PBI

Professional IP-QAM Modulators

Brighten Your Digital View!

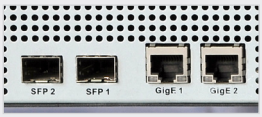
DCH-5000TM
Professional IP-QAM Modulator

The DCH-5000TM is a professional all-in-one high density IP to DVB-C QAM modulator. Its powerful IP de-encapsulation and TS Re-Mux functions allow a simple interconnection between VOD servers and TS-over-QAM. It receives digital TV transport streams from both Gigabit Ethernet and ASI ports. Two groups of 12 QAM channels are directly up-converted with high speed DAC to achieve excellent RF performance. With built-in 240-to-24 way re-multiplexers, DCH-5000TM can perform PID filtering and re-multiplexing of up to 240 independent MPEG transport streams simultaneously and build up to 24 DVB QAM carriers with highly customized MPTS or SPTS. It is housed in a 1-RU chassis with two AC power supplies in redundancy. With all these advanced features, DCH-5000TM is an ideal product for Gigabit Ethernet-based DTV networks.

Main Feature

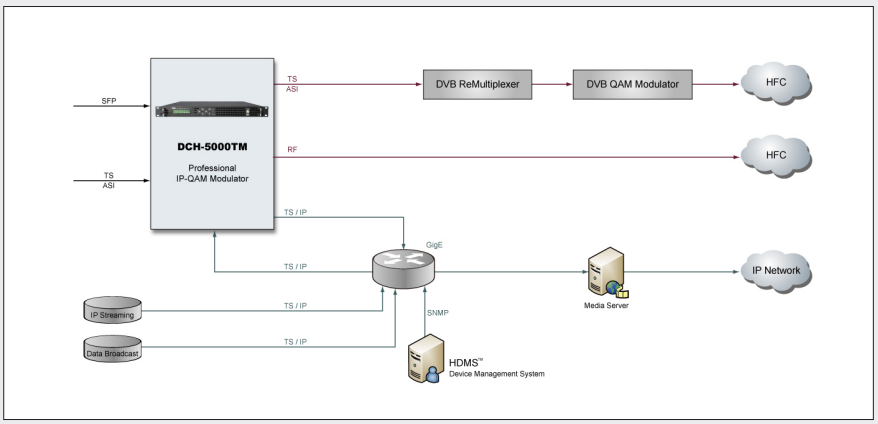
- Compliant with ITU J.83 Annex A, B & C and DVB-C EN300429
- Transparent, mux and VOD, 3 operating modes for each QAM output
- Integrated GbE IP de-encapsulation, TS Re-mux and QAM Modulator & Up-converter
- RJ-45 1000Base-T & SPF GbE inputs
- 200ms De-jitter for GbE input
- Up to 240 SPTS or MPTS Inputs over GbE
- 24 independent TS Re-multiplexers with PSI/SI & PID processing
- 24(12×2) independent QAM modulators
- Redundant Power Supply
- Network Management through SNMP, HTTP, CLI (Command Line Interface)

