

GV Live

Alchemist Live – Modes of Operation



Version History

| Date | Version | Release by | Reason for Changes |
|------------|---------|------------|--|
| 01/04/2020 | 1.0 | J Metcalf | Initial release |
| 02/02/2021 | 1.1 | J Metcalf | Add Orbit Lite link. Remove Belden branding. |

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1. Introduction

The Alchemist Live video frame rate conversion solution is capable of converting any resolutions from SD up to UHD/4K. Frame rate conversion is achieved using Grass Valley’s high quality Ph.C algorithm.

The Alchemist Live Ph.C algorithm offers near transparent frame rate conversion. Built on the experience of legacy Alchemist variants over the last 25 years, the Alchemist Live improved algorithm offers the best frame rate conversion possible. Ph.C achieves the goal where by viewing audiences are unaware that frame rate conversion has taken place.

Depending upon the requirements, Alchemist Live can be either configured to support 4k/UHD resolutions, in which case a single transmission path is available, or alternatively Alchemist Live can be configured to support up to 3G resolutions, in which case three transmission paths are available.

With regard to the Alchemist Live SDI, when configured as a 3 channel system, there is a constraint in that all three channels will be configured to have the same frame rate output. The applied inputs must also be the same frame rate:

3 Channel Mode (SDI) Input frame-rates same / Output frame-rates same

| Channel | Input | Output | Channel | Input | Output |
|---------|----------|----------|---------|----------|----------|
| 1 | 1080 50i | 1080 59i | 1 | 1080 50i | 1080 59i |
| 2 | 1080 50i | 1080 59i | 2 | 1080 59i | 1080 50i |
| 3 | 1080 50i | 1080 59i | 3 | 1080 59i | 1080 50i |

| Channel | Input | Output | Channel | Input | Output |
|---------|----------|----------|---------|----------|----------|
| 1 | 625 50i | 1080 59i | 1 | 1080 50i | 1080 59p |
| 2 | 1080 50i | 1080 59p | 2 | 525 59i | 625 50i |
| 3 | 720 50p | 1080 59i | 3 | 1080 50p | 1080 59i |



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With regard to Alchemist Live IP this constraint is not present. Each channel can be independently configured to any supported frame rate:

3 Channel Mode (IP) Input frame-rates any / Output frame-rates any

| Channel | Input | Output | Channel | Input | Output |
|---------|----------|----------|---------|----------|----------|
| 1 | 1080 50i | 1080 59i | 1 | 1080 50i | 1080 59i |
| 2 | 1080 50i | 1080 59i | 2 | 1080 59i | 1080 50i |
| 3 | 1080 50i | 1080 59i | 3 | 1080 59i | 1080 50i |

| Channel | Input | Output | Channel | Input | Output |
|---------|----------|----------|---------|----------|----------|
| 1 | 625 50i | 1080 59i | 1 | 1080 50i | 1080 59p |
| 2 | 1080 50i | 1080 59p | 2 | 525 59i | 625 50i |
| 3 | 720 50p | 1080 59i | 3 | 1080 50p | 1080 59i |



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2. Configuring Alchemist Live

Alchemist Live is controlled via RCP (RollCall Control Panel), or via an HTML5 web service (see Appendix D of the Alchemist Live User guide - [Alchemist Live User Guide - download](#)).

RollCall can be run either within the RollCall Application, or as a plugin within GV Orbit.

The following procedures describe controlling Alchemist Live via RCP running within the RollCall suite.

RollCall Lite is available as a free download from the GV website, here:

[RollCall Download](#)

Orbit Lite is also available as a free download from the GV website, here:

