

NK399X/NK397X Series HD IRD



Outline

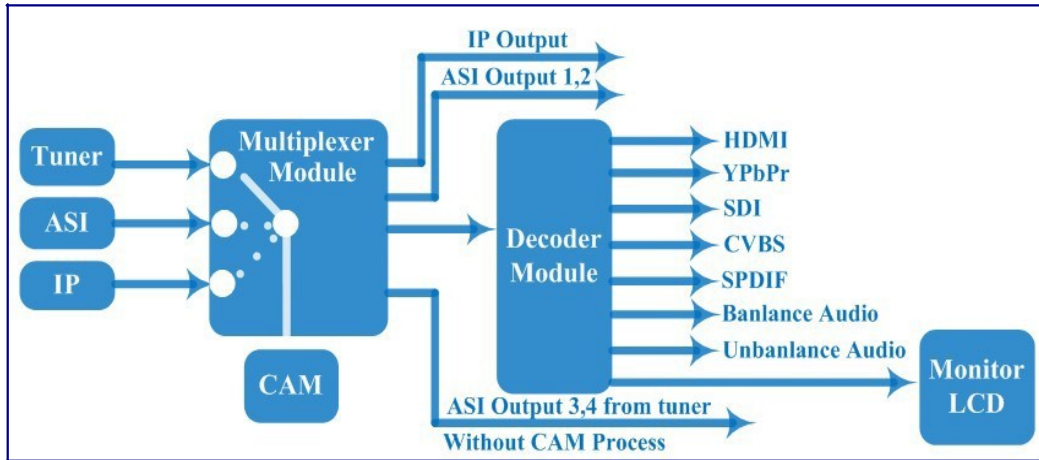
NK397X/NK399X HD IRD is a IRD with LCD video monitor equipped on the front panel. It can receive signals from tuner (DVB-C, DVB-T/T2, DVB-S/S2, DMB-T, ISDB-T, and ATSC-T optional), ASI and IP sources. After multiplexing and de-encryption with CAM module, it gives content out through ASI, IP as well as various video/audio interfaces. Its video/audio outputs support professional HD/SD-SDI, YPbPr, HDMI, stereo balanced audio, stereo unbalanced audio and S/PDIF digital audio and CVBS, which can greatly satisfy the professional users' needs. With the CAM/CI slot, NK397X/NK399X can support one channel (Tuner, ASI or IP) de-scrambling and give transparent signal output. User can operate the device by using front panel LCD or NMS/SNMP software or Webpage-based NMS. Moreover, users can choose to have an optional ASI output which can pass through the encryption data source directly from tuner.

Features

- Support DVB-C, DVB-T/T2, DVB-S/S2, DMB-T, ISDB-T, and ATSC-T RF Input optional
- Support LCD display for decoding video
- Support MPEG-2 & MPEG-4 video decoding
- Support AC3 pass through (for SDI interface only)
- Re-multiplexer embedded
- Support Tuner, IP, ASI Input at the same time
- Support IP, ASI, Decoding output at the same time
- Support 8xSPTS/32xSPTS and 1 IP MPTS output
- Support CAM/CI card insert

- Support BISS descrambling: Mode 1 and Mode E
- Support CC (Closed Caption) – for SDI and CVBS interfaces
- Support Front Panel and NMS/SNMP network management and Web management

Blocks Diagram:



Specificaions:

Input Interface	Tuner	1 Tuner (DVB-C/DVB-S/ DMB-T/DVB-T/ DVB-S2/ ISDB-T/ATSC-T / DVB-T2 optional)	
	ASI	1 ASI IN (support 188/204 package format)	
	IP	1 IP (100M, RJ45 Port) UDP, RTP/RTSP	
Demodulating Section	DVB-C	Standard	J.83A(DVB-C), J.83B, J.83C
		Input Frequency	30 MHz~1000 MHz
		Constellation	16/32/64/128/256 QAM
	DVB-T/T2	Input Frequency	30MHz ~999.999 MHz
		Bandwidth	6/7/8 M bandwidth
	DVB-S	Input Frequency	950-2150MHz
		Symbol rate	1-45Msps
		Signal Strength	- 65- -25dBm

