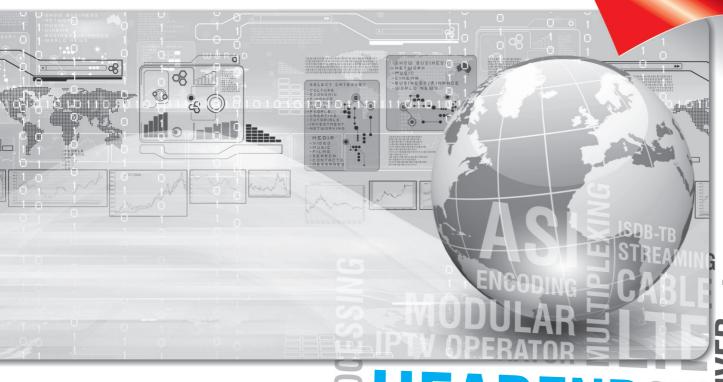


BLANKOM ... setting signals

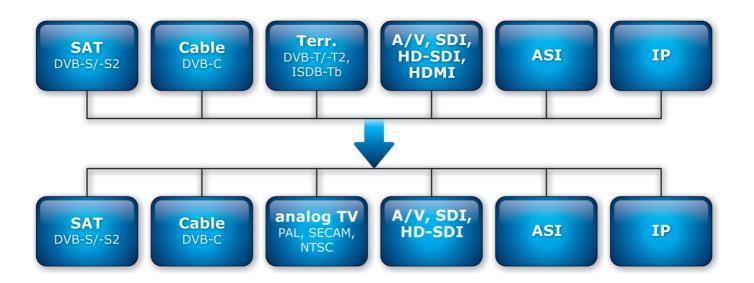


Stream your vision!



# 19" PREMIUM HEADEND

KNOW HOW & INNOVATION "Made in Germany"



The Premium Headend System consists of high-quality 'stand-alone' units that are essential in the design of professional headend systems. Among others, the system consists of SAT-IF routers, multi-standard IRDs, EDGE modulators, encoders and IP streamers with various functionalities. Functional support for scrambling, multiplexing, multi-decryption, streaming and monitoring is integrated in the specific units. The Premium Headend Equipment excels with top-grade reliability, magnificent signal quality and universal functionality. The system is ideal for classic headend solutions, master/sub headend systems or IP streaming applications.

- PREMIUM EQUIPMENT for high-quality headend systems
- Professional IRD`s, encoders, modulators, IP streamers, transmodulators
- 19" Stand-alone units
- integrated power supply redundancy
- Multi standard support analog/digital
- Web-based management
- Monitoring via SNMP Version 3



# 19" Product news 2014





### SAT-TV Transmodulator A-QAMOS • A-QAMOS-4CI

- 8 x DVB-S/-S2 (QPSK/8PSK) to 8 x DVB-C (QAM)
- LNB control 22 kHz 14/18 V, DiSEqC 1.0 or Unicable
- Program filtering
- Free cascadable CI slots, Decryption possibility for Pay-TV (A-QAMOS-4CI)





### SAT-TV Transmodulator A-PALIOS-4CIM4

- Remodulation of 4 (8) DVB-S signals (MPEG-2/-4) to 8 x analog TV
- LNB control 22 kHz 14/18 V, DiSEqC 1.0 or Unicable
- Free cascadable CI slots, Decryption possibility for Pay-TV
- Downscaling of HD programs to analog TV





### A-QAMOS-CT · A-QAMOS-CT-4CI

- 8 x DVB-T/-T2/-C to 8 x DVB-C (QAM)
- Multiplexer function (optional)
- Logical Channel Number (LCN) automatic program preselection
- Free cascadable CI slots, Decryption possibility for Pay-TV (A-QAMOS-CT-4CI)





### PAL Transmodulator A-PALIOS-CTM4/-CTM4CI

- 8 x DVB-T/-T2/-C to 8 x analog TV
- Supports MPEG-4 and MPEG-2
- Downscaling of HD programs to analog TV
- Free cascadable CI slots, Decryption possibility for Pay-TV (A-PALIOS-CTM4CI)





