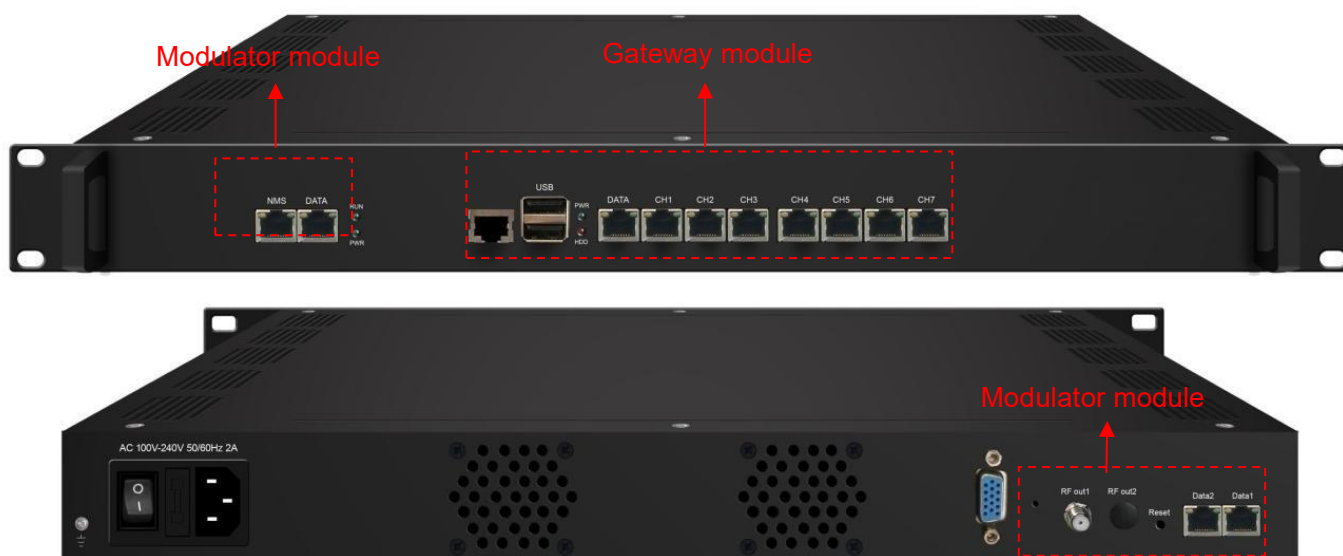# CatCast

HP3508B-C | IPTV Modulator

Outline

Catcast HP3508B-C IPTV Gateway and modulator is a high integration device which is combined with two independent modules. One is IPTV gateway module which is used for the protocol conversion scenarios and streaming media distribution scenarios and it can convert the network IP stream over HTTP, UDP, RTP, RTSP, HLS and TS file into HTTP, UDP, HLS and RTMP protocol. The other is modulator module which supports IP in and IP out and DVB-C/T/ISDBT/ATSC RF out, and it can receive gateway source directly. So HP3508B-C achieves IP (HTTP, UDP, RTP, RTSP and HLS) in to RF out in one box.

In conclusion, its high performance makes it widely used in CATV digital head-end, business application, IPTV/OTT system, etc. and it provides various solutions for operators to re-distribute programs.

Key Features

- 1 IPTV gateway module +1 IP modulator module, and they can work independently
- IP in (HTTP, UDP, RTP, RTSP and HLS) to RF out in one box
- Gateway Module:

◇ **8 Data ports:**

    First Data port: IP out over HTTP, UDP (SPTS), HLS and RTMP

    Data CH1-7 ports: IP in over HTTP, UDP (SPTS), RTP (SPTS), RTSP and HLS

                      IP out over HTTP, HLS and RTMP (Unicast)

◇ **Transmitting IP to modulator module through Data port**

◇ **Support adding scrolling caption, welcome words, boot picture and boot video (this function is only applicable to IP out application and the STB/Android TV must be installed Catcast IPTV APK)**

