

IP to 16, 32, 48, 64 QAM Modulator



- 2+1 GigE input, 1 RF output
- Up to 512 channels TS over UDP/RTP multicast, IGMP V2\3 input
- Max 840 Mbps for each GigE input
- 16/32... non-adjacent QAM carriers' output, compliant to DVB-C (EN 300 429) Annex A/C resp. ITU-T J.83 A/B
- 16/32... multiplexed or scrambled TS over UDP/RTP output
- Accurate PCR adjusting
- CA PID filtering, remapping and PSI/SI editing
- Up to 180 PIDS remapping per channel
- Support DVB general scrambling system (ETR289), simulcrypt standards ETSI 101 197 and ETSI 103 197
 - 16/32 TS scrambler, max 4/6 CAS simulcrypt
- Supports RS (204,188) encoding
- Web-based Network management
- Broadcast quality low MER
- This EDGE-QAM model is available with 16, 32, 48 & 64 DVB-C RF channel outputs: HDC-5016, HDC-5032, HDC-5048 and HDC-5064



The BLANKOM

HDC-5016/32 /48/64 is the 5th Generation IP to QAM-Modulator with multiplexer and scrambler.

The IPTV input channels can be SPTS or MPTS, unicast or multicast.

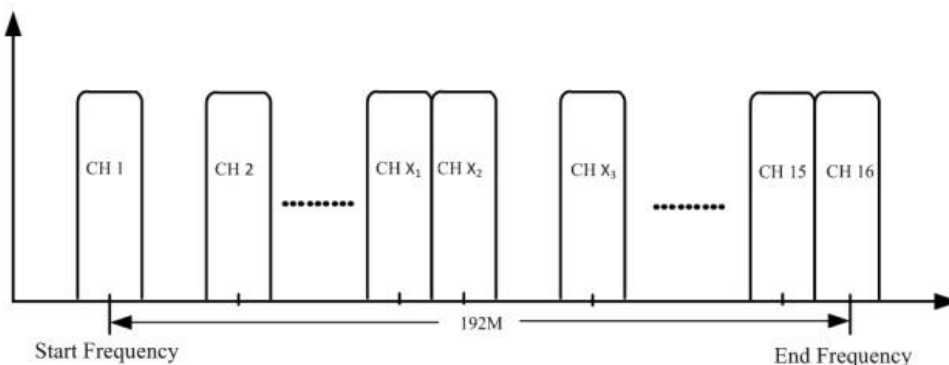
The internal multiplexer creates 16...64 streams with any combination of content or pass through.

The output consists of 16 DVB-C carriers within 192 MHz bandwidth, each with up to 256QAM modulation.

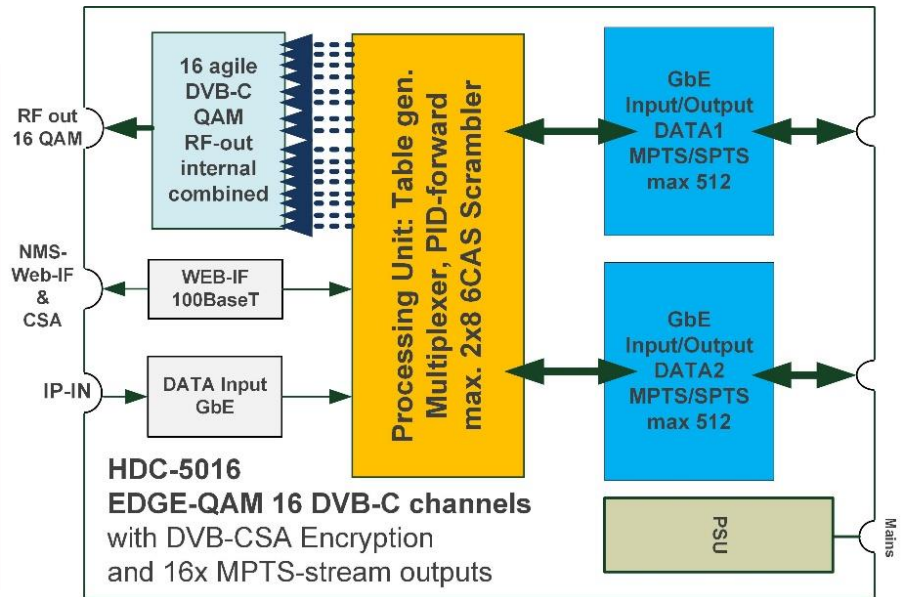
Each of the 16/32... 64 output multiplexes are also provided as MPTS IPTV streams, UDP/RTP unicast or multicast at both data ports to feed sub-headends with this already prepared Bouquets' via IP backbones.

