DCH-6100P

Professional H.265/HEVC IRD and Processor

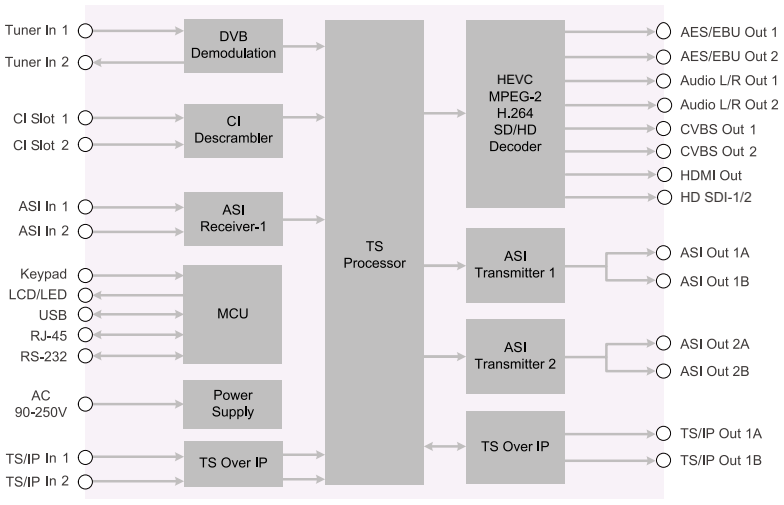
The DCH-6100P IRD and Processor provides operators an ideal solution for receiving, remultiplexing, descrambling and decoding operations. Equipped with a variety of inputs that ensures compatibility with all transmission media. The DCH-6100P' s remultiplexing capabilities enable creation of new transport 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-6100P could decrypt multiple services in one transport stream or two. DCH-6100P is also a professional IRD that features a broadcast quality decoder for MPEG-2, MPEG-4/AVC/H.264 and HEVC/H.265 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-6100P an ideal product for distribution and contribution networks.

Main Feature

- Variety of input options DVB-T2/S2/S/C/T, TS/IP and ASI
- Supports DVB-S2 Input Stream Identifier (ISI, optional) and DVB-T SFN MIP pass through
- Redundant backup among Tuner, ASI and TS/IP with configurable priority
- SD/HD MPEG-2, MPEG-4 AVC/H.264, and HEVC/H.265 video decoding
- Analog and Digital Outputs, ASI, CVBS, HDMI, SDI, TS/IP
- Built-in TS re-multiplexer receives from ASI, Tuner and TS/IP Inputs
- 2×DVB-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 double full duplex SPTS/MPTS over IP
- Remote Control and Supervision by SNMP, HTTP WEB and Proprietary HDMS software
- One alarm Relay with D-sub 9 male connector
- On Site software update through IP and USB
- RSSI, received Eb/No & BER monitoring

