CATALOG
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Company Profile

Castar Technology Co., Ltd., located in Chengdu, China, is a high-tech enterprise specialized in digital TV broadcasting equipment manufacturing and TV system integration. Involved in product R&D, sales, system intergation, system maintance etc, clients will enjoy all-wave services here. Luckily, with constant supports of clients from all over the world, we are growing quickly & steadily and will always commit to our belief "**High quality, high effective, innovation**" for better and better products & service.

Castar's main products:

◆ MPEG-2/4/H.264 Encoder
◆ IRD, FTA Demodulator
◆ ASI/EIT/ISDB Multiplexer
◆ TS Scrambler
◆ QAM/QPSK/COFDM/ATSC/ISDB Modulator

◆ MMDS/MUDS Transmitter
◆ IP-ASI/DS3-ASI/E1-ASI Adaptor
◆ ASI-IP Gateway
◆ EPG&SI Inserter
◆ DVB Set Top Box, etc.

With the strong technology supports, we can offer OEM, ODM and transmitter customizing service. Welcome to visit our factory for technical learning & cooperation.

PRODUCT LIST

1. COL1011A SD IRD

Outline

CS1011A SD IRD can decode MPEG-2 transport streamfrom ASI or tuner into audio & video signal. Working withCAM(conditional access module card), it can decrypt the encrypted programs from satellite , terrestrial , cable etc.

Features

◎ Support Irdeto, Conax, Viaccess,Nagrvision, NDS etc
◎ QPSK/QAM/COFDM demodulation supports, optional.
◎ Two same ASI MPEG-2 TS output and one TS input
◎ SD PAL / NTSC format TV , automatic conversion
◎ Channels automatically saved
◎ Two CVBS outputs, two AUDIO outputs

◎ Two PCMCIA Interfaces
◎ One S-Video output
◎ Two separate CIM modules, each supports up to decrypt 8 channel Programs
◎ One LNB input, one LNB output
◎ One RS232 interface for software upgrade

DVB-S SD IRD

Input Frequency Range:	950-2150MHz
Symbol Rate:	2-45MBauds
Signal Strength:	-65- -25dBm
FEC Demodulation :	1/2, 2/3, 3/4, 5/6, 7/8 QPSK

DVB-T SD IRD

Input Frequency Range:	146-862MHz
Bandwidth:	8MHz (2, 6, 7MHz Optional)
Input Level:	-87- -20dBm
Constellations:	QPSK, 16QAM, 64QAM
FEC Demodulation :	1/2, 2/3, 3/4, 5/6, 7/8

DVB-S2 SD IRD

Input Frequency Range:	950-2150MHz
Input Level:	-65- -25dBm
Code Rate	1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10
Symbol Rate	1-45MBauds
Input Impedance	75Ω
Demodulation Mode :	QPSK, 8PSK
Frequency Stepping:	500 KHz

Series Specifications

DVB-CI	**Descrambler**	DVB-CSA
	Smart Card interface	ISO7816
	Separate (between TS, converter and card), interface	PCMCIA
Video Output	**2 CH CVBS**	BNC interface,75ohm
Audio Output	**Stereo unbalanced audio**	BNC interface,10k ohm
ASI Input	**BNC interface**	Input impedance 75 ohm
	Max transport rate	85Mbps
ASI Output	**BNC interface**	Output impedance 75 ohm
	Max transport rate	85Mbps
RS232 Data Interface	**DC resistance of the single pin**	ohm @100mA
	Data speed	115200 bps
	Data length	8bits
	Stop place	1
	Physics interface	DB9 Female
General	**Voltage**	AC :90-260V~, 50/60Hz
	Power	<15W(Max)
	Temperature	0~40Ω (Operation); 10Ω-35Ω (Storage)
	Humidity	10%~90%
	Dimension	44mm×482mm×360mm
	Weight	3.5kg

2. COL1011B SD IRD (with NMS)

Outline

CS1011B DVB SD IRD with SDI/IP can decode MPEG2 transport stream from ASI or tuner into audio & video, SDI, IP signal. Working with CAM (conditional access module card), it can decrypt the encrypted programs from satellite ,terrestrial , cable etc.It also can encapsulate the input TS into IP pocket and output in UDP protocol.

Features

◎ MPEG-2 digital & Fully DVB compliant
◎ Support Irdeto, Conax, Viaccess,Nagrvision, NDS etc
◎ QPSK/QAM/COFDM demodulation support, optional.
◎ Two same MPEG-2 TS output, one SDI output and one ASI input.
◎ PAL / NTSC format TV, automatic conversion
◎ Can receive C / Ku-band SCPC / MCPC information from Satellite
◎ 256 colors display

◎ Channels automatically saved
◎ Two CVBS outputs, two AUDIO outputs, one S-Video output
◎ Two PCMCIA Interfaces
◎ One RJ45 interface, support NMS, TCP/IP network transport protocols
◎ Two separate CIM modules, each supports to decrypt 8 channel Programs
◎ One LNB input, one LNB output
◎ NMS control support

DVB-C SD IRD

InputFrequencyRange:	47-862MHz
Symbol Rate:	0.45-7.0MBauds
Input Level:	-15-20dBmV
Demodulation Mode:	16/32/64/128/256QAM

DVB-S SD IRD

InputFrequencyRange:	950-2150MHz
Symbol Rate:	2-45Mbps
Signal Strength:	-65—25dBmV
Demodulation Mode:	1/2 2/3 3/4 5/6 7/8 QPSK

DVB-T SD IRD

Input Frequency Range:	146-862MHz
Bandwidth:	8MHz (2,6,7MHz Optional)
Input Level:	-87- -20dBm
Constellations:	QPSK, 16QAM, 64QAM
FEC Demodulation:	1/2, 2/3, 3/4, 5/6, 7/8

DVB-S2 SD IRD

InputFrequencyRange:	950-2150MHz
Input Level:	-65- -25dBm
Code Rate:	1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10
Symbol ratio:	1-45Msymbols
Input Impedance:	75Ω
Demodulation Mode:	QPSK, 8PSK
Frequency Stepping:	500 KHz

Series Specifications

Ethernet	Connector	RJ-45
	Interface Type	10/100 Base-T
	Protocols	TS Over IP: UDP ; NMS: UDP
DVB-CI	Descrambler	DVB-CSA
	Smart Cardinterface	ISO7816
	Separate (between TS, converter and card), interface	PCMCIA
Video Output	2 CH CVBS	BNC interface,
Audio Output	Stereo unbalanced audio	BNC interface,
ASI Input	BNCinterface	Input impedance 75Ω
	Max transport rate	54Mbps
ASI Output	BNCinterface	Output impedance 75 Ω
	Maxtransport rate	54Mbps
	Physics interface	DB9 Female
General	Voltage	AC :110-240V~, 50/60Hz
	Power	<20W(Max)
	Temperature	0~(Operation); ~(Storage)
	Humidity	10%~90%
	Dimension	44mm×482mm×360mm
	Weight	3.5kg

3. COL1011H HD IRD (with HDMI)

Outline

CS1011H HD IRD with can decode transport stream from ASI or tuner into audio & video, SDI, IP signal. Working with CAM (conditional access module card), it can decrypt the encrypted programs from satellite ,terrestrial , cable etc.It also can encapsulate the input TS into IP pocket and output in UDP protocol. It has full-range of output interface ports, such as HD-SDI, SD-SDI, HDMI, YPbPr, XLR, S/P DIF, etc. it is very popular for professional users.

Features

◎ Support DVB-S/-S2/-T/-C, ISDB-T tuner inputs (Optional)
◎ MPEG-2 (MP@ML&MP@HL) and MPEG-4 Part 10 (AVC high profile level 4.1) standards complaint and decoding
◎ Various choices of I/O interface, including ASI input/output, CVBS output, YPbPr output, HDMI output, SD/HD output (embedded 2 pairs stereos audio), SDI output, AES/EBU output, 10/100M TS over IP input/output (optional)

◎ Built-in re-multiplexer (temporarily unavailable)
◎ VBI TELETEX , SUBTITILE support
◎ 10/100M Ethernet TS over IP I/O, UDP protocol
◎ Unicast and multicast support
◎ Two CI slots, support multiple programs decryption
◎ NMS control support

DVB-C HD IRD

InputFrequencyRange:	47~862MHz
Symbol Rate:	0.45-7.0MBauds
Input Level:	-15-20dBmV
Demodulation Mode:	16/32/64/128/256QAM

DVB-S HD IRD

InputFrequencyRange:	950~2150MHz
Symbol Rate:	2-45Mbps
Signal Strength:	-65-25dBmV
Demodulation Mode:	1/2 2/3 3/4 5/6 7/8 QPSK

DVB-T HD IRD

Input Frequency Range:	146-862MHz
Bandwidth:	8MHz (2,6,7MHz Optional)
Input Level:	-87- -20dBm
Constellations:	QPSK, 16QAM, 64QAM
FEC Demodulation:	1/2, 2/3, 3/4, 5/6, 7/8

DVB-S2 HD IRD

Input Frequency Range:	950-2150MHz
Input Level:	-65- -25dBm
Code Rate:	1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10
Symbol Ratio:	1-45Msymbols
Input Impedance:	75Ω
Demodulation Mode:	QPSK, 8PSK
Frequency Stepping:	500 KHz

ISDB-T HD IRD

Input Frequency Range:	170～230Mhz and 470～860Mhz
Bandwidth:	6MHz (6, 8MHz Optional)
Input Level:	0～-95dBm
Constellations:	QPSK,16QAM,64QAM
Code Rate	1/2, 2/3, 3/4, 5/6, 7/8

Series Specifications

DVB-CI Module	Descrambling procession	Supporting European DVB-CSA
	Smart Card interface	ISO7816
	Interface Card separation	PCMCIA
ASI Input	BNC connector 1 route input; 2 routes output	Input impedance 75Ω
	Maximum transmitting rate	54Mbps
ASI Output	BNC connector 1 route input; 2 routes output	Output impedance 75Ω
	Maximum transmitting rate	54Mbps
Ethernet	Connector	RJ-45
	Interface Type	10/100 Base-T
	Protocols	TS Over IP : UDP, NMS : UDP
Video Output	CVBS×1 (BNC)	576i@25 fps, 480i@29.94 fps
	YPbPr×1 (BNC)	1080i@ 25,29.94fps 720p @ 50,59.94fps
	SDI×1 (BNC)	1080i@25,29.94fps, 720p@50 59.94fps, 576i@25 fps480i@29.94 fps
	HDMI×1	1080i@25 ,29.94fps720p @ 50 59.94fps,576i@25 fps；480i@29.94 fps
Audio Output	Stereo unbalanced audio	BNC interface
	Stereo balanced audio	XLR interface
	Digital audio	SPDIF
General	Dimensions (L×W×H)	44mm×482mm×360mm
	Weight	3.5kg
	Power	<20W(Max)
	Temperature range	0~ (Operation); ~(Storage)

4. CS1144 FTA Demodulator (4 in 4)

Outline

CS1144 FTA Demodulator (4 in 4) is a integrated DVB-S2/S (optional) RECEIVER for FTA satellite channels, every single set performs and operates like a single FTA ASI receiver with separate set of (2 CVBS, 1 Audio L, 1Audio R) and dual (mirrored) ASI.