### QAM Modulator A-QAMOS-IP • A-QAMOS-B-IP

- A-QAMOS-IP: Modulation of IP-TS/ ASI-TS to 8 x DVB-C (QAM)
- A-QAMOS-B-IP: Modulation of IP-TS/ ASI-TS in 8 x DVB-C/ITU-T J.83 Annex B,C (QAM)
- ASI port used as input, integrated SFP interface
- Logical Channel Number (LCN) automatic program preselection, Program filtering





### QAM Modulator A-QAMOS-IPM

- Modulation of 62 x IP-TS, 1 x ASI-TS, 1 x internal Mediaplayer to 16 x DVB-C (QAM)
- integrated Multiplexer allows the generation of own and editing of existing program bouquets
- ASI port used as input, integrated SFP interface





### PAL Modulator A-PALIOS-IPM4/-IPM4CI

- Modulation of IP-TS/ASI-TS (MPEG-2/-4) to 8 x analog TV
- ASI port used as input, integrated SFP interface
- Downscaling of HD programs to analog TV
- Free cascadable CI slots, Decryption possibility for Pay-TV (A-PALIOS-IPM4CI)





# **DVB Receiver, Streamer & Encoder**

KNOW HOW & INNOVATION "Made in Germany"



### **DRD 700 QUAD Multistream Processor**



DRD 700 is able to receive, decrypt and multiplex 4 independent transport streams. The output signals are available at the 4x2 ASI or the 2 IP-GbE-SFP interfaces. For the reception different receiving options like DVB-S/-S2, DVB-T/-C, DVB-T/ -T2 or ISDB-Tb can be chosen. Furthermore, 2 ASI-Inputs and the redundant IP-GbE-SFP interface are also selectable for the reception of transport streams. For Multi-Service Decryption 4 DVB-CI interfaces for CAM modules can be routed as needed. DRD 700 is ideally suited for receiving and streaming signals for IPTV applications.

- Different DVB-Frontends
- 28 SPTS / 4 x MPTS
- IP streaming
- Up to 4 DVB or ISDB-Tb Inputs
- Pro-MPEG FEC (SW-Option)

# WEB/ SNMP Netz-teil

### **Features**

- 2x DVB-Twin-Frontends DVB-S/-S2, DVB-T/-C, DVB-T/-T2, ISDB-Tb
- 2x ASI Inputs, 2x IP-GbE-SFP-Interfaces for IP-Input or IP-Output-Streaming (Option Redundancy)
- Service filtering according to DVB-standard
- 4 x Multiplexing including EIT, Multistream Demultiplexing
- 4 x DVB-CI slots for CAM modules for Multi-Service-Decryption
- IP-Output-Streaming MPTS/SPTS, 4 x 2 ASI Outputs
- Web/SNMP server (IP-Control port), Redundant power supply

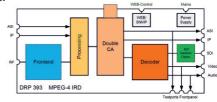


# NEW

### DRP 393 DVB MPEG-2/-4 Receiver/Decoder

DRP 393 is a SD/HD Receiver/Decoder in a 19" housing (1RU) designed for stand-alone operation in professional CATV headend- and broadcast-systems. Different receiving options like DVBS/-S2, DVB-T/-T2, DVB-C, ASI and GbE-IP (with FEC ProMPEG) are available. For the decryption of scrambled services two DVB-CI interfaces allow multidecryption with CAM modules. The MPEG-2 or MPEG-4 TV signals are decoded and processed to analog Audio/Video (PAL/NTSC) or SDI/HD-SDI outputs. Rescaling HD to SD is done automatically for the CVBS output.

- ASI Input/IP Input
- 2 ASI Outputs
- Dolby Digital Certification
- SDI/HD SDI (Hardware Option)
- GEN LOCK Function



### **Features**

- ASI Input, Video Output
  4 x Stereo Audio Output, SPDIF
  2 x ASI-Output with single service decryption

### MPEG Decoder

- MPEG Decoder

   Video Decoding: MPEG-2, MPEG-4, H.264AVC

   Processing of audio programs (DVB-Radio)

   Audio-Decoding: MPEG-1, MPEG-2 (LAYER II), MPEG-4, AAC, Dolby Digital (AC3), Dolby Digital+

   Letterbox mode (16:9)

   HD to SD Rescaling to Video Out

   VBI-Insertion (VPS, WSS, VITS, Ttxt)

