Alchemist Live Product Release

Product Release: v2.1.0.24

Release Date:	2nd April 2020
Supported Operating System(s):	Linux 64-bit (Ubuntu 16.04)
System Components:	GV Live (v2.1.0.24)
	SAMLive_4U_Standard_32Core_2.0.tar (v2.0)

Alchemist Live v2.1.0.24 (02/04/20)

New Features

1. Added support for up to three channels of full Dolby® E transcode maintaining the Dolby guard-band and all associated metadata (*SDI model only, *requires additional licensing).

2. Ensured all non-PCM audio channels are passed through Alchemist Live uncorrupted as long as the unit is correctly locked to an external reference that has been derived from the input timing (*SDI model only).

3. Added the pass-through of specific, user-defined SMPTE 291 vertical ancilliary data (*SDI model only).

4. Added the reading of SMPTE 352 VPID information at the Alchemist Live input and the automatic detection of quad-link mode: 2SI or square division (*SDI model only).

5. Added full control and monitoring of Alchemist Live via an integrated SNMP (v2c) agent which exposes set/get commands for all controls and raises traps for all logging fields.

6. Alchemist Live can now be loaded with a custom color LUT file (.CUBE) as an alternative to the existing HDR color processing.

7. Added static test pattern and user caption/ident insertion at the Alchemist Live output; this incorporates a user-selectable action on input loss: black, status, test pattern.

8. Added simple PNG based logo insertion at the Alchemist Live output with parameters for logo position and transparency.

9. Alchemist Live now monitors chassis fan speeds and PSU status and reports this information via its RollCall interface and logging.

10. Alchemist Live units with the latest v2 hardware can now access aspect ratio conversion features when performing a 4K/UHD conversion.

11. The GV Live console network configuration now includes an 'Advanced' option which is an alternative to the basic approach offered previously and allows full manual configuration of the unit's Debian-style network script; this allows more sophisticated routing options should they be required.

12. The GV Live console now offers a 'Diagnostics' menu option which displays the network routing table and allows ping requests to be sent from any of the network interfaces.

13. The GV Live console now reports the status of the hard drive RAID setup.

14. The GV Live Host will now report on its Agent Configuration page if an agent has been forced to terminate due to a licensing error.

15. The GV Live Host will now report on its Setup page the GPU device driver version installed.

16. Added new controls to Alchemist Live to set the output audio channel count and packet time in RTP mode.

17. Added a new control that can be used to force Alchemist Live into high or low field/frame rate conversion mode; this will prevent an automatic mode switch based on input rate which triggers an equivalent output rate change.

18. Extended the GPU monitoring in the GV Live Host to report if the device driver has detected a hardware fault with any of the GPU devices.

Bug Fixes

1. Fixed a bug that caused repeated picture jumps for very specific mixed motion material when performing a high frame rate UHD conversion on older v1 hardware.

2. Fixed a bug in the processing of a separate RFC 3190 RTP audio stream that caused corrupted audio and the misreporting of channel count if proprietary header extensions were not present in the input.

3. Added a missing '14x9' option to the 'Source Image Aspect' selection control on the Alchemist Live Conversion page.

4. Corrected a bug with the enabling/disabling of separate RFC 3190 audio flows via the DDS protocol using GV Orbit; changes were not being correctly reflected over RollCall.

5. Fixed a bug that prevented the four spigots of a quad-link Alchemist Live agent being configured at the same time via the DDS protocol using GV Orbit.

6. Fixed a bug that incorrectly led to a duplicate multicast address being reported in GV Orbit for the quad-link Alchemist Live in RTP mode.

7. Fixed a problem with the RTP packet handling that could cause the Alchemist Live agent in RTP mode to fail during reconfiguration.

8. Corrected an error in the reporting of system latency when in RTP mode; in previous releases the latency reported was lower than the actual latency imposed on the processed video and audio.

9. Fixed a bug that occasionally led to a corrupted Alchemist Live quad output on links 3 and 4 when converting to UHD/4K 2SI in SDI mode.

10. Now automatically clears any locally cached information for the HTML5 web client on restart of Alchemist Live to ensure that menus are properly updated on upgrade.

