⚠ CAUTION: Before you set up and operate your switcher, see the "Important Safety Instructions" in your Setup manual.

QuickStart

Audio/Video Inputs/Outputs/Reference

CUF-124

- Reference In
- Output HD-BNCs
- LTC In
- AES Out
- Input HD-BNCs
- Reference Out
- MultiViewer Out

UHD Input/Output
- Quad-Link 3Gb/s 2SI/QSD
- Single-Link 12Gb/s 2SI/QSD

Notes:
- The I/O MultiViewers are only available on MV OUT 1-2 and the Video Processor MultiViewers are only available on MV OUT 3-4.
- Audio is not embedded in the MultiViewer output.
- Only outputs 5-14 can have a FSFC assigned to them.
- In UHDTV1, only inputs 3-6 and 8-11 can accept Quad-Link 3Gb/s 2SI or QSD. All other inputs can only accept Single-Link 12Gb/s 2SI without FSFC conversion.

Power Cabling

OR

Ultripower

Note: It is recommended that you always connect the AC Power Adapter to the device before connecting to Mains Power.

Mains Power

Control Cabling

Ethernet
- To control panel
- To DashBoard
- To external ethernet devices
- Connect video inputs as needed
- To external serial device
- Connect Program, Preview, and aux outputs as needed
- Connect external reference or use internal reference

Ports, Pinouts, and Diagnostics

UltrA CARBONITE

- USB
- Power Switch
- Serial
- Tally
- GPI I/O
- DIP Switches
- Power
- Network

LTC+ LTC- LTC-
GND AES+ AES-
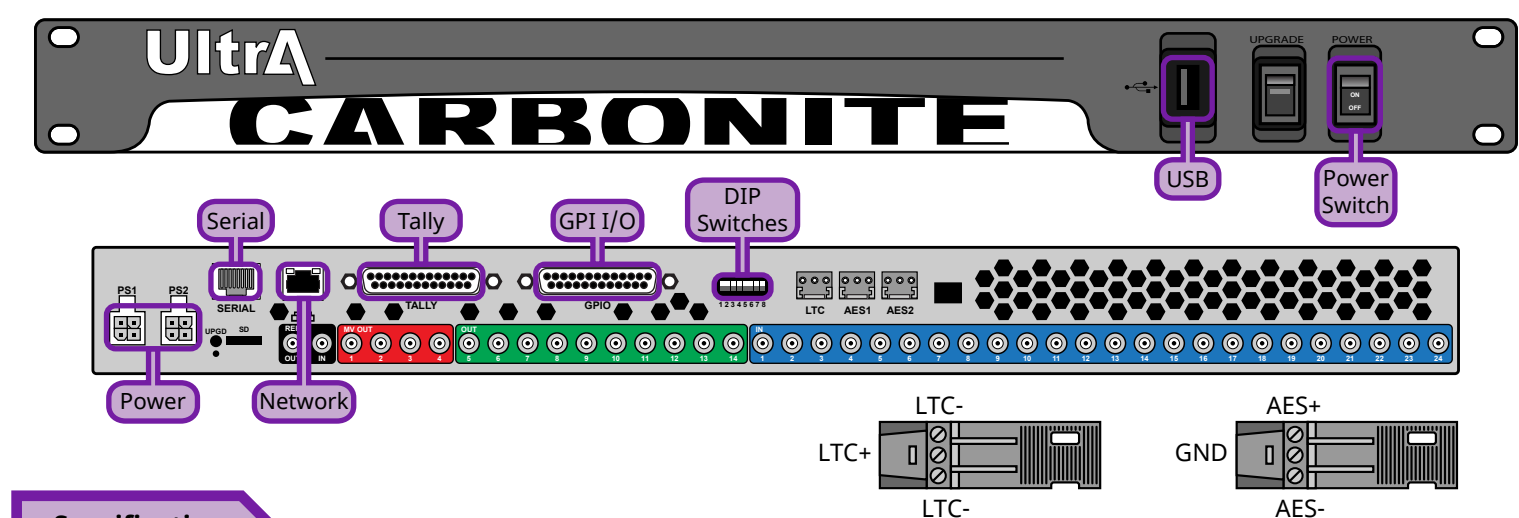
GPI I/O (female DB25)

Pin	GPI	Pin	Signal
1	I/O 1	14	I/O 14
2	I/O 2	15	I/O 15
3	I/O 3	16	I/O 16
4	I/O 4	17	I/O 17
5	I/O 5	18	I/O 18
6	I/O 6	19	I/O 19
7	I/O 7	20	I/O 20
8	I/O 8	21	I/O 21
9	I/O 9	22	I/O 22
10	I/O 10	23	I/O 23
11	I/O 11	24	I/O 24
12	I/O 12	25	Ground
13	I/O 13		

Tally (female DB25)

