

# End-to-End IPTV

# Solutions 2014

IPTV Head End Streaming servers Middleware Set-top Boxes



Solution for Telco / ISP - Hotels
OTT broadcasting - STB & Mobile apps



# About ANTIK Technology

ANTIK Technology develops End-to-End IPTV / OTT Solutions for operators, content providers and hospitality. It is one of the few global companies with own hardware and software products for complete IPTV ecosystem from acquisition, transcoding, streaming, management, monitoring, protection to middleware and end-user devices. Our current position on global market benefits from more than 20 years of experience in the area of video processing.

ANTIK's "Juice" IPTV products are supported by the team of more than 150 employees. Software development team and technical support are based in Slovak Republic (European Union) and Singapore, hardware development team in Czech Republic (EU), logistics and HW manufacturing in Shenzen, China and customer support covering Asia, Middle East, Europe, Africa, North and South America from local offices.

Nowadays our reference clients are spread over the world, using our HD set-top boxes with free middleware and smart devices apps both in closed multicast networks and on public internet, streaming thousands of live or archived TV channels to end-users located elsewhere with low-cost Juice HLS Media Streaming Solution protected by KeyRider DRM. We deliver fully customized End-2-End hospitality IPTV to residential projects and hotels in most visited global touristic spots. Our own network of satellite acquisition centers in all important world regions equipped with Antik SAT2IP head-end receivers and HD Hi-Density transcoders together with our distribution network serve content providers worldwide to enable them to have the right linear channels in high picture quality on right place all for minimum running costs.







# CUSTOMER COPY-ORDER FOR DEMO KIT

#### SUPPLIER:

ANTIK TECHNOLOGY HK LIMITED, HongKong, S.A.R.

Account number: 033-162017-838

Beneficiary Bank Name: HSBC Hong Kong

Beneficiary Bank Address: 1 Queen's Road Central, Hong Kong, 6-floor

Beneficiary Bank Code: 004 (for local payment)

SWIFT Address: HSBCHKHHHKHPaypal: kolla@antik.sk

	Description			
1	* 2x STB Juice Mini  * 2x STB Juice Mini  * 1x HDD 500GB with full IPTV environment (Live TV, TV Archive, VOD, IMS, etc.)  - system requirement : CPU i3 and above, 4GB RAM  * 2x ETH external adapter (ETH#1 for internet, ETH#2 for streaming to mobile devices)  * 1x Gigabit switch (5 ports)  * 1x Wifi Access point for multiscreen demo  * 1x TV anywhere (personal encoder)  * 1x 16GB USB storage (for time shift, PVR and media center demo)  * 3x ETH cables  * 1x RF IPTV Keyboard  * 1x Juice Debug cable (with USB to RS232 adapter)  * 2x power adapter (please inform us if EU plug is not OK)	\$ 515		
2	Delivery charges	\$ 150		
	Total Amount US\$:	\$ 665		

- Shipping Term DDU (Deliver Duty Unpaid)
- Delivery Lead Time: ABOUT TWO WEEKS UPON RECEIPT OF PAYMENT
- Terms of Payment: money transfer in advance (payment charges pays customer- OUR), or payment by Paypal (add 5% for Paypal charges)
- Quotation Validity: 15 days

Date od delivery:

Signature:

CUSTOMER:	
Contact Name:	
Tel. Number:	
Company Name:	
Delivery Adress:	



# PURCHASE ORDER FOR DEMO KIT

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CUSTOMER:	
Contact Name:	
Tel. Number:	
Company Name:	
Delivery Adress:	

Date od delivery:

Signature:





# Exhibition Records

# Event name Contact person Antik office Contact Details Company name\* Contact person\* Position business card Skype\* E-mail\* Phone City, Country

# OTT provider Hotel / Hospitality System Integrator Content owner OTT project partner Project Information (size, launch date...)

**Client Description** 

OTT No. of channels SD/HD, Bitrates/target countries, Origin of channel Hotel Network - multicast (IGMP snooping support)/coax only, No. rooms, Multicast Current client volume, Network topology, VLAN support

Headend	Smart	End-to-End
IRD (DVB T/C/S2)	iOS / Android / Win8	Hotel
En- / Transcoding	Scrambling	OTT / partner
Monitoring	PC ? / web	Multicast
Scrambling		
Stream/Archive/	CDN for mobile	Other MW
	IRD (DVB T/C/S2)  En- / Transcoding  Monitoring  Scrambling	IRD (DVB T/C/S2) iOS / Android / Win8  En- / Transcoding Scrambling  Monitoring PC ? / web  Scrambling  CDN for mobile  Stream/Archive/

After show actions (send info, contact, order demokit)

Status

# Visit us in 2014 at

#### **CABSAT 2014**

March 11-13, Dubai WTC, Dubai, UAE, Hall 3, Stand F4-22

#### TV Connect 2014

March 18-20, Olympia, London, UK, Stand 5

#### **CCBN 2014**

March 21-23, CIEC, Beijing, China, Hall 6, Stand 6302

#### **HOTELEX 2014**

March 31-April 3, International Expo Centre, Shanghai, CN, Hall E5, Stand E5G24

#### NAB show 2014

April 7-10, LV Convention Centre, Las Vegas, USA, Hall SU, Stand SU13810

#### FHA 2014

ISP (Multicast)

April 8-11, Singapore Expo, Singapore, Stand 4L1-18

#### Angacomm 2014

May 20-22, Cologne, Germany

#### CommunicAsia 2014

June 17-20, Marina Bay Sands, Singapore, Stand 1J4-12

#### **ABTA 2014**

August 5-7, Sao Paolo

#### IBC 2014

September 12-16, Amsterdam, Netherlands

#### HotelShow 2014

September 28-30, Dubai



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#### MIDDI EWARE



#### Basic menu

Very fast, clear and easy to navigate.



#### Single EPG

Offers simple look at channel lineup. Single EPG offers simple look at channel program list and basic data.



#### Multi EPG

Provides program guide data for all TV channels shows channels list and programs timeline and program info.



#### **Archive by genres (Catch-Up TV)**

World unique way to access catch-up TV content. All programs are automatically sorted in "VOD style" UI for easy access.



#### Archive program player

Enables control of archive program feature which allows users to pause, rewind, forward and also basic program data, like total time, name, image preview.



#### VoD

Complete VOD GUI supported by Juice VOD Server Solution. Choose a movie from the database or search some new in your favorite category. Watch trailers, movie description or rank the movie.



#### Mosaic

Mosaic UI gives end-user chance to watch dozens of channels at once and decide for the favorite one. Delivered by Juice Mosaic generator - low-cost mosaic encoder engine.



#### **Timeshifting**

The user can pause, rewind, forward, stop and play TV program anytime without recording request.



#### PiP

Allows you to watch TV channel and another video source, while one of it will be in the main screen and the other in the PiP screen. Location of PiP screen is adjustable by end-user.



#### **Channel editor**

Change order of the channel, set parental lock, individual adjustment of sound level and language.



#### **Audio tracks and Subtitles**

Choose language of the channel from the offered options or turn on subtitles in proper language just with one but-



#### Multimedia center

Connect STB with PC or USB key and create multimedia center based on DLNA technology. Watch photos, listen to music and watch videos.

#### The power of Juice Set-Top Box



#### Advertisment delivery client

Increase revenues by broadcasting marketing messages during peak viewing hours - in graphical layer over any channel the user is watching!



#### Fully customizable skins

Based on your visual identity we can adapt the GUI to your corporate visual language.



#### PVR

Choose program from EPG and record it on HDD or USB in set-top box. Make your own video library and watch your favorite movie whenever you want.



#### Music on Demand

Audio fun for everyone. Playlists, shuffle, huge variety of content access.



Plug Juice TV Home Connector (see p. 62) into Juice STB and connect it without cables.



#### DVB-T/T2/S2 interface

Integrated channels from DVB-T IPTV and OTT channels into single list. All tuning features supported.



#### Weather

Access to predefined cities weather forecast up to 7 days.



#### **TV** Anywhere

Your linear TV channels are available everywhere with internet connection restreamed from Juice STB.



#### Wireless Keyboard and Internet **Browser**

Easy operation for your SmartTV applications. Browsing web pages will be fast with embedded trackball. Browse the internet directly on TV.



#### **HbbTV**

Access to the online part of the channels, browse their interactive web pages and another bonus content.



#### YouTube

Easy to navigate, adapted to Tv screen. Full access to YouTube movie content.



#### **Apps Market**

Customize your IPTV product with easy to implement 3rd party content events, shopping, traffic, etc...

#### **Basic Services**

Basic Menu is offering easy to learn interface, where user can choose from various actions, which are offered by the set-top box like Live TV, Radios, EPG, Archive, DVR, Mediacenter, VoD, web browser, games and many more.



Use left / right arrows on remote control to navigate through Menu.



Electronical program guide provide users of television with continuously updated menus displaying broadcast programming or scheduling information for current and upcoming programming. User can choose between vertical horizontal and multi-channel EPG.



Other general features like teletext multiple, audio tracks, language selection and subtitles.

# TV Archive (Catch-Up TV)



Through Juice Archive, subscribers can access recorded programs without having to go through the hassle of having to schedule the recording themselves in advance. On the Archive service, the subscriber can see all recent programs through a menu.

In many countries broadcasters do not start movies at time given by EPG. Antik gives end-user chance to set correct movie begin and share this info with other users. This feature is globally unique and available in Antik only.



To operate TV archive you need to obtain Juice Archive Server SW license which will be installed on standard, fast storage server. Scalable architecture allows to operate with increasing number of users. Clustering support with online balancer for high loads. High availability and performance is ensured using Juice KeyRider security mechanism. Archive size and channel count depend on and channels count depending on your storage possibilities only. Easy configuration by XML format. Archive is interconnected with EPG, which is forwarded from the IMS.



Instant movie play, rewind, pause, subtitles and other functions without internal storage requirement. Movies are transformed to special HLS format using Juice VoD content encoder. Movie is then uploaded to storage cluster. Thanks to Juice VoD Streamer working with HLS format, VOD is stable on lower quality networks, too.

- Search by the title, year, actor, genre and others
- Rate the movies or choose the movie with the highest rating amongst your network
- Filter by date, name, rating
- Virtual keyboard controlled by remote control or IPTV Multimedia keyboard
- Movie description and movie trailer
- Import and export interface to your billing system-Keyrider scrambling integrated to protect your content
- Different payment models (pay-per-view, prepaid, postpaid, pay-per-minute, free content...)
- Module is connected to your billing





A digital video recorder (DVR), sometimes referred to by the merchandising term personal video recorder (PVR), is a consumer electronics device or application software that records video in a digital format to a disk drive, USB flash drive or other local or networked mass storage device.



- Record scheduling based on EPG or exact time and date
- Integrated in EPG UI
- List of the recorded programs
- Possibilities of editing the name of recorded program (Save As "...")
- Option of earlier start and later end of recording of the program
- Disc info about free space, capacity and option to format disk
- Instant recording with red button
- User friendly interface

#### Multimedia center



User can plug his external memory drive, whether it is USB or external HDD and play his multimedia files. The offer of user's data is easily accessible from the basic menu, where customer will get into his folders and files of music, videos, pictures etc.

Juice set-top box can be connected also with home network through the DLNA technology. User can setup his own home media center, where he can connect PC, Laptop and Smartphones through the DLNA client. Then all media files like videos, photos, music, to which user give access, will be able to run also on user's TV.

Application is supporting multimedia content in various formats like: avi, H264, Xvid, Mov, VOP, mkv, Mpeg 1,2, TS, mp4, txt, sub, srt subtitles and multiple audio tracks are supported.

## Music portal / Music on demand



Great looking user interface to search, sort and play audio content.

#### Internet browser



Browsing the internet is available also on customers TV thanks to our set-top boxes with integrated web browser. Easy launch of the browser straight from the TV menu and many options how to browse the internet, whether it will be with our wireless IPTV keyboard, virtual keyboard or customers own accessories. Popular internet services like YouTube, Facebook, Twitter, Google, etc. are within easy reach.

#### Multiscreen middleware



# Juice STB + BitTorrent™ MOVE

#### = Great solution for home media network



Antik Technology and BitTorrent™ bring one of the world's most popular services to IPTV set-top boxes. BitTorrent™ MOVE is integrated inside Juice set-top box so users can easily stream torrent files from home PC to their big screen of TV. All media content like videos, audio and images downloaded as torrents to your PC are now accessible from user's TV screen. User has a two-minute one-time setup, then he can use all the advantages which integrated BitTorrent™ in Juice set-top boxes is offering.



# IPTV Servers + Head End

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  - Stream Keeper 25
    - Advertising 26
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  - Juice MX 5308 Receiver 46
  - Juice Mosaic Generator 48

# Juice IPTV Management Server

#### The power of Juice Technology!

Antik Technology presents professional cost-effective SW solution for seamless management of your Juice set-top box network. Juice IPTV Management Server is corner stone of Juice Middle-ware Server Family. You can easily define your channel packages, configure all or selected customer's STBs, collaborate with other part of Juice Server family such as Juice Archive Servers, Juice Mosaic Servers or VoD servers. Management Server SW can be easily connected to your billing or customer care application so your user's set-top boxes can be automatically activated and monitored using same software your employees are familiar with. Don't hesitate to request a licensing offer specially designed for your IPTV project.

#### **Key features**

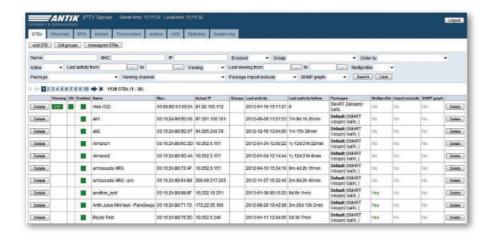
- · Simple channel and channel packages management
- Full remote control of set-top boxes and remote restart features (even in public internet)
- Remote set-top box firmware update
- Electronic Programme Guide database management and seamless EPG content import
- Integrated with other components of Juice Server Family
- STB management and user database
- Viewer statistics (users, channels, time,...)
- SNMP Communication Support
- Instant messaging to STBs
- Juice headend components control (IRD, transcoders, ...)
- VOD management



#### **IMS Administration**

#### **STB**

Manage STBs in your network easily with powerful management interface. Monitor wide variety of parameters of each box. Superior statistics module brings detailed statistic overview of active STB, active viewers and other vital information. Manual STB / user registration and channel pack allocation. Automatic XML data import from billing, which handles package expiration, package block or notice the STB user.



#### Detail

**Packages VLAN** info Groups

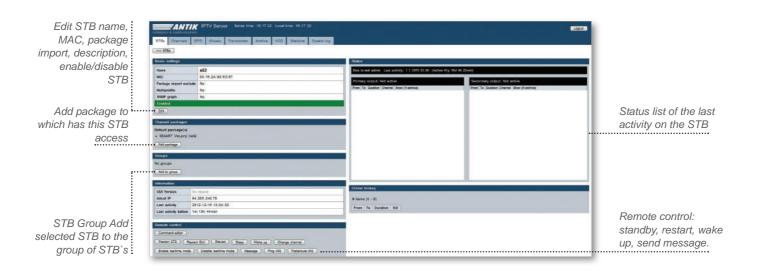
- Add channel packages to selected set-top box. Set package validity.
- STB embeded switch can be controlled from here.

- Add selected set-top box to the group of STB's. Each set-top box can be added to specific group. STB's in this group can be controlled all together, so admin doesn't has to change settings on each set-top box separately.

Remote control - List of command buttons, which can remotely control set-top box. It is functional also behind NAT

Status

- List of last activity on the set-top box, admin can see for example what was user watching before some error occurs.



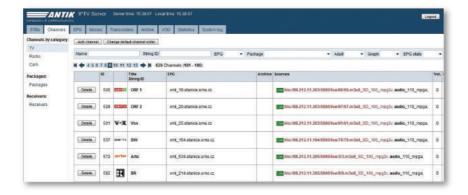
#### Channels management

Managing channels and packages has never been easier. Channel and package manager allows you to configure parameters of TV, Radio and LiveCam streams in your network, or enable advanced statistic features. Channel source by URL (UDP, RTP, HTTP, HLS) can be easily defined. Global volume level correction in case of uneven audio sources.

Filter – admin can search channels by various categories, so searching subject can be found without long searching.

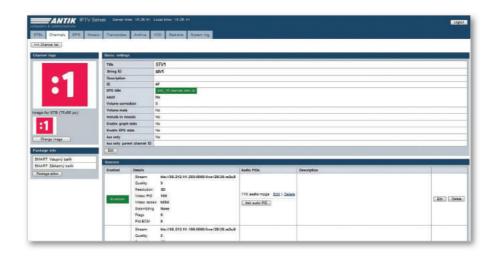
**Categories (tv, radio, cam)** – streams can be divided depending on media – TV streams, digital radios, city (or security) cameras.

Receiver inventory – overview of channels assigned to specific receiver



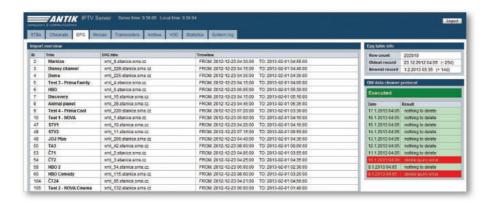
#### **Channel Details**

Edit the channel`s details, properties, channel`s icon and much more. Simple channel packages creation and adding management, channel sources management, video and audio codecs management and more. In this section admin can add channel logo for IMS and also logo will be displayed in the STB GUI menu of end user. Parental control flag to manage adult content.



