

IRD1545

4K H.265 TS Processor and Decoder



With the significant increase in 4K/UHD TV sets hitting the Head-end market, content providers and TV broadcasters are looking for a solution to address the needs of Collect the UHD H264/H265 Channels from Cable, Terrestrial, Satellite and IPTV, and IRD1545 4K Decoder is the answer. It delivers with superior video quality 2160p@30fps UHD and 1080p@60fps HD. The Decoder is also ideal for Video-over-IP distribution and contribution Transmission.

IRD1545 is a comprehensive modular and professional TS processor/Decoder equipped with 2 independent modulars. One is RF module, and the other one is HDMI/SDI Decoding module. It supports a wide range of application by combining 2 tuners (DVB-S/S2, DVB-T/T2, DVB-C) processing capability with industry standard outputs including ASI and TS/IP. Up to 2 CI slots capable of working with most of well-known CAS in the market to de-encrypt multiple pay TV services. The unit also support 10*MPTS/64*SPTS and 2 GbE port (one for backup) IP output.

IRD1545, 2 independent modulars both can be used for Decoding. It feature a broadcast quality decoder of MPEG-2, AVS+, MPEG-4 AVC/H.264, H.265 in both Standard Definition and High Definition formats, and provides a variety of resolution: 4K/2K/1080P/1080I/720P/576I/480I.

Features

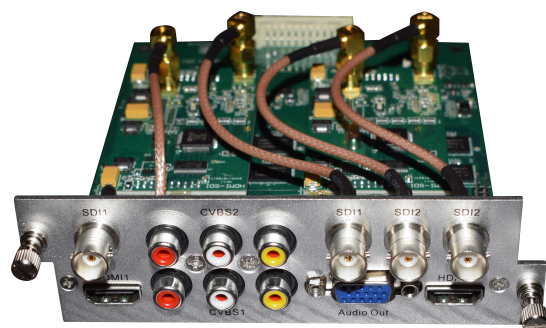
- Superior real-time MPEG2, H.264, AVS+ and HEVC Decoded out in UHD/4K, HD and SD
- Multiple input: IP/ASI, option DVB-S2/T2/C CI RF inputs
- 2 independent CAM card sets, decrypting two different signals
- HEVC Video out: Up to 4*HDMI In 4k@30fps /4*3G-SDI, HD-SDI in 1080P/1080i(SDI)@60fps and 4*CVBS
- Audio out: Up to 4*Analog R/L, 4*XLR and 4*AES/EBU
- Up to 2 CI slots, Biss 1/Biss E decryption
- Support VBR and CBR Bitrate Mode
- HEVC/H.265 main and main-10 profiles (4:2:0)
- teletext and DVB subtitle supported
- Low Latency decode
- Ultra low latency video processing
- Image enhancement, denoising, sharpening, deinterlace, anti-sawtooth flicker
- Audio decoding: AC3/E-AC3/AAC/MPEG1 L2
- Front-panel and web-based user interfaces

Application

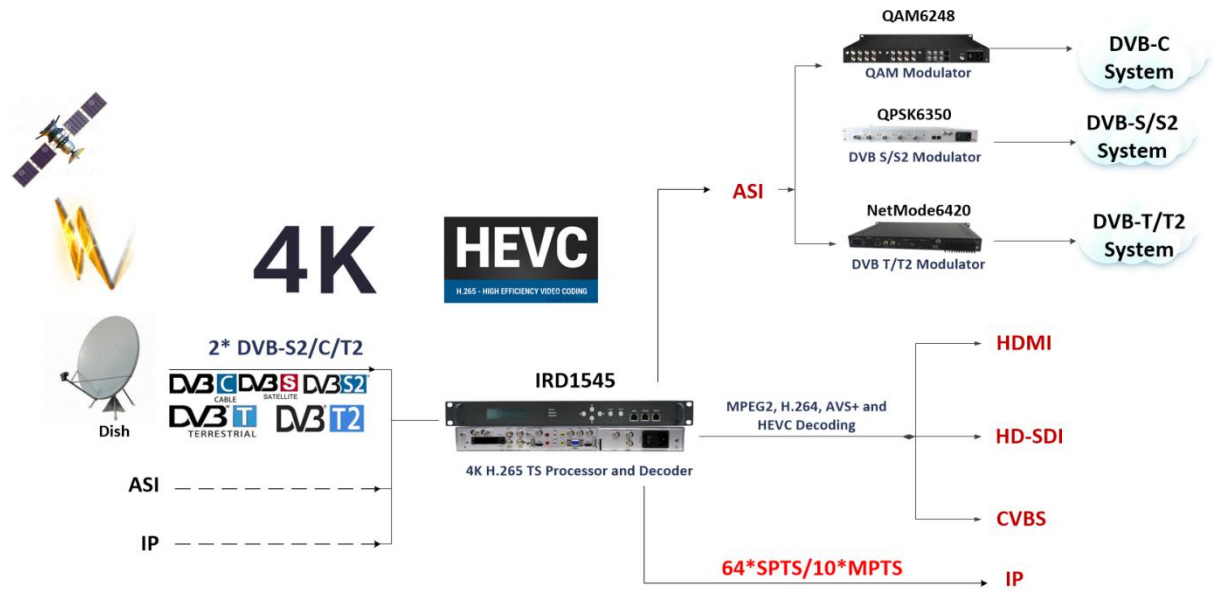
- Video Contribution and Distribution in TV studio Station
- 4K H.264 and H.265 Video application
- Satellite digital TV, Terrestrial digital TV, Cable TV broadcasting
- Broadcast interface converter for all kinds of equipment



