ANTIK
t e c h n o l o g y

HD/SD Multi Channel Transcoder

TR6015
USER MANUAL

2016/01

ANTIK

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License Declaration

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Specific features are subject to the actual software features.

Contents

1 PRODUCT INTRODUCTION

1.1 OUTLINE

The TR6015 is multichannel video and audio transcoder which provides a powerful processing engine for linear broadcast transcoding ideal for IPTV solutions.

Transcoder is based on an ultra-fast ViXS chipset offers you a great tool for your project. It's capable of transcoding/encoding up to 15 SD or HD channels. You don't need to buy many devices, and thus avoid filling too much room. The Slim 1U Rack design will save you space and money. This solution is great for any IPTV project, from typical Telco headends to large scale OTT projects. It is an extremely cost effective solution per channel.

The ANTIK TR6015 HD/SD Multi Channel Transcoder is a professional tool for headend application developed to enhance transcoding efficiency and decrease its time delay. It 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. The multiprofiling option can secure various, impressive & flexible transcoding functions, which can be controlled in order to provide a plenty of transcoding applications.

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

1.2 MAIN FEATURES

- Real time transcoding of up to 15 video streams
- Support for MPEG4 and H.264 Video Encoding
- Multi-format IP2IP video transcode (H.264, MPEG2)
- HD Encoding up to 1080i
- 2x1U slim rack-mounted design
- Low power consumption
- 10/100/100 Base-TX Ethernet network interface
- Front panel with OLED display
- WEB-based remote configuration and control (HTTP)
- 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

1.3 TECHNICAL SPECIFICATIONS

The technical specifications of TR6015 are as follows:

4

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/ASPBit-rate reduction of multiple streams, 40Mbps to 64Kbps Resolution reduction, HDTV to HDTV, SDTV	
Audio Processing	MPEG2 LI, LII	
	MPEG2 AAC-LC-Stereo	
	Dolby AC-3 True HD, 7.1, 5.1,Stereo	
	MPEG1, L1, L2, MP3, AAC, Dolby AC-3 True HD 7.1, 5.1	
Interfaces	2x RJ45 10/100/1000MBit	
	2x USB2.0 for 2x Slave transcoder unit	
Operating Conditions	Temperature range	0 to +60°C
	Operating humidity range	10 to 90% RH
	Power supply range	100 – 240VAC / 50-60Hz
	Typical power consumption	150W
Dimensions	HxWxD	44x430x380mm
	Weight	3kg

2 DEVICE DESCRIPTION

2.1 FRONT PANEL

Power Switch   OLED   Encoder

2.2 REAR PANEL

AC Power IN   2x RJ45   2x USB2.0
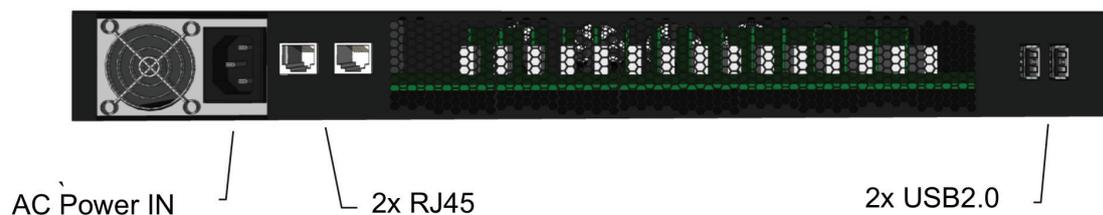
3 DEVICE MENU DESCRIPTION

3.1 ROTARY ENCODER FUNCTION

Use rotary encoder to navigate in device menu. Rotary encoder function:

- Rotate clockwise / counterclockwise – scroll through device menu / change item valueUser's Manual
- Short press – enter selected item / confirm edited value
- Long press - escape

3.2 POWER ON/OFF

Short press on power button turn on device power. Holding power button for at least 5 seconds turns device power off.