#### **EPG** management

EPG database import module is great tool to transform EPG from XML TV data formats into Juice Server Database. Movie title, genre, long description, time, image cover supported. XML TV format supported for seamless program metadata import to system. System automatically downloads new data and check consistency. Same data are used for STBs and mobile apps.



#### **VOD** management

Covers management of Antik VOD solution (sold separately, more info on page 22). Allows to import end encode movies prepared by Juice VOD Encoder, categorize them, activate them, add proper metadata including title, cover image, description, etc., add proper payment method and price to complement the setup.

Filter Movie details

- Admin can search for specific title or change order of displayed titles.
- Adding names of the movies, genres and other details + URL address of the film saved on the VOD Storage server

Price URL

- In this section of IMS admin can set price value, payment method, etc.
- This address can be found in VOD Storage server its address on the playlist of selected movie (content), which is located on the Storage server.



#### **Users activity stats**

Detailed IPTV usage stats.

Channels, programmes, box, PAL/NTSC, PIP, aspect ratio, resolution, restarts, FW versions, etc.

# Juice Media Streamer

#### End-to-End TV Everywhere delivery system.

Juice Media Streamer provides you with end-to-end way to create, deliver secure and manage your local or global content delivery network. It uses robust HTTP Live Streaming (HLS) protocol to reach your customers even in areas with limited quality of public internet.

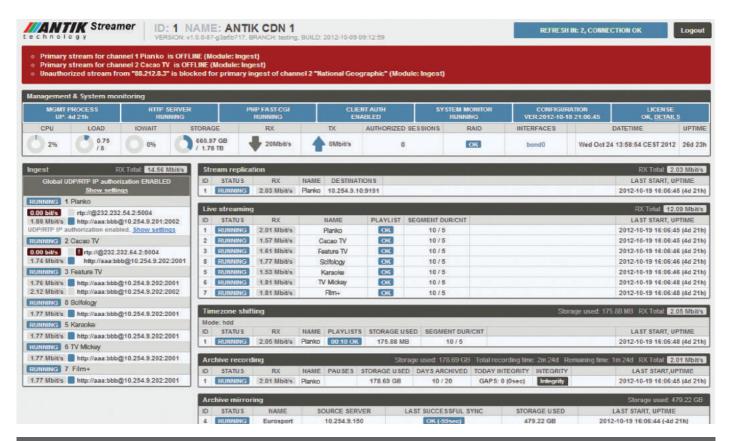
Thanks to the years of Juice Media Streamer development you can benefit from modules covering all the areas of live streaming, VOD, state-of-art catch-up TV (archive of linear TV) over public internet as well as timezone shifting together with durable fully adjustable replication and mirroring modules combined with stream protection.

Juice Media streamer can be succesfully used inside of managed networks of telco operators to provide their customers with interactive OTT content (VOD, catchup TV) as well as for global OTT content providers who can benefit from the robustness of Antik live streaming with mirroring and replication technology to achieve 24/7 access of huge number of users distributed around the world.

#### Key features

- Ingest Module
- Management & System Monitoring Module
- Stream Replication
- Live Streaming
- Time-Zone Shifting Module
- Catch-Up TV Module
- Archive Snapshots Module

- TV Stream Cache & Restreaming
- Load Balancer
- Archive Mirroring Module
- Streaming mutual features
- AES 128 scrambling module (Juice KeyRider)
- Debian 7.0 supported



#### HLS

Powerful scalable HTTP Live Streaming Solution for global live content delivery. Ideal for low-speed and unstable access network conditions and OTT distribution thanks to state-of-art segment streaming feature. Continuous stream is segmented in to 10 seconds segments and provided using fast storage through http protocol. It allows client device to quickly pre-buffer video and audio data which allows to work in unstabble networks without dropouts.

#### **Ingest Modul**

Receives streams from various sources

Duplicates the stream to other Juice modules simultaneously (live streaming, replication, archiving, time-zone shifting) to save bandwith.

Supported input protocols: UDP, RTP, HTTP

Basic authentification supported (if using http stream) on input





**Security feature** allows to define allowed/not allowed stream sources (in case of UDP/RTP push).



**Stream back-up set-up** – continues watchdog automatically starts to use back-up stream in case of drop-out of the main stream.



Media Gateway - together with Replication modul.

# Management & System Monitoring Modul

	NOCESS 44 21h	HITTE SA	ERVER	PHP FAST-OGI HUNNING		NT AUTH SY.	HUMBING	CONFIGUR VER2012 10 5		OK DETAILS	
CPU	LOAD	IOWAIT	STORAGE	RX	TX	AUTHORIZED SESSIONS	RAID	INTERFACES		DATETIME	UPTIME
2%	0.75	0%	660,97 GB / 1.78 TB	2001bits	♠ OMbitis	0	CH	bond0	Wed Oct 2	4 13:58:54 CEST 2012	264 238

**Controls all Juice Streamer modules** 

Automatically controls all running processes within Streamer

M onitors CPU/System/HDD load, network throughput, HDD usage, actual number of authorised clients,

RAID status, server uptime, configuration file consistency,

M odules licensing status, current module version information

**Global System warning messages** 

Uses Ajax for Web Monitoring - doesnt need page reload to see actual information

#### Stream Replication

Allows to replicate input streams to CDN edge servers using UDP and HLS protocol

One stream can be replicated to more destinations (Juice Stream Cache, see p. 21)

Dramatically increases durability and stability of the system

Capable of Multicasting stream into closed network

M onitoring interface visualises:

destination IPs

input stream bitrates (coming from ingest module)

replicator uptime

# Live Streaming



Powerful scalable HTTP Live Streaming Solution for global live content delivery. Ideal for low-speed and unstable access network conditions and OTT distribution thanks to state-of-art segment streaming feature.

Allows unicast streaming using HLS protocol

Allows to stream up to 2Gbps of traffic per individual server (based on your server hw e.g. when using 1mbps stream system can serve up to 1000 users simultaneously, increase of streaming capacity is possible.)

Allows to pre-buffer the content into client device memory

Fast-zapping support – using burst data transfer which can pre-fill buffer rapidly to decrease zapping time Full recovery of the stream in case of network drop-out (up to 30s) – non-visible for the viewer

Includes segmenter which push segments into RAM to increase system performance

Allows to setup length and number of segments stored in playlist of the server

M onitoring interface visualises:

total data inflow into modul

input stream bitrates (coming from ingest module)

count and length of segment in playlist

playlist status

segmenter process uptimedestination IPs input stream bitrates (coming from ingest module) replicator uptime

# Time-Zone Shifting Modul



Shifts the playback time of live stream

M odul is targetted to be used in case of streaming to global time zone different than the timezone of content origin

M ore shiftited streams from one source - Allows multiple time off-sets of the same content (TV channel) using the same data to save storage

Support long playback time off-sets (storage size is the only limit)

Uses HLS protocol for streaming, so all the features described in Live Streaming can be utilized M onitoring interface:

zone-shifter process status and uptime

input stream bitrate

availibity of each shifted playlist

unused content still available in storage

storage usage

count and length of segment in playlist

#### Catch-Up TV Modul (TV Archive)



Records all content of the specific stream and allows access to it using EPG information Includes segmenter which creates 10s files – directly enables to use HLS protocol for content delivery High availability – even curently played program can be accessed (less than 2 minutes from original playback time)

Uses HLS protocol for streaming, so all the features described in Live Streaming can be utilized Allows to define time breaks in broadcasting to save space during black screen period Large scale archiving (depends on storage capacity)

Intelligent erasing mode – identify oldest records and deletes them to free-up diskspace for new recordings Integrity analyser detects content drop-outs and enables them to other CDN components



Uses HLS protocol for streaming, so all the features described in Live Streaming can be utilized M onitoring interface visualises:

Catch-up segmenter process status and uptime

Input stream bitrate

disk storage usage

number of days archived in the individual stream

unused content still available in storage

record integrity within actual day

detailed fine-grain integrity information for each recording day – includes timeline to visualise archived content and drop-outs

count and length of segment in playlist

actual total bitrate

estimated remaining archiving time according to actual bitrate

#### **Load Balancer**

Managing CDN server cluster, checking in periodical intervals their status and forwarding clients to each server depending on required service. In case of failure of some CDN server, Load Balancer will redirect end customers to working CDN server. Allows authentication of end customer devices and managing access to the content and services. Contains statistical functions for analysis utilization rate and recording data about watched content for billing purposes and for audience measurement. Contains also monitoring interface for the CDN server cluster surveillance.

Regularly checking status of CDN servers

Active failover protection in case of HW failure

Advanced login features allowing connectivity with billing system

M anaging CDN server cluster

Client authentication and authorization with advanced per session generated passwords.

M PEG4 SD/HD AVC to MPEG4 SP/ASP

C IF, or QCIF 2x to 12x depending on format conversion

#### **Archive Snapshots Module**

Creates snapshots for each video segment which was recorded by Catch-up TV module

Allows comfortable end-user seeking in archived TV content

Recorded pictures can be easily used for other Streamer modules

Different snapshot profiles – profile name, picture size, resize method (LetterBox, Pan&Scan, Fill-In), background color (for LetterBox resize method), picture format

(gif, bmp, jpeg), picture quality, jpeg compression quality, brighten effect

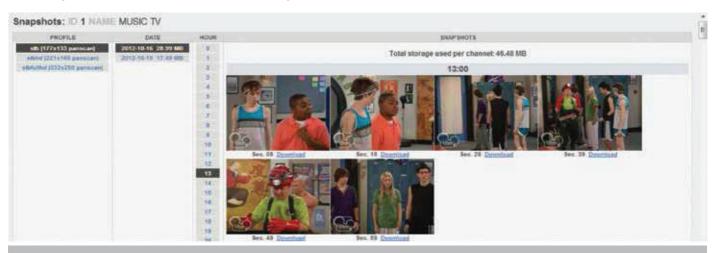
M onitoring interface visualises:

profile list

snapshoter process status and uptime

last processed segment for each channel

snapshot browser - to visualise all snapshots recorded



### **Archive Mirroring Module**

Archive mirroring						Storage used: 475 45 GE	
ID	STATUS	NAME	SOURCE SERVER	LAST SUCCESSFUL SYNC	STORAGE USED	LAST START, UPTIME	
4	RUNNING	Sport TV	10.254.9.150	OK (-52sec)	475.45 GB	2012-10-16 12:45:52 (-43min)	

Archive mirroring from other CDN server – to overcome content distribution problems on large distances or variable quality networks when continuous live stream is unavailable

It can be effectively used to achieve high scalability using mirroring together with Load Balancer Module M onitoring interface visualises:

m irroring process status uptime

source server IPs

time of last successful synchronization

unused content still available in storage

disk space usage

m irroring progress bar

#### Juice streamer mutual features

Global configuration using one XML interface – easy to back-up

**API for communication with Load Balancer** 

Automated update of information about status

Different server load parameters – which enable effectively balance the load between different CDN HW components

Provides warnings/error message which could be used in one single Central Monitoring App

Authentification/Authorisation per session information for client device access to content

# Juice TV Stream Cache

#### Robust TV CDN Solution Add-on for Global TV Delivery

Global TV streams delivery is now even more stable and reliable with Juice StreamCache System. It secures good quality linear, timeshifted or archive TV distribution around the world at reasonable costs even to areas with expensive backbone connections.

#### **Key features**

Automatically routes stream request to the appropriate cache server based on servers utilisation

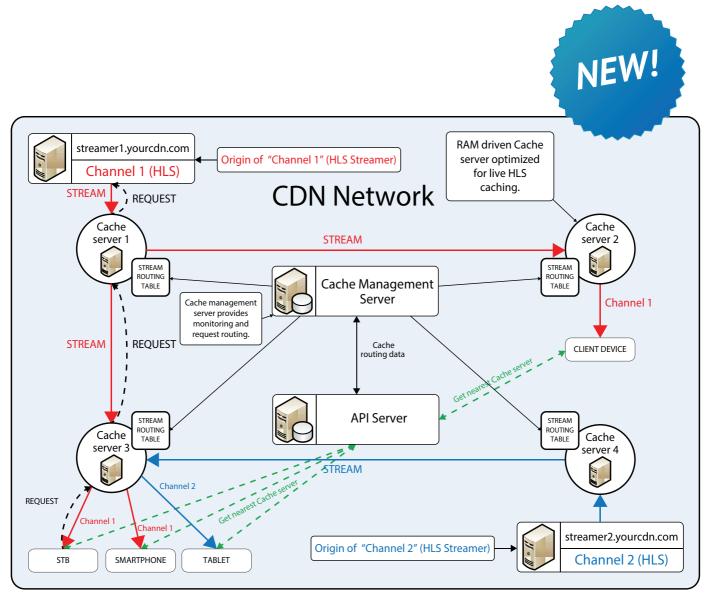
rules

routing tables

Cache servers ingests only streams which are used by at least one end-user device which leads to significant bandwidth savings on channels entered into streamer nearest cache server selection based on IP address group rules (e.g. geography, provider IP block)

Alternative cache server prioritization based on routing tables enables to create robust redundant content delivery networks

M ultiplatform – STBs, mobiles, tablets, PCs as end devices



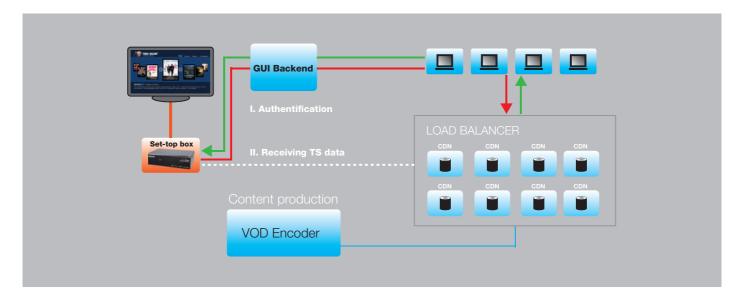
# Video-On-Demand

#### **OTT Solution**

End-2-End system for movie content preparation (encoding), storage, balancing the load, streaming and protection. Our robust segment streaming and buffering SW enables you to deliver content even in lower quality internet networks. Replication SW enables you to hold the VOD data load under control around-the-clock and ensure non-stop operation even in the unlucky situation of partial server hosting drop-out.

VOD is the easiest way of watching movies online. User is able to watch movie within just a few clicks on his remote control. This video content will start immediately, user doesn't need to wait for downloading full movie as it is instantly streamed to end-devices.

- . Searching by the title, year, actor, genre, news and others
- Rate the movies or choose the movie with the highest rating amongst your network
- Filter by date, name, rating
- Virtual keyboard controlled by remote control or IPTV Multimedia keyboard
- Read movie description and watch movie trailer
- In more detailed view of movie description are also displaying similar movies
- Billing system connector



#### **GUI & Management**

Its web based Middleware, which secure management of VOD content and also it present user interface for access to VOD from the client's device (set-top box). With a large numbers of devices it's able to scale the application on more servers. It contains billing connector module, which enables secure invoicing for the seen content. Also it is cooperating with Load Balancer to enable immediate playing of video content straight after the movie purchase while it is reserving capacity on VOD storage.







#### Streamer & Storage

It is module of product Juice Media Streamer, where it secures placement of video content and it's providing to client's devices. Content must be prepared in form of media package, which is output of product VOD Encoder. VOD streamer is providing content through the HLS protocol, which enables fluent and stable streaming also in slower networks. Thanks to buffering it is capable of overcome short network downtimes without noticing it on client side. Thanks to real time streaming it's not necessary to wait for downloading of the whole movie to the client's device. Storage is cooperating with Load Balancer what allows scaling of content in to multiple servers for increasing capacity and also load balancing. At the same time Load balancer is authenticating client and allow access on secured content. As it is module of application Juice Media Streamer, there are available all monitoring functions and tools of this application.

#### Recommended configuration:

- Quad Core Xeon
- 6GB RAM
- RAID: Hardware RAID5 adapter, 512MB, battery backup
- HDD: 8x SAS min. 300GB 10K-15K
- Ethernet: 2x 1Gbit/s

#### **VOD Encoder**

Encodes VoD content into HLS format so it can be stored on CDN servers. Supports automated transcoding thanks to transcoding queue. Many supported video formats like .avi, .mp4, .mpg, .and, DVD ISO images and many others. VoD Envoder is easily controlled through the web interface which allows upload of big files into the queue. Multi user support allows sharing of transcoding service. Multiple audio tracks are also supported as well as DVB subtitles used in DVD discs.

#### Features:

- Multiuser queued transcoding
- Transcodes into HLS format
- Video formats support: .avi, .mp4, .mpg, .and, DVD ISO images and many other
- Web interface control
- Support of multiple audio tracks
- Support of DVD subtitles

System is based on standard open source operating system Linux, what can minimalize deployment costs. Additionally this product can be easily installed on dedicated server in any hosting data center. Product contains advanced remote management and monitoring applications.

