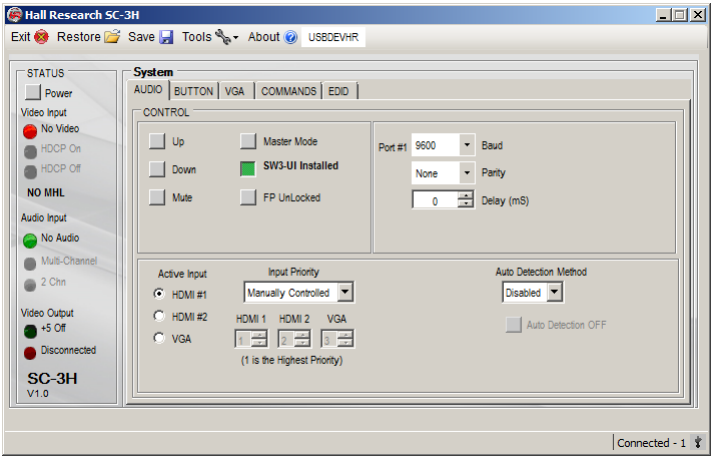
HALL RESEARCH

**Software User's Guide**




# SC-3H

## MULTI-FORMAT
## PRESENTATION SWITCHER & RS-232 CONTROLLER


CUSTOMER SUPPORT INFORMATION

Order toll-free in the U.S. 800-959-6439
FREE technical support, Call **714-641-6607** or fax **714-641-6698**
Address: **Hall Research**, 1163 Warner Ave. Tustin, CA 92780
Web site: www.hallresearch.com E-mail: info@hallresearch.com



UMA1256 Rev 2 **GUI Insert**

# Contents

1. SC-3H WINDOWS™ SOFTWARE INSTALLATION ..... 3

1.1. General ..... 3

1.2. Software Installation Prerequisites ..... 3

1.3. Software Installation ..... 3

2. USING THE SOFTWARE ..... 3

2.1. General ..... 3

2.2. USB Device Detection ..... 4

2.3. Tool Bar Menu ..... 4

2.4. Device Name ..... 6

2.5. Status Bar ..... 6

2.6. Status Group ..... 6

2.7. Audio Tab ..... 7

2.8. Buttons Tab ..... 10

2.9. VGA Tab ..... 11

2.10. Commands Tab ..... 12

EDID Tab ..... 14

# 1. SC-3H Windows™ Software Installation

## 1.1. General

The SC-3H is controllable via free Windows® based software available from the Hall Research website. All of the device features, and more, are accessible and controllable from the GUI.

## 1.2. Software Installation Prerequisites

- A PC with Windows XP® OS or later
- USB port
- Microsoft® .NET Framework 3.5 or later (most recent OS including Windows 8 and later include this software and no action is required). If the .NET Framework 3.5 or later has not installed on your PC, the Microsoft™ website has free downloads available.

## 1.3. Software Installation

If an earlier version of this software was installed, UNINSTALL it first from either the Add/Remove Programs section of the control panel or by running the previous installation's SETUP.EXE and selecting "remove application".

- Install the software by executing the SETUP.EXE program from the installation source directory
- Accept the default settings, but if you want to specify a particular installation directory other than the default, you may do so.
- Once the SC-3H software installation has completed, either click the desktop icon or navigate the Start Menu to

Start -> Programs -> Hall Research -> SC-3H Switcher

# 2. Using the Software

## 2.1. General

For most installations the use of the software GUI is not required as most functions can be performed using the front panel buttons on the product.

The software GUI allows the user to customize many of the SC-3H features to help with installation issues and usage.

You can use the software to import/export EDID files from the device. Custom EDID data can also be written to devices connected to the output if they support that function.

It is possible to connect more than one SC-3H to the PC (using several USB ports of the PC). The same software GUI detects all connected devices and allows control from the same application.

## 2.2. USB Device Detection

The SC-3H software uses standard Windows® drivers, which automatically configure the USB port after connection and do not require the installation of any special USB drivers.

