

## PROFESSIONAL INTEGRATED RECEIVER/DECODER

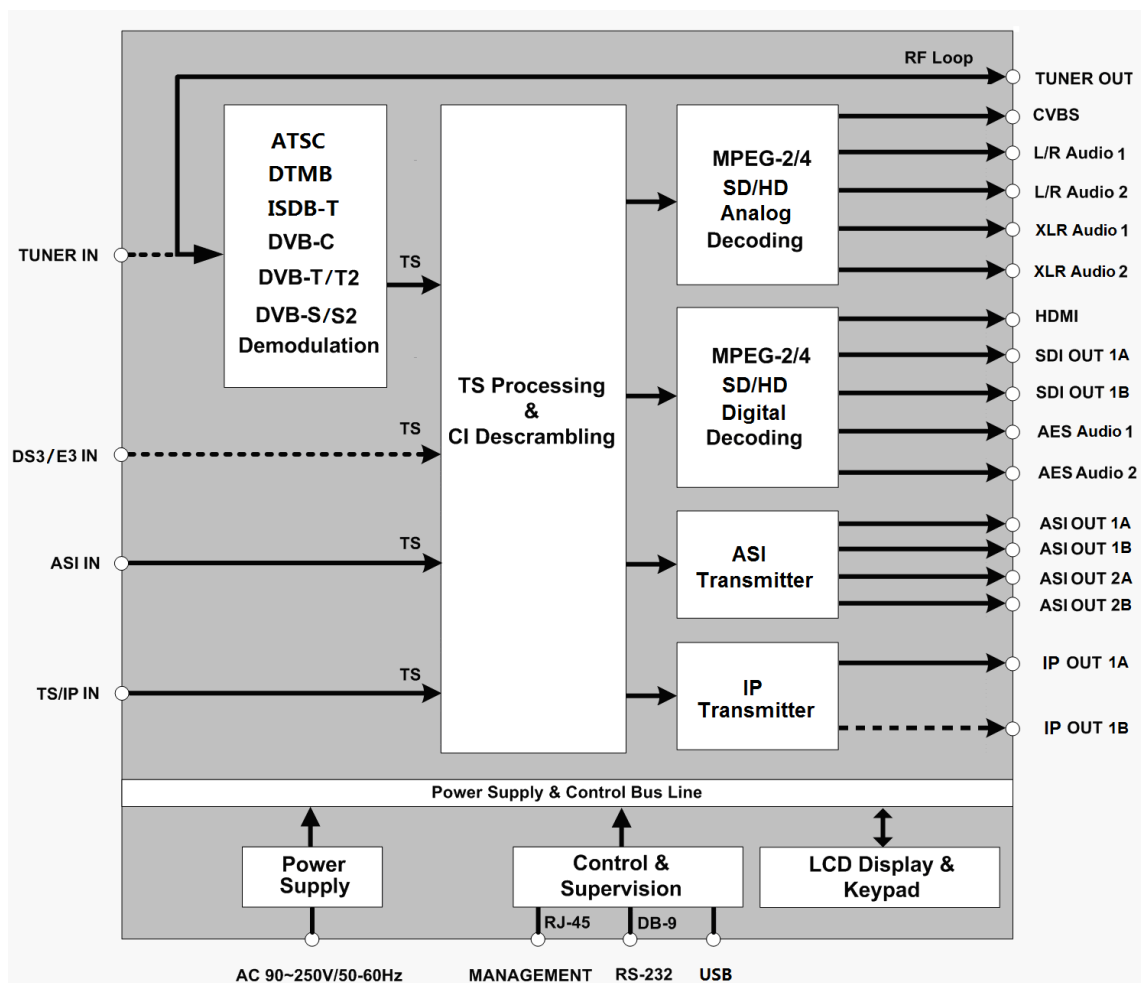
- DVB-S/S2, DVB-T/T2, DVB-C, ATSC, ASI and IP Receiver
- MPEG-2, H.264/MPEG-4 AVC SD/HD Decoder
- HD/SD-SDI, HDMI, Composite, ASI and IP Outputs
- Built-in re-multiplexer
- 2 independent ASI outputs
- TS over IP: 2 GBe ports (Full Duplex)
- IPTV Gateway: SPTS IP outputs – up to 32 TV channels; UDP/RTP, unicast/multicast
- BISS Descrambler
- 2 DVB-CI Slots, compatible with: Conax, Cryptoworks, Irdeto, NDS, Mediaguard, SECA, Viaccess and more
- VBI Teletext, WSS, EBU, DVB and CC support