#### **Recommended configuration:**

- Core i7 processor
- 2 GB RAM
- 500 GB HDD
- Operating System Ubuntu Server 12.04 64bit

#### **Encoding process:**

- Login in to web based application
- Upload movie(s) using integrated JAVA applet
- Enter basic information about movie and define bitrate
- Enqueue movie for encoding
- Wait until movie is being encoded
- Download final movie package
- Transport encoded package on VOD storage server (product Streamer)

#### Requirements:

Client side JAVA browser support (for large files upload)

#### Example of movie encoding

Video format (avi, mp4...) -> encode -> HLS (customized for VOD)

Encoding duration: from 2 to 5 hours (depending on the movie length and HW server configuration)

# KeyRider Scrambling Stream Protection

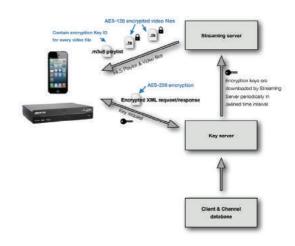
#### Protection management for your content monetization

Protect your system against unauthorised viewing and dangerous server overflow. Uses strong AES 128 encryption required by content owners.

Key Server defines keys and assign them to specific channels. Key server continuously generates new version of keys in defined interval (for each key the interval can be defined independently) - key rotation. Media Streamer periodically downloads new versions of keys and encipher the channels which it finds in keyserver definitions using strong AES-128 algorithm. For mediaplayer decypher there is in playlist KeylD for each video segment included. Player asks KeyServer for the exact key using http XML request whichis protected by even stronger AES-256 algorithm. KeyServer answers with the key or not based on the client database. For communication with KeyServer each client has assigned unique cypher key. In case of compromising unique end-user device i tis possible to block this device separately, not to endanger the whole system. To allow to operate archive (catch-up TV) the keys are stored on the KeyServer up to one year.

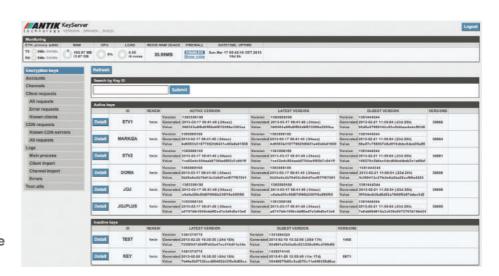
#### System components:

- Juice Media Streamer
- Key Server
- CPE devices:
  - STBs
  - smartphones (iOS, Android, Win8
  - tablets
  - PC
- Customer database



#### **Key features**

- multiplatform solution STB, Android, Win8, iOS and multicast delivery
- designed for TV Everywhere (OTT) environment
- using above industry standard AES-128 algorithm - 128bit long key!
- protects live streaming, catchup (archive), VOD and PVR
- easy to install and operate on standard HW equipment
- AES 256 used for data exchange between servers and devices



# Stream Keeper

#### Easy to use stream monitoring solution with web interface

Multicast Parallel testing for maximum speed. With default settings, StreamGuard can test 10 channels simultaneously in 3 seconds. That means 200 channels in one minute. Specified number of retries while channel is marked as offline/warning can minimize small network-related problems. Self-monitored Ajax Web-based client application allows to remotely monitor one StreamGuard probe from many locations, or monitor more StreamGuard probes in one or more locations. Web application contain indicators of browser-server connection and server process status. Channel status history tracks all status changes for downtime analysis. Sound alarm to indicate any stream downtime. Automatic channel import/synchronization from your channel database using standard XML format.

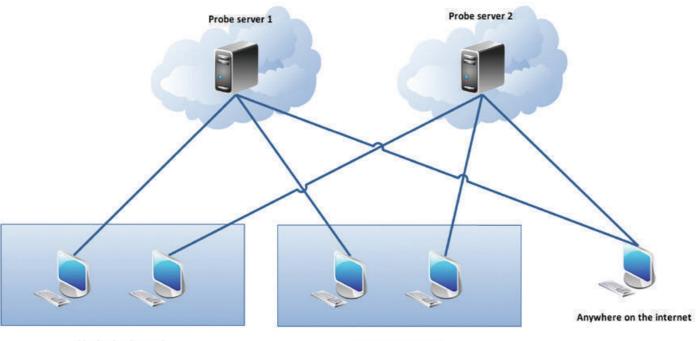
NEW: Buffer underflow and TS discontinuity detection., unicast UDP, RTP, HTTP, MMS and many more types of stream.

- · High-speed paralel stream testing
- Advanced web-based ajax monitoring application
- Stream status history and error statistics
- Sound alarm
- XML stream database synchronization



#### SERVER - WebCLIENT ARCHITECTURE

StreamGuard allows you to use many probes in your network and display monitoring screens in many locations.



**Monitoring Center 1** 

**Monitoring Center 2** 

# Advertising Delivery Client

Allows targeted ad insertion that is highly effective and interactive. IPTV providers can target ad based on customer groups and geographical locality even when many users are watching the same video program. Main identification is MAC address of each set-top box.

Controlling of movement and selecting options can be made by arrows and OK button or by pressing color buttons (yellow, red, green, blue). Various options of interaction, e.g. end user can choose from 3 simple buttons: close, later, more. After clicking on the More button new window can appear with information, images and order button. This is new form of advertising where Telco Operators can benefit from new revenue streams.

Easy XML editor is bringing wide scale of possibilities to customize your ad or announcement to fit in particular end user group. Admin can edit various settings like font size and type, bold, layout, images, buttons etc. In this editor admin can configure also what will happen after making order or confirming some choice, e.g. automatic change, confirmation email or phone call.



Admin can set up time plan of all campaigns and also their repetition in scheduled times.

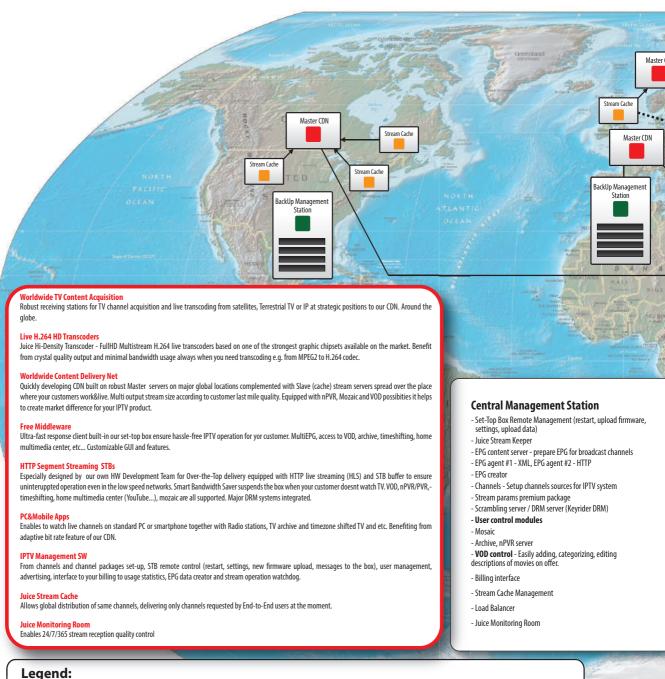
The targeted and interactive IPTV advertising system gives IPTV operators the ability to insert ads into TV programs that are aimed at particular communities of interest and even specific households.

After each campaign is available statistics, where admin can see success of the campaign and reached KPIs with other analytical data.

For running this feature is needed just simple web server for storing campaign information files and custom scripts to analyze received data. In saved XML file are processed requirements from end customer, e.g. buy TV package, food, product, questionnaire, ranking, etc. For this server part is needed just low HW requirements, which are depending on the quantity of set-top boxes.

# Global OTT IPTV Service

# **Acquisition - Transcoding - Streaming - Protection - Mide**



Master CDN Component

Central Management Station

Slave (Distribution) CDN Component, User Data Storage

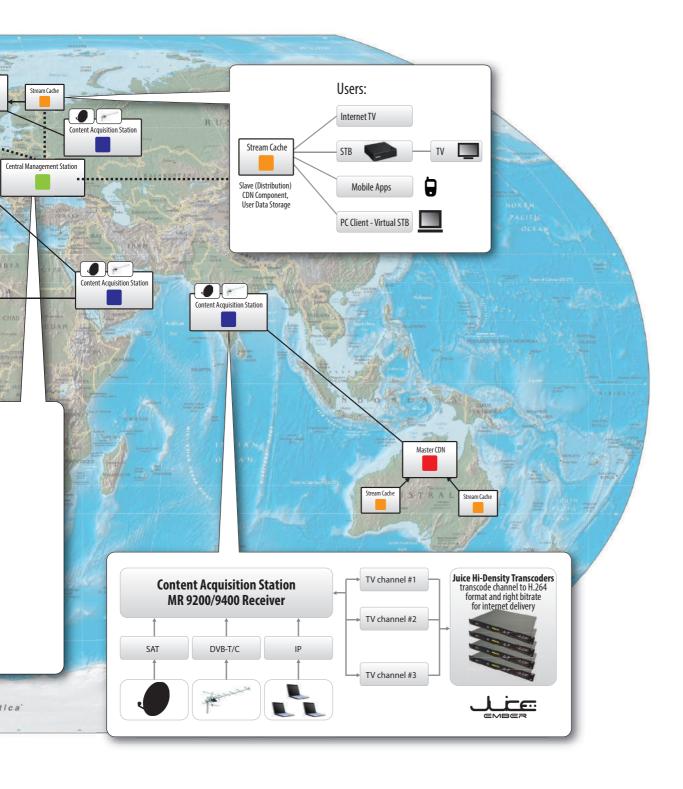
Content Acquisition Station

HTTP Segment Streaming OTT Set-Top Box

..... Control connection

Stream

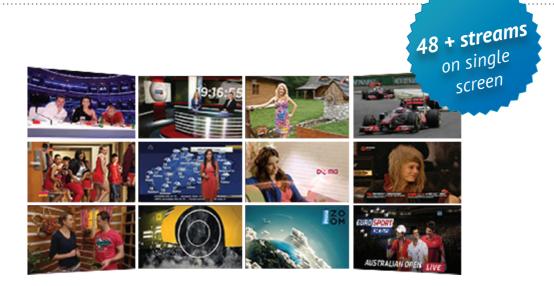
# dleware - Monitoring - VOD - TV Archive - Mozaic - EPG



# Juice Monitoring Room

#### Cost-effective and high-performance tool for NOC IPTV monitoring

**Juice Monitoring Room** is software based and cost-effective and high performance IPTV monitoring tool, which displays 1 or more streams on submonitors and control their quality. Every error is displayed immediately in the Log file, where admin can see when incident started, ended, from which input and description (audio, video, blackout, etc.).



#### **Brief Introduction**

- Software based and cost-effective but high-performance IPTV monitoring tool
- Support a powerful mosaic overview for multiple services
- Support various alarm detection to ensure QoE and QoS
- Providing scalable pricing policy for easy entry and easy extension
- UDP, RTSP protocols in format TS, RTSP, RTMP, HTTP streaming
- SNMP supported



Window configuration



Monitoring Room window



Alarm window

# Juice Monitoring Room Specification

#### **Key Features**

Video	Audio	IP Source
<ul><li>MPEG2</li><li>MPEG4 part2</li><li>H.264/AVC</li><li>AVS</li></ul>	<ul><li>MPEG1/2</li><li>AAC</li><li>AC3</li><li>Dolby 5.1</li></ul>	<ul><li>UDP</li><li>RTP</li><li>RTSP</li><li>RTMP</li><li>HLS</li></ul>
Resolution	Capacity	OS
<ul><li>SD</li><li>HD</li></ul> Detections	<ul><li>8/32/48</li><li>64/80/ULT</li></ul> Alarm	<ul> <li>Windows Server 2008 R2</li> <li>Windows 7 Professional / Ultimate</li> </ul>
<ul> <li>freeze frame</li> <li>black</li> <li>color bar</li> <li>audio loss</li> <li>video loss</li> <li>loudness</li> </ul>	<ul> <li>OSD (on-screen visual alarm)</li> <li>Alert tone</li> <li>Database records</li> </ul>	<ul> <li>Alarm log storage</li> <li>Query by time/ program name / error type</li> </ul>

- Other Features
   Web based control
- Layout tool provide templates for quick launch, also customization template with which customer could draw rectangles flexibly
- Support both Analog and digital Clock
- Support GIF picture and customized TEXT
- Support main TV wall and secondary TV wall
- Support round-robin
- Multiple rotating mosaic screens

# IPTV Hospitality Solution

#### The power of Juice Set-Top Box

ANTIK Technology brings top-level entertainment, x-sell opportunities and state-of-art guest services for your hospitality business. Starting from crystal clear HD TV channels reception, through fully customizable guest services user interface on your screen to modern on-demand movies, TV archive, internet services access, guest mediaplayer, local touristic information service and many more. Easy to use reception interface for guest requests management. Quick setup in hotel of any size for standalone operation or full integration with hotel informations systems.



Hotels
Hospitals
App. Houses
Compounds

**Gated communities** 

#### **Top Features**

- Crystal clear HD TV channels
- . Hotel bill, Food ordering, Messages and more
- On-demand movies
- Content Management System
- Internet apps
- Mediaplayer
- Quick setup
- In-room wifi
- No power supply in room needed for STB PoE

#### **ORDER DEMOKIT NOW!**

#### Full solution in hospitality demokit:

- hardware included
- free support for instalation



32

In-Room TV CONTROL INTEGRATION

digivalet

#### **End-To-End IPTV FOR YOUR PROPERTY**

# High-Definition TV, latest entertainment options, top guest experience

Juice Hospitality delivers easy to set-up turnkey head-end and room premises equipment for live TV integrated with all premises related services and entertainment options. Using Juice HD set-top boxes you can be sure about future-proof media solution fulfilling highest guest expectations.



#### All Guest Services on TV screen

Juice Hospitality IPTV brings all your hospitality offers on your guests TV Screen. 24/7 available, easy understandable multilanguage interface increases the chance to sell your food service, relaxation, sightseeing and business guest products. All easy to setup and modify without any need of complicated coding or development.



#### **Top-Notch Fun Features**

Perfect to keep your guest entertained any time of the day. Latest HD movies, local sightseeing information, or using DLNA mediaplayer to share hotel entertainment database or guests USB storage to allow them to view latest pictures from the busy day spent on attractions. Instant access to web browser and most viewed apps - youtube, facebook, etc.



#### **Reception User Interface**

All guest requests and messages are easily collected and managed directly from reception desk and/or other hotel departments using unified user interface.



#### **Content Management System and Integration**

Feature-rich CMS allows the hotel to bring all new guest offers and services to the TV screens instantly – without expensive technical support or development – from new room service options, through special promotions to 3rd party offers. Nothing is easier than to add or remove menus, submenus and specific items, all ready within minutes to give you enough time to spend time with your guests not with technology.



Integrated with **DigiValet** In-Room Control Systems to ensure unrivalled guest experience and comfort.

All TV features easily accessible from single tablet based user interface.

# Juice Hospitality IPTV at the Glance



#### Main Menu

Easy to navigate interface with direct access to food delivery, video on demand, my bill and other upsell and cross-sell options.



#### Interactive TV

High Definition TV, Electronic Program Guide, timeshifted TV and movies on demand all on your guest room screens. Media player, web access and internet apps will complete the guest experience.



**Food Delivery** 

All your room-service offer is now available via guest TV set. All guest must do is to select food option and confirm by OK button. All guest request appear on reception dashboard or in your hotel system instantly.



#### My Bill

All guest orders ordered by IPTV or in other hotel departments will appear in one simple table for guest to review before check-out thanks to integration with your hotel system.



#### Messaging

All communication from reception can appear on TV screen instantly. Older messages are stored in guests inbox on TV.



#### **Content Management System**

All guest offers (main menu, food service, hotel services, sightseeing options, etc.) can be quickly modified or extended using content management system. No coding is necessary, everything is provided by simple WYSIWYG interface.



#### **Hotel Systems Integration**

Juice Hospitality IPTV communicates with Fidelio information system so all quests orders are automatically transferred to your hotel system and data from the system are imported to IPTV system. This way the client can see his hotel bill or kitchen know about food order instantly.



#### **Reception Desk DashBoard**

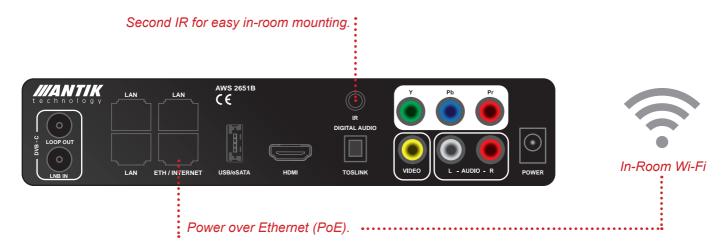
Juice IPTV System can work independently without integration with 3rd party systems as well. Reception Desk collects all requests coming from the rooms as well as my bill status and messaging systems to guest rooms.



#### **Hotel Services**

Hotel can easily add or remove its products and services - from wakeup calls, through massages, restaurant or tours reservations to taxi orders. Everything is managed by content management systems and the result appears without any intermediary work on guests TV sets.

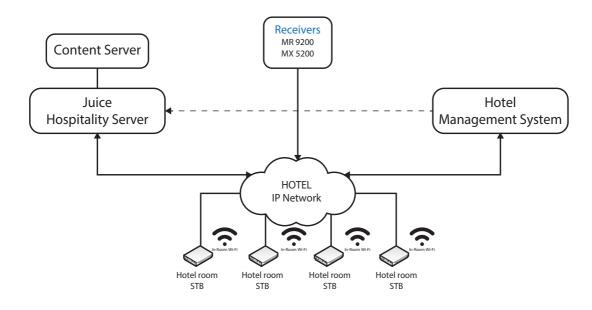
# Hospitality IPTV Set-Top Box&In-Room Wi-Fi



ANTIK delivers state-of-art Juice Mini 2 set-tops customized for hospitality operation. Equipped with remote IR receiver, in-room wireless access point add-on and power over Ethernet feature for no extra cables in room.