*) = depending on model acc. to the number of RF channel outputs

BLANKOM HDC-5016...64 modulates up to 1024 SPTS or MPTS IPTV channels into 16 QAM (DVB-C) carriers within 192 MHz bandwidth, in broadcast quality.



Technical specifications



Function	IP to QAM Modulator with up to > 512* IPTV input 16-64 DVB-C and 16-64 IPTV MPTS output
INPUT	
IP input	> 512* from 2 IP input: 3* Gigabit Ethernet Port (Max 840 Mbps for each GigE input)
Transport protocol	TS over UDP/RTP, unicast and multicast, IGMP V2/V3
MULTIPLEXING	NIT generation, PID passing, ..., CA filter, PID remapping
Input IP streams	In Total 512* (DATA1 + 2 +128 max DATA Front*)
Output channel quantity	16...64, agile
Max PIDs	180 per channel
Functions	PID remapping (auto/manually optional), PCR accurate adjusting, PSI/SI table automatically generating
Scrambling parameters	Max simulcrypt CA: 4/6*, Standard: ETR289, ETSI 101 197, ETSI 103 197, Local/remote connection
MODULATION	DVB-C Annex A/C and US-Norm Annex-B selectable
QAM channels	16 ...64 non-adjacent carriers,
Modulation Standard	EN300 429/ITU-T J.83A/B (DVB-C Annex A/C and US-B)
Symbol Rate	5.0...7.0Msps, 1ksps stepping
Constellation	16, 32, 64, 128, 256QAM
FEC	RS (204, 188)
RF OUTPUT	1 F type output port for 16...64* carriers (int. Comb.), 75Ω impedance
RF Range	50...960MHz, 1kHz stepping
Output Level	-20dBm...+10dBm (87...117dBμV), 0.1dB stepping
MER	≥ 40dB, ACLR: -60 dBc
TS OUTPUT	16...64* IP output over UDP/RTP/RTSP multicast, 2 GigE Ethernet Ports (DATA 1+2)
SYSTEM	
Control	Network management (WEB-IF), English menu, Ethernet software upgrade
GENERAL	
Dimensions, Weight	420mm × 440mm × 44.5mm (WxLxH), 19" 1U, 3 kg, HDC-5032: 4,2kg, ...*
Power	AC 110V ±10%, 50/60Hz or AC 220V ±10%, 50/60Hz, Consumption: 15.4 W
Temperature	0...45°C (operation), -20...80°C (storage)

