

WHX-4410EM

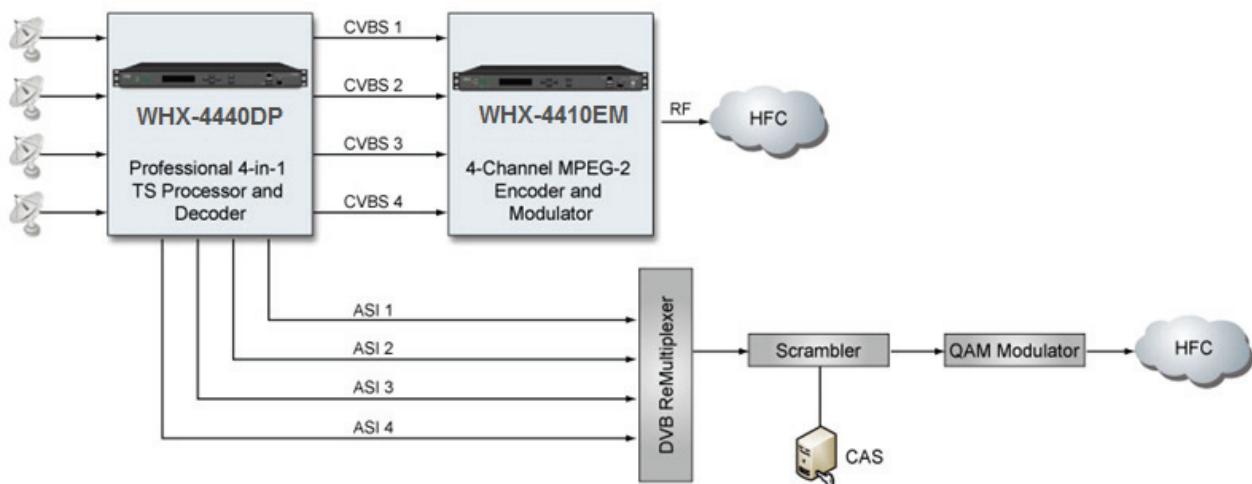
4-Channel MPEG-2 Encoder and Modulator

WHX-4410EM integrates four real-time MPEG-2 SD Encoder modules, one re-Multiplexer and one Transmodulator module in one 19" 1RU chassis. It has four pairs of analog video audio inputs for encoding, one ASI input and one full duplex Gigabit TS-over-IP port. With built-in re-multiplexer, WHX-4410EM is able to re-multiplex those 4 SPTS streams encoded by itself and an additional MPTS from its ASI or IP input. The newly generated MPTS stream could be delivered to the QAM or COFDM transmodulator (factory optional) and finally output via RF port, or the MPTS could be also output via IP and ASI output port. WHX-4410EM is the most suitable deployment choice for any system in DVB, IPTV and Surveillance industries.

Main Feature

- Four pairs of analog video audio inputs for encoding
- Remux with 4x SPTS generated by 4x encoders, stream from ASI and IP input
- 1000 Base-T TSolP port, supports Full-duplex and Multi-Channel IPTV output only operating mode
- Supports VBR and CBR encoding modes
- QAM or COFDM output factory optional
- Up to 120dBμV RF power level
- Remote Control and Supervision by SNMP and HTTP WEB
- Hot swappable redundant power supply unit

