FEATURES

- SD / HD Capable
- MPEG-2 / MPEG-4 AVC / H.264
- NTSC/PAL/SECAM composite
- Dual HD-SDI Outputs
- HD-SDI, HDMI digital video output
- Analog and AES audio outputs
- Audio embedded in HDMI and HD-SDI
- Inputs: DVB-S/S2/S2X L-Band, ASI and TS/IP (DEC-5001 only)
- MPEG, AAC audio decoding
- Full control front panel
- Remote control via SNMP, Web GUI
- BISS 1 & E decryption
- Dual Common Interface

There are two versions available as detailed in the table below:

Model	Functionality
DEC-5001	Full functionality as described in this data sheet
DEC-5000	TS/IP functionality removed

DEC-5001

Video Integrated Receiver Decoder

The **DEC-5001 DVB-S/S2/S2X Satellite Receiver-Decoder** provides operators an ideal solution for receiving, re-multiplexing, descrambling and decoding operations. A highly versatile unit, it is equipped with a variety of inputs that ensures compatibility with advanced transmissions and media.

The **DEC-5001** is a professional video Integrated Receiver Decoder (IRD) which supports DVB-S/S2 and DVB-S2X transmission formats. The DEC-5001 is ideal for high quality and has demonstrated its high reliability in demanding applications. Redundant backup from tuner to ASI and to the TS/IP input (DEC-5001 only) is available with configurable priorities. SD & HD resolutions are supported with MPEG-2 and MPEG-4 AVC/H.264 digital video decoding. Two Audio PIDs decode or pass through (compressed) in SDI output

Multiple analog and digital outputs including ASI, CVBS, YPbPr, HDMI, SD/HD-SDI, AES/EBU Audio, TS/IP are available. The built-in TS re-multiplexer receives ASI, tuner and the TS/IP Inputs (DEC-5001 only) in order to regenerate a new transport stream.

Decryption capabilities include 2×DVB-CI Slots for multi-program decryption as well as BISS-1 and BISS-E decryption.
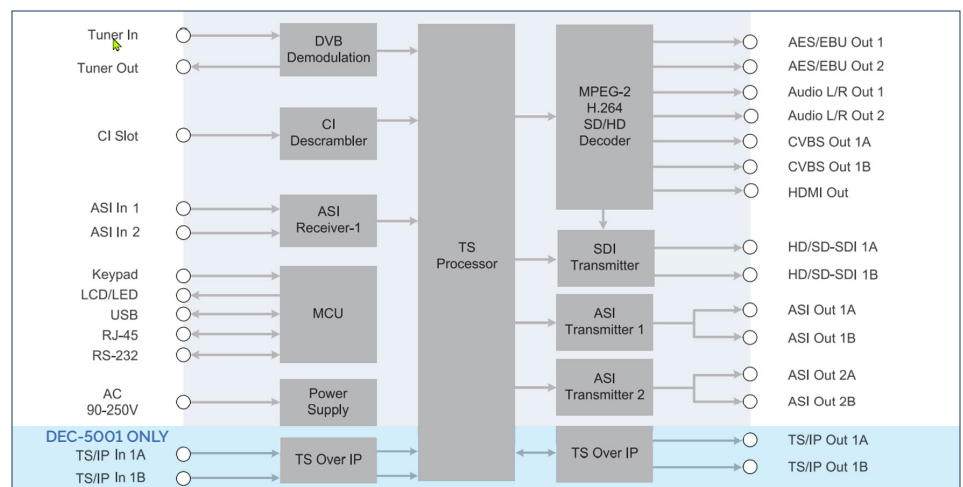
Dynamic PMT detection and automatic updating is standard. Support is provided for VBI TELETEXT, EBU/DVB subtitles and closed captions.

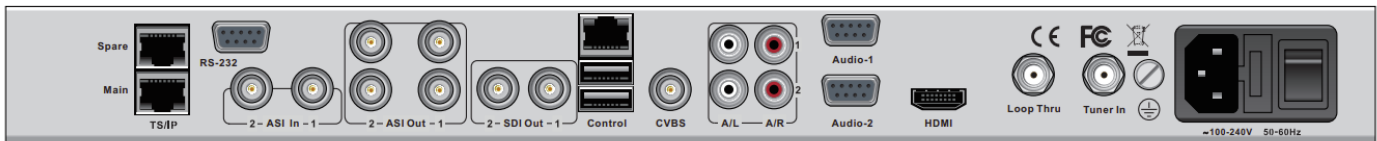The standard configuration includes IP inputs of UDP/RTP, Unicast/Multicast, and SPTS/MPTS over IP.

Remote Control and Supervision are supported thru SNMP and HTTP WEB interfaces

PCM audio can be embedded in SDI and HDMI outputs and PCM audio also output on the two AES/EBU audio output ports

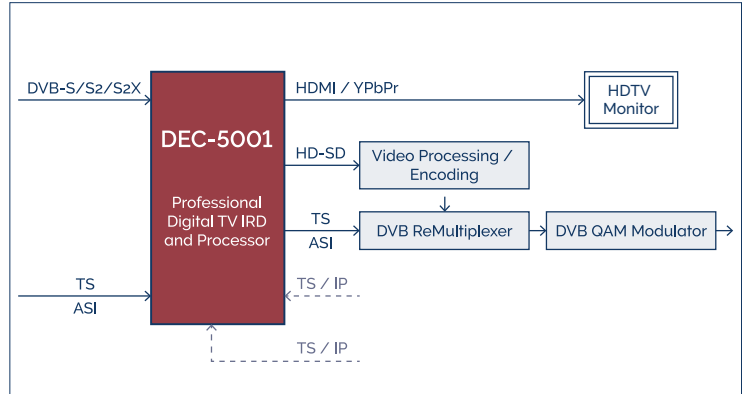Software can be updated through web GUI interface.