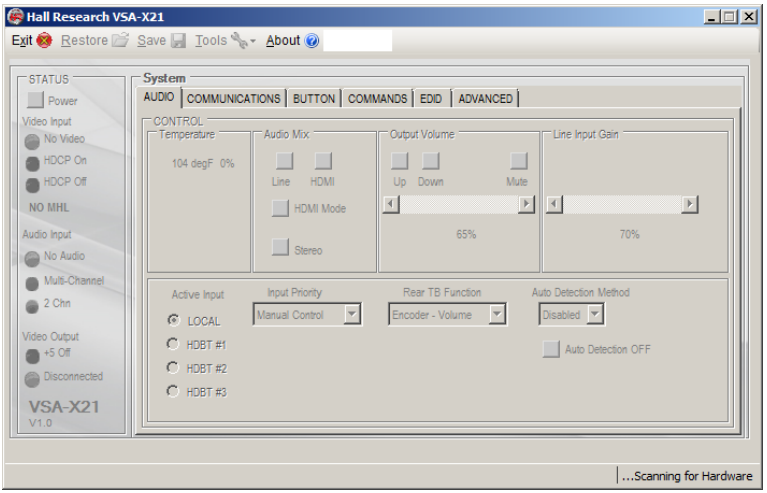
The first time you connect the SC-3H to the PC, you may experience a short delay and a windows notification pop-up message may be shown. Typically, this happens only once.

2.2.1. The software GUI scans the SC-3H settings continuously in real time, all device changes are reflected on the software GUI.

2.2.2. If no SC-3H device is attached to the system, the on-screen fields are disabled (grayed out).

2.2.3. Only one instance of the software GUI can run at a time. Attempting to execute the application more than once will result in a warning message.

## 2.3. Tool Bar Menu



2.3.1. EXIT

Exits the application

2.3.2. RESTORE

Restore previously saved configuration files

2.3.3. SAVE

Save the current configuration file.

2.3.4. TOOLS


Factory Defaults
Restore the device to factory default settings.
The user must confirm the action.

Import EDID
Import an EDID (256-byte binary or XML file) into the unit. (If the file has an XML extension, the file will be interpreted as containing XML data; otherwise, the file will be interpreted as containing BINARY data). Uploading invalid files will result in EDID corruption.

Export EDID
Save the current EDID as a 256-byte binary file
This file can be edited using third party software and reloaded using the 'Import EDID' tool selection.

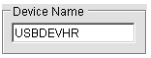
Firmware Update
Allows users to field upgrade the device application firmware.
Only valid firmware files can upload into the SC-3H.

VP Update
Allows users to field upgrade the device VP firmware.

2.3.5. ABOUT

Displays screen with software versions, website link, legal disclaimer and copyright information. The Serial # information displayed is a time/date stamp referenced to GMT (Greenwich Mean Time) and has no reference to the serial number sticker on the actual device.

## 2.4. Device Name




Assigns a descriptive name to be given to the SC-3H device that is a maximum of 8 characters long.
The user is not allowed to change the device name with multiple devices connected.
The FACTORY DEFAULT name is USBDEVHR.

## 2.5. Status Bar

The bottom bar of the screen shows the current USB status as follows:

"Scanning for Hardware…"

The GUI software is looking for SC-3H devices.
Screen controls are disabled until a valid SC-3H device is attached

"Connected – XX"

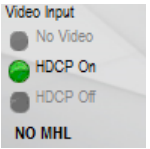
Where XX is the number of SC-3H devices connected to the PC.

## 2.6. Status Group

### Power

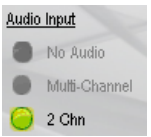
The *Power* control shows the device power state as well as being able to control the ON or OFF state. Factory default is ON.

### Video Input



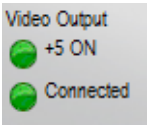

No Video
Indicates the system is not receiving an INPUT video signal.
HDCP On
Indicates video received has HDCP Encryption enabled.
HDCP Off
Indicates video received has HDCP Encryption disabled.
NO MHL
Indicates the MHL status of the connected HDMI source.

### Audio Input




No Audio
Indicates no audio received (DVI mode)
Multi-Channel
Indicates HDMI audio received is not LPCM format.
2 Chn
Indicates HDMI audio received is LPCM format.

## Video Output




+5 ON/OFF

Indicates the state of the +5 vDC signal to the HDMI OUTPUT. When the HDMI INPUT +5 vDC is connected, the +5 vDC OUTPUT signal is turned on and this indicator will be green. When no +5 vDC signal is detected on the HDMI INPUT, the indicator on the screen changes to a dark red color.