Features

◎ MPEG2 & DVB-S standards compatible
◎ Editing all parameters of satellite and transponder
◎ OSD TV image-test (DVB ETS 300 706) and subtitle supporting

◎ Auto-switching PAL/NTSC
◎ Auto-saving the latest channel
◎ 4 DVB-S input, 4 separate ASI output
◎ Standard 19"1U structure

Specifications

Tuner Input	4 input, 4 loopoutput		
Input Level	-65～-25dBm		
Input Frequency	950~2150MHz		
Symbol Rate	2-45Msymbols		
FEC Code Rate	1/2, 2/3, 3/4, 5/6, 7/8QPSK		
Video Output	4×CVBS (RCA interface)		
Audio Output	4×Audio (L/R)		
ASI Output	4×2 BNC interface		
Miscellaneous	Dimension	45mm×482mm×410mm	
	Temperature	0~(Operating), -20~(Storage)	
	Power	AC 90~220V, 50/60Hz, 25W	

5. CS1182 FTA Demodulator (8 in 2)

Outline

CS1182 FTA Demodulator (8 in 2) is an enhanced TS re-demodulator for digital TV broadcasting head-end system. The demodulator can receive 6 routs FTA satellite channels, meantime it also can support programs multiplexing, PSI/SI editing, PID re-mapping, service filtering etc. And it also can insert EPG (Electronic Program Guide), CA (Conditional Access) and data casting information into each output stream. Different from normal demodulator, this demodulator has 2 ASI inputs, supports 6 tuner inputs (DVB/C/S/S2/T) optional, two separate ASI output ports and one DATA port for two separate megabit IP outputs.

It can multiplex the RF signals from satellite via the 6 tuners, and multiplex up to 2 channels ASI input MPTS into the output transport stream (MPTS). The max bit rate of output stream can be 216Mbps.

Features

◎ 6 tuner（DVB/C/S/S2/T optional）inputs and 2 ASI inputs
◎ MPEG-2 SPTS & MPTS re-multiplexing
◎ Fully complying with ISO13818 and EN300 468 standard
◎ PCR correcting and PID re-mapping
◎ Two groups (each group has 2 channels)separate TS outputs

◎ PSI/SI editing
◎ Huge buffer memory for saving the overflowing code stream
◎ Network long-distance upgraded
◎ Full keyboard operation and LCD display
◎ Network management system

Specifications

Input Interface	Tuner	6 tuners (DVB/C/S/S2/T optional)
	ASI	2 channels (Up to 214Mbps per channel)
Re-multiplex	MPEG-2 TS re-multiplex	
	PID re-mapping (auto/manual optional)	
	PCR correction	
	Automatic generating PSI/SI table	
Input	Packet format	204/188 self-adaption
Output Port	ASI	2 groups separate outputs (each group has 2 channels)
	IP	2 channels separate IP output(share one Ethernet port)
PID	Output range	0000-1FFF
	PID transparent	Any PID transparent and mapping achievable
	Amount of output PID per input	256
NMS Port	Ethernet port	10/ 100M
General	Demission	482mm×410mm×44mm
	Weight	6.2kg
	Temperature	0~(operation), -20~(storage)
	Power supply	AC 110V/220V±10%，50/60Hz
	Consumption	18W

6. CS1182S FTA Demodulator Scrambler (8 in 2)

Outline

CS1182S FTA Demodulator Scrambler (8 in 2) is a three built in one product with demodulating, multiplexing and scrambling functions. It has 6 channels tuner input (supporting DVB-S/DVB-S2), 2 channels ASI input, 2 groups of ASI output and 2 corresponding IP output (share one megabits DATA port). It can multiplex and encrypt the FTA stream to output. This means the CS1182S can work as 6 standalone FTA IRDs, one two separate ASI output multiplexers and two scramblers.

Features

◎ ASI output after mux and scrambler, IP data output after mux and scrambler
◎ 6 tuner inputs (tuner can be DVBS/S2 optional) and 2 ASI inputs
◎ MPEG-2 and mpeg-4 transport stream re-multiplexing
◎ SPTS and MPTS code stream multiplexing
◎ Supports accurate PCR and PID re-mapping
◎ Two groups(each group has 2 channels) separate TS output
◎ Two channels IP output(the mirrors of the 2 ASI outputs)
◎ Supports PSI/SI editing
◎ Fully supports DVB general scrambling system (ETR289)

◎ Complies with DVB common scrambling algorithm, supports the simulcrypt scrambling mode, compatible with multiple CA system
◎ Simultaneously supports 4 different CAS simulcrypt
◎ Supports CAS remote connection scrambling
◎ Supports huge buffer memory and resists unexpected code stream
◎ Supports multiplexing the same program to all the output channels
◎ Supports network remote upgrading
◎ Full-size LCD display and NMS operation

Specifications

Input Interface	Tuner	6 tuners (DVB-S/S2 optional)
	ASI	2 channels (Up to 214Mbps per channel)
Re-multiplex		MPEG-2 and MPEG-4 TS re-multiplex
		PID re-mapping (auto/manual optional)
		PCR correction
		Automatically generating PSI/SI table
Input	Packet format	204/188 self-adaption
Scrambling	Simul-crypt CA	4
	Standard	ETSI 101 197,ETSI 103 197
	Connection	Local/Remote connect
Output Port	ASI	2 groups separate outputs (each group has 2 channels)
	IP	2 channels separate IP output(MAX 80Mbps
PID	Output range	0000—1FFF
	PID transparent	Any PID transparent and mapping achievable
	Amount of output PID per input	256(at most)
NMS Port	Ethernet port	10/100M
Miscellaneous	Demission	482mm×410mm×44mm
	Weight	4.2kg
	Temperature	0~45°C(operation),-20~80°C(storage)
	Power supply	AC 110V±10%,50/60Hz or AC 220V±10%,50/60Hz
	Consumption	18W

7. CS2211 Single MPEG-2 Encoder

Outline
CS2211 Single MPEG-2 Encoder is a user-friendly, powerful MPEG-2 Encoder. It supports all standard of video & audio signal, including analogue S-VIDEO, analogue composite video, and mono/analogue stereo signal etc. The output of compressed data is ASI by compressing input as MPEG-2 MP@ML format,coder real-time encodes and multiplexes audio signal according to MPEG-2 format, generating DVB transport stream.

Features
◎ Support MPEG2 4: 2: 0 coding
◎ Hi-Fi audio processing R/L channel, stereo input.
◎ Easy operation on machine panel, LCD display supports

◎ Abundant input/output interface, realizing free connection.
◎ SDT information insertion
◎ LCD display, flexible in operation.

Specifications

Input interface	**Video signal**	Level 1.0Vp-p
	S-Video	Level 0.28Vp-p
	Audio signal	Level 2Vp-p
Output Interface	**ASI**	DVB Standard
Output Code Rate	1-15Mbps Continually Variable	
Video Coding	Complying International Standard ISO11172 (MPEG-1) and ISO13818 (MPEG-2)	
	MPEG-2 coding as 4:2:0MP@ML	
	MPEG-2 automatically fit frame (AFF)	
	MPEG-2 frame base (FB)	
Audio Coding	**Sampling**	32KHz、44.1KHz、48KHz
	Code rate	64、128、192、256、384Kbps
	Specification	MPEG-1 2nd layer,CD audio quality
Resolution	**Standard**	Complying CCIR601 Standard Support 1/2D1,2/3D1,3/4D1,FullD1
	PAL	720 X 576,704 X 576,640 X 576,544 X 576, 480 X 576,384 X 576,352 X 576
	NTSC	7720 X 480,704 X 480,640 X 480,544 X 480, 480 X 480,384 X 480,352 X 480
Miscellaneous	**Dimension**	44mm*482 mm*360mm
	Temperature	0-45℃ (Operating); -20-80℃(Storage)
	Power	110-220VAC±10%,50Hz/60HZ,25W

8. CS2211P Single IP Encoder

Outline

CS2211P Single IP Encoder is a professional audio & video encoding device ,and it can be with SDI input. This device can support a variety of analog and digital audio and video input interface, the video input interfaces include the CVBS, S-Video and SDI , and audio input interfaces include the balanced and unbalanced analog input interface, the analog audio input interface(XLR) and digital audio input interfaces(AES/EBU).

Moreover, this encoder can encoder the SD audio & video which format is MPEG-2. In conclusion, its high compatibility and excellent encoding quality makes this device widely be used in a variety of digital broadcasting system.

Features

◎ Supports Composite, S-Video analog video input
◎ MPEG-2 MP@ML(4:2:0) video encoding,
◎ Supports SD-SDI digital video input
◎ Supports balanced and unbalanced analog audio inputs
◎ Supports AES/EBU, SD-SDI digital audio input

◎ Supports PAL, NTSC SD video formats
◎ Supports D1,HD1,2/3D1,3/4D1 Resolutions
◎ LCD display, keyboard operation & network management supporting
◎ TS over UDP unicast/multicast output

Specifications

Input	**Video**	Analog composite video(CVBS), BNC interface
		S-Video interface
		SD-SDI, BNC interface
	Audio	Analog stereo audio(balanced), XLR interface
		Analog stereo audio(unbalanced), BNC interface
		AES / EBU digital audio, XLR interface
		SD-SDI embedded audio

Video	Resolution	720×480_60i, 720×576_50i(D1)
		544×480_60i, 544×576_50i(3/4D1)
		352×480_60i, 352×576_50i(HD1)
		480×480_60i, 480×576_50i(2/3D1)
	Encoding	MPEG-2 MP@ML(4:2:0)
	Bit-rate	0.8Mbps~20Mbps
	Rate Control	CBR/VBR
	GOP Structure	IBBP
	Advanced Pretreatment	De-interlacing, noise reduction, sharpening
Audio	Encoding	MPEG-1 Layer 2
	Sampling Rate	48KHz、44.1KHz、32KHz
	Resolution	24-bit
	Bitrate	64Kb/s—384Kb/s
Stream Output	2-way ASI output, BNC interface	
	SPTS over UDP,10/100Base-T Ethernet interface (UDP unicast / multicast)	
System Function	LCD/keyboard, network management, Chinese and English language	
	Ethernet software upgrade	
General	Dimensions	480mm×456mm×45mm
	Temperature Range	0~(operation), -20~(storage)
	Power Requirements	AC 110V/220V ±10%,50/60Hz

9. CS2241 MPEG-2 Encoder (4 in 1)

Outline

CS2241 MPEG-2 Encoder (4 in 1) is a professional audio & video encoding and multiplexing device. It has 4 channel CVBS video and 4 pairs of unbalanced audio input interfaces, support MPEG-2 encoding format, analog composite video and single/ analog stereo audio mode. The output interface is ASI, the condensed method is MEPG-2 MP@ML, it can multiplex the input TS with the 4 encoded SPTS to a MPTS output.

