REMOTELY CONTROL SCANDO HD

DVI and Analog RGB Computer Video to 3G/HD/SD-SDI Scan Converter with Genlock Input and Fiber Optic Output

Installation and Operations Manual

WWW.ARTEL.COM

Contents

Introduction

ScanDo HD comes equipped with a RS-232 and an standard Ethernet port.

It is suggested that you review the ScanDo HD User's Manual prior to controlling the ScanDo HD from a remote location.

Presets Overview

ScanDo HD ships from the factory with no presets stored.
Therefore, it is necessary for the user to store any presets they may desire for this feature to be active.

You may store and recall presets via the RS-232 port or via the intuitive GUI.
For RS-232 instructions, please see page 8 of this manual.
For ethernet/GUI instructions, please see page 10 of this manual.

The Preset function stores the current settings based on the current output format timing and DVI input resolution.

ScanDo HD stores the following information in its Preset memory:
   • The Zoom (H & V size) of the image
   • The Pan (H & V position) of the image
   • All Processing Control Settings (Brightness, Sharpness, etc.)
   • The Anti-Flicker Setting

Note: A preset may not be recalled if the output format and/or the input resolution differs from the output format and/or input resolution saved with the preset.

DB-9F Connector

The output connector for the RS-232 port on the ScanDo HD is a DB-9F.
The ScanDo HD is DCE and the controlling computer is DTE. The cable connector
is shown below:

**ScanDo HD
DB-9 Female DCE**

**Computer Com Port
DB-9 Male DTE**
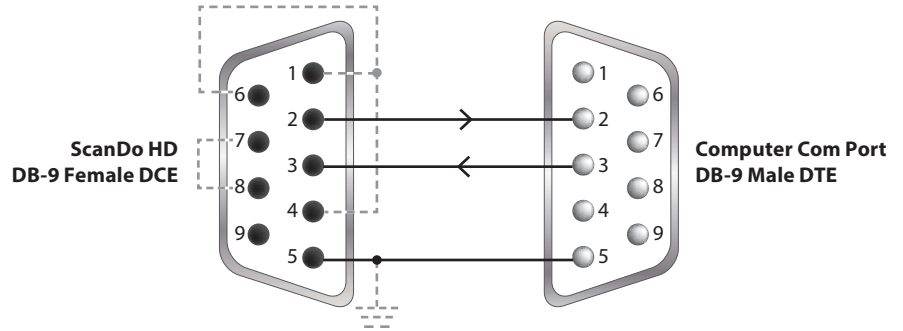
**RS-232
Communication
Parameters**

The following communication parameters should be observed when connecting
to the ScanDo HD via the RS-232 port.

• 19200 Baud

• 8 data bits, no parity, 1 stop bit

• generic TTY

• no flow control

Command Formats

The following command formats should be observed when controlling the
ScanDo HD via the RS-232 port.

• Commands are NOT case sensitive.

• Illegal commands or commands with illegal parameters have no effect.
  The unit will return an error message.

• A carriage return is a carriage return only and does not include a line feed.

Command Syntax to ScanDo HD

Legend	
↵	Carriage Return, no line feed
xx	two letter command
yy	parameter in decimal
zz	value from 1 to 5 digits in decimal

The following table lists the syntax for Remote Protocol Commands:

Remote Protocol Commands to ScanDo HD		
Write	no parameters or values	xx:,↵
	with values only	xx:,zz↵
	with parameters and values	xx:yy,zz↵
	with parameters only	xx:yy,↵
Read	no parameters	xx:↵
	with parameters	xx:yy↵

Response Syntax from ScanDo HD

Legend	
↵	Carriage Return, no line feed
xx	two letter command
yy	parameter in decimal
zz	value from 1 to 5 digits in decimal

The following table lists the response syntax for Remote Protocol Commands:

Response Syntax From ScanDo HD	
Welcome message	↵unit title version compile date compile time↵>
Good command, no data back	↵>
Good command, data back	↵xx:=zz↵>
Good command, address with data back	↵xx:yy=zz↵>
Illegal 2 letter command	↵E1↵>
Parameter out of range	↵E2↵>
Syntax Error	↵E3↵>
Not valid with current state	↵E4↵>
Communication Error during reception of command	↵E5↵>
Timing Error - previous command not yet serviced	↵E6↵>
Hardware Error	↵E7↵>
RS-232 port is locked	↵E8↵>
Resource Limitation	↵E9↵>
Unit timed out while waiting for a text string to be sent from the remote controller. See the Text Command Section for more information.	↵E10↵>

