

M60Plus

DIBSYS

High Density 10G 64/128 Edge QAM modulator



M60Plus, all in one device, IP QAM (DVB-C) Modulator combining multiple 10G SFP+/SFP input, transport stream multiplexing, scrambling, QAM modulation channels in a 1U rackmount unit. 512 IP in through SFP+/SFP ports 1-3, up to 64 IP over UDP/RTP/RTSP protocol output with Mux, and 2 RF ports for 64 non-adjacent QAM carries output for **each module**. With 10G switch built in, it can process 10G optical signal to work as a traditional QAM modulator.

2 individual module design, equipped with 1 (or 2) 64ch QAM module and characterized with dual RF output ports on each module to broaden the bandwidth for QAM carriers. **M60Plus** supports scalable, reliable, high performance video stream services to cable operators. It is mainly applied to the cable DTV head-ends, and sub head-ends.

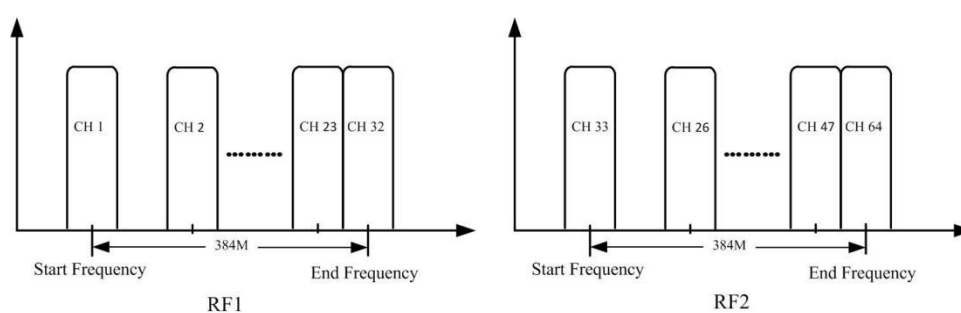
Key Features

- High density, modularized plug-in design
- 1U chassis with two 64-channel QAM module
- Support 3 SFP+ (10G)/SFP(1G) ports input & output from front panel
- Support multiplexer and scrambler with 6 CAS Simul-cryption
- Support ITU-T J.83 A/B/C modulation
- 64/128 non-adjacent QAM carrier outputs (64 channels out per module)
- accurate PCR adjusting/CA filtering
- PID remapping (auto/manually optional)
- PCR accurate adjusting
- Easy-to-Use System Management via Web

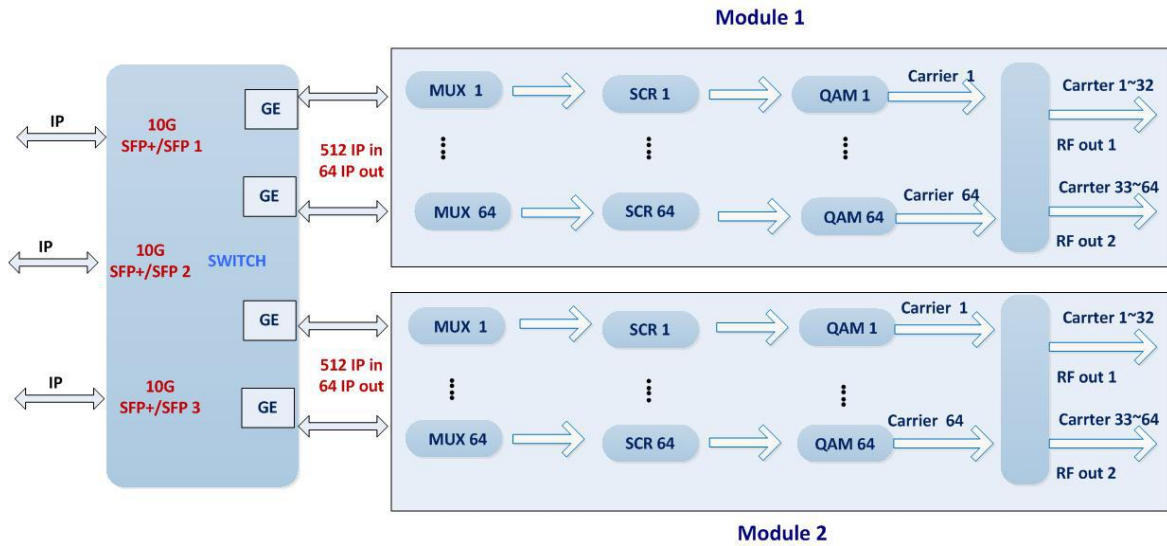
Application

- Cable digital TV headend system base on IP network
- Broadcast Application built-in multiplexing and scrambling function
- Advertising, monitoring, training and educating
- Upgrade all your analog Head-ends to cable DTV Solution
- Enterprise, Hotel, campus, hospital, Public Place

Carrier Setting Illustration (per module)



Principle Chart



TECHNICAL SPECIFICATIONS

Input

Interface 3*SFP(10G)+/SFP(1G)
 Input Max 512 IP in per module through SFP+/SFP ports 1-3
 Transmission Rate Max 9600Mbps for each 10G SFP+/SFP input
 Transport Protocol TS over UDP/RTP, unicast and multicast, IGMP V2/V3

Multiplexing

Max PIDs Remapping 512 per output channel
 PID remapping by automatically and manually
 PCR accurate adjusting
 PSI/SI PSI/SI table auto-generation

Scrambling Parameters

Max simulcrypt CA 6
 Scrambling algorithm Comply with DVB-CSA
 Scramble Standard ETR289, ETSI 101 197, ETSI 103 197
 Connection Local/remote connection

Modulation Output (QAM Module)

Modulation Standard EN300 429/ITU-T J.83 Annex A/B/C
 QAM Channel 64/128 non-adjacent carrier outputs
 384Mbps bandwidth for each RF port
 QAM Constellations 16/32/64/128/256QAM (Annex A)
 64/256QAM (Annex B/C)
 Bandwidth 8M(Annex A)
 6M (Annex B/C)
 Symbol Rate 3600~7000Ksps, 1ksps stepping
 5057Ksps (J.83B, 64QAM)
 5361Ksps (J.83B, 256QAM)

Constellation 16, 32, 64, 128, 256QAM
 FEC RS (204, 188)

RF output

Interface (per module) 2 F type output ports for 64 carriers, 75Ω
 Carrier 1~32 out thru RF1, 33~64 thru RF2
 RF Range 50~960MHz, 1kHz stepping
 MER ≥ 40dB
 Output Level -20dBm~+10dBm(87~117dbμV),
 0.1dB stepping
 Qty of QAM channel 64 non-adjacent carrier per module,
 2 modules MAX.

TS Output

Per QAM Module 64 IP output over
 UDP/RTP/RTSP, unicast/multicast,
 through SFP+/SFP ports 1~3

Management

Management Port Web-GUI, RJ45, 100M
 Management Web management
 Network management software
 (NMS) supporting
 Language English

Environment

Power Supply AC 100V±10%, 50/60Hz or
 AC 220V±10%, 50/60Hz
 Power consumption 50W(1 QAM module)
 75W(2 QAM modules)
 Operation temperature 0°C ~45°C (32°F ~113°F)
 Storage temperature -20°C ~80°C (-4°F~176°F)
 Dimensions 420 (W)x440(L)x44.5mm(H) (1RU)