Features

◎ 4 CVBS video input,4 pairs of unbalanced stereo audio input
◎ Supports multiplexing function
◎ MPEG-2 MP@ML(4:2:0) video encoding, Advanced
   video pretreatment algorithm
◎ MPEG-1 Audio Layer 2

◎ Supports PAL, NTSC SD video formats
◎ Supports D1,HD1,2/3D1,3/4D1 Resolutions
◎ Multiplexed MPTS ASI output
◎ Supports LCD display, keyboard operation
◎ Supports NMS operation

Specifications

Input	4 CVBS inputs , BNC interface	
	4 pairs of unbalanced stereo audio input, BNC interface	
Video	**Resolution**	720×480_60i, 720×576_50i(D1); 544×480_60i, 544×576_50i(3/4D1)
		352×480_60i, 352×576_50i(HD1); 480×480_60i, 480×576_50i(2/3D1)
	Encoding	MPEG-2 MP@ML
	Chroma Format	4:02:00
	Bit-rate	0.8Mbps~20Mbps each channel
	Rate Control	CBR/VBR
	GOP Structure	IBBP
	Advanced Pretreatment	De-interlacing, noise reduction, sharpening
Audio	**Encoding**	MPEG-1 Audio Layer 2
	Sampling Rate	48KHz,44.1KHz,32KHz
	Resolution	24-bit
	Bit-rate	64Kb/s—384Kb/s each channel
Stream Output	2-way ASI output, BNC interface	
System Function	LCD/keyboard, network management, Ethernet software upgrade	
Miscellaneous	**Environment**	0~(work); -20~（Store）
	Power	AC 220V±10% 50Hz,25W

10. CS2241P MPEG-2 IP Encoder (4 in 1)

Outline

CS2241P MPEG-2 IP Encoder (4 in 1) is a professional audio & video encoding device ,which can adds the function of IP output. It also has 4 channel CVBS video input interfaces, 4 pairs of unbalanced audio input interfaces and an ASI input interface, supporting MPEG-2 encoding format ,and generate four SPTS through different IP address or IP ports; moreover, this device can decide to output one channel SPTS through the ASI port. All designs are totally comply with the MPEG-2 standard.

Features

◎ MPEG-2 MP@ML(4:2:0) video encoding,MPEG-1 Audio Layer 2
◎ 4×CVBS video inputs, 4 pairs of unbalanced audio inputs.
◎ 4 pairs unbalanced stereo audio input
◎ 1 ASI input supports multiplexing,1 IP output
◎ Supports PAL, NTSC SD video formats

◎ Supports D1,HD1,2/3D1,3/4D1 Resolutions Selected one SPTS from ASI output
◎ 4 SPTS over UDP unicast/multicast output
◎ LCD display/ keyboard operation supporting,
◎ Supports NMS monitoring

Specifications

Input	4 CVBS inputs , BNC interface	
	4 pairs of unbalanced stereo audio input, BNC interface	
Video	Resolution	720×480_60i, 720×576_50i(D1); 544×480_60i, 544×576_50i(3/4D1)
		352×480_60i, 352×576_50i(HD1); 480×480_60i, 480×576_50i(2/3D1)
	Encoding	MPEG-2 MP@ML
	Chroma Format	4:02:00
	Bitrate	0.8Mbps~20Mbps each channel
	Rate Control	CBR/VBR
	GOP Structure	IBBP
	Advanced Pretreatment	De-interlacing, noise reduction, sharpening
Audio	Encoding	MPEG-1 Audio Layer 2
	Sampling rate	48KHz,44.1KHz,32KHz
	Resolution	24-bit
	Bit-rate	32Kb/s—384Kb/s each channel
Stream Output	2-way ASI output, BNC interface	
	4 SPTS over UDP,10/100Base-T Ethernet interface (UDP unicast / multicast)	
System Function	LCD/keyboard, network management,	
	Ethernet software upgrade	
Miscellaneous	Environment	0~(work); -20~（Store）
	Power	AC 220V±10% 50Hz,25W

11. CS2341 Low Bitrate Encoder (4 in 1)

Outline

CS2341 MPEG-2 Low Bitrate Encoder (4 in 1) is a professional audio &video encoding and multiplexer device. It has four CVBS input interfaces and four pairs of unbalanced analogue stereo audio input interfaces, and two ASI output interfaces which can output the multiplexing and condensed data. It also can simultaneously encode four channel audio& video signal and can multiplex one ASI input stream to MPTS. And supports the criterion MPEG-2 encoding format, and the audio encoding formats include the MPEG1-LAYER 2、AAC、AC3 and so on.

Features

◎ Supports MPEG-2 MP@ML(4:2:0) video encoding
◎ The audio formats are MPEG-1 Audio Layer2，AAC，AC3(optional)
◎ Four CVBS video input
◎ Four pairs of unbalance stereo audio input
◎ Multiplex one ASI input

◎ Supports PAL，NTSC SD signal
◎ Supports D1，HD1，2/3D1，3/4D1 resolution
◎ Supports MPTS output
◎ LCD display and keyboard operation
◎ Support NMS operation

Specifications

Input	4 CVBS inputs , BNC interface	
	4 pairs unbalanced stereo audio input, BNC interface	
	1 ASI stream input, BNC interface	
Video	Resolution	720×480_60i, 544×480_60i,352×480_60i
		320*240_60i,176*240_60i, 76*120_60i
		720×576_50i ,704*576_50i,640*576_50i,
		320*288_50i, 176*288_50i, ,176*144_50i
	Encoding	4 channel MPEG-2 4:2:0 MP@ML encoding
	Bit-rate	0.8Mbps~20Mbps each channel
	Rate Control	CBR/VBR
	GOP Structure	IBBP
	Advanced Pretreatment	De-interlacing, noise reduction, sharpening
Audio	Encoding	MPEG-1 Audio Layer 2，AAC，AC3
	Sampling rate	48KHz,44.1KHz,32KHz
	Resolution	24-bit
	Bit-rate	32Kb/s—384Kb/s each channel
Multiplexing	1 ASI input multiplexed with local 4 channels TS	
Stream output	2-way ASI output, BNC interface	
System function	LCD/keyboard, network management	
	Ethernet software upgrade	
Miscellaneous	Dimension	483mm×410mm×45mm
	Weight	3.2kg
	Environment	0~(work)；-20~（Store）
	Power	AC 100~240V±10%，50/60Hz

12. CS2341P Low Bitrate IP Encoder (4 in 1)

Outline

CS2441P Low Bitrate IP Encoder is a professional audio &video encoding and multiplexer device with ASI and IP output. It has four CVBS input interfaces and four pairs of unbalanced analogue stereo audio input interfaces, and two ASI output interfaces which can output the multiplexing and condensed data. It also can simultaneously encode four channel audio& video signal and can multiplex one ASI input stream to MPTS. And supports the criterion MPEG-2 encoding format, and the audio encoding formats include the MPEG1-LAYER 2、AAC、AC3 and so on.

Features

◎ Supports MPEG-2 MP@ML(4:2:0) video encoding
◎ The audio formats are MPEG-1 Audio Layer2，AAC，AC3(optional)
◎ Four CVBS video input
◎ Four pairs of unbalance stereo audio input
◎ Multiplex one ASI input

◎ Supports PAL，NTSC SD signal
◎ Supports D1，HD1，2/3D1，3/4D1 resolution
◎ Supports MPTS output,
◎ TS over IP (UDP) output
◎ LCD display and keyboard operation
◎ Support NMS operation

Specifications

Input	4 CVBS inputs , BNC interface	
	4 pairs unbalanced stereo audio input, BNC interface	
	1 ASI stream input, BNC interface	
Video	Resolution	720×480_60i, 544×480_60i,352×480_60i
		320*240_60i ,176*240_60i, 176*120_60i
		720×576_50i ,704*576_50i,640*576_50i,
		320*288_50i, 176*288_50i, ,176*144_50i
	Encoding	4 channel MPEG-2 4:2:0 MP@ML encoding
	Bit-rate	0.8Mbps~20Mbps each channel
	Rate Control	CBR/VBR
	GOP Structure	IBBP
	Advanced Pretreatment	De-interlacing, noise reduction, sharpening
Video	Encoding	MPEG-1 Audio Layer 2，AAC，AC3
	Sampling Rate	48KHz,44.1KHz,32KHz
	Resolution	24-bit
	Bit-rate	32Kb/s—384Kb/s each channel
Multiplexing	1 ASI input multiplexed with local 4 channels TS	
Stream Output	2-way ASI output, BNC interface	
	4 SPTS over UDP,10/100Base-T Ethernet interface (UDP unicast / multicast)	
System Function	LCD/keyboard, network management,	
	Ethernet software upgrade	
Miscellaneous	Dimension	483mm×410mm×45mm
	Weight	3.2kg
	Environment	0~(work); -20~（Store）
	Power	AC 100~240V±10%， 50/60Hz

13. CS2541 SD H.264 Encoder (4 in 1)

Outline

CS2541 SD H.264 Encoder (4 in 1) is a professional SD audio & video encoding and multiplexing device with powerful functionality. It has 4 SD-SDI input interface,supporting MPEG-4 AVC/H.264High Profile code format.It can simultaneously encode 4 channel SD audio & video; multiplex the input TS with the 4 encoded SPTS to generate a MPTS output. Meantime, the PSI/SI information can be inserted into MPTS output.

Features

◎ H.264/AVC High Profile Level 3.0 video encoding support
◎ Supports MPEG1 Audio Layer 2
◎ 4 SD-SDI input interfaces
◎ 1 ASI input multiplexing support
◎ Multiplexed MPTS ASI output support

◎ Multiplexed MPTS over UDP unicast/multicast output
◎ LCD display and keyboard operating
◎ Real-time effective output bit-rate monitoring
◎ NMS support

Specifications

Input	4× SD-SDI inputs , BNC interface (4×CVBS inputs optional)	
	1×ASI input, BNC interface	
Video	Resolution	720×480_60i, 720×576_50i
	Encoding	MPEG-4 AVC/H.264 High Profile Level 3.0
	Bit rate	0.8Mbps~20Mbps each channel
	Rate Control	CBR/VBR
	GOP Structure	IBBP
	Advanced Pretreatment	De-interlacing, noise reduction, sharpening
Audio	Encoding	MPEG-1 Layer 2 AAC(optional)
	Sampling rate	48KHz, 44.1KHz
	Resolution	24 bit
	Bitrate	64Kb/s~384Kb/s (each channel)
Multiplexing	1 ASI input multiplexed with local 4 channels TS	
Stream output	2 × ASI outputs, BNC interface	
	MPTS over UDP,10/100Base-T Ethernet interface (UDP unicast/multicast)	
System function	LCD/keyboard operating, NMS support,	
	Ethernet software upgrade	
General	Dimensions	480mm××45mm
	Weight	6.2Kg
	Temperature range	0~(Operation), -20~(Storage)
	Power requirements	AC 110V/220V±10%,50/60Hz
	Power consumption	17.6W

14. CS2511H HD H.264 Encoder (1 in 1)

Outline

CS2511H HD H.264 Encoder (1 in 1) adopts H.264 audio encoding algorithm. It can encode and transmit high-quality audio & video under the low bit-rate. It can support AAC (optional),has several analog and digital video input interfaces (CVBS, YPbPr, SDI, and HDMI), and audio input interfaces (RCA, XLR, HDMI, AES and EUB).