## How to setup your hotel IPTV?

ANTIK Technology provides all components necessary to setup IPTV in your hotel. In case your hotel is equipped with Ethernet cabling and multicast supported switches, only components you will need are Juice Hospitality content management system, Juice receivers and Juice IP STBs. In case of coaxial cabling our hybrid DVB-C+IP set-top boxes will be used for decoding live TV and for headend you will neec content management system and Juice MultiReceiver&Transmodulator. For exact BOM, tuned to your project please ask our sales team.



# Juice Hospitality IPTV Components at Glance

- Juice MR 9200 / 9400 DVB-C/S2/T receiver
- Juice HDMI / CVBS Encoder
- Juice VOD Server
- Juice IPTV Management System & PMS
- Juice Hospitality CMS

- Juice Hospitality Middleware
- Juice Hospitality STB
- Juice Media Apps
- Juice Hospitality IPTV Accessories (Keyboard, Wi-Fi)
- Juice DVB-C/S2/T to IP receiver (MX | MR series)

# **Encoding** Analog - Digital

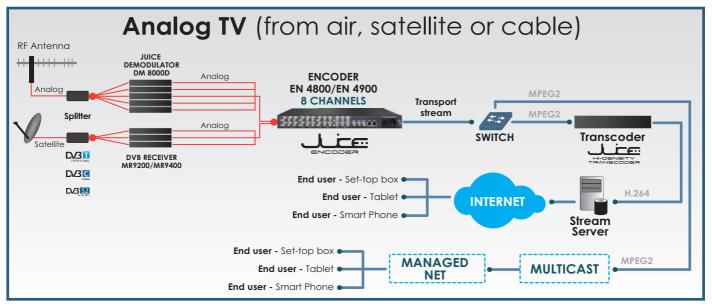
## **Up to 8 simultaneous programs - JUICE ENCODER EN 4900**

Juice Encoder EN 4900 is an integrated high density MPEG-2 Encoder. Eight streams of base-band Standard Definition (SD) real time A/V programs could be encoded simultaneously. These encoded streams could be re-multiplexed with the stream from its ASI input port. The final re-multiplexed Transport Stream (TS) is available at its Gigabit TS over IP port and ASI output port.



## **Key Features**

- Support 8AV,1 ASI Input
- Support MPEG2 format encoding
- Support PAL NTSC format
- Support Maximal 108Mbps ASI input
- 0.8Mbps~20Mbps each channel
- Support D1, HD1, 2/3D1, 3/4D1 resolution
- Support multiplexer function
- Support ASI and IP output
- Support Keyboard and LCD operation
- Update device through NMS port





Back Panel EN 4900 Encoder

# **Specification**

#### Video

#### Resolution:

- PAL 720x576\_50i, 704x576\_50i, 640x576\_50i, 320x288\_50i, 176x288\_50i, 176x144\_50i
- NTSC 720×480\_60i, 544×480\_60i, 352×480\_60i, 320×240\_60i, 176×240\_60i, 176×120\_60i
- Encoding MPEG-2 MP@ML
- Bit-rate 0.125Mbps~19Mbps each channel
- Rate Control CBR/VBR
- GOP Structure IPPPP, IBPBP, IBBPB, IBBBP
- Advanced Pretreatment De-interlacing, noise reduction, sharpening

#### **System Function**

- LCD/keyboard operating, NMS supporting
- English control interface
- Ethernet software upgrade

#### Input

- 8 CVBS inputs , BNC interface
- 8 pairs unbalanced stereo audio input, BNC interface
- 1 ASI input, BNC interface

#### **Stream Output**

- 2\*ASI output, BNC interface
- MPTS over UDP, 10/100Base-T Ethernet interface (UDP uni-cast
- /multicast), 8 SPTS (optional)

#### Audio

- **Encoding** MPEG1 Audio Layer 2, LC-AAC, HE-AAC
- Sampling rate 32 KHz, 44.1 KHz, 48KHz
- Bit-rate 32Kb/s¬—384Kb/s each channel

#### Multiplexing

1 ASI input multiplexed with local 8 channels of TS

#### Interfaces On Rear Panel

- Dimension (Wx Lx H) 482mmx455mmx44mm
- Approx weight 4kg
- Temperature 0~45 °C (work), -20~80 °C (Storage)
- Power AC 100V-220V±10%, 50/60Hz
- Consumption 17.6W

	Function	Encoder EN 4900-CVBS	Encoder EN 4900-HDMI	Encoder EN 4900-SDI
	8x CVBS	•		
lanut	8x HDMI		•	
Input	8x SDI			•
	ASI	•	•	•
Output	2x ASI (1x Backup)	•	•	•
	Gigabit Ethernet	•	•	•

# Juice HDMI Encoder

# EX5108 / EX 5104 Encoder 8x / 4x (HDMI / SDI / CVBS) Encoder for Multicast / OTT IPTV

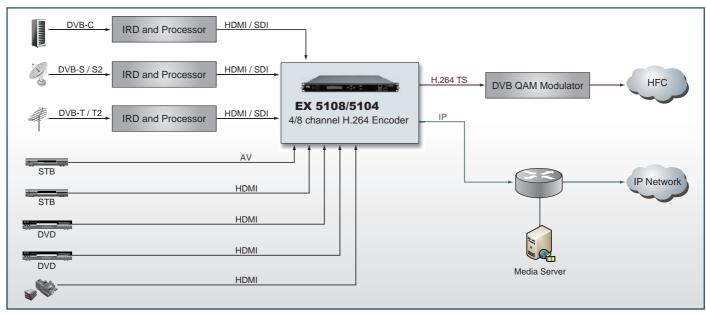
EX5108/EX5104 is a series of high density real-time H.264 HD/SD Encoders that can support up to eight High Definition (HD) A/V signals compressing and encoding simultaneously. These A/V signals can be fed into the unit via 8x HDMI or 8x SDI input ports as different factory options. The encoded streams can be then remultiplexed and output over its GbE IP and ASI ports. All models support Time Base Correction (TBC) to ensure the audio and video synchronisation, the features necessary for the professional TV signal flow. The series provide two TS/IP operation modes. The first is "Full Duplex", which allows one MPTS or SPTS inputted over 1 multicast/unicast to make up a new MPTS with local encoders, then sends out the new one over 1 multicast/unicast. In the second mode "Multiple output" which delivers up to 9 streams over IP. There are 8 un-stuffed SPTS (lower bit rate but less PCR accurate than normal SPTS, from local encoders) and 1 MPTS (from internal reMultiplexer) over the IP with different Unicast or Multicast IP addresses. EX5108/EX5104 allows user to configure, monitoring and manage over the informative front panel and keypad, or Web interface, or SNMP based management software from 3rd party. This Encoder family presents brilliant picture quality, high density design, high stability system architecture, and the hot-swappable power supply.



## **Key Features**

- H.264/AVC HP@L4.0 Encoder
- MPEG1 Layer II, MPEG2 AAC-LC, MPEG4
- AAC-LC audio compression
- 4/8 channels real time encoder with re-multiplexed integrated
- Built-in re-Mux accepts up to 10 SPTS / MPTS
- ASI input & Redundant ASI output

- Full duplex Gigabit TS over IP I/O
- Up to 9 multicast/unicast output
- VBR and CBR encoding mode
- Free resolution downscale at same frame rate
- SNMP & HTTP WEB
- Redundant Power Supplies





Back Panel EX 5108S Encoder



Back Panel EX 5108H Encoder



Back Panel EX 5108AV Encoder

Function	Model	EX5108H	EX5104H	EX5108S	EX5104S	EX5108AV
	HDMI	<i>x</i> 8	x4			
	HD-SDI (BNC)			x8	x4	
Input	ASI (BNC)	•	•	•	•	•
Input	AV (BNC)					8x
	TS/IP (under full duplex mode)	•	•	•	•	•
Output	2x ASI (1x Back- up)	•	•	•	•	•
	TS/IP (GbE)	•	•	•	•	•
AAC-L	C Audio	•	•	•	•	

## **Specification**

#### Video input & compression

- Number of input ports HDMI x 4/8 or HD-SDI x 4/8
- Compression Standard H.264/AVC HP@ L4.0
- Video Sampling Format 4:2:0, 8-bit, YCbCr
- Video Encoding Bit Rate 2~30Mbps for each channel
- Video Resolution & Recommended Bit Rate
   (4000, (4000, 4000), © 50.04 Hz 50 Hz
  - 1080p (1920×1080) @ 59.94 Hz,50Hz: SMPTE296M: 6~30Mb/s
  - 1080 (1920×1080)
     @25Hz,29.97Hz,30Hz:SMPTE274M:
     6~24Mb/s
  - 1080i (1440×1080) @25Hz,29.97Hz, 30Hz:SMPTE274M: 5~24Mb/s
  - 720p (1280×720) @50Hz,59.94Hz, 60Hz:SMPTE296M: 4~24Mb/s
  - 480i (720×480) @29.97Hz:SMP-TE656M: 2~10Mb/s
  - 576i (720×576) @25Hz: SMPTE656M: 2~10Mb/s
- Other Video Resolution Free resolution downscale at same frame rate
- Aspect Ratio 4:3/16:9 Selectable

#### **DVB-ASI Input**

- Interface BNC Female, 75Ω
- Maximum Input Bit Rate 100 Mb/s
- Data Transfer type Byte
- Packet Length 188 or 204 Bytes
- Signal Level 200 ~ 880mVp-p

#### **DVB-ASI Output**

- Interface BNC Female, 75Ω
- Maximum Input Bit Rate 120 Mb/s
- Data Transfer type Byte
- Packet Length 188 or 204 Bytes
- Signal Level 800 ± 80mV

#### Gigabit TS\_over\_IP (Full Duplex Mode)

- Standard IEEE 802.3, 10/100/1000
   Base-T, Full Duplex
- Max. Effective Bit Rate 80Mb/s
- Data Protocol UDP or RTP, SPTS or
- Control Protocol ICMP, ARP, IGMPv2

# Gigabit TS\_over\_IP Output (Multi-Channel IPTV Mode)

- Standard IEEE 802.3, 10/100/1000 Base-T
- Max. Effective Bit Rate 200Mb/s
- Data Protocol UDP or RTP, SPTS or MPTS
- Control Protocol ICMP, ARP, IGMPv2

#### Rear Panel

- ASI In 1×BNC Female, 75Ω
- HD-SDI In 8×BNC Female, 75Ω (DXP-5800/5801EC-S)
- HDMI In 8×HDMI Male, 75Ω (DXP-5800/5801EC-H)
- ASI Out 2×BNC Female, 75Ω (1 Backup)

#### Front Panel

- Control 1xRJ-45, 10/100 Base-T
- TS/IP 1x IP (GbE), RJ-45, 10/100/1000 Base-T
- Display 2x20 LCD Display

#### **Audio Input & compression**

- Input HDMI or SDI Embedded audio
- Audio Compression MPEG1 Layer II, MPEG2 AAC-LC, MPEG4 AAC-LC (option)
- Sampling Rate 48KHz
- Compression Bit Rate 32~192Kbps(-Mono), 64~384Kbps (Stereo), 128~512Kbps(AAC LC)

#### Others

- Power Supply AC90~260V 50/60Hz
- Operating Temperature 0~45°C
- Storage Temperature -10~60°C
- Operation Humidity 10~90%, (Non-condensed)

# Juice Hi-Density Transcoder

# 15 Channels ASIC H264 Transcoder for 1U rack Max 120CH per 8 transcoders x 1U

Antik's Juice Hi-Density Multi-Transcoder based on ultra-fast ViXS chipset is offering you a great tool for your project. It's capable of transcoding up to 15 SD or HD channels. Slim 2x1U Rack design will save you space and money. You can have up to 8 transcoding modules, each can transcode 15 TV channels, so in total you will be able to manage 120 channels. This solution is great for any IPTV project, from typical Telco headends to large scale OTT projects. Extremely cost effective solution per channel.





# **Key Features**

- Real time transcoding of up to 15 video streams
- Multi-format IP2IP video transcode (H.264, MPEG2)
- HD Encoding up to 1080i
- 2x1U slim rack-mounted design
- Low power consumption
- 10/100/1000 Base-TX Ethernet network interface
- Front panel with OLED display

- WEB-based remote configuration and control (HTTP), SNMP support
- All SD and HD resolutions support
- Support of wide range of bit rates: 6Kbps to 40 Mbps
- Compatible with all major television broadcasting standards: NTSC, PAL, SECAM

Juice Hi-Density Transcoder is professional tool for headend application developed to enhance transcoding efficiency and decrease its time delay. Supports a wide range of operating programs, from low to very high bit rates. The device features the latest advancements in video encoding, performing to H.264 and MPEG specifications. Multiprofiling option can secure various, impressive & flexible transcoding functions, which can be controlled to provide a plenty of transcoding applications.

All features are well supported by Juice Transcoder Web Management, where you can easily configure settings for your optimal performance. Front panel with OLED display is offering also another way how to manage or check the status of device. All together, this system is extremely cost effective solution per channel.



15Channels ASIC H264 Transcoder for 1U rack Max 120CH per 8 transcoders x 1U

## **Specification**

#### **Video Transcoding**

- MPEG2 SD/HD to MPEG2 SD/HD
- MPEG2 SD/HD to MPEG4 SD/HD AVC
- MPEG2 SD/HD to MPEG4 SP/ASP
- MPEG4 SD/HD AVC to MPEG2 SD/HD
- MPEG4 SD/HD AVC to MPEG4 SD/HD AVC
- MPEG4 SD/HD AVC to MPEG4 SP/ASP
- Bit-rate reduction of multiple streams,
   40Mbps to 64Kbps Resolution reduction,
   HDTV to HDTV, SDTV.

#### **Outputs**

• RJ45 Ethernet 10/100/1000Mbps

#### **Typical Applications**

- IMultiprofile/Multistream Transcoder for Over-the-Top delivery: MPEG2/MPEG4 to H.264 transcoding and transrating
- Multiprofile/Multistream Transcoder for Over-the-Top delivery: MPEG2/MPEG4 to H.264 transcoding and transrating, SD->SD, HD->HD, HD->SD

#### **Strong Chipset Platform**

• 1200DMIPS Multi-Chip Platform for highest transcoding performance

#### **Audio / Video Containers**

 Multiple Audio / Video containers supported

#### **Programmable Audio Processing**

- MPEG2 LI, LII
- MPEG2 AAC-LC-Stereo
- Dolby AC-3 True HD, 7.1, 5.1, Stereo

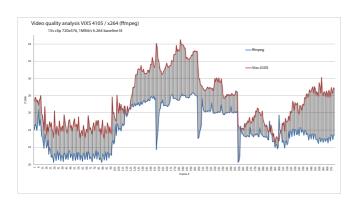
#### **Audio Processing**

 MPEG1, L1, L2, MP3, AAC, Dolby AC-3 True HD 7.1, 5.1.

### **Environmental Conditions**

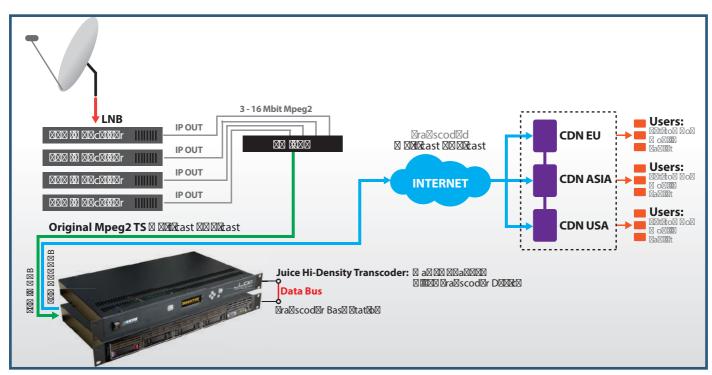
- Operating Temperature 0°C +50°C
- Storage Temperature -20°C +70°C

## Juice Hi-Density Transcoder vs. SW Encoder Picture Quality Comparison



Juice Ember Hi-Density Transcoder **Web Management** 





# Juice MR 9200/9400 Multireceiver

### **HD & SD Digital TV Headend**

Juice MR 9000 is a compact modular digital TV headend that includes professional MPEG-2 and MPEG-4 AVC/H.264 SD/HD IRD, MPEG-2 and MPEG-4 AVC/H.264 SD/HD Encoder/Transcoder, Re-Multiplexer, QAM/COFDM Trans-Modulator, Dual Channel Analog Modulator, DVB Scrambler and so on. Within a 4U×19" chassis, it provides 8 slots for any type of modules and 2 redundant power supply units. Thanks for its flexibility and high density, Juice MR 9000 offers operators the advanced headend architectures in the marketplace for delivering analog and digital broadcast services to their subscribers. Coming with more new modules, Juice MR 9000 is most suitable for future multiple network architectures: streaming and multiplexing of digital content over IP based networks and conversion of digital content for analog networks.



