

## DCH-3000TM Single Channel QAM Transmodulator



The DCH-3000TM is a flexible Digital TV modulator and trans-modulator in the market. Equipped with either of the tuner input DVB-S/S2, DVB-C, DVB-T/T2 or base band transport stream input ASI, SPI or DS3, it can trans-modulate the signal from satellite, cable or terrestrial network to Digital cable network. 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/S2, DVB-C or DVB-T/T2 Tuner Input
- Tuner RSSI, received Eb/No & BER monitoring
- DVB-C QAM or DVB-T COFDM RF modulation output
- Support Digital cable TV ITU-T J.83 Annex A and B standard
- Support DVB-T ETSI-300 744 standard
- ASI input and output
- Maximum RF output level 120dBμV (for – PlusXX series)
- Agile RF output from 48 to 862MHz
- 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

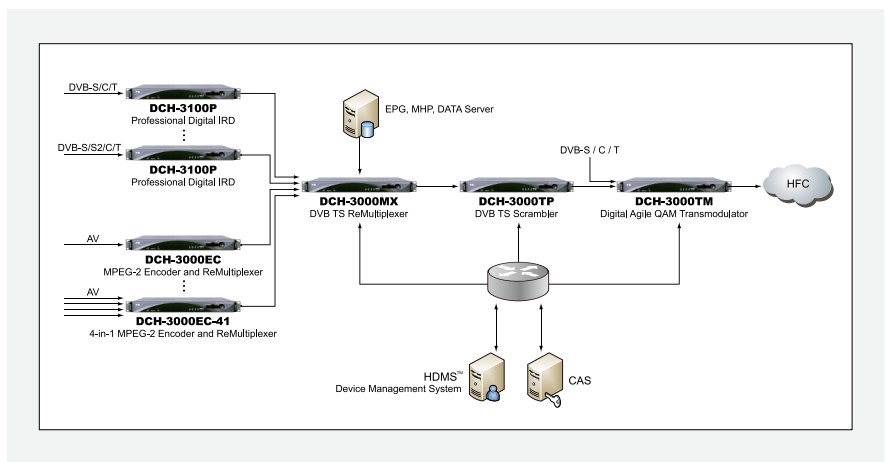
#### DVB-S2/S, DVB-C or DVB-T/T2 Tuner Input



#### 48 ~ 862MHz agile RF output



#### ASI input and output



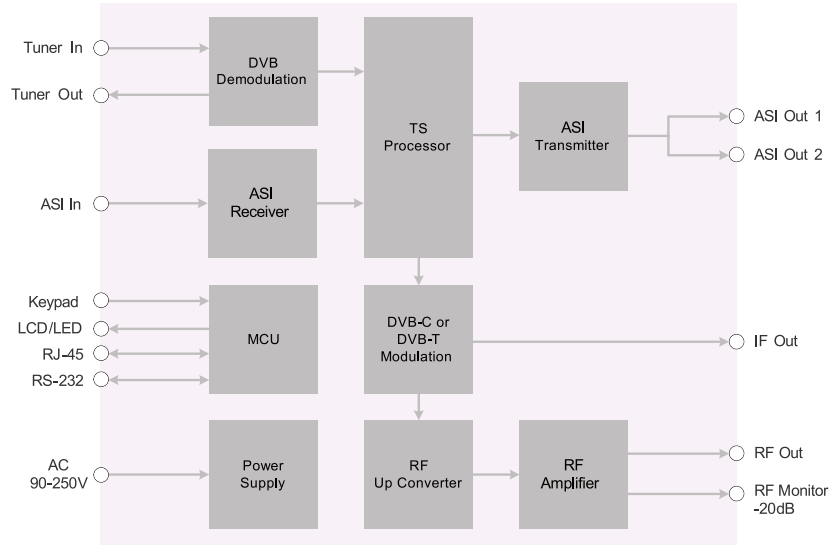
## Specification

<b>Tuner Input</b>	
<b>DVB-S/S2 Tuner Input</b>	
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	2~45Mbaud
Roll-off Factor	DVB-S QPSK: 0.35 DVB-S2 8PSK: 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
<b>DVB-C Tuner Input</b>	
Connector Type	1×F type female 75Ω for Input, 1×F type female 75Ω for loop through output
Input Frequency	48~860MHz
Input Level	45~75dBμV
Symbol Rate	1~7Mbaud (ITU J.83 Annex A)
Constellation	16/32/64/128/256QAM
Bandwidth	6MHz/7MHz/8MHz
Input Return Loss	7dB (typ.)
<b>DVB-T Tuner Input</b>	
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
<b>ASI Input</b>	
Connector Type	1×BNC, 75Ω
Standard	DVB-ASI, EN50083-9
TS Processing	Remultiplexing of ASI Inputs
Input Level	800mVpp±10%
<b>DS3 I/O (Option)</b>	
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
<b>ASI Output</b>	
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%
<b>TS Processing</b>	
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
<b>DVB-C QAM Trans-modulation</b>	
Constellation	J.83 Annex A: 16/32/64/128/256QAM J.83 Annex B: 64/256QAM
Symbol Rate	2~7.2Msymbol/s
I/Q Amplitude Error	<0.3%
I/Q Phase Error	<0.3°
Phase Jitter	<0.5°RMS
MER	>35dB
<b>DVB-T COFDM Re-Modulation</b>	
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
<b>IF Output</b>	
Connector Type	F type female, 75Ω
Output Frequency	36MHz
Output Level	90 dBμV
MER	>38dB
Frequency Offset	±200Hz
<b>RF Output</b>	
Connector Type	F type female, 75Ω
Output Frequency Range	48~860MHz agile, step by 10 KHz
Output Level	90~120dBμV, step by 1dBμV (for -PlusXX series) 100~113dBμV, step by 1dBμV (for -30XX/-20A series)
Spurious Rejection	55dB (typ.)
Output Return Loss	12dB (typ.)
<b>Control &amp; Monitoring</b>	
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
<b>Physical</b>	
Dimension	44mm×483mm×404mm
Weight	5.5Kg
Power Supply	AC 90V ~ 250V, 50/60Hz
Power Consumption	30W
Operating temperature	0~45□
Storage temperature	-10~60□
Operating Humidity	10~90%, non-condensed
<b>Certification</b>	
EMC: EN50083-2	
FCC: Part 15 Class B	
LVD: EN 60065	

## Block Diagram

DCH-3000TM Functional 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		•	•	•	•	•	•	•	•	•	•
Buit-in Re-Mux						•	•	•	•	•	•
RF Output		•	•	•	•	•	•	•	•	•	•
Ethemet		•	•	•	•	•	•	•	•	•	•

• standard configuration

## Back panel Interface