Block Diagram

DCH-6100P Functional Block Diagram



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Specification

Tuner Input	
DVB-S/S2 Tuner Input (ISI Factory Optional)	
Connector Type	1×F type female 75Ω for Input, 1×F type female 75Ω for loop through output
Input Frequency Range	950 ~ 2150MHz
Input Level	-25 ~ -65dBm
Symbol Rate	1 ~ 45Msps
Roll-off Factor	DVB-S: 0.35 DVB-S2: 0.35, 0.25, 0.2
FEC Code Rate	DVB-S QPSK: 1/2, 2/3, 3/4, 5/6, 7/8 DVB-S2 QPSK: 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9,9/10 DVB-S2 8PSK: 3/5, 2/3, 3/4, 5/6, 8/9, 9/10
LNB Polarity Selection Voltage	0, 13V, 18V selectable
LNB Band Selection Tone	0/22KHz selectable
Satellite Selection Command	DiSEqC 1.0
ISI ID	1 ~ 255 user configurable
DVB-S/S2 Tuner Input (16APSK/32APSK Factory Optional)	
Connector Type	1×F type female 75Ω for Input, 1×F type female 75Ω for loop through output
Input Frequency Range	950 ~ 2150MHz
Input Level	-25 ~ -65dBm
Symbol Rate	QPSK/8PSK/16APSK: 2 ~ 45Msps 32APSK: 2 ~ 37Msps
Roll-off Factor	DVB-S: 0.35 DVB-S2: 0.35, 0.25, 0.2
FEC Code Rate	DVB-S: 1/2, 2/3, 3/4, 5/6, 7/8 DVB-S2: 1/2, 3/5, 2/3, 3/4, 5/6, 8/9, 9/10
LNB Polarity Selection Voltage	0, 13V, 18V selectable
LNB Band Selection Tone	0/22KHz selectable
Satellite Selection Command	DiSEqC 1.0
DVB-C Tuner Input	
Connector Type	1×F type female 75Ω for Input, 1×F type female 75Ω for loop through output
Input Frequency Range	51~862MHz
Input Level	51~75dBμV
Symbol Rate	1~7MBaud (ITU J.83 Annex A)
Constellation	16QAM, 32QAM, 64QAM, 128QAM, 256QAM
Bandwidth	6MHz, 7MHz, 8MHz
Input Return Loss	7dB (typ.)
DVB-T/T2 Tuner Input	
Connector Type	1×F type female 75Ω for Input, 1×F type female 75Ω for loop through output
Input Frequency	104 ~ 862MHz (VHF/UHF)
Input Level	-20 ~ -70dBm
Constellation	DVB-T: QPSK, 16QAM, 64QAM DVB-T2: QPSK, 16QAM, 64QAM, 256QAM
Bandwidth	6MHz, 7MHz, 8MHz
FFT Mode	DVB-T: 2K, 8K DVB-T2: 1K, 2K, 4K, 8K, 16K, 32K
Guarding Interval	DVB-T: 1/4, 1/8, 1/16, 1/32 DVB-T2: 1/4, 5/32, 1/8, 5/64, 1/16, 1/32, 1/64, 1/128
FEC Code Rate	DVB-T: 1/2, 2/3, 3/4, 5/6, 7/8 DVB-T2: 1/2, 3/5, 2/3, 3/4, 4/5, 5/6
Input Return Loss	7dB (typ.)
ASI Input	
Connector Type	2×BNC female, 75Ω
Standard	DVB-ASI, EN50083-9
Input Bit Rate	≤ 200Mb/s
TS over IP	
Connector Type	2×RJ-45 independent, 100/1000 Base-T for TS/IP
Operating mode & Effective Bit Rate	1, full duplex, Support Pro MPEG FEC, Backup 1+1, Max 80Mb/s 2, 4-CH DVB mode output, Max 200Mb/s, Slave mirror output 3, 32-CH IPTV mode output, Total 800Mb/s, Slave mirror output
Protocol	UDP / RTP, Multicast / Unicast, IGMPv3, ARP
FEC	SMPTE 2022M(former ProMPEG)
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 PID Management	Remux, filtering and remapping
PSI/SI	PSI/SI table regeneration, NIT and SDT edition, LCN Edition and Re-generation, EIT P/F edition
Descrambler	DVB Common Scrambling Algorithm (CSA)
BISS Mode	BISS-1, BISS-E
Common Interface	Double PCMCIA slots, compatible with major CA CAMs in the market
ASI Output	
Connector Type	2 pairs, 4 x BNC female, 75Ω
Standard	DVB-ASI, EN50083-9
Output Bit Rate	≤ 200Mb/s
TS Processing	2 Independent TS pass through or Re-multiplexed from tuner, TS/IP and 2 ASI inputs
HD/SD-SDI Output	
Connector Type	1 pair of BNCs (mirrored) , female, 75Ω (1 pair of BNCs can be configured as ASI Output-3)
SD Standard	SMPTE 259M, 270 Mb/s (10bit)
HD Standard	SMPTE 292M, 1.485 Gbit/s (10bit)
Ultra HD Standard	SMPTE 425
Audio Embedded	2×audio PIDs are embedded with PCM or passed through
Level	800mV p-p
HDMI Output	
Standard	1×HDMI 1.4 interface ,HDCP 2.2
Video Resolution and Frame Rate	1080P60, 1080P50, 1080P30, 1080P24, 1080I60, 1080Ii59.94,1080I50, 720P60,720P59.94, 720P50, 480P, 576P, 576I, 480I
Audio Embedded	1×stereo
Genlock	
Connector Type	1 x BNC female, 75Ω
Input Signal	Analog SD (black & burst)
Video Decode	
Video Profile/Level	MPEG2 SP@ML, MP@HL MPEG4 SP@L0-3, ASP@L0-5, GMC, H.264 BP/MP/HP@ level 5.0, H.265 Main Profile@L5.0 High-tier
Audio Decode	
Audio Format	MPEG-1 Layer 2 a. 2 stereo pairs (Stereo, Dual Mono, Left, Right) MPEG-2 AAC a. 5.1 down-mix to 2.0 (Stereo, Dual Mono, Left, Right) b. 2.0 (Stereo, Dual Mono) MPEG-4 HE-AAC v1/v2 a. 5.1 down-mix to 2.0 (Stereo, Dual Mono, Left, Right) b. 2.0 (Stereo, Dual Mono, Left, Right)
Analog video Output	
CVBS Connector	1×BNC female 75Ω
CVBS Standard	NTSC, PAL, and SECAM
CVBS Resolution	576i×25, 480i×29.97
Nominal Output Level	1.0 Vp-p±5% (with standard test pattern)
Frequency Response	<±1 dB, at 5.5 MHz for PAL/SECAM, 4.2MHz for NTSC
Chroma-Luma Delay	<±30 ns
Field Time Distortion	<2%
Line Time Distortion	<1%
Short Time Distortion	<2%