Pin	Tally	Pin	Tally
1	1	14	14
2	2	15	15
3	3	16	16
4	4	17	17
5	5	18	18
6	6	19	19
7	7	20	20
8	8	21	21
9	9	22	22
10	10	23	23
11	11	24	24
12	12	25	Common
13	13		

Serial (female RJ-45)

Pin	RS-422
1	Tx+
2	Tx-
3	Rx+
4	n/c
5	n/c
6	Rx-
7	Ground
8	Ground

DashBoard Display
- Power Switch
- (rear)
- Ethernet
- OSD Remote
- (front)
- Power
- Power
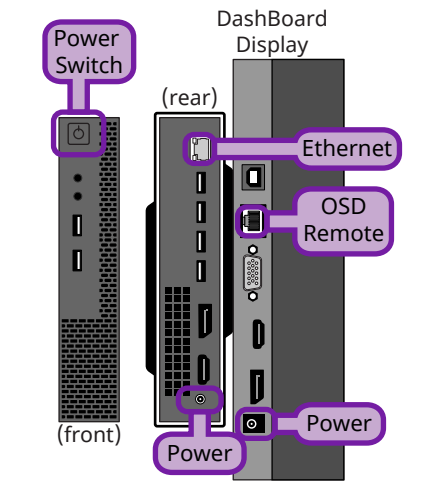
Specifications

SDI Input Formats
- 480i 59.94Hz
- 576i 50Hz
- 720p 50/59.94Hz
- 1080i 50/59.94Hz
- 1080pSF 23.98/24/25/29.97Hz
- 1080p 23.98/24/25/30/29.97/30/50 (A)/59.94 (A)/60Hz
- UHDTV1 23.98/24/25/29.97/30/50/59.94/60 (Single-Link 12Gb/s 2SI, Quad-Link 3Gb/s 2SI, Quad-Link 3Gb/s QSD)

Default Values
Frame IP	192.168.0.123
FTP User name	user
FTP Password	password

Tally Rating
Input Voltage:	24VAC (rms) / 40VDC
Maximum Current:	120mA
Impedance:	< 15 ohms

Temperature
Operating:	0 - 40°C (32 - 104°F)
Storage:	-20 - 85°C (-4 - 185°F)

Max Power Consumption
Consumption	114W 7.6A 15V
Input Voltage	100-120V~
	220-240V~
	47-63Hz

Video Input Specifications
Equalization (using Belden 1694 cable)	>40m @ 12Gb/s
	>100m @ 1.5 Gb/s
	>300m @ 270 Mb/s (5°-40°C)
Impedance	75 ohm, terminating
Video Inputs	SMPTE 259M/292M serial digital (non-looping)
Reference Inputs (non-terminating, looping)	Standard Definition — analog black High Definition — tri-level sync

Video Output Specifications
Return Loss	< -7.8dB @ 12Gb/s
	< -15dB @ 1.5Gb/s
	< -10dB @ 3Gb/s
Rise and Fall Time	27ps +/- 10% (UHD)
	800ps +/- 10% (SD)
	240ps +/- 10% (HD)
Signal Level	800mV +/- 10%
DC Offset	0 Volts
Overshoot	< 10%
SDI HD Mode	10-bit SMPTE-292M/424M
SDI UHD Mode	SMPTE ST 2082-1:2015 (1:2016)

AES Output Specifications
Audio Depth	24-bit in HD
	20-bit in SD
Channels	1 Stereo Pair
File Format	Multi-Channel Waveform Audio File
Impedance	110 Ohms, differential
Min/Max Output Voltage Swing	1.5/6V peak-to-peak
Rise and Fall Times	20ns (typical)
Sample Rate	48kHz
Synchronization	Locked to Video

ROSS

4841DR-200-11

UltrA
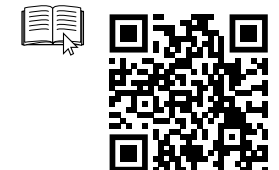
FrameGlow Diagnostics

NORMAL: Normal operation. No warnings. Actual color is user selectable.

BOOTING: Frame hardware is booting up. (cycle from blue to white)

BOOTING: Frame software is booting up. (solid blue)

UPGRADE: Frame is being upgraded. (cycle from yellow to white)

NO NETWORK: Frame cannot detect a network connect. (cycle from purple to green)

WARNING - FAN: Frame fan is not responding. (cycle from red to green)

