



---

MANUAL PART NUMBER: 400-0031-003  
PRODUCT REVISION: 1

## **TR6102HD**

# **HDTV/DVD/COMPONENT VIDEO TO RGBHV TRANSCODER USER'S GUIDE**

## INTRODUCTION

Thank you for your purchase of the **TR6102HD** Transcoder. We are certain that you will find it a reliable and useful product.

Superior performance for the right price backed by solid technical and customer support is what we have to offer.

The product you are holding in your hands is designed using state-of-the-art technology and is superior to anything available on the market. You will find this and our other products reliable, long lasting, and simple to operate.

We are committed to providing our customers with solutions to the most demanding audio-visual installations at very competitive pricing.

We appreciate your selection of our products and are confident that you will join the ranks of our many satisfied customers throughout the world.

### **This manual covers:**

**TR6102HD** – HDTV/DVD Component video to RGBHV Transcoder

## TABLE OF CONTENTS

	Page
PRECAUTIONS / SAFETY WARNINGS .....	2
GENERAL .....	2
RACK MOUNT SAFETY GUIDELINES .....	2
INSTALLATION .....	2
CLEANING .....	2
FCC / CE NOTICE .....	2
ABOUT YOUR TRANSCODER .....	3
TECHNICAL SPECIFICATIONS .....	3
APPLICATION DIAGRAM .....	4
INSTALLING YOUR TRANSCODER .....	4
OPERATION .....	4
RGB OUTPUT .....	5
POWER .....	5
CABLE REQUIREMENTS .....	5
ACCESSORIES .....	5
ALTINEX POLICY .....	6
LIMITED WARRANTY .....	6
RETURN POLICY .....	6
CONTACT INFORMATION .....	6

## PRECAUTIONS / SAFETY WARNINGS 1

Please read this manual carefully before using your **TR6102HD** Transcoder. Keep this manual handy for future reference. These safety instructions are to ensure the long life of your **TR6102HD** and to prevent fire and shock hazard. Please read them carefully and heed all warnings.

### 1.1 GENERAL

- Unauthorized personnel shall not open the unit since there are high-voltage components inside.
- Qualified Altinex service personnel, or their authorized representatives must perform all service.

### 1.2 SAFETY GUIDELINES FOR THE RACK-MOUNTING OF THE TR6102HD

- Maximum operating ambient temperature is 35 (degrees C).
- Never restrict the airflow through the devices' fan or vents.
- When installing equipment into a rack, distribute the units evenly. Otherwise, hazardous conditions may be created by an uneven weight distribution.
- Connect the unit to a properly rated supply circuit.
- Reliable Earthing (Grounding) of Rack-Mounted Equipment should be maintained.

### 1.3 INSTALLATION

- For best results, place the **TR6102HD** Transcoder on a flat, level surface in a dry area away from dust and moisture.
- To prevent fire or shock, do not expose this unit to rain or moisture. Do not place the **TR6102HD** Transcoder in direct sunlight, near heaters or heat radiating appliances, or near any liquid. Exposure to direct sunlight, smoke, or steam can harm internal components.
- Handle the **TR6102HD** Transcoder carefully. Dropping or jarring can damage internal components.

- Do not place heavy objects on top of the **TR6102HD**. If the **TR6102HD** is to be mounted to a table or wall, use only Altinex made mounting accessories, such as the mount mini-brackets **DA1295SX** and cables for optimum setup.
- To turn off the main power, be sure to remove the cord from the power outlet. The power outlet socket should be installed as close to the equipment as possible, and should be easily accessible.
- Do not pull the power cord or any cable that is attached to the **TR6102HD** Transcoder.
- If the **TR6102HD** Transcoder is not used for an extended period, disconnect the power cord from the power outlet.

### 1.4 CLEANING

- Unplug the **TR6102HD** power cord before cleaning. Clean surfaces with a dry cloth. Never use strong detergents or solvents, such as alcohol or thinner. Do not use a wet cloth or water to clean the unit.

### 1.5 FCC / CE NOTICE

- This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
- This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communication. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

- Any changes or modifications to the unit not expressly approved by Altinex, Inc. could void the user's authority to operate the equipment.