## **Specifications**

- DVB-S2/S, DVB-S, DVB-C, DVB-T2/T IRD modules with CI
- DVB-S/S2T/T2 to DVB-C QAM and DVB-T COFDM trans-modulator module
- MPEG-2, H.264 HD/SD encoder and trans-coder module
- 8 Way re-multiplexer module
- DVB Simulcrypt, BISS-1, BISS-E scrambler module
- Rich interface with ASI, IP, SDI, YPbPr, CVBS, XLR
- Web, SNMP Remote Control or handheld programmer unit local control
- 4RU 19"chassis compact modular design, supporting up to 8 modules
- Functional module hot-swappable
- Redundant power supply
- Intelligent cooling system with temperature
- Stand-alone function of each module
- Cost-saving by backward compatible with new modules
- On site software update through IP

# Juice MR 9000 Main Chassis

- Standard 8 slots for modules (could be extended to 9 slots by removing one power supply unit)
- Hot-swappable power supply unit
- Intelligent cooling system
- Wall mount or rack mount
- Backward compatible with new modules
- Power Supply: AC 100V-260V, 50-60Hz
- Dimension: L=340mm, W=483mm, H=178mm (4U)

## MR 100 P Power supply

- Hot-backup power supply unit
- Power Supply: AC 100V-260V, 50-60Hz
- High reliability & efficiency
- 150Watts stable output power
- Dimension 343 110 x 47.5 mm
- 2nd Power supply only as backup

### Juice MR 9200 Series

Professional MPEG-2 SD IRD and Processor Module

#### Juice MR 9200 DVB-S/S2 Tuner Input

- Connector Type 1 x F type female 75 $\Omega$  for Input, 1 x F type female 75 $\Omega$  for loop through output
- Input Frequency Range 950~2150MHz
- Input Level -25~-65dBm
- Symbol Rates DVB-S QPSK: 5~45MS/s; DVB-S2 8PSK 10~31MS/s
- Roll-off Factor DVB-S QPSK: 0.35; DVB-S2 8PSK: 0.35, 0.25, 0.2
- Puncture Rates
- DVB-S2 8PSK: 2/3, 3/4, 3/5, 5/6, 8/9, 9/10,
- DVB-S QPSK: 1/2, 2/3, 3/4, 5/6, 6/7, 7/8
- LNB Power 0, 13V, 18V selectable
- 0/22K 0/22KHz selectable

#### Juice MR 9200 DVB-S Tuner Input

- Connector Type 1 x F type female 75Ω for Input, 1 x F type female 75Ω for loop through output
- Input Frequency Range 950~2150MHz
- Input Level -25~-65dBm
- Symbol Rates 2~45MS/s
- Roll off factor 0.35
- Puncture Rates 1/2, 2/3, 3/4, 5/6, 7/8
- LNB Power 0, 13V, 18V selectable
- 0/22K 0/22KHz selectable

#### Juice MR 9200 DVB-C Tuner Input

- Connector Type 1 x F type female 75 $\Omega$  for Input, 1 x F type female 75 $\Omega$  for loop through output
- Input Frequency Range 48~860MHz
- Symbol Rates 1~7MS/s (ITU J.83 Annex A)
- Constellation 64/128/256 QAM
- Input Level -15~15dBmV
- Bandwidth 6/7/8MHz
- Input Return Loss 7dB (typ.)

#### Juice MR 9200 DVB-T Tuner Input

- Connector Type 1 x F type female 75Ω for Input, 1 x F type female 75Ω for loop through output
- Input Frequency Range 174~230MHz (VHF); 470~860MHz (UHF)
- Input Level -20~-70dBm
- Constellation QPSK, 16-QAM, 64-QAM
- Carrier bandwidth 6/7/8 MHz
- FTT Mode 2K/8K
- Guard Interval 1/4, 1/8, 1/16, 1/32, off
- Puncture Rates 1/2, 2/3, 3/4, 5/6, 7/8









### Juice MR 9400 Series

Professional Multi-format HD/SD IRD and Processor Module

#### Juice MR 9400 DVB-S/S2 Tuner Input

- Connector Type 1 x F type female 75 $\Omega$  for Input, 1 x F type female 75 $\Omega$  for loop through output
- Input Frequency Range 950~2150MHz
- Input Level -25~-65dBm
- Symbol Rates DVB-S QPSK: 5~45MS/s; DVB-S2 8PSK 10~31MS/s
- Roll-off Factor DVB-S QPSK: 0.35; DVB-S2 8PSK: 0.35, 0.25, 0.2
- Puncture Rates
- DVB-S2 8PSK: 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 8/10
- DVB-S QPSK: 1/2, 2/3, 3/4, 5/6, 6/7, 7/8
- LNB Power 0, 13V, 18V selectable
- 0/22K 0/22KHz selectable
- DiSEqC DiSEqC 1.0

#### Juice MR 9400 DVB-S Tuner Input

- Connector Type 1 x F type female 75 $\Omega$  for Input, 1 x F type female 75 $\Omega$  for loop through output
- Input Frequency 48~860MHz
- Input Level 45~ 75dBuV
- Symbol Rate 1~7MS/s (ITU J.83 Annex A)
- Constellation 64/128/256QAM
- Bandwidth 6/7/8MHz
- Input return loss 7dB (typ.)

#### Juice MR 9400 DVB-C Tuner Input

- Connector Type 1 x F type female 75 $\Omega$  for Input, 1 x F type female 75 $\Omega$  for loop through output
- Input Frequency Range 48~860MHz
- Input Level 45~75dBuV
- Symbol Rate 1~7MS/s (ITU J.83 Annex A)
- Constellation 64/128/256 QAM
- Bandwidth 6/7/8MHz
- Input Return Loss 7dB (typ.)

#### Juice MR 9400 DVB-T/T2 Tuner Input

- Connector Type 1 x F type female 75 $\Omega$  for Input, 1 x F type female 75 $\Omega$  for loop through output
- Input Frequency 104~862MHz (VHF/UHF)
- Input Level -20 ~ -70dBm (Quasi Error Free, QEF)
- Constellation
- DVB-T: QPSK/16-QAM/64-QAM
- DVB-T2: QPSK, 16QAM, 64QAM, 256QAM
- Bandwidth 6MHz/7MHz/8MHz
- FFT mode
- DVB-T: 2K/8K
- DVB-T2: 1K, 2K, 4K, 8K, 16K, 32K
- Guard interval
- DVB-T: 1/4, 1/8, 1/16, 1/32
- DVB-T2: 1/4, 5/32, 1/8, 5/64, 1/16, 1/32, 1/64, 1/128
- FEC code rate
- DVB-T: 1/2, 2/3, 3/4, 5/6, 7/8
- DVB-T2: 1/2, 3/5, 2/3, 3/4, 4/5, 5/6
- Input return loss 7dB (typ.)

Interface	9200 S	9200 S2	9200 C	9200 T	9200 32S	9200 3252	9200 32C	9200 32T	9400 32S	9400 3252	9400 32C	9400 32T	9400 32T2	9400 321
Tuner	S	S2	С	Т	S	S2	С	Т	S	S2	С	Т	T2	ISDBT
ASI Input	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Common Interface	x2	x2	x2	x2	x2	x2	x2	x2	x2	x2	x2	x2	x2	x2
Built-in Re-mux	•	•	•	•	•	•	•	•	•	•	•	•	•	•
ASI Output	•	•	•	•	•	•	•	•	x2	x2	x2	x2	x2	x2
SDI	•	•	•	•	•	•	•	•	x2	x2	x2	x2	x2	x2
Y Pb Pr														
Audio L/R	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CVBS	•	•	•	•	•	•	•	•	•	•	•	•	•	•
TS/IP (Max.6 SPTS or MPTS output)	•	•	•	•										
TS/IP (Max. 32 SPTS or MPTS output)					•	•	•	•	•	•	•	•	•	•

# Juice GX 5204/8

# Multireceiver + Encoder / Transmodulator

GX-5204 integrates 4 DVB input Receiver on input and Transmodulator or Encoder as output in one 1U 19" chassis. It provides operators an ideal DTV headend setup solution by combining multi-channel receiving, descrambling, remultiplexing or encoding.

DVB QAM/COFDM modulation and TS over IP operations together in one single unit. Equipped with 4 independent tuner front end with various factory options for DVB-T/T2, DVB-S2/S, DVB-C, DTMB, ISDB-T and ATSC types, and industrial standard ASI and TS/IP inputs outputs, GX-5204 ensures the compatibility with all kind of transmission media.

High density real-time H.264 HD/SD Encoders use input from dedicated tuner frontent. The encoded streams can be then remultiplexed and output over its GbE IP and ASI ports.

All models support Time Base Correction (TBC) to ensure the audio and video synchronisation, the features necessary for the professional TV signal flow. The series provide two TS/IP operation modes. The first is "Full Duplex", which allows one MPTS or SPTS inputted over 1 multicast/unicast to make up a new MPTS with local encoders, then sends out the new one over 1 multicast/unicast.



## **Key Features**

- 4xTuner Input, Supports variety of input options DVB-T2/T/S2/S/C/DTMB/ATSC/ISDB-T
- H.264/AVC HPOL 4.0 Encoder (MX5204SITH)
- Supports DVB-S2 Input Stream Identifier (ISI, optional) and DVB-T2 Multi PLP and SFN MIP pass through
- 4xDVB QAM/COFDM Modulation, 4 x RF Channel Output (Adjacent channel)
- Built-in TS re-multiplexer receives from ASI, CI Slot1 to CI Slot4 and TS/IP inputs
- 4xDVB-CI Slots, multi-program decryption, BISS-1

- and BISS-E decryption
- 4×ASI output the transport stream from CI Slot1 to CI Slot4 or BISS decryption
- 1xchannel full duplex TS over IP or 5xchannels IP out without IP input
- Remote Control and Supervision by SNMP v2,
   HTTP WEB and Proprietary HDMS software
- On Site software update through IP or USB
- RSSI, received signal strength, Eb/N0, C/N and BER monitoring
- Redundant power supply

Function		MX5204SQ	MX5204SH	MX5204TQ	MX5204TH
	Tuner	DVB-S2/S	DVB-S2/S	DVB-T2/T/C	DVB-T2/T/C
Input	ASI (BNC)	x1	x1	x1	x1
	TS/IP (GbE, RJ45)	•	•	•	•
	ASI x 4 (BNC)	•	•	•	•
Output	TS/IP (GbE, RJ45)	•	•	•	•
	QAM Modulation	•		•	
	COFDM Modulation		•		•
	RF Monitor -20dB	•	•	•	•

Back Panel GX 5204/8 Multireceiver + Encoder / Transmodulator

# **Specification**

#### Tuner

#### **DVB-S/S2 Tuner Input (ISI Factory Optional)**

- Connector Type 4×F type female 75Ω for Input
- 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, available for Tuner 1&2
- LNB Band Selection Tone 0/22KHz selectable, available for Tuner 1&2
- Satellite Selection Command DiSEqC 1.0
- ISI ID 1~255 user configurable

#### **DVB-C Tuner Input**

- Connector Type 4×F type female 75Ω for Input
- Standard EN 300 429, ITU J.83 Annex A, B, C
- Input Frequency Range 51~862MHz
- Input Level
  - 47~95dBµV 16QAM, SR=6.875Msps
  - 256QAM, SR=6.875Msps
- Symbol Rate 1~7MBaud (ITU J.83 Annex A)
- Constellation 16QAM, 32QAM, 64QAM, 128QAM, 256QAM
- Bandwidth 6MHz, 7MHz, 8MHz
- Input Return Loss 8dB (typ.)

#### **DVB-T/T2 Tuner Input**

- Connector Type 4×F type female 75Ω for Input
- Standard
  - EN 300 744(DVB-T)
  - EN 302 755 (DVB-T2)
- Input Frequency 104 ~ 862MHz (VHF/ UHF)
- Input Level -20 ~ -70dBm
- Constellation
  - DVB-T: QPSK, 16QAM, 64QAM
  - DVB-T2: QPSK, 16QAM, 64QAM, 256QAM
- Bandwidth 6MHz, 7MHz, 8MHz
- FFT Mode
  - DVB-T: 2K, 8K
  - DVB-T2: 1K, 2K, 4K, 8K, 16K, 32K
- Guarding Interval
  - DVB-T: 1/4, 1/8, 1/16, 1/32
  - DVB-T2: 1/4, 5/32, 1/8, 5/64, 1/16, 1/32, 1/64, 1/128
- FEC Code Rate
  - DVB-T: 1/2, 2/3, 3/4, 5/6, 7/8
  - DVB-T2: 1/2, 3/5, 2/3, 3/4, 4/5, 5/6
- Input Return Loss 7dB (typ.)

#### Encoder

#### Video input & compression

- Number of input ports HDMI x 4/8 or HD-SDI x 4/8
- Compression Standard H.264/AVC HP@ L4.0
- Video Sampling Format 4:2:0, 8-bit, YCbCr
- Video Encoding Bit Rate 2~30Mbps for each channel
- Video Resolution & Recommended Bit Rate
  - 1080p (1920×1080) @ 59.94 Hz,50Hz: SMPTE296M: 6~30Mb/s
  - 1080 (1920×1080)
     @25Hz,29.97Hz,30Hz:SMPTE274M:
     6~24Mb/s
  - 1080i (1440×1080) @25Hz,29.97Hz, 30Hz:SMPTE274M: 5~24Mb/s
  - 720p (1280×720) @50Hz,59.94Hz, 60Hz:SMPTE296M: 4~24Mb/s
  - 480i (720×480) @29.97Hz:SMP-TE656M: 2~10Mb/s
- 576i (720×576) @25Hz: SMPTE656M: 2~10Mb/s
- Other Video Resolution Free resolution downscale at same frame rate
- Aspect Ratio 4:3/16:9 Selectable

#### Gigabit TS\_over\_IP (Full Duplex Mode)

- Standard IEEE 802.3, 10/100/1000
   Base-T, Full Duplex
- Max. Effective Bit Rate 80Mb/s
- Data Protocol UDP or RTP, SPTS or

  MRTS
- Control Protocol ICMP. ARP. IGMPv2

#### **Audio Input & compression**

- Input HDMI or SDI Embedded audio
- Audio Compression MPEG1 Layer II, MPEG2 AAC-LC, MPEG4 AAC-LC (option)
- Sampling Rate 48KHz
- Compression Bit Rate 32~192Kbps(-Mono), 64~384Kbps (Stereo), 128~512Kbps(AAC LC)

#### **Transmodulator**

#### **QAM Modulation**

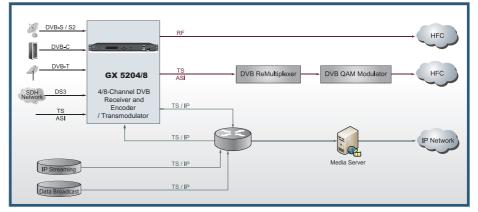
- Standard of System ETSI EN300 492, ITU J.83, Annex A/C: 16/32/64/128/256QAM
- Symbol Rate 2.5~6.99 Bauds
- Constellation 16QAM, 32QAM, 64QAM, 128QAM, 256QAM
- I/Q Amplitude Error ≤ 0.1%
- I/Q Phase Error ≤ 0.1%
- Phase Jitter < 0.5°RMS
- MER 36dB min., 42dB typ. (with tester equalizer "off")

#### **COFDM Modulation**

- Standard of System ETSI EN 300 744
- Constellation QPSK/16QAM/64QAM
- Bandwidth 5/6/7/8MHz
- FTT carrier number 2K, 8K
- Guard Interval 1/4, 1/8, 1/16, 1/32
- FEC rate 1/2, 2/3, 3/4, 5/6, 7/8
- MER 36dB min., 40dB typ.

#### **RF Output**

- Interface 1x F-type Female, 1x F-type Female(-20dB),  $75\Omega$
- Carrier Central Frequency 48~996MHz adjustable, step by 1 KHz
- Output Level
  - 92-109dBµV@1 RF output enabled,
  - 88-105dBµV@ 2 RF output enabled,
  - 85-102dBµV@3 RF output enabled,
  - 83-100dBμV@ 4RF output enabled step by 1dB
- Spurious ≥55dBc typ.
- Return Loss ≥12dB typ.



# Juice MX 5308 Receiver

## 8x DVB to IP Multifunction Receiver (IRD)

MX-5308 is a high-density, modular and CI decryption professional TS processor equipped with 8 independent tuners, which can be either of DVB-T/T2, DVB-S2/S, DVB-C, DTMB, ISDB-T and ATSC types. It supports a wide range of application by combining 8 tuners processing capability with industry standard outputs including ASI and TS/ IP. MX-5308 has 8 DVB common interface slots capable of working with most of well-known CAS in the market to de-crypt multiple pay TV services.

MX-5308 provides operators an ideal solution for multi receiving, remultiplexing, descrambling and TS over IP operations, the compact 8 tuners and the powerful 8 CI decryption design make MX-5308 one of the most competitive product in the head-end market.