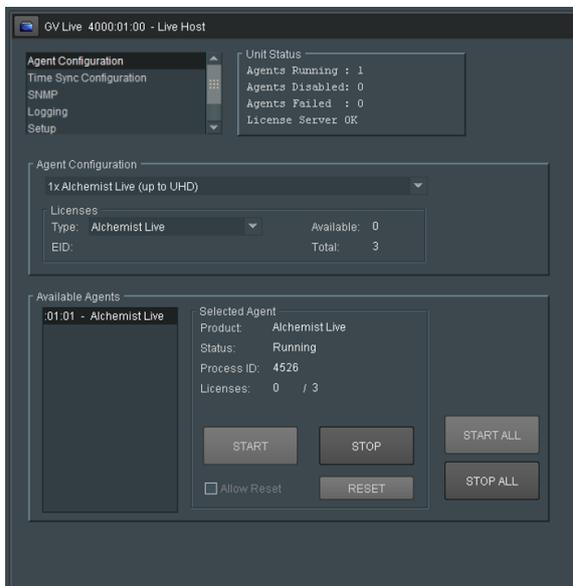
[GV-Orbit Lite Download](#)

2.1 Configuring Alchemist Live as a single channel UHD converter

2.1.1 Configuring the Agent

In the GV File Template, in the **Agent Configuration** field, using the dropdown menu select the option:

1x Alchemist Live (supporting UHD/4K processing)



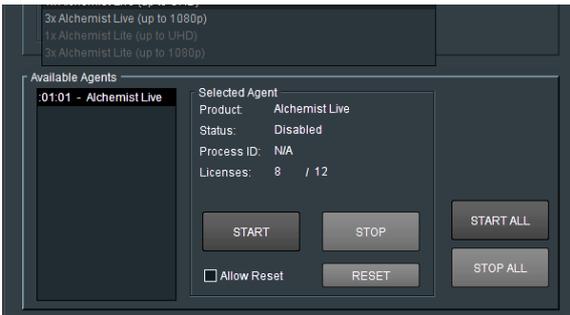
Note that when configured in this way, the number of Agents will be: **1**

In the **Available Agents** pane, only a single Agent is listed.

Note that in the **1x Alchemist Live (up to UHD/4K)** mode, that three licenses are consumed.

2.1.2 Starting the Agent

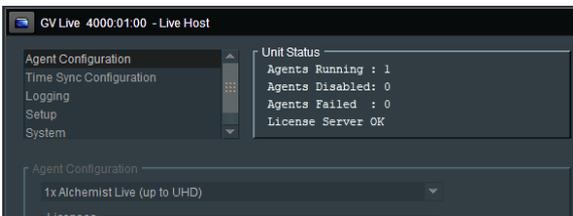
The Agent is started from within the **Available Agent** pane:



The Agent can be started by either pressing the **Start** button, or the **Start All** button:



Once the Agent is started, confirmation will be displayed in the **Unit Status** pane, where the Agent will be described as **Running**:



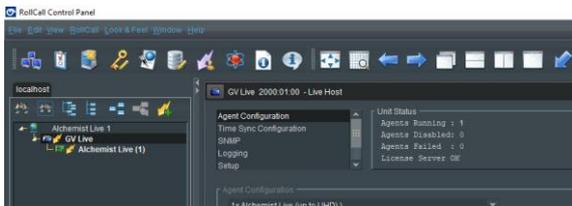
2.1.3 Launching the Alchemist Live Template

Once the Agent is running, the **GV Live RollCall** tree can be expanded and the **Alchemist Live** template will appear:

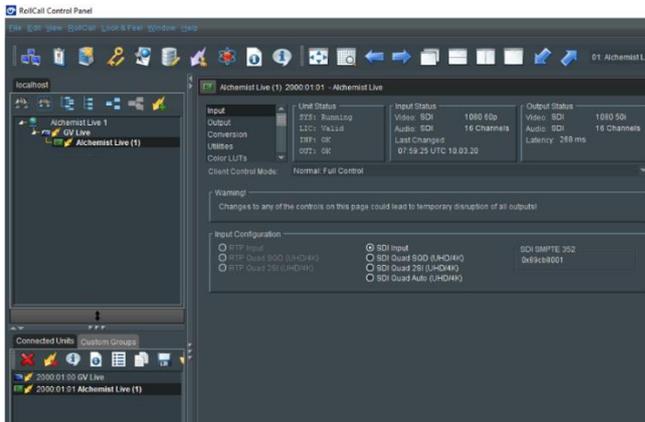


Click to expand

The tree will now expand to include Alchemist Live:



Double clicking on **Alchemist Live (1)** will launch the Alchemist Live template:

