

DXP-3400PA 4-Channel H.264 HD IRD



The DXP-3400PA provides operators an ideal solution for multi receiving, descrambling, remultiplexing and decoding operations. By the quad DVB common interfaces, DXP-3400PA could decrypt multiple services in 4 transport stream. DXP-3400PA 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 4 separated CVBS video, analog Audio, SD-SDI and HD-SDI. The unit also performs HD down-conversion and aspect ratio adaptation of HD programs to generate professional quality baseband analog video and audio outputs and TS over IP operations for easy integration with existing cable network infrastructure. This all-in-one architecture makes the DXP-3400PA an ideal product for distribution and contribution networks.

Main Feature

- Quad Tuner Input, Supports variety of input options DVB-T2/S2/S/C/T/DTMB/ATSC/ISDB-T, DS3/E3,
- Supports DVB-S2 Input Stream Identifier (ISI, optional) and DVB-T SFN MIP pass through
- SD/HD MPEG-2 and MPEG-4 AVC/H.264 digital video decoding
- Two Audio PIDs decode or pass through (compressed) for each SDI output
- Built-in 2xTS re-multiplexer, one receives from Tuner1, Tuner2, CI1 and CI2 Inputs, the other receives from Tuner3, Tuner4, CI3 and CI4 Inputs
- Support 2xIP streaming in & 2 IP out at full duplex mode, or 128xchannels IP out at IPTV mode, or 11xchannels IP out at DVB mode
- On Site software update through IP or USB
- 4x DVB-CI Slots, multi-program decryption, BISS-1 and BISS-E decryption
- Dynamic PMT detection and automatic updating
- Supports VBI TELETEXT, EBU/DVB Subtitle, Closed Caption
- Remote Control and Supervision by SNMP, HTTP WEB and Proprietary HDMS software
- PCM audio embedded in SDI and HDMI outputs
- AC3 and Dolby E audio can be passed through by SDI
- VBI TELETEXT, WSS and Closed Caption embedded in SDI
- RSSI, received Eb/No & BER monitoring
- Redundant power supply

