

Specification

Tuner Input	
DVB-S/S2 Tuner Input (ISI Factory Optional)	
Connector Type4	4×F type female 75Ω for Input
Input Frequency Range	950~2150MHz
Input Level	-25~-65dBm
Symbol Rate	1~45MBaud
Roll-off Factor	DVB-S QPSK: 0.35 DVB-S2 8PSK: 0.35, 0.25, 0.2
FEC Code Rate	DVB-S QPSK: 1/2, 2/3, 3/4, 5/6, 7/8 DVB-S2 QPSK: 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10 DVB-S2 8PSK: 3/5, 2/3, 3/4, 5/6, 8/9, 9/10
LNB Polarity Selection Voltage	0, 13V, 18V selectable
LNB Band Selection Tone	0/22KHz selectable
Satellite Selection Command	DiSEqC 1.0
ISI ID	1~255 user configurable
DVB-C Tuner Input	
Connector Type	4×F type female 75Ω for Input
Input Frequency Range	51~862MHz
Input Level	45~75dBμV
Symbol Rate	1~7MBaud (ITU J.83 Annex A)
Constellation	16QAM, 32QAM, 64QAM, 128QAM, 256QAM
Bandwidth	6MHz, 7MHz, 8MHz
Input Return Loss	7dB (typ.)
DVB-T/T2 Tuner Input	
Connector Type	4×F type female 75Ω for Input
Input Frequency	104~862MHz (VHF/UHF)
Input Level	-20~-70dBm
Constellation	DVB-T: QPSK, 16QAM, 64QAM DVB-T2: QPSK, 16QAM, 64QAM, 256QAM
Bandwidth	6MHz, 7MHz, 8MHz
FFT Mode	DVB-T: 2K, 8K DVB-T2: 1K, 2K, 4K, 8K, 16K, 32K
Guarding Interval	DVB-T: 1/4, 1/8, 1/16, 1/32 DVB-T2: 1/4, 5/32, 1/8, 5/64, 1/16, 1/32, 1/64, 1/128
FEC Code Rate	DVB-T: 1/2, 2/3, 3/4, 5/6, 7/8 DVB-T2: 1/2, 3/5, 2/3, 3/4, 4/5, 5/6
Input Return Loss	7dB (typ.)
ATSC Tuner Input	
Connector Type	4×F type female 75Ω for Input
Input Frequency Range	54~864MHz
Input Level	-75~-7dBm(ATSC 8VSB)
Symbol Rate	10.762MBaud
Constellation	8VSB
Roll-off Factor	0.115
Bandwidth	6MHz
TS Processing	
TS Input Management	Demux and Remux among Tuner and CI Inputs
TS Output Management	Demuxa and Remux for ASI and IP outputs
Service and PID Management	Remux, filtering and remapping
PSI/SI	PSI/SI table regeneration, NIT and SDT edition, LCN Edition and Re-generation
Descrambler	DVB Common Scrambling Algorithm (CSA)
BISS Mode	BISS-1, BISS-E
Common Interface	Double PCMCIA slots, compatible with major CA CAMs in the market
ASI Input/Output	
Connector Type	BNC female, 75Ω
Standard	DVB-ASI, EN50083-9
Output Bit Rate	≤ 100Mb/s
IP Input/Output	
	2 RJ-45, 100/1000 Base-T
	Protocol: UDP/RTP, SPTS or MPTS
	Full duplex: 2 IP in, 2 IP out, 120mb/s x4
	IPTV mode; up to 128 IP out, 400 mb/s
	DVB mode: 11 IP out, max 600 mb/s
Digital Video Processing	
Video Standard	MPEG-2(MP@ ML for SD, MP@HL for HD) MPEG 4/H.264 AVC Part 10 (MP@L3 for SD, HP@L4.1 for HD)
SDI Video Resolution	1080i×30, 1080i×29.97, 1080i×25, 720p×60, 720p×59.94, 720p×50, 576i×25, 480i×29.97
Video PID Bit Rate	≤ 60Mb/s
HD/SD-SDI Outputs	