Remote Command Glossary

	Two Letter Command	Parameter[1]	Value[1]	Description	Available Commands	Default Value
Analog Image Align	aa	none	none	Runs the procedure to automatically align the analog input with the top line and left edge of the active area of video	write	–
Antiflicker	af	0	none	Antiflicker level, automatically selected by the video processor	read & write	0
		1	1	Manual Antiflicker Level 1	Note: To write, use the parameter and value as shown.	
			2	Manual Antiflicker Level 2		
			3	Manual Antiflicker Level 3		
			4	Manual Antiflicker Level 4	To read, do not enter any parameters after the colon.	
			5	Manual Antiflicker Level 5		
			6	Manual Antiflicker Level 6		
			7	Manual Antiflicker Level 7		
			8	Manual Antiflicker Level 8		
Center Horizontally	ch[5]	none	none	Centers the output image in the horizontal direction	write	–
Erase Preset	cp[7]	none	1	Erases Preset 1	write	–
			2	Erases Preset 2		
			3	Erases Preset 3		
			4	Erases Preset 4		
			5	Erases Preset 5		
			6	Erases Preset 6		
Center Vertically	cv[5]	none	none	Centers the output image in the vertical direction	write	–
On Screen Display	ds	none	0	On Screen Display is Off	read	–
			1	On Screen Display is On		
EDID	ed	none	0	EDID will come from the loopthrough monitor if attached or from the ScanDo HD if it is not.	read & write	0
			1	The EDID always comes from the ScanDo HD		
Fan	fm	none	0	Fan Always On	read & write	0
			1	Automatic: On at 54º C, Off at 49º C		
Genlock Status	gs	none	0	Not in Genlock Mode	read	–
			1	Searching for Genlock signal		
			2	Locked to valid Genlock input signal		
Image Freeze	if	none	0	Live display on the output	read & write	0
			1	Input image frozen on the output		

Remote Command Glossary

	Two Letter Command	Parameter[1]	Value[1]	Description	Available Commands	Default Value
Input Status	in [3]	none	0	Not locked to an input signal	read	–
			1	Locked to digital input, but input is not valid		
			2	Locked to a valid digital input signal		
			3	Locked to an analog input, but input is not valid		
			4	Locked to a valid analog input		
Input Resolution Properties	ir	0	0 to 2048	Horizontal input resolution in pixels	read	–
		1	0 to 2048	Vertical input resolution in lines		
		2	0 to 8510	Input vertical refresh rate in Hz/100		
		3	0	Input scan format is interlaced (I)		
			1	Input scan format is progressive segmented frame(PsF)		
			2	Input scan format is progressive (P)		
Input Selection Mode	is	none	0	Input automatically selected with a preference given to the digital input	read & write	0
			1	Input forced to digital		
			2	Input forced to analog		
Analog Auto Adjust	la	none	0	Unit does not perform analog auto adjust when input switches between resolutions	read & write	0
			1	Unit performs analog auto adjust when input switches between resolutions		
Front Panel & RS-232 Port Lock	lk [3]	0	0	Unlock Front Panel	read & write	0
			1	Lock Front Panel		
		1	0	Unlock RS-232 Port		
			1	Lock RS-232 Port		
Last Used Preset	lp	none	0	No preset was used since the unit was powered on	read	–
			1	Last preset used: #1		
			2	Last preset used: #2		
			3	Last preset used: #3		
			4	Last preset used: #4		
			5	Last preset used: #5		
			6	Last preset used: #6		

Control via RS-232

Remote Command Glossary

Two Letter Command	Parameter[1]	Value[1]	Description	Available Commands	Default Value
LED Test Mode lt	none	0	LED test mode off	read & write	0
		1	LED test mode on		
Output Format of	none	0	NTSC	read & write	14
		1	PAL		
		2	720p, 60 Hz		
		3	720p, 59.94 Hz		
		4	720p, 50 Hz		
		5	720p, 30 Hz		
		6	720p, 29.97 Hz		
		7	720p, 25 Hz		
		8	720p, 24 Hz		
		9	720p, 23.98 Hz		
		10	1035i, 60 Hz		
		11	1035i, 59.94 Hz		
		12	1080i, 60 Hz		
		13	1080p, 60 Hz		
		14	1080i, 59.94 Hz		
		15	1080p, 59.95 Hz		
		16	1080i, 50 Hz		
		17	1080p, 50 Hz		
		18	1080p, 30 Hz		
		19	1080psf, 30 Hz		
		20	1080p, 29.97 Hz		
		21	1080psf, 29.97 Hz		
		22	1080p, 25 Hz		
		23	1080psf, 25 Hz		
		24	1080p, 24 Hz		
		25	1080psf, 24 Hz		
		26	1080p, 23.98 Hz		
		27	1080psf, 23.98 Hz		
Optical Output op	none	0	Turn the optical output off	read & write	0
		1	Turn the optical output on		
Processing Controls pc	0	0 to 256	Sets the Brightness. Scales to -1 to +1 in 0.0078 increments	read & write	128, Scales to 0
	1	0 to 256	Sets the Contrast. Scales to -2 to +2 in 0.0156 increments		119, Scales to -0.1348
	2	0 to 719	Sets the Hue angle from 0º to 359.5º in increments of 0.5º		0
	3	0 to 150	Sets the Saturation. Scales to 0.00 to 1.50 in increments of 0.01		100, Scales to 1.00
	4	0 to 16	Sets the Sharpness in 16 steps starting with (0), no sharpness enhancement		0