   5.1 Surround sound to stereo conversion

   Audio Description Support Support of all standard

- Audio Description Support, Support of all standard CAM

### Common Interface

- 2 Conditional Access Modules (DVB-CI)
   Supporting of all standard CA Modules

### Operation/Control

- Direct entry by display, Thumb wheel LAN/WAN integrated Web-server, SNMP-Agent
- Logbook

### **Provides Monitoring**

Test functions via Control system and Test ports



# **DVB Receiver, Streamer & Encoder**

KNOW HOW & INNOVATION "Made in Germany"



### **Professional Encoder-Series EMA**

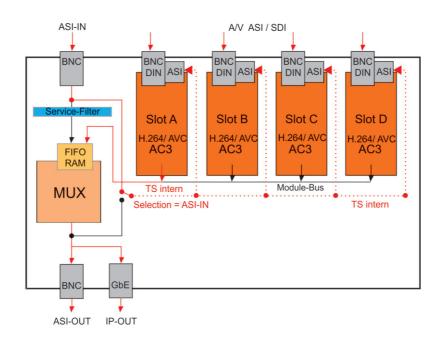


In the EMA series, BLANKOM provides the market with cascadable MPEG encoders and transcoders with integrated transport stream multiplexers. This innovation enables broadcasters, cable network operators and studios to generate their own digital program bouquets in DVB transport stream format. In this, an ASI transport stream output and an IP port, configurable separately, provide the output signals. The output signals are available in ASI or IP format without any further TS processing. The various EMA versions encode both analogue and digital signals in a MPEG-2, resp. H.264/AVC transport stream. One EMA can encode up to four input signals and insert them into the output transport stream. The benefits of this new equipment generation are obvious: every input signal – whether analog or digital – can be encoded in a DVB compliant signal. The integrated multiplexer enables merging of the encoded signals with an external transport stream.

- Professional Encoder for studio applications
- Ideal for all digital audio and video formats
- Internal Multiplexer and internal SI processing
- ASI/IP streaming outputs
- SNMP Monitoring and Controlling

### **Features**

- ASI transport stream and IP stream output (SPTS,MPTS)
- Individual adjustment of the incoming audio/video signals
- Supports insertion of external ASI-TS also for cascading
- Cascadable up to 8 modules
- Remote management via web server (TCP/IP) or SNMP
- EMA 408: H.264 Encoder/Transcoder/Multiplexer, 4 channels AV/SDI (HD/SD)/ASI to ASI-TS and IP
- EMA 508: H.264 & AC3 Encoder/Transcoder/Multiplexer, 4 channels HDMI/SDI (HD/SD)/ASI to ASI-TS and IP
- EMA 608: H.264 & AC3 Encoder/Transcoder/Multiplexer, 4 channels AV/SDI (HD/SD)/ASI to ASI-TS and IP
- EMA 708: H.264 Encoder/Transcoder/Multiplexer, 4 channels HDMI/SDI (HD/SD)/ASI to ASI-TS and IP





# DXP 400 - "HEADEND IN A BOX"





The B-NOVA is an excellent basic system for a modular IPTV- and CATV-headend with highest performance and low power consumption. B-NOVA allows the user to set up a high density headend configuration using a variety of processing- and interfacing-modules. This extremely flexible system grows with ist requirements and can be ideally adapted to the certain circumstances - as the "Headend in the box" for small or multiple systems and for larger headends.

- 1 RU "Headend in a Box"
- High density, with green technology
- TS-Demultiplexing, MPTS to multiple SPTS
- PID-Remapping and Filtering
- Scrambling and Re-Multiplexing
- Multicast and Unicast Streaming
- IP-Streaming CBR/VBR/UDP/RTP/ProMPEG
- 1 + 1 Redundancy
- EPG: EIT De- und Re-Multiplexing
- NEW: EPG processing Module

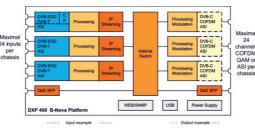
















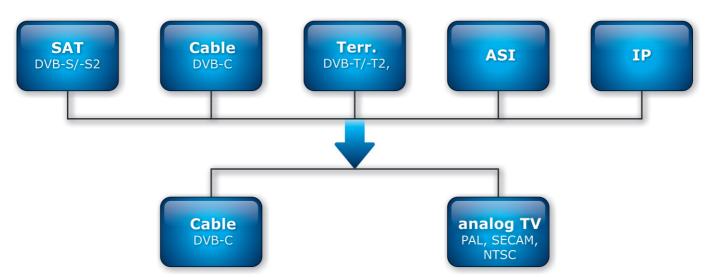






# SMART BUSINESS LINE

KNOW HOW & INNOVATION "Made in Germany"

