

## **SUNNISKY TS2000HD-IP H.264 Digital Multi-function IP HD Processor & Bi-directional One way Gateway for DVB-ASI over IP or IP over DVB-ASI**

Based on open standards, with high level in technology and its application SUNNISKY TS2000HD-IP digital multi-function IP HD processor & Bi-directional one way gateway for DVB-ASI over IP or IP over DVB-ASI could support MPEG-2/4/H.264 decoding. It can work under two modes:

- As one way gateway for DVB-ASI over IP, by aid of the technologies of DVB-ASI over IP digital conversion and DVB-CI decrypting, it could convert the input TS signal via its two ASI input interfaces into one IP stream signal which then is PID filtered out unwanted service/TV programs (6 TV programs as default, and 32 TV programs as Optional) to its one IP output port over IP wideband network, besides analogue CVBS signal (working as ASI-TS professional decoder) and stereo audio output, one Y/Pb/Pr and HDMI output, two digital SD/HD-SDI outputs embedded audio signal.

If to select one from DVB-S/S2 satellite or DVB-C QAM or DVB-T COFDM terrestrial DTV RF receiving and demodulation module, after its MUX (Re-multiplexer) function has activated, the demodulating of DVB-S/S2 satellite or DVB-C QAM or DVB-T COFDM terrestrial DTV signal, then generating TS signal by itself and the input TS signal via its two ASI input interfaces, which comes from the other equipment, will be multiplexed and PID filtered out unwanted service/TV programs (6 TV programs as default, and 32 TV programs as Optional) to its one IP output port over IP wideband network, also output two ways independent TS stream signals simultaneously via its four ASI outputs interfaces.

- When it is activated as one way gateway for IP over DVB-ASI, by aid of the technologies of IP over DVB-ASI digital conversion and DVB-CI decrypting, it could convert the input IP signal via its one IP input port into one TS stream signal which then is PID filtered out unwanted service/TV programs (6 TV programs as default, and 32 TV programs as Optional) to its four ASI output ports over various of digital TV headend systems, besides analogue CVBS signal (working as IPTV professional HD decoder) and stereo audio output, one Y/Pb/Pr and HDMI output, two digital SD/HD-SDI outputs embedded audio signal.

If to select one from DVB-S/S2 satellite or DVB-C QAM or DVB-T COFDM terrestrial DTV RF receiving and demodulation module, after its MUX (Re-multiplexer) function has been activated, the demodulating of DVB-S/S2 satellite or DVB-C QAM or DVB-T COFDM terrestrial DTV signal, then generating TS signal by itself and being converted into TS signal from input IP signal via its one IP port, will be multiplexed as one ASI-MPTS (multiple program transport stream) signal, then PID filtered out unwanted service/TV programs (6 TV programs as default, and 32 TV programs as Optional) its two groups independent TS stream signals simultaneously via its four ASI output interfaces.

SUNNISKY TS2000HD-IP has embedded Common Interface which could provide great support for a wide variety of CA systems, for example, Conax, CryptoWorks, Irdeto, Mediaguard, Nagravision and Viaccess, etc. That is, it could receive encrypted IPTV signal (as gateway for IP over DVB-ASI) via its one IP input port and TS signal via its two ASI input interfaces with the help of one Smartcard and PCMCIA CI module which has the function of multi-decryption, in order to decrypt them as free TS stream signal to output.

SUNNISKY TS2000HD-IP is one best device of signal format conversion and transmission with the strongest function; Working as one gateway for IP over DVB-ASI, it could be applied in the field of various of digital TV headend systems; Specially working as one gateway for DVB-ASI over IP, with the best economical and flexible, it could directly transmit DVB-S/S2 satellite or DVB-C QAM or DVB-T COFDM terrestrial DTV signal into IP wideband network; So it is one important device in order to realize the service of the triple play over digital TV and IP network infrastructure with increased.



### **Feature**

- Fully comply with MPEG-2 (MP@ ML)、MPEG-4、H.264/AVC standard
- Support UDP (User Datagram protocol) , and RTP