Features

◎ MPEG1 Audio Layer 2, AAC(optional)
◎ CVBS, S-Video, YPbPr analog video input support
◎ H.264/AVC High Profile Level 4.0 & H.264/AVC High Profile Level 3.0encoding
◎ HDMI, HD/SD-SDI digital video input support
◎ AES/EBU, HDMI, HD/SD-SDI digital audio input support
◎ XLR (balance), RCA (unbalance) analog audio input support

◎ Support IP output
◎ PAL, NTSC SD video format support
◎ 720P, 1080I HD video format support
◎ NMS support
◎ LCD display and keyboard operating
◎ UDP media transmission protocols & unicast/multicast output support

Specifications

Video input	1 × Analog CVBS, BNC interface
	1 ×S-Video Analog YPbPr input, BNC interface
	1 × YPbPr video input, BNC interface
	HD/SD-SDI, BNC interface
	HDMI interface

Audio input		Analog stereo audio(balanced), XLR interface
		Analog stereo audio(unbalanced), BNC interface
		AES / EBU digital audio, XLR interface
		HD/SD-SDI embedded audio
Video	**Resolution**	1920×1080_60i, 1920×1080_50i,
		1280×720_60p, 1280×720_50p
		720×480_60i(NTSC), 720×576_50i(PAL)
	Encoding	AVC/H.264 High Profile Level 4.0 for HD
		AVC/H.264 High Profile Level 3.0 for SD
	Bit-rate	0.8Mbps~20Mbps
	Rate Control	CBR/VBR
	GOP Structure	IBBP
	Advanced Pretreatment	De-interlacing, noise reduction, sharpening
Audio	**Encoding**	MPEG-1 Layer 2
	Sampling rate	48KHz
	Resolution	24-bit
	Bit-rate	64Kb/s~384Kb/s
Stream output		2×ASI outputs, BNC interface
		SPTS over UDP, 10/100Base-T Ethernet interface
		(UDP unicast / multicast)
System function		LCD/keyboard operating, NMS support,
		Chinese-English control interface
		Ethernet software upgrade
General	**Dimensions**	480mm×456mm×45mm
	Weight	5.2Kg
	Temperature range	0~(Operation), -20~(Storage)
	Power requirement	AC110V±10%, 50/60Hz, AC 220V±10%,50/60Hz
	Power consumption	17.6W

15. CS2541H HD H.264 Encoder(4 in 1)

Outline

CS2541H HD H.264 Encoder(4 in 1) has 4 channel HDMI input interfaces, supporting MPEG-4AVC/H.264 High Profile code format. It is a professional HD audio & video encoding and multiplexing device with powerful functionality. This device can simultaneously encode 4 channel HD programs, moreover, it has an ASI input and can multiplex the input TS with the 4 encoded SPTS to generate a MPTS output. Also, the PSI/SI information can be inserted into MPTS output. In conclusion, its high integrated and cost effective design makes the device widely used in varieties of digital distribution systems.

Features

◎ Audio MPEG1 Layer 2, AAC(optional)
◎ 4 channel HDMI inputs, 1 ASI input supports multiplexing
◎ Support 1 IP output
◎ H.264/AVC High Profile Level 4.0 video encoding support
◎ Real- time effective output bit-rate monitoring

◎ 720P, 1080I HD video format support
◎ MPTS ASI output
◎ LCD display and keyboard operating
◎ NMS support
◎ MPTS over UDP unicast/multicast output

Specifications

Input	4×HDMI inputs	
	1×ASI input, BNC interface	
Video	**Resolution**	1920×1080I_60i, 1920×1080I_50i
		1280×720_60p, 1280×720_50p
	Encoding	MPEG-4 AVC/H.264 High Profile Level 4.0 for HD
	Bit-rate	0.8Mbps~20Mbps (each channel)
	Rate Control	CBR/VBR
	GOP Structure	IBBP
	Advanced Pretreatment	De-interlacing, noise reduction, sharpening
Audio	**Encoding**	MPEG-1 Layer 2
	Sampling rate	48KHz, 44.1KHz,32KHz
	Resolution	24-bit
	Bit-rate	64Kb/s~384Kb/s each channel
Multiplexing	1×ASI input multiplexed with 4 encoding channel SPTS	
Stream output	2×ASI outputs, BNC interface	
	MPTS over UDP,10/100Base-T Ethernet interface (UDP unicast / multicast)	
System function	LCD/keyboard operating, NMS support Chinese-English control interface	
	Ethernet software upgrade	
General	**Dimensions**	480mm×456mm×45mm
	Weight	5.2Kg
	Temperature range	0~(Operating), -20~(Storage)
	Power Requirements	AC 110V±10%, 50/60Hz or AC 220V±10%, 50/60Hz
	Power consumption	25W

16. CS3081 TS Multiplexer (8 in 1)

Outline

CS3081 TS Multiplexer (8 in 1) is aTS multiplexer which can multiplex up to 8 channels ASI input MPTS into one output transport stream (MPTS). It also can insert EPG (electronic program guide), CA (conditional access), data broadcasting into output TS. Meantime it alsosupports auto-generation of PSI/SI information, PID re-mapping, service filtering and PSI/SI editing. The bit rate of input stream can reach up to 216Mbps, while the bit rate of output stream can reach 150Mbps.

Features

◎ Fully complying with ISO13818 and EN300468
◎ MPEG-2 TS re-multiplexing support
◎ 8 ASI input ports, 1 multiplexing ASI output, maximum code rate up to 150Mbps
◎ PCR correction automatically support
◎ Program sorting support
◎ SDT table reflection support
◎ Generating PSI/SI information

◎ Supporting PCR correction and PID re-reflection
◎ Extracting PSI/SI information from any route of SPTS/MTPS inputs
◎ Supporting the cascading connection between multiple equipments.
◎ LCD display, keyboard operation and remote network management support

Specifications

Input Interface	ASI	8 ASI input ports (Maximum 216Mbps/Route)
Re-multiplexing		MPEG-2 input TS stream re-multiplexing
		PID Remapping
		PCR Correction
		Automatically Generating PSI/SI Table
Output Interface	ASI	One multiplexing output ports (1X2 ASI out, one for mirror)
	Ethernet port	10/100Mbps NMSEthernetPort
Miscellaneous	Dimension	45mm××
	Environment	0~Operation) -20~80(Storage)
	power	220VAC±10%，50Hz，25W

17. CS3082 TS Multiplexer (8 in 2)

Outline

CS3082 TS Multiplexer (8 in 2) is a TS multiplexer which can multiplex up to 8 channels ASI input MPTS into two separate output transport stream (MPTS). It also can insert EPG (electronic program guide), CA (conditional access), data broadcasting into each output TS. Meantime It supports auto-generation of PSI/SI information, PID re-mapping, service filtering and PSI/SI editing. The bit rate of input stream can reach up to 216Mbps, while the bit rate of output stream can reach 108 Mbps.

Features

◎ Fully complying with ISO13818 and EN300468
◎ MPEG-2 TS re-multiplexing support
◎ 8 ASI input ports,2 separate multiplexing ASI outputs, maximum code rate up to 108Mbps
◎ PCR correction support
◎ Program sorting support
◎ SDT table editing support

◎ Generating PSI/SI information
◎ PID remapping support
◎ Extracting PSI/SI information from any route of SPTS/MTPS inputs
◎ Supporting the cascading connection between multiple equipments.
◎ LCD display, keyboard operation and Remote network management support

Specifications

Input Interface	ASI	8 ASI input ports (Maximum 216Mbps/Route)
Re-multiplexing		MPEG-2 input TS stream re-multiplexing
		PID Remapping
		PCR Correction
		Automatically Generating PSI/SI Table
Output Interface	ASI	2 separate output ports (2X2 ASI out)
	Ethernet port	10/100Mbps NMSEthernetPort
Miscellaneous	Dimension	45mm××
	Environment	0~Operation); -20~80(Storage)
	power	220VAC±10%，50Hz，25W

18. CS3082S Mux-Scrambler (8 in 2)

Outline

CS3082S Mux- scrambler (8 in 2) is a TS multiplexer which can multiplex up to 8 channels ASI input MPTS into one output transport stream (MPTS). It also can insert EPG (electronic program guide), CA (conditional access), data broadcasting into output TS. Its module design of ASI input multiplexer scrambler provides 8 channels ASI input interface, 2 groups of ASI standalone output interface and 2 corresponding IP output (RJ45 interface)

Features

◎ Module design, 8 channels input interface (ASI/tuner input, optional)

◎ Fully support DVB general scrambling system description ETR289, ETSI 101 197 and ETSI 103 197 simulcrypt standards.

◎ Support TS over UDP protocol, unicast and multicast, IGMP V2/V3.

◎ Multiplex the input TS and output through two channels

◎ Support multiplexing casual TS from input and output. Maximum 256 PID remapping of each channel

◎ Support PCR accurate adjusting

◎ GE port supports 1 Gbps data output channel

◎ Support two channels scrambling simultaneously. Each scrambling channel support 4 simulcrypt CA

◎ LCD display to carry out system status supervision and system parameters setup

◎ Support PSI/SI editing and inserting

◎ Support NMS(network management system)

Specifications

Input interface	8 BNC interface	
Multiplex	Input channel	8 channels ASI input
	Output channel	2 groups of standalone ASI output and 2 corresponding IP output
	Maximum PID remapping	256 per input channel
	Function	PID remapping(automatically or manually)
		PCR accurate adjusting
		Generate PSI/SI table automatically
Scrambling parameters	Maximum support simulcrypt CA	4
	Standard	ETSI 101 197,ETSI 103 197
	Way of Connection	Local/Remote connect
IP output	Interface	RJ45
	Output Protocol	TS over UDP protocol
	Output Bit-rate	1-108Mbps per output channel
ASI output	Interface	4 BNC interface
	Output form	TS
	Output bit-rate	1-108Mbps per output channel
System	Support NMS and LCD panel management	
General	Demission (W x L x H)	482mm×455mm×44.5mm
	Weight	2.5kg
	Temperature	0~45℃(operation），-20~80℃(storage)
	Power supply	AC 110V±10%，50/60Hz Or AC 220V±10%，50/60Hz
	Consumption	≈15.4W

19. CS3122E EIT Multiplexer (12 in 2)

Outline

CS3122E EIT Multiplexer (12 in 2) is a TS multiplexer with EIT multiplexing function with all the functions of normal TS multiplexer, including program multiplexing, PSI/SI editing, etc. It has 12 ASI input ports, 2 two separate ASI output ports and 2 gigabits IP output ports. Besides, it can not only multiplex programs' video, audio, PCR PIDs, but also multiplex the PIDs of program's EIT table (event information table). The EIT table PIDs will automatically go to the output together with the programs' PIDs such as video, audio, PCR, ect when we select the programs. If users who want to offer EPG service in their Digital Head-end System, no need any EPG server, EPG Database, it do can achieve EPG service. Because most TS from satellite has related EIT table (EPG information) already

Features

◎ 12 ASI inputs , 2 separate ASI output, 2 IP output.
◎ ASI output's maximum code rate up to 215Mbps
◎ Two separate gigabit IP outputs as mirror of ASI outputs

◎ EIT automatically multiplexing with other program's PID support
◎ PCR correction automatically support
◎ Local and Remote network management support

Specifications

MPEG-2 TS Input	Supporting both packet and byte mode TS input	
	Supporting 188/204Byte transmission stream packet	
	12 ASI inputs	
	ASI input connector: BNC, impedance 75Ω	
ASI Output	Two separate ASI outputs	
	Maximum code rate: 215Mbps	
IP Output	Two separate gigabit outputs	
	Maximum output code rate: 215 Mbps	
	UDP output, unicast and multicast support	
Miscellaneous	**Size**	45mm X X
	Environment	0~(operation); -20~(storage)
	power	220VAC±10%, 50Hz, 25W

20. CS3122I ISDB-T Multiplexer (12 in 2)

Outline

CS3122I 12in2 ISDB-T Multiplexer is a TS re-multiplexer adapting standard of Japan and those South American countries such as Brazil and Argentina. It supports 2 separate multiplexers which are fully complying with ISDB-T standard. Meantime, it also supports PSI/SI table editing and generating, single frequency network and IIP packet editing and inserting.