11. Corrected an error in behaviour that caused all RTP input and output flow parameters edited in the RollCall Client to be automatically applied on stopping and starting of the Alchemist Live agent without the TAKE button being clicked.

12. Fixed a bug that could cause an Alchemist Live agent to occasionally fail on starting up.

13. Corrected an error in logic that could cause the selection of network interfaces available for DDS communication on the Alchemist Live Setup page to be automatically reverted when the agent was restarted.

14. Fixed a bug that inserted an incorrect SMPTE 352 VPID value at the SDI outputs of Alchemist Live agents 2 and 3 when operating in a different conversion mode to agent 1.

15. Fixed the main Agent Configuration control in the GV Live Host menus so that it doesn't appear disabled when accessed via the HTML5 web client.

Alchemist Live v2.0.1.14 (09/11/19)

New Features

1. The GV Live console application has been improved to provide more information when upgrading a product.

2. The GV Live console application now compresses the operational logs before transferring them to USB which speeds up the process; it reports on the progress of the transfer and captures additional settings to better record the state of the unit.

3. The GV Live Host menus now include an 'About' page which covers open source software license agreements.

4. Added pass-through and synchronisation of ARIB STD-B37 captions and ARIB STD-B39 inter-stationary control to Alchemist Live.

5. Alchemist Live now offers control and monitoring via a web client compatible with Chrome, FireFox and Safari.

Bug Fixes

1. Prevented the display of an erroneous error message on the GV Live console application when upgrading an agent type without SDI cards (for example Audio Live).

2. The GV Live console application is now case insensitive when scanning a USB drive for new licenses (previously upper case file extensions caused a license file not to be detected).

3. The GV Live Host service now no longer deletes an agent GUID when clearing its settings; this allows its identity within IP Routing software to be maintained.

Alchemist Live v2.0.0.50 (29/05/19)

New Features

1. The system clock can now be set via the GV Live Host RollCall template and can be configured to synchronise automatically with an NTP server.

2. The GV Live console application now shows the details of any licenses that have been added to the unit.

3. The GV Live Host now details the configuration and status of all the unit's network interfaces via RollCall logging.

4. The GV Live console application now captures extra system logging information in addition to the GV Live operational logs when the 'Retrieve Operational Logs' option is selected.

5. Improved the Alchemist Live algorithm for adaptive audio synchronisation, particularly targeted at better performance when processing audio test tones.

6. Alchemist Live now supports the pass-through and synchronisation of CEA-608 (Line 21) and CEA-708 Closed Captions (SMPTE 334 CDP).

7. Video and audio RTP interfaces have been added to Alchemist Live offering SMPTE 2110-20 and SMPTE 2110-30 support.

8. The installer package name has changed to reflect the re-branding from SAM Live to GV Live.

9. The GV Live console application has been improved to provide more information when upgrading a product.

10. A new 'Safe' Control Mode has been added to Alchemist Live that prevents settings that could disrupt the video and audio processing from being changed via the RollCall template.

11. Alchemist Live now monitors and logs any loss or reacquisition of its external reference which may have caused output video or audio disruption.

12. All GV Live agent types will now automatically select suitable network interfaces for primary and secondary RTP media interfaces prior to manual configuration override.

13. Alchemist Live now logs, via RollCall, its output state which will indicate 'WARN: Inp Loss' if no input is present and 'FAIL' if an error has occurred and the unit is no longer generating video.

14. The GV Live Host service now detects and verifies the hardware configuration of the unit to ensure that all PCIe devices are correctly inserted in a supported slot configuration.

Bug Fixes

1. Fixed a bug which prevented the setting of a static IP address for network interface eno1 via the GV Live Host RollCall template.

2. Removed the option to disable network interface eno1 from the GV Live Host RollCall template; eno1 must always be enabled for correct licensing operation.

3. Fixed a bug with the GV Live console application that caused it to fail if multiple USB drives were inserted when the 'Retrieve Operational Logs' option was selected.

4. Improved Alchemist Live SDI input standard detection to make it more robust; previously it was possible for a video standard change to be missed.

5. Corrected the Alchemist Live implementation of colour space conversion to/from BT.2020 colour space which was incorrect unless HDR conversion was enabled; the conversion is now always performed in linear light.