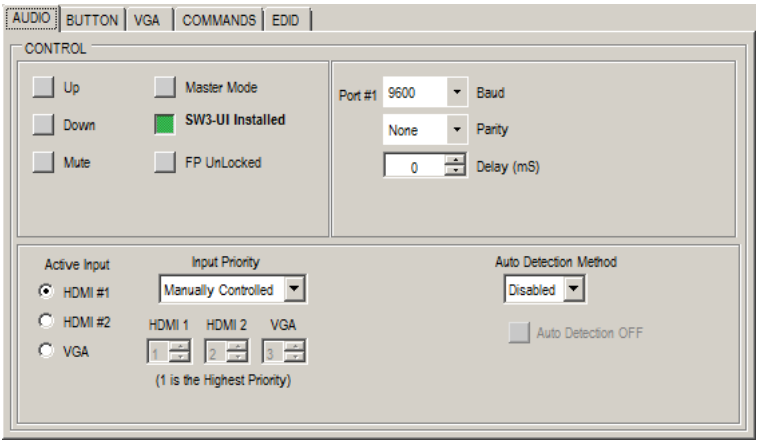
Connected or Disconnected

Indicates the state of the device connected to the SC-3H HDMI OUTPUT.

When a HPD signal is detected, the button will be green and the word Connected will be shown next to it.

When no display is detected (or the display is not sending an HPD signal), then the indicator on the screen changes to a dark red color and the word Disconnected will be shown next to it.

## 2.7. Audio Tab




## Control

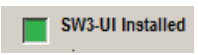
SW3-UI VOL/MUTE Emulation

The *Up* control acts same as SW3-UI Up button for each click.

The *Down* control emulates the SW3-UI Down button for each click.

The *Mute* control emulates the SW3-UI Mute button for each click.

SW3-UI Installed/Not Installed



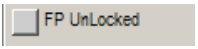

The *SW3-UI* control setting shows the device current setting as well as being able to control the ON and OFF states.

Factory default is ON

- When OFF, no special processing is done.
- When ON, the device will send to and receive commands from the installed SW3-UI for control.

FP Unlocked/Locked

The *FP Unlocked/Locked* control shows the device front panels lock status. Factory default is Unlocked.




- When UNLOCKED, the front panel buttons are active.
- When LOCKED, the front panel buttons are NOT active. PC GUI and RS-232 commands are always active even when the FP is in the LOCKED state.

Baud

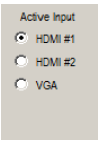
The *Baud* controls show the device baud rate setting for the serial port. Factory default is 9600

Parity

The *Parity* controls show the device parity setting for the available serial ports. Factory default is NONE

Delay (mS)

The *Delay* is available to add time between characters for slower systems to respond (or to support multiple stop bits).
Factory default is 0 mS

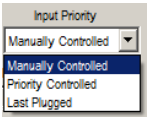



Active Input

The Active Input control shows the device current video input as well as being able to control the selected input on the rear panel.

Input Priority

The Input Priority control shows the device current setting as well as being able to control which video input (HDMI or VGA) has priority or whether the 'Last Plugged' input is selected.

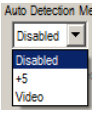



- Manually Controlled
  - The video inputs have no priority.
  - The user must manually select which video input is active.
- Priority Controlled
  - The video inputs selected based on the user configuration priority settings. A setting of "1" has the highest priority, "3" is the lowest priority.

- Last Plugged
  - The device switches to the video input that has an active source attached last.

### Auto Detection Method

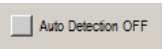
The *Auto Detection Method* control field shows whether Auto Detection is active or not and the detection method to be used. Factory Default is DISABLED.



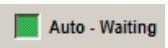

- Disabled
  - Auto Detection is disabled
  - The Off Delay control is disabled in this mode.
- +5V
  - When +5 vDC is present on the currently selected input, RS232 ON strings associated with the AUTO function are output.
  - When the +5 vDC is no longer present, the RS232 OFF string associated with AUTO function are output after the programmed Off Delay time has elapsed.
  - The Off Delay control is enabled in this mode.
- Video
  - The video source must actually send video in order to be detected.
  - When video is received on the currently selected Input, the RS232 ON string associated with the AUTO function will be output.
  - When the video is no longer active, the RS232 OFF string associated with AUTO will be output after the programmed Off Delay time has elapsed.
  - The Off Delay control is enabled in this mode.

