

DCH-3000TM Digital TV QAM Trans-modulator

The DCH-3000TM is a flexible DVB-C QAM modulator and trans-modulator in the market. Equipped with either of the tuner input DVB-S, DVB-C, DVB-T or base band transport stream input ASI, SPI or DS3, it can trans-modulate the signal from satellite, cable or terrestrial network to DVB-C cable network with QAM modulation. It can also be used as a stand-alone DVB-C QAM or DVB-T COFDM modulator with its ASI, SPI or DS3 input. Moreover the tuner input can be re-multiplexed with ASI. SPI or DS3 transport stream input with powerful PSI/SI regeneration function. It is a cost effective and highly integrated solution with DVB-S/C/T demodulation, transport stream re-multiplexing, DVB-C QAM or DVB-T COFDM modulation in a single rack. The equipment can be easily configured and supervised by the operator and broadcaster, provide better service to his cable TV network.



Main Feature

- DVB-S, DVB-C or DVB-T Tuner Input
- Tuner RSSI, received Eb/No & BER monitoring
- DVB-C QAM or DVB-T COFDM RF modulation output
- Support ITU-T J.83 Annex A and B
- 16/32/64/128/256/64B/256B QAM constellation
- Agile RF output from 48 to 862MHz
- ASI input and output
- Maximum RF output level 120dB μ V (for PlusXX series)
- Flexible re-multiplexing between ASI and Tuner input
- PSI/SI re-generation, including NIT, LCN edition and insertion
- Service Drop, PID filtering and Re-mapping
- Remote Control and Supervision by SNMP, WEB and Proprietary HDMS software
- On Site software update through IP

