

DCH-5200P HD 4:2:0 IRD and Processor



The DCH-5200P IRD and Processor provides operators an ideal solution for receiving, remultiplexing, descrambling and decoding operations. Equipped with a variety of inputs that ensures compatibility with all transmission media. The DCH-5200P's remultiplexing capabilities enable creation of new transport streams that are subsets of the original stream. Customized services may be output as multiple SPTS or MPTS over IP, as well as over ASI. By the dual DVB common interfaces, DCH-5200P could decrypt multiple services in one transport stream or two. DCH-5200P is also a professional IRD that features a broadcast quality decoder for MPEG-2 and MPEG-4 AVC/H.264 in both Standard Definition and High Definition formats, and provides a variety of industry standard digital and analog outputs, including CVBS video, AES/EBU Audio, analog Audio, SD-SDI and HD-SDI. The unit also performs HD down-conversion and aspect ratio adaptation of HD programs to generate professional quality baseband analog video and audio outputs for easy integration with existing cable network infrastructure. This all-in-one architecture makes the DCH-5200P an ideal product for distribution and contribution networks.

Dual DVB Common Interface and Multi Programs decryption



A variety of industry standard digital and analog outputs

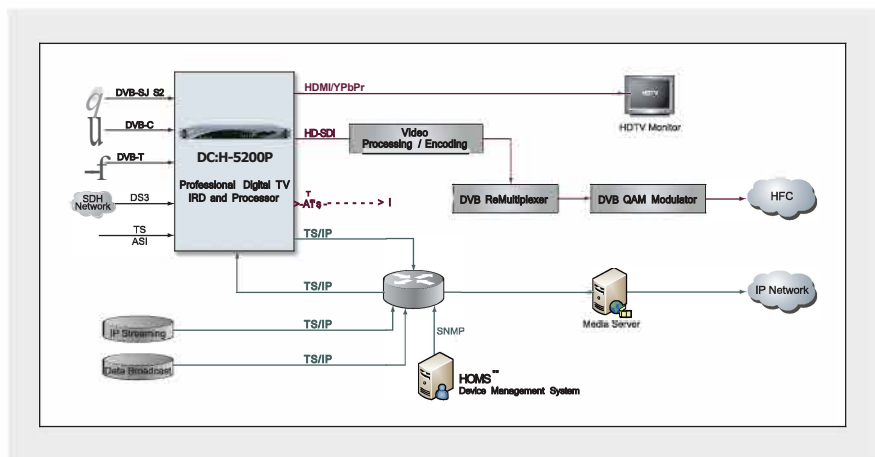


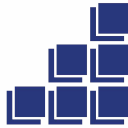
Gigabit Ethernet or Dual 100M TS/IP interface for IP based networks



Main Feature

- Variety of input options DVB-S2X/S2/S/C/T/DTMB/ATSC/ISDB-T, DS3/E3, TS/IP and ASI
- Supports DVB-S2 Input Stream Identifier and DVB-T SFN MIP pass through
- Redundant backup among Tuner, ASI and TS/IP with configurable priority
- SD/HD MPEG-2 and MPEG-4 AVC/H.264 digital video decoding
- Two Audio PIDs decode or pass through (compressed) in SDI output
- Multiple Analog and Digital Outputs, ASI, CVBS, YPbPr, HDMI, SD/HD-SDI, AES/EBU Audio, TS/IP
- Built-in TS re-multiplexer receives ASI, Tuner and TS/IP Inputs
- 2xDVB-CI Slots, multi-program decryption, BISS-1 and BISS-E decryption
- Dynamic PMT detection and automatic updating
- Supports VBI TELETEXT, EBU/DVB Subtitle, Closed Caption
- UDP/RTP, Unicast/Multicast, and SPTS/MPTS over IP (full duplex, optional)
- Remote Control and Supervision by SNMP, HTTP WEB and Proprietary HDMS software
- PCM audio embedded in SDI and HDMI outputs
- PCM audio output on two AES/EBU audio output ports
- On Site software update through IP
- RSSI, received Eb/No & BER monitoring