Features

◎ SPTS and MPTS code stream multiplexing
◎ PSI/SI information editing and generating; descriptor data inserting
◎ PCR correction and PID re-mapping function
◎ NMS, keypad operation supporting
◎ Two groups separate output
◎ Huge buffer, suddenly code stream resistance
◎ 188/204Byte transmission stream packet
◎ Fully complying with ISDB_T and ISDB_TB standard

◎ Supporting hierarchy transmission
◎ Supporting each kind of table's user-define in its transmission layer
◎ External 1PPS and 10MHz inputting; supports SFN
◎ Separately set the parameters such as time delay for each device when M mode
◎ Section receiving
◎ IIP packet editing and inserting

Specifications

Signal Input	12 groups inputting (max value: 214Mbps/group)
	188/204Byte transmission stream packet
	TS packet mode and suddenly code rate mode
	GPS 10mhz reference clock inputting
	GPS 1pps signal inputting
Re-multiplexing	TS re-multiplexer
	256 PID mapping for each group (manual, auto optional)
	PCR correction
	PSI/SI table automatically generating
Modulation Parameter	mode：mode1(2k) model2(4k) model3(8k)
	Guard interval：1/4 1/8 1/16 1/32
	Coding rate：1/4 2/3 3/4 5/6 7/8
	constellation：DQPSK QPSK 16QAM 64QAM
	Layer：A A+B A+B+C
	Bandwidth: 6MHz 7MHz 8MHz
SFN Parameter	Maximum time delay：0ms ∼ 1000ms
	Off set：-1000ms ∼ +1000ms
	Device ID ：0 ∼ 30
Output	2 groups separate output
	RS encoding output supporting
	1pps signal loop-out
General	Demission：45mmx482mmx410
	Temperature: 0∼45℃(operation) -20∼80℃(storage)
	Power supply: 220VAC±10%，50Hz，10W

21. CS4011 Standard Alone Scrambler

Outline

CS4011 Standard Alone Scrambler can simulcrypt scramble the input stream, and the embedded control word generator can transmit the constant or variable control word to scrambler the input transmitting stream. The internal simulcrypt synchronous controller can transmit the control word and the access conditions to exchange the information with the ECMG. When the scrambler works with the CA system, it can easily help the decoder to correctly decrypt the control word, and decode the scrambling stream by properly controlling the CP. Its high compatibility and integrate design make this device widely being used in the digital TV scrambling field.

Features

◎ Adopts the general scrambling system description ETR289
◎ It can DVB scramble the specific program or the basic transmitting stream
◎ Complies with the DVB common scrambling algorithm, supports the simulcrypt mode, be compatible with a variety of CV systems
◎ Analysis the overall MPEG stream
◎ Re-treating the PSI/SI
◎ Protecting the input and output ASI stream channel
◎ Supports four different CAS system simultaneously
◎ Supports huge buffer memory, and resists the unexpected code stream
◎ Supports the bit-rate self-adoption, the re-adjustment and the re-mark of PCR
◎ Real-time effective bit-rate monitoring
◎ The database format: 188/244 bytes
◎ Monitoring the work state by network system
◎ Supports the CAS remote connection scrambling

Specifications

Input interface		Two DVB/ ASl (one for reserve)
Output interface		Two DVB/ ASl
Output bit-rate		1~54mpbs
Management		Ethernet port 10/
General	Dimension	482mm×410mm×45mm
	Weight	4kg
	Work temperature	0~(working)，-20~(storage)
	Power supply	AC 110V/220V±10%，50/60Hz
	Power consumption	11W

22. CS5111 QAM Modulator

Outline

CS5111 QAM Modulator is a high performance modulator developed according to DVB-C standard. It can receive various TS come from encoder, multiplexer, DVB gateway, scrambler and video server, and then disposes the TS by RS encoding, interleaving and QAM modulating. This device also has RF output and real-time monitoring function.

Features

◎ Fully complying with EN300 429/ITU-T J.83A (DVB-C), GB/T170 standard

◎ Symbol rate range: 1.0Msps~7.0Msps

◎ Supporting 16QAM / 32QAM / 64QAM / 128QAM/ 256QAM constellation modes.

◎ Supporting ASI and DS3 input and output (optional)

◎ Huge buffer memory for the burst code stream

◎ Supporting intelligence null packet filtering, automatically TS filling and PCR fine-tuning

◎ Supporting NIT insertion

◎ Supporting effective inputting real-time bit rate monitoring

◎ Output frequency range: 48MHz~860MHz in 10kHz step

◎ Output frequency attenuation range: -11dBm~+5dBm in 0.5dB step

◎ Full-size front panel LCD display and keyboard

◎ Supporting NMS operation

Specifications

Input	1channle ASI input, BNC interface, 75Ω	
	1channle DS3 input (N/A), BNC interface, 75Ω	
Modulation	QAM Channel	1
	Standard	EN300 429/ITU-T J.83A,GB/T170
	Symbol Rate	1.0~7.0Msps,1ksps stepping
	Constellation	16,32,64,128,256QAM
	FEC	RS(204, 188)
RF Output	Connector	F Type, 75Ω impedance
	RF Range	48~860MHz,10kHz Step
	Output Attenuation	-11dBm~+5dBm,0.5dB Step
System	Full-size front panel LCD display and keyboard	
	Supporting NMS operation	
	Supporting Software Upgrading	
General	Dimension	480mm×455mm×45mm
	Weight	6.0kg
	Temperature	0~45℃(Operation) ; -20~80℃(Storage)
	Power	AC 110V/220V±10%,50/60Hz
	Consumption	30W

23. CS5141 QAM Modulator (4 in 1)

Outline

CS5141 QAM Modulator (4 in 1) is integrated up to 4 channel QAM modulating carrier outputs, in which each carrier has independent signal channel encoding and direct RF output. It supports 4 channel ASI inputs.

Features

◎ Fully complying with EN300429/ITU-T J.83A
◎ 4 adjacent channel QAM carrier
◎ 4×ASI inputs and 188/204byte TS packet support
◎ DVB-S/-S2/-C/-T RF input (optional)
◎ Accurate PCR adjusting support
◎ 16/32/64/128/256 QAM constellation support
◎ Symbol rate adjustment range: 5.0Msps~7.0Msps
◎ PSI/SI editing support

◎ RF output frequency range: 48MHz~860MHz in 1kHz step
◎ RF output level range: -16dBm~0dBm(each carrier) in 0.5dB step
◎ Excellent RF output performance index, MER≥40dB
◎ LCD & Keyboard operation
◎ NMS support

Specifications

Input		4ASI Input, BNC Interface(75Ω)
		DVB-S/DVB-S2/DVB-C/DVB-T tuner (optional)
Modulation	QAM channel	4
	Standard	EN300429/ITU-T J.83A
	Symbol rate	5.0~7.0Msps,1ksps step
	Constellation	16/32/64/128/256 QAM
	FEC	RS(204,188)
RF Output	Port	F Type,75Ω impedance
	Frequency range	48~860Mhz,1khz step
	Output level	-16dbm~0dbm(each carrier),0.5db step
	MER	≥40db
	ACLR(adjacent channel leakage ratio)	−60dBc
System Function		LCD/Key board, network management, Chinese and English language
		Ethernet software upgrade
General	Dimensions	482mm×455mm×44.5mm
	Weight	6.7kg
	Temperature range	0~45℃(operation),-20~80℃(storage)
	Power Requirements	AC110V±10%,50/60Hz or AC220V±10%,50/60Hz
	Power consumption	≈25W

24. CS5211 QPSK Modulator

Outline

CS5102 DVB-S QPSK modulator is the modulator according to DVB-S (ETS300-4221) QPSK standard. And it also has access to FM microwave device. Meantime it supports disposal of energy diffusing, RS coding, convolution interlacing and pre-modulated baseband shaping.

Features

◎ Fully complying with DVB-S (ETS300-421) QPSK standard
◎ Output frequency range: 250-450 450-950 950~2150MHz
◎ ASI standard Input connector

◎ Supporting local and remote control
◎ Output level attenuation
◎ High stability and powerful anti-jamming performance
◎ Full-size front panel LCD display and keyboard

Specifications

Modulation	QPSK
Input	ASI Standard connector
Output	50Ω F Type
RF Range	250-450 450-950 950~2150MHz
Symbol Rate	1.5M~45Mps
Roll-off factor	Option 0.35,0.25,0.20
Convolution	Option 1/2,2/3,3/4,5/6,7/8
Output level range	0~20dB in 1dB step
Environment	0 ~ 45℃(operation);-20 ~ 80℃(storage)
Power Supply	~220V(~180V-~250V)50Hz~60Hz 20VA
Dimension	45mm×482mm×430mm

25. CS5311 DVB-T Modulator

Outline

The CS5311 DVB-T Modulator developed according to DVB-T (EN300744) standard. It adopts advanced framing structure, channel coding and modulation technology and also supports both MFN (Multi-frequency network) and SFN (single frequency network). It has 2 AIS input ports, one GPS.10MHZ input port and one 1 PPS input port. To improve the output performance of the transmitter, it can simultaneously support linear and nonlinear pre-correction.

Features

◎ Fully complying with DVB-T standard (EN300744)
◎ The Max valid bit rate: 31.6Mbps
◎ Both SFN and MFN support
◎ Transfer mode 2k, 4k, 8k optional
◎ Hierarchy modulation Alpha1, 2 and 4 optional
◎ Transfer bandwidth 6M, 7M and 8M optional
◎ Supporting linear and non-linear correction

◎ Excellent phase noise and MER performance, MER ≥40db
◎ RF output range 110~860MHz, 1hz step
◎ Two ASI inputs supporting hot backup
◎ Constant temperature crystal oscillator, frequency stability is high up to 0.1ppm
◎ Full-size front panel LCD display and keyboard, NMS management.