3.3 MENU MAP
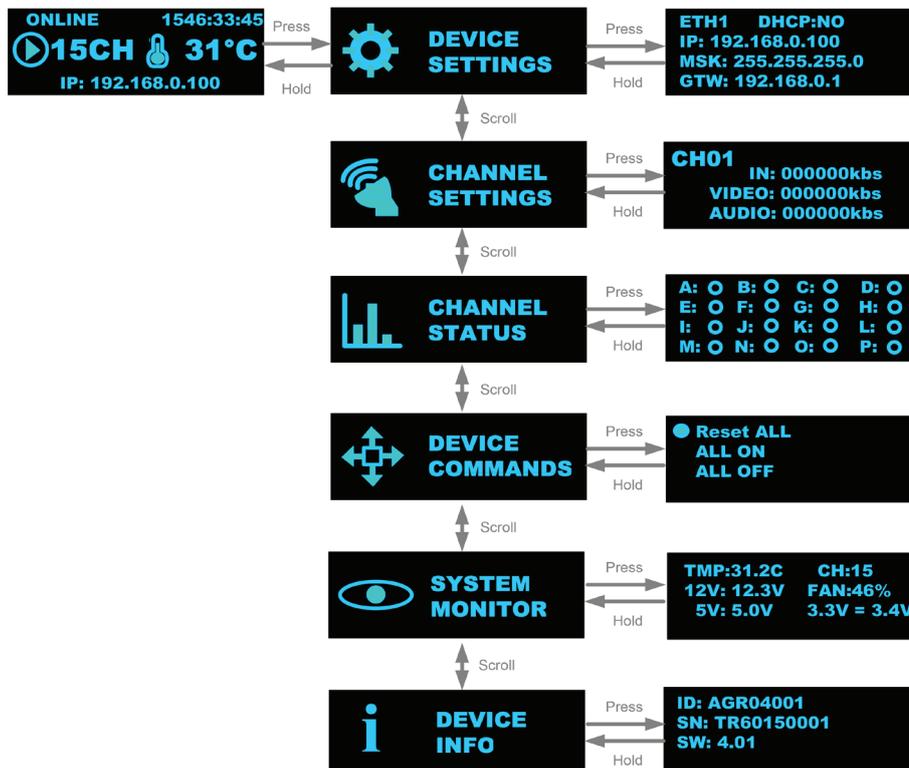
3.4 DEVICE SETTINGS

Ethernet 1 and 2 interface setup / display:

- DHCP enabled / disabled
- IP Address
- MASK
- Gateway

3.5 CHANNELS SETTINGS

Setup / display 1 – 15 channels settings:

- Input bitrate
- Video output bitrate
- Audio output bitrare

3.6 CHANNELS STATUS

Displays actual status of power supply of channels 1 – 15

3.7 DEVICE COMMANDS

- Manual reset of all channels
- Power ON all channels
- Power OFF all channels

3.8 SYSTEM MONITOR

Displays information about device:

- Temperature
- Active channels
- Voltage status

3.9 SYSTEM MONITOR

Displays device identification:

- Device ID
- Device's serial number
- Software version

4 DEVICE INSTALLATION
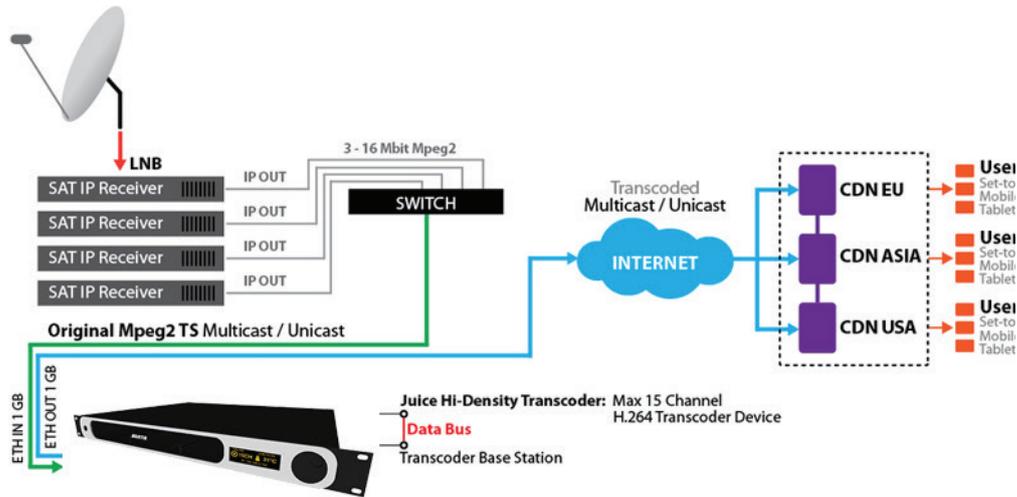
5 WEB INTERFACE

As the first step will be obviously login to web interface management. Type your login name and password, then press Login button. Transcoder interface menu should appear immediately. You can create also more login accounts with various levels of authorization (see page 7).

5.1 CONFIGURATION SCREEN

Click on the Config icon in the upper menu. You will see list of connected transcoder devices and also list of transcoding modules in each device. You can see slot number and description of transcoding module. Description is usually name of the channel. On the right side is able to see date of last modification and configure button, which will redirect you to general, input and output configurations.

8

5.2 GENERAL CONFIGURATION

In general configuration you can create (or edit) name of the selected transcoding module, write some description, which can be useful for other users (for example this channel has problem with audio need to fix, etc.). From the scrollbox on the bottom you can select activate or deactivate status. If you will select Activate, all settings will change in next refresh period (once per minute) and module will be activated for the transcoding. If you select Deactivate, you will stop transcoding of selected module.

