UMH160R

SD/HD Satellite Receiver/Decoder (IRD)

160R-Base

160R-IP

Introduction

UMH160R is a powerful and cost-effective broadcast level decoder. It supports signal receiving, multi-channel descrambling, multiplexing, external table/data insertion, transcoding and transmodulating. It also supports MPEG-2/MPEG-4 SD/HD program decoding with two audio channels. With remote web-based management interfaces, it is ideal to support advanced content distribution, real-time signal conversion and transmission via an all IP headend system.

Order Information

Model	Feature
Base	Receiving, Decode MPEG2/4, HD&SD w/ A/V and 2ASI (In + Out)
RL	Base w/o ASI
SDI	Base + 2 SDI (HD & SD Output)
IP	Receiving, Descrambling, HD&SD decoding, 4ASI (2In + 2Out), 2TSIP(In + Out) and SDI(Out)
AD	IP + Multiplexing (2 Tuner Receiving)
TC2	IP + Transcoding to MPEG-2 (4 SD Programs)
TC4	IP + Transcoding to MPEG-4 (4 SD Programs / 2 HD Programs)
QAM	AD + QAM/OFDM Modulator (4 for QAM or 2 for OFDM)

Features

Receiving and Input

- RF inputs support multiple standards of signal receiving including DVB-S2/ T2/C, ATSC and ISDB-T.
- Supports DVB-S2 Multi-stream receiving. (Optional)
- Supports ASI and TSIP input and redundancy.

Data Processing

- Two separate common interfaces supports. multi-channel descrambling and make the unit compliant with various popular CAM cards.
- Embedded BISS-1 & BISS-E support TS & Service level descrambling.
- PID filtering, PCR re-mapping and filling. (VBR/CBR)
- VBI subtitle insertion from analogue video.
- PSI/SI processing and regeneration.
- Supports TS & Service multiplexing.
- Supports TS & EIT pass-through.

Output

- MPEG-2 or MPEG-4 HD/SD video decoding.
- HDMI, SD/HD SDI and CVBS output.
- SDI output with 2 embedded audios.
- 1 audio decoding through AES/EBU digital audio output, 2 pairs of balanced and unbalanced analogue audio output.
- Multicast and unicast broadcasting in LAN and WAN network.
- GPI alarm and cue tone output.
- 4 channels QAM or 2 channels OFDM output.
- 2 channels HD or 4 channels SD MPEG-2 to/from H.264 transcoding.

Management

- 1 Ethernet 10/100Base-TX, RJ45.
- Web-based NMS.
- Front panel keypad and LCD.
- SNMP supported for system integration.

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WELLAV

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RF

DVB-S/S2 Input	
Input	1xRF(F-type, signal input), 75Ω
	2xRF(F-type, dual input), 75Ω
Constellation	QPSK, 8PSK
Symbol rate	1~45 Msps
Input frequency	950~2150 MHz
Max bitrate	150Mbps
Signal level	-65~-25 dBm
LNB PS	DC13V/18V
22K Switch	on/off

DVB-C Input	
Input	1xRF(F-type, signal input), 75Ω
	2xRF(F-type, dual input), 75Ω
Symbol rate	3.6 ~ 6.952MBauds
QAM type	J83.A/B/C
Input frequency	48~862MHz
Max bitrate	55Mbps
Signal level	40~80dBuV

DVB-T Input	
Input	1xRF(F-type, signal input), 75Ω
	2xRF(F-type, dual input), 75Ω
Constellation	QPSK/16/64QAM
Bandwidth	6/7/8M
Input frequency	48~862MHz
Max bitrate	31.67Mbps
Transmission mode	2K，8K

DVB-T2 Input	
Input	1xRF(F-type, signal input), 75Ω
	2xRF(F-type, dual input), 75Ω
Constellation	16/32/64/128/256QAM
Bandwidth	1.7Mhz, 5MHz, 6MHz, 7MHz, 8MHz,10Mhz
Input frequency	48~862MHz
Max bitrate	50Mbps
Transmission mode	1K，2K，4K，8K，16K，32K