◇ **Support downloading Catcast IPTV APK directly from this module**

● **Modulator Module:**

   ◇ **IP input over UDP/RTP through Data/Data 1/2 port**

    ◇ **IP output over UDP/RTP/RTSP through Data 1/2 port**
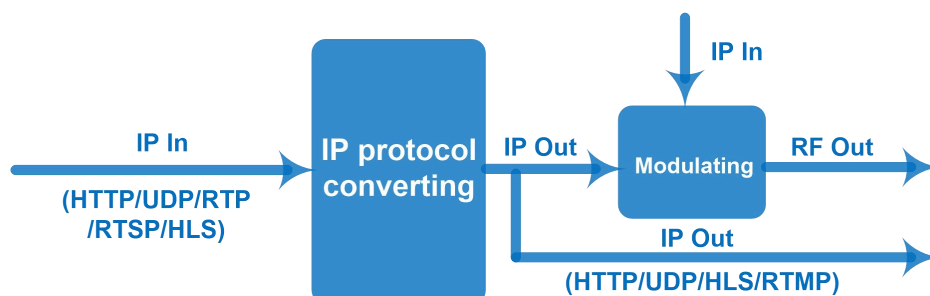
    ◇ **Support 16 DVB-C/8 DVB-T/6 ISDBT/8 ATSC RF out**

    ◇ **Receiving IP from gateway module directly through Data port**
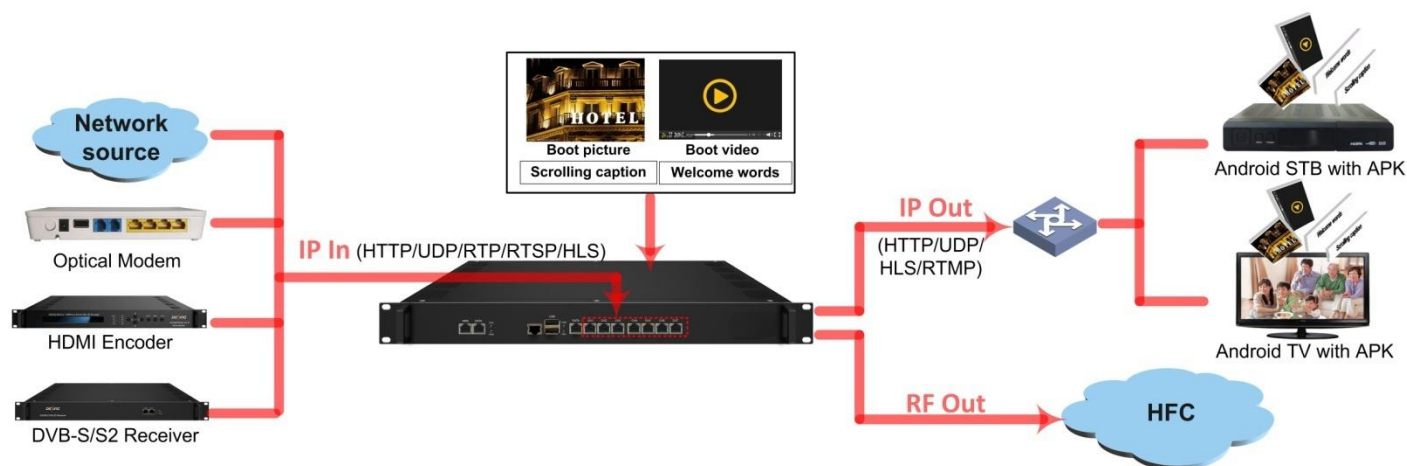
● **Support IP anti- jitter function**

● **Control the 2 modules separately via web-based NMS management**

● **Support TS files uploading through Web management**

IP Protocol Conversion
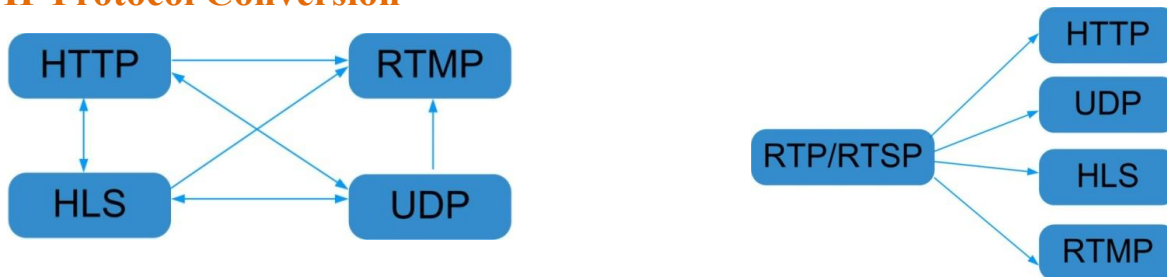
Principle Chart

Scrolling caption/welcome words/boot picture/boot video is only applicable to IP out application and the STB/Android TV must be installed Catcast IPTV APK