### Rear Panel



### Block Diagram



The ADV-6000 provides an ideal solution for receiving, re-multiplexing, descrambling and decoding broadcast signals. It is equipped with a variety of inputs that ensure compatibility with all transmission media. The ADV-6000's re-multiplexing capabilities enable creation of new transport streams by combining existing sources. Customized services may be output as multiple SPTS or MPTS over IP, as well as over ASI. Through the dual DVB common interfaces, ADV-6000 has the capability to decrypt multiple services present in transport streams. ADV-6000 is also a professional IRD that features a broadcast quality decoder for MPEG-2 and MPEG-4 AVC/H.264, in both Standard Definition and High Definition formats, and provides a variety of industry standard digital and analog outputs, including CVBS video, AES/EBU Audio, analog Audio, embedded audio, HDMI, SD-SDI and HD-SDI. The unit can perform HD down-conversion and aspect ratio adaptation of HD programs in order to generate professional quality baseband analog video and audio outputs for easy integration with existing cable network infrastructure. This all-in-one architecture makes the ADV-6000 an ideal product for any broadcast environment.

## Key Features

- Many input options: DVB-T2/S2/S/C/T/ATSC, DS3/E3, TS/IP and ASI
- Support for DVB-S2 Input Stream Identifier (ISI, optional), Physical Layer Signaling (PLS, optional) and DVB-T SFN MIP pass through
- Redundant backup among Tuner, ASI and TS/IP, with configurable priority
- SD/HD MPEG-2 and MPEG-4 AVC/H.264 digital video decoding
- 2 Stereo pairs audio decoding: Analog, Embedded and AES/EBU outputs
- Audio Output formats: MPEG-1 Layer 1, MPEG-1 Layer 2, MPEG-2 Layer 2, MPEG-2 AAC, MPEG-4 AAC, Dolby AC3/AC3+ (down-mix to 2.0 or pass-through)
- Analog and Digital Outputs: CVBS, HDMI, SD/HD-SDI, AES/EBU and XLR Balanced Audio
- HD/SD decoding support: PAL, NTSC, SECAM, 720p, 1080i
- HD to SD down-conversion
- Built-in TS re-multiplexer can receive from ASI, Tuner and TS/IP Inputs
- 2×DVB-CI Slots, multi-program decryption, BISS-1 and BISS-E decryption
- Dynamic PMT detection and automatic updating
- Support for VBI TELETEXT, WSS, EBU/DVB Subtitle, Closed Caption
- UDP/RTP, Unicast/Multicast, 32 SPTS or 1 MPTS over IP (full duplex)
- Remote and Local Control and Supervision by SNMP, HTTP WEB, LCD menu and Proprietary software
- PCM audio embedded in SDI and HDMI outputs, Dolby Digital and Dolby Digital Plus audio pass through by SDI and AES/EBU
- PCM audio output on two AES/EBU audio output ports
- On Site software update through IP
- RSSI, received Eb/No & BER monitoring

## ORDERING INFORMATION

**ADV-6000S - IRD with DVB-S/S2 tuner**

**ADV-6000A - IRD with ATSC (8-VSB) tuner**

**ADV-6000T - IRD with DVB-T/T2 tuner**

**ADV-6000C - IRD with DVB-C tuner**

**ADV-6000D - IPTV and ASI decoder only**

## Specifications

Tuner Input	
DVB-S/S2 Tuner Input (ISI Factory Optional)	
Connector Type	1×F type female 75Ω for Input, 1×F type female 75Ω for loop through output
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
PLS	0 ~ 262141 user configurable
ISI ID	1 ~ 255 user configurable
DVB-C Tuner Input	
Connector Type	1×F type female 75Ω for Input, 1×F type female 75Ω for loop through output
Input Frequency Range	51MHz ~ 862MHz
Input Level	51dBμV ~ 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	1×F type female 75Ω for Input, 1×F type female 75Ω for loop through output
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
Guard 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	1×F type female 75Ω for Input, 1×F type female 75Ω for loop through output
Input Frequency Range	54MHz~864MHz