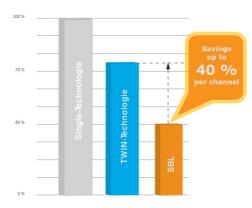


The basic concept behind the Smart Business Line with the 8way transmodulator QAMOS-MEDIA, the SAT-TV transmodulator PALIOS and the power supply HELIOS (9A) was evolved last year in line with international requirements. The portfolio now also includes IP modulators and transmodulators with MPEG-4 standard for analog and digital output signals. Common interfaces, multiplexing and scrambling functions round off the system, available both in the universal slot design and also in a 19" housing.

- DVB-C/T/T2 -> 8 x PAL; DVB-S/S2 -> 4CI -> 8 x PAL MPEG4
- SBL for high-quality headend solutions in universal design and as stand-alone units
- Digital signal and multi-standard support for analog/digital
- Web-based management and monitoring (SNMP)



Picture: Wizard



Picture: Energy saving with SBL



# SBL Product news 2014





### SAT-TV Transmodulator QAMOS-4CI/-8CI-MEDIA

- 8 x DVB-S/-S2 (QPSK/8PSK) to 8 x DVB-C (QAM)
- LNB control 22 kHz 14/18 V, DiSEqC 1.0 or Unicable
- Program filtering, Logical Channel Number (LCN)
- Free cascadable CI slots, Decryption possibility for Pay-TV





### SAT-TV Transmodulator PALIOS-4CIM4

- Remodulation of 4 (8) DVB-S signals (MPEG-2/-4) to 8 analog PAL output channels
- Decryption possibility for Pay-TV
- Downscaling of HD programs to analog TV





### **DVB-T/-T2/-C Transmodulator QAMOS-CT/-4CI**

- Modulation von 8 x DVB-T/-T2/-C to 8 x DVB-C (QAM)
- Logical Channel Number (LCN) automatic program preselection
- Transport stream processing for all channels
- Free cascadable CI slots, Decryption possibility for Pay-TV (QAMOS-CT-4CI)





### DVB-T/-T2/-C Transmodulator PALIOS-CTM4/-CTM4CI

- 8 x DVB-T/-T2/-C to 8 x analog TV
- Supports MPEG-4 and MPEG-2, Downscaling of HD programs to analog TV
- 2 input ports or loop through input
- Free cascadable CI slots, Decryption possibility for Pay-TV (PALIOS-CTM4CI)
- Multiple PLP support (DVB-T2)





### IP/ASI Modulator/Multiplexer QAMOS-IPM

- Modulation of IP-TS or ASI-TS to 16 x DVB-C (QAM)
- Up to 64 IP input streams, VBR-/CBR-Support
- An integrated multiplexer allows the generation of own and editing of existing program bouquets
- Transport stream processing for all channels
- ASI port used as input, integrated SFP interface

ΙP



### **QAM Modulator QAMOS-IP**

- Modulation of IP-TS/ASI-TS to 8 x DVB-C (OAM)
- ASI port used as input, integrated SFP interface
- Logical Channel Number (LCN) automatic program preselection
- Program filtering

IP



### IP-ATV Modulator PALIOS-IPM4/-IPM4CI

- Modulation of IP-TS/ASI-TS (MPEG-2/-4) to 8 x analog TV
- Free cascadable CI slots, Decryption possibility for Pay-TV (PALIOS-IPM4CI)
- VBR-/CBR-Support
- ASI port used as input, integrated SFP interface

ΙP

# BLANKOM VEIN

## **INFOSS** Information Portal

## **HQ Digital Information Portal**



Local news and information are becoming more and more popular these days. But most often they are too short and hard to find. Therefore the need to implement local information in existing structures is existing worldwide so a bigger number of subscribers can be reached. The INFOSS module is the hardware base to feed in content into existing TV-Networks. It is a slot device which can be used and integrated universally and in a simple way.