## **Key Features**

- 8 x Tuners Input, Supports variety of input options DVB-T2/T/S2/S/C/DTMB/ATSC/ISDB-T
- Supports DVB-S2 Input Stream Identifier (ISI, optional) and DVB-T2 Multi PLP and SFN MIP pass through
- Built-in TS re-multiplexer receives from ASI, CI Slot1 to CI Slot8 and TS/IP inputs
- 8xDVB-CI Slots, multi-program decryption, BISS-1 and BISS-E decryption
- 8xASI output the transport stream from CI Slot1 to

CI Slot8 or BISS decryption

- 1xchannel full duplex TS over IP or 9xchannels IP out without IP input
- Remote Control and Supervision by SNMP v2, **HTTP WEB and Proprietary HDMS software**
- On Site software update through IP or USB
- RSSI, received signal strength, Eb/N0, C/N and **BER** monitoring
- Redundant power supply







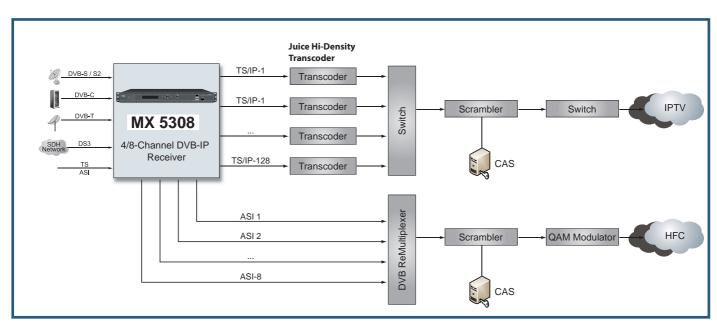












Back Panel MX 5308 Receiver

### **Specification**

#### **Tuner Input**

#### **DVB-S/S2 Tuner Input (ISI Factory Optional)**

- Connector Type 8×F type female 75Ω for Input
- 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
- ISI ID 1 ~ 255 user configurable

#### **DVB-C Tuner Input**

- Connector Type 8×F type female 75Ω for Input
- Input Frequency Range 51 ~ 862MHz
- Input Level 51~75dBµV
- Symbol Rate 1~7MBaud (ITU J.83 Annex A)
- Constellation 16QAM, 32QAM, 64QAM, 128QAM, 256QAM
- Bandwidth 6MHz, 7MHz, 8MHz
- Input Return Loss 7dB (typ.)

#### **DVB-T/T2 Tuner Input**

- Connector Type 8×F type female 75Ω for Input
- Input Frequency 104 ~ 862MHz (VHF/ UHF)
- Input Level -20 ~ -70dBm
- Constellation
  - DVB-T: QPSK, 16QAM, 64QAM
  - DVB-T2: QPSK, 16QAM, 64QAM, 256QAM
- Bandwidth 6MHz, 7MHz, 8MHz
- FFT Mode
  - DVB-T: 2K, 8K
  - DVB-T2: 1K, 2K, 4K, 8K, 16K, 32K
- Guarding Interval
  - DVB-T: 1/4, 1/8, 1/16, 1/32
  - DVB-T2: 1/4, 5/32, 1/8, 5/64, 1/16, 1/32, 1/64, 1/128
- FEC Code Rate
  - DVB-T: 1/2, 2/3, 3/4, 5/6, 7/8
  - DVB-T2: 1/2, 3/5, 2/3, 3/4, 4/5, 5/6
- Input Return Loss 7dB (typ.)

#### **DTMB Tuner Input**

- Connector Type 8×F type female 75Ω for Input
- Input Frequency Range 46.5~866MHz
- Input Level -87~-29dBm

- Symbol Rate 7.56MBaud
- Bandwidth 6MHz/7MHz/8MHz
- Constellation 4QAM-NR,4QAM,16QA-M,32QAM, 64QAM
- Guard Interval PN420, PN595, PN945
- Roll-off Factor 0.05
- Interleaving Depth 240,720
- FEC Code Rate 0.4, 0.6, 0.8

#### **ATSC Tuner Input**

- Connector Type 8×F type female 75Ω for Input
- Input Frequency Range 54~864MHz
- Input Level -75~-7dBm(ATSC 8VSB)
- Symbol Rate 10.762MBaud
- Constellation 8VSB
- Roll-off Factor 0.115
- Bandwidth 6MHz

#### **TS Processing**

- TS Input Management Demux and Remux among ASI, TS/IP and CI Inputs
- TS Output Management Demux and Remux for ASI output
- Service and PID Management Service and PID level for Remux, filtering and remapping
- PSI/SI PSI/SI table regeneration, NIT and SDT edition, LCN Edition and Re-generation
- Descrambler DVB Common Scrambling Algorithm (CSA)
- BISS Mode BISS-1, BISS-E
- Common Interface 8 x PCMCIA slots, compatible with major CA CAMs in the market

#### **ASI Output**

- Connector Type 9 independence BNC female, 75Ω,
- Standard DVB-ASI, EN50083-9
- Output Bit Rate ≤ 200Mb/s
- TS Processing 8xASI out pass through the TS from CI 1 to CI8, 1xASI Out from Remux

#### ASI Input

- Connector Type 1×BNC female, 75Ω
- Standard DVB-ASI, EN50083-9
- Input Bit Rate ≤100Mb/s
- Connector Type 1×BNC female, 75Ω

#### TS over IP

- Connector Type 1×RJ-45, 100/1000
   Base-T Effective Bit Rate 200Mb/s for 9
   channel IP out without IP in and IP channel
   1 to IP channel 8 just pass through the TS
   from CI or BISS, the IP channel 9 can output the TS from ASI in or Remux. 80Mb/s
   for full duplex 1 channel
- Protocol UDP / RTP, Multicast / Unicast, IGMPv3, ARP

#### Alarm

- Connector Type 1xD-sub 9 male
- Switching Condition User Defined

#### **Control & Monitoring**

- Connector Type 1xRJ-45, 10/100 Base-T, for equipment IP Control
- Remote Control SNMP, HTTP (We b I n t e r f a c e ), Proprietary HDMS (Headend Device Management System)
- Local Control LCD display and 6-key keypad
- Serial Port 1xRS-232 D-sub female, for debug use only
- Equipment Upgrade Embedded FTP loader, Telnet and http

#### **Physical**

- Dimension 44mm x 255mm x 430mm
- Weight 3.5kg
- Power Supply AC 90V ~ 250V, 50/60Hz
- Power Consumption 30W (exclusive of LNB power)
- Operating temperature 0~45°C
- Storage temperature -10~60°C
- Operating Humidity 10~90%, non-condensed

#### Certification

- FMC:
  - EN 55024:1998+A1:2001+A2:2003,
  - EN 55022:2006+A1:2007,
  - EN 61000-3-2:2006.
  - EN 61000-3-3:2008
- FCC:
  - Part 15 Class B
- LVD:
  - EN 60950-1:2006 + A11:2009

# Juice Mosaic Generator

## Live Navigation trough your channel line-up

Juice Mosaic Generator enables to create single channel selection screen from up to 48 SD or HD channels mixed with EPG metadata. Give your end-users chance to select live content they love by watching huge number of channels at once. For small portion of the typical mosaic systems costs you will get robust encoder supporting both SD and HD channel sources and wide variety of protocols.



# **Key features**

- Low cost and high performance SW based solution running on standard server HW
- Up to 48 channels on single screen encoding
- Integrated with Juice Middleware
- Complete STB User Interface
- Electronic Programme Guide Metadata integration on single GUI screen



# **Specification**

48

Video	Audio	IP Source
<ul><li>MPEG2</li><li>MPEG4 part2</li><li>H.264/AVC</li><li>AVS</li></ul>	<ul><li>MPEG1/2</li><li>AAC</li><li>AC3</li><li>Dolby 5.1</li></ul>	<ul><li>UDP</li><li>RTP</li><li>RTSP</li><li>RTMP</li><li>HLS</li></ul>
Resolution	Capacity	OS
• SD • HD	<ul><li>8/32/48</li><li>64/80/ULT</li></ul>	<ul><li>Windows Server 2008 R2</li><li>Windows 7 Professional / Ultimate</li></ul>

# Set Top Box

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# Juice Nano



## **NEW Low-cost Multicast/OTT HD IP Set-Top Box**

Juice Nano is ultra low-cost IPTV set-top box based on STi Liege chipset in miniature design, which can fit to your hand. Is ultra cost-effective solution because of higher perfomance and low power features. Device in tiny design and unbeatable price with enhanced video decoding perfomance supports dual H.264 HD decoding (2 x HP @L4.1, 1080i/720p). It allows HD web content video decoding including DivX and MP4pt2 to 1080p30 and 3DTV decoding with HDMI1.4b support.



## **Inputs / Outputs**

- HDMI 1.4
- **TOSLINK Digital Audio optical**
- USB 2.0
- 1 port Ethernet 100mbps (RJ45)
- 3,5 mm jack suitable for SCART or RCA adapter
- Embeded WiFi (optional 802.11n)

# **Key Features**

- Enhanced Host CPU performance (1200DMIPS)
- Faster DDR performance with DDR3 support
- Dual H264 HD decoding
- 3DTV decoding and display capability compatible with HDMI1.4b
- Low power on standby
- Wake on HDMI CEC, IR/UHF RC input, timer of interrupt, UART/SSC data packet or wake on key press

### Features



























Catch-Up TV with archive



**Web**Kit





STB main menu







## **Juice Nano Specifications**

# Other Features

- FullHD (1080p) video support and crystal clear digital audio
- Interactive TV Support Multicast TV, Electronic Program Guide, VOD, Mozaic
- PVR and Network PVR support
- Major DRM systems integrated
- Segment streaming and buffering for OTT delivery even in low-speed networks
- Hybrid broadcast-broadband TV (HbbTV) support (optional)
- Hardware generated Picture-in-Picture
- Intelligent low power consumption management
- Default internal Wi-Fi

#### DRM/CA

- Verimatrix
- Securemedia
- Key Rider

#### Accessories (optional)

- Remote control
- RCA/SCART cable
- Ethernet Cable
- HDMI cable
- Full size/Compact Keyboard
- WiFi Adapter
- Juice TV Anywhere Personal H.264 Transcoder

#### Video

- MPEG-2 (SD/HD) MP@HL
- H.264/AVC (SD/HD) HP@L4.2
- Resolutions up to 1080p/50,60
- Scaling of SD to HD and HD to SD
- Aspect ratio conversion (LetterBox, Pan&Scan, Combined, Fullscreen)
- Picture in Picture
- Parallel decoding of two streams (one for output, second for recording)
- Alfa blending

#### Audio

- MPEG-1/2 (layers 1, 2, 3), PCM, AC-3, AAC
- Dolby Digital Plus
- Dual mono mode
- Stereo down mixing

#### Software integration

- Operating system Linux 2.6
- Copy Protection HDCP v 1.2 (optional)
- Opera, Access, Ekioh SVG integrated (optional)

### Streaming

- MPEG-2 transport stream
- Multicast or Unicast
- TS over UDP
- TS over RTP
- HTTP streaming
- RTSP (with trick play support) for VoD
- Teletext and subtitles
- IGMP v2 & v3
- HLS

#### CPU & Memory

- CPU STiH 206 (Liege) 550MHz, 1200
   DMIPS
- DRAM 256 MB DDR3
- Flash 256 / 512 MB

#### Middleware

- ANTIK Built-in Middleware (optional)
- Beenius 3.2 Middleware (optional)

# Juice Mini 2



## Fine-tuned IP&DVB box for Over-The-Top Delivery

Juice Mini 2 with STiH207 is cost-eective solution because of higher perfomance and low power features target of < 0.5 W set-top box total standby power in controller passive standby mode. Device with enhanced video decoding perfomance supports dual H.264 HD decoding (2 x HP @L4.1, 1080i/720p). It allows HD web content video decoding including DivX and MP4pt2 to 1080p30 and 3DTV decoding with HDMI1.4b support.



## **Key Features**

- Enhanced Host CPU performance (1200DMIPS)
- Hybrid device with dual DVB tuner + IP (optional)
- L2 managed switch up to 1Gbps
- **Dual H264 HD decoding**
- 3DTV decoding and display capability compatible
- with HDMI1.4b
- Low power on standby
- Wake on HDMI CEC, IR/UHF RC input, timer of interrupt, UART/SSC data packet or wake on key press



































## Outputs

- HDMI 1.4: High denition & standard denition digital audio/video interface
- TOSLINK Digital Audio optical
- CINCH Coaxial Y Pb Pr
- RCA

- Internal SATA (for PVR)
- 2x USB 2.0 front&back panel
- RJ45 (Ethernet 10/100baseTx)
- RF IN&OUT (pre-integrated DVB-T/C/S tuner)
- Infrared Receiver

# Highlights

- FullHD (1080p) video support and crystal clear digital audio
- Interactive TV Support Multicast TV, Electronic
- Program Guide, VOD,, Mozaic
- PVR and Network PVR support
- Major DRM systems integrated

- Segment streaming and buering for OTT delivery even in low-speed networks
- Hybrid broadcast-broadband TV (HbbTV) support
- Hardware generated Picture-in-Picture
- Intelligent low power consumption management

# Juice Mini 2 - Perfect STB for Hospitality IPTV

- In-Room Wi-Fi Access Point inside STB eliminate complicated network infrastructure
- 2nd IR receiver jack for easy STB mounting into room furniture
- Power over Ethernet (PoE) less



## **Features**

- Digital Surround Support
- Dierent browsers integrated Opera, Ekioh, Access
- DVB-T pre-integrated
- HTTP Live Streaming support
- Fast vector graphics thanks to integrated SVG Engine
- DRM support from Verimatrix and Securemedia
- Dual H.264 HD decoding
- HbbTV Support
- DLNA Server&Player support (coming soon)
- High-Resolution front OLED display (optional)
- HDD internal or external through SATA or USB (optional)

## Juice Mini 2 Specifications

# Video

#### Outputs

- HDMI 1.4
- · CINCH Coaxial Y Pb Pr
- RCA output
- RF IN/OUT (for DVB-S2)

#### Codecs

- MPEG-2 (SD/HD) MP@HL
- H.264/AVC (SD/HD) HP@L4.2
- Resolutions up to 1080p/50,60
- · Scaling of SD to HD and HD to SD
- Aspect ratio conversion (LetterBox,Pan&Scan, Combined,
- · Fullscreen)
- · Picture in Picture
- Parallel decoding of two streams (one for output, second for recording)
- · Alfa blending

#### Resolution

- PAL 576i
- NTSC 480i
- HD 720p, 1080i, 1080p

#### DRM/CA

- Verimatrix
- · Securemedia
- Key Rider

### **Audio**

- · TOSLINK Digital Audio optical
- L/R analogue stereo output through SCART/RCA

#### Codecs

- MPEG-1/2 (layers 1, 2, 3),
- PCM, AC-3, AAC
- Dolby Digital Plus
- · Dual mono mode
- · Stereo down mixing

#### Software integration

- · Operating system Linux 2.6
- Copy Protection HDCP v 1.2 (optional)
- Opera, Access, Ekioh SVG integrated (optional)

#### Middleware

- · ANTIK Built-in Middleware (optional)
- Beenius 3.2 Middleware (optional)

#### **Accessories (optional)**

- · Remote control
- RCA/SCART cable
- · Ethernet Cable
- · HDMI cable
- Full size/Compact Keyboard
- WiFi Adapter
- Juice TV Anywhere Personal H.264 Transcoder

### Streaming

- MPEG-2 transport streamMulticast or Unicast
- TS over UDP
- 12 over ODF
- TS over RTPHTTP streaming
- RTSP (with trick play support) for VoD
- Teletext and subtitles
- IGMP v2 & v3
- HLS

#### **CPU & Memory**

- CPU STiH207 (Liege) 550MHz, 1020 DMIPS
- DRAM 512 MB DDR3
- Flash 256 / 512 MB

#### **Dimensions**

- Width x depth x height 200mm x 150mm x 40mm (without packaging)
- Weight 540g (without accessories and packaging)
- · Power Consumption 8W
- Power Input 12V DC
- Power Adaptor 90-250V/50-60Hz AC
- Operating temperature 0°C to 45°C
- Operating Humidity 8%-95% (non-condensing)

# Juice Hybrid



# Fine-tuned IP&DVB box for Over-The-Top Delivery (OTT)

*Juice Hybrid* delivers value-added on-demand services thanks to its hybrid IPTV & DVB-S2 / T/T2 / C / ISDB-T capabilities. Together with PVR recording features and crystal clear picture up to the 1080p (even in Picture-in-Picture!) it helps you to create highly competitive digital video experience for your market. Equipped with state-of-the art free middleware and segment streaming Juice Hybrid represents the best option to increase your presence in unmanaged networks worldwide.



