transmission Rate	Max 840Mbps for GE ports; About 80 Mbps for FE ports	
Mux	Input Channel	128 (or 32)	
	Output Channel	48(ATSC) or 24(ISDB-T) or 28(DVB-T) or 48(DVB-C)	
	Max PIDs	256 per channel	
	Functions	PID remapping(auto/manually optional)	
		PCR accurate adjusting	
		PSI/SI table automatically generating	
Modulation Parameters (ATSC)	Channel	16/20/24/28/32/36/40/44/48(License control)	
	Modulation Standard	ATSC A/53	
	Constellation	8VSB	
	Bandwidth	6MHz	
	FEC	RS(208 188)+Trellis	
RF Output (ATSC)	Interface	F typed output port for max 48 non-adjacent carriers	
	RF Range	50~960MHz, 1kHz stepping	
	Output Level	-15~+5dBm (for all carriers), 0.1dBm stepping	
Modulation Parameters (ISDB-T)	Channel	16/20/24(License control)	
	Modulation Standard	ARIB STD-B31	
	Constellation	QPSK, 16QAM, 64QAM	
	Bandwidth	6MHz	
	FFT Mode	2K/4K/8K	
	Code rate	1/2, 2/3, 3/4, 5/6, 7/8	
	Guard Interval	1/32, 1/16, 1/8, 1/4	
RF Output (ISDB-T)	Interface	F typed output port for max 24 non-adjacent carriers	
	RF Range	50~960MHz, 1kHz stepping	
	Output Level	-20dBm~1dBm(87~108dbμV), 0.1dBm stepping	
Modulation Parameters (DVB-T)	Channel	16/20/24/28(License control)	
	Modulation Standard	ETSI EN300 744	
	Constellation	QPSK/16QAM/64QAM	
	Bandwidth	6/7/8 MHz	
	FFT Mode	2K/4K/8K	
	Code rate	1/2,2/3,3/4,5/6,7/8	
	Guard Interval	1/32, 1/16, 1/8, 1/4	
RF Output (DVB-T)	Interface	F typed output port for max 28 non-adjacent carriers	
	RF Range	50~960MHz, 1kHz stepping	
	Output Level	-20dBm~1dBm(87~108dbμV), 0.1dBm stepping	
Modulation	Constellation	J.83A	Constellation :16/32/64/128/256QAM

Parameters (DVB-C)			Bandwidth :8M
		J.83B	Constellation :64/256QAM
			Bandwidth :6M
	QAM Channel	32/36/40/44/48(License control)	
	Symbol Rate	5.0~7.0Msps, 1ksps stepping. 5057Ksps (J.83B, 64QAM) ; 5361Ksps (J.83B, 256QAM)	
RF Output (DVB-C)	Interface	F typed output port for max 48 non-adjacent carriers	
	RF Range	50~960MHz, 1kHz stepping	
	Output Level	-20dBm~-3dBm(87~104dbμV), 0.1dBm stepping	
TS output	Max 48/24/28/48 MPTS output over UDP/RTP, unicast/multicast, via DATA GE5 100/1000M Ethernet Ports; Max 64 SPTS output over UDP/RTP/RTMP/RTSP/HLS/HTTP/SRT via IPTV2		
System	Web-based Network management		
General	Demission	420mm×440mm×44.5mm (WxLxH)	
	Temperature	0~45℃(operation), -20~80℃(storage)	
	Power Supply	AC100V±10%, 50/60Hz or AC 220V±10%,50/60Hz	

Order Guide

Modulation combination (Hardware A)	DVB-C/DVB-T	DVB-C/ISDB-T	DVB-T/ISDB-T
Carrier number(4-carrier stepping by license)	32~48/16~28	32~48/16~24	16~28/16~24

Modulation combination (Hardware B)	ATSC /DVB-C	ATSC /DVB-T	ATSC /ISDB-T
Carrier number(4-carrier stepping by license)	16~48/32~48	16~48/16~28	16~48/16~24

Modulation	Carrier number (4-carrier stepping by license)								
DVB-C	32	36	40	44	48	/	/	/	/
DVB-T	16	20	24	28	/	/	/	/	/

[illegible]