TECHNICAL

DVB-S2X/S2 TUNER INPUT SATELLITE TUNER INPUT	
Connector	Type 1×F type female 75Ω for Input, 1×F type female 75Ω for loop through output
Standard(s)	ETSI EN 302-307-1 V1.4.1 (Part 1:DVB-S2 and Part 2: DVB-S2X)
Symbol Rate	QPSK 1 to 60 MBaud 8PSK 1 to 60 MBaud 16APSK 1 to 58 MBaud 32APSK 1 to 55 MBaud 64APSK 1 to 34 MBaud
Code Rate	Normal (64800 bits) FECFRAME supported
Roll-off	0.05 to 0.35
Input RF Frequency	950 to 2150MHz
LNB Voltage	0, 13, 18V
LNB Control	22kHz On/Off
DiSEqC	DiSEqC 1.0
PLS gold code	0 to 262141
ISI	1 ~ 255
ASI INPUT	
Connector Type	2xBNC female, 75 Ω
Standard	DVB-ASI, EN50083-9
Input Bit Rate	≤ 100Mb/s
TS OVER IP (DEC-5001 only)	
Connector Type	1×RJ-45, 10/100 Base-T or 100/1000 Base-T for TS/IP
Effective Bit Rate	70Mb/s for 10/100/1000 Base-T
Protocol	UDP / RTP, Multicast / Unicast, IGMPv3, ARP FEC SMPTE 2022M (Pro-MPEG) FEC (for GbE only)
Operating Mode & Effective Bit Rate:	1 full duplex, Support Pro MPEG FEC, Backup 1+1, Max 80Mb/s 32-CH IPTV/DVB mode output, Total 500Mb/s, Spare mirror output

TS PROCESSING	
TS Input Management	Demux and Remux among Tuner / ASI and TS/IP Inputs
TS Output Management	Demux and Remux for 2 independent ASI outputs
Service and PID Management	Remux, filtering and remapping
PSI/SI	PSI/SI table regeneration, NIT and SDT edition, LCN Edition and Regeneration
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 OUTPUT	
Connector	Type 2 pairs of BNC female, 75Ω Standard DVB-ASI, EN50083-9
Output Bit Rate	≤ 99Mb/s
TS Processing	2 Independent TS Re-multiplexed from tuner, TS/IP and 2 ASI inputs
HDMI Output	Standard 1×HDMI 1.3 interface (up to 1080i)
Video Resolution and Frame Rate	1080i×30, 1080i×29.97, 1080×25, 720p×60, 720p×59.94, 720p×50, 480p×60, 576p×50, 576i×25, 480i×29.97
Audio Embedded	2×stereo or Digital Audio pass through
DIGITAL VIDEO PROCESSING	
Video Standard	MPEG-2(MP@ ML for SD, MP@HL 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	< 80Mb/s
HD/SD-SDI OUTPUT	
Connector	Type 1 pair of BNCs (mirrored), female, 75Ω SD Standard SMPTE 259M, 270 Mb/s (10bit)
HD Standard	SMPTE 292M, 1.485 Gbit/s (10bit) Level 800mV p-

TECHNICAL

DIGITAL AUDIO PROCESSING	
Connector Type	2×D-sub 9 male with XLR adaptor cables
Number of Output	2×audios are decoded or passed through
Audio Sampling Rate	32, 44.1 and 48 kHz
Audio	MPEG Layer 1: 32, 64, 96, 128, 160, 192, 224, 256, 288, 320, 352, 384, 416 and 448 kb/s MPEG Layer II: 32, 48, 56, 64,80, 96, 112, 128, 160, 192, 224, 256, 320, 384 kb/s MPEG4-AAC MPEG4-HE-AAC v1 & v2 AC-3 stereo AC-3 5.1 output embedded in SDI and HDMI
Nominal Output Level	1V p-p (with standard test stream)
Output Format	AES/EBU
Load Impedance	110Ω (with XLR adaptor cables)
ANALOG VIDEO OUTPUT	
CVBS Connector	1×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, with XLR adaptor cable
Output Impedance	600Ω (balanced)
Output Mode	Left, Right, Dual Mono, Stereo
Number of Output	2 pairs of stereo audio outputs (2 Audio PIDs or 4 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, EBUVBI Teletext, WSS
Closed Caption	EIA 608, EIA 708, EIA 608-to-708
REDUNDANCY	
Redundancy	Switch between Tuner, ASI input and TS/IP input
Switching Condition	TS Sync Loss
Switching Mode	Main, Spare
CONTROL & MONITORING	
Connector Type	1×RJ-45, 10/100 Base-T, for equipment IP Control
Remote Control	SNMP, HTTP (Web Interface)
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	44mm × 483mm × 255mm
Weight	3.4Kg Net, 5.4kg Gross
Power Supply	AC 90-250VAC, 50/60Hz
Power Consumption	24W (exclusive of LNB power)
Operating temperature	0 to 45° C
Storage temperature	-10 to 60° C
Operating Humidity	10 to 90%, non-condensing
CERTIFICATION	
EMC	EN 55024:1998+A1:2001+A2:2003, EN 55022:2006+A1:2007, EN61000-3-2:2006, EN 61000-3-3:2008
FCC	Part 15 Class B
LVD	EN 60950-1:2006 + A11:2009