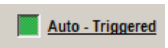
### Auto Detection

The Auto Detection Active/Inactive button shows the device current setting as well as being able to control whether an active source will be detected or not.




- Auto Detection Off
  - No action is taken.
  - Factory default is OFF.
- Auto – Triggered or Waiting
  - When the Auto Detection Method control is NOT *OFF*, the device will process the RS232 ON and OFF strings associated with the AUTO function whenever the specified event (+5vDC or Video) occurs.
  - Waiting signifies that the device is still waiting for the specified event to occur.
  - Triggered signifies that the device has detected the specified event.



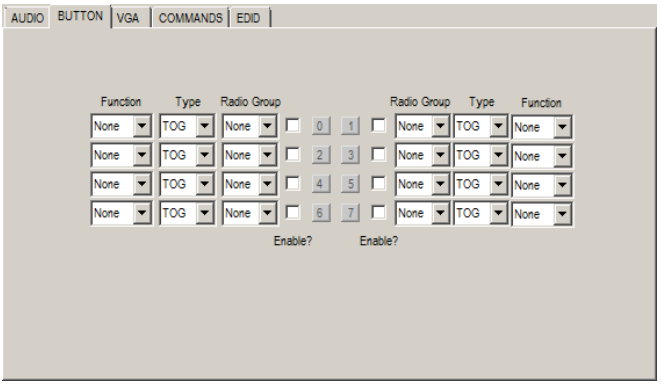



Off Delay (min)

The *Off Delay (min)* control field shows the device current off delay value as well as being able to set that value. Factory Default is 3 minutes.

- The control is disabled if the *Auto Detection Method* is set to Disabled or Contact.
- When set to 0 minutes and '*Auto Detection Method*' is set for '+5' or 'Video' the RS232 string associated with the AUTO OFF Function will be output immediately.
- When set to any value between 1 and 240 minutes, the RS232 OFF string associated with the AUTO function will be output after the specified programmed delay has elapsed.

## 2.8. Buttons Tab




These controls configure eight programmable virtual buttons

### Function

The SC-3H system function associated with the button. When pressed, buttons will execute the assigned function. The functions available are POWER, MUTE, VOLUP, VOLDN, IS0 thru IS3 and AUTO.

### Type

The button type can be set for Momentary or Toggle action.
Toggle buttons have two RS232 strings associated with them, an ON and OFF.
Momentary buttons have one RS232 string associated with them, only ON.

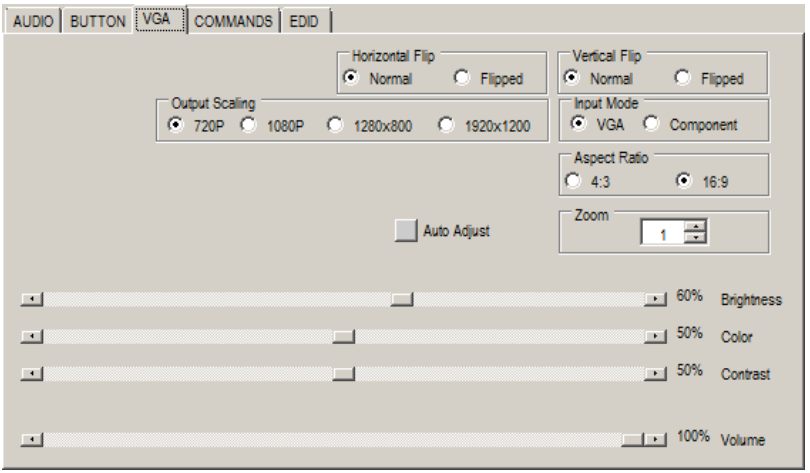
### Group

The button group assigned to this button.
Multiple buttons can be assigned to the same group #.
Only one button in the group can be active at one time.

### Enable?

Whether the button is enabled or not. Buttons that are not enabled do not respond and the button is removed from the WEBGUI.

## 2.9. VGA Tab




This tab controls the setting for the VGA Input.

**Horizontal Flip**

The VGA source can have its image displayed normally or flipped (left and right).

**Vertical Flip**

The VGA source can have its image displayed normally or flipped (up and down).