Input Level	-75dBm~-7dBm
Symbol Rate	10.762Mbaud
Constellation	8VSB, also available for ITU J.83 Annex B
Roll-off Factor	0.115
Bandwidth	6MHZ
<b>ASI Input</b>	
Connector Type	1×BNC female, 75Ω
Standard	DVB-ASI, EN50083-9
Input Bit Rate	≤ 200Mb/s
<b>DS3 Input (Optional)</b>	
Connector Type	2×BNC female, 75Ω, including loop through
Standard	Compliant with ITU-T G.703
Frame Structure	Compliant with ITU-T G.752 and ITU-T G.804
Bit Rate	44.736Mb/s
<b>TS over IP</b>	
Connector Type	2×RJ-45, 10/100/1000 Base-T for TS/IP
Effective Bit Rate	80Mb/s for full duplex with ProMPEG FEC, 1 IP in / 1 IP out 200Mb/s for full duplex without ProMPEG FEC, 1 IP in / 4 IP out 400Mb/s for 32xSPTS IP out only
Protocol	UDP / RTP, Multicast / Unicast, IGMPv3, ARP
<b>TS Processing</b>	
TS Input Management	Demux and Remux among Tuner / DS3(optional)/ E3(optional), 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 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
<b>ASI Output</b>	
Connector Type	2 pairs of BNC female, 75Ω
Standard	DVB-ASI, EN50083-9
Output Bit Rate	≤ 200Mb/s
TS Processing	2 Independent TS Re-multiplexed from tuner, TS/IP and ASI inputs
<b>HDMI Output</b>	
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	1× stereo pair
<b>Digital Video Processing</b>	
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
<b>HD/SD-SDI Output</b>	
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-p
Audio Embedded	2x stereo pairs
<b>Digital Audio Processing</b>	
Connector Type	2×D-sub 9 male with XLR adaptor cables
Number of Output	2×audios are decoded or passed through
Audio Output formats	MPEG-1 Layer 1, MPEG-1 Layer 2, MPEG-2 Layer 2, MPEG-2 AAC, MPEG-4 AAC, Dolby AC3 (down-mix to 2.0 or pass-through), Dolby AC3+ (down-mix to 2.0 or pass-through)
Audio Sampling Rate	32, 44.1 and 48 KHz
Audio Bit Rate	32, 64, 96, 128, 160, 192, 224, 256, 288, 320, 352, 384, 416 and 448 Kb/s for MPEG-1 Layer I, 32, 48, 56, 64, 80, 96, 112, 128, 160, 192, 224, 256, 320 and 384 Kb/s for MPEG-1 Layer II
Nominal Output Level	1V p-p (with standard test stream)
Output Format	AES/EBU
Load Impedance	110Ω (with XLR adaptor cables)
<b>Analog Video Output</b>	
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)
<b>Analog Audio Output</b>	
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 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
<b>Ancillary Data Processing</b>	
Subtitle	DVB, EBU
VBI	Teletext, WSS
Closed Caption	EIA 608, EIA 708, EIA 608-to-708
<b>Redundancy</b>	
Redundancy Port	among Tuner, ASI input and TS/IP input
Switching Condition	TS Sync Loss
Switching Mode	Main, Spare
<b>Control &amp; Monitoring</b>	

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
<b>Physical</b>	
Dimension	44mm×483mm×255mm
Weight	3.4Kg Net, 4.4Kg Gross
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
<b>Certification</b>	
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	

\* For more information about digital audio pass through, please contact our sales representative.