5.3 INPUT CONFIGURATION

Here you can set name of network interface with predefined IP address and port of the transcoded content source. You can also select Input IP and write required IP address and port.

5.4 OUTPUT CONFIGURATION

List of output settings of the selected transcoding module. Similar as in input configuration, firstly you need to set output IP address and port (if output IP address is same like input, then you need to have different ports).

If you want you can also set UDP Timeout, which means time after transcoding module will turn off and on after stop of dataflow. Write this time in seconds, if you will keep this box empty (or you can type there 0), then transcoding module will restart immediately.

Again you can set interface for multicast streaming (usable only in multicast network) In the box TTL for broadcasting multicast you can set required value.

What is TTL?

The TTL (Time To Live) field in the IP header has a double significance in multicast. As always, it controls the live time of the datagram to avoid it being looped forever due to routing errors. Routers decrement the TTL of every datagram as it traverses from one network to another and when its value reaches 0 the packet is dropped.

In Video settings you can configure various output settings like:

Video Codec

- AUTO – automatically set codec which is in input (Pass through)
- MPEG – option of variable (VBR) or constant (CBR) bitrate
- AVC - option of variable (VBR) or constant (CBR) bitrate

Video bitrate – just type value of video bitrate which you want to have.

Resolution – choose from list of resolutions (and frame rates) which will be most suitable for you
H.264 profiles – choose from list of profiles which will meet your requirements. For profile explanations see http://en.wikipedia.org/wiki/H.264/MPEG-4_AVC#Profiles

H.264 levels – choose from list of levels which will meet your requirements. For level explanations see http://en.wikipedia.org/wiki/H.264/MPEG-4_AVC#Levels

In Audio settings you can configure Audio codec and set audio bitrate which will be most suitable for you.

5.5 CONTROL PANEL

Click on the Control icon in the upper part of the screen and control menu will appear immediately. Here you can see information about transcoding processes of each module in all connected devices. These information include Data In, Data out, Video bitrate, Audio bitrate and Statuses.

Statuses:

1. Transcoding – Channel transcoding process is running by configured settings and server is communicating.
2. Not transcoding – Channel has not configured settings or transcoding is not turned on.
3. Offline – Transcoding module isn't connected, isn't communicating with server, isn't able to notify and cannot be pinged.
4. Server not available – Transcoding module is communicating but application is not. Server can be at least pinged in this status.
5. Error – Error notification.

In the control menu you have various action buttons for controlling the transcoding process.

Active/Deactive – Turn on/off transcoding of selected module

Reset – Turn off and on power supply on selected transcoding module. All settings will be saved.

Set bitrate – After click on this action button small window will appear, where you can type your required bitrate value.

Configure – Switch to config menu of the selected transcoding module

View log – show window with information and history of all operations on this module.

5.6 SECURITY

Security has 2 parts:
1. List of users
2. Access IP Range

Security

1. List of users

Here you can create, delete and edit users authentication settings. On the bottom you can find simple form, where you can add new user. This user will be listed in list of users which have access to the admin interface of Juice Hi-Density Transcoder TR-6120. You can adjust level of authentication to each one of them. There are 4 levels of authentication:

- Super Admin – full access
- Admin – device configuration
- User – read only access
- Blocked – no access

2. Access IP Range

To increase security its possible to define ability to access to the admin interface from one IP address or range of IP addresses. If you want to add new range of IP addresses just type it into the bottom three boxes and click Add IP range. If you want to add just one IP address type this address into both boxes (IP range from and IP range to). When you want to delete IP address just click on the right side on button delete.

6 TROUBLESHOOTING

ANTIK's ISO9001 quality assurance system has been approved by CQC organization. For guarantee the products' quality, reliability and stability. All ANTIK products have been passed the testing and inspection before ship out factory. The testing and inspection scheme already covers all the Optical, Electronic and Mechanical criteria which have been published by ANTIK. To prevent potential hazard, please strictly follow the operation conditions.

Prevention Measure

- Installing the device at the place in which environment temperature between 0 to 45 °C
- Making sure good ventilation for the heat-sink on the rear panel and other heat-sink bores if necessary
- Checking the input AC within the power supply working range and the connection is correct before switching on device
- Checking the RF output level varies within tolerant range if it is necessary
- Checking all signal cables have been properly connected
- Frequently switching on/off device is prohibited; the interval between every switching on/off must greater than 10 seconds.

Conditions need to unplug power cord

- Power cord or socket damaged.
- Any liquid flowed into device.
- Any stuff causes circuit short
- Device in damp environment
- Device was suffered from physical damage
- Longtime idle.
- After switching on and restoring to factory setting, device still cannot work properly.
- Maintenance needed

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