Specifications

IPTV gateway module

Input	IP input thru CH 1-7(1000M) over HTTP, UDP(SPTS), RTP(SPTS), RTSP (over UDP, payload: mpeg TS) and HLS
	TS files uploading through Web management
IP output	IP out thru DATA port (1000M) over HTTP (Unicast), UDP(SPTS, Multicast) HLS and RTMP (Program source should be H.264 and AAC encoding) IP out thru CH 1-7(1000M) over HTTP/ HLS/RTMP (Unicast)
System	Memory: 4G
	Solid-State Disk(SSD): 16G
	Channel switching time with Catcast' STB: HTTP (1-3s), HLS (0.4-0.7s)
	Support adding scrolling caption, welcome words, boot picture and boot video (this function is only applicable to IP out application and the STB/Android TV must be installed Catcast IPTV APK)
	Support downloading Catcast IPTV APK directly from this module
	Play programs with APK downloaded android STB and TV, maximum 150 terminals
	Support about 80 HD/SD programs (Bitrate: 2Mbps) When HTTP/RTP/RTSP/HLS is converted into UDP (Multicast), the actual application shall prevail, and suggest maximum 80% CPU utilization
	web-based NMS management thru module's DATA port

Modulator module (Taking Catcast's HX316/HX308T/HX306I/HX308AT modulator module as examples)

Input	HX316 (DVB-C)	512 IP (MPTS/SPTS) input over UDP/RTP, 2 100/1000M Ethernet Port
	HX308T (DVB-T)	256 IP (MPTS/SPTS) input over UDP/RTP, 2 100/1000M Ethernet Port
	HX306I (ISDBT)	192 IP (MPTS/SPTS) input over UDP/RTP, 2 100/1000M Ethernet Port

	HX308AT (ATSC)	256 IP (MPTS/SPTS) input over UDP/RTP, 2 100/1000M Ethernet Port		
Multiplexing		DVB-C	DVB-T/ ATSC	ISDBT
	Input Channel	512	256	192
	Output Channel	16	8	6
	Max PIDs	180 per channel		
	Functions	PID remapping(auto/manually optional)		
		PCR accurate adjusting		
		PSI/SI table automatically generating		
Scrambling Parameters (for DVB-C)	Max simulscrypt CA	4		
	Scramble Standard	ETR289, ETSI 101 197, ETSI 103 197		
	Connection	Local/remote connection		
Modulation Parameters	DVB-C		J.83A	J.83B
		Constellation	16/32/64/128/256 QAM	64QAM/ 256QAM
		Bandwidth	8M	6M
		Standard	EN300 429/ITU-T J.83A/B(DVB-C)	
		Symbol rate	5.0~7.0Msps, 1ksps stepping	
		QAM channel	16 non-adjacent carrier outputs within 192M bandwidth	
		RF frequency	50~960MHz, 1KHz step	
		RF output level	-20~+10dBm, 0.1dB step	
		MER	≥ 40dB	
		FEC	RS (204, 188)	
	DVB-T	Standard	ETSI EN300 744	
		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	
		MER	≥ 40dB	
		RF frequency	50~960MHz, 1kHz stepping	
		RF output Level	-20~+10dBm, 0.5dB stepping	
		RF out channel	8 non-adjacent carrier outputs within 192M bandwidth	
	ISDBT	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, 0.1dB stepping
		RF out	6 non-adjacent carrier outputs within 192M bandwidth
	ATSC	Standard	ATSC A/53
		Bandwidth	6M
		Constellation	8VSB
		FEC	RS(208 188)+Trellis
		MER	≥40dB
		RF frequency	50~960MHz, 1kHz step
		RF output level	-20dBm~+10dBm, 0.5dB stepping
		RF out	8 non-adjacent carrier outputs within 192M bandwidth
TS output	16 (DVB-C)/ 8(DVB-T/ ATSC)/ 6(ISDBT) IP output over UDP/RTP/RTSP, unicast/multicast, 2*100/1000M Ethernet Ports (Data 1/2)		
System	web-based NMS management thru module's NMS port		

	Demission	482mm×324mm×44mm (WxLxH)
General	Temperature	0~45℃(operation), -20~80℃(storage)
	Power Supply	AC 100V±10%, 50/60Hz or AC 220V±10%, 50/60Hz