

# WDH-4500P

## MPEG-2 SD IRD and Processor

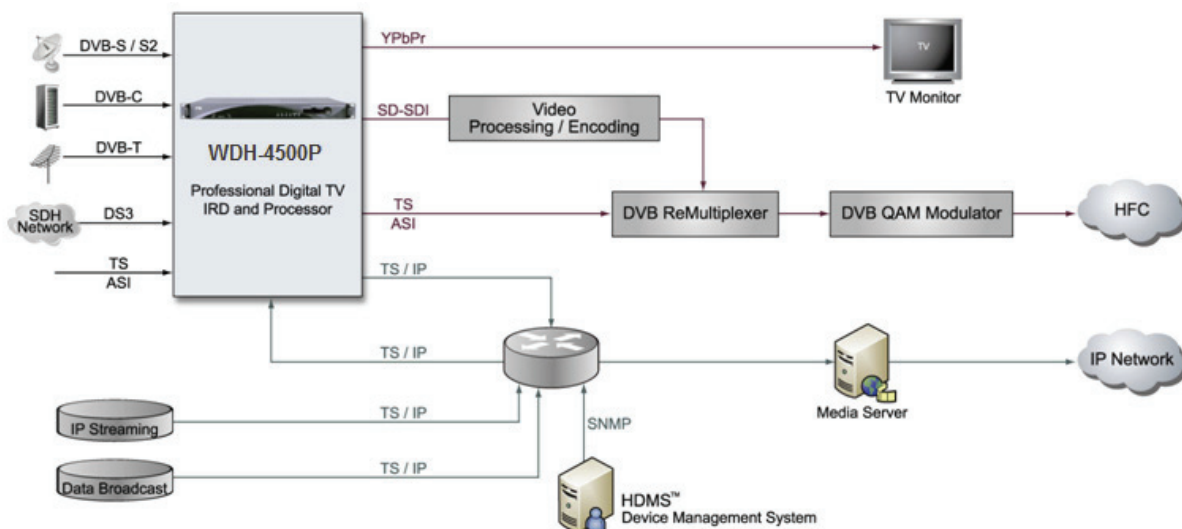


WDH-4500P is a professional integrated receiver decoder together with a built-in transport stream processor. Equipped with a wide range of inputs of DVB-T/T2,S/S2,C tuner, ASI and TS/IP, it can be used in the satellite, cable, terrestrial and IP networks. It provides a powerful transport stream processing engine for re-multiplexing, descrambling, TS over IP encapsulation. It has 2 DVB common interface slots capable of working with most of well known CAS in the market to de-crypt multiple pay TV services. Its re-multiplexing capability enables creation of customized SPTS and MPTS output to IP and ASI ports. The WDH-4500P is also a professional a broadcast quality decoder for MPEG-2 Standard Definition format, and provides a wide range of industry standard digital analog video and audio outputs, CVBS, Component, AES/EBU, and SDI. This unique multi function architecture makes the WDH-4500P an ideal product for digital TV broadcast network.

### Main Feature

- Multiple inputs DVB-S2/S/C/T,TS/IP, ASI, DS3(optional)
- SD MPEG-2 (MP@ML) digital Video decoding
- Digital audio embedded in SDI output
- Multiple Analog and Digital Outputs, ASI, CVBS, YPbPr, SD-SDI, AES/EBU , TS/IP
- Flexible re-multiplexing between ASI, Tuner and TS/IP Inputs
- RSSI, received Eb/No & BER monitoring
- 2x DVB-CI Slots, multiple TV programs decryption
- Dynamic PMT detection and automatic updating
- Support VBI TELETEXT, EBU/ DVB Subtitle
- UDP/RTP & Unicast/Multicast SPTS and MPTS over IP I/O
- Remote Control and Supervision by SNMP, HTTP WEB and Proprietary HDMS software

