

PROJECTION EQUIPMENT

Image Consoles

BARCO E3



BARCO S3



**BLACKMAGIC ATEM
Television Studio Pro 4K**



NEWTEK Tricaster Mini



NEWTEK Tricaster TC1



ROLAND V-160





BARCO E3

Technical Specifications

- **Live effects canvas**
- **Video inputs**
 - Boundless canvas with 8x 4K60 PGM outputs
 - Up to 7 input-capable card slots to fill with Event Master Gen2 cards
 - Each input card supports up to 4x 4K @60p inputs
 - Standard Encore3 Configuration
 - 16x 4K @60p inputs
 - Up to 4x HD/3G/6G/12G SDI connectors
 - Up to 9x HDMI™ 2.0 (up to 4096x2160 @60Hz)
 - Up to 5x DisplayPort 1.2 (up to 4096x2160 @60Hz)
- **Video outputs**
 - Up to 4 output-capable card slots to fill with Event Master Gen2 cards
 - Each output card supports up to 4x 4K @60p outputs
 - Standard Encore3 Configuration
 - 8x 4K@60p outputs
 - Up to 4x HD/3G/6G/12G SDI connectors
 - Up to 5x HDMI™ 2.0 (up to 4096x2160 @60Hz)
 - Up to 1x DisplayPort (up to 4096x2160 @60Hz)
- **Genlock**
 - Analog reference input/output on BNC connectors;
 - bi-level and blackburst at SD and tri-level at HD
- **Program output**
- **Scaled Aux outputs**
 - Up to 8 program outputs configurable as single screens or tiled/blended widescreens
 - User definable for up to 8x 4096x2160 @60p
 - Each output card supports up to 2x AUX outputs
 - Positionable non-scaled background mixer per output screen
 - Independent layer transitions or full Preview/Program transitions
 - Pre-assigned 4 mixable / 8 single (up to 16 mixable / 32 single) scalable PIP/key layers per output screen
- **Mixers**
- **Still stores**
 - Store up to 2160 MB (~60 4K60) of still images, supporting stills up to a staggering 160,000px in either horizontal or vertical dimensions
- **Layer effects**
 - Borders (hard, soft, halo) and drop shadows
 - Color effects
 - Strobe, H&V flip
 - Luma, chroma and Cut/Fill keys
 - PIP moves via Keyframes



BARCO E3

Technical Specifications

- **Multiviewer**
 - 2x 4K @60p MultiViewer as source that can be sent to any output or layer.
 - Flexible user-definable layouts
 - Monitor all inputs and screens PVW & PGM
- **Expandability**

Standard Encore3 Configuration includes:

 - 1x Quad 100 G High Speed Expansion Link Card for system expansion; each link card supports 15* x 4K60 in & out per card
 - 2x 100G QSFP28 2 meter DAC cables
 - Encore3 ships with the ability to link 2 chassis for expansion at first release

Link units to increase available Inputs and Outputs for larger tiled/blended widescreen applications. Easily expandable for larger display applications via 4x QSFP28 link connection; quad 100G High Speed Expansion Link Card required.
- **HDCP**
- **Control**
 - Event Master Toolset (V10.x or later) for PC or MAC
 - Event Master controllers
 - WebUI
 - Ethernet RJ-45, 1000/100/10 Mbps autosense
 - Field-Serviceable I/O cards (not hot-swappable)
- **Serviceability**
 - Hot-swappable dual-redundant power supplies
- **Dimensions**

Height: 6.9 in (175.5 mm) -4 RU rackmount

Width: 17.0 in (431.8 mm) without chassis handles, 19.1 in (485.3 mm) with chassis handles attached

Depth: 23.3 in (590.54 mm) from front panel to rear panel without handles or connector protectors, 26.5 in (672.29 mm) overall
- **Weight**

Standard config: 64 lb / 29 kg

Standard config shipped with flight case: 107 lb / 48.5 kg

Empty chassis: 58 lb / 26.3 kg
- **Power**

Input power: 100-240 V AC, 50/60 Hz, 12-5 A (x2), 1,100 W

Dual-redundant, hot-swappable power supplies
- **Environmental temperature**

32-104°F / 0-40°C
- **Environmental humidity**

0-95% non-condensing (non-operating)

0-85% non-condensing (operational)



