Scan Do® HD

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

Class 1 Laser Product

If you haven't used Pure Digital Fiberlink® lately, you should review our comprehensive line of fiber based solutions today.

Designed exclusively for the A/V Professional, each Pure Digital Fiberlink® is designed and built with decades of Pro A/V experience.

Call your Sales Representative or visit us online at commspecial.com

World Headquarters
55 Cabot Court
Hauppauge, New York 11788 USA
Tel: (631) 273-0404
Fax: (631) 273-1638
info@commspecial.com

Asia
Communications Specialties Pte Ltd
100 Beach Road
#22-09 Shaw Tower
Singapore 189702
Tel: +65 6391 8790
Fax: +65 6396 0138
csiasia@commspecial.com

commspecial.com | scandohd.tv

P/N 126128 Rev. E
October 18, 2007

Broadcasting the best results.

Scan Do® HD

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

Get updates at scandohd.tv

User's Manual

Convert your high-resolution DVI computer sources into a SMPTE standard HD or SD SDI signal for broadcasting on air or integrating into a professional video production system.

Scan Do® HD does not require that you install any special software or hardware on your computer.

CSI Communications Specialties, Inc.

World Headquarters
55 Cabot Court
Hauppauge, New York 11788 USA
Tel: (631) 273-0404
Fax: (631) 273-1638
info@commspecial.com

Asia
Communications Specialties Pte Ltd
100 Beach Road
#22-09 Shaw Tower
Singapore 189702
Tel: +65 6391 8790
Fax: +65 6396 0138
csiasia@commspecial.com

commspecial.com

Contents

Front Panel Quick Reference Chart

Output Format Button Operation

Change Line Count	LINE COUNT
Change Vertical Rate	VERT RATE
Change Rate Division	RATE DIV
Toggle Interlaced or Progressive	I/P

PAN Button Operation

Enter Pan Mode	PAN Until Led is on
Move Left or Right	← or →
Move Up or Down	↑ or ↓
Center vertically	↑ + ↓
Center horizontally	← + →
Upper left corner	← + ↑
Lower left corner	← + ↓
Upper right corner	→ + ↑
Lower right corner	→ + ↓

Zoom Button Operation

Choose Parameter	ZOOM
Increase Zoom	↑
Decrease Zoom	↓
Full Screen, maintain aspect ratio:	↑ + ↓
Full Screen, both H & V:	← + →