- Digital broadcasting system (DVB-C/-T/-S2)
- 4 digital TV channels in a high HD-/SD-Quality
- Including digital service information (teletext, HbbTV, EPG...)
- Automatic data transfer while going concern
- Management via editorial software

### **Hardware variants**

INFOSS Basic device, 4 Player (max. 16 Clips) in 1 x QAM (16; 32; 64; 128; 256), MER> 45 dB,

> Output level max. 85 dBµV with Loop or 97 dBµV without Loop, 4 GB memory, per Player 1 Teletext page and 1 x EPG, HbbTV, IP network connection for Hardware configuration via web interface and for system operations via operating software

**INFOSS-EA** with additional Encoder MPEG-2, Features like INFOSS

**INFOSS-E** with additional Encoder/Transcoder Input (H.264), Features like INFOSS

**INFOSS-EH** with HDMI and H.264 Encoder/Transcoder Input, Features like INFOSS

### **Software options**

CKB 217 - Activation ASI in/out + Mux

CKB 218 - Activation ASI Output

CKB 219 - Activation IP Streaming CKB 220 - Activation DVB-T Output

CKB 221 - Activation DVB-S Output

CKB 222 - Activation Table Script

CKB 224 - Activation SNMP

CKB 225 - Activation TxT 100 pages

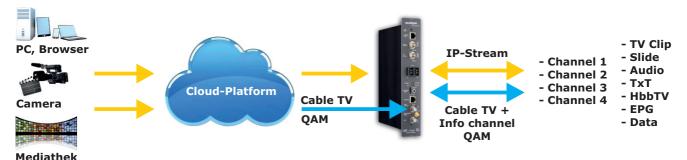
CKB 226 - Activation TxT 500 pages

CKB 300 - Activation Broadcast schedule (incl. CKB 226/302/303)

CKB 302 - Activation 1000 clips

CKB 303 - Activation weekly schedule

### System





# The next Generation - **QAMOS-MEDIA**

# Software option: HOME CHANNEL CKB 214 VEW



The QAMOS-MEDIA provides the option to easily integrate a home channel (info channel) in HD quality. It generates 8 channels, of which one can be used as an info channel and all other TV services are allocated. Target customers of this system are hotels, hospitals, nursing homes and public institutions which would like to present themselves in short commercials, image trailers or special sales with a little effort. In this home channel a movie can be selected which is played in an infinite loop until the activation of new content. The remaining 7 channels can be used for TV services in HD quality.

### **Integrated HOME CHANNEL option:**

- Own digital HD/SD channel
- Individual audio- & video-trailer
- Can be activated as an additional option
- Perfect for hotels, cable networks, hospitals....

# **Software option: Multiplexer CKB 213**





The option multiplex is only available for QAMOS-Media devices. It can easily be activated with a license key. Inside the multiplexer a bouqet of TV services is assembled, which can be transferred into the output channel.

- Fully flexible internal multiplexing from 9 to 8 transport streams
- Perfect for the optimizing of cable networks
- Improvement of efficiency
- Universal PID-filtering within the service (language, teletext...)
- EIT processing for all services
- Overflow-protection via service prioritization
- Intuitive handling
- Optionally activation of internal multiplexing



# Remote Access Gateway - LANIOS-RCL

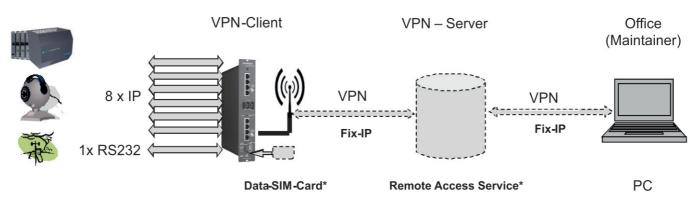


The LANIOS-RCL module is a 8-port 10/100 Base-T-Layer2 ethernet switch with remote access, developed for the SBL series. With this switch up to 7 SBL-devices can be managed and controlled via PC/Laptop. If more ports are needed a cascading of several switches is possible. Based on its outstanding characteristics it can also be used for simple IP-streaming. Additionally the device contains a UMTS- and a LTE-modem with an embedded server which is responsible for the modem communication.