## **Key Features**

- All SD and HD resolutions up to 1080p
- Very fast integrated chipset
- · Vast output possibilities analogue, digital and

#### optical

- Noise close to zero
- Extremely reasonable price

### **Outputs**

- HDMI 1.3/1.4 High definition & Standard definition
- TOSLINK Digital Audio optical
- CINCH Coaxial Y Pb Pr
- RCA
- Internal SATA (for PVR)

- 2x USB 2.0 front&back panel
- RJ45 (Ethernet 10/100baseTx)
- RF IN&OUT (pre-integrated DVB-T/C/S tuner)
- Infrared Receiver / Secondary Infrared Receiver IR2

# Highlights

- ST micro System-on-Chip ultra fast compact processor for FullHD and crystal clear digital audio
- Interactive TV Support Multicast TV, Electronic Program Guide, VOD, nPVR, Mozaic
- Major DRM systems integrated
- Segment streaming and buffering for OTT delivery
- even in low-speed networks
- Hybrid broadcast-broadband TV (HbbTV) support
- Hardware generated Picture-in-Picture
- SCART or RCA version

#### **Features**

- Digital Surround Support
- Different browsers integrated Opera, Ekioh, Access
- Supported tuners: DVB-S2 / T/ T2 / C / ISDB-T
- HTTP Live Streaming support (HLS)
- Fast vector graphics thanks to integrated SVG Engine
- DRM support from Verimatrix, KeyRider and other
- Full subtitles support
- HbbTV Support
- DLNA Server&Player support (coming soon)
- High-Resolution front OLED display (optional)
- HDD internal or external through SATA or USB (optional)



### **Juice Nano Specifications**

#### Video

#### Outputs

- HDMI 1.3a
- CINCH Coaxial Y Pb Pr
- RCA output
- RF IN/OUT (for DVB-S2)

#### Codecs

- MPEG-2 (SD/HD) MP@HL
- H.264/AVC (SD/HD) HP@L4.2
- Resolutions up to 1080p/50,60
- Scaling of SD to HD and HD to SD
- Aspect ratio conversion
- (LetterBox, Pan&Scan, Combined,
- Fullscreen)
- Picture in Picture
- Parallel decoding of two streams (one
- for output, second for recording)
- Alfa blending

#### Resolution

- PAL 576i
- NTSC 480i
- 720p, 1080i, 1080p

#### DRM/CA

- Verimatrix
- Securemedia
- Key Rider

#### Other Interfaces

- Ethernet 10/100Mbps Ethernet RJ 45
- SATA internal for PVR HDD
- USB 2.0 (1x front and 1x back panel)
- IR receiver / IR2 secondary receiver
- SmartCard reader (in DVB versions)

#### **Audio**

#### · TOSLINK Digital Audio optical

• L/R analogue stereo output through SCART/RCA

#### Codecs

- MPEG-1/2 (layers 1, 2, 3),
- PCM, AC-3, AAC
- · Dolby Digital Plus
- · Dual mono mode
- · Stereo down mixing

#### Software integration

- · Operating system Linux 2.6
- Copy Protection HDCP v 1.2 (optional)
- Opera, Access, Ekioh SVG integrated (optional)

#### Middleware

- ANTIK Built-in Middleware (optional)
- Beenius 3.2 Middleware (optional)

#### **Accessories (optional)**

- · Remote control
- RCA/SCART cable
- **Ethernet Cable**
- HDMI cable
- Full size/Compact Keyboard
- · WiFi Adapter
- Juice TV Anywhere Personal H.264 Transcoder
- · USB Flash disk storage

#### **Streaming**

- MPEG-2 transport stream
- · Multicast or Unicast
- TS over UDP
- TS over RTP
- HTTP streaming
- · RTSP (with trick play support) for VoD
- · Teletext and subtitles
- IGMP v2 & v3
- HLS

#### **CPU & Memory**

- CPU: ST7162 ; ST7111; H207/254/256
- DRAM 256 / 512 MB
- Flash 256 / 512 MB

#### **Dimensions**

- Width x depth x height 200mm x 150mm x 40mm (without packaging)
- · Weight 540g (without accessories and packaging)
- Power Consumption 8W
- Power Input 2V DC
- Power Adaptor 90-250V/50-60Hz AC
- Operating temperature 0°C to 45°C
- Operating Humidity 8%-95% (non-condensing)

































Catch-Up TV

# Juice Hybrid 2

## High power HD 3DTV IP/DVB-T2 Set-Top Box



**ANTIK Technology's Juice 3D Extreme** is a high-end hybrid IPTV set-top box using the capabilities of the new SoC. The STi7108 provides the STB with high processing power, smooth web experience, and gaming. 3D capabilities such as 3D TV experience, 3D Electronic Programme Guide user interface with 3D video content.



# **Key Features**

- Multistandard DVB-T/T2 tuner + IP
- Resolution up to 1080p
- 3D Graphic user interface
- 3D Tile format support
- Supporting 3D films and games

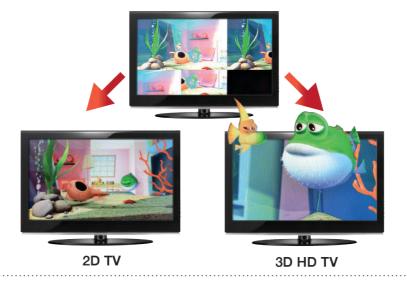
- OpenGL, Flash native support
- Up to 4000DMIPS performance
- Hybrid DVB-T2+IP operation ideal for OTT delivery

#### **Outputs**

- HDMI 1.4
- TOSLINK Digital Audio optical
- SCART
- RCA (optional)
- Internal/External eSATA (for PVR)

- 3x USB 2.0
- RJ45
- 1 or 4 ports 100mbps managed switch (optional)
- Infrared Receiver

# 3D TILE - 3D HD Broadcasting - backwards compatible





### Juice Hybrid2 Specifications

#### Video

- MPEG-2 (SD/HD) MP@HL
- H.264/AVC (SD/HD) HP@L4.2
- Resolutions up to 1080p/50,60
- 3D Tile format Support
- · Scaling of SD to HD and HD to SD
- · Aspect ratio conversion (LetterBox,
- · Pan&Scan, Combined)
- · Picture in Picture
- · Alfa blending
- · Two streams paralel decoding

#### DRM/CA

- Verimatrix
- Securemedia

#### TV Support

- 16:9 or 4:3
- · PAL or NTSC
- · HD-ready & FULL HD plasma, LCD,
- · 3D TV support
- Standard CRT TV
- · PC Monitors with DVI input

#### **High Resolution OLED Display**

Ideal for living rooms, represents a new generation of displays with high brightness and resolution. (Optional)

#### **Audio**

- MPEG-1/2 (layers 1, 2, 3), PCM, AC-3, AAC
- · Dual mono mode
- · Digital pass-through to S/PDIF
- · Stereo down mixing

#### Software integration

- · Operating system Linux 2.6
- Copy Protection HDCP v 1.2 (optional)
- Opera, Netfront, Chrome, Ekioh SVG integrated(optional)
- OpenGL support (native)

#### Middleware

- · ANTIK Built-in Middleware (optional)
- Beenius 3.2 Middleware (optional)

#### **Accessories (optional)**

- · Remote control
- RCA/SCART cable
- Ethernet Cable
- HDMI cable
- · Full size/Compact Keyboard
- Juice TV Anywhere Personal H.264
   Transcoder

#### **Streaming**

- MPEG-2 transport stream
- Multicast or Unicast
- TS over UDP
- TS over RTP
- HTTP streaming
- RTSP (with trick play support) for VoD
- Teletext and subtitles
- IGMP v2 & v3
- HLS

#### **CPU & Memory**

- CPU: ST Microelectronics 7108
- Onboard flash: 16 MB
- Application flash: 512 MB
- System Memory: 512 MB (up to 1GB DDR3 RAM)

#### **Dimensions**

- Width x depth x height 200mm x 150mm x 40mm (without packaging)
- Weight 540g (without accessories and packaging)
- Power Consumption 8W
- Power Input 2V DC
- Power Adaptor 90-250V/50-60Hz AC
- Operating temperature 0°C to 45°C
- Operating Humidity 8%-95% (non-condensing)

- Extremely high performance up to 4000DMIPS
- Dual HD decoding
- Embedded managed 100mbps switch 1+1 ports,
   4+1 ports (optional)
- Home media center (uPNP/DLNA)
- Internal/external HDD for PVR (eSATA, USB)
- Free Juice Middleware included

- High Resolution OLED Display (optional)
- PiP Picture in picture function
- Dolby Digital Support
- Digital Rights Management SecureMedia or Verimatrix
- Full subtitles support
- Full teletext support

Juice 3D Extreme	7108T S (R)	7108C S (R)	7108S2 S (R)	7108T2 S (R)	
DVB-T	Yes	No No		Yes	
DVB-C	No	Yes	No	No	
DVB-S2	No	No	Yes	No	
DVB-T2	No	No	No	Yes	
4+1 managed switch	Optional	Optional	Optional	Optional	

# Juice Plus



# **High power Android HD Set-Top Box**

**ANTIK Technology's Juice Plus** is a high-end hybrid IPTV set-top box using the capabilities of the new SoC. The H.305 chipset provides the STB with high processing power, smooth web experience, and gaming. Android system for easy 3rd party apps to be used, Antik IPTV for stable video decoding.





# **Key Features**

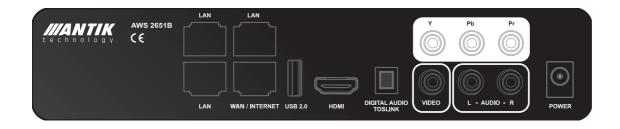
- Multistandard DVB-T/T2 tuner + IP
- Resolution up to 1080p
- 3D Graphic user interface
- 3D Tile format support
- OpenGL, Flash native support

- Up to 7500 DMIPS performance
- Hybrid DVB-T2+IP operation ideal for OTT delivery
- Dual HD decoding

### **Outputs**

- HDMI 1.4
- TOSLINK Digital Audio optical
- SCART
- RCA (optional)
- Internal/External eSATA (for PVR)

- 2x USB 2.0, 1xUSB 3.0
- R.145
- 1 or 4 ports 1Gbps managed switch (optional)
- Infrared Receiver



#### **Juice Plus Specifications**

#### Video

- MPEG-2 (SD/HD) MP@HL
- H.264/AVC (SD/HD) HP@L4.2
- Resolutions up to 1080p/50,60
- 3D Tile format Support
- · Scaling of SD to HD and HD to SD
- · Aspect ratio conversion (LetterBox,
- · Pan&Scan, Combined)
- · Picture in Picture
- Alfa blending
- · Two streams paralel decoding

#### DRM/CA

- Verimatrix
- Securemedia
- KeyRider

#### TV Support

- 16:9 or 4:3
- PAL or NTSC
- HD-ready & FULL HD plasma, LCD,
- 3D TV support
- Standard CRT TV
- · PC Monitors with DVI input

#### **Audio**

- MPEG-1/2 (layers 1, 2, 3), PCM, AC-3, AAC
- · Dual mono mode
- · Digital pass-through to S/PDIF
- · Stereo down mixing

#### Software integration

- Operating system Linux 2.6, Android Jellybean
- Copy Protection HDCP v 1.2 (optional)
- Opera, Netfront, Ekioh SVG integrated(optional)
- OpenGL support (native)

#### Middleware

- ANTIK Built-in Middleware (optional)
- Beenius 3.2 Middleware (optional)

#### Accessories (optional)

- Remote control
- RCA/SCART cable
- Ethernet Cable
- · HDMI cable
- Full size/Compact Keyboard
- Juice TV Anywhere Personal H.264 Transcoder

### Streaming

- MPEG-2 transport stream
- · Multicast or Unicast
- TS over UDP
- · TS over RTP
- HTTP streaming
- RTSP (with trick play support) for VoD
- Teletext and subtitles
- IGMP v2 & v3
- HLS

#### **CPU & Memory**

- CPU: ST Microelectronics H.305
- · Application flash: 512 MB
- System Memory: 1GB DDR3

#### **Dimensions**

- Width x depth x height 200mm x 150mm x 40mm (without packaging)
- Weight 540g (without accessories and packaging)
- Power Consumption 8W
- Power Input 2V DC
- Power Adaptor 90-250V/50-60Hz AC
- Operating temperature 0°C to 45°C
- Operating Humidity 8%-95% (non-condensing)

- Extremely high performance up to 7500 DMIPS
- Dual HD decoding
- Embedded managed 1Gbps switch 1+1 ports, 4+1 ports (optional)
- Home media center (uPNP/DLNA)
- Internal/external HDD for PVR (eSATA, USB)
- Free Juice Middleware included

- High Resolution OLED Display (optional)
- PiP Picture in picture function
- Dolby Digital Support
- Full subtitles support
- Full teletext support

# TV Home Gateway

## 4K Home streaming and transcoding server



**Revolutionary Android Home Gateway** with integrated chipset Orly STiH412 SoC by STMicrosystems for streaming and transcoding 4 channels in real time to home smart devices (tablets, smartphones, etc.). Antik's device with multi-tuner DVB-T, DVB-C and DVB-S2 is characterized by extreme performance needed for multiscreen experience.







# Key Features

- Broadcasting OTT internet content HEVC L 5.1 (H.265)
- Multiscreen simultaneous HD multimedia streaming
- Transcode and transrate 4 channels in real time
- Powered by Android operating system
- 7500 / 10000 DMIPS
- Networking of media throughout the home via standards such as DLNA or RVU
- HDMI input

# **Highlights**

- UltraHD (2160p) video support and crystal clear digital audio
- Interactive TV Support Multicast TV, Electronic Program Guide, VOD, Mozaic
- 3D TV up to 1080p 3D L30R
- Major DRM systems integrated
- Segment streaming and buffering for OTT delivery
- even in low-speed networks
- CPU: 2GHz dual-core ARM Cortex-A9
- GPU: 400MHz quad-core ARM Mali-400 MP dual DDR3 controler (2GB RAM)
- Hardware generated Picture-in-Picture
- Intelligent low power consumption management

### **UHD Features**

- Digital Surround Support
- Quadruple DVB tuner (T, C, S2) ready
- HTTP Live Streaming support
- Fast vector graphics thanks to integrated SVG Engine
- Dual H.264 HD decoding
- USB 3.0
- HbbTV Support

- DLNA Server&Player support (coming soon)
- HDD internal or external through
- SATA or USB (optional)
- BitTorrent™ client support
- Software environments such as Android<sup>™</sup> 4.0 and higher, XBMC,
- HTML5, Adobe® AIR® and Qt

## **Juice Home Gateway Specifications**

#### Video

- · Quadruple DVB Tunner
- CVBS/Y Pb Pr (3,5mm jack)
- · Tunner board connector
- RF IN/OUT (for DVB-S2)

#### Codecs

- MPEG-2 (SD/HD) MP@HL H.265 L5.1
- H.264/AVC (SD/HD) HP@L4.2
- · Resolutions up to 2160p
- · Scaling of SD to HD and HD to SD
- · Aspect ratio conversion
- · (LetterBox,Pan&Scan, Combined,
- Fullscreen)
- · Picture in Picture
- · Parallel decoding of 3 HD streams
- · Alfa blending

#### Resolution

- PAL 576i
- NTSC 480i
- HD 720p, 1080i, 1080p
- · UHD 2160p

#### DRM/CA

- Verimatrix
- · Securemedia
- · Key Rider

#### Other Interfaces

- 2x 1GB Ethernet RJ 45
- SATA internal for PVR HDD
- · 2x USB 2.0 (1x front and 1x back panel)
- 1x USB 3.0
- IR receiver
- · SD card slot
- Built in WIFI

#### **Audio**

#### TOSLINK Digital Audio optical

 L/R analogue stereo output through SCART/RCA

#### Codecs

Interfaces

- MPEG-1/2 (layers 1, 2, 3),
- · PCM, AC-3, AAC
- · Dolby Digital Plus
- · Dual mono mode
- · Stereo down mixing

#### Software integration

- · Operating system Linux 2.6
- Copy Protection HDCP v 1.2 (optional)
- Opera, Access, Ekioh SVG integrated (optional)

#### Middleware

- ANTIK Built-in Middleware (optional)
- Beenius 3.2 Middleware (optional)

#### **Accessories (optional)**

- · Remote control
- RCA/SCART cable
- · Ethernet Cable
- HDMI cable
- Full size/Compact Keyboard

#### **Streaming**

- · MPEG-2 transport stream
- · Multicast or Unicast
- TS over UDP
- · TS over RTP
- HTTP streaming
- · RTSP (with trick play support) for VoD
- · Teletext and subtitles
- IGMP
- HLS

#### **CPU & Memory**

- CPU STiH.412 / STiH.416 Orly 2 GHz, DualCore
- GPU Cortex-A9
- DRAM 2 GB DDR3
- Flash 1 GB

#### **Dimensions**

- Width x depth x height 200mm x 150mm x 40mm (without packaging)
- Weight 540g (without accessories and packaging)
- · Power Consumption 8W
- · Power Input 2V DC
- Power Adaptor 90-250V/50-60Hz AC
- · Operating temperature 0°C to 45°C
- Operating Humidity 8%-95% (non-condensing)

















Archive by genre

Catch-Up TV

# **Accesories**

# **TV Home Connector**

802.11b/g/n



TV Home Connector is a Mini Wi-Fi module supporting IEEE 802.11 b/g/n standards. Designed in the product with MID, Netbook etc for the wireless connectivity.

- Maximum bitrate up to 150mbps
- Ultra compact usb wi-fi adapter
- Good for surfing the Internet, email and online chat
- Provides wireless access to your desktop, notebook, phones etc.
- Easy set-up
- Simple and secure way to share a broadband Internet connection
- Compatible with Juice IPTV solution



## **Gyroscopic Remote Control**

Compatible with various platforms and also on different chipsets! More fun with gyroscopic remote control!



