

VILLATEL

Tuner HD Encoder Modulator

VEM-2416



Product Overview

WK-3536S is a professional high integration device which includes encoding (and de-modulation), multiplexing, and modulation functions in one case. It supports 8/16/24 HDMI (or HDMI plus DVB-S2/S2X tuner) inputs, 1 ASI input, 1 USB player input and 128 IP inputs via the GE port, and output by multiple DVB-C (or DVB-T/ATSC/ISDB-T optional) carrier channels. It also supports MPTS output as mirror of carriers through the GE port and 1 ASI out as mirror of one of the carriers. This full function device makes it ideal for small CATV head end system, and it's a smart choice for hotel TV system, entertainment system in sports bar, hospital, apartment...

Key features

8/16/24 HDMI (or HDMI plus DVB-S2/S2X tuner) inputs, MPEG-4 AVC/H.264 Video encoding

1 ASI input for re-mux

1 USB Player (Insert the USB Flash drive with "xxx.ts" videos in WK-3536S and play back the content in an easy way; file system FAT 32)

128 IP input over UDP and RTP via GE port

Each carrier out channel process maximum 32 IP from the GE port (UDP&RTP protocol)

MPEG1 Layer II, LC-AAC and HE-AAC Audio encoding, AC3 Pass Through and audio gain adjustment

Support 12ch DVB-C RF out (8ch/16ch DVB-T, 8ch ATSC, or 6ch/16ch ISDB-T out for option, as per order)

Support 1 ASI out as mirror of one of RF output carriers---Optional

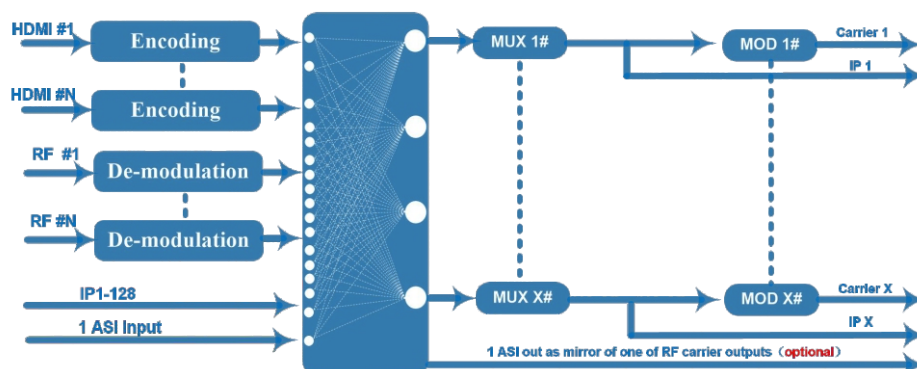
Support MPTS IP output over UDP, RTP/RTSP

Support LOGO, Caption and QR code insertion (Language Supported: 中文, English, العربية, ไทย, , русский, ودر, for more languages please consult us...)

Support PID remapping/ accurate PCR adjusting/PSI/SI editing and inserting

Control via web management, and easy updates via web

Principle Chart



Technical Specifications

Input	8/16/24 HDMI inputs for option (or 8HDMI+8*DVB-S2/S2X inputs, or 8HDMI+16*DVB-S2/S2X inputs, or 16HDMI+8*DVB-S2/S2X inputs) 1 ASI in for re-mux 1 USB Player input for re-mux (“xxx.ts” video) 128 IP input over UDP and RTP, GE port, RJ45		
Video (HDMI Input)	Resolution	Input	1920×1080_60P, 1920×1080_60i, 1920×1080_50P, 1920×1080_50i, 1280×720_60P, 1280×720_50P, 720×576_50i,720×480_60i,
		Output	1920×1080_30P, 1920×1080_25P, 1280×720_30P, 1280×720_25P, 720×576_25P,720×480_30P,
	Encoding	MPEG-4 AVC/H.264	
	Bit-rate	1Mbps~13Mbps each channel	
	Rate Control	CBR/VBR	
	GOP Structure	IP...P (P Frame adjustment, without B Frame)	
	Audio (HDMI Input)	Encoding	MPEG-1 Layer 2, LC-AAC, HE-AAC and AC3 Pass through
Sampling rate		48KHz	
Resolution		24-bit	
Audio Gain		0-255 Adjustable	
MPEG-1 Layer 2 Bit-rate		48/56/64/80/96/112/128/160/192/224/256/320/384 kbps	
LC-AAC Bit-rate		48/56/64/80/96/112/128/160/192/224/256/320/384 kbps	
HE-AAC Bit-rate		48/56/64/80/96/112/128 kbps	
Tuner Section	DVB-S	Input Frequency	950-2150MHz
		Symbol Rate	0.5~45 Msps
		Constellation	QPSK
		FEC	1/2, 2/3, 3/4, 5/6, 7/8
	DVB-S2	Input Frequency	950-2150MHz
		Symbol Rate	QPSK/8PSK/16APSK: 0.5~45 Msps 32APSK:0.5~40 Msps
		Constellation	QPSK/8PSK/16APSK/32APSK
		FEC	QPSK: 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9,9/10 8PSK: 3/5, 2/3, 3/4, 5/6, 8/9, 9/10 16APSK: 2/3, 3/4, 4/5, 5/6, 8/9, 9/10 32APSK: 3/4, 4/5, 5/6, 8/9
		Max input bitrate per tuner	≤170 Mbps
	DVB-S2X	Symbol Rate	QPSK/8PSK/16APSK: 0.5~45 Msps; 8APSK/32APSK: 0.5~40 Msps
Constellation		QPSK/8PSK/16APSK/8APSK/32APSK	

		FEC	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	
		Max input bitrate per tuner	≤170 Mbps	
	Signal Strength	-65 ~ -25dBm		
Multiplexing	Maximum PID Remapping	255 input per channel		
	Function	PID remapping (automatically or manually)		
		Accurate PCR adjusting		
		Generate PSI/ SI table automatically		
Modulation	DVB-C	QAM Channel	12 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 (or 16) 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 (or 16) 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 (Optional)		
	12 MPTS output over UDP and RTP/RTSP as mirror of 12 DVB-C carriers,		
	8/16 MPTS output over UDP and RTP/RTSP as mirror of 8/16 DVB-T carriers(Optional)		
	8 MPTS output over UDP and RTP/RTSP as mirror of 8 ATSC carriers(Optional)		
	6/16 MPTS output over UDP and RTP/RTSP as mirror of 6/16 ISDB-T carriers(Optional)		
	1*1000M Base-T Ethernet interface, GE port		
System function	Network management (WEB)		
	Chinese and English language		
	Ethernet software upgrade		
Miscellaneous	Dimension (W×L×H)	482mm×328mm×44mm	
	Environment	0~45℃(work); -20~80℃ (Storage)	
	Power requirements	AC 110V± 10%, 50/60Hz, AC 220 ± 10%, 50/60Hz	

Ordering Guide

Input Section:

	HDMI	DVB-S2/S2X
Option 1	8	/
Option 2	16	/
Option 3	24	/
Option 4	8	8
Option 5	8	16
Option 6	16	8

Output Section:

RF output standard		IP output	RF carrier channels	Scrambling
DVB-C out		12	12	N/A
DVB-T out	V1	8	8	N/A
	V2	16	16	N/A
ATSC out		8	8	N/A
ISDB-T out	V1	6	6	N/A
	V2	16	16	N/A