Remote Command Glossary

	Two Letter Command	Parameter[1]	Value[1]	Description	Available Commands	Default Value
Preset Information	pe	none	192-255	Returns the Preset Empty flag byte. Each bit represents a preset. A one (1) indicates a preset is empty and a zero (0) indicates a preset is stored. The bits are mapped to the presets as follows: bit 0 = Preset 1 bit 1 = Preset 2 bit 2 = Preset 3 bit 3 = Preset 4 bit 4 = Preset 5 bit 5 = Preset 6 bit 6 = Reserved, set to 1 bit 7 = Reserved, set to 1	read Note: The value that is returned is a decimal number that must be converted to a binary number in order to decode the individual bits.	
Pan	pn [5]	0	1-5	Pans output image up by 1, 2, 3, 4 or 5 step(s) at a time	write	–
		1	1-5	Pans output image down by 1, 2, 3, 4 or 5 step(s) at a time		
		2	1-5	Pans output image left by 1, 2, 3, 4 or 5 step(s) at a time		
		3	1-5	Pans output image right by 1, 2, 3, 4 or 5 step(s) at a time		
Pan - Fixed Position	qd [5]	0	none	Move image to upper right	write	–
		1		Move image to upper left		
		2		Move image to lower left		
		3		Move image to lower right		
Recall Presets	rp [4]	none	1	Recalls Preset 1	write	–
			2	Recalls Preset 2		
			3	Recalls Preset 3		
			4	Recalls Preset 4		
			5	Recalls Preset 5		
			6	Recalls Preset 6		
Store Presets	sp	none	1	Stores Preset 1	write	–
			2	Stores Preset 2		
			3	Stores Preset 3		
			4	Stores Preset 4		
			5	Stores Preset 5		
			6	Stores Preset 6		
Restore Factory Defaults	sr	none	none	Reset ScanDo HD to Factory Defaults	write	–
Temperature	tm	none	none	Returns the internal ambient temperature of the unit in degrees Celsius	read	–

Remote Command Glossary

Two Letter Command	Parameter[1]	Value[1]	Description	Available Commands	Default Value
Test Patterns tp	none	0	Live video, no test pattern	read & write	–
		1	100% Color Bars		
		2	75% Color Bars		
Unit Information vn	none	none	Return unit model name with firmware version number, date and time	read	–
4:3 Center Cut Zoom zc [5, 6]	none	none	4:3 center cut zoom. Used when the output format is 4:3 (Standard Definition) and the input is 16:9	write	–
Zoom to Fit zf [5]	none	none	The input image is stretched to the limits of the output raster in H & V	write	
Zoom to Fit Geometrically Correct zg [5]	none	none	The input image appears geometrically correct in the output raster	write	
Zoom zm [5]	0	0	Zoom up in H direction	write	–
		1	Zoom down in H direction		
	1	0	Zoom up in V direction		
		1	Zoom down in V direction		
	2	0	Zoom up H & V together		
		1	Zoom down H & V together		

The left-margin labels for the rows are: Test Patterns, Unit Information, 4:3 Center Cut Zoom, Zoom to Fit, Zoom to Fit Geometrically Correct, Zoom.

1   All numbers are decimal

2   A command that is issued with a parameter that exceeds the limits of the move range will cause the image to move to its limit.

3   An "E4" error message received after sending this command means that the output format is currently being set from the ScanDo HD front panel and the command will not be processed.

4.   An "E4" error message received after sending this command indicates that the preset being recalled is empty.
    An "E7" error message received after sending this command indicates a memory failure.
    An "E9" error message received after sending this command indicates a video processor resource limit.

5.   An "E9" error message received after sending this command indicates a video processor resource limit.

6.   This command is only applicable to Standard Definition output formats and will return an "E4" error message if executed while the unit is configured to output a High Definition signal.

7.   An "E7" error message received after sending this command indicates a memory failure. The preset was not completely erased.

8.   When the input display is frozen, most of ScanDo HDs functions are prohibited. The image freeze is meant to be used when switching from one input resolution to another or when switching between an analog input and a digital input. The unit will block the video processor from changing any parameters that will affect the output video.

Introduction

Commands to save and recall text strings to the microcontroller's EEPROM are a new addition to the standard ScanDo protocol and are included for the first time in ScanDo HD. While the text commands are very similar to the standard user commands, the Text Command Protocol is unique to the text commands. The commands to put ScanDo HD in text mode can be found below:

Text Commands

Two Letter Command	Sring to Access[1]	Number of Characters in String[1]	Description
sn	1-6	1-16	Saves the preset name up to 16 characters for presets 1 through 6 in the EEPROM
rn	1-6	1-29	Recalls the preset name from the EEPROM for presets 1 through 6
su	1-4	1-128	Saves a user's text string of up to 128 ASCII characters in the EEPROM in one of four segments
ru	1-4	1-128	Retrieves a user's text string of up to 128 ASCII characters from the EEPROM in one of four segments

1   All numbers are decimal

All commands are case insensitive.