ISDB-T/Tb Input（optional）	
Input	1xRF(F-type, signal input), 75Ω
	2xRF(F-type, dual input), 75Ω
Constellation	QPSK/16/64QAM DQPSK
Bandwidth	1.7Mhz, 6MHz, 6MHz, 7MHz, 8MHz,10Mhz
Input frequency	48~862MHz
Max bitrate	6Mbps
Carriers mode	1K-42K,3K

ATSC Input	
Input	1xRF(F-type, signal input), 75Ω
	2xRF(F-type, dual input), 75Ω
Constellation	8VSB
Bandwidth	6Mhz
Input frequency	57M~803MHz (Fixed freq)
Max bitrate	19.39Mbps

IS/IP

GbE IP	
Interface	GbE level RJ45 Port
Speed	Up to 1000Mbps
Package format	UDP & RTP（auto detection）
Traffic type	Unicast:（ARP）
	Muticast: v2、v3（optional）
FEC	ProMPEG CoP3v2
TCP/IP protocol	IPv4, IPv6（Future option）

DVB-ASI

DVB-ASI	
Interface	4 BNC, 75Ω (2x ASI input, 2x ASI output)
Max bitrate	100Mbps
Packet type	188/204 Bytes
Input mode	spread and burst
Output mode	support burst
Support MPEG-2/H.264 SD/HD stream bypass transmission	
Support AC-3/ E-AC-3 audio bypass transmission	

DVB De-scrambling

DVB De-scrambling	
DVB Common Interface	2 slots
Bit-rate	Max 100Mbps
CAM supported	NEOTION, SMIT, ASTON and other major CAMs
CAS supported	CONAX, IRDETO, Novel-SuperTV, CTI and other major CAS
BISS 1& BISS E	TS & Program level

RF Modulation

Output	
Interface	1 RF for 4 channels (DVB-C modulation, F-type, 75Ω)
	1 RF for 2 channels (DVB-T modulation. F-type . 75Ω)
	1 for RF monitor output (F-type, 75Ω)

DVB-C Modulation	
Standard	ITU-T J.83 Annex A/C, Annex B
Constellation	16/32/64/128/256QAM
Symbol rate	4.4~6.952MBauds
Output level	90~115dBuV (depending on the channel numbers)
Frequency range	48~862 MHz
EMR	38

DVB-T Modulation	
Standard	ETSI EN 300 744
Constellation	QPSK/16/64QAM
Carriers mode	2K,8K
Bandwidth	6MHz、7MHz、8MHz
Output level	90~115dBuV (depending on the channel numbers)
Frequency range	48~862 MHz

Decoder

Video Decoding	
Decoding format	MPEG-2 SD 4:2:0 MP@ML
	MPEG-2 HD 4:2:0 MP@ML
	MPEG-4 AVC SD MP@L3
	MPEG-4 AVC HD MP@L4.0/HP@4.0

Audio Decoding	
Audio format:	Musicam (MPEG-1 Layer II)
	Dolby Digital (AC-3) (Optional)
	Dolby Digital Plus (E-AC-3) (Optional)
	AAC (MPEG-2, MPEG-4/ HE v1,2 ,MPEG-4/LC) (Optional)
Adjustable volume level	-63~0dB

TS Transcoding

TS Transcoding	
Processing channels	4 programs

Input	
Video	H.264（MPEG-4 part 10）or MPEG-2
Video format	Up to 1080p30
Aspect ratio	4:3, 16:9,auto
Audio	MPEG1 Layer I/II
	MPEG2 Layer II
	Dolby Digital(AC-3)（Optional）
	AAC（Optional）
Audio mode	Stereo , dual mono, Single Mono

Output	
Video	H.264(MPEG-4 part 10) 4:2:0 MP@L4
	MPEG-2 4:2:0 MP@ML
Format	576i, 480i (BT.656)
	1080i50,1080i60,1080i59.94
	720P50, 720P60, 720P59.94
Audio	MPEG-1 Layer-I/II
	AAC（Optional）
Subtitle and audio	Passthrough
Bitrate	MPEG-2 video: 2.0~15Mbps（CBR & VBR）
	Audio: 64~384Kbps
	H.264 Video: 1.0~20Mbps（CBR & VBR）
	Audio: 64~384Kbps
Adjustable volume	-63~ 0 dBm

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