6. Fixed a bug that caused the HDR Soft Clip control to reset to its default value when an Alchemist Live agent was restarted.

7. Fixed an error in the Alchemist Live ARC control logic that prevented the return to a sensible preset state if the custom ARC mode was enabled on start-up but subsequently disabled.

8. Fixed a bug that caused a black line across the video output of Alchemist Live when down-converting from a quad-link input (UHD or 4K) to an SD 525 output.

9. Prevented the display of an erroneous error message on the GV Live console application when upgrading an agent type without SDI cards (for example Audio Live).

10. Fixed a bug in Alchemist Live that caused segmented frame (PsF) inputs to be incorrectly processed causing a mice-teething effect and an incorrect latency from input to output.

Alchemist Live v1.4.2.0 (17/01/19)

New Features

1. [NONE]

Bug Fixes

1. Fixed a critical bug with Alchemist Live that could trigger the SDI output to drop or repeat a frame at repeated intervals as regularly as every 3 to 4 minutes, causing picture and audio disturbance.

2. Corrected the setting of genlock H and V output timing for Alchemist Live when generating quad-link output standards.

3. Corrected the insertion of SMPTE 352 VPID information for Alchemist Live when generating quad-link output standards.

Alchemist Live v1.4.0.12 (09/08/18)

New Features

1. [NONE]

Bug Fixes

1. Fixed an Alchemist Live bug that caused disturbance to all audio channels for 59.94Hz SDI outputs; *this bug also caused a memory leak which resulted in the complete failure of the Alchemist Live after a number of days if left running whilst demonstrating the audio disturbance.*

2. Corrected an audio-video alignment error for Alchemist Live: in previous releases, the audio lead the video by one field for interlaced output standards.

3. Fixed an Alchemist Live bug that corrupted output audio channel 16 incorrectly replacing it with a duplicate of channel 1.

4. Fixed a bug introduced in the 1.4.0.8 release that stopped the Console application from running until the unit's network interfaces had been configured.

Alchemist Live v1.4.0.8 (04/07/18)

New Features

1. SAM Live has been renamed GV Live.

2. To assist in the licensing process, the unit lock code is now displayed on the GV Live console output main menu.

3. Network interface configuration can now be performed via the GV Live Host RollCall template.

4. If GPU devices are installed, their temperature and fan speed can now be monitored via the GV Live Host.

5. Alchemist Live now includes support for quad-link 2SI format at its SDI inputs and outputs.

6. Alchemist Live now includes support for 1080p Level B at its SDI inputs and outputs.

7. Alchemist Live now offers a range of audio controls including channel routing, gain, global delay and test tone generation.

8. Alchemist Live now has a control to disable 'clean cut' processing.

9. Genlock timing controls have been added to Alchemist Live to allow the horizontal and vertical timing to be adjusted relative to the external reference.

10. Advanced controls for HDR conversion adjustment have now been added to Alchemist Live.

11. Alchemist Live now automatically measures input to output run-through and sympathetically corrects the video and audio to remove the need for frame synchronization at its SDI output.

Bug Fixes

1. Fixed a GV Live console bug that caused an error if an attempt to add a license was made with a USB drive that contained too many files.

2. Fixed a bug that caused Alchemist Live to incorrectly display the video transport as RFC 4175 after a RollCall saveset had been restored.

<u>Alchemist Live v1.2.0.20</u> (15/03/18)

New Features

1. Alchemist Live conversion quality has been improved when frame rate converting small objects (for example, live football).

2. Linear enhancement controls have been added to Alchemist Live.

3. The license entitlement ID (EID) is now shown on the SAM Live Host template.

Bug Fixes

1. The 'START ALL' and 'STOP ALL' buttons on the SAM Live Host template are now greyed out when they do not offer a useful function (for example, 'STOP ALL' is not enabled if there are no running agents).

2. The 'Add New License' option on the SAM Live console now allows for license files with a .TXT file extension.

3. Fixed a bug that meant Alchemist Live SD up-conversion with frame rate conversion was incorrectly configured leading to repeated picture dropping.

Alchemist Live v1.2.0.14 (11/01/18)

New Features

1. First Release.

Bug Fixes

1. First Release.