

# H.264 to MPEG-2 HD Transcoder for up to 12 SPTS Channels



Stock #	Model Name	Description
6559	Clearview 4:2 12	H.264 (AVC) to MPEG-2 HD Transcoder; 12 Channels



## Product Introduction

The **Clearview 4:2 12** receives up to twelve (12) H.264 AES-128 encrypted IP channels from the Technicolor COM3000/2000 devices.

The **Clearview 4:2 12** decrypts the AES-128 content into clear IP, transcodes the decrypted H.264 content into MPEG-2, while preserving the “forensic watermarking” and returns the content to the Technicolor COM3000/2000 devices as clear IP.

### Features:

- Decrypts AES-128 encrypted H.264 video content
- IP input that supports up to 12 SPTS H.264 HD programs
- IP output supports up to 12 SPTS MPEG-2 HD programs
- Preserves embedded watermarking on outbound MPEG-2 video content
- Easy-to-use GUI for monitoring & control
- 12 front panel Status LEDs, one for each program stream
- One front panel Temperature LED

## Before You Begin

### Unpacking the Unit

You will find the following Items in the box:

- Clearview 4:2 12 (QTY=1)
- Power Cord with IEC C13 line socket and 3-pin Type B NEMA 5 plug (QTY=1)



### IMPORTANT NOTE BEFORE YOU BEGIN!

The Key2License from Technicolor is required and **MUST** be installed on the COM3000/2000 unit prior to setup of this unit. See [Section 3](#) of the User Manual for more information.

## Step 1: Setup and Install of the Unit

The Clearview 4:2 is designed to be installed in a standard 19-inch (483 mm) rack (EIA 310-D, IEC 60297, and DIN 41494 SC48D).

- 1 To install, secure the unit's front panel to the rack by inserting four (4) machine screws, with cup washers, through the four (4) mounting holes in the front panel. A 1RU open space is recommended above the unit for ventilation.



### DO NOT BLOCK THE UNIT'S AIR INTAKE OR AIR DISCHARGE OPENINGS

The Unit performance will be degraded without proper ventilation.  
Excessive heat will shorten the life of the unit.

- 2 To power the unit up, connect the IEC line cord to the receptacle on the rear panel. Then connect the other end to a 120 VAC power outlet. The input power receptacle is equipped with a fuse-holder and fuse (SLO-BLO, 3.0 Amp, 250V).



### WARNING

For safe and reliable operation, the ground pin of the power cord must be grounded properly.

## Step 2: Connecting to a PC/Laptop

### ETHERNET ACCESS:

Local or remote communication with the unit is only possible through a GUI-based menu via web browser (Chrome or Firefox is recommended). Before you can communicate with the unit, you must configure your computer's IP address to be in the same subnet as the unit's default IP address. To do so, follow these steps:

- 1 Connect one end of the Ethernet cable to the “**Control**” port on the unit front-panel interface. Connect the other end of the Ethernet cable to your computer.
- 2 The factory default IP address of the Control port is “**172.16.70.1**”. In order to communicate with the Control port, you must first change your computer's IP address.

The following steps explain how to do this for a computer with **Windows 7**, **Windows 8.x** or **Windows 10** operating software:

(a) On your computer, navigate to the “Network and Sharing Center”.

*(Note: It can be found using the search box in the Start Menu or for Windows 8.x, the Start Screen)*

(b) Once open, click on “Change Adapter Settings” on left hand side of the window.

(c) Right-click on the “Local Area Connection”, and then click on the “Properties”.

(d) A dialog box entitled “Local Area Connection Properties” will appear. In this box, double-click on the “Internet Protocol Version 4 (TCP/IPv4)”.

(e) A dialog box entitled “Internet Protocol Version 4 (TCP/IPv4) Properties” will appear. Select the “Use the following IP address” option and enter the following addresses:

IP address: **172.16.70.2**

Subnet mask: **255.255.255.0**

No need to enter a value for the Default Gateway.

Click OK to close the dialog box. Your computer is now ready to communicate with the unit.



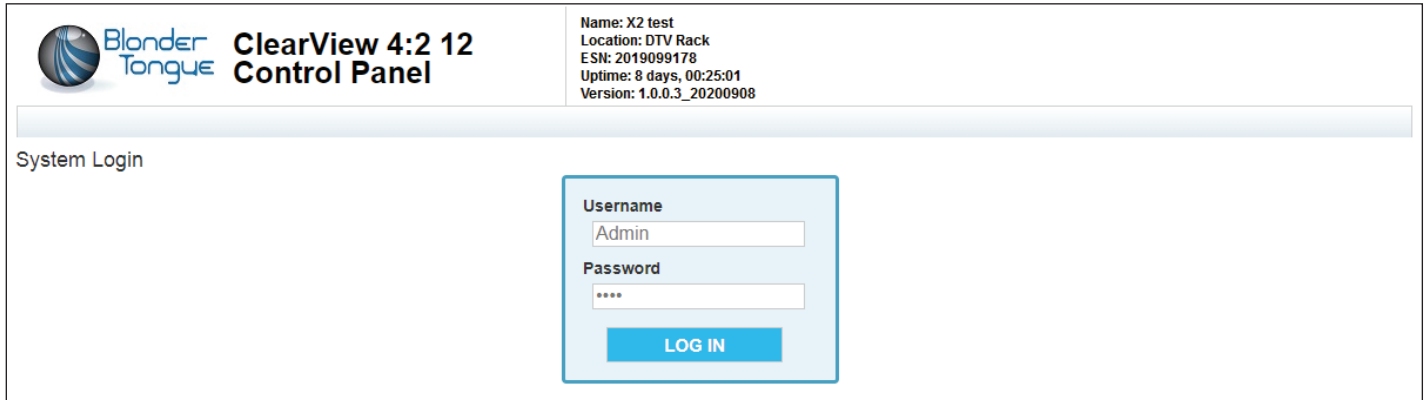
### IMPORTANT NOTE ON PORT CONFIGURATION

The “**Control**” port and “**IP Video**” port should not be configured to be within the same IP subnet. The “**Control**” port and “**IP Video**” port should also not be physically connected to the same network without proper network segmentation.

It is possible to access the unit's user interface via the “**IP Video**” port by using the IP address assigned to XC1.

### Step 3: Login to the Controller

An Ethernet Cable should be connected between your PC and the “Control” port on the unit. Open a Web browser (Chrome or Firefox recommended) and type <http://172.16.70.1> in to your web browser to view and configure your Clearview 4:2 12. Enter the username “Admin” and “pass” as the password and click [LOG IN].



### Step 4: Basic Configuration

#### System Status

Once you are logged into the unit, you will be presented with the “System Status” page (“Status” tab):

Device	Status	Temperature
Host	OK	110.0°F / 43.3°C
XC1	Transcoding...	110.0°F / 43.3°C
XC2	Transcoding...	107.4°F / 41.9°C
XC3	Transcoding...	109.1°F / 42.8°C
XC4	Transcoding...	110.0°F / 43.3°C
XC5	Transcoding...	111.7°F / 44.3°C
XC6	Transcoding...	108.2°F / 42.4°C
Fans	Fan Speed: 3196 RPM, PWM Duty Cycle: 33%	
	Fan Speed: 3255 RPM, PWM Duty Cycle: 33%	

**Log Messages (10 Most Recent Entries) -  Auto-refresh**

```

Sep 17, 2020 10:40:24 - Host: User logged in from IP: 172.16.30.142
Sep 17, 2020 02:54:43 - XC6:1: Detected service interruption.
Sep 16, 2020 08:31:06 - Host: User logged in from IP: 172.16.130.64
Sep 16, 2020 03:30:00 - XC2:1: Detected service interruption.
Sep 14, 2020 08:58:38 - Host: User logged in from IP: 172.16.130.64
Sep 13, 2020 03:17:10 - XC1:1: Detected service interruption. Transcode failed.
Sep 13, 2020 03:17:08 - XC1:2: Detected service interruption. Transcode failed.
Sep 13, 2020 03:17:03 - XC1:2: Detected service interruption. Transcode failed.
Sep 13, 2020 03:17:03 - XC1:1: Detected service interruption. Transcode failed.
Sep 13, 2020 03:17:03 - XC1:1: Stream not found after 90 seconds. Retrying...
          
```

**Reference**  
[Blonder Tongue](#)

#### Status Page - Full View

This section provides status messages, temperatures, and fan RPM for the Host system as well as each transcoder used. The page also features a recent logged message box beneath the main status area which shows the 10 most recent entries within the Event Log. To see a more in-depth log of event messages, click the “Log” tab located on the right side of the navigation menu at the top.

## Step 4: Basic Configuration (continued)

### System Settings

Go to the “**System**” tab to change the System Settings, including unit identification and network settings.

The user is also able to reboot the unit and upload/download configuration files. Once downloaded, the settings can be applied to the unit or the user can choose to set the unit back to the default factory settings with a click of a button.



#### IMPORTANT

A reboot is required after applying a configuration file.

The following Ethernet Settings can be changed: IP address, Subnet Mask, Default Gateway, and the Primary and Secondary DNS. In addition, the network settings for each transcoder slave are individually configurable. Click “**Apply Settings**” in order to save new or changed settings.

Status	System	Time	Transcoders: Status	Settings	Log	Firmware Update
<b>Unit Operations</b>						
Unit Reboot				<input type="button" value="Reboot"/>		
<b>Settings Configuration</b>						
<input type="button" value="Default Unit Settings"/>		<input type="button" value="Download Configuration File"/>				
Config File (2MB Maximum)		<input type="button" value="Browse..."/> No file selected.			<input type="button" value="Load &amp; Apply Configuration File"/>	
<b>Command/Control Ethernet Settings</b>						
Unit Name	X2 test					
Unit Location	DTV Rack					
MAC Address	00:10:18:ac:b8:ed					
IP	IP Address: 172.16.130.49	Subnet Mask: 255.255.255.0	Default Gateway: 172.16.130.254			
DNS	Primary DNS: 8.8.8.8		Secondary DNS: 8.8.4.4			
<b>Transcoder Ethernet Settings</b>						
XC1	IP Address: 192.168.6.72	Subnet Mask: 255.255.255.0	Default Gateway: 192.168.6.254			
XC2	IP Address: 192.168.6.73	Subnet Mask: 255.255.255.0	Default Gateway: 192.168.6.254			
XC3	IP Address: 192.168.6.74	Subnet Mask: 255.255.255.0	Default Gateway: 192.168.6.254			
XC4	IP Address: 192.168.6.75	Subnet Mask: 255.255.255.0	Default Gateway: 192.168.6.254			
XC5	IP Address: 192.168.6.76	Subnet Mask: 255.255.255.0	Default Gateway: 192.168.6.254			
XC6	IP Address: 192.168.6.77	Subnet Mask: 255.255.255.0	Default Gateway: 192.168.6.254			
<input type="button" value="Apply Settings"/>						

System Page - Full View

### Transcoder Ethernet Settings

This section allows the user to individually configure the network settings for each numbered transcode pair (XC1 to XC6).

When using in conjunction with the Technicolor COM3000/2000, the IP address of the transcode pair (XC1 to XC6) **MUST** correlate with the IP Port address settings on the "Overview" Tab located on the COM3000/2000. (See Section 6.2 of the Manual for more details)



#### REMINDER

If the IP Address is changed, the procedure in Step 3 must be repeated using the new IP address in place of the default IP address in order to re-access the control panel.

## Step 5: Transcoder Configuration

### Transcoders: Settings

The final information to setup within the unit is located in the “Transcoders:” > “Settings” tab.

XC1:1	XC2:1	XC3:1	XC4:1	XC5:1	XC6:1
XC1:2	XC2:2	XC3:2	XC4:2	XC5:2	XC6:2
Video/Audio Pipeline Settings					
Pipeline Control		Enable			
Input Stream URI		UDP // 192.168.6.72 : 20017			
Decryption Mode		Technicolor COM (AES 128)			
Output Resolution		480i60			
Output Video Encoding Format		MPEG-2			
Output Video Bitrate		3.0Mbps			
Output Audio Encoding Format		Passthru			
Output Audio Bitrate		Same			
Output Stream URI		UDP // 192.168.6.2 : 17			

Transcoders: Settings Page - Example

On this page, the user is able to set up the Video and Audio Pipeline settings, located on the right side.

The visual representation of the transcode pipeline on the left side is interactive. Clicking on a Transcode block displays the corresponding settings in the “Video/Audio Pipeline Settings” table, located on the right side. The corresponding tab is also highlighted for persistent indication of the Transcode pipeline settings currently being shown.



### IMPORTANT

It is recommended that the user avoid the following incoming port numbers when configuring the Input Stream URI in the transcoder pipeline settings: 50000 - 52000

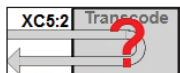
### Transcoders: Status

The information shown on this screen indicates the status of each transcoder. A visual status of the pipeline is also shown on the left side. When hovering over a Transcode block, the corresponding status table highlights.

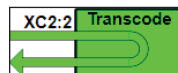
XC1:1		XC1:2		XC2:1	
In - Video	720p60 AVC	In - Video	720p60 AVC	In - Video	480i30 MPEG2
In - Audio	AC3	In - Audio	AC3	In - Audio	MPEG
Out - Video	480i60 MPEG-2 @ 3.0Mbps	Out - Video	480p30 MPEG-2 @ 4.0Mbps	Out - Video	480p60 MPEG-2 @ 5.0Mbps
Out - Audio	Passthru	Out - Audio	Passthru	Out - Audio	Passthru
XC2:2		XC3:1		XC3:2	
In - Video	1080i30 AVC	In - Video	1080i30 AVC	In - Video	1080i30 AVC
In - Audio	AC3	In - Audio	AC3	In - Audio	AC3
Out - Video	720p30 MPEG-2 @ 6.0Mbps	Out - Video	720p60 MPEG-2 @ 7.0Mbps	Out - Video	1080i60 MPEG-2 @ 8.0Mbps
Out - Audio	Passthru	Out - Audio	Passthru	Out - Audio	Passthru

Transcoders: Status Page - Visual and Informational Status

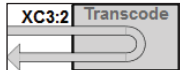
### Pipeline Status States



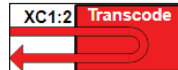
**Light Gray (Red Question Mark):** the transcoder has not been detected yet.



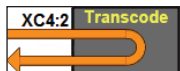
**Green:** the transcoder is active.



**Light Gray:** the transcoder is disabled.



**Red:** the transcode has failed.



**Dark Gray (Orange Arrow):** the transcoder is idle.

## Non-Standard Network Configuration

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### Example network configuration:

1. The Video Source/Sink device's control port is configured to be at **192.168.3.18**.
2. The **Clearview 4:2 12** IP Video ports are configured to be at **192.168.6.71 - 192.168.6.82** (**XC1** at "192.168.6.71", **XC2** at "192.168.6.72", etc.) with subnet masks of **255.255.0.0**.
3. The Management PC is configured to be at **192.168.3.5** with a subnet mask of **255.255.0.0**.

**Note:** The subnet mask of the Video Source/Sink device must be configured to be on the same subnet mask as the Management PC.

### Accessing devices from the Management PC:

- To access the Video Source/Sink device, go to <http://192.168.3.18>
- To access the **Clearview 4:2 12** unit, go to <http://192.168.6.71>

**Note:** Additional **Clearview 4:2 12** units sharing the same network with a single Video Source/Sink device need to have their transcoder (XC1 - XC6) IP addresses assigned to avoid collisions with XC IP addresses on other **Clearview 4:2 12** units. In other words, all XC IP addresses on a network **\*must\*** be unique across all **Clearview 4:2 12** units.

## Troubleshooting

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For technical support please contact us at 1-800-523-6049 between the hours of 8am and 5pm EST.

Please refer to the User Manual for additional information.

### Product and Documentation Updates

Download the latest User Manual (PDF) by visiting our website. Navigate to the product page by entering the full Model Name or Stock Number in the search field. Upon reaching the product page, the "User Manual" download link will be located beneath the product image. **Firmware Updates** are available under "Tech Support" in the "Resources" section of the website. General instructions for the FTP site, as well as updating your firmware, are provided on this page.

### Returning Product for Repair (or Credit)

**A Return Material Authorization (RMA) Number is required on all products returned to Blonder Tongue, regardless if the product is being returned for repair or credit.** Before returning product, please contact the Blonder Tongue Service Department at 1-800-523-6049, Ext. 4256 or visit our website: [www.blondertongue.com](http://www.blondertongue.com) for further information.



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