



SMP330M

IP QAM Modulator



Introduction

SMP330M IPQAM/Modulator supports TV program inputs from ASI and IP streams, then re-multiplexes and provides an output scramble Transport Stream with up to 24 channels of QAM or in 12 channels OFDM.

Order Information

Model	Modules Combination	Feature
QAM	3xQAM	TS/IP, ASI Input , max. 24 QAM modulating
OFDM	3xOFDM	TS/IP, ASI Input , max. 12 OFDM modulating
SQAM	3xSQAM	TS/IP, ASI Input , max. 24 QAM modulating (with scrambling)
SOFDM	3xSOFDM	TS/IP, ASI Input , max. 12 OFDM modulating (with scrambling)

Features

- Supports TV programs by re-multiplexing up to 24-channel QAM or 12-channel OFDM outputs.
- Output 24 RF-QAM channels or 12 DVB-T channels for both SD and HD programs.
- Supports programs input from both ASI and GbE IP.
- Supports DVB-simulcrypt scrambling for up to 400 H.264 SD programs and output in QAM or OFDM.
- Supports Re-multiplexing and cherry picking.
- Supports audio and subtitle pass through and synchronization.
- Supports EPG/EIT re-multiplexing. (optional)
- Supports TS-level BISS descrambling. (future option)
- Configuration and monitoring programs via NMS, Web GUI or SNMP.
- High efficiency with low power consumption in 1 RU compact chassis.

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Specifications

QAM RF Outputs	
Physical Outputs:	three connectors for 8XRF
Output Frequency Range:	48 - 862 MHz
Output Frequency Step Size:	50 KHz
RF Channel:	24 (6/7/8 MHz)
QAM Modulation Mode:	16/32/64/128/256 QAM
QAM Type:	ITU-T J.83 Annex A/ C, Annex B (64/256QAM)
Symbol Rate:	4.4~6.9 MBauds
Output Level	
Effective, per channel:	30~55 dBmV
Combined, 24 channel:	30~46 dBmV
MER:	≥40dB (Equalized)
BER:	≤5×10 ⁻⁹ (64QAM,6.875Msps)
DVB-T Output (optional)	
Physical Outputs:	three connectors for 4XRF
Output Frequency Range:	50 - 858 MHz
Output Frequency Step Size:	50 KHz
Transmission Mode:	2K, 8K
Guard Interval:	1/4, 1/8, 1/16 and 1/32
Constellation:	QPSK, 16QAM, 64 QAM
FEC:	1/2, 2/3, 3/4, 5/6, 7/8
Output Level	
Effective, per channel:	30~55 dBmV
Combined, 4 channel:	30~52 dBmV
GBE IP Input	
Interface:	1 x 1000 Mbps per port
IP Encapsulation:	MPEG TS over UDP/RTP
MPEG TS:	MPTS and SPTS
I/O Processing:	Up to 12 Channels(MPTS), 64 Channels (SPTS) max at 72 Mbps per socket
Addressing:	Unicast and Multicast
Management:	IGMPv1, IGMPv2, IGMPv3
Forward Error Correction:	ProMPEG

DVB ASI Inputs	
Interface:	4 BNC connectors (2 ASI inputs and 2ASI outputs), 75Ω
MPEG Format:	188/204Bytes per TS
I/O Processing:	1 MPTS/SPTS per port, up to 100 Mbps per port
Re-multiplexing	
PID:	Re-mapping and Filtering
MPTS Output Synchronization	
Routing:	Any Input to Any Output
Redundancy:	Input Service Redundancy & IP Port Redundancy
DVB Scrambling	
TS Streams:	up to 24 TS streams (maximum 72 Mbps per TS)
Support DVB simulcrypt:	maximum 4 CAS simultaneously
CAS support:	All leading CAS in the market
Scrambling level:	Program or PID
Management	
Interface:	100Base-TX, RJ45
NMS:	Wellav Digital Service Manager
Web-based Management:	Yes
Support SNMP	Yes
Physical & Environment	
Input Voltage:	90 - 260 VAC
Power Consumption:	Approx 100 W
Rack Space:	1 RU
Dimension (WxHxD):	480mm x 44mm x 440mm
Operating Temperature:	0°C to 50°C
Storage Temperature:	-40°C to 65°C
Relative Operating Humidity:	<95%
MTBF:	≥150000hours