## ABOUT YOUR TRANSCODER 2

The **TR6102HD** Transcoder is a product of exceptional quality and design. It offers one HDTV input and three buffered outputs.

HDTV (High Definition Television) offers spectacular quality video signals. Recently, several companies have introduced W-VHS format VCR's and HDTV cameras. These devices make it possible to create a breathtaking presentation using state of the art technology. The output of the W-VHS VCR and the HDTV camera, however, is not directly compatible with most large screen display devices. The HDTV to RGBHV **TR6102HD** Transcoder is designed to resolve this incompatibility.

The basic function of the **TR6102HD** is to convert HDTV component video signals (Ey, EpB, & EpR) with tri-level sync (SMPTE 240 Standard) to RGBS or RGBHV component signals with bi-level sync. The **TR6102HD** can also accept a HDTV component video signal that has bi-level sync. The **TR6102HD** has no user controls and is very simple to operate. It is truly a plug and play device.

## TECHNICAL SPECIFICATIONS 3

FEATURES/DESCRIPTION	TR6102HD
<b>GENERAL</b>	
<b>Inputs</b>	1
HDTV SMPTE 240M Standard Ey, Epb, Epr.	3-BNC Female
<b>Outputs</b>	3
RGBSHV	One, 6-BNC
RGBHV	Two, 15-pin HD
<b>Compatibility</b>	Input compatible w/ HDTV (720p, 1080i, SMPTE 240, W-VHS), component video (Betacam), & DVD component video in a Y, Pr, Pb or Y, R-Y, & B-Y format. Output offers standard RGBHV or RGBS format.

Table 1. **TR6102HD** General

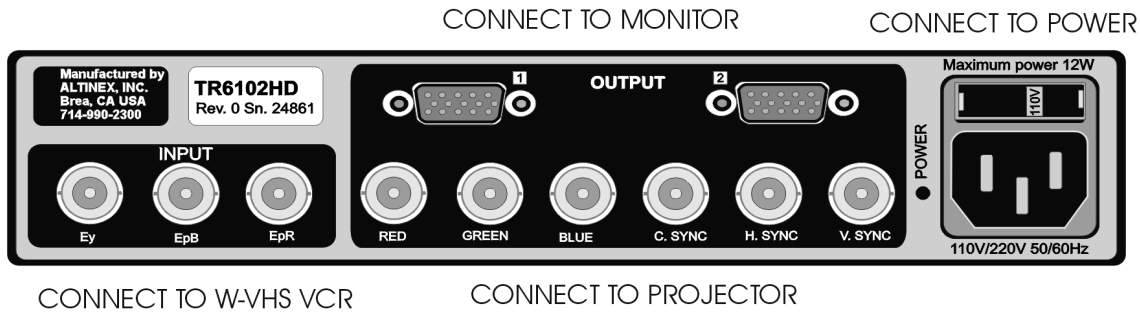
MECHANICAL	TR6102HD
Width (inches)	8.50in (216mm)
Height (inches)	1.75in (44mm)
Depth (inches)	4.93in (125mm)
Weight (pounds)	2.0lbs (0.91kg)
Ship Weight (pounds)	4.0lbs (1.82kg)
Material	0.1" Al
Finish	Gray
Front/Back Panels	Lexan Overlay
T° Operating	10°C-35°C
T° Maximum	50°C
Humidity	90% non-condensing
MTBF (calculations)	40,000hrs

Table 2. **TR6102HD** Mechanical

ELECTRICAL	TR6102HD
<b>Input Video Signal</b>	
(Y) Nominal Level	0V to 0.7Vp-p
(Y) Maximum Level	1.2Vp-p w/ no offset
(Pr, Pb) Nominal Level	-0.35V to -0.35Vp-p
(Pr, Pb) Maximum Level	-0.5V to +0.5Vp-p
Impedance	75 Ohms
<b>Output Video Signals</b>	
Level	0.7V nominal
Impedance	75 Ohms
<b>Output Sync Signals</b>	
Composite, Horizontal, & Vertical	TTL (+/-)
Impedance	22 Ohms
<b>Frequency Compatibility</b>	
Horizontal	15.75-45 kHz
Vertical	60Hz
Video Bandwidth	30 MHz @ -3dB
<b>Coupling</b>	DC
<b>Cross-talk</b>	-40dB @ 10 MHz
<b>Power</b>	
Internal Power Supply	230/110 V
<b>Power Consumption</b>	10 watts max.