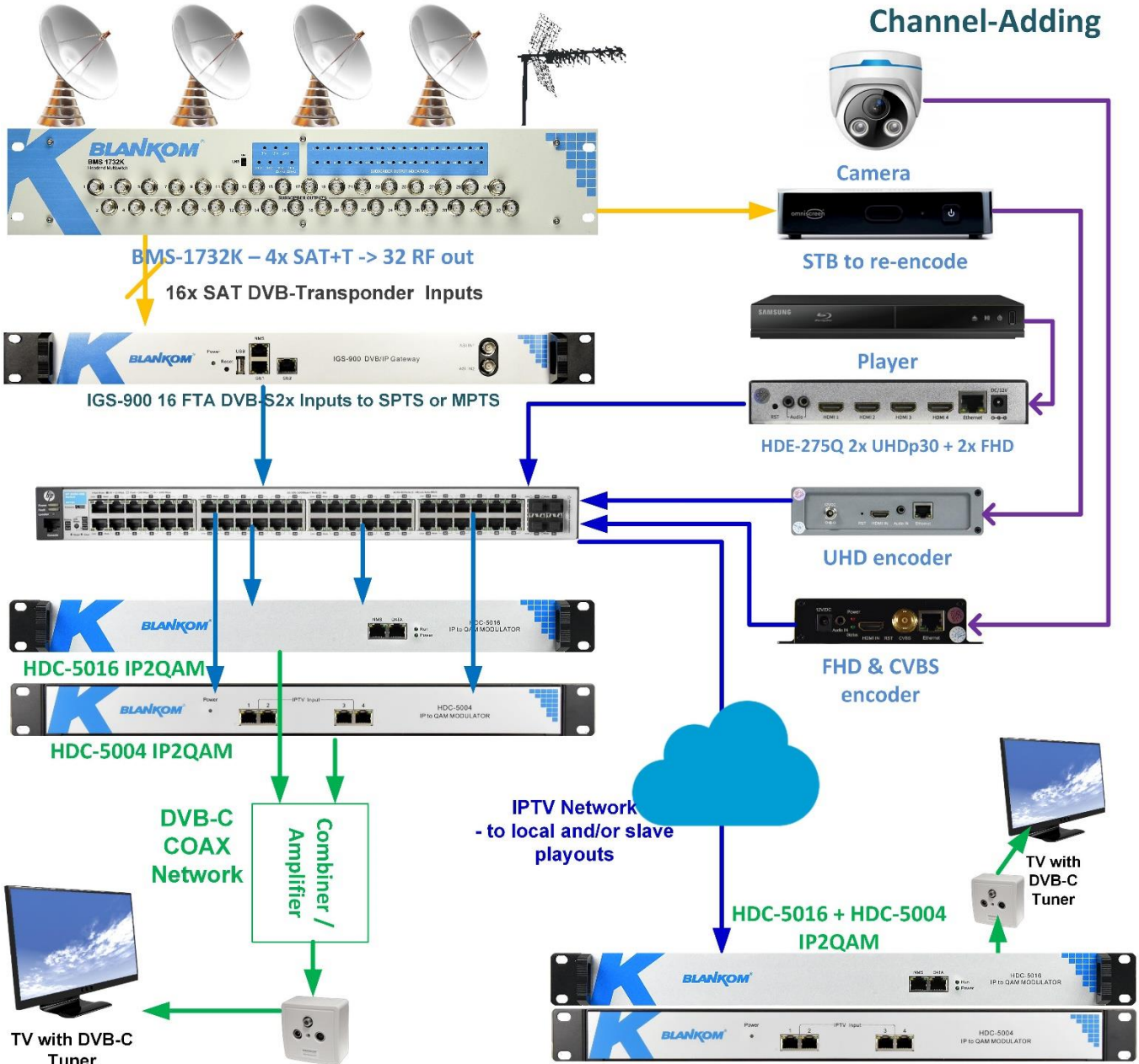
*) = depending on model according to the number of RF channel outputs

Application Example

Master – Slave headend



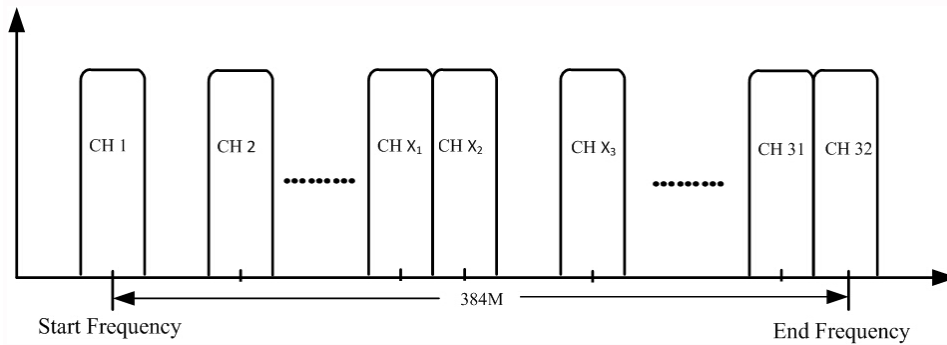
Application example IPTV and local content to DVB-C Channel-Adding