Support Two switched GigE ports inputs



24 QAM output channels on single RF output

Redundant power supplies

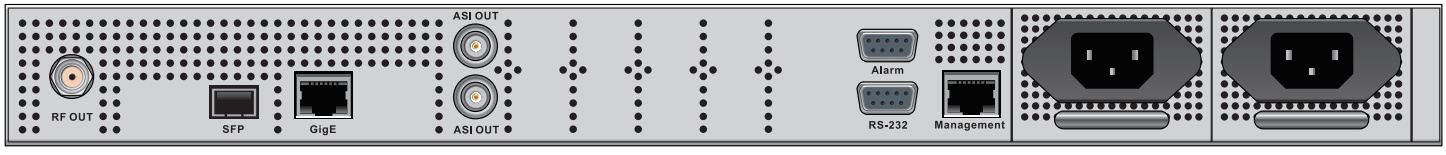


Specification

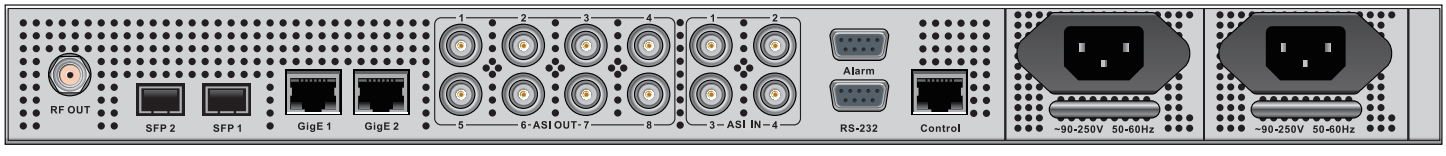
IP Input	
Connector Type	(1000Base-T + SFP) x 2sets redundant, IEEE803.2
Protocol	IPv4, IGMPv2, ARP, UDP, RTP
Operating Mode	Full duplex, Auto negotiable
Streaming Type	Multicast or Unicast
Number of Streaming Input	240
Type of TS Streaming	SPTS or MPTS
TTL	1 ~ 256 (adjustable)
De-jitter	200ms
Effective Input Bit Rate	800Mb/s
Effective Output Bit Rate	800Mb/s
ASI Input	
Connector Type	4 × BNC female, 75Ω
Standard	DVB-ASI, EN50083-9
Input Return Loss	15dB
Minimum Input Level	200mV
Input Data Mode	Burst or Byte, 188 or 204 Byte/Packet
Input Data Rate	≤100Mb/s
Re-multiplexing	
Number of TS Re-multiplexing	24
PSI/SI Regeneration	Auto or Manually
Re-multiplexing Method	Service based or PID based
Null Packet Processing	Filtering & Insertion
PCR Jitter	±500ns
PCR Interval	±40ms
LCN Insertion	Yes
User Defined ID	TSID, ONID, SID
QAM Modulation	
Standard	DVB-C EN300429
Constellation	64, 256, 64B (Annex B), 256B (Annex B)
Symbol Rate	2MBaud~7.2MBaud
Roll-off Factor	12%, 15%, 18%
MER	>36dB (with Tester Equalizer = off)
Number of QAM Carrier	24
RF Output	
Connector Type	1 × F type Female, 75Ω
Channel Bandwidth	6MHz, 7MHz, 8MHz
Output Frequency Range	56 ~ 860 MHz
Output Frequency Adjustment Step	10KHz
Output Frequency Accuracy	±25ppm
Output Level	105dBuV per channel
Output Level Attenuation	30dB step by 0.5dB
Output Return Loss	14dB min.
Shoulder Attenuation	50dBc (typical.) @ BW±10%
Spurious Rejection	60dBc (typical.)
Spectrum Flatness	4dB over full output frequency range;
Useful Output Bit Rate	800Mb/s
ASI Output	
Connector Type	8 × BNC Female, 75Ω
Standard	DVB-ASI, EN50083-9
Output Amplitude	800mV±80mV
Output Data mode	Byte mode, 188 or 204 Byte/Packet
Output Data rate	≤100Mb/s
Control & Monitoring	
Connector Type	1 × RJ-45, 10/100 Base-T, for equipment IP Control
Remote Control	HTTP Web
Protocol	SNMP v1 & v2, HTTP 1.1
Local Control	LCD display and 6-key keypad
Serial Port	1 × RS-232 D-sub 9-pin, for debug use only
RF Monitor Port	1 × F type female, 75Ω, -20dB lower than the main RF output
Alarm and Contact Relay	
Connector Type	1 × D-sub 9-pin
Alarm & Warning Indicator	Dual colors LED on Front panel, Contact Relay on Rear panel
Trap	SNMP v1 & v2
Event Log	last 1000 events logged in non-volatile memory
Sensors & Indicators	
Temperature Sensor	Yes
Power Failure Sensor	Yes
Internal Voltage Sensor	Yes
Fan Status Sensor	Yes
Alarm Buzzer	Yes
Bit rate Capacity Indication	Yes for each QAM
Power Supply	
Power Supply	AC 90V ~ 250V, 50/60Hz
Power Consumption	50Watts Max.
Physicals	
Dimension	445mmx543mmx44mm
Weight	8Kg Net, 12Kg Gross
Operating Temperature	0 ~ 45℃
Storage Temperature	-10 ~ 60℃
Operating Humidity	10 ~ 90%, non-condensing
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	
Environment: RoHS, WEEE	

Back panel Interface

5000TM-1

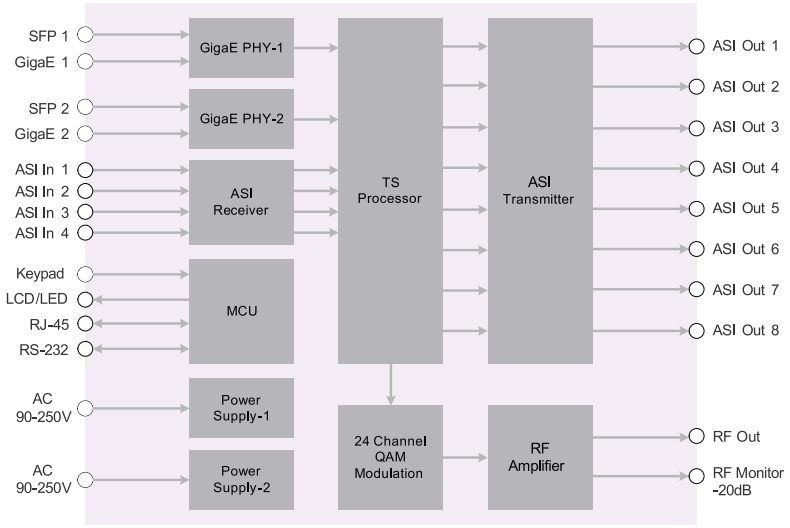


5000TM-2



Block Diagram

DCH-5000TM Function al Block Diagram



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