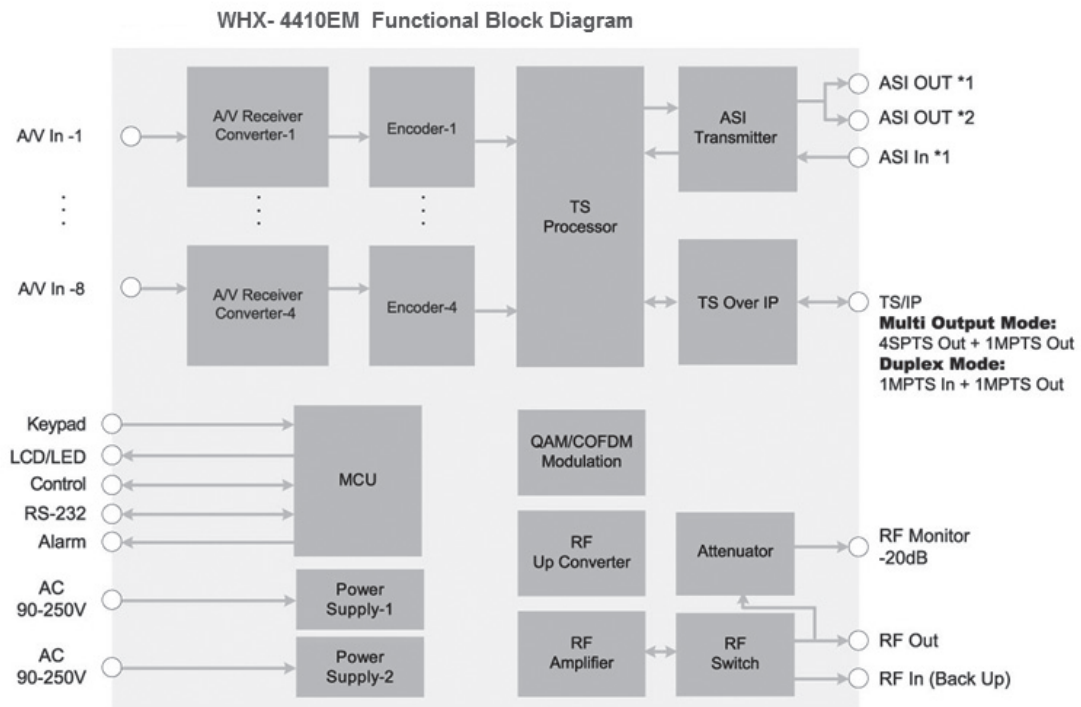
Application Case



Specification

Video Input & Compression		DVB-C Modulation	
Video Input	CVBSx 4	Constellation	J.83 Annex A: 16/32/64/128/256QAM J.83 Annex B: 64B/256B
Compression Standard	MPEG-2 MP@ML	Symbol Rate	3~7.2MS/s
Chrominance Space	4:2:0	I/Q Amplitude Error	≤ 0.1%
Video Encoding Bit Rate	1.5Mbps~10Mbps	I/Q Phase Error	≤ 0.1%
Video Resolutions & Recommended Video Encoding Bit Rates	480i(720×480)@29.97Hz: SMPTE656M: 2~10Mb/s 576i(720×576)@25Hz: SMPTE656M: 2~10Mb/s	Phase jitter	< 0.5°RMS
Other video resolutions	Full D1, Half D1, SIF, QSIF	MER	> 35dB (Equalizer off)
Aspect Ratio	4:3 / 16:9	DVB-T Modulation	
Audio Input & Compression		Constellation	QPSK/16QAM/64QAM
Audio Input	4 pairs stereo audio	Bandwidth	5/6/7/8MHz
Compression Standard	MPEG1 Layer I, MPEG1 Layer II	FFT Mode	2K
Sampling Rate	32KHz, 44.1KHz, 48KHz	Guard Interval	1/4, 1/8, 1/16, 1/32
Audio Compression Bit Rate	MPEG1 Layer I: 64~256Kb/s MPEG1 Layer II: 32~384Kb/s	Code Rate	1/2, 2/3, 3/4, 5/6, 7/8
DVB-ASI Input		MER	>36dB
Connector Type	BNC Female, 75Ω	RF Output	
Maximal Input Bit Rate	200 Mb/s	Connector Type	1x F Type Female, 75Ω
Packet Mode	Byte	Output Frequency Range	48~860MHz agile, step by 10 KHz
Packet Length	188/204 Bytes	Output Level	90~120dBμV, step by 1dBμV
Signal Level	200 ~ 880mVp-p	Spurious Rejection	≥55dB
DVB-ASI Output		Output Return Loss	≥12dB (typ.)
Connector Type	BNC Female, 75Ω	Rear Panel	
Effectual Output Bit Rate	200Mb/s	ASI In	1 x BNC Female, 75Ω
Packet Mode	Byte	CVBS In	4 x BNC Female, 75Ω
Packet Length	188/204 Bytes	Audio In	(4X2)x BNC Female, 75Ω
Signal Level	800±80mV	ASI Out	2 x BNC Female, 75Ω(1 Backup)
GigE Full Duplex		RF Out	1x F Type Female, 75Ω
GbE Full Duplex	IEEE 802.3, 10/100/1000 Base-T	Front Panel	
Maximal Effectual Output Bit Rate	200Mb/s	Control	1×RJ-45, 10/100 Base-T management port
UDP/RTP	SPTS or MPTS	TS/IP	1× IP (GbE), RJ-45, 10/100/1000 Base-T
Protocol	ICMP, ARP, IGMPv2	Display	LCD Display
Multi-Channel IPTV Mode (without IP IN)		RF Monitor -20dB	1x F Type Female, 75Ω
TS/IP Out	IEEE 802.3, 10/100/1000 Base-T	Others	
Maximal Effectual Output Bit Rate	200Mb/s	Power Supply	AC90~260V 50/60Hz
UDP/RTP	SPTS or MPTS	Operating Temperature	0 ~ 40°C
Protocol	ICMP, ARP, IGMPv2	Storage Temperature	-10 ~ 60°C
		Operation Humidity	10 ~ 90%, Non-condensed

Block Diagram



Order Information

Function	WHX-4410EM-CT	WHX-4410EM-CC
Input	CVBS x4 (BNC)	•
	HDMI (HDMI 1.4)	•
	SDI (BNC)	
	ASI (BNC)	•
	TS/IP (GbE)	•
Output	ASI x2 (1xBackup,BNC)	•
	TS/IP (GbE)	•
	DVB-C RF Output	
	DVB-T RF Output	•
Alarm	•	•
Control	•	•
RS-232	•	•

Back Panel Interface