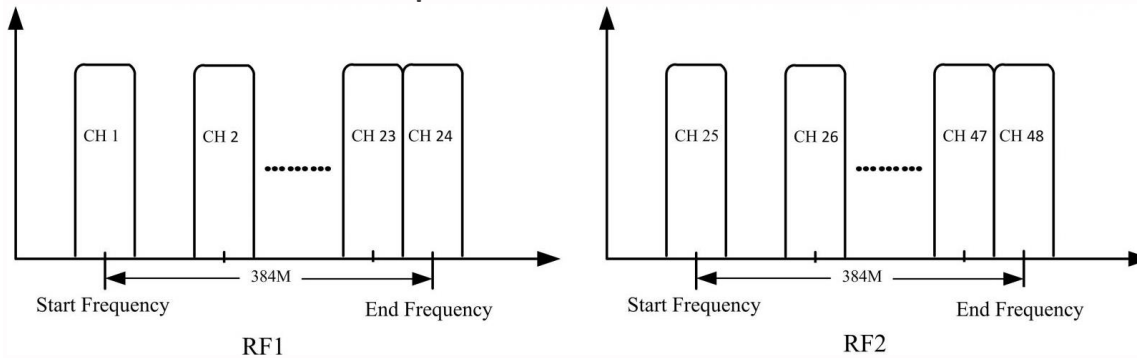
The HDC-5016/32...64 is equipped with 1 or more* combined RF output serving

- 16...64 non-adjacent QAM carriers' output, compliant to DVB-C (EN 300 429) and ITU-T J.83 A/B served from
- 3 GE ports (max 1024* IP in): DATA1 & DATA2 bi-directional ports, max 512* IP in, 16...64 IP out

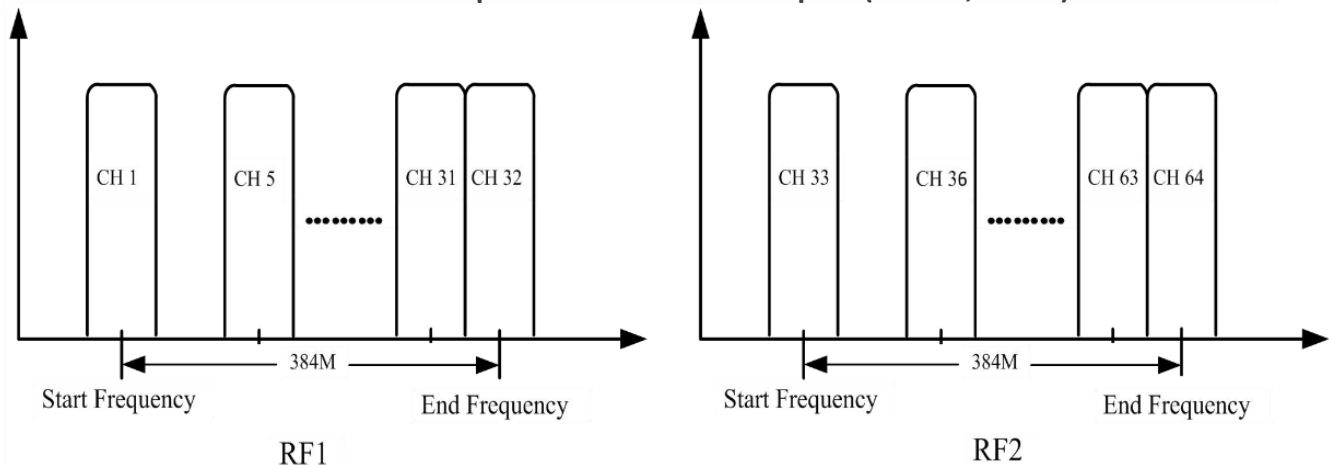
HDC-5032:



HDC-5048 comes with 2 RF outputs:



HDC-5064 also comes with 2 RF outputs and can use 6 GE inputs (4*RJ45, 2*SFP)



Corresponding Products:

HDC-5004: IP 2 QAM 4ch

IGS-900: 16 SAT-Transponder to IP, IGS-924: 24 Transponder to IP (MPTS or SPTS)

IGS-700-4/8: 4 or 8 SAT/T/C decrypt to IP, 4 CI slots + 4 FTA Transponders

Luminato advance HE-Platform

Encoder - Streamer Family: EMU's, HDE's, SDE's ...