### **Integrated functions:**

- LTE Gateway with 8x Fast Ethernet switch
- Perfect for M2M communication
- Modem and Terminal functionality via RS232
- Supports mobile service standards:
  - GSM
  - GPRS, EDGE, HSDPA
  - HSDPA (UMTS)
  - LTE
- Optional rail mounting
- Low power consumption, wide voltage range
- IpSec, DHCP, Port forewarding ...

### Application "External access to local Network via fixed IP"



<sup>\*</sup> To be obtain from several service provider

### **Pre-condition:**

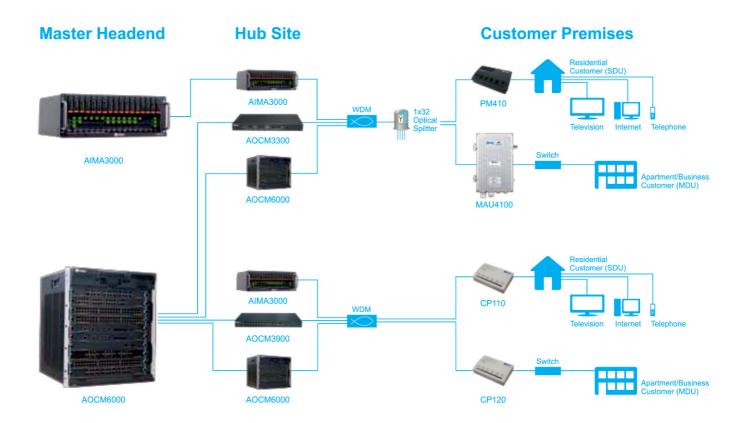
- LANIOS-RCL
- DATA SIM Card
- **VPN** Service



# We light up your Fiber

## **Solutions to match your current and future Needs**

FTTx products and services offer scalable solutions for startup providers as well as tier-1 operators. Operators are challenged with ever growing bandwidth demand and increasing price pressures. PON based Point-to-Multipoint architecture and dedicated Point-to-Point (P2P) optical networks allow operators to be prepared for the future. We even offers the ability to combine these two approaches, in a cost effective way, into one headend and software system. Utilizing passive network architectures, both solutions eliminate active components in the distribution network. The passive architecture not only increases operation efficiency, but also makes many powered hubs redundant saving significant infrastructure and operational cost.



### **Triple-Play out of the Box**

No matter if you deploy in a green-field or if you migrate an existing HFC/copper network to all-fiber, we provides solutions for voice, video and data services in your environment. All solutions are offered with optional CATV overlay. These systems feature pre-integration of headend equipment, PON/P2P transmission equipment and the entire range of CPE's. All aspects of the network are controlled by NMS3 provisioning and management software suite. Especially for operators with existing HFC infrastructure, CATV overlay is an attractive and cost-efficient way to offer a full-blown SDTV/HDTV spectrum to its fiber-connected customers.

### **Comprehensive, Scalable Product Portfolio**

The AOCM switch series enables operators to scale with customer demand while keeping the initial investment under control. With a large variety of different options in the portfolio, the operator can start with low up-front investment and later grow to a carrier-grade fully redundant system. This results in improved ROI on the investment as well as future-proof spending into CAPEX-intensive hardware.



# **Product portfolio Overview**

Category	P2P Architecture	P2MP Architecture
Central Switching / OLT	AOCM6000      3 Chassis sizes     Choice of 3 processor and switch-control card.     Full redundancy (power, control cards, backp.     ActiveEthernet P2P (100/1000Mb/s) & P2MP.     Complete set of routing features allows use a	lane) (GEPON & 10GEPON) linecards
Aggregation Switch / OLT (1-RU)	AOCM3400&3900      24/48-port 100/1000Mbit SFP based 1RU switch series     Stackable with redundant 1/10Gbps uplink options     Strong L2-L7 filter capabilities to protect network from access side attacks     Multicast, IPv6 supported	AOCM3300      4-port GEPON OLT (802.3ah)     6GigE ports     Supports up to 256 ONUs in 1:64 split deployment     Multicast, IPv6 supported
CPE / ONU	<ul> <li>CP100</li> <li>100/1000Mbps Triple-Play ActiveEthernet CPE</li> <li>Home Router &amp; Wireless Option available (NAT, WiFi 802.3b/g/n)</li> <li>Remotely controlled, AGC-equipped CATV-receiver</li> <li>Fiber tray for desktop or wall-mount installation included</li> </ul>	Triple-Play Fiber Access Gateway for 802.3ah EPON Networks     Remotely controlled, AGC-equipped CATV-receiver     2x ATA VoIP option available     Fiber tray for desktop or wall-mount installation included
CATV-Overlay	AIMA3000      1GHz High-density optical headend platform     16+1 Slot, 4RU HFC-platform     Up to 64 return receivers in one chassis with optional link redundancy     Up to 32 transmitters in one chassis with optional link redundancy     Integrated management server for easy installation, configuration and management     Low power-consumption     Hot-Swappable modules	
Passive Optical / Distribution	<ul> <li>• 1RU or AIMA3000 based</li> <li>• Full range of balanced splitters from 1:2 till 1:64</li> <li>• Combination of splitters into single 1RU (e.g. 12x 1:2)</li> <li>• ActiveEthernet CWDM-Modules for CATV-Overlay insertion</li> <li>• PON CWDM-Modules for CATV-Overlay insertion</li> <li>• Special versions available for combined use of RFoG and xPON</li> </ul>	