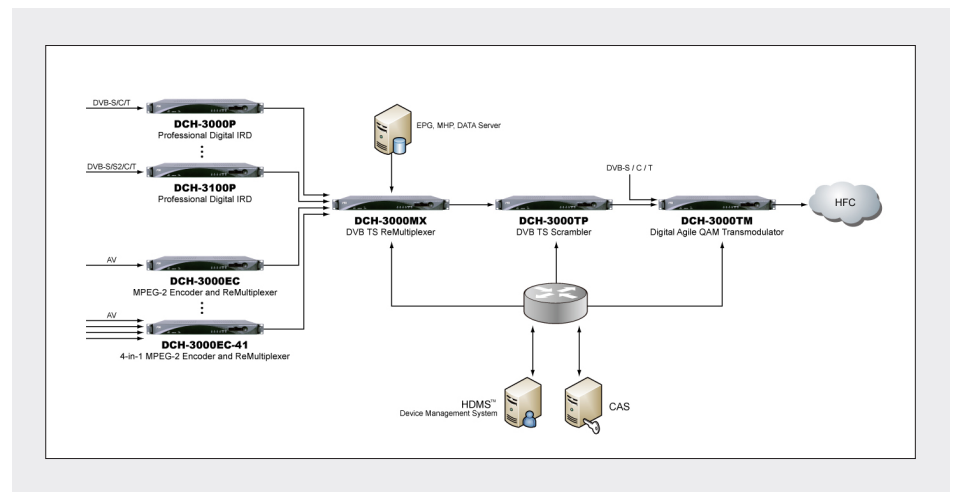
DVB-S2/S, DVB-C or DVB-T Tuner Input



48 ~ 862MHz adjacent agile RF output



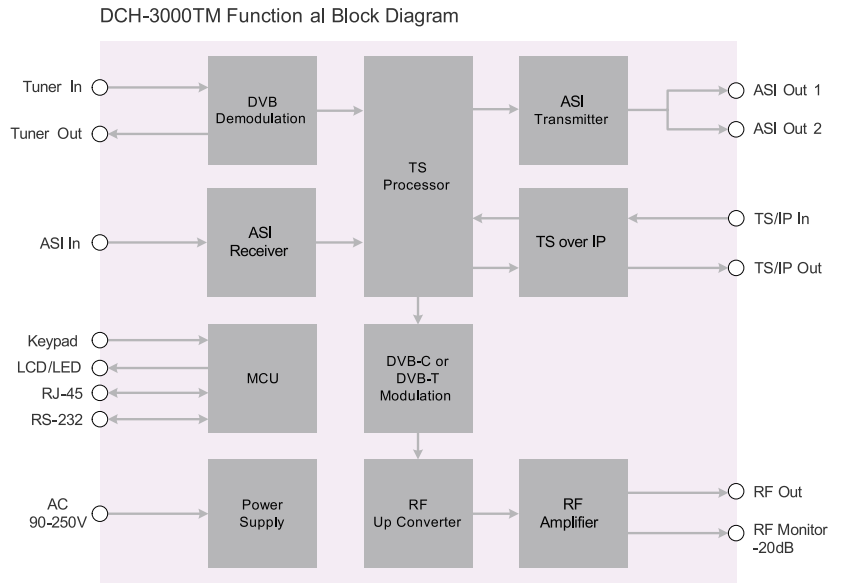
ASI input and output



Specification

Tuner Input			
DVB-S Tuner Input			
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	5 ~ 45Mbaud/s for QPSK		
Rolling Off Factor	0.35		
Punctured Rates	1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 8/10		
LNB Polarization	0, 13V, 18V selectable		
LNB Band Switching Tone	0/22KHz selectable		
DiSEqC	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	48~860MHz		
Input Level	45 ~ 75dB μ V		
Symbol Rate	1 ~ 7Mbaud (ITU J.83 Annex A)		
Constellation	16/32/64/128/256QAM		
Bandwidth	6MHz/7MHz/8MHz		
Input Return Loss	7dB (typ.)		
DVB-T Tuner Input			
Connector Type	1 × F type female 75Ω for Input, 1 × F type female 75Ω for loop through output		
Input Frequency	VHF: 174 ~ 230MHz; UHF: 470 ~ 862MHz		
Input Level	-20 ~ -91dBm		
FFT Mode	2K/8K		
Constellation	QPSK/16QAM/64QAM		
Guard Interval	1/32, 1/16, 1/8, 1/4		
FEC	1/2, 2/3, 3/4, 5/6, 6/7, 7/8		
ASI Input			
Connector Type	1 × BNC, 75Ω		
Standard	DVB-ASI, EN50083-9		
TS Processing	Remultiplexing of ASI Inputs		
Input Level	800mVpp ± 10%		
SPI Input			
Connector Type	25-pin sub-D female, 90~132Ω		
Bit Rate	1 ~ 54Mb/s		
Packet Length	188 or 204 bytes		
Input Level	0.1 ~ 2.0Vpp		
DS3 I/O (Option)			
Connector Type	2 × BNC Female, 75Ω, 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		
ASI Output			
Connector Type	2 × BNC Female, 75Ω		
Standard	DVB-ASI, EN50083-9		
TS Processing	2 mirrored TS, output sourcing from remultiplexing among Tuner / DS3 and ASI / SPI inputs		
Signal level	800mVpp ± 10%		
TS Processing			
TS Input Management	Remux and demux among Tuner / DS3 (optional) and ASI / SPI inputs		
TS Output Management	Remux and demux for 2 mirrored 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		
DVB-C QAM Trans-modulation			
Constellation	J.83 Annex A: 16/32/64/128/256QAM J.83 Annex B: 64/256QAM		
Symbol Rate	3 ~ 7.2MSymbol/s		
I/Q Amplitude Error	<0.3%		
I/Q Phase Error	<0.3°		
Phase Jitter	<0.5° RMS		
MER	>35dB		
DVB-T COFDM Re-Modulation			
Constellation	QPSK/16QAM/64QAM		
Bandwidth	5/6/7/8MHz		
FFT Mode	2K		
Guard Interval	1/4, 1/8, 1/16, 1/32		
Code Rate	1/2, 2/3, 3/4, 5/6, 7/8		
MER	>36dB		
RF Output			
Connector Type	F type female, 75Ω		
Output Frequency Range	48 ~ 860MHz agile, step by 10 KHz		
Output Level	90 ~ 120dB μ V, step by 1dB μ V (for -PlusXX series) 100 ~ 113dB μ V, step by 1dB μ V (for -30XX/-20A series)		
Spurious Rejection	55dB (typ.)		
Output Return Loss	12dB (typ.)		
Control & Monitoring			
Connector Type	1 × RJ-45, 10/100 Base-T, for equipment IP Control		
Remote Control	SNMP, Proprietary HDMS Network System Management Software		
Local Control	LCD display and 6-key keypad		
Serial Port	1 × RS-232 9-pin D-sub, for debug use only		
Equipment Upgrade	FTP loader		
Physical			
Dimension	44mm × 483mm × 404mm		
Weight	5.5Kg		
Power Supply	AC 90V ~ 250V, 50/60Hz		
Power Consumption	30W		
Operating temperature	0 ~ 45°C		
Storage temperature	-10 ~ 60°C		
Operating Humidity	10 ~ 90%, non-condensed		
Certification			
EMC:	EN50083-2		
FCC:	Part 15 Class B		
LVD:	EN 60065		

Block Diagram



Order Information

Interface	Model	DCH-3000TM-20X					DCH-3000TM-PlusX				
		-20S2	-20C	-20T	-20A	-20D	PlusS2	PlusC	PlusT	PlusA	PlusD
Tuner		DVB-S2	DVB-C	DVB-T			DVB-S2	DVB-C	DVB-T		
ASI Input					•		•	•	•	× 2	•
DS3 Input						•					•
ASI TS Output		•	•	•	•	•	•	•	•	•	•
Filter		•	•	•	•	•	•	•	•	•	•
Built-in Re-Mux							•	•	•	•	•
RF Output		•	•	•	•	•	•	•	•	•	•
Ethernet		•	•	•	•	•	•	•	•	•	•

• standard configuration

Back panel Interface