Illegal commands or commands with illegal parameters have no effect and the unit will return an error message.

Text save commands are structured to follow the syntax of a user write command with parameters and values where the string being accessed is the parameter and the number of ASCII characters in that string is the value.

Text retrieve commands follow the syntax of a user read command with parameters where the string to be accessed is the parameter.

Save Text Procedure

The procedure for a save text command is as follows:

1) The remote controller sends the storage command with the string to store and the number of characters in the string.

2) The ScanDo HD puts the remote port in "text" mode and sends out a ready message where it repeats the command, the string number and the number of characters in the string.

3) The remote controller receives the ready message and then sends the string. The string can contain any ASCII character including a carriage return.

4) The ScanDo HD counts the number of characters specified in the initial storage command and if the incoming characters equal the number of characters specified in the initial storage command, the ScanDo HD stores the string in EEPROM, padding any characters left out of the 128 maximum with the Hex value of 0xff.

5) The ScanDo HD sends an acknowledgement to the remote controller and puts the remote port back into regular command mode.

Example of a Successful Storage Procedure

Sent From:	Protocol:
Remote Controller	su:2,37 ↵
ScanDo HD	↵ su:2=37
Remote Controller	Configured by Joe Cool, June 29, 2007
ScanDo	↵ >

Example of a Failed Storage Procedure

Sent From:	Protocol:
Remote Controller	su:2,37 ↵
ScanDo HD	↵ su:2=37
Remote Controller	Configured by
ScanDo (after 5 seconds)	↵ E10 ↵ >

Retrieve Text Procedure

The procedure for a retrieve text command is as follows:

1) The remote controller sends the retrieve command with the particular string to be retrieved.

2) The ScanDo HD returns the command, the selected string, the number of characters in the string followed by an equal sign and then the text string itself. The last two characters of the response will be a carriage return and a prompt.

**Example of a
Successful Retrieve Procedure**

Sent From:	Protocol:
Remote Controller	ru:2 ↵
ScanDo HD	↵ru:2=37=Configured by Joe Cool, June 29, 2007 ↵>

**Example of a
Failed Storage Procedure**

Sent From:	Protocol:
Remote Controller	ru:2 ↵
ScanDo HD	↵ru:2=0= ↵>

Preset Name Procedure

Storing the preset names will function as stated in the Save Text Procedure section of this manual.

Presets can only be named if the preset configuration has already been saved. An E4 error message will be returned if the user tries to name an empty preset.

Note: If the remote controller does not respond to the ScanDo HD with the completed string within 5 seconds, the ScanDo will send an E10 error message indicating that it has timed out.

Example of a Successful Preset Name Procedure

Sent From:	Protocol:
Remote Controller	sn:6,13 ↵
ScanDo HD	↵ sn:6=13 ↵▷
Remote Controller	Weather Map 4
ScanDo HD	↵▷

Retrieving a Preset Name Procedure

Retrieving a preset name differs from other retrieval commands in that the response to the user will contain the preset name along with the output format and input resolution of the preset. This information is separated by the delimiter ~

The format is: rn:x=yy=preset name~aa~bbbb~cccc ↵▷

        x   = the preset position
        yy   = the strings' character count
        aa   = the output format value as specified in the
                   Output Format command (of) in the
                   Remote Command Gloassary.
        bbbb   = the active horizontal pixels in the input
        cccc   = the active vertical lines in the input

Note: If an attempt is made to recall a preset name from a preset that is empty (no settings have been stored), the ScanDo HD will send back the following response: rn:6=0= ↵▷

If the preset itself has been stored, but the name has not, then the response back from the ScanDo HD will be similar to: rn:6=12=~4~1280~1024↵▷

Example of a Successful Preset Name Retrieval

Sent From:	Protocol:
Remote Controller	rn:6 ↵
ScanDo HD	↵ rn:6=25=Weather Map 4~13~1024~768 ↵▷

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Control via Ethernet

Connecting to the Ethernet Port

The rear panel Ethernet port will accept a standard 10/100 Base-T Ethernet connection. The unit will automatically adjust to either speed from the hub, switch or router that it is connected to.

The default setting for the unit is to accept an IP address from the router to which it is connected. This is referred to as **DHCP** mode.

Viewing and Setting the IP Address

To see the IP settings the unit has acquired from the router after the connection is made, **ensure that the On Screen Display is enabled** and press the ALTERNATE FUNCTION button and then the IP ADDRESS button. ScanDo HDs IP address will appear on-screen for 30 seconds.

Note: that it is possible to interrupt a user connected to the ScanDo HD via the ethernet port if you view and/or change the network settings.

If you connect the ethernet cable after you have powered on your ScanDo HD, you may have reset the ethernet port by pressing the ALTERNATE FUNCTION and then the RESET ETHERNET button.