Specification

Tuner Input	
DVB-S2X/S2 Tuner (11 ti)	
Connector Type	1xF type female 750 for Input, 1xF type female 750 for loop through output
Standard(s)	ETSI EN 302-307-1 V1.4.1 (Part 1: DVB-S2 and Part 2: DVB-S2X) QPSK 1 - 60 MSps 8PSK 1 - 60 MSps 16APSK 1 - 58 MSps 32APSK 1 - 55 MSps 64APSK 1 - 34 MSps
Symbol Rate	Normal (64800 bits) FECFRAME supported
Code Rates	0.05 - 0.35
Roll-off	950 - 2150MHz
Input RF Frequency	-65 - -25dBm
Input RF Level	0, 13, 18V
LNB Voltage	0, 22KHz
0/22K	DiSEqC 1.0
DiSEqC	0 - 262141
PLS gold code	1 - 255
ISI	
DVB-C Tuner (1 fjt)	
Connector Type	1xF type female 750 for Input, 1xF type female 750 for loop through output
Input Frequency Range	51-862MHz
Input Level	51-75dBμV
Symbol Rate	1-7MBaud (ITU J.83AnnexA)
Constellation	16QAM, 32QAM, 64QAM, 128QAM, 256QAM
Bandwidth	6MHz, 7MHz, 8MHz
Input Return Loss	?dB (typ.)
DVB-T Tuner (1 fjt)	
Connector Type	1xF type female 750 for Input, 1xF type female 750 for loop through output
Input Frequency	104 - 862MHz (VHF/UHF)
Input Level	-20 - -70dBm
Constellation	DVB-T: QPSK, 16QAM, 64QAM
Bandwidth	6MHz, 7MHz, 8MHz
FFT Mode	2K, 8K
Guarding Interval	1/4, 1/8, 1/16, 1/32
FEC Code Rate	1/2, 3/4, 2/3, 3/4, 5/6, 7/8
Input Return Loss	?dB (typ.)
DTMB Tuner (1 fjt)	
Connector Type	1xF type female 750 for Input, 1xF type female 750 for loop through output
Input Frequency Range	46.5-866MHz
Input Level	-87--29dBm
Symbol Rate	7.56MBaud
Bandwidth	6MHz/7MHz/8MHz
Constellation	4QAM-NR, 4QAM, 16QAM, 32QAM, 64QAM
Guard Interval	PN420, PN595, PN945
Roll-off Factor	0.05
Interleaving Depth	240, 720
FEC Code Rate	0.4, 0.6, 0.8
ATSC Tuner (1 fjt)	
Connector Type	1xF type female 750 for Input, 1xF type female 750 for loop through output
Input Frequency Range	54-864MHz
Input Level	-75--?dBm(ATSC 8VSB)
Symbol Rate	10.762MBaud
Constellation	8VSB
Roll-off Factor	0.115
Bandwidth	6MHZ
ASI (1 fjt)	
Connector Type	2xBNC female, 750
Standard	DVB EN50083-9
Input Bit Rate	s 100Mb/s
DS3 (1 fjt) (Qpti)	
Connector Type	2xBNC female, 750, including loop through

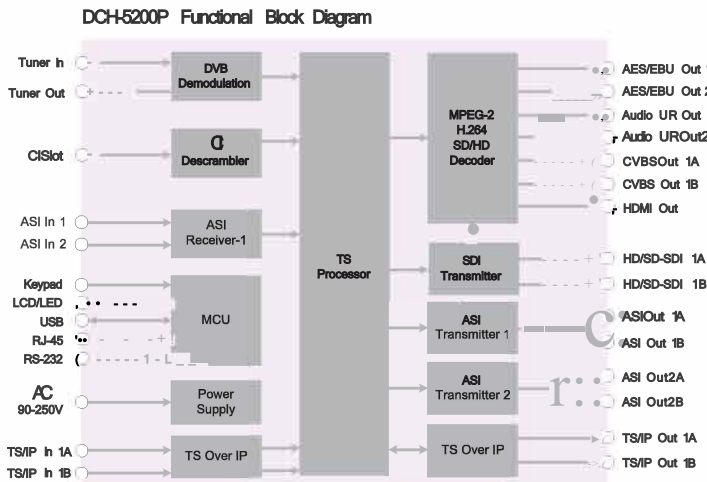
Standard	Compliant with ITU-T G.703
Frame Structure	Compliant with ITU-T G.752 and ITU-T G.804
Bit Rate	44.736Mb/s
TS over IP	
Connector Type	1xRJ-45, 10/100 Base-T or 100/1000 Base-T for TS/IP
Effective Bit Rate	70Mb/s for 10/100/1000 Base-T
Protocol	UDP/ RTP, Multicast/ Unicast, IGMPv3, ARP
FEC	SMPTE 2022M (Pro-MPEG) FEC (for GbE only)
Operating mode & Effective Bit Rate	1 full duplex, Support Pro MPEG FEC, Backup 1+1, Max 80Mb/s 32-CH IPTV/DVB mode output, Total 500Mb/s, Spare mirror output
TS Processing	
TS Input Management	Demux and Remux among Tuner/ DS3(optional) / E3 (optional), ASI and TS/IP Inputs
TS Output Management	Demux and Remux for 2 independent ASI outputs
Service and PIO Management	Remux, filtering and remapping PSI/SI table regeneration, NIT and SOT edition, LCN Edition and Regeneration
PSI/SI	DVB Common Scrambling Algorithm (CSA)
Descrambler	BISS-1, BISS-E
BISS Mode	Double PCMCIA slots, compatible with major CA CAMs in the market
Common Interface	
ASI Output (1 fjt)	
Connector Type	2 pairs of BNC female, 750
Standard	DVB-ASI, EN50083-9
Output Bit Rate	s 99Mb/s
TS Processing	2 Independent TS Re-multiplexed from tuner, TS/IP and 2 ASI inputs
HDMI Output (1 fjt)	
Standard	1xHDMI 1.3 interface (1p to 1080i)
Video Resolution and Frame Rate	1080i x 30, 1080i x 29.97, 1080i x 25, 720p x 60, 720p x 59.94, 720p x 50, 480p x 60, 576p x 50, 576i x 25, 480i x 29.97
Audio Embedded	2xstereo or Digital Audio pass through
Digital Video Processing (1 fjt)	
Video Standard	MPEG-2(MP@ ML for SD, MP@HL for HD) MPEG 4/H.264 AVC Part 10 (MP@L3 for SD, HP@L4.1 for H D)
SDI Video Resolution	1080i x 30, 1080i x 29.97, 1080i x 25, 720p x 60, 720p x 59.94, 720p x 50, 576i x 25, 480i x 29.97
Video PIO Bit Rate	< 80Mb/s
HD/SD-SDI Output (1 fjt)	
Connector Type	1 pair of BNCs (mirrored), female, 750
SD Standard	SMPTE 259M, 270 Mb/s (10bit)
HD Standard	SMPTE 292M, 1.485 Gbit/s (10bit)
Level	800mV p-p
Digital Audio Processing	
Connector Type	2xD-sub 9 male with XLR adaptor cables
Number of Output	2x audios are decoded or passed through
Audio Sampling Rate	32, 44.1 and 48 KHz
Audio Bit Rate	32, 64, 96, 128, 160, 192, 224, 256, 288, 320, 352, 384, 416 and 448 Kb/s for MPEG-1 Layer I, 32, 48, 56, 64, 80, 96, 112, 128, 160, 192, 224, 256, 320 and 384 Kb/s for MPEG-1 Layer II
Nominal Output Level	1V p-p (with standard test stream)
Output Format	AES/EBU
Load Impedance	1100 (with XLR adaptor cables)