**Output Scaling**

The VGA source can have its image displayed as 720P, 1080P, 1280x800 or 1920x1200.

**Input Mode**

The VGA source can use either VGA or Component input.

**Aspect Ratio**

The VGA input source aspect ratio.

**Auto Adjust**

Used to perform an Auto Adjust of the VGA Input (will try to best fit the video on the output screen).

**Zoom**

The VGA source can adjust the output zoom level. This is useful if the VGA image's edges are cut off by the bezel of the TV.

**Brightness**

Adjusts the VGA source brightness level between 0 and 100%.

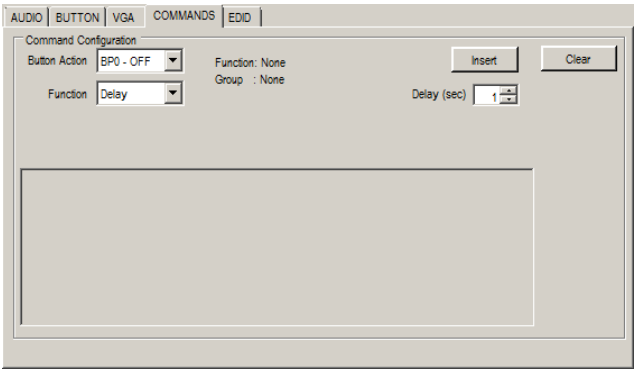
**Color**

Adjusts the VGA source color level between 0 and 100%.

**Contrast**

Adjusts the VGA source contrast level between 0 and 100%.

2.10. Commands Tab




**Command Configuration**

Button Action

The *Button Action* control field shows the individual ON or OFF strings for the 8 programmable virtual buttons.

Function

The *Function* control field shows one of the following values.

- Serial
  - Send RS232 to Serial Port
- Serial (UI)
  - Send RS232 to the SW3-UI serial port (when installed)
- Delay
  - Time delay from 1 to 6 seconds
- Command
  - Send any valid command to the device

Command (when Function is set for Serial or Serial (UI))

The *Command* control field is where the user enters the desired RS232 string. The RS232 values can be entered as ASCII text and/or hex byte values formatted in a &hXX format.

Any extra spaces or other characters entered are transmitted.

Where "XX" is the desired HEX byte value.

Any character from 0x00 to 0xFF can be entered in this format.

Delay (sec) (when Function set for Delay)

The *Delay (sec)* control field is where the user enters the desired time delay in seconds. The limit is from 1 to 6 seconds.

INSERT

The *INSERT* control appends a new command. If the new command exceeds the maximum length allowed, an error message will be displayed. (32 characters maximum). Each Function uses a different number of characters over and above any fixed characters that are required.

CLEAR

Click the *CLEAR* button to erase the entire pre-programmed command sequence.

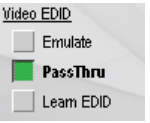
UPDATE

Click the *Update* button to save the existing programmed command.

This control is only visible when there is an unsaved change in the configuration settings.

EDID Tab

## VIDEO EDID




Clicking these controls selects to either PASS-THRU or EMULATE the EDID.

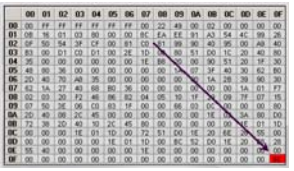
PASS-THRU uses the SINK EDID while EMULATE uses the internal EDID saved in the SC-3H.

PASS-THRU is the FACTORY DEFAULT setting.

### Learn EDID

Clicking this control will extract the EDID from device connected to the output connector and save it in the unit. The user must confirm the action.

### EDID Data Display



The data shown in the EDID table is continually scanned to ensure that the checksums for each block is valid.

If there is an invalid checksum, the invalid checksum byte highlights in RED.

If an action is performed that affects the EDID such as initiating a "learn" process, The checksum field might momentarily flash 'RED' during the this process, but should go back to normal once the entire table is updated.

© Copyright 2017 Hall Research, Inc.
All rights reserved.

CUSTOMER SUPPORT INFORMATION

Order toll-free in the U.S. 800-959-6439
FREE technical support, Call **714-641-6607** or fax **714-641-6698**
Mail order: **Hall Research**, 1163 Warner Ave. Tustin, CA 92780
Web site: www.hallresearch.com E-mail: info@hallresearch.com