Gyroscopic

- Gyroscopic sensor
- QWERTY keyboard on back side
- Ability of calling on SKYPE
- Remote control for set-top box
- Supporting many games
- Karaoke feature
- Modern atractive design
- Easy web browsing





# Multimedia IPTV keyboard











#### Control favorite function with one click

- Volume
- Web buttons (home, forward, back, refresh...)
- Changing programs
- Facebook button
- VoD, Mosaic, Archive, EPG, Text
- Chat
- Play/pause
- Record button
- TV/web switch button
- Trackball mouse and scroll wheel

#### **Technical specification**

- 2.4G wireless keyboard
- Multimedia optical trackball mouse
- Mini NANO Receiver
- Ergonomic design
- CE, FCC, ROHS
- Connection: PS/2, USB, U+P available.
- Standard keyboard with ergonomic design and comfortable touch feeling.
- Adopting high quality silicon and ABS case
- Key swich with tactile feedback, key knock life time up to 10,000,000 cycles.
- Size: 262mmx113mmx31mm
- Customization available





### Juice TV Anywhere



Juice TV Anywhere is a compact USB dongle for video place-shifting applications. It is designed to view and control the re-streamed content from Juice IPTV set-top boxes on any device connected to home network or broadband Internet connection, such as laptop, smart-phones etc. Users don't have to stay in the living room to watch their TV channels, plugging the USB dongle into the set top box is all that is needed to take their TV anywhere. This unique chance to increase your customer's ARPU comes with adaptive bit-rate feature, delivering uninterrupted picture even in low-speed network environments.

#### **Key Features**

- Transcoding:
  - AVC/ MPEG2 to AVC / MPEG2 / MPEG4
  - HD to HD/SD
- Powerfull CPU:
  - 500 MHz , 1250 DMIPS
- 1x USB 2.0



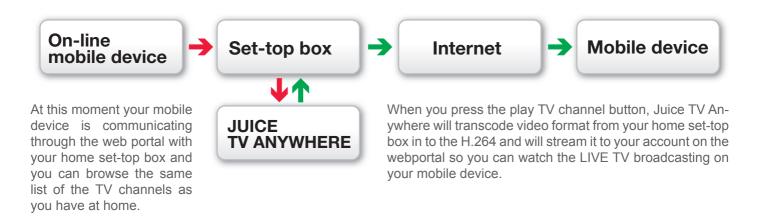
#### World's first decentralised MultiScreen solution

Encodes video into adapted bit rate stream to serve all the multi-screen formats. The idea is to encode content from video format in various codecs (mpeg2, ...) into the H.264 at a relatively low bit rate, which can be distributed over the common infrastructure.

Connect with your Juice set-top box and watch your home TV stations anywhere. All what is needed is to have in the Juice set-top box plugged in an usb dongle Juice TV Anywhere, which will transcode your TV channels broadcasting to the internet Juice TV Anywhere portal, where you can watch them on your mobile device.

#### **Adative Bitrade Streaming**

The video stream can increase or decrease the bit rate and resolution of the video (its quality) in real time so it's always streaming the best possible quality, which the available network connection can support. The better the network connection, better the video image quality. Viewer doesn't need to configure the settings because all the work will make the player and the stream.



#### **Other Features**

#### Video Transcoding / Transrating

- Format conversion of multiple streams (SD/HD)
  - AVC >> MPEG2, MPEG4 (ASP, SP), AVC
  - MPEG2 >> AVC, MPEG2, MPEG4 (ASP,SP)
- Bit-rate reduction of multiple streams:
  - 40 Mbps >> 64 Kbps / VBR or CBR
- · Resolution reduction of streams:
  - HDTV to HDTV, SDTV,CIF or QCIF

#### Interfaces

- 1x USB 2.0
- · Micro SD Memory Slot

#### Audio transcoding

- MPEG >> AC3, AAC (LC/HE), MPEG
- AC3 >> MPEG, AAC (LC/HE)
- AAC >> AC3. MPEG

#### Core technologies

- Smart XCode<sup>™</sup> technology allows users to convert formats, resolution, and frame rates of pre-compressed video, up to 12Xfaster than real-time playback, to fit video to many viewing devices
- MPEGPerfection™ technology defining low-bitrate HD compression without compromising video quality

#### **Technology**

• Efficient Low Power Design

#### **Digital Video Filtering**

- Pixel-based motion-adaptive 3D comb filter
- · Pixel-based temporal/spatial filter
- Image edge rectification

#### Security features

 Supports DVB/DES/3DES/ Multi2/3DES descrambling

#### **Typical applications**

- · Intelligent Transcoder:
  - Personal Video Recorders (PVR's)
  - STB PVR
  - Blu Ray Recorder/Player
  - DTV PVR



#### LOGIN SCREEN

Type address of TV Anywhere portal into the web browser and login in to your account. You can also choose a language.



#### CHANNEL CATEGORIES

Choose category of the TV stations or use a search function to find your favorite channel.



#### EPG

Choose TV station which you want to watch. You can read EPG information like next programs, image and information of running program.



ENJOY THE TV

Just press play button and watch the TV anywhere!

# Juice Media Apps

## Versatile Video Delivery to iOS, Android and Windows 8

Watch TV on mobile or tablet. Give your customers access to their TV channels anywhere. Customers only need to install this Juice Media application and they will be able to choose Live TV streams or Radios based on HLS or they can select favorite program from TV Archive. Application is supporting H.264 format and is fully compatible with Juice Media Streamer, where you can manage your own local or global content delivery. All is secured with Key Rider DRM scrambling solution which is designed for higher security of IPTV network.



# Key Features



#### Live stream TV

Customers can enjoy Live TV broadcasting anywhere just with smartphone or tablet where they have internet connection.



#### **EPG**

Program guide with user friendly environment.



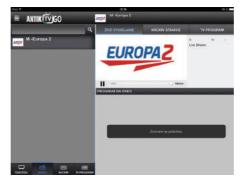
#### **TV Archive**

Access to the programs also after their live broadcast ended. User will just simply choose TV station, day and select his favorite program, which he missed.



#### **Watching Bookmarks**

Start to watch movie from archive on TV and finish on mobile or tablet (coming soon).



#### Live stream Radio

Users can listen radio stations also in this application and enjoy music on the road through the phone or tablet. Customer doesn't need to download any other additional radio applications.



#### **STB Remote Control**

Easy control of STB directly from mobile/tablet same as using classic RC.

## All applications are optimized for smartphones and also tablets.

Application for devices with OS Windows Phone 8 a Windows 8.1 is using also unique capabilities of the new OS, such as Live Tiles, which are showing the most watched actually broadcasted TV programs.

## **Technical specifications**

- Adaptive bitrate HTTP Live Streaming Supported
- Fully customizable user interface
- SD and HD Streams
- Backend Management System included
- Automatic EPG metadata update in backend
- XML interface to billing system
- Fully compatible with Juice Media Streamer Family
- AES-256 Digital Rights Management (DRM) Supported
- Skin adaptable to your product identity

### **Features**

- Live streaming of TV and Radios
- TV program guide
- Streaming of archived TV shows
- Search of archived TV shows by genre or name
- Search of TV shows in EPG by genre or name
- Electronical Program Guide Set-top box control over phone/tablet

# Supported platforms:



Windows 8





**Android** 





iOS



# IPTV DEMOKIT

## IPTV Solution all-in one most of Antik in one valuable pack

Juice IPTV Demokit offers you the possibility to check all the important features of Antik products. It serves as proof-of-concept of your next IPTV project and gives you chance to become familiar with major SW and HW components. Demokit you can easily run in your network or lab. Preinstalled OS on HDD with all necessary SW servers such as IPTV Management Server, EPG Server, Streaming Server, Hospitality server, etc. are all part of delivery. 2 HD set-top boxes enabled to use on public internet as well as in multicast network are included. Pre-recorded content includes SD and HD streams, radios, TV archive and cameras. Technical support covers (incl. in price) all necessary help with IPTV demokit setup.

- HD&HD video streams
- Catch up TV / TV Archive
- DVR
- MediaPlayer
- VOD
- Mediaportal
- Hospitality IPTV

- DLNA
- BitTorrent™
- Browser
- EPG
- PIP
- IPTV Management
- Software lite



## What will you get?

- 2x STB Juice Mini (Model: 7162R/S) with Euro 2-pin adapter
- 1x HDD 500GB Preinstalled HDD with full IPTV environment (Live TV, TV Archive, VOD, IMS, etc...)
  - System requirement : CPU i3 and above, 4GB RAM
  - IMS = IPTV Management
  - Live streams (12x SD TV channels, 2x HD TV channels, 5x Radios, 3x Cameras)
  - VOD server + content
  - EPG server (with real EPG data), DLNA server, Catch-Up TV archive ()3 days content, Snapshot server, Multicast gateway, Media portal server and more ...
- 2x USB ETH external adapter (ETH#1 for internet, ETH#2 for streaming to mobile devices)
- 1x Gigabit switch (5 ports)
- 1x Wifi Access Point for multiscreen demo
- 1x TV anywhere USB dongle (personal encoder)
- 1x 16GB USB Flash Drive (for time shift, PVR and media center demo)
- 3x RJ45 ETH cables
- 1x RF IPTV Wireless Keyboard
- 1x Juice Debug cable (with USB to RS232 adapter)
- 2x power head US -> EU
- Support to setup live IPTV

For more details please contact **Antik** representatives to specify HW configuration for your IPTV project

DemoKit full set: 515.00 USD

## **Key Features**



#### VoD

Choose a movie from the database or search some new in your favorite category. Watch trailers, movie description or rank the movie.



# Wireless Keyboard and Internet Browser

Easy operation for your SmartTV applications. Browsing web pages will be fast with embedded trackball. Browse the internet without turning the TV off.



#### **PVR**

Choose program from EPG and record it on HDD in set-top box. Make your own video library and watch your favorite film whenever you want.



#### Multimedia center

Connect STB with PC and create multimedia center based on DLNA technology. Watch photos, listen to music and watch videos.



#### **Hotel IPTV**

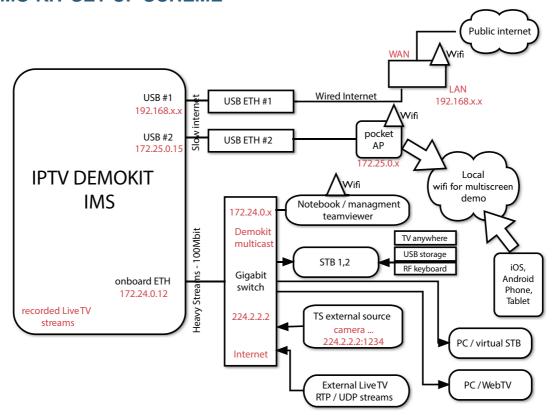
Provides program guide data for all TV channels shows channels list and programs timeline, program info.



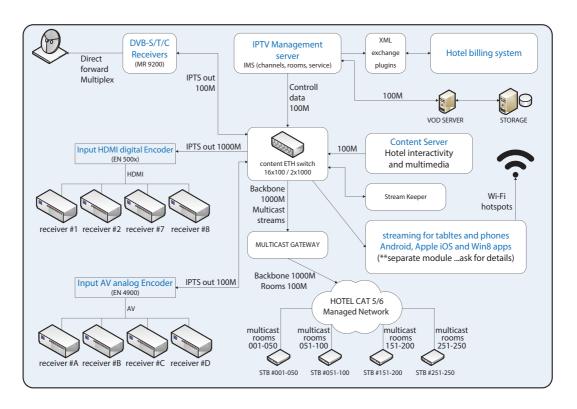
#### Archive by genre

Enables control of archive program feature which allows users to pause, rewind, forward and also basic program data, like total time, name, image preview.

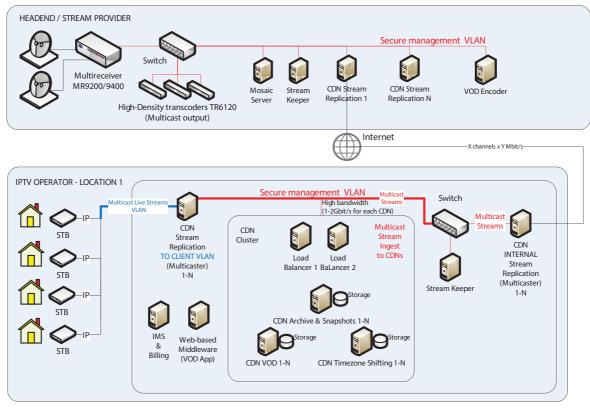
### IPTV DEMO KIT SET-UP SCHEME



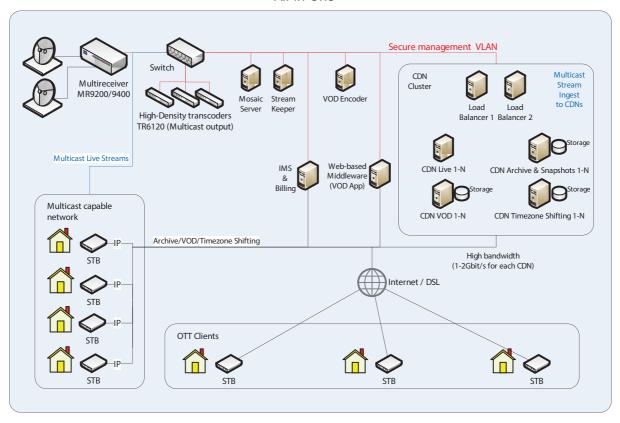
# **Schemes**



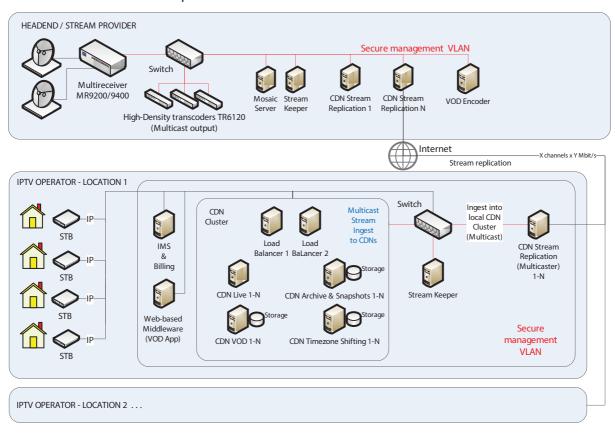
# IPTV Operator with centralized Headend/Stream Provider With Separated Client VLAN (Cluster Distribution VLAN + Client VLAN)



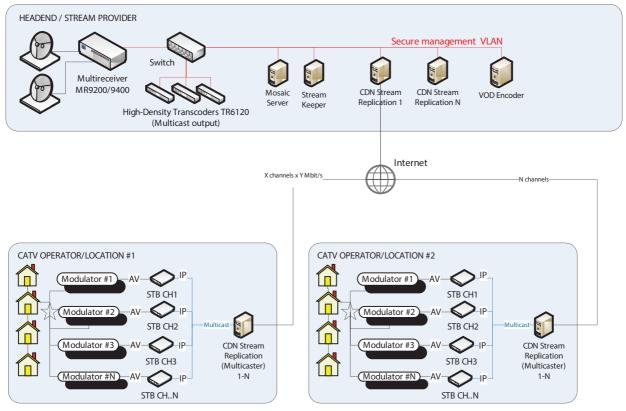
### IPTV Operator – Multicast and OTT Clients All-in-One



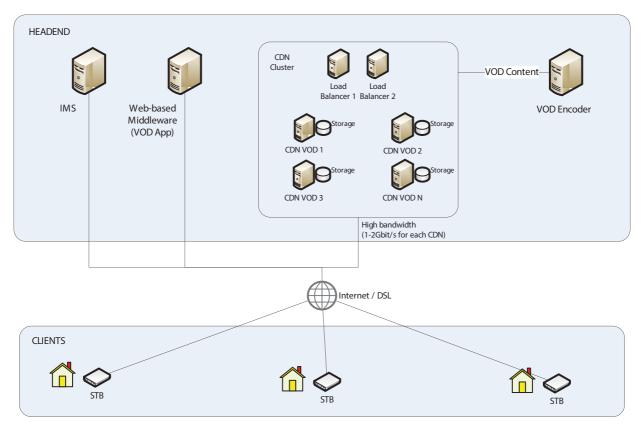
# IPTV Operator with metropolitan network(s) or OTT location(s) Stream replication from centralized Headend/Stream Provider



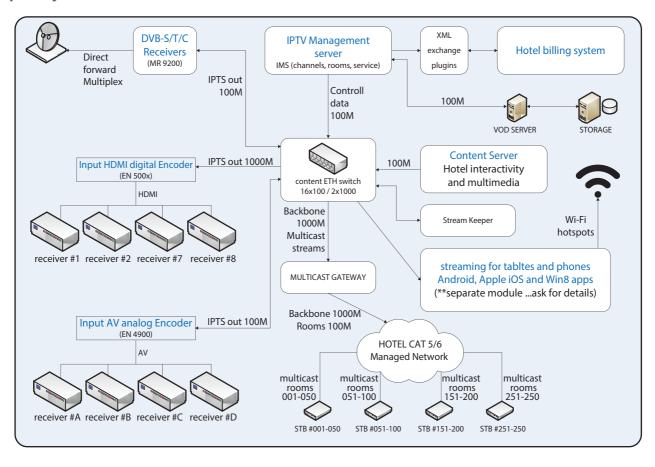
### CATV Operator with many locations Stream replication from centralized Headend/Stream Provider



#### VOD



## Hospitality IPTV network infrastructure



# Notes

# Notes

# Notes

Košice / Colorado / Moscow / Hong Kong / Shenzhen / Singapore / Rio de Jainero

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