Professional Headends

Analog Video Output	
CVBS Connector	1x BNC female 750
CVBS Standard	NTSC, PAL, and SECAM
CVBS Resolution	576i x 25, 480i x 29.97
Nominal Output Level	1.0 Vp ± 5% (with standard test stream)
Frequency Response	≤ ± 1 dB, at 5.5 MHz for PAUSECAM, 4.2 MHz for NTSC
Chroma-Luma Delay	≤ ± 30 ns
Field Time Distortion	< 2%
Line Time Distortion	< 1%
Short Time Distortion	< 2%
Differential Gain	< 3%
Differential Phase	< 2°
Signal to Noise Ratio	> 55 dB (luminance weight)
Analog Audio Output	
Connector Type	2x D-sub 9 male, with XLR adaptor cable
Output Impedance	6000 (balanced)
Output Mode	Left, Right, Dual Mono, Stereo
Number of Output	2 pairs of stereo audio outputs (2 Audio PIDs or 4 channels are decoded).
Cross Talk Among Channels	> 70 dB
THD	< 0.3% @ 400Hz, 1KHz test tone
Frequency Response	± 0.5 dB over 20Hz - 18KHz
Output Level	0 dBm in 6000 (0 dBu), adjustable range ± 0 dB
Ancillary Data Processing	
Subtitle	DVB, EBU
VBI	Teletext, WSS

Closed Caption	EIA608, EIA608-to-708
Redundancy	among Tuner, ASI input and TS/IP input
Switching Condition	TS Sync Loss
Switching Mode	Main, Spare
Control & Monitoring	
Connector Type	1x RJ-45, 10/100 Base-T, for equipment P Control
Remote Control	SNMP, HTTP (Web Interface), Proprietary HOMS (Headend Device Management System)
Local Control	LCD display and 6-key keypad
Serial Port	1x RS-232 D-sub female, for debug use only
Equipment Upgrade	Embedded FTP loader and Telnet
Physical	
Dimension	44mm x 483mm x 255mm
Weight	3.4Kg Net, 5.4Kg Gross
Power Supply	AC 90V-250V, 50/60Hz
Power Consumption	24W (exclusive of LNB power)
Operating temperature	0-45 °C
Storage temperature	-10-60 °C
Operating Humidity	10-90%, non-condensed
Certification	
EMC: EN 55024:1998+A1:2001+A2:2003, EN 55022:2006+A1:2007, EN 61000-3-2:2006, EN 61000-3-3:2008	
FCC: Part 15 Class B	
LVD: EN 60950-1:2006 +A11:2009	

Block Diagram



Order Information

Interface	Model	DCH-5200P			
		-20X	-22X	-30X	-32X
Tuner Input		• Input signal: DVBS2/IS2, ISDB, ATSC, DVB, DSS Standard configuration: X=S2			
TS Input	ASI In x2	•	•	•	•
TS Output	ASI Out x2	•	•	•	•
Q	Q x2	•	•	•	•
Video/Audio Output	SDSDI	•	•	•	•
	HCOSI	•	•	•	•
	HDMI x1	•	•	•	•
	CVBS x1	•	•	•	•
	Audio1	•	•	•	•
Audio 2	•	•	•	•	
TS/IP	GE RJ45 x1	•	•	•	•
Upgrade	USB x2	•	•	•	•
Management	RJ45 x1	•	•	•	•
ALARM/RELAY	1-09	•	•	•	•

Back panel Interface (Full option)

