Alchemist Live
Motion-compensated Framerate Conversion for Live Media Streams

Alchemist, now in its seventh generation, is recognized throughout the world as the undisputed gold standard of motion compensated frame rate standards conversion.

Alchemist Live from Grass Valley builds on this legacy and offers the very best motion compensated framerate conversion, providing transparent, artifact-free conversion for seamless global distribution of live media.

Providing the tools needed to process today’s media streams, Alchemist Live includes features such as; frame synchronization, 4K UHD signal handling, HDR and Wide Color Gamut mapping, ARC control, closed caption support, and 16-channel audio processing with gain, delay and shuffling controls.

KEY FEATURES

• World-class motion compensated framerate conversion
• Supports live IP or SDI media streams
• SD, HD, 1080p, 4K UHD & 4K DCI native support
• New technology optimized to deliver stunning image quality however complex the source
• Certified turnkey solution
• HTML5 web control interface, along with native support for Grass Valley control and monitoring solutions including: RollCall, Orbit and GV Convergent

Alchemist Live Web Service

Motion-Compensated Framerate Conversion for Live Media Streams

Processing Channel Configuration: 1x Alchemist Live (upto UHD)

Alchemist Live Channel 1: Launch Channel Menus

GV Live System Host

Status
Agents Running: 1
Agents Disabled: 0
Agents Failed: 0
License Server OK

Launch System Host Menus

HTML5 web interface for remote control of Alchemist Live
Get the Most from Alchemist Live with GV Care Prime

GV Care Prime is included for the first year from installation.

Built on 50 years of experience and service excellence, GV Care provides access to the worldwide technical and operational support that you need to help keep your products running smoothly so that you can focus on business.

GV Care Prime provides a highly skilled 24x7 technical help desk, committed response times, knowledge base access, software maintenance support, and fast access to spare parts with our high-performance Advance Exchange service.

SPECIFICATIONS

**Supported Video Formats**
- SD: 525, 625
- HD: 720 50/59.94/60p, 1080 25/29/30/50/59.94/60p
- 3G: 1080/2160 (4K UHD-quad) 23/24/25/29/30/50/59.94/60p

**Processing Channels**
- 1 channel of 4K UHD conversion
- 3 channels of 1080p conversion*

**Conversion Modes**
- Motion Compensated Interpolation

**Stream Inputs and Outputs (for IP Version)**
- Dual 100 GbE interface
- Video: SMPTE ST 2110-20, RFC 4175, TR-03
- Audio: SMPTE ST 2110–30, AES67, RFC 3190 (48 kHz, 24-bit PCM, up to 16 audio channels per video stream. Synchronization and timestamp realignment with video stream. Supported packet timing: 125 µs, 250 µs, 500 µs, 1 ms, 4 ms)
- SMPTE ST 2022-7 Packet redundancy and re-ordering

**SDI Inputs and Outputs (for SDI version)**
- 8 x 75Ω SD/HD serial digital interface with 16 channels of embedded audio
- 3 Gb/s HD-SDI SMPTE ST 424/425
- Quad link / Square division / 2SI
- 1.5 Gb/s HD-SDI SMPTE ST 292 / SMPTE ST 299
- 270 Mb/s SD-SDI SMPTE ST 259

**Supported Audio Format**
- 16 PCM pass-through channels of audio (for IP version)
- 16 PCM pass-through channels of embedded audio (for S DI version)

**Control & Monitoring**
- Standard RollCall interface
- Standard RollCall logging and reporting
- GV Orbit or Convergent for IP version

**Form Factor**
- 4 RU

**Connectivity**
- 2000W dual redundant PSU @240V AC (1000W @ 120V AC)
- Power consumption: 850W

**Video Utilities**
- Color space conversion (REC601 / BT709 / BT2020)
- Alias Suppression — Horizontal & vertical
- RGB Legalization (709 / 721 / 735 / Custom)
- Aperture — Sharp / Normal / Anti-alias

**HDR Processing**
- HDR (PQ / S-Log3 / HLG) to SDR
- HDR (PQ / S-Log3 / HLG) to HDR (PQ / S-Log3 / HLG)
- SDR to HDR (PQ / S-Log3 / HLG)

**Reference Input**
- SDI version: SD Bisync, HDTV Trisync
- IP version: Input locked

**Latency**
- High framerate conversion, 210 ms – 320 ms (actual value depends on standards & genlock mode)
- Low framerate conversion, 420 ms – 630 ms (actual value depends on standards & genlock mode)

**Mechanical**
- Temperature range: 0 to 35°C (32 to 95°F) operating
- Cooling: Front to rear
- Weight: Gross weight 28.1 kg (62 lbs.)
- Case type: 4 RU freestanding or rackmount
- Dimensions: 462 mm x 673 mm x 172 mm (18.2 x 26.5 x 6.8 in.)

* All three inputs must be the same framerate and all three outputs must be the same framerate.

ORDERING

**IP Version**
- 9822210
  Alchemist Live (IP) (Software licenses and hardware)
  Motion compensated framerate conversion for Live IP media streams. 1x 4K UHD channel or 3x 1080p channels.

**SDI Version**
- 9822200
  Alchemist Live (SDI) (Software licenses and hardware)
  Motion compensated framerate conversion for SDI media streams. 1x 4K UHD channel or 3x 1080p channels.

**IP Upgrade**
- 9822250
  Alchemist Live (SDI to IP upgrade) (Software licenses and hardware changes)
  Motion compensated framerate conversion for live IP media streams. 1x 4K UHD channel or 3x 1080p channels.

**IP Options**
- FCQ-100GE-SR4
  100GBASE-SR short range QSFP for MMF. (Note: Single QSFP support only)
- FCQ-40GE-SR
  40GBASE-SR short range QSFP for MMF.
- FCQ-40GE-LR
  40GBASE-LR long range QSFP for SMF.
- FCQ-40GE-LR4
  40GBASE-LR4 long range QSFP for SMF.

**Mandatory Maintenance**
- ConverPrime
  mandatory 1-year annual maintenance — includes hardware and software support and in-version software updates.

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