Once the ScanDo HD is connected, launch the browser on your PC.
In the Address bar of the browser enter the IP address of the unit.
For example: http://192.168.1.54

You will now see the control screen of the ScanDo HD. For more information on the ScanDo HDs Graphical User Interface, please see page 18 of this manual.

Note: It is important that your browser have Java Runtime Environment version 1.6 (JRE 6) or later installed. This is normally standard on most browsers. However, the latest version of Java can be downloaded at: java.sun.com. Macintosh users can download Java Runtime Environment from developer.apple.com

IP Address Button Operation

View the IP Address	Alternate Function	then	Pan / IP Address
Reset Ethernet Port	Alternate Function	then	Zoom / Reset Ethernet
Change Value	Increase	or	Decrease
Move Cursor	Delay	or	Advance
Save Changes	Alternate Function	then	Pan / IP Address
Cancel Changes	Alternate Function	then	Output Format / Cancel

Setting the IP Address:
If the current network configuration is not displayed, press ALTERNATE FUNCTION and then the IP ADDRESS button to display the network settings. Press ALTERNATE FUNCTION and then the IP ADDRESS button again to enter Edit mode.

Use the UP or DOWN arrow keys to enable/disable DHCP mode.

With DHCP disabled:
If DHCP mode is disabled, you may use the LEFT or RIGHT arrows to move the cursor. To change a value, use the UP or DOWN arrow keys.

To save changes, press the ALTERNATE FUNCTION button and then the IP ADDRESS button.

To cancel your changes, press the ALTERNATE FUNCTION button and then the CANCEL button.

Note: If no keys are pressed for 30 seconds, ScanDo HD will exit "Edit Mode" without saving your changes.

**Connecting to the GUI
(Graphical User Interface)**

When ScanDo HD is connected to the network via ethernet,
you may take control via the Graphical User Interface (GUI).

A web browser with Java version 1.6 (JRE 6) or later is required to utilize the GUI.
For more information about browser requirements please refer to the "Browser
Requirements" section below.

To connect to the GUI, you will need to know the IP address of the ScanDo HD you
wish to communicate with. If you do not have this information, please follow the
instructions on page 14 of this manual.

Connect by entering your ScanDo HDs IP address into your browser.
For example: http://192.168.1.57

After entering the IP address, you will receive the following screen:

Click "Connect" to connect to your ScanDo HD.
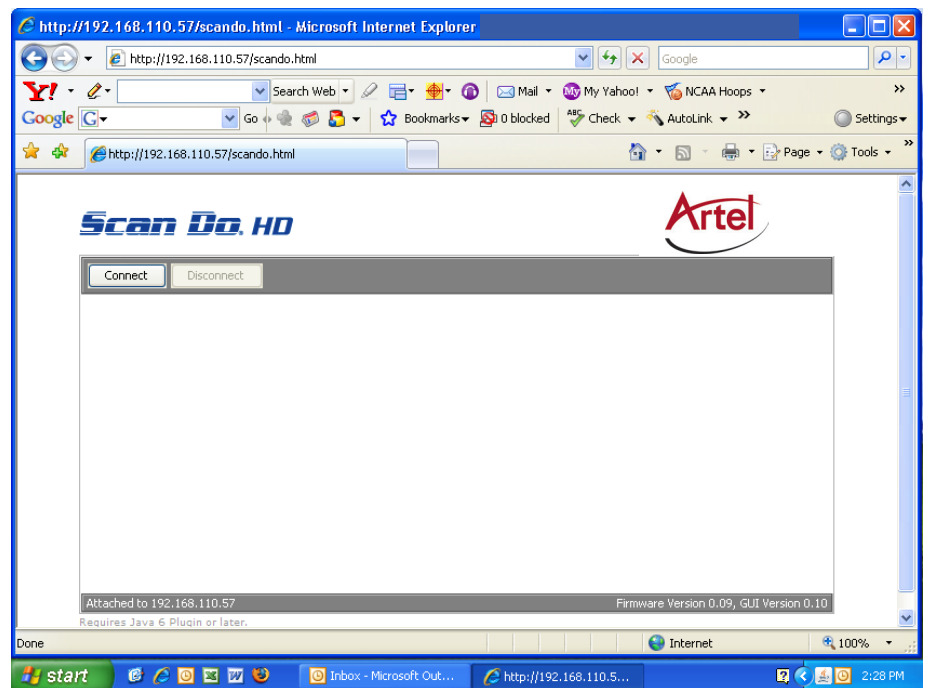
Note: You may receive a message stating "The Applications Digital Signature
Cannot Be Verified." To continue, select "Run". To prevent this dialog box from
appearing each time you connect, you should select, "Always trust content from
this provider."

Browser Requirements

ScanDo HD is designed to work with standard software commonly
available on most modern PC's and Macs:

Internet Explorer 6 or later.
Firefox 1.5 or later.
Safari 2.0 or later.
Netscape 8 or later.

Java Runtime Environment version 1.6 (JRE 6) or later.