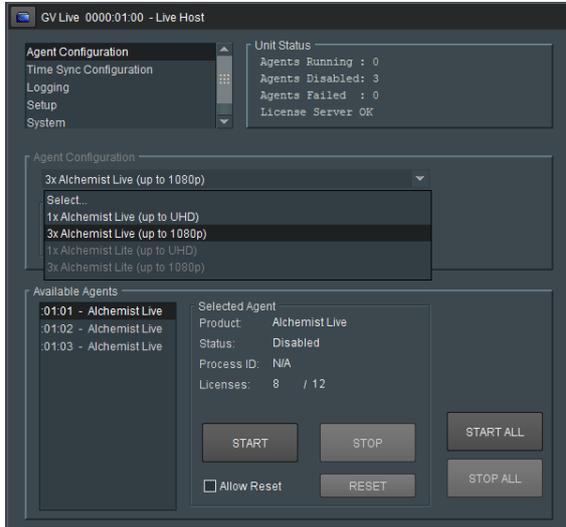


2.2 Configuring Alchemist Live as a three channel 3G converter

2.2.1 Configuring the Agents

In the GV File Template, in the **Agent Configuration** field, using the dropdown menu select the option:

3x Alchemist Live (up to 3G)

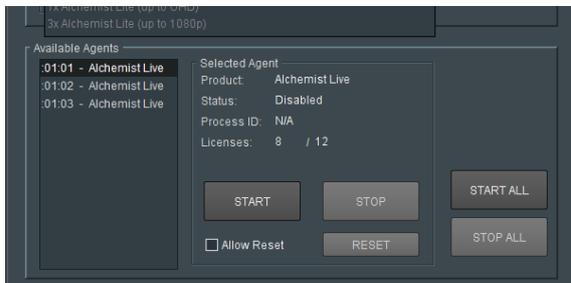


Note that when configured in this way, the number of Agents will be: **3**

In the **Available Agents** pane, three Agents will be listed.

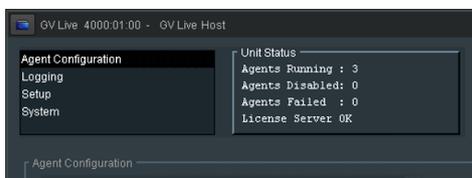
2.2.2 Starting the Agents

The Agents are started from within the **Available Agent** pane:



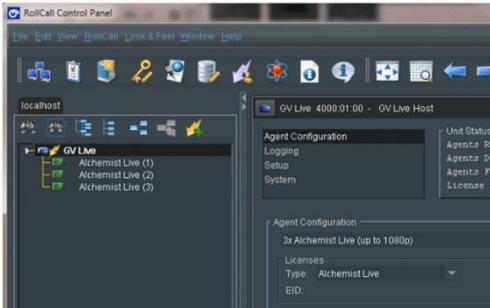
An individual Agent can be started by pressing the **Start** button, or all three by using the **Start All** button:

Once the Agents have started, confirmation will be in the **Unit Status** pane, where the Agents will be described as **Running**:

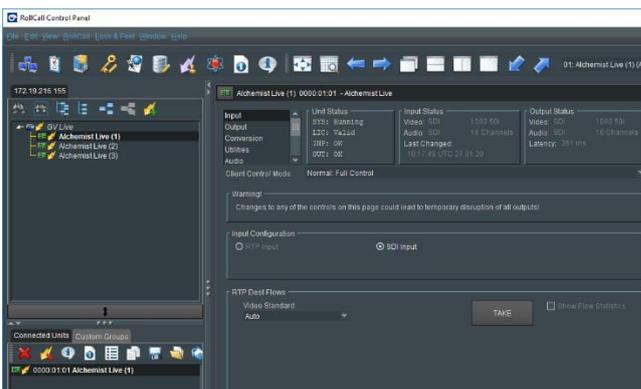


2.2.3 Launching the Alchemist Live Templates

Once the Agents are running, the **GV Live RollCall** tree can be expanded and the **Alchemist Live** template will appear:



Double clicking on any of the **Alchemist Live** links will launch the respective Alchemist Live template:



All three Alchemist Live templates can be opened at the same time, allowing easy navigation between them.