BARCO S3

Technical Specifications

- **Video Input**
 - 1 to 24 inputs cards 4 - 128 FHD / 2 - 48 4K/UHD30 inputs
 - 2 – 40 4K/UHD60 inputs
 - SDI: 4 to 96 SD/HD/3G and/or 2 to 40 6G/12G/2Si
 - HDMI 2.0: 4 to 96 (600MHz max) >8/10/12Bit 4:4:4 DisplayPort 1.2: 4 to 96 (660 MHz max) >8/10/12 Bit 4:4:4
- **Video Output**
 - 1 to 24 output cards
 - 4 to 144 FHD / 4 - 96 4K/UHD30 outputs
 - 2 to 48 4K/UHD outputs
 - SDI: 4 to 96 SD/HD/3G and/or 2 to 48 6G/12G/2Si
 - HDMI 2.0: 4 to 96 (600MHz max) >8/10/12Bit 4:4:4 DisplayPort 1.2: 4 to 96 (660 MHz max) >8/10/12 Bit 4:4:4



BLACKMAGIC ATEM Television Studio Pro 4K

Technical Specifications

Inputs

- **SDI Video Input** 8x inputs with frame rate and format converters
- **Local Audio Input** 2 x XLR balanced analog audio,
1 x BNC 32 Ch MADI digital audio,
2 x RCA stereo analog audio,
1 x 5 pin XLR Talkback

Outputs

- **SDI Video Output** 12x outputs
- **Webcam Output** 2 x USB-C supporting 720p or 1080p at PGM frame rate.
- **Audio Output** 4 x 1/4 inch Jack analog audio,
1 x BNC 64 Ch MADI digital audio, up to 50 active,
1 x 5 pin XLR Talkback
- **Streaming** Supports direct live streaming using Real Time Messaging Protocol (RTMP) over ethernet or a shared internet connection over USB-C

Recording

- **Direct Recording Video and Audio** Direct recording to optional internal M.2 flash memory or to external media via USB-C expansion ports
- **Video Recording** Program Recorded as a H.264 .mp4 file at the streaming quality setting and at the ATEM video standard with AAC audio.
- **Media Format** Supports media formatted ExFAT (Windows/Mac). APFS or HFS+ (Mac).



NEWTEK Tricaster Mini 4K

Technical Specifications

Inputs

- **Network Video Input**

8 x IP video inputs via NDI®, resolution-independent, NDI inputs supporting video input in any combination of standard formats, resolutions, and frame rates

- 2160p: 59.94, 50, 29.97, 25
- 1080p: 59.94, 50, 29.97, 24
- 1080i: 59.94, 50
- 720p: 59.94, 50, 29.97, 25
- SD: 59.94, 50, 25

Available frame rates determined by model and session video standard (NTSC or PAL)

- **Skype TX**

Native support for up to 2 simultaneous Skype® video call inputs via Skype TX software integration, including tally and Talk Back communication

- **Local Audio Input**

1 x 1/4" (6.35 mm) balanced mic
2 x 1/4" (6.35 mm) balanced line

Outputs

- **Network Video Output**

4 x independent IP video mix outputs via NDI®

- **Stream Output**

2 x streaming video output, independently configurable, with simultaneous stream archive

- **Monitor Output**

- 4 x mini display port with output adapters
- 3 x of the outputs support multiviewers using standard display resolutions

Local Audio Output

- 2 x 1/4" (6.35 mm) balanced line
- 1 x 1/4" (6.35 mm) stereo headphones jack

- **Supported Media File Formats**

Import, store, and play back multimedia files, with optional transcoding, including:

- *Video:* AVI, DV, DVCPro, DVCProHD, FLV, F4V, H.263, H.264, MOV, MKV, MJPEG, MPEG, MP4, WMV, WebM, and more
- *Image:* PSD, PNG, TGA, BMP, JPEG, JPEG-XR, JPEG2000, EXR, RAW, TIF, WebP, etc
- *Audio:* AIFF, MP3, WAV, and more



NEWTEK Tricaster TC1

Technical Specifications

Inputs

- **Video Input**
16 x simultaneous external video inputs, supporting any combination of compatible sources in resolutions up to 4K UHD at frame rates up to 60fps (2160p 59.94)
- **Network Video Input**
16 x IP video inputs via NDI®, resolution-independent, with support for key and fill
- **SDI Video Input¹**
4 x 3G/HD/SD-SDI connections supporting video input in any combination of standard formats, resolutions, and frame rates²
 - 1080p: 59.94, 50, 29.97, 25
 - 1080i: 59.94, 50
 - 720p: 59.94, 50, 29.97, 25
 - 576i 50
 - 480i 59.94

