

Part 1. Disguise VX 4+

1.01 Control Hardware

A. General

- The product should be a purpose built server system designed for control of video, lighting and other related systems for virtual production, or in an architectural or entertainment application. A personal computer running emulation software shall not be acceptable.
- The server shall store show data in non-volatile solid-state memory.
- The operating software of the server shall be stored in a dedicated non-removable, non-volatile solid-state memory. It shall be possible to update the Operating Software by download from a remote personal computer over an Ethernet or USB connection.
- The server shall have an internal real-time clock that continues to operate when external power is absent. It shall be capable of adjusting for Daylight Saving Time automatically and can be updated over the Internet using the Network Time Protocol (NTP).
- The server shall output control data as sACN and Art-Net protocols.
- There shall be visual indicators on the server showing status of the controller.
- The server shall be accessible over IP on its Ethernet interface. This shall allow status information, control and configuration options to be accessed remotely.
- The server shall support incoming LTC Timecode signal
- The server shall support incoming VITC Timecode signal
- The server shall contain an RME Audio card, supporting 8 channels of audio input and output via ADAT.
- The server shall feature a light on the rear panel with a dedicated hardware switch to illuminate connectivity.
- The rear panel light shall be able to work in dimmable states.
- The server shall support connection to a network to connect multiple systems together from its one control interface software.
- The server shall support multiple streams of timecode and audio data within a single networked system.
- The server shall have a front loaded power button for resetting the unit without removal of power.
- The server shall have a single drive cage that can hold up to four NVMe drives.
- The server shall use a RAID array to utilise the drive speed and allow for maximum video playback with redundancy where needed.

B. Mechanical

- The server shall be a black metal enclosure, 4U 19" rack mount.
- The server shall be 445mm x 178mm x 593mm (17.52" x 7.00" x 23.45").
- The server shall weigh 21kg (46.3lbs).
- The server shall feature rack handles measuring 621mm (24.45")
- The server shall feature NVMe storage with no moving parts.
- The server shall operate in a temperature range of 5 - 35°C (40 - 95°F).
- The server shall operate in a humidity range of 5 - 95% non condensing.
- The server shall operate at an altitude range of 0 - 2700m (0 - 8850 ft).
- The server shall feature user-replaceable filters for the cooling fans, accessible with a standard toolkit.

C. Electrical

- The server shall have the following Inputs and Outputs:
 - 1 x PowerCon True1 Input
 - 4 x Video Format Conversion (VFC) Bays for selectable output configuration
 - 4x 12G SDI video inputs (or 16 x 3G SDI video inputs (all HD-BNC connector)
 - 2 x Balanced 3-pin XLR Output
 - 2 x Balanced 3-pin XLR Input
 - 1 x 6.3mm (¼") Headphone Jack
 - 2 x ADAT/SPDIF via TOSLINK
 - 2 x MIDI - In & Out via 5-pin DIN
 - 1 x 1Gb Ethernet with EtherCON connector
 - 2 x 10Gb Ethernet with EtherCON connector
 - 2 x 100Gb Ethernet with QSFP28 connector
 - 5 x USB 3.0
 - 1 x Genlock (BNC)
 - 1 x DisplayPort 1.4 GUI port
- The server shall offer an OLED display for status information and general feedback.
- Video Format Conversion (VFC) cards shall enable output connectivity changes. These shall be available to order in the following configurations:
 - 1 x DisplayPort 1.4
 - DisplayPort 1.4 output shall support up to 4096 x 2160 @ 60 Hz
 - 4 x DVI Dual-link
 - All four DVI Dual-link shall support up to 1920 x 1200 @ 60Hz (in quad mode)
 - 4 x 3G-SDI (BNC)
 - All four 3G-SDI shall support up to 1080p level A and level B
 - 1 x HDMI 2.0
 - HDMI 2.0 shall support up to 4096 x 2160 @ 60 Hz
 - 1 x IP
 - 4x 25GbE outputs shall support up to 4096 x 2160 @ 60 Hz

- The server shall be powered via a worldwide (100-240V AC) auto ranging internal power supply.
- The server shall be powered via a lockable PowerCon True1 connector.

2.01 Software

- The server shall function as a 3D media server with advanced networking and interconnectivity options.
- The server shall be based upon Windows 10 Enterprise GAC.
- The server shall have the operating software and media stored on separate drives.
- The software shall have a 3D pixel perfect simulation environment.
- The software shall enable pixel perfect preview and playback.
- The server shall support multiple timelines, crossfades and effects running concurrently.
- The server shall support playback of video media with individual pixels mapped to lighting fixtures or video products.
- The server shall have software built in mapping types, including perspective, parallel and direct mappings to allow for flexibility in programming and remapping pixels.
- Show data may be downloaded from a remote personal computer over an Ethernet network connection or USB Drive from specific designer dongle software.
- The server shall offer a projector tool kit including Quick Calibration, Dynamic Blending and multiple types of output warping.
- The server shall offer support for masks and soft-edge generation within the operating software (no third party software required).
- The server shall support MIDI, OSC, Art-Net and UDP commands and triggers.
- The server shall support LTC timecode triggers for cues.
- The server shall be controllable via Ethernet DMX protocols input using a user-configurable DMX channel allocation.
- The server shall support playback of both 30p and 60p versions of HAP, HAPQ, Notch LC and lossless Animation codec formatted video files in both Full HD and 4K DCI
- The server shall support playback of BMP, JPG, PNG, TIFF, DPX and TGA image files.
- The server shall support uncompressed 10-bit content playback
- The server shall support a variety of HDR gamma profiles including PQ and HLG
- The server shall support playback of WAV and MP3 audio files.
- The server shall support proxy files for 3D previsualisation.
- The server shall utilise UV maps for 3D content delivery.
- The server shall support media ingestion including understanding of file versions via specific naming convention.
- The server shall support frame replacement in video files.
- The server shall offer connectivity to optical tracking systems including but not exclusive to EZtrack, Blacktrax, OptiTrack, Vicon and Stype.
- The server shall be capable of operating as a Director, Actor or Understudy depending on configuration.

- An offline version of the server software shall be available for purchase as a Designer system, enabling pre-visualisation, programming and rendering of concepts.
- Multiple Controllers shall automatically synchronise and share triggers when programmed as part of a single show and linked via Ethernet during playback.
- The server shall allow lighting to be programmed as separate zones, with independent triggering and manual intensity control.

3.01 Accessories

- The server shall be supplied with the following packaged in a tray within the shipping container:
 - USB Keyboard
 - USB Mouse
 - Mouse Pad
 - 3x PowerCon True1 power cable to support UK, EU and US mains plugs
 - Getting Started Guide
 - Back Mounting Rails

4.01 Service, Documentation & Training

- The server shall be covered by a 2 year return to base hardware warranty, extendable to 5 years with an extended warranty package.
- The server shall be supplied with free technical support via phone or email.
- Regular training courses shall be offered for the server and operating software, at both foundation and advanced levels.
- Documentation shall be provided via printed, online and video formats.
- An online knowledge base shall be provided for the server.