Table 3. **TR6102HD** Electrical

## APPLICATION DIAGRAM 4



## INSTALLING YOUR TRANSCODER 5

**Step 1.** Connect the video output of the W-VHS VCR or HDTV camera to the video input of the **TR6102HD** using 3-BNC coaxial cables.

**Step 2.** Connect the display device to one of the 3 output ports of the **TR6102HD** using the proper cable. If display device accepts 5-BNC input, use the 5-BNC output of the unit and a 5-BNC to 5-BNC cable. If the display device has a 15-pin HD connector, use a VGA cable, and connect to one of the two VGA outputs

**Step 3.** Connect the power cord and turn the unit on. The LED lights will turn on, indicating that the unit is operational.

**Step 4.** Make sure that the large screen projector or monitor's picture is acceptable. Make the necessary adjustments to the W-VHS VCR. NOTE: The converted image may exhibit streaking on the very bottom of the image. Use the blanking controls on the projector to blank the two bottom lines.

**CONGRATULATIONS! YOU ARE ALL DONE.**

If you experience any problems, please call  
1-800-258-4623 or 1-714-990-2300 for  
international calls.

## OPERATION 6

The **TR6102HD** will operate successfully as long as cables are attached properly and other technical specifications are followed.

### 6.1 HDTV INPUT

The input of the **TR6102HD** consists of 3 BNC connectors and is directly compatible with the output of a W-VHS VCR and a HDTV camera.

CONNECTOR	CONNECTOR TYPE	DESCRIPTION
1	BNC	Ey
2	BNC	EpB
3	BNC	EpR

Table 4. HDTV input configuration

### 6.2 RGB OUTPUT

Three buffered RGB outputs are provided on the **TR6102HD**. The main output is RGBSHV on 6-BNC connectors. Output No.1 and No.2 are 15-pin HD connectors with video signal output pin-outs compatible with VGA pin-outs.

CONNECTOR	CONNECTOR TYPE	DESCRIPTION
1	BNC	RED
2	BNC	GREEN
3	BNC	BLUE
4	BNC	COMPOSITE SYNC



CONNECTOR	CONNECTOR TYPE	DESCRIPTION
5	BNC	HORIZONTAL SYNC
6	BNC	VERTICAL SYNC

Table 5. Main output RGBSHV output configuration

### 6.3 POWER

The power module is configurable to 110 or 220 volts. To reconfigure the unit, squeeze together the two prongs of the fuse module of the power module and pull it out from its socket. Remove the fuse box and install it to display the desired voltage in the voltage window. Place the fuse box back in its socket.

PIN	OUTPUT SIGNALS
1	RED
2	GREEN
3	BLUE
4	Not used
5	Not used
6	Ground
7	Ground
8	Ground
9	Not used
10	Not used
11	Not used
12	Not used
13	HORIZONTAL SYNC
14	VERTICAL SYNC
15	Not used

Table 6. RGBHV output on 15-pin connector

### 6.4 CABLE REQUIREMENTS

Any 3-BNC, 4-BNC, or 5-BNC coaxial cable can be used as an input cable. The output cable type depends on the display device input port and the output port used on the **TR6102HD**. For example, a VGA monitor can be directly connected to Output 1 and 2. A multi-sync monitor with BNC input can be connected directly to the main output. Other combinations may require cables with a 5-BNC or 15-pin HD (VGA) connector on one end and a connector compatible with the display device on the other end.