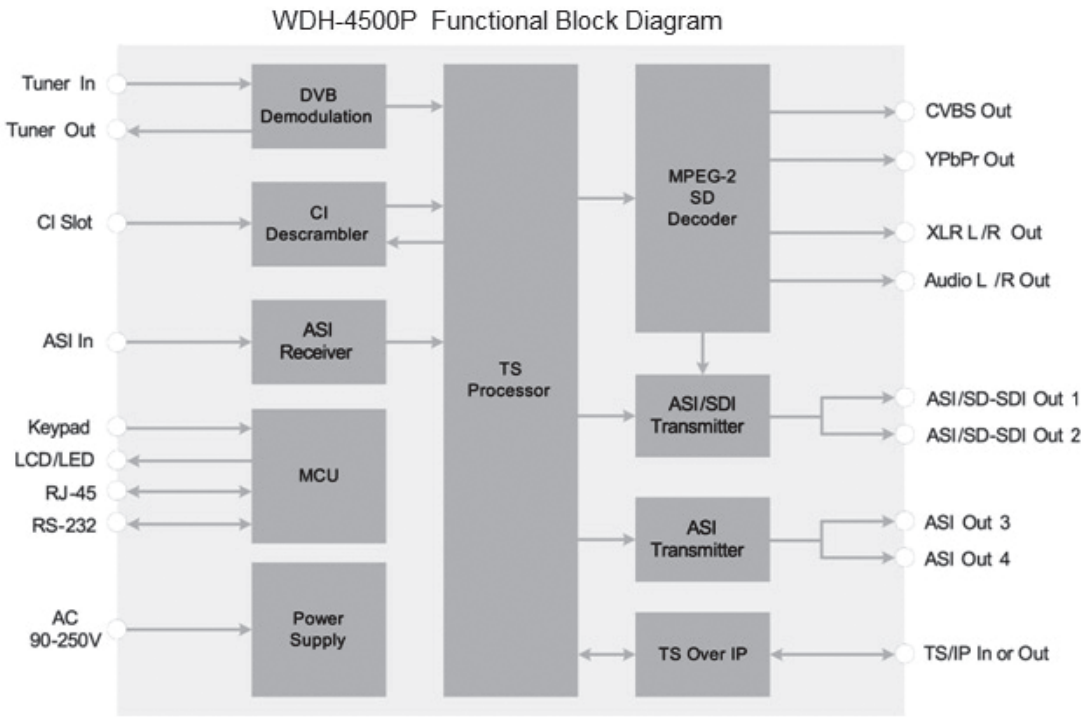
### Application Case



## Specification

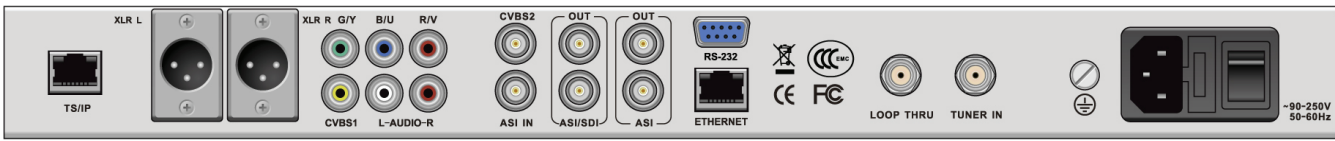
<b>Tuner Input</b>		Descrambler	DVB Common Scrambling Algorithm (CSA)
<b>DVB-S/S2 Tuner Input</b>		BISS mode	BISS-1, BISS-E
Connector type	1×F type female 75Ω for Input, 1×F type female 75Ω for loop through output	Common Interface	Dual PCMCIA slots, compatible with major CA CAMs in the market
Input frequency range	950~2150MHz	<b>ASI Output</b>	
Input level	-25~-65dBm	Connector type	2×BNC Female, 75Ω
Symbol rate	5~45MBaud/s for QPSK 10~31MBaud/s for 8PSK	Standard	DVB-ASI, EN50083-9
Roll off factor	DVB-S QPSK: 0.35 DVB-S2 8PSK: 0.35, 0.25, 0.2	TS processing	2 TS Re-multiplexing from tuner, TS/IP and ASI input (1 for mirror)
Punctured rates	DVB-S QPSK: 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 8/10 DVB-S2 8PSK: 3/5, 2/3, 3/4, 5/6, 8/9, 9/10	<b>Digital Video Processing</b>	
LNB Polarization selection voltage	0, 13V, 18V selectable	Video Standard	MPEG-2(MP@ ML)
LNB Band selection tone	0/22KHz selectable	SDI Video Resolution	PAL, NTSC, SECAM
Satellite selection command	DiSEqC 1.0	Video Bit Rate	< 80Mb/s
<b>DVB-C Tuner Input</b>		<b>SD-SDI Output</b>	
Connector type	1×F type female 75Ω for Input, 1×F type female 75Ω for loop through output	Connector type	1×SDI output, BNC Female, 75Ω
Input frequency range	48~860MHz	Serial interface	SMPTE 259M, 270 Mb/s (10bit)
Input level	45~ 75dBμV	Single level	800mV p-p
Symbol rate	1~7MBaud (ITU J.83 Annex A)	<b>Analog Video Output</b>	
Constellation	16/32/64/128/256QAM	YPbPr Connector	1 set of RCA, 75Ω
Bandwidth	6MHz/7MHz/8MHz	CVBS Connector	1×BNC 75Ω, 1×RCA 75Ω
Input return loss	7dB (typ.)	Video Standard	NTSC, PAL, and SECAM
<b>DVB-T Tuner Input</b>		Signal Level	1.0 Vp-p±5%
Connector type	1×F type female 75Ω for Input, 1×F type female 75Ω for loop through output	Frequency Response	<±1 dB at 5.5 MHz
Input frequency range	104~862MHz (VHF/UHF)	Chroma-Luma Delay	<±30 ns
Input level	-20~-70dBm (Quasi Error Free, QEF)	Field Time Distortion	<2%
Constellation	DVB-T: QPSK/16-QAM/64-QAM DVB-T2: QPSK, 16QAM, 64QAM, 256QAM	Line Time Distortion	<1%
Bandwidth	6MHz/7MHz/8MHz	Short Time distortion	<2%
FFT mode	DVB-T: 2K/8K	Differential Gain	<4%
Guard interval	DVB-T: 1/4, 1/8, 1/16, 1/32	Differential Phase	<2°