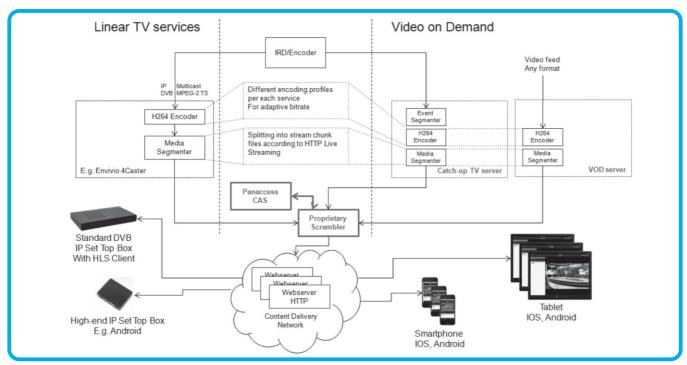


# Over-the-top / Mobile TV



The Over-The-Top systems allows you to broadcast live content, VoD or Catch-up-content from the BLANKOM portal to smartphones, tablets or STB's. All EPG information will also be transmitted. The content is delivered via customer network or internet (distribution rights required). All data are encrypted and therefore protected from unauthorized access. The encryption is requirement for the acquisition of Video-on-Demand content. The management of customers, programs and movies is processed centrally via the OTT management module. All settings can easily be made via internet. The system is scalable via different webserver which makes it usable inside complex network structures.

- Broadcast via http live streaming
- Segmentation of transport streams for VoD, Catch-up TV and Live TV
- Transmission of keys, program lists, catalogues and EPG via conditional access, including the H.264-video and AAC-audio encoding for return channels
- App for iOS and Android
- Scalable via several webservers



Picture: OTT Infrastructure











# **System Operator**

### **IPTV** for open network structures

- IPTV system scalable for open network structures
- Multiscreen compatible
- Encoding, recording, timeshift, catch-up TV, VoD
- Info channel function
- Integration of existing billing system possible



### **Architecture**



### **Features**

### ... for the customer

- **Television & Pav TV** TV channels via IP network.
- **EPG Guide** Surf in the program.
- « VoD » Video on Demand Watch cinema blockbusters.
- **Multilingual Portal**

Uniform and customisable multilingual menu.

- Radio & Musik Web streams
- **Info-Programs Dynamic display** Use display monitors in living rooms for presentation of information/channels with Digital Signage.

### ... for the operators

Manager

Management of IP addresses, user groups, set-top boxes and the complete network by means of a clearly structured interface.

- **Content Management** 
  - Administration of the content (TV, radio, video)
- **Customer addressability**

Targeted information, advertisement and sales promotion etc. for selected customers.

**User interface** 

Integration and customisation of operator - CI user customisation possible.

**Notification** 

Sending personal and targeted messages between the connected users.

**VoD Server optional** 

Various options for integrated server: Network recording, time shift, film database

PMS & accounting systems

Option of integrating different accounting systems



# **International sales**



Andreas Hess Export Manager East Europe Asia





Kristian Zenner
Export Manager
Central Europe





Urs Pistorius
Export Manager
North Europe
Australia

America





Ralf Riedel Export Manager South America Middle East Africa



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