The GUI at a Glance

Once you have connected to your ScanDo HD, you should see the GUI interface represented below.

Use the key on the next page for GUI functionality descriptions

The GUI at a Glance

1 Disconnects your browser from the ScanDo HD.

2 Directs you to scandohd.tv to review and download the latest updates.

3 Allows you to upgrade ScanDo HDs firmware.

4 Allows you to upgrade ScanDo HDs GUI.

5 Allows you to configure your GUI's functionality.
See Page 18 for more instructions.

6 Quickly choose your output resolutions.

7 Easily select your Antiflicker level.

8 Generate test patterns.

9 Allows you to force the input as digital or analog.

10 Allows you to freeze the output image

11 Zoom Controls. See Page 18 for more instructions.

12 Pan Controls. See Page 19 for more instructions.

13 Image Processing Controls. See Page 19 for more instructions.

14 Preset Controls. See Page 20 for more instructions.

15 Current Status of your ScanDo HD.

16 The IP address of the ScanDo HD you are controlling

17 A convenient link for you to download the latest version of
Java Runtime Environment (JRE)

**18** Your ScanDo HDs current firmware and GUI versions.

GUI Configuration
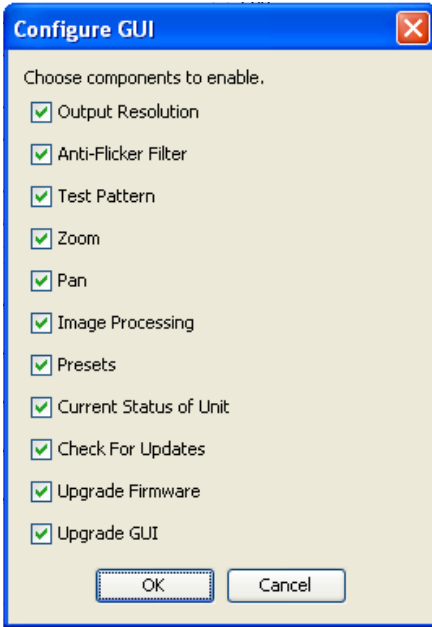
The GUI Configuration dialog box allows you to add and remove functionality from the GUI interface. This is useful when you wish to hide functionality from users of the GUI interface and to avoid accidental changes to important properties.

Note: The ScanDo HD does not employ rights management. A user can connect to the GUI, enable a feature and change its properties.

If you wish to restrict GUI access to specific users and/or groups, your IT department may be able to help. Ask them about IP to IP restrictions, rights and pools that can be enabled within your LAN's router.

Zoom Controls
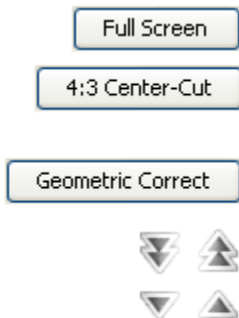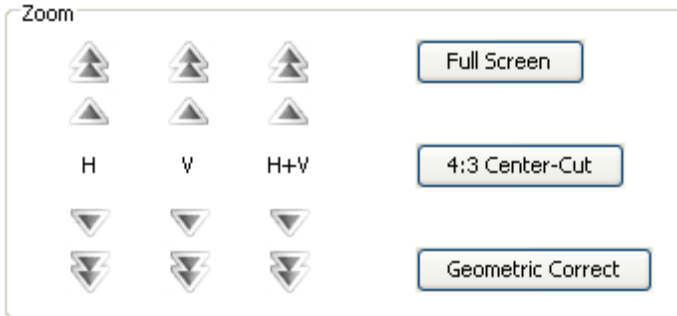
This will Zoom your output to full screen and will not maintain the aspect ratio.
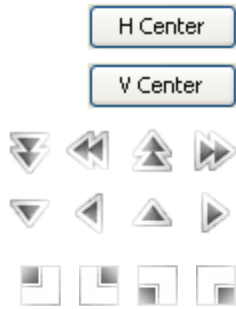
This will use 4:3 Center Cut Zooming, used when the output format is 4:3 (Standard Definition) and the input is 16:9

This will render your image geometrically correct in the output raster.

Use these buttons for coarse increments.

Use these button for fine increments.

Pan Controls

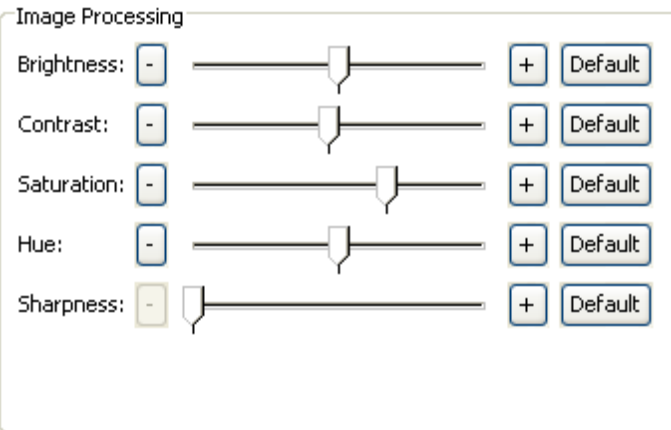 This will center your image horizontally in the output raster

This will center your image vertically in the output raster.