Specifications

Input		2 channels ASI input,hot backup, BNC port
		GPS 10Mhz reference clock input, BNC port
		GPS 1PPS input, BNC port
Modulation	**Standard**	EN304 744
	FFT	2K,4K,8K
	Bandwidth	6M,7M,8M
	Constellation	QPSK,16QAM,64QAM
	Guard interval	1/4,1/8,1/16,1/32
	FEC	1/2,2/3,3/4,5/6,7/8
	Hierarchy modulation	Alpha=1,2,4
RF output	**ASI loop out**	2channels ASI loop out, BNC port
	interface	N type, 50Ω impedance
	RF range	110~860MHz,1hz step
	ATT	-16dbm~0dbm,0.5db step
	MER	≥ 40db
Linear pre-correction	**Correction points**	16
Non-linear pre-correction	**Correction points**	256
System		Full-size front panel LCD display and keyboard, NMS management
		Software upgrading
General	**Demission**	483mm×455mm×45mm
	Weight	5kg
	Temperature	0~45℃(operation),-20~80℃(storage)
	Power supply	AC 110V/220V±10%,50/60Hz
	Consumption	28.6W

26. CS5411 ISDB-T Modulator

Outline

CS5411 ISDB-T modulator is the modulator developed to adapt Japan, Brazil, Argentina and other South American country's terrestrial digital television, its channel coding and modulation mode is fully complying with the ARIB STD-B31 standard. And supports four TS hot backup input, single frequency network and multi-frequency network, linear and nonlinear pre-correction function, layered transmission meantime the three transmission modes mentioned in the standard. Furthermore, this device can be upgraded and controlled through network system, which can be widely used in ISDB-T digital broadcasting network's setting up and set-top box design's production and test.

Features

◎ Fully complying with ISDB-T (ARIB STD-B31) and ISDB-TB standard
◎ Single frequency and multi-frequency network
◎ Layered transmission with A, A+B, A+B+C hierarchy modes
◎ DVB TS input (without IIP packet), TS multiplexing, re-multiplexing and multiplexed frame generating;
◎ ISDB-T BTS input (with IIP packet), IIP packet parsing and multiplexed frame generating
◎ Three transmission modes: mode1(2k), mode2(4k), mode3(8k)

◎ Linear and nonlinear pre-correction function
◎ MER≥40db
◎ RF output range: 40~860MHz in 1Hz step
◎ 4 channel ASI input, hot backup
◎ Constant temperature crystal and excellent frequency stability
◎ RF output range of 100~860Mhz, 1hz step
◎ 2 ASI inputs with loop out and hot-backup online
◎ Constant temperature crystal oscillating and excellent frequency stability(reach up to 0.1ppm)
◎ LCD display, keyboard and NMS operation

Specifications

Signal input	4 Way ASI input, hot backup, BNC interface	
	GPS 10MHz reference clock input, BNC interface	
	GPS 1PPS input, BNC interface	
	Connector Specifications: BNC Block, impedance 75Ω	
Modulation	**Standard**	ARIB STD-B31
	Mode	mode 1(2k),mode 2(4k),mode 3(8k)
	Constellation	DQPSK/QPSK/16QAM/64QAM
	External coding	RS (204,188)
	Internal coding	Convolution (1/2,2/3,3/4,5/6,7/8)
	Guard interval	1/4,1/8,1/16,1/32
	Hierarchy mode	A,A+B,A+B+C
	Time domain interlacing	mode 1:0,4,8,16 mode 2:0,2,4,8 mode 3:0,1,2,4
	Bandwidth	6MHz,7MHz,8MHz
RF Out	**Connector**	N Type, 50ΩImpedance
	RF range	40~860Mhz,1hz step
	Output level ATT	-16dbm~+3dbm,0.5db step
	MER	≥ 40db
General	**Demission**	480mm×457mm×45mm
	Weight	7kg
	Temperature	0~45℃(operation),-20~80℃(storage)
	Power supply	AC 100V~240V,50/60Hz
	Consumption	22W

27. CS5511 ATSC-T Modulator

Outline

CS5511 ATSC-T Modulator is compatible with American ATSC A/53 standard. It supports DVB-ASI and SMPTE-310 input, after modulating the inputting signals through ATSC 8-VSB, it can output RF signals with the range between 40~860MHz.

Features

◎ Full complying with ATSC A/53 standard
◎ Constellation mapping:8-VSB
◎ EN50083 ASI and SMPTE 310M interface standard
◎ Dual channel DVB-ASI and SMPTE-310M input, automatic switch-over and hot backup
◎ RF range: 40MHz~860MHz,1Hz stepping
◎ Front panel and IP long distance control

◎ RS coding, data interlacing, Trellis coding
◎ Channel bandwidth: 6MHz
◎ Excellent RF output performance: EVM, MER, SNR, shoulder level and so on
◎ Remote maintenance, monitoring and software upgrading
◎ Keyboard operation and LCD display, NMS controlling

Specifications

Input interface		2 channels ASI input, hot backup, BNC interface
		2 channels SMPTE 310M input, hot backup, BNC interface
Modulation	Standard	ATSC A/53
	Constellation	8VSB
	FEC	RS(208 188)+Trellis
RF output	Port	N Type,50Ω impedance
	RF range	40~860Mhz,1hz stepping
	Output Level ATT	-16dbm~0dbm,0.5db stepping
	MER	≥ 42db
General	Demission	482mm×455mm×44.5mm
	Weight	6.0kg
	Temperature	0~45℃(operation),-20~80℃(storage)
	Power Supply	AC 110V/220V±10%,50/60Hz
	Consumption	25W

28. CS5611 DVB-S2 Modulator

Outline

CS5611 DVB-S2 uplink Modulator is compatible with DVB-S2 (EN302307) standard, adopts advanced framing structure, channel coding and modulation technology, increasing over 50% transmission ability more than DVB-S modulator under the same transmission condition and also providing a more powerful receiving ability in the same spectral efficiency. Meantime it is backwards-compatible with DVB-S (EN300421) modulating standard and has RF 10MHz & 24V/2A DC coupling out.

Features

◎ Fully complying with DVB-S2(EN302307) standard
◎ Backwards-compatible with DVB-S (EN300421) modulating standard
◎ Two ASI inputs supporting hot backup
◎ Supporting local and remote control
◎ Output level attenuation

◎ 10MHz outer reference clock input
◎ Output frequency range: 950~2150MHz
◎ Coupling output: 24V/2A DC optional
◎ Coupling output: 10MHz reference clock optional
◎ Full-size front panel LCD display and keyboard

Specifications

MPEG-TS Input	Supporting both packet and byte mode TS input	
	Supporting 188/204Byte transmission stream packet	
	Two ASI inputs, supporting hot backup	
	ASI input connector: BNC, impedance 75Ω	
RF Output	Frequency is continuously adjustable from 950 to 2150MHz	
	Output Level attenuation is continuously adjustable from 0 to 31.5 dB; in step of 0.5 dB.	
	Maximum Output level: 0dBm	
	MER≥32dB	
	Connector: N type, impedance 50Ω	
	Coupling power supply: 24V/2A DC output	
	Coupling reference clock: 10MHz reference clock output	
Channel coding and modulation	Outer coding	DVB-S2
		BCH coding
	Inner coding	LDPC coding
	Code Rate	1/2,3/5,2/3,3/4,4/5,5/6,8/9,9/10
	Constellation	QPSK,8PSK
	Roll-off Factor	0.2, 0.25, 0.35
	Symbol Rate	1~30M@8PSK;1~45M@QPSK
Miscellaneous	Dimension	44mm×482mm×410mm
	Environmental	0~45℃(operation), -20~80℃ (storage)
	Power	15.4W

29. CS5741 AV-COFDM Modulator

Outline

CS5741 AV-COFDM Modulator is an integrated device with multi-function. It has equipped with 1 channel CVBS input, 1 ASI input and 1 RF input. For output it could be IP out, ASI out and DVB-T RF out. Therefore it can be used as a SD encoder, IP encoder, COFDM modulator, or A/V to DVB-T RF out converter.

The signal source could be from satellite receivers, closed-circuit television cameras, Blue-ray players, and antenna etc. its output signal is to be received by a DVB-T standard TV, DVB-T STB, or computer via its IP interface. The device can be used in public place such as metro, market hall etc. for advertising. It also can be used for monitoring, training and educating in company, schools, campuses, hospital etc.

Features

◎ Optional input interfaces in H.264
◎ RF COFDM DVB-T output
◎ Excellent modulation quality MER: ≥42db
◎ Processing and insertion of PSI/SI table

◎ LCN support (Logical Channel Number)
◎ Web server/LCD keyboard control
◎ 19'' case design

Specifications

MPEG-2 SD Encoding (Option 1)		
Video	Encoder	MPEG-2 MP@ML(4:2:0)
	Input	CVBS*2
	Resolution	720*576(PAL), 720*480(NTSC)
Audio	Encoder	MPEG1 Layer II
	Input	Unbalanced stereo analog audio*2
	Sample rate	48KHz
	Bit rate	128kbps

MPEG-2 SD Super Encoding (Option 2)

Video	Encoder	MPEG-2 MP@ML(4:2:0)
	Input	CVBS*4
	Resolution	720*576(PAL), 720*480(NTSC)
Audio	Encoder	MPEG1 Layer II
	Input	Unbalanced stereo analog audio*4
	Sample rate	48KHz
	Bit rate	128kbps

DVB-T Modulation

Standard	EN300744
FFT mode	2K, 8K
Bandwidth	6M, 7M, 8M
Constellation	QPSK, 16QAM, 64QAM
Guard Interval	1/4, 1/8, 1/16, 1/32
FEC	1/2, 2/3, 3/4, 5/6, 7/8
MER	≥42db
RF frequency	30~960MHz, 1KHZ step
RF output level	-26~-10dbm (81~97dbμV), 0.1db step

General	Power supply	110±10%, 220±10% VAC
	Consumption	25 W
	Operating temperature	0~45℃ (operating); -20~80℃ (storage)
	Dimensions	36*50*5 cm
	Weight	3.3 Kg
Interface	Standard	Ethernet
	Remote interface/updates	Web/Ethernet
	Language	English

30. CS5721H HDMI-COFDM Modulator

Outline

CS5721H HDMI-COFDM Modulator is a professional modulator in 1U case for HDMI input directly to DVB-T COFDM RF output modulating application. It has two HDMI input interface and supports H.264/AVC video encoding format and MPEG1 Layer II audio coding format.