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Differential Gain	<3%
Differential Phase	<2°
Signal to Noise Ratio	>55dB (luminance weighted)
Analog Audio Output	
Connector Type	2×BNC female
Output Impedance	75Ω
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	>70dB
THD	<0.3% @ 400Hz, 1KHz test tone
Frequency Response	±0.5dB over 20Hz ~ 18KHz
Output Level	0dBm in 600Ω (0dBu), adjustable range ±10dB
Ancillary Data Processing	
Subtitle	DVB, EBU
VBI	Teletext, WSS
Closed Caption	EIA 608, EIA 708, EIA 608-to-708
Redundancy	
Redundancy Port	among Tuner, ASI input and TS/IP input
Switching Condition	TS Sync Loss
Switching Mode	Main, Spare
Ancillary Data Processing	
Subtitle	DVB, EBU
VBI	Teletext, WSS
Closed Caption	EIA 608, EIA 708, EIA 608-to-708

Redundancy	DVB, EBU
Redundancy Port	among Tuner, ASI input and TS/IP input
Switching Condition	TS Sync Loss
Switching Mode	Main, Spare
Redundancy	
Redundancy Port	among Tuner, ASI input and TS/IP input
Switching Condition	TS Sync Loss
Switching Mode	Main, Spare
Control & Monitoring	
Connector Type	1×RJ-45, 10/100 Base-T, for equipment IP Control & Monitoring
Remote Control	SNMP 2.0, HTTP (Web GUI), Proprietary HDMS (Headend Device Management System)
Local Control	LCD display and Front control 6-key keypad
Serial Port	1×RS-232 D-sub female, for debug use only
Equipment Upgrade	Telnet/FTP, WEB/HTTP or USB
Physical	
Dimension	1U 19" Full-rack size
Weight	5.0Kg
Power Supply	AC 90V~250V, 50/60Hz
Power Consumption	30W (exclusive of LNB power)
Operating temperature	0~45℃
Storage temperature	-10~60℃
Operating Humidity	10~90%, non-condensed

Back panel Interface