Built-in Remultiplexer and TS/IP interface



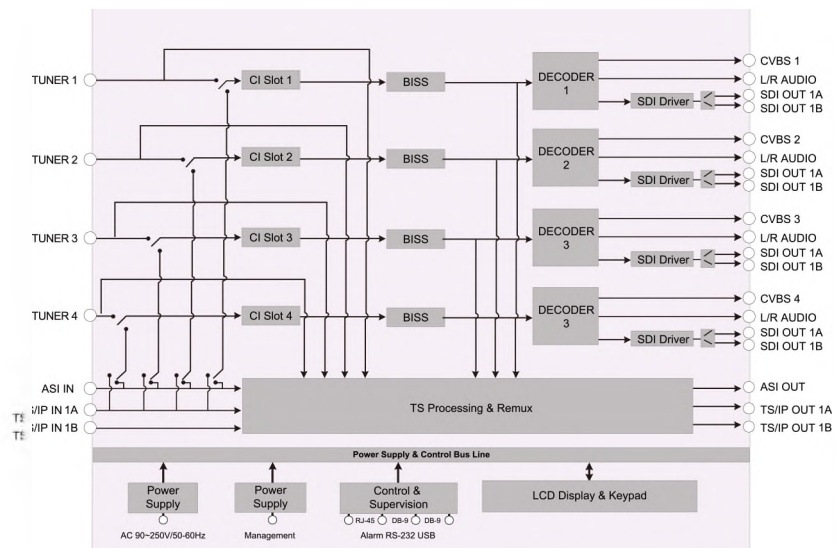
Up to 8 channels in one rack



Hot-swappable redundant power supply



Block Diagram



Specification

Tuner Input		Standard	Compliant with ITU-T G.703
DVB-S/S2 Tuner Input (ISI Factory Optional)		Frame Structure	Compliant with ITU-T G.752 and ITU-T G.804
Connector Type	4×F type female 75Ω for Input	Bit Rate	44.736Mb/s
Input Frequency Range	950~2150MHz	TS Processing	
Input Level	-25~-65dBm	TS Input Management	Demux and Remux among Tuner and CI Inputs
Symbol Rate	2~45MBAud	TS Output Management	Demux and Remux for 4 independent ASI outputs
Roll-off Factor	DVB-S QPSK: 0.35 DVB-S2 8PSK: 0.35, 0.25, 0.2	Service and PID Management	Remux, filtering and remapping
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	PSI/SI	PSI/SI table regeneration, NIT and SDT edition, LCN Edition and Re-generation
LNB Polarity Selection Voltage	0, 13V, 18V selectable	Descrambler	DVB Common Scrambling Algorithm (CSA)
LNB Band Selection Tone	0/22KHz selectable	BISS Mode	BISS-1, BISS-E
Satellite Selection Command	DiSEqC 1.0	Common Interface	Double PCMCIA slots, compatible with major CA CAMs in the market
ISI ID	1~255 user configurable	ASI Input	
DVB-C Tuner Input		Connector Type	1 independent BNC female, 75Ω
Connector Type	4×F type female 75Ω for Input	Standard	DVB-ASI, EN50083-9
Input Frequency Range	51~862MHz	Output Bit Rate	≤ 100Mb/s
Input Level	45~75dBμV	ASI Output	
Symbol Rate	1~7MBAud (ITU J.83 Annex A)	Connector Type	2 independent BNC female, 75Ω
Constellation	16QAM, 32QAM, 64QAM, 128QAM, 256QAM	Standard	DVB-ASI, EN50083-9
Bandwidth	6MHz, 7MHz, 8MHz	Output Bit Rate	≤ 100Mb/s
Input Return Loss	7dB (typ.)	Digital Video Processing	
DVB-T/T2 Tuner Input		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)
Connector Type	4×F type female 75Ω for Input	SDI Video Resolution	1080i×30, 1080i×29.97, 1080i×25, 720p×60, 720p×59.94, 720p×50, 576i×25, 480i×29.97
Input Frequency	104~862MHz (VHF/UHF)	Video PID Bit Rate	≤ 60Mb/s
Input Level	-20~-70dBm	HD/SD-SDI or ASI Output	
Constellation	DVB-T: QPSK, 16QAM, 64QAM DVB-T2: QPSK, 16QAM, 64QAM, 256QAM	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)
Bandwidth	6MHz, 7MHz, 8MHz	Audio Standard	MPEG-1 Layer-I/II, MPEG-2 Layer-II LC-AAC, HE-AAC
FFT Mode	DVB-T: 2K, 8K DVB-T2: 1K, 2K, 4K, 8K, 16K, 32K	Connector Type	4 Pairs of SDI output, BNC, female, 75Ω
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	SD Standard	SMPTE 259M, 270 Mb/s (10bit)
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	HD Standard	SMPTE 292M, 1.485 Gbit/s (10bit)
Input Return Loss	7dB (typ.)	Level	800mV p-p 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 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)
DTMB Tuner Input		Embedded Audios	Teletext, WSS, CC
Connector Type	4×F type female 75Ω for Input	Embedded Ancillary Data	
Input Frequency Range	46.5~866MHz		
Input Level	-87~-29dBm		
Symbol Rate	7.56MBAud		
Bandwidth	6MHz/7MHz/8MHz		
Constellation	4QAM-NR, 4QAM, 16QAM, 32QAM, 64QAM		
Guard Interval	PN420, PN595, PN945		
Roll-off Factor	0.05		
Interleaving Depth	240, 720		
FEC Code Rate	0.4, 0.6, 0.8		
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		
DS3 Input (Option)			
Connector Type	4×BNC female, 75Ω, including loop through		

Analog Video Output

Standard	4xHDMI 1.3 interface (up to 1080i) 1 0 8 0 i × 3 0 , 1 0 8 0 i × 2 9 . 9 7 , 1 0 8 0 i × 2 5 , 7 2 0 p × 6 0 , 7 2 0 p × 5 9 . 9 4 , 7 2 0 p × 5 0 , 4 8 0 p × 6 0 , 5 7 6 p × 5 0 , 5 7 6 i × 2 5 , 4 8 0 i × 2 9 . 9 7
Video Resolution and Frame Rate	
Audio Embedded	4xstereo

Digital Audio Output

CVBS Connector	4xBNC 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) <±1 dB, at 5.5 MHz for PAL/SECAM,
Frequency Response	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	2xD-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 Output	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

TS over Ip

Connector Type	2*RJ-45, 100/1000 Base-T TS/IP Full duplex mode IEEE 802.3, 10/100/1000 Base-T 2 IP in and 2 IP out, Max bit rate: 120Mb/s X 4 Protocol: UDP/RTP SPTS or MPTS; ICMP, ARP, IGMPv2, IGMPv3 TS/IP IPTV Mode TS/IP Out only, IEEE 802.3, 10/100/1000 Base-T 128 IP out, second port backup, Max bit rate : 400Mb/s Protocol: UDP/RTP SPTS or MPTS; ICMP, ARP, IGMPv2, IGMPv3 TS/IP DVB Mode TS/IP Out only, IEEE 802.3, 10/100/1000 Base-T 11 IP out, second port backup, Max bit rate : 600Mb/s Protocol: UDP/RTP SPTS or MPTS; ICMP, ARP, IGMPv2, IGMPv3
Effective Bit Rate	

Control & Monitoring

Connector Type	1xRJ-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	1xRS-232 D-sub female, for debug use only
Equipment Upgrade	Embedded FTP loader and Telnet
Physical	
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

Back Panel Interface