¹Optionally supports up to 16 simultaneous 3G/HD/SD-SDI video inputs or quad-link 3G-SDI video inputs (4K UHD) via network integration with applicable NewTek NC1 conversion modules

²Available frame rates determined by session video standard (NTSC or PAL)

- **Skype TX**
Native support for up to 2 simultaneous Skype® video call inputs via Skype TX software integration, including tally and Talk Back communication
- **Local Audio Input**
 - 4 x SDI embedded
 - 1 x Balanced XLR stereo pair (Line)
 - 3 x Balanced 1/4" stereo pairs (Line)Support for USB audio device input via compatible WDM audio drivers

Outputs

- **Video Outputs**
Configurable for up to 4 independent video mix outputs, with simultaneous delivery via IP and SDI
- **Network Video Output**
IP video output via NDI, optionally configurable for:
 - 4 x independent video mix output
 - 1 x 4K UHD video mix output



NEWTEK Tricaster TC1

Technical Specifications

- **Stream Output**
 - 2 x resolution-independent streaming video outputs, independently configurable, with simultaneous stream archive
- **Multiviewer Output**
 - 3 x multiviewer outputs supporting standard display resolutions
 - 1 x DVI user interface with multiviewer
 - 1 x HDMI multiviewer
 - 1 x DisplayPort multiviewer
- **Local Audio Output**
 - 4 x SDI embedded
 - 1 x Balanced XLR stereo pair
 - 1 x Balanced 1/4" stereo pair
 - 1 x Stereo 1/4" (phones)
- **Supported Media File Formats**
 - Import, store, and play back multimedia files, with optional transcoding, including:
 - *Video*: AVI, DV, DVCPro, DVCProHD, FLV, F4V, H.263, H.264, MOV, MKV, MJPEG, MPEG, MP4, WMV, WebM, and more
 - *Image*: PSD, PNG, TGA, BMP, JPEG, JPEG-XR, JPEG2000, EXR, RAW, TIF, WebP, and more
 - *Audio*: AIFF, MP3, WAV, and more



ROLAND V-160

Technical Specifications

Inputs

- **Video Input**
 - 8x HDMI Inputs
 - 8x SDI Inputs
- **Audio Input**
 - USB STREAM: Linear PCM, 24 bits, 48 kHz, 2 ch
 - Bluetooth (input): Linear PCM, 24 bits, 48 kHz, 2 ch
 - HDMI IN: Linear PCM, 24 bits, 48 kHz, 2 ch
 - SDI IN: Linear PCM, 24 bits, 48 kHz, 2 ch (Conforms to SMPTE 299M)

Outputs

- **Video Output**
 - 3x HDMI Outputs
 - 3x SDI Outputs
- **Audio Output**
 - USB STREAM: Linear PCM, 24 bits, 48 kHz, 2 ch
 - HDMI OUT: Linear PCM, 24 bits, 48 kHz, 8 ch
 - SDI OUT: Linear PCM, 24 bits, 48 kHz, 8 ch (Conforms to SMPTE 299M)

Effects

- **Video Effects**
 - Transition: Cut, Mix (Dissolve/Fam/Nam), Wipe (8 types), Split (2 types)
 - Composition: PinP x 4 (Square, Circle, Diamond), Keyer x 4 (Luminance Key, Chroma Key), DSK x 2 (Luminance Key, Chroma Key, Alpha Key, External Key)
 - Others: Multi-View(3 types), Flip horizontal, Flip vertical, Still Image Capture, Still Image Playback, Output fade (Audio, Video: White or Black), Test pattern output
- **Audio Effects**
 - Channel Effects: High pass filter, Echo canceller, Anti-feedback, Noise gate, De-esser, Compressor, 3-Band equalizer, Voice changer, Delay, Auto mixing
 - Master Effects: Reverb, 3-Band equalizer, Delay, Multi-band compressor, Limiter
 - Others: Output fade, Test tone output

Other

- Preset Memory (30 types)
- Macro Control (100 types)
- Sequencer Control (1,000 steps)
- Panel lock function
- EDID Emulator
- Auto Switching
- Auto Input Detect
- Smart Tally
- Remote Camera Control (Up to 16 units)
- External Rec Control