- Support the bi-directional transmission between DVB-ASI and IP, DVB-ASI over IP or DVB-ASI over IP
- IP transmission supports Unicast, Multicast modes
- As one gateway for DVB-ASI over IP, 6 Multicast IP addresses-100Mbps Base-T (as default, and 32 IP addresses-1000Mbps Base-T as Optional) output
- Support SD and HD digital satellite TV signal receiving
- Linux Operating System, and ARM7 MCU
- Selectable one from DVB-S/S2 satellite or DVB-C QAM or DVB-T COFDM terrestrial DTV RF receiving and demodulation module (Before order it, need to confirm which one is selected)
- Decrypts the conditional access systems encrypted, for example, Conax, CryptoWorks, Irdeto, Mediaguard, Nagravision and Viaccess CA, etc. with the two CI slots of PCMCIA
- Two CI slots of PCMCIA modules could work and descramble multi-program stream simultaneously (under the condition of multiple TV programs in one satellite transponder for DVB-S/S2 satellite DTV module or in one RF Frequency/Channel for DVB-C QAM and DVB-T COFDM terrestrial DTV or in one IP addresses for one way IP over DVB-ASI gateway)
- Multi-descramble function together with PCMCIA module which could support multi-descramble
- NIT search
- PMT update automatically
- PID filtering
- PSI/SI edit and generate
- Two ASI input interfaces, the function of Re-Multiplexing (need to be activated), and realize the function of one way Gateway for DVB-ASI over IP
- Two groups independent TS stream signal outputs via four ASI ports with scrambled or non-scrambled stream
- Two ways Digital SD/HD-SDI video output ports embedded audio, and the second Audio could be setup to output
- One HDMI output
- Composite video (CVBS) output besides Y/Pb/Pr output
- 2 ways analogue Audio output, and could switch different Audio output modes
- Two ways Digital Audio AES/EBU output ports
- Running continuously with excellent stability
- LCD display and user friendly operation
- Automatic recovery for latest system configuration due to expected or unexpected power off
- By 10/100BaseT Ethernet based on TCP/IP (optional), SNMP protocol, it can realize remote control, network management and parameters setup
- Software upgrade or link the other one to update via RS232 serial port

**Specification**

<b>Demultiplexer</b>	
Standard	ISO/IEC 13818-2
<b>Video decoding</b>	
Standard	High Definition MPEG-4 H.264 / AVC
Aspect ratio	4:3 and 16:9 Full; 4:3 Letterbox
Video format	1920X1080i 50and 60; 1280X720P 50 and 60;720X480P 60; 720X576P 50; 525X480i 60; 625X576i 50
<b>Audio decoding</b>	
Standard	ISO/IEC 13818-3 MPEG-1 layer I and II
Decoding	MPEG-1 layer I and II, Musiacam Compression Format
Audio output mode	Stereo, Left, Right, Mono channel
Volume Level	32 Levels
<b>Common Interface</b>	
Standard	EN 50221
CI Module	JEIDA 4.0 PCMCIA type II*2

Support	Conax, CryptoWorks, Irdeto, Mediaguard, Nagravision and Viaccess CA, etc.
<b>IP (IP over DVB-ASI) input</b>	
Connector	RJ45,10M/100Mbps Base-T
Output bit rate	44Mbps/s (Max.)
UDP/RTP mode	Multicast or Unicast
Multicast control protocol	IGMP V2
SPTS/MPTS	Support
FEC	Pro-MPEG Cop3v2
<b>IP (DVB-ASI over IP) output</b>	
Connector	RJ45,10M/100Mbps Base-T
Output bit rate	70Mbps/s (Max.)
UDP/RTP mode	Multicast or Unicast
Multicast control protocol	IGMP V2
<b>ASI-TS input</b>	
Interface	BNC connector*1, 75Ω
Signal level	800mVp-p
TS input available bit rate	≤160Mbps
Packet length	188 or 204
Data mode	Byte
<b>ASI-TS output</b>	
Interface	BNC connector*2, 75Ω
Output level	1Vp-p±0.1V
Data transmission rate	270Mb/s
Packet length	188 or 204
Data mode	Byte
<b>BNC Video Output</b>	
Connector	BNC, 75Ω
Video output bandwidth	8MHz
Amplitude frequency response	±5%
Non Linearity	<6%
<b>RCA Video and Audio Output</b>	
Video output Connector	CVBS RCA*1, 75Ω
Video output level	1Vp-p
Audio output Connector	Audio RCA*2 (Left & Right) ; Low impedance,680Ω;
<b>Digital Audio AES/EBU</b>	
Connector	9-pin D-sub male*2
<b>SD/HD-SDI Output</b>	
Connector	BNC*2, 75Ω
Data transmission rate	270Mb/s (Max.)
Max. output level	800mVp-p±10%
<b>RS-232</b>	
Connector	9-pin D-sub male, Maximum of 115200bits/s
<b>General</b>	
Power supply	SMPS, 90V~240V AC @ 50Hz~60Hz, 25W
Dimension	483mm×350mm×45mm
Weight	5Kg

Note: All specifications are subject to change without notice.



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