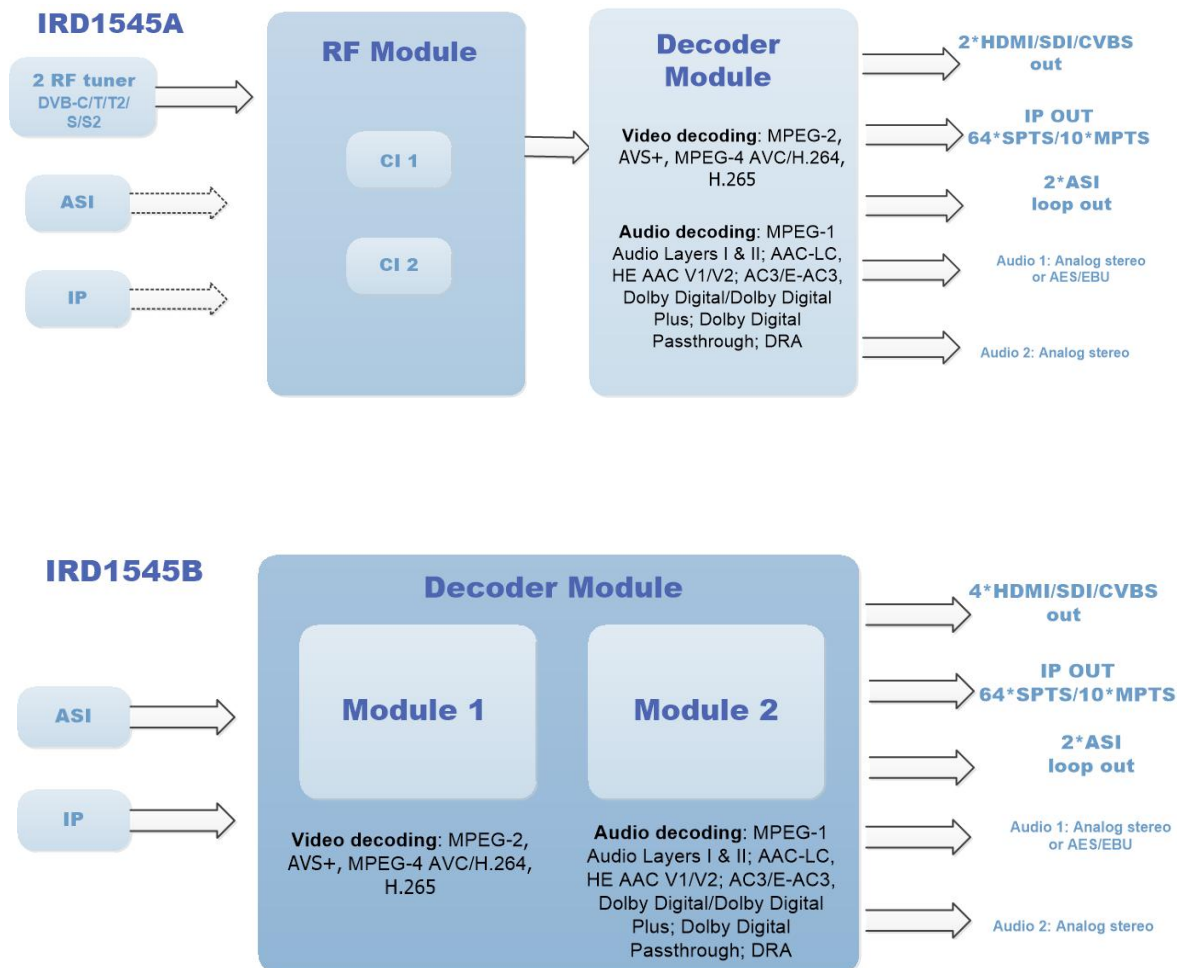
Modular 1



Modular 2

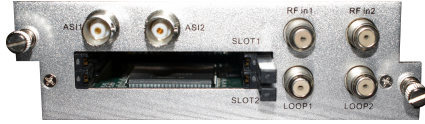


Principle Chart



TECHNICAL SPECIFICATIONS

Modular 1



DVB-S/S2 Tuner

DVB-S/S2 Tuner Input	2*RF input, 2*RF loop out 75 Ω
Input frequency	950~2150MHz
Input level	-25~ -65 dbm
Symbol Rate	1 ~ 45msps
Roll-off Factor	0. 2, 0.25, 0.35
FEC Code Rate	All rates compatible with the standard
LNB power supply	13V, 18V selectable, 22KHz selectable
Constellation	QPSK, 8PSK