Use these buttons for coarse increments.

Use these button for fine increments.

Use these buttons to automatically snap your image to the top left, top right, bottom left or bottom right of the output raster.
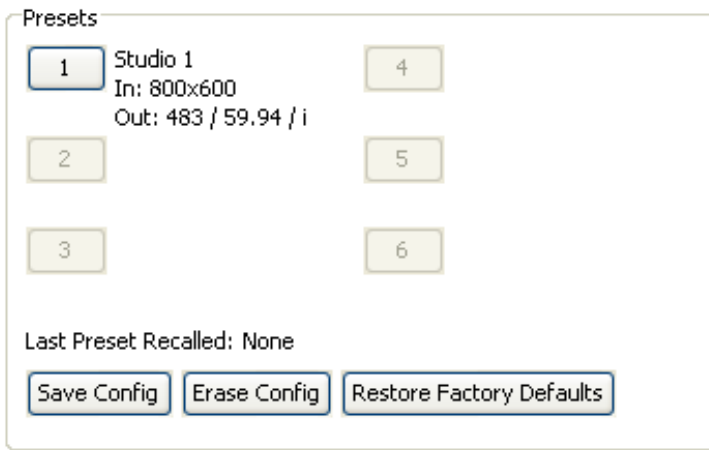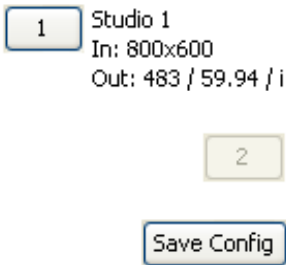
Processing Controls

 Use these buttons to precisely increase and decrease the property.

Use the sliders to coarsely increase and decrease the property.

Use this button to return the property to the factory default.

Presets Control

Presets

| 1 | Studio 1
In: 800x600
Out: 483 / 59.94 / i | | 4 |

| 2 | | 5 |

| 3 | | 6 |

Last Preset Recalled: None

Save Config   Erase Config   Restore Factory Defaults

1 Studio 1
   In: 800x600
   Out: 483 / 59.94 / i

2

Save Config

An active numerical preset button, as well as a preset name, input and output resolution information, indicate that a preset has been saved.
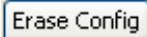Simply press the button to recall the configuration.

A deactive numerical preset button indicates that no preset has been saved.
Press "Save Config" to save a configuration.

Pressing this button will allow you to save your current configuration and present you with the following dialog box:

Presets   ✕

Choose a preset configuration to save under.

1   ▼

Specify a preset name. (Optional)

OK   Cancel
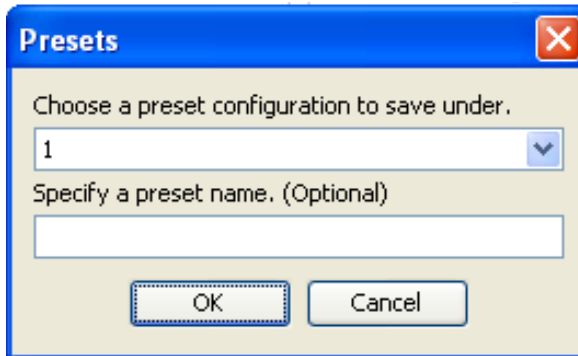
Choose your preset position using the first pull down menu.
You can enter a name for your preset in the provided text field.

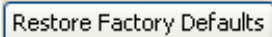To complete your preset storage, click "OK". Your preset has now been saved.

Presets Control

Erase Config

Pressing this button will allow you to erase a previously saved configuration and present you with the following dialog box:
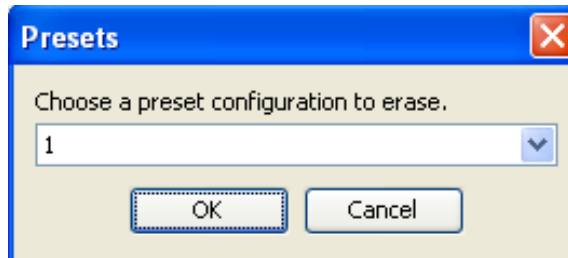
Choose the preset you wish to erase from the pull down menu. To complete the erasure of your preset, click "OK". Your preset has now been erased.

Restore Factory Defaults

Pressing this button will restore your ScanDo HD to its factory default settings.

Note: If you are using ScanDo HDs fiber optic output and your restore your ScanDo HD to factory defaults, the fiber optic output will be turned off by default. You must enable the fiber optic output as described in the ScanDo HD User's Manual to use the fiber optic output again.

Upgrading ScanDo HDs Firmware and GUI

ScanDo HD is designed to be upgradable in the field. The upgrade process is easy and intuitive. Simply follow these steps:

① Connect to ScanDo HD.
To upgrade the ScanDo HDs Firmware and GUI, you need to connect to the ScanDo HD via Ethernet. See page 15 of this manual for instructions on connecting to the GUI.