FEC code rate	DVB-T: 1/2, 2/3, 3/4, 5/6, 7/8	Signal to Noise Ratio	>55 dB (luminance weighted)
Input return loss	7dB (typ.)	<b>Analog Audio Output</b>	
<b>ASI Input</b>		Connector type	XLR Male Socket
Connector type	1×BNC, 75Ω	Output Impedance	600Ω (balanced)
Standard	DVB-ASI, EN50083-9	Output mode	Left, Right, Dual Mono, Stereo
Input bit rate	≤ 100Mb/s	Number of Outputs	1 pair of stereo audio output
<b>DS3 Input (Option)</b>		<b>Ancillary Data Processing</b>	
Connector type	2×BNC Female, 75Ω, including loop through	Subtitle	DVB/EBU
Standard	Compliant with ITU-T G.703	VBI	Teletext, WSS, VFD, VPS
Frame structure	Compliant with ITU-T G.752 and ITU-TG.804	<b>Control &amp; Monitoring</b>	
Bit rate	44.736Mb/s	Connector type	1×RJ-45, 10/100M, for equipment IP Control
<b>TS over IP</b>		Remote control	SNMP, HTTP Web, Proprietary HDMS Network System Management Software
Connector Type	1×RJ-45, 10/100M for TS/IP	Local control	LCD display and 6-key keypad
Useful bit rate	70Mb/s for 10/100M	Serial port	1×RS-232 9-pin D-sub, for debug use only
Protocol	UDP / RTP, Multicast / Unicast, IGMPv2, ARP	Equipment upgrade	FTP loader
<b>TS Processing</b>		<b>Physical</b>	
TS Input Management	Remux and demux among Tuner / DS3(optional) /, ASI and TS/IP Inputs	Dimension	44mm×483mm×255mm
Service and PID management	Remux, filtering and remapping	Weight	3.4Kg Net, 5.4Kg Gross
PSI/SI	PSI/SI table regeneration, NIT and SDT edition, LCN Edition and Re-generation	Power Supply	AC 90V~250V, 50/60Hz
		Power Consumption	24W
		Operating temperature	0~45°C
		Storage temperature	-10~50°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	

## Block Diagram



## Back Panel Interface

### WDH-4500P-88X models



### WDH-4500P -86X models



## Order Information

Functionality / Model	WDH-4500P-60X	WDH-4500P-86X	WDH-4500P-88X
Tuner Input	X=Tuner option □-T:DVB-T □-C:DVB-C □-S:DVB-S □-S2:DVB-S2 □-D:DS3		
ASI Input	x1	x1	x1
DVB Common Interface	x2	x2	x2
Built-in Remultiplexer	•	•	•
ASI Output (mirrored)	x2	x2	x2
SDI Output (mirrored)	x2	x2	x2
Audio L/R (RCA)	•	•	•
YUV/RGB (RCA)	•	•	•
CVBS (BNC)	x1	x1	x1
CVBS (RCA)	x1	x1	x1
10/100M TS/IP Extension board (Dual RJ-45,6 Channel)		•	
10/100M TS/IP Extension board (Single RJ-45,32 Channel)			•