DVB-C Tuner

DVB-C Tuner Input	2*RF input, 2*RF loop out 75Ω
Input Frequency Range	48~862MHz
Input Level	45~75dbuV
Modulation mode	16/32/64/128/256QAM

DVB-T/T2 Tuner

DVB-T/T2 Tuner Input	2*RF input, 2*RF loop out 75 Ω
Input Frequency	44~1002MHZ
Input Level	-20 ~ -100dbm
Modulation mode	DVB-T: QPSK, 16/64 QAM DVB-T2: QPSK, 16/64/256 QAM
Bandwidth	6MHz, 7MHz, 8MHz
Guard Interval	DVB-T: 1/4, 1/8, 1/16, 1/32 DVB-T2: 1/4, 1/8, 1/16, 1/32, 1/64, 1/128
Carrier wave	DVB-T: 2K/8K DVB-T2: 1K/2K/4K/8K/16K/32K
FEC: DVB-T	DVB-T: 1/4, 1/8, 1/16, 1/32 DVB-T2: 1/2, 3/5, 2/3, 3/4, 4/5, 5/6

Output

DVB-ASI	Two independent Ports, Bitrate ≤ 120Mbps
RJ45 Gigabit ethernet	Dual GbE interfaces TS over IP(SMPTE ST 2022-2), 64SPTS or 2MPTS UDP Unicast or multicast



Modular 2

HDMI Output

Implementation standards	2 * HDMI 1.4a with HDCP1.2
Resolution	up to UHD/4K @30fps, 1080p@60fps

SD/HD SDI Output

Interface	2×BNC, 75Ω
Resolution	up to 1080i@60fps
SD-SDI output	SMPTE 259M, 270 Mb/s (10bit)
HD-SDI output	SMPTE 292M, 1.485 Gbit/s (20bit)
Output level	800mV±20 p-p

Analog Audio Output

Connector Type	2*RCA, 2*XLR
Audio Output mode	Left, Right, Dual Mono, Stereo

Analog Video Output

Connector Type	2*RCA, 75Ω
Output level	I.O Vp±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%

Digital audio output

Connector Type	2*AES/EBU
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Video Decoding

Video Standard	MPEG-2; MPEG 4 AVC/H.264; H.265; AVS+
Video Resolution	3840x2160@30(UHD) 1920x1080P60, 1920x1080P50(FullHD) 1920x1080i60, 1920x 1080i50(FullHD) 1080x720p60, 1080x720p50(HD) 720x 576P, 720x 576I(SD) 720x 480P, 720x 480I(SD)
Chroma Sample	4:2:0
Bit Depth	8-bit, 10-bit
Decoding Latency	low latency mode: 300-1000ms
HEVC (H.265/MPEG-H)	Main @ L4.1 & L5.1 Main 10 @ L4.1 & L5.1 Main 10 422 @ L4.1 & L5.1
H.264 Profiles	H.264 BP/MP/HP@ level 5.0
MPEG2 Profiles	MPEG2 SP@ML, MP@HL
AVS+ Profiles	AVS-P16(AVS+)

Audio Decoding

Audio Standard	MPEG-1 Audio Layers I & II AAC-LC, HE AAC V1/V2, AC3/E-AC3 Dolby Digital/Dolby Digital Plus Dolby Digital Passthrough DRA
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Data output

Subtitle	DVB/EBU/Teletext
Closed Caption	EIA 608, EIA 708, EIA 608-to-708

Data In/Output

DVB-ASI

	1*BNC, 75ΩDVB-ASI In, EN50083-9
	2*BNC, 75ΩDVB-ASI Loopout
	Bit Rate ≤ 120Mbps

GbE IP

	Dual GbE IP output, RJ-45, auto-negotiation 800Mb/s (1000 Base-T) 7x188 bytes Adjustable, UDP, Unicast, Multicast
IP out	64SPTS/10MPts over IP out of GbE1 as mirror of GbE2 Ports
IP in	2/4 UDP/IP inputs
	2*UDP IP in: (IRD1545A); 4*UDP IP in: (IRD1545B)

Control & Monitoring

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

Environment

Power Supply	AC 90V~250V, 50/60Hz
Power consumption	24W (Without LNB power supply)
Dimension	450*350*44mm
Operating temperature	0 ~ 45℃
Storage temperature	-10 ~ 60℃
Humidity	10 ~ 90% non-condensed
Weight	5KG

Ordering Information

Part Number	Description
IRD1545A	First module: RF Board Second Module: Decode Board
IRD1545B	Two Modules: Decode Board