## ACCESSORIES 7

Model No.	Description
	<b>15-PIN VGA TO 5 BNC</b>
<b>MS8102CA</b>	15-pin HD Male to 5 BNC-6ft
<b>MS8104CA</b>	15-pin HD Male to 5 BNC-15 ft
<b>MS8106CA</b>	15-pin HD Male to 5 BNC Female-6ft
<b>MS8112CA</b>	15-pin HD female to 5 BNC - 6ft
<b>MS8114CA</b>	15-pin HD female to 5 BNC - 15ft
	<b>STANDARD 15-PIN VGA (M) to (M) Coaxial Cable</b>
<b>CB3703MR</b>	3 feet, 15-pin HD (M) to 15-pin HD (M)
<b>CB3706MR</b>	6 feet, 15-pin HD (M) to 15-pin HD (M)
<b>CB3715MR</b>	15 feet, 15-pin HD (M) to 15-pin HD (M)
<b>CB3725MR</b>	25 feet, 15-pin HD (M) to 15-pin HD (M)
<b>CB3750MR</b>	50 feet, 15-pin HD (M) to 15-pin HD (M)
<b>CB3775MR</b>	75 feet, 15-pin HD (M) to 15-pin HD (M)
<b>CB37100MR</b>	100 ft, 15-pin HD (M) to 15-pin HD (M)
	<b>4 BNC TO 4 BNC COAXIAL CABLE</b>
<b>CB4100MR</b>	Bulk cable 4 coaxes (500 ft minimum)
<b>CB4106MR</b>	6 feet, 4 BNC to 4 BNC coaxial cable
<b>CB4112MR</b>	12 feet, 4 BNC to 4 BNC coaxial cable
<b>CB4125MR</b>	25 feet, 4 BNC to 4 BNC coaxial cable
<b>CB4150MR</b>	50 feet, 4 BNC to 4 BNC coaxial cable
<b>CB4175MR</b>	75 feet, 4 BNC to 4 BNC coaxial cable
<b>CB41100MR</b>	100 feet, 4 BNC to 4 BNC coaxial cable
	<b>5 BNC TO 5 BNC COAXIAL CABLE</b>
<b>CB4200MR</b>	Bulk cable 5 coaxes (500 ft minimum)
<b>CB4203MR</b>	3 feet, 5 BNC to 5 BNC coaxial cable
<b>CB4206MR</b>	6 feet, 5 BNC to 5 BNC coaxial cable
<b>CB4212MR</b>	12 feet, 5 BNC to 5 BNC coaxial cable
<b>CB4225MR</b>	25 feet, 5 BNC to 5 BNC coaxial cable
<b>CB4250MR</b>	50 feet, 5 BNC to 5 BNC coaxial cable
<b>CB4275MR</b>	75 feet, 5 BNC to 5 BNC coaxial cable
<b>CB42100MR</b>	100 feet, 5 BNC to 5 BNC coaxial cable

## 8.1 LIMITED WARRANTY

Altinex warrants that its products and cables are free from defects in materials under normal use and service. This warranty is limited to repairing at company's factory any part or parts of the product, which upon company's examination shall disclose to be thus, defective. Products considered defective should be returned to company with transportation charges pre-paid, within 2 years (90 days for cables) from date of shipment to the purchaser. The warranty is expressly instead of all other warranties expressed or implied. Altinex neither assumes nor authorizes any other person to assume for it any other liability concerning the sale of the products. This warranty shall not apply to any product that has been repaired or altered outside of company's factory in any way, so as, to affect its stability or reliability, or that has been subject to misuse, negligence, or accident.

## 8.2 RETURN POLICY

It is very important to Altinex that you receive the products that you have ordered and that this product fulfills your need. In the unlikely event, that an Altinex product needs to be returned please follow the policies below:

Altinex will accept product returns for a period of 30 days from authorized Altinex dealers. Products should be returned in an unopened package.

If a product has been opened, the restocking fees will apply. For the restocking fee amount, please contact an Altinex Sales Representative.

If the product is in your possession for more than 30 days, the restocking fees will apply.

Altinex will not accept any returns on cables or custom products.

If your product is in warranty and needs service, contact the Altinex Sales Department for an RMA (Return Material Authorization). Products returned without an RMA number may experience a delay in service.

If your product is out of warranty and needs service, contact the Altinex Sales Department for an RMA (Return Material Authorization). Products returned without an RMA number may experience a delay in service. The service charges will be quoted to you before the actual repairs are done.

## 8.3 CONTACT INFORMATION

### Sales Department

Phone: 714-990-2300

Fax: 714-990-3303

### Accounting Department

Phone: 714-990-6088

Fax: 714-990-5778