

## MX-5500

### Professional HEVC IRD and Processor



The MX-5500 is the newest model of ANTIK's IRD product family. It provides operators an ideal solution for receiving, remultiplexing, descrambling and decoding operations, maximum supporting 1080i@60fps decoding. Equipped with a variety of inputs, it ensures compatibility with all transmission media. The MX-5500's re-multiplexing capabilities enable creation of new transport streams that are subsets of the original stream. Customized services may be output as multiple SPTS or MPTS over IP, as well as over ASI. By the dual DVB common interfaces, each slot could decrypt multiple services in one transport stream independently. MX-5500 is also a professional IRD that features a broadcast quality decoder for MPEG-2 and MPEG-4 AVC/H.264 HEVC/H.265/AVS+ in Standard Definition and High Definition formats, and provides a variety of industry standard digital and analog outputs, including CVBS video, HDMI, and SDI interface. The unit also performs aspect ratio adaptation of HD programs 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 MX-5500 an ideal product for distribution and contribution networks.

#### 1.5" LCD Monitor on front panel



#### Hot-swappable redundant power supply

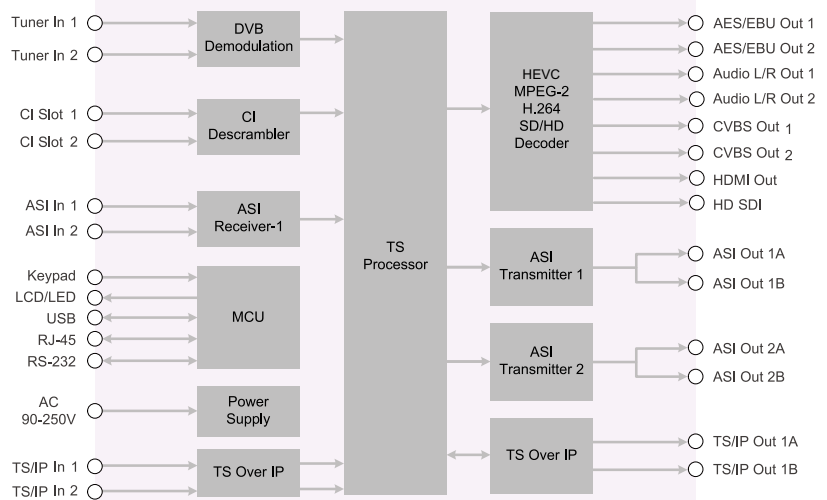


#### Main Feature

- Variety of input options DVB-T2/S2/S/C/T/ DS3, TS/IP and ASI
- Supports DVB-S2 Input Stream Identifier (ISI, optional) and DVB-T SFN MIP pass through
- Redundant backup among Tuner, ASI and TS/IP with configurable priority
- SD/HD/ MPEG-2, MPEG-4 AVC/H.264, HEVC/H.265 video decoding
- Analog and Digital Outputs, ASI, CVBS, HDMI, SDI, TS/IP
- Built-in 2xre-multiplexer
- 2xDVB-CI Slots, multi-program decryption
- Multi-program decryption with BISS, support BISS-1 and BISS-E mode
- Dynamic PMT detection and automatic updating
- Supports VBI TELETEXT, EBU/DVB Subtitle, Closed Caption
- UDP/RTP, Unicast/Multicast, and double full duplex SPTS/MPTS over IP
- Remote Control and Supervision by SNMP, HTTP WEB and TRAP
- TFT monitor and headphone socket
- On Site software update through IP and USB
- RSSI, received C/N, Eb/No & BER monitoring