WARNING: Frame is over-temperature or there is a status warning. (cycle from red to white)
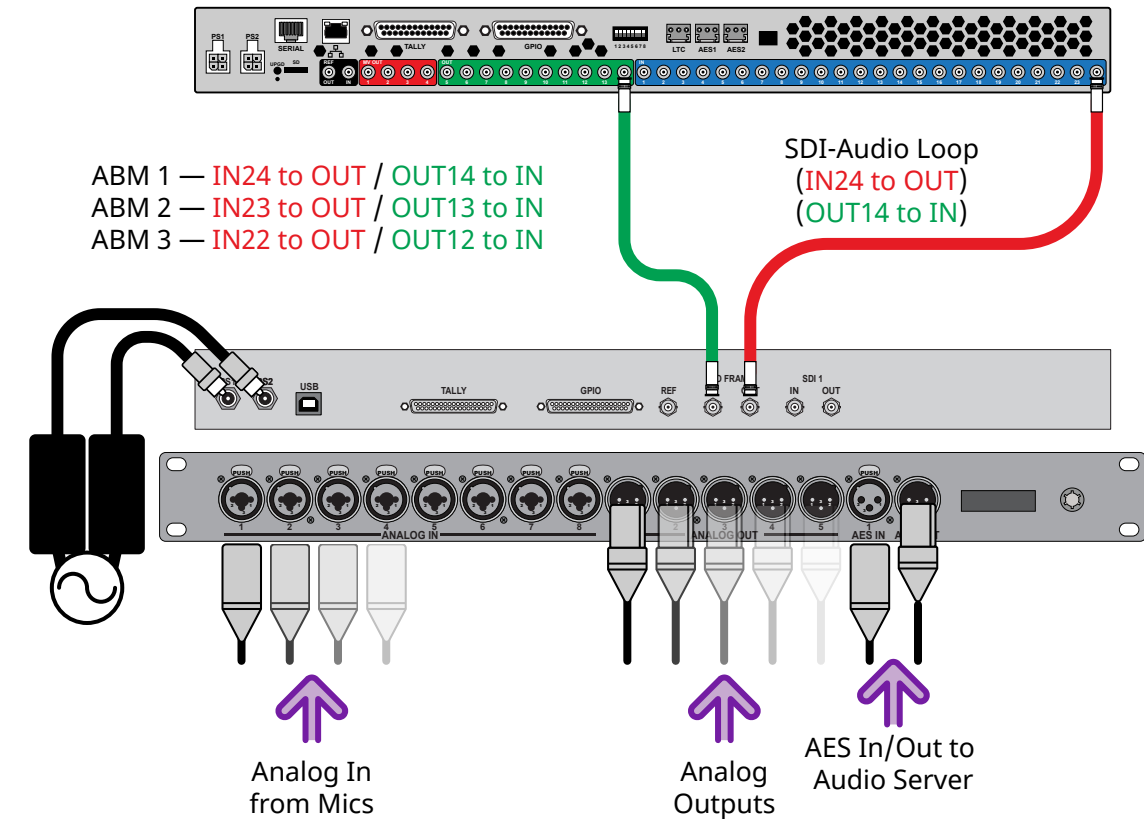

CRITICAL: Frame is critically over-temperature. Auto power-down imminent. (solid red)

1RU Audio Breakout Module (ABM)

Note: Support for the 1RU Audio Breakout Module (ABM) is not available in UHDTV1 at this time.

ABM 1 — IN24 to OUT / OUT14 to IN
ABM 2 — IN23 to OUT / OUT13 to IN
ABM 3 — IN22 to OUT / OUT12 to IN

SDI-Audio Loop
(IN24 to OUT)
(OUT14 to IN)

Analog In from Mics

Analog Outputs

AES In/Out to Audio Server

❗ **Important:** Ensure that Phantom Power is turned off for the Analog Input unless you are connecting a microphone that requires phantom power. Connecting the line out from an audio device to the analog input with phantom power on could damage the audio device and/or the 1RU Audio Breakout Module. For added safety, a TRS phone connecter should be used for line in audio sources.

Mains Power

Note: It is recommended that you always connect the AC Power Adapter to the device before connecting to Mains Power.

Analog Audio Input Specifications

Input Impedance	XLR: 2K ohm
	¼" Jack: 10K ohm
Maximum Level	+24dBu
Frequency Response	±0.3dB (22Hz to 20kHz @ Fs = 48kHz)
Signal to Noise Ratio	-95dB
"A" weighting	-98dB
CCITT weighting	-107dB
THD	>93dB or <0.002%
Amplitude Linearity	<0.8dB @ -100dBFS
Crosstalk	-94dB

Analog Audio Output Specifications

Maximum Level	+24dBu
Frequency Response	±0.4dB (22Hz to 20kHz @ Fs = 48kHz)
Signal to Noise Ratio	-103dB
THD	>93dB
Amplitude Linearity	<0.3dB @ -100dBFS
Crosstalk	-106dB (20Hz to 20kHz)

Max Power Consumption

Audio Breakout Module	45W 3.75A 12V

❓ Having a problem? Call our free, 24-hour technical support hotline to speak with a live product specialist located right here in our facility.

Tel: (+1) 613 • 652 • 4886
Email: techsupport@rossvideo.com

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