Features

◎ Optional input interfaces in H.264
◎ RF COFDM DVB-T output
◎ Excellent modulation quality MER: ≥42db
◎ Processing and insertion of PSI/SI table

◎ LCN support (Logical Channel Number)
◎ Web server/LCD keyboard control
◎ Flexible and practical module design
◎ 19'' case

Specifications

Coding	Video Input	HDMI*2
	Video coding	H.264/AVC High Profile Level 4.0 (HD)
	Resolution	1920*1080_60i,1920*1080_50i,1280*720_60p 1280*720_50p, 1920*1080_60p,1920*1080_50p
	Audio Input	HDMI*2
	Audio coding	MPEG1 Layer II
	Sample rate	48KHz
	Bit rate	128kbps

DVB-T Modulation	Standard	EN300744
	FFT mode	2K, 8K
	Bandwidth	6M, 7M, 8M
	Constellation	QPSK, 16QAM, 64QAM
	Guard Interval	1/4, 1/8, 1/16, 1/32
	FEC	1/2, 2/3, 3/4, 5/6, 7/8
	MER	≥42db
	RF frequency	30~960MHz, 1KHZ step
	RF output level	-26~-10dbm (81~97db μV), 0.1db step
Interface	Standard	Ethernet
	Remote interface/updates	Web/Ethernet
	Language	English

31. CS6000 IP Multiplexing Scrambler

Outline

CS6000 IP Multiplexing scrambler is the scrambler with multiplexing built in one device. It can receive the UDP format TS through GE port and supports up to 12 different IP address or port number, which can generate 4 multiplexer with 12 input and 4 stand alone scrambler, and output UDP format TS through the two gigabits Ethernet. Additionally, the 1U chassis can support maximum 3 modules (12 scrambling), and the 4U chassis can support maximum 12 modules (with 48 scrambling).

Features

◎ Module design, the 1U case can support maximum three modules, and the 4U case can support maximum 12 modules.

◎ Totally supports DVB general scrambling system description—the ETR289, and DVB simulcrypt–ETSI 101 197 and ETSI 103 197

◎ The 2 GE ports support backup input, support maximum 12 IP input and network de-jittering

◎ Supports UDP protocol, unicast and multi-cast, supports IGMP V2/V3

◎ The maximum bit-rate of single IP is 108Mbps, and the total input bit-rate is 840Mbps

◎ Supports maximum 4 input and multiplexing channels

◎ Supports any input channel to any output channel multiplexing, and the maximum PID mapping of each channel is 256

◎ Supports PCR accurate adjustment

◎ Supports PSI/SI inserting and editing

◎ Supports 4 channel scrambling, and each scrambling channel can simultaneously support 4 simulcrypt CA

◎ Supports NMS

Specifications

Input	**Interface**	2 GE inputs,RJ45 or SFP interface,hot backup
	Transport Protocol	TS over UDP, Unicast and Multicast,IGMP V2/V3
	Transmission Rate	Max 108Mbps of each channel Max 840Mbps of all channels
Multiplexing	**Input channel**	12
	Output channel	4
	Maximum PID	256 per channel
	Function	PID re-mapping(auto, manual)
		PCR correction
		Auto generate PSI / SI table
Scrambling	**Maximum simulcrypt CA**	4
	Standard	ETSI 101 197,ETSI 103 197
	Connection mode	Local/ remote connection
IP output	**Interface**	2 GE output, RJ45 or SFP interface
	Format	TS over UDP
	Code rate	1-54Mbps of each channel
General	**Dimension**	480mm×457mm×44mm
	Weight	7kg
	Temperature	0~45℃(working),-20~80℃(storage)
	Power supply	AC100V±10%,50/60Hz/AC 220V±10%,50/60Hz
	Power consumption	15.4W

32. CS6111 ASI-IP Bidirectional Converter

Outline

CS6111 ASI-IP Bidirectional Converter is a head-end converting equipment which is used for DVB and Ethernet. It can be used for both ASI to IP or IP to ASI converting application. In the lancers part, this machine can be used for turning the TS stream into IP Stream and sending out. Also in the receive part, this machine can be used for receiving and converting the IP stream into TS stream.

Features

◎ PCR adjusting
◎ Transparent transmission without ATM adapting process, directly mapping IP frame, through the network, with 100Mbps interface to transmission
◎ Alarm display

◎ Input/output TS is MPEG-2 transmission stream
◎ IP frame structure, complies ITU G. 752, ITU-T G.804 standard
◎ IP signal physical interface complies ITU-TG.703 standard
◎ One-way operation, IP Stream is 60.000Mbps
◎ Two-way operation, IP Stream is 20.000Mbps

Specifications

ASI to IP	Input	1 DVB ASI input interface
	Output	1 RJ 45 output interface
IP to ASI	Input	1 RJ 45 input interface
	Output	2 DVB ASI output (the same output)
Interface	ASI	DVB Standard
General	Dimension	44mm*482mm*433mm
	Environment	0~45℃(Working); -20~80℃ (Storage)
	Power supply	220V AC±10%, 50Hzm, 25W

33. CS6121 ASI to IP Converter (12 in 1)

Outline

CS6121 ASI to IP Converter (12 in 1) is a head-end can transmit the MPEG-2 TS stream in to IP stream, and it can simultaneously transmit the 12 TS stream into 12 IP stream, and the streams can transmitted through the same gigabits internet interface.

Features

◎ Supports ASI to IP one-way conversion
◎ Supports one GE serial port, and inputs 1Gps data
◎ Supports UDP, unicast and multicast mode

◎ Supports maximum 12 channel ASI to IP conversion channels, and the maximum bit-rate in each channel is 108Mbps, the maximum total bit-rate is 800Mbps
◎ Keyboard and NMS operation

Specifications

Interface	Input	12 channels ASI input interfaces
	Output	One GE output ports,RJ45 interface
Transfer protocol	Input	DVB-ASI
	Output	TS over UDP，unicast and multicast
Bit-rate		Max of each channel is 108Mbps
		Max total bit-rate is 800Mbps
General	Dimension	482mm×410mm×44mm
	Weight	4kg
	Temperature	0~45℃(working)，-20~80℃(storage)
	Power supply	100~240VAC，50/60Hz
	Power consumption	20W

34. CS6212 IP to ASI Converter (2 in 12)

Outline

CS6212 IP to ASI Converter is used for DVB ASI and Ethernet .It can recover UDP database received from the transporting device into TS stream and then output it through the ASI output interfaces. Meantime, it also can resist the IP transporting shake, and to restore the PCR of the TS stream. It can maximum receive 12 channel IP and output 12 ASI, also, it can simultaneously transmit the 12 IP stream into 12 TS stream.

Features

◎ Supports IP to ASI one-way conversion

◎ Supports double GE ports, and inputs 1Gps data

◎ Supports UDP, unicast and multicast mode, and 1GMP V2/V3

◎ Supports 12 ASI output channel, and each channel has two ASI (the same data) interfaces

◎ The maximum conversion channel of IP to ASI is 12, and the maximum bit-rate in each channel is 96Mbps, the maximum total bit-rate is 840Mbps

◎ Supports to eliminate the IP transport shake, and can correctly restore the PCR of TS stream

◎ Keyboard and NMS operation

Specifications

Interface	Input	Two 1000M network serial input interfaces,RJ45 interface
	Output	12 ASI output, and each channel has two BNC interfaces
Transfer Protocol	Input	TS over UDP,unicast and multicast
	Output	DVB-ASI
Bit-rate		Max of each channel is 96Mbps
		Max total bit-rate is 840Mbps
General	Dimension	482mm×410mm×45mm
	Weight	5kg
	Temperature	0~45℃(working),-20~80℃(storage)
	Power supply	100~240VAC,50/60Hz
	Power consumption	22W

35. CS6300 IP-QAM Modulator

Outline

CS6300 IP-QAM Modulator is the QAM modulator with high integrated level and performance. The modular design of this device makes each of its daughter cards stand-alone when operating. Besides, each daughter card can receive the UDP format TS through GE port and it supports up to 10 different IP address or port No. It is combined 8 multiplexers with 10 channels inputs and 8 QAM (DVB-C) modulators, which can output adjacent channel RF carrier(48M~860M)through the two RF output interfaces (4 carriers for each). Additionally, the 1U chassis for this modulator supports up to 3 modules (24 channels QAM) while the 4U chassis supports up to 12 modules (96 channels QAM).

Features

◎ Modular design, 1U chassis supports up to 3 modules and 4U chassis supports up to 12 modules
◎ Fully complying with EN300 429/ITU-T J.83A
◎ 2 GE ports support backup input, up to 10 IP inputs, network de-bounce
◎ Supporting UDP protocol, unicast and multicast, IGMP V2/V3
◎ Single input IP max value 108Mbps, amount input coding stream value 840Mbps
◎ Direct-connection input or be multiplexed to 8 output channels
◎ Any input channel to any output channel multiplexing, amount of output PID per input is 256 (maximum)

◎ PCR fine-tuning
◎ PSI / SI editing and inserting
◎ 8 QAM modulation carrier output, 4 adjacent channel carrier output, 2 RF output
◎ 16QAM,32QAM,64QAM,128QAM,256QAM modulation constellation optional
◎ Symbol rate range: 5.0Msps~7.0Msps
◎ RF output range: 48MHz~860MHz in 1kHz step
◎ RF output level attenuation: -14dBm~6dBm in 0.5dB step
◎ MER≥40dB
◎ Network management system

Specifications

Input	2 GE input,RJ45/SFP interface, hot backup		
Transport protocol	TS over UDP, unicast and multicast, IGMP V2/V3		
Transmission code	Max 108Mbps per channel		
	Max 840Mbps amount channels		
Multiplexing	Input channel	10	
	Output channel	8	
	Maximum PIDs	256 per input channel	
	Functions	PID re-mapping(auto/manual optional)	
		PCR fine-tuning	
		Automatic generating PSI／SI table	
Parameters	QAM channel	8	
	Standard	EN300 429/ITU-T J.83A	
	Symbol rate	5.0~7.0Msps,1ksps stepping	
	Constellation	16,32,64,128,256QAM	
	FEC	RS(204, 188)	
RF output	Interface	2 F type connectors, 4carriers for each one, 75Ω impedance	
	RF range	48~860MHz,1kHz stepping	
	Output ATT	-14dBm~6dBm(each output),0.5dB stepping	
	MER	$\geq$ 40dB	
	ACLR	-60 dBc	
General	Demission	480mm×457mm×44mm	
	Weight	7kg	
	Temperature	0~45℃(operation),-20~80℃(storage)	
	Power supply	AC 100V/220V±10%,50/60Hz	
	Consumption	15.4W	

36. CS7024 DVB-T SFN Adapter

Outline

The CS7024 DVB-T SFN Adapter can periodically produce and insert the MIP database in the MPEG TS which can synchronize all SFN transmitter signals. Furthermore, the two input and output interface can be used as two independent adapters, and it can also be configured as two backup modes. Besides, it can automatically adjust the TS bit-rate according to the TPS. Its high integration and cost effective design makes this device widely used in the digital TV SFN system.