#### Block Diagram

MX-5500 Functional Block Diagram



Specification

<b>Tuner Input</b>	
<b>DVB-S/S2 Tuner Input (ISI, PLS, 16APSK/32APSK/64APSK Factory Optional)</b>	
Connector Type	2×F type female 75Ω for Input
Input Frequency Range	950~2150MHz
Input Level	-25~-65dBm
Symbol Rate	1 ~ 45Mpsps
Roll-off Factor	DVB-S: 0.35 DVB-S2: 0.35, 0.25, 0.2
	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
FEC Code Rate	
LNB Polarity Selection	0V, 13V, 18V selectable
LNB Band Selection Tone	0KHz, 22KHz selectable
Satellite Selection Command	DiSEqC 1.0
PLS	0 ~ 262141 user configurable
ISI ID	0 ~ 255 user configurable
<b>DVB-C Tuner Input</b>	
Connector Type	2×F type female 75Ω for Input
Input Frequency Range	51~862MHz
Input Level	45 ~ 75dBμV
Symbol Rate	1 ~ 7MBaud (ITU J.83 Annex A and ITU J.83 Annex C)
Constellation	16QAM, 32QAM, 64QAM, 128QAM, 256QAM
Bandwidth	6MHz, 7MHz, 8MHz
Input Return Loss	7dB (typ.)
<b>DVB-T/T2 Tuner Input</b>	
Connector Type	2×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 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
Guarding Interval	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
FEC Code Rate	
Input Return Loss	7dB (typ.)
<b>ASI Input</b>	
Connector Type	2×BNC female, 75Ω
Standard	DVB-ASI, EN50083-9
Input Bit Rate	≤ 200Mb/s
<b>TS over IP</b>	
Connector Type	2×RJ-45 independent, 100/1000 Base-T full duplex for TS/IP
Effective Bit Rate	Input: 200Mb/s for 2xSPTS or 2xMPTS for each IP interface Output: 200Mb/s for 16xSPTS/2xMPTS for each IP interface
Protocol	UDP / RTP, Multicast / Unicast, IGMPv3, ARP
<b>TS Processing</b>	
Re-multiplexer	2×re-multiplexer up to 200Mb/s for each one
Common interface	2×slot for 2 TS multi-program decryption support EN 50221
BISS	One multi-program decryption support BISS-1 and BISS-E mode
<b>ASI Output</b>	
Connector Type	2 pairs, 4 x BNC female, 75Ω
Standard	DVB-ASI, EN50083-9

Output Bit Rate	≤ 200Mb/s
<b>HDMI Output</b>	
Standard	1×HDMI 1.4 interface (up to 1080i)
Video Resolution and Frame Rate	1080i×60, 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
<b>HD/SD-SDI Output</b>	
Connector Type	1 pairs BNC female, 75Ω
SD Standard	SMPTE 259M, 270 Mb/s (10bit)
HD Standard	SMPTE 292M, 1.485 Gbit/s (10bit)
Audio Embedded	2×audio PIDs are embedded with PCM or passed through
Level	800mV p-p
<b>Genlock</b>	
Connector Type	1 x BNC female, 75Ω
Input Signal	Analog SD (black & burst)
<b>Video Decode</b>	
Video Profile/Level	MPEG-2 SP@ML, MP@HL MPEG-4 SP@L0-3, ASP@L0-5, GMC, H.264 BP/MP/HP@ level 5.0, H.265 Main Profile@L5.0 High-tier
<b>Audio Decode</b>	
Audio Format	MPEG-1 Layer 2 a. 2 stereo pairs (Stereo, Dual Mono, Left, Right) MPEG-2 AAC a. 5.1 down-mix to 2.0 (Stereo, Dual Mono, Left, Right) b. 2.0 (Stereo, Dual Mono) MPEG-4 HE-AAC v1/v2 a. 5.1 down-mix to 2.0 (Stereo, Dual Mono, Left, Right) b. 2.0 (Stereo, Dual Mono, Left, Right)
<b>Analog video Output</b>	
CVBS Connector	1×BNC female 75Ω for Master, 1×RCA female 75Ω for Monitor
CVBS Standard	NTSC, PAL, and SECAM
CVBS Resolution	576i×25, 480i×29.97
Nominal Output Level	1.0 Vp-p±5% (with standard test pattern)
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×BNC female for audio-1, 2×RCA female for audio-2
Output Impedance	RCA, BNC(L&R), 75Ω 2×D-Sub 9, 600Ω
Output Mode	Left, Right, Dual Mono, Stereo
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 0 ~ 63dB Attenuation
<b>Ancillary Data Processing</b>	
Subtitle	DVB, EBU
VBI	Teletext, WSS
Closed Caption	EIA 608, EIA 708, EIA 608-to-708

### Redundancy

Redundancy Port	among 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 & Monitoring
Remote Control	SNMP 2.0, HTTP (Web GUI)
Local Control	LCD display and Front control 6-key keypad
TFT monitor	Monitor video
Headphone Socket	Monitor audio-1 or audio-2 selectable
Serial Port	1×RS-232-M and 1×RS-232-S D-sub female, for debug use only
Equipment Upgrade	Telnet/FTP, WEB/HTTP or USB

### Physical

Dimension	1U 19" Full-rack size, 445mm(Length)x 320mm(Width) x 45mm(Height)
Weight	5.0Kg
Power Supply	AC 90V ~ 250V, 50/60Hz
Power Consumption	30W (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

### Back panel Interface (Full option)

