

HD Transcoder

MPEG-2 / H.264 (AVC) / H.265 (HEVC)

for up to 24 SPTS Programs



Stock #	Model Name	Description
6557 1	Clearview+	MPEG-2, H.264 (AVC), H.265 (HEVC) to MPEG-2, H.264 (AVC), H.265 (HEVC) HD Transcoder

Product Introduction

The **Clearview+™** is a professional grade video and audio Transcoder in a 1RU form factor, designed to accept up to twenty-four (24) HD or SD programs simultaneously, using up to 1Gb of data throughput. The unit can accept IP video transport streams in MPEG-2, H.264, or H.265, and output these IP transport streams to any combination of MPEG-2, H.264, and H.265 formats. Product features include transrating capability of specific video bit rates, and specific video resolutions.

The **Clearview+** hardware-based video compression technology provides superior Transcoding quality at low bit rates, perfect for Live Linear Broadcasting. The unit was designed to support a wide range of video and audio inputs and outputs, as well as Dolby® Digital Audio capability to reduce capital and operational costs.

Features:

- Stand-alone 1RU Transcoder for the Advanced Transrating of IPTV signals
- SD to HD upscaling or HD to SD downscaling
- IP input up to 24 SPTS MPEG-2, H.264 (AVC), H.265 (HEVC) HD programs
- IP output up to 24 SPTS MPEG-2, H.264 (AVC), H.265 (HEVC) HD programs
- Primary and secondary Audio types: Dolby® Digital AC3, AAC, MPEG1-Layer2 (pass-through only), and MP3
- 1080i to 720p or 720p to 1080i resolution conversions yields improved compatibility/bandwidth savings
- 24 front panel Status LEDs, one (1) per each program stream
- Front panel Temperature LED
- Easy-to-use GUI for monitoring and control

Before You Begin

You will find the following items in the box:

- **Clearview+** Transcoder (QTY=1)
- Power Cord with IEC C13 line socket and 3-pin Type B NEMA 5 plug (QTY=1)

Step 1: Setup and Install of the Unit

The **Clearview+** 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+**. Enter the username “**Admin**” and “**pass**” as the password and click [LOG IN].

Blender Tongue ClearView+ Control Panel

Name: X2 test unit (Non-ASP)
Location: DTV Rack
ESN: 2020040924
Uptime: 0 days, 03:46:14
Version: TEST_8577193c_20200529

System Login

Username
Admin

Password
pass

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):

StatusSystemTimeTranscoders: StatusSettingsLogFirmware Update

System Status

Device	Status	Temperature
Host	OK	113.5°F / 45.3°C
XC1	Transcoding...	113.5°F / 45.3°C
XC2	-	113.5°F / 45.3°C
XC3	Transcoding...	119.6°F / 48.7°C
XC4	-	112.6°F / 44.8°C
XC5	Transcoding...	117.9°F / 47.7°C
XC6	-	117.9°F / 47.7°C
XC7	Transcoding...	117.0°F / 47.2°C
XC8	Transcoding...	117.0°F / 47.2°C
XC9	Transcoding...	118.8°F / 48.2°C
XC10	-	113.5°F / 45.3°C
XC11	-	113.5°F / 45.3°C
XC12	-	115.3°F / 46.3°C
Fans	Fan Speed: 3504 RPM, PWM Duty Cycle: 33%	
	Fan Speed: 3521 RPM, PWM Duty Cycle: 33%	
	Fan Speed: 3558 RPM, PWM Duty Cycle: 33%	
	Fan Speed: 3378 RPM, PWM Duty Cycle: 33%	

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

Sep 2, 2020 09:33:40 - Host: User logged in from IP: 172.16.30.142

Sep 2, 2020 09:32:06 - Host: Log manually cleared.

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.

System Settings

To change the System and Ethernet Settings, including unit identification and location, go to the “**System**” tab (shown next page).

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 Ethernet Settings that can be changed are “**IP Address**”, “**Subnet Mask**”, “**Default Gateway**”, “**Primary DNS**”, and “**Secondary DNS**”. In addition, the network settings for each transcoder slave are individually configurable. This section also allows the user to individually configure the network settings for each numbered transcode pair (XC1 to XC12). Click “**Apply Settings**” in order to save new or changed settings.

Step 4: Basic Configuration (continued)

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 (Non-ASP)					
Unit Location		DTV Rack					
MAC Address		00:14:39:00:d6:c7					
IP		IP Address: 172.16.130.43		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: 192.168.1.60		Subnet Mask: 255.255.255.0		Default Gateway: 192.168.1.254	
XC2		IP Address: 192.168.1.61		Subnet Mask: 255.255.255.0		Default Gateway: 192.168.1.254	
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	
XC7		IP Address: 192.168.6.78		Subnet Mask: 255.255.255.0		Default Gateway: 192.168.6.254	
XC8		IP Address: 192.168.6.79		Subnet Mask: 255.255.255.0		Default Gateway: 192.168.6.254	
XC9		IP Address: 192.168.6.80		Subnet Mask: 255.255.255.0		Default Gateway: 192.168.6.254	
XC10		IP Address: 192.168.6.81		Subnet Mask: 255.255.255.0		Default Gateway: 192.168.6.254	
XC11		IP Address: 192.168.6.82		Subnet Mask: 255.255.255.0		Default Gateway: 192.168.6.254	
XC12		IP Address: 192.168.6.83		Subnet Mask: 255.255.255.0		Default Gateway: 192.168.6.254	
Apply Settings							

System Page - Full View



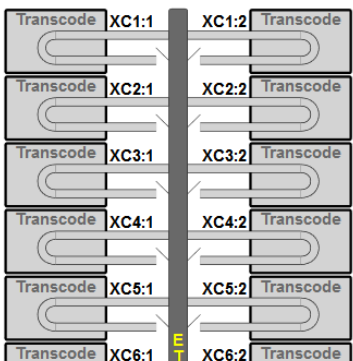
REMINDER

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.

