

IRD1311

Satellite DVB-S2 4:2:2 HD IRD Decoder



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IRD1311 was designed to demodulate the scrambled broadcast streams from satellite (or cable, terrestrial) network, IP network and local headend featured with DVB-ASI.

In order to cater for demands of interoperability of different operators broadcast services, IRD1311 is equipped with two DVB-CI complied Common Interfaces to meet the demands of descrambling for different scrambled programs using different DVB SimulCrypt CA(s), and supports up to 140Mbps of de-scrambling output bit rates for SD, HD and Full HD MPEG-2, MPEG-4 AVC, AVS and AVS+ broadcast services. It supports various decoding output interfaces, composite video, unbalanced stereo audio, HDMI and 3G-SDI outputs. It can be widely used for broadcast distribution and contribution.

Key Features

- DVB-S/S2 (or DVB-C, DTMB) RF demodulation, TS descrambling
- Universal MPEG-2, MPEG-4 AVC SD/HD/FHD, AVS and AVS+ video decoding
- MPEG-1 Layer 2, DRA2.0 audio decoding, optional AAC decoding
- Dual DVB-CI slots, standard common interface complied with EN 50221, supporting most major CA systems
- Up to 72Mbps of descrambling bit rate each CAM
- Support various decoding outputs: composite video, unbalanced audio, HDMI and 3G-SDI
- HDMI supports up to 1080P50/60, SDI supports up to 3G.
- SDI audio embedding set optional
- Support 4:2:2 input/output
- MPEG TS-over-UDP/RTP inputs and outputs, supporting SPTS and MPTS
- Dual ASI inputs and outputs
- Support LCD for local control
- Support Web and SNMP-based management
- Power failure memory function

Application

- Video Contribution and Distribution in TV studio Station
- Satellite digital TV, Terrestrial digital TV, Cable TV broadcasting
- Contribution decode of high bitrate H.264 video service

TECHNICAL SPECIFICATIONS

DVB-S/S2 Tuner input

DVB-S/S2 Tuner Input Standards	1*RF Input, 1*RF Loop Out 75Ω DVB-S (EN300421) DVB-S2(EN302307)
Constellations	DVB-S: QPSK DVB-S2: QPSK/8PSK
Frequency Range	950MHz to 2150MHz
Input Signal Level	-65 to -25dBm
LNB Power Output	0V/+DC 13V/18V, I _{max} =400mA

DVB-C Tuner input

DVB-C Tuner Input Standards	1*RF input, 1*RF loop out 75Ω DVB-C (EN300 429)
Constellations	16/32/64/128/256QAM
Frequency Range	51 to 858MHz
Input Signal Level	-20 to +20dBm (64QAM)

DTMB Tuner input

DTMB Tuner Input Standards	1*RF input, 1*RF loop out 75 Ω DTMB (GB20600-2006)
Constellations	4QAM, 4QAM-NR, 16/32/64 QAM
Carrier Mode	SCPC and MCPC
FEC Mode	0.4/0.6/0.8
Frequency Range	54 to 860MHz
Input Signal Level	>-84dBm

TS in/output interfaces

ASI input in

Numbers of Interface	2 x ASI
Connector Type	BNC (Female, 75 Ω)
Operation Mode	Independent Input
Data Format	188/204 Bytes
Bit Rate	1.5 to 100 Mbps each

ASI output

Numbers of Interface	2 x ASI
Connector Type	BNC (Female, 75 Ω)
Operation Mode	Independent or duplicate outputs
Data Format	188 Bytes
Bit Rate	Up to 100Mbps output (72Mbps after descrambling)

IP Input & Output

IP Interface	1 x 100/1000 Base-T Ethernet(RJ-45)
MPEG TS Format	7 x 188 Bytes
IP Encapsulation	MPEG TS-over-UDP/RTP
MPEG TS Mode	MPTS or SPTS
Operation Mode	TS Inputs and multiplexing outputs
Number of TS	4
Addressing Protocol	Unicast or Multicast UDP, RTP, ARP, IGMP, ICMP

DVB-CI & TS Descrambling

Numbers of DVB-CI	2 x CI Slots (in front panel)
Interface Type	PCMCIA Type II
CI Standard	Comply with EN 50221
Rate of Descrambling	72Mbps per CAM
Performance	Up to 16 programs simultaneously
Supported CA Category	DVB SimulCrypt and MultiCrypt

Output Ports

HDMI Output

Standards	1*HDMI 1.3 (Type A receptacle) Compliant with S/PDIF(IEC90658) 1080P60/50, 1080i60/50, 720P60/50, 480P60/i60, 576P50/i50
Resolution	

SDI Output

Connector Type Standards	2 x 3G-SDI (BNC female, 75) SMPTE 259M(SD-SDI) SMPTE 292M(HD-SDI) SMPTE 424M(3G-SDI)
Operation Mode	Duplicated outputs
Audio	Embedded Audio
Video Resolution	1080P60/50, 1080i60/50 ,720P60/50, 576i50

Analog Audio Output

Connector Type	2 x BNC female, 600Ω (balanced) Stereo pair (R & L)
Cross Talk Among Channels	>70dB
THD	<0.3% @ 400Hz, 1KHz test tone
Frequency Response	±0.5dB over 20Hz ~ 18KHz

Analog Audio Video Output

Connector Type	1* CVBS , 1 pairs of R/L analog, 75Ω,
Output level	1.0 Vp-p±5% Standard test stream
CVBS Standard	PALBDGHI, PALN, NTSCM, PALN-C, NTSCM, NTSCM443, PALM, SECAM, NTSCMJ
SNR	≥ 56dB
synchronizing amplitude	300±20mVP-P
frequency characteristic	±0.8 dB (4.8MHz); ±1 dB (4.8-5MHz); +0.5/-4 dB (5.5 MHz)
Output amplitude	700±30mVP-P
Differential gain	≤ 8%

Video Decoding

MPEG-2(MP@ ML for SD, MP@HL for HD)	
MPEG-4 AVC/H.264(MP@L3 for SD, HP@L4.0 for HD, HP@L4.2 for FHD)	
AVS/AVS+ (Jizhun/Guanbo profile, level6.0)	
Chroma Sample	4:2:2
Bit Depth	8-bit, 10-bit
Decoding Latency	300-1000ms
Aspect Ratio	4:3 or 16:9

Audio Decoding

Audio Standard	MPEG-1 Layer 2, DRA2.0, AAC(optional)
Operation Mode	Stereo or Mono
Supported Sample Rate	32 kHz, 44.1 kHz, 48 kHz
Audio Decoding Rate	64kbps to 384 kbps

Control & Monitoring

Interface	1*RJ-45, 10/100 Base-T, for equipment IP Control
Remote Control	Web browser and SNMP management
Local Control	LCD display and keypad

Environment

Power Supply	AC 100V~240V, 50/60Hz
Power consumption	30W(Typ.)
Dimension	482mm x 44.5mm x 400mm
Operating Temperature	0℃ to 45℃ (32℉ to 113℉)
Storage Temperature	-20 to 80℃ (-4℉ to 176℉)
Operating Humidity	90%, non-condensing
Weight	5KG