② Click "Check for Updates"
Once you are connected to ScanDo HD, you can search for the latest updates by clicking on "Check for Updates".

A new window will appear and you will be redirected to scandohd.tv/myscando

If no window appears, you may need to disable pop-up blocking in your browsers preferences.

③ Log In.
If you have previously registered, or you have completed the registration process, you can log in and download your ScanDo HD updates.

If you have not registered, you can register by completing the simple form presented to you at this time.

④ Download and Extract the Update(s)
Download your desired updates to your local computer.

It is recommended that you store your updates on your local computer and not a network drive to ensure stability during the update process.

⑤ Return to ScanDo HDs GUI and click "Upgrade Firmware" or "Upgrade GUI"
After downloading and extracting the updates, return to the ScanDo HD GUI.

If you wish to upgrade your firmware, click "Upgrade Firmware".
If you wish to upgrade your GUI, click "Update GUI".

Note: It is recommended that you update the firmware before updating the GUI.

A dialog box will appear asking you to select the update that you wish to install.

⑥ Select your desired update.
Select your update and click OK. The update process will begin.

When a firmware update is complete, you must power off your ScanDo HD for ten seconds.

When a GUI update is complete, you must quit and restart your web browser to continue normal operation.

WARNING

Never power off or disconnect your ScanDo HD, or try to abort a firmware/GUI upgrade by powering off your computer or closing your browser while an upgrade is in progress.

ScanDo HD is backwards compatible. If you installed an update that you didn't intend, allow the update to complete following all procedures outlined herein and then repeat the upgrade process with the correct update.

You can review and download ScanDo HD updates at scandohd.tv

It is recommended that you update your firmware prior to updating your GUI.

In some cases, firmware upgrades may erase your presets. Please review the firmware's release notes prior to installation.

As your family of ScanDo HDs grows, it can become difficult to remember all of their IP addresses. However, your IT Department may be able to help by assigning a DNS Record for each of your ScanDo HDs.

DNS, or Domain Name System, allows you to resolve to an IP address using simple names. For example, the ScanDo HD website, scandohd.tv, points to or resolves to 72.3.176.163. Without DNS, you would have to enter in the IP address of our server to view our website. With Domain Name Servers, we can assign the IP address an alias or name, in this case, scandohd.tv.

This same technology can be applied to your ScanDo HD units.
This allows you to create meaningful and memorable names for each of your ScanDo HDs.

Example for XYZ Studios:

ScanDo HD IP Address	Location	ScanDo HD DNS Address
192.168.110.35	Studio A Floor 1	sdhd_a1.xyzstudios.com
192.168.109.97	Studio B Floor 2	sdhd_b2.xyzstudios.com
192.168.1.119	Production Suite 12	sdhd_prod12.xyzstudios.com
252.196.18.65	Asia Production Suite	asia.prod.xyzstudios.com

Ask your IT department today about Domain Name Services and how they can help you to simplify the management of your network hardware.

Troubleshooting

I receive a "Processing Error" when trying to read my Network Configuration.

- Ensure that the ethernet cable is attached to your ScanDo HD.

- A user may be connected to the ScanDo HD via Ethernet.

- Reset the ethernet port by pressing ALTERNATE FUNCTION button and then the ETHERNET RESET button.

- Replace the Ethernet Cable. We recommend Cat 5e cabling.

I have a red X on my computer screen

- To use the Graphical User Interface, you must have Java version 1.6 (JRE 6) or later installed. You can download the latest version of Java at java.sun.com or by using the link at the bottom of the GUI.

  Macintosh Users: You can download the latest versions of Java for Mac OS X from developer.apple.com

I cannot connect to the GUI. It says "Server Not Found"

- Ensure that the ethernet cable is attached to your ScanDo HD.

- Verify that you have the correct IP address for your ScanDo HD by following the instructions on page 14.

- Firewalls and Routers may prevent you from communicating with the ScanDo HD, especially from an external location. Contact your IT department to ensure that you have access to the network.

The GUI is behaving erratically and/or some features are not working properly

- Verify that your browser is compatible with ScanDo HD and that you are using the correct version of Java. Please review the Browser Requirements section on page 15 of this manual.

- If you recently upgraded your GUI and failed to upgrade your firmware, some features of the GUI may fail to work, respond, or otherwise behave erratically. Not all GUI updates require a firmware update and you should review the Release Notes for any update prior to installation.

- If you recently upgraded your firmware and failed to upgrade your GUI, some features of the GUI may fail to work, respond, or otherwise behave erratically. Not all firmware updates require a GUI update and you should review the Release Notes for any update prior to installation.

  For additional support, please visit artel.com/scan-do.

Proven Products, Unrivaled Service, and Great Support

- Proven technology in a rugged, reliable package

- Training and installation support available

- 24x7x365 technical support available