Status	System	Time	Transcoders:	Status	Settings	Log	Firmware Update																								
Transcoder Configuration																															
				<table><tr><td>XC1:1</td><td>XC2:1</td><td>XC3:1</td><td>XC4:1</td><td>XC5:1</td><td>XC6:1</td><td>XC7:1</td><td>XC8:1</td><td>XC9:1</td><td>XC10:1</td><td>XC11:1</td><td>XC12:1</td></tr><tr><td>XC1:2</td><td>XC2:2</td><td>XC3:2</td><td>XC4:2</td><td>XC5:2</td><td>XC6:2</td><td>XC7:2</td><td>XC8:2</td><td>XC9:2</td><td>XC10:2</td><td>XC11:2</td><td>XC12:2</td></tr></table>				XC1:1	XC2:1	XC3:1	XC4:1	XC5:1	XC6:1	XC7:1	XC8:1	XC9:1	XC10:1	XC11:1	XC12:1	XC1:2	XC2:2	XC3:2	XC4:2	XC5:2	XC6:2	XC7:2	XC8:2	XC9:2	XC10:2	XC11:2	XC12:2
XC1:1	XC2:1	XC3:1	XC4:1	XC5:1	XC6:1	XC7:1	XC8:1	XC9:1	XC10:1	XC11:1	XC12:1																				
XC1:2	XC2:2	XC3:2	XC4:2	XC5:2	XC6:2	XC7:2	XC8:2	XC9:2	XC10:2	XC11:2	XC12:2																				
Video/Audio Pipeline Settings																															
Pipeline Control				Enable																											
Input Stream URI				UDP // 192.168.6.78 : 20081																											
Decryption Mode				None																											
Output Resolution				1080i60																											
Output Video Encoding Format				MPEG-2																											
Output Video Bitrate				15.0Mbps																											
Output Audio Encoding Format				AAC																											
Output Audio Bitrate				128Kbps																											
Output Audio Gain				0 - Unity																											
Output Stream URI				UDP // 192.168.6.2 : 81																											
Apply																															

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.

Step 5: Transcoder Configuration (continued)

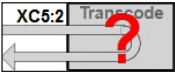
Transcoders: Status

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.

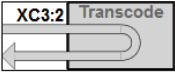
Status	System	Time	Transcoders:	Status	Settings	Log	Firmware Update
Transcoder Status							
	Transcode		XC1:1	XC1:2	Transcode		
	In - Video		480i30 MPEG2	In - Video	-		
	In - Audio		AC3	In - Audio	-		
	Out - Video		720p60 H.264 @ 8.0Mbps	Out - Video	720p60 H.264 @ 8.0Mbps		
	Out - Audio		AAC @ 320Kbps	Out - Audio	AAC @ 384Kbps		
	In - Video		-	In - Video	-		
	In - Audio		-	In - Audio	-		
	Out - Video		720p60 MPEG-2 @ 9.0Mbps	Out - Video	720p60 MPEG-2 @ 9.0Mbps		
	Out - Audio		passthru @ 64Kbps	Out - Audio	passthru @ 64Kbps		
	In - Video		-	In - Video	-		
	In - Audio		-	In - Audio	-		
	Out - Video		720p60 MPEG-2 @ 9.0Mbps	Out - Video	720p60 MPEG-2 @ 9.0Mbps		
	Out - Audio		passthru @ 64Kbps	Out - Audio	passthru @ 64Kbps		
	In - Video		-	In - Video	-		
	In - Audio		-	In - Audio	-		
	Out - Video		720p60 MPEG-2 @ 9.0Mbps	Out - Video	720p60 MPEG-2 @ 9.0Mbps		
	Out - Audio		passthru @ 64Kbps	Out - Audio	passthru @ 64Kbps		
	In - Video		-	In - Video	-		
	In - Audio		-	In - Audio	-		
	Out - Video		720p60 MPEG-2 @ 9.0Mbps	Out - Video	720p60 MPEG-2 @ 9.0Mbps		

Transcoders: Status Page - Visual and Informational Status

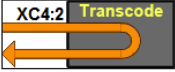
Pipeline Status States



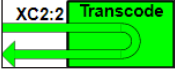
Light Gray (Red Question Mark): The transcoder has not been detected yet.



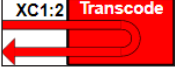
Light Gray: The transcoder is disabled.



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+** 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+** unit, go to <http://192.168.6.71>

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



One Jake Brown Road
Old Bridge, NJ 08857-1000 USA
732-679-4000 • Fax 732-679-4353
www.blondertongue.com