Features

◎ Fully compatible with TS—101191 standard
◎ Supports DVB-T and DVB-H mode，including hierarchical Modulation mode
◎ Supports 5、6、7、8MHz bandwidth
◎ ASI interface auto-change and bit-rate auto-adaptation
◎ Non-hierarchical ASI backup output, HP and LP output
◎ Supports the hierarchical mode and MIP input
◎ Supports NMS operation

Specifications

MPEG—TS input	2 ASI input, EN50083 ASI interface standard
	In the non-hierarchical modulation mode，2 ASI backup input
	In the hierarchical Modulation mode: supports HP and LP input
	Supports 188 NON-RS code and 204 RS code
	Supports bit-rate auto-adaptation and PCR
	BNC connector，impedance 75Ω
MPEG—TS output	In the non-hierarchical modulation mode，output 2 same TS and supports MIP Insertion
	In the hierarchical Modulation mode, supports MIP insertion of 2 TS (HP and LP)
	Supports 188 NON-RS code and 204 RS code
	BNC connector，impedance 75Ω
	Supports 5、6、7、8MHz bandwidth
	The adjust range of the network delay time is 0~1s
Control and monitor	Panel Monitor
	WEB page control
Clock synchronization	High accuracy internal clock（TCXO）
	Internal 10MHz clock：0.5ppm
	External 10MHz reference input：-5～+10dBm
	Interface type: BNC，50Ω impedance
	External 1pps reference input
	Reference power level: TTL level, 5KΩ impedance
	Reference minimum pulse width: 1 μs
	Calculate and all information of the inserting MIP

General	**Power voltage**	AC90—260V 50/60Hz
	Power consumption	30W
	Working temperature	-10～50℃
	Storage condition	-10～70℃
	Dimension	318mm X 483mm X 44mm（1U）
	Weight	5kg

37. CS7212 TS Distributor (2 in 24)

Outline

CS7212 TS distributor (2 in 24) can process high-speed data of various interfaces and distribute them in order to establish the connections among digital TV head-end equipment. distributor is used for distribution of DVB ASI interfaces.

Features

◎ 2 ASI input
◎ 6 groups TS output, including 4 channels per group
◎ Status monitoring and alarming.
◎ LCD display, keyboard and network management
◎ NMS operation

Specifications

Interface	Input interface	DVB ASI
	Input interface number	2
	Output interface	DVB ASI
	Output interface number	24
Interface Specification	ASI	DVB Standard
Code rate	1-216Mbps	
Miscellaneous	Dimension	44mm x 482mm x 410mm
	Temperature	0-45℃(Operation);-20–80℃ (Storage)
	Power	220VAC± 10%, 50Hz, 10W

38. CS7311 TS Player

Outline

CS7311 TS player meets with MPEG2 DVB standard, to provide a complete API interface functions and it is ideal hardware development platform for digital TV equipment. Play box is mainly used to send transporting stream date stored in computer hardware in specific code rate, and it can be used as digital TV stream generator.

Features

◎ Direct power access through the USB interface, no need of external power supply, high efficiency, stability
◎ Automatic calculation of bit-rate, can also manually set the playback rate
◎ Onboard 8M bytes of super high-speed buffer memory to ensure the stability of high bit-rate output
◎ Aluminum alloy shell, small size, easy to carry
◎ Support secondary development

Specifications

USB interface	USB2.0	
ASI	2 channel	
General Features	Size	95mm*155mm*40mm
	Environment	0 ~ 45(Operating); -20 ~ 80(Storage)
	Power	5V DC

39. CS7411 TS Analyzer

Features

◎ Real time analysis; real time stream input and analysis;
◎ DVB/MPEG-2 transport stream analysis:
◎ TS information summary;
◎ Conformance checking against the DVB standards using priority 1,2 and 3 measurements defined in TR 101 290; Error accounting;
◎ Program information, PES, Audio/Video information;
◎ Display occupancy of bandwidth of each PID and program;
◎ PSI/SI table, descriptors;
◎ PCR Analysis;
◎ Section, PID, PES syntax analysis ;
◎ TS grouping, Section and PES header capture;
◎ Buff analysis;
◎ Display and search EPG information;
◎ Support both real time and off line analysis;
◎ Support test result save, recover, review and print out;
◎ Monitoring: voice alarm, TS trigger record;
◎ Integrated decoder: support MPEG-2,H.264,MPEG-4,AC3,AAC, DRA formats;
◎ Integrated TS recorder and player, max bit rate to 120 Mbps;
◎ Support RF, ASI input/output;
◎ Demodulation, channel measurement;
◎ Input RF interface: DVB-C

40. CS8100 Digital MMDS Transmitter

Outline

CS8100 Digital MMDS transmitter is used for digital TV wireless transmitting system. It can work with QAM, QPSK, COFDM modulator, frequency conversion and power amplifier, and transmitted digital channels to the digital TV receiver or repeat equipment for long distance transmission.

Features

◎ The design of module groups is convenient to maintain the equipment.
◎ Low phase noise
◎ Compatible with analogue and digital signals transmission.

Specifications

Working frequency:	2500 – 2700MHz
The output power on the point of 1dB	P1dB :50dBm
L.O.:	2033MHz
AGC range:	±8dB
Pre-attenuation:	7dB
Input level:	85dBuv/CH
The digital output power:	43dBm
Interfaces:	RF IN — FL10-75K
	RF OUT — N-50K
	TEST PORT — AK16-7
Power supply:	AC220V
The total power loss	450W
The total weight:	65Kg

Notice: **Supports customized according to clients' requirement.**

41. CS8200 DVB-T Transmitter

Outline

CS8200 DVB-T transmitter is used for digital TV terrestrial wireless transmitting system. It can work with COFDM modulator, transmitted digital channels to the digital TV receiver for not-long distance transmission with high broadcasting quality.

Features

◎ Accord with DVB-T ETS300 744 standard.
◎ Digital TV RF stream ASI serial connecter and SPI parallel connecter
◎ Support COFDM modulation 2K, 8K mode.
◎ Protection interval: 1/4,1/8,1/16,1/32.
◎ Inside error correction: 1/2,2/3,3/4,5/6,7/8.
◎ Sub-standing wave modulation mode: QPSK, 16QAM, 64QAM
◎ Hierarchy modulation parameterAlfa1.2.4.
◎ Broad-band: 8MHz, 7MHz, 6MHz (optional)
◎ Adopted advanced IF digital pre-correction technology, the device can run under the ◎ state of super-linearity with low TV transmission signal distortion.
◎ With whole solid-state circuit design, super-linearity, broad-band power amplifier unit and power amplifier modularization design. Adopted LDMOS high-power tube with great redundancy, easy to install or maintain.
◎ With over-voltage, over-current, over-heat and over-high standing wave ratio protection, the equipment can work securely.
◎ With digital/analogue compatible output band-pass filter, adopted high-power synthesis technology, with low insertion loss and high out-of-band suppression.
◎ Support steady voltage switch power supplier, and able to make the stable voltage range wide and efficiency high.
◎ Support compelled-wind cool design, with low power consumption and low noise.
◎ Al-alloy cover designed, rain-proof, damp-proof.
◎ Remote control, GSM alarm, optional.

Specifications

Working frequency:	470 –806MHz
Inverse Fast Fourier Transformation	2k 8k
Protective Interval	1/4，1/8，1/16，1/32
Forward Error Correction	1/2，2/3，3/4，5/6，7/8
Sub-carrier Modulation Mode	QPSK，16QAM，64QAM
Hierarchy	Alfa1.2.4
Interface	(Dual ASI MPEG2 TS input), BNC, 75Ω
SFN Standard Clock Input Interface	F=10MHz; Level: -5dBm~+10dBm; 50 Ω
SFN Standard Time Input	BNC, F:1pps,(Level)0~5V, (Forward trigger), 50 Ω
Interface	BNC
IF	30~40MHz(Modulation between)(step)1Hz
Frequency Stability	(Inner clock):1PPm,(or sync with outer GPS)
Spectrum Polarization	Forward or inverse
Output Level	8dBm~-2dBm(Modulation between)
Output Level Flatness	＋0.2 dB
Return Loss	＞26 dB
Output Signal Shoulder and Out-of-band Rejection	＞50 dB＠ IF±4.2 MHz
Out-of-band Harmonic and Hybrid Wave Suppress	＞-60dB
Modulation Error Ratio	45db
RF Output Interface of Overall Transmitter	
Interface	N type，7/8" or 1 5/8 or 3 1/8" Flange; 50 Ω
Output frequency Range	IF 474MHz～858MHz(Can be specified as any channel)
Spectrum Polarization	Forward or inverse
Output Power	30Wrms~3KWrms

Output Flatness	±0.5dB
Return Loss	＞16 dB
Output Signal Shoulder and Out-of-band Rejection	>38 dB@ IF ±4.2 MHz
Out-of-band Harmonic and Hybrid Wave Suppress	＜60dB
Amplification Class	A+AB
Working Temperature	-10~+50℃
Storage Temperature	-30~70℃
Relative Humidity	＜95% (Non condensation at 25℃）
Cooling	Forced air cooling with built-in fan
Atmosphere Pressure	86~106Kpa
Power Supply	（Single-phase）,AC,176V~264V,40~63Hz （3-phase）; AC，330V~456V;40~63Hz
Machine Room	Few dust, No oscillation and impact
Dimensions ».	3KW/2KW: 1800(H)×1800(W)×1000(D)mm3
	1.5KW/1KW: 2000(H)×600(W)×1000(D)mm3
	800W/500W: 1800(H)×600(W)×1000(D)mm3
	100W~300W: desktop type: 266(H)×448(W)×650(D)mm3

42. CS8300 MMDS Transmitting Antenna

Specifications

| Frequency Range	2500-2700(MHz)
Input Impedance	50(Ω)
VSWR	<1.5
Gain	(dBi) (depends)
F/B	>12(dB)
Maximum Power	500(W)
Polarization	Horizontal Polarization
	Vertical Polarization
Connector Type	N-K
Lighting Protection	Direct Ground
Wind Velocity	200(km/h)

Notice: Omni/Angle optional

43. CS8400 MMDS Receiving Antenna

Specifications

RF Input Frequency	2500-2686MHz
RF Output Frequency:	222-408 MHz (decided by customers)
Integrated Gain	50 dB
LO Frequency	1838MHz(1950,2030,2278, 2286,2470,2908…more)
LO Frequency Stability	±30KHz over temp
Noise Figure	1.7dB(typ)
Gain Flatness	±1.5dB@whole band,±0.25dB@6 MHz
Gain	32±2 dB
Phase Noise	-85dBc/Hz@10 KHz
Lmage Rejection	85dB
IF Rejection	-80dB
PCS Rejection	≥100dBm
Radar Lmmunity	Optional
Output Connector	F-Type,75Ohm
Supply Voltage	+16 to +24VDC
Current	225mA
Operating Temperature	-40℃ to +70℃
Humidity	100% weatherproof
Gain	17dbi
Front-to-Back Ratio	25db
Side Lobe Level	-12
3 db Beamwidth	24°
Size:	63*46*39cm(20pc/carton)
Gross weight	21Kg
Net weight	19Kg
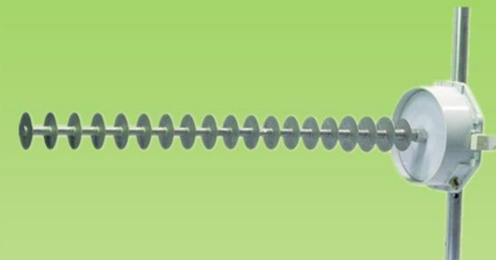
44. Set Top Box

Set Top Box is used by end user for Digital TV receiving.

CS9100 DVB-C   Set Top Box
CS9100H DVB-C HD Set Top Box

CS9200 DVB-S   Set Top Box
CS9200H DVB-S/S2 HD Set Top Box

CS9100 DVB-T   Set Top Box
CS9100H DVB-T HD Set Top Box

(Please contact the sales for detailed specifications)