Connector Type	4 Pairs of SDI output, BNC, female, 75Ω
SD Standard	SMPTE 259M, 270 Mb/s (10bit)
HD Standard	SMPTE 292M, 1.485 Gbit/s (10bit), up to 1080i
Level	800mV p-p
Embedded Audios	MPEG-1 Layer 2 a. 2 stereo pairs (Stereo, Dual Mono, Left, Right) Dolby Digital (AC3) a. 5.1 down-mix to 2.0 (Stereo, Dual Mono, Left, Right) b. Dolby Digital Audio Pass-through Dolby Digital Plus(AC3+) a. 5.1 down-mix to 2.0 (Stereo, Dual Mono, Left, Right) b. Dolby Digital Audio Pass-through Dolby E a. 5.1 down-mix to 2.0 (Stereo, Dual Mono, Left, Right) b. Dolby Digital Audio Pass-through MPEG-2 AAC a. 5.1 down-mix to 2.0 (Stereo, Dual Mono, Left, Right) b. 2.0 (Stereo, Dual Mono, Left, Right) MPEG-4 HE-AAC v1/v2 a. 5.1 down-mix to 2.0 (Stereo, Dual Mono, Mono, Left, Right) b. 2.0 (Stereo, Dual Mono, Left, Right)
Embedded Ancillary Data	Teletext, WSS, CC
Analog Video Output	
CVBS Connector	4×BNC female 75Ω
CVBS Standard	NTSC, PAL, and SECAM
CVBS Resolution	576i×25, 480i×29.97
Nominal Output Level	1.0 Vp-p±5% (with standard test stream)
Frequency Response	<±1 dB, at 5.5 MHz for PAL/SECAM, 4.2MHz for NTSC
Chroma-Luma Delay	<±30 ns
Field Time Distortion	<2%
Line Time Distortion	<1%
Short Time Distortion	<2%
Differential Gain	<3%
Differential Phase	<2°
Signal to Noise Ratio	>55dB (luminance weighted)
Analog Audio Output	
Connector Type	2×D-sub 9 male included 4 pairs of stereo audio with XLR adaptor cable
Output Impedance	600Ω (balanced)
Output Mode	Left, Right, Dual Mono, Stereo
Number of Outputs	4 pairs of stereo audio outputs (4 Audio PIDs or 8 channels are decoded)
Cross Talk Among Channels	>70dB
THD	<0.3% @ 400Hz, 1KHz test tone
Frequency Response	±0.5dB over 20Hz ~ 18KHz
Output Level	0dBm in 600Ω (0dBu), adjustable range ±10dB
Ancillary Data Processing	
Subtitle	DVB, EBU
VBI	Teletext, WSS
Closed Caption	EIA 608, EIA 708, EIA 608-to-708
Control & Monitoring	
Connector Type	1×RJ-45, 10/100 Base-T, for equipment IP Control
Remote Control	SNMP, HTTP (Web Interface), Proprietary HDMS (Headend Device Management System)
Local Control	LCD display and 6-key keypad
Serial Port	1×RS-232 D-sub female, for debug use only
Equipment Upgrade	Embedded FTP loader and Telnet
Physical	
Dimension	505mm x 445mm x 45mm
Weight	3.5kg
Power Supply	AC 90V ~ 250V, 50/60Hz
Power Consumption	24W (exclusive of LNB power)
Operating temperature	0~45°C
Storage temperature	-10~60°C
Operating Humidity	10~90%, non-condensed
Certification	
EMC: EN 55024:1998+A1:2001+A2:2003, EN 55022:2006+A1:2007, EN 61000-3-2:2006, EN 61000-3-3:2008	
FCC: Part 15 Class B	
LVD: EN 60950-1:2006 + A11:2009	