



**NDS397X/399X**

**HD IRD**



## Product Introduction

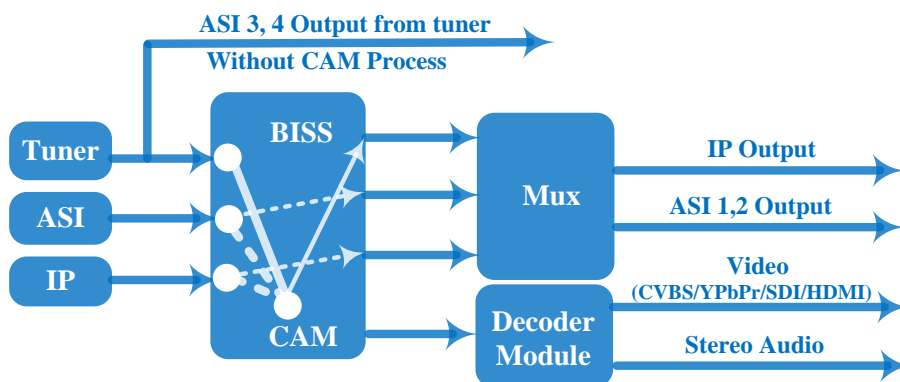
NDS397X/NDS399X HD IRD is Dexin's new design IRD with LCD video monitor equipped on the front panel. It can receive signals from tuner (DVB-C, DVB-T/(T), DVB-S/S2/S2X, DMB-T, ISDB-T, and ATSC-T optional), ASI and IP sources. After multiplexing and de-encryption with CAM module, it gives content out through 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 equipped, NDS397X/NDS399X supports 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.

## Key Features

- Support 1 tuner (DVB-C/-T/(T)/-S/-S2/-S2X, DMB-T, ISDB-T, and ATSC-T optional) +1 ASI+1 IP input
- Support MPEG-2 & H.264 video decoding

- MPEG1 layer 2, HE-AAC(v2), LC-AAC, AC3 audio decoding
- Support AC3 pass through (for SDI interface only)
- Re-multiplexer embedded
- Support IP, ASI, Decoding output at the same time
- Support 8xSPTS/32xSPTS and 1 IP MPTS output
- Support CAM/CI card insert to descrambling
- Support BISS descrambling: Mode 1 and Mode E
- Support CC (Closed Caption) – for SDI and CVBS interfaces
- Support Front Panel and Web/ SNMP management
- Support LCD display for decoding video

### Principle Chart



### Technical Specifications

<b>Input Interface</b>	Tuner	1 Tuner (DVB-C/-S/-S2/-S2X/-T/(T)/DMB-T/ISDB-T/ATSC-T optional)	
	ASI	1 ASI IN (support 188/204 package format)	
	IP	1 IP (100M, RJ45 Port) UDP, RTP---NDS397X 1 IP (100M, RJ45 Port) UDP ---NDS399X	
<b>Demodulating Section</b>	DVB-C	Standard	J.83A(DVB-C), J.83B, J.83C
		Frequency In	30 MHz~1000 MHz
		Constellation	16/32/64/128/256 QAM
	DVB-T/(T)	Frequency In	30MHz ~999.999 MHz
		Bandwidth	6/7/8 M bandwidth
(Version 1)	DVB-S	Frequency In	950-2150MHz

(Version 2) Only for NDS397X	DVB-S2	Symbol rate	1-45Mps	
		Signal Strength	- 65- -25dBm	
		Constellation	1/2, 2/3, 3/4, 5/6, 7/8 QPSK	
		Frequency In	950-2150MHz	
		Symbol rate	1~45 Msps	
		FEC	1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10	
		Constellation	QPSK, 8PSK	
		DVB-S	Input Frequency	950-2150MHz
			Symbol rate	0.5~45Mps
	Signal Strength		- 65- -25dBm	
	FEC		1/2, 2/3, 3/4, 5/6, 7/8	
	Constellation		QPSK	
	Max input bitrate		≤ 170 Mbps	
	DVB-S2	Input Frequency	950-2150MHz	
		Symbol rate	QPSK/8PSK /16APSK :0.5~45 Msps 32APSK: 0.5~40Mps;	
		FEC	QPSK: 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10 8PSK: 3/5, 2/3, 3/4, 5/6, 8/9, 9/10 16APSK: 2/3, 3/4, 4/5, 5/6, 8/9, 9/10 32APSK: 3/4, 4/5, 5/6, 8/9, 9/10	
		Constellation	QPSK, 8PSK, 16APSK, 32APSK	
		Max input bitrate	≤ 170 Mbps	
		DVB-S2X	Input Frequency	950-2150MHz
	Symbol rate		QPSK/8PSK /16APSK :0.5~45 Msps 8APSK: 0.5~40Mps 32APSK: 0.5~40Mps	
	FEC		QPSK: 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10, 13/45, 9/20, 11/20 8PSK: 3/5, 2/3, 3/4, 5/6, 8/9, 9/10 8APSK: 5/9-L, 26/45-L 16APSK: 2/3, 3/4, 4/5, 5/6, 8/9, 9/10, 1/2-L, 8/15-L, 5/9-L, 26/45, 3/5, 3/5-L, 28/45, 23/36, 2/3-L, 25/36, 13/18, 7/9, 77/90 32APSK: 3/4, 4/5, 5/6, 8/9, 9/10, 2/3-L, 32/45, 11/15, 7/9	
	Constellation		QPSK, 8PSK, 8APSK, 16APSK, 32APSK	
	Max input bitrate		≤ 170 Mbps	

		ISDBT	Frequency In	60 MHz~890 MHz		
		ATSC	Frequency In	30MHz ~999.999 MHz		
			Bandwidth	6M bandwidth		
Output	ASI Output		2 ASI output (after multiplexer)			
			2 ASI output (tuner input pass through)			
	IP output		Protocol: UDP, RTP/RTSP			
			1 MPTS or 8 SPTS (100M)		NDS397x only	
			1 MPTS(100M) & 32 SPTS (1000M)		NDS399x only	
			1 MPTS(100M) & 20 SPTS (1000M) with BISS function			
	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; 576i@25fps; 480i@29.97fps			
Audio Output		Stereo unbalanced audio: BNC interface				
		Stereo balanced audio: XLR interface				
		Digital audio: SPDIF				
Video Decoding	MPEG-2, H.264					
Audio Decoding	MPEG1 layer 2, AC3, HE-AAC(v2), LC-AAC					
BISS Descrambling	Mode 1, Mode E					
NMS Port	Ethernet Port	10/100M				
	Protocols	NMS: TCP/IP				
System	Management: front panel (LCD + Keyboard);					
	Web-based NMS/SNMP Management					
	English and Chinese interface conversion					
	Ethernet port for CPU/FPGA upgrade					
	USB port for decoder upgrade					
LCD Monitor for decoding video						
Miscellaneous	Dimensions	482mm*455mm*44.5mm ( L×W×H)				
	Approx weight	3.2kg				
	Power	<20W(Max)				
	Temperature	0~45℃(Operating), -20~80℃(Storage)				

## Ordering Guide

NDS3971/ NDS3991 DVB-C HD IRD  
NDS3972/ NDS3992 DVB-S HD IRD  
NDS3973/ NDS3993 DMB-T HD IRD  
NDS3974/ NDS3994 DVB-T HD IRD  
NDS3975/ NDS3995 DVB-S2 HD IRD  
NDS3976/ NDS3996 ISDB-T HD IRD  
NDS3977/ NDS3997 ATSC HD IRD  
NDS3978/ NDS3998 DVB-(T) HD IRD