		Constellation	1/2, 2/3, 3/4, 5/6, 7/8 QPSK
	DVB-S2 (Version 1)	Input Frequency	950-2150MHz
		Symbol rate	1~45 Msps
		Code rate	1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10
		Constellation	QPSK, 8PSK
	DVB-S2 (Version 2) For 3975	Input Frequency	950-2150MHz
		Symbol rate	QPSK, 8PSK: 1~45 Msps
			16APSK: 1~35 Msps
			32APSK: 1~28 Msps
	Code rate	1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10	
Constellation	QPSK, 8PSK, 16APSK, 32APSK		
Output	ASI Output	2 ASI output (after multiplexer)	
		2 ASI output (tuner input pass through)	
	IP output	Protocol: UDP, RTP/RTSP	
		1 MPTS & 8 SPTS (100M)	NK397x only
		1 MPTS & 32 SPTS (1000M)	NK399x only
	Video Output	1xCVBS(BNC): 576i@25fps, 480i@29.97fps	
		1xYPbPr(BNC): 1080i@25, 29.97, 30fps; 720p@50, 59.94fps	
		1xHD/SD-SDI(BNC): 1080i@25, 29.97, 30fps; 720p@50, 59.94fps; 576i@25fps; 480i@29.97fps	
		1 x HDMI: 1080i@25, 29.97, 30fps; 720p@50, 59.94fps	
	Audio Output	Stereo unbalanced audio: BNC interface	
Stereo balanced audio: XLR interface			
Digital audio: SPDIF			

Video Decoding	MPEG-2, MPEG-4	
Audio Decoding	MPEG1 layer 2, AC3, HE-AAC(v2), LC-AAC	
BISS De-scr	Mode 1, Mode E	
NMS Port	Ethernet Port	10/100M
	Protocols	NMS: TCP/IP
System	Management: front panel (LCD + Keyboard);	
	Network (NMS/SNMP);	
	Web-based NMS Management	
	English and Chinese interface conversion	
	Ethernet port for CPU/FPGA upgrade	
Miscellaneous	USB port for decoder upgrade	
	LCD Monitor for decoding video	
	Dimensions	482mm*455mm*44.5mm (L×W×H)
	Approx weight	3.2kg
	Power	<20W(Max)
	Temperature	0~45°C(Operating), -20~80°C(Storage)

Order Information:

- **NK3991/ NK3971 DVB-C HD IRD**
- **NK3992/ NK3972 DVB-S HD IRD**
- **NK3994/ NK3974 DVB-T HD IRD**
- **NK3995/ NK3975 DVB-S2 HD IRD**
- **NK3996/ NK3976 ISDB-T HD IRD**
- **NK3997/ NK3977 ATSC HD IRD**
- **NK3978/ NK3998 DVB-T2 HD IRD**

Technical Comparison:

	NK3975	NK3995	NK3565H
Tuner Input	1xDVB-S2 Tuner	1xDVB-S2 Tuner	2xDVB-S2 Tuner
IP Input	1 IP (100M) UDP, RTP/RTSP	1 IP (100M) UDP, RTP/RTSP	1 IP (100M) UDP
Demodulating Constellation	DVB-S : 1/2, 2/3, 3/4, 5/6, 7/8 QPSK DVB-S2 : QPSK, 8PSK ----Version 1 DVB-S2 : QPSK, 8PSK, 16APSK, 32APSK ----Version 2	DVB-S : 1/2, 2/3, 3/4, 5/6, 7/8 QPSK DVB-S2 : QPSK, 8PSK ----Version 1 DVB-S2 : QPSK, 8PSK, 16APSK, 32APSK ----Version 2	DVB-S : 1/2, 2/3, 3/4, 5/6, 7/8 QPSK DVB-S2:QPSK, 8PSK
Video Decoding	MPEG-2, MPEG-4	MPEG-2, MPEG-4	MPEG-2, MPEG-4
Video Output	1xCVBS/YPbPr/HDMI/SDI	1xCVBS/YPbPr/HDMI/SDI	1xCVBS/YPbPr/HDMI/SDI
Audio Decoding	MPEG1 layer 2, HE- AAC(v2), LC-AAC, AC3 (2.0/5.1)	MPEG1 layer 2, HE- AAC(v2), LC-AAC, AC3 (2.0/5.1)	MPEG 1 Layer 2, HE- AAC, LC-AAC, AC3 (2.0/5.1)
Audio Output	1 x Stereo/2 x Mono HDMI, SDI, SPDIF	1 x Stereo/2 x Mono HDMI, SDI, SPDIF	2 x Stereo/4 x Mono HDMI, SDI
AC3 Passthrough	For SDI interface	For SDI interface	For HDMI and SDI interface
ASI Output	2xASI output (after multiplexer); 2xASI output (tuner input pass through)	2xASI output (after multiplexer); 2xASI output (tuner input pass through)	2xASI Mirrored out
IP Output	1 IP (100M) UDP, RTP/RTSP (1 MPTS & 8 SPTS)	1 IP (1000M) UDP, RTP/RTSP (1 MPTS & 32 SPTS)	1 IP (100M) UDP (1 MPTS & 8 SPTS)
Manage	Web/SNMP	Web/SNMP	Web