# Clearview 4:2 SD
## Quick Guide

# H.264 to MPEG-2 SD Transcoder
# for up to 24xSPTS Channels

| Stock # | Model Name | Description |
|---|---|---|
| 6557 2 | Clearview 4:2 SD | H.264 to SD (480i) MPEG-2 Transcoder |

**MADE IN USA**

## Product Introduction

The **Clearview 4:2 SD** receives up to twenty-four (24) H.264 AES-128 encrypted IP channels from the Technicolor COM3000/2000 devices.

The **Clearview 4:2 SD** 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 Technicolor's AES-128 encrypted H.264 video content.
- Unicast IP input that supports up to 24 SPTS H.264 HD programs
- Unicast IP output supports up to 24 SPTS MPEG-2 SD programs

- Preserves Technicolor's embedded watermarking on outbound MPEG-2 video content
- Compatible with Technicolor's COM3000 DirecTV receivers
- Easy-to-use GUI for monitoring & control
- 24 front panel Status LEDs (one for each program stream) and 1 front panel Temperature LED

## Before You Begin

**Unpacking the Unit**

You will find the following Items in the box:

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

> **STOP**
>
> **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 SD 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 degrated 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 units 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.

**STOP**

**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 SD. 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):



**Status Page - Full View**

## Step 4: Basic Configuration (continued)

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.

**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 |
|---|---|---|---|---|---|---|---|

| Unit Operations | |
|---|---|
| Unit Reboot | Reboot |

**Settings Configuration**

| Default Unit Settings | | Download Configuration File |
|---|---|---|
| Config File (2MB Maximum) | Browse... No file selected. | Load & Apply Configuration File |

**Command/Control Ethernet Settings**

| Unit Name | X2 test unit (ASP) | | |
|---|---|---|---|
| Unit Location | DTV Rack | | |
| MAC Address | 00:14:39:ff:ff:3d | | |
| IP | IP Address: 172.16.130.44 | Subnet Mask: 255.255.255.0 | Default Gateway: 172.16.130.254 |
| DNS | Primary DNS: 172.16.1.250 | Secondary DNS: 172.16.1.251 | |

**Transcoder Ethernet Settings**

| XC1 | IP Address: 192.168.6.84 | Subnet Mask: 255.255.255.0 | Default Gateway: 192.168.6.254 |
|---|---|---|---|
| XC2 | IP Address: 192.168.6.85 | Subnet Mask: 255.255.255.0 | Default Gateway: 192.168.6.254 |
| XC3 | IP Address: 192.168.6.86 | Subnet Mask: 255.255.255.0 | Default Gateway: 192.168.6.254 |
| XC4 | IP Address: 192.168.6.87 | Subnet Mask: 255.255.255.0 | Default Gateway: 192.168.6.254 |
| XC5 | IP Address: 192.168.6.88 | Subnet Mask: 255.255.255.0 | Default Gateway: 192.168.6.254 |
| XC6 | IP Address: 192.168.6.89 | Subnet Mask: 255.255.255.0 | Default Gateway: 192.168.6.254 |
| XC7 | IP Address: 192.168.6.190 | Subnet Mask: 255.255.255.0 | Default Gateway: 192.168.6.254 |
| XC8 | IP Address: 192.168.6.191 | Subnet Mask: 255.255.255.0 | Default Gateway: 192.168.6.254 |
| XC9 | IP Address: 192.168.6.192 | Subnet Mask: 255.255.255.0 | Default Gateway: 192.168.6.254 |
| XC10 | IP Address: 192.168.6.193 | Subnet Mask: 255.255.255.0 | Default Gateway: 192.168.6.254 |
| XC11 | IP Address: 192.168.6.194 | Subnet Mask: 255.255.255.0 | Default Gateway: 192.168.6.254 |
| XC12 | IP Address: 192.168.6.195 | Subnet Mask: 255.255.255.0 | Default Gateway: 192.168.6.254 |
| | 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 XC12).

When using in conjunction with the Technicolor COM3000/2000, the IP address of the transcode pair (XC1 to XC12) 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.



**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.



**Transcoders: Status Page - Visual and Informational Status**

**Pipeline Status States**

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

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

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

 **Green:** The transcoder is active.

 **Red:** The transcode has failed.

## Non-Standard Network Configuration

**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 SD** 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 SD** unit, go to **http://192.168.6.71**

   **Note:** Additional **Clearview 4:2 SD** units sharing the same network with a single Video Source/Sink device need to have their transcoder (XC1 - XC12) IP addresses assigned to avoid collisions with XC IP addresses on other **Clearview 4:2 SD** units. In other words, all XC IP addresses on a network *__must__* be unique across all **Clearview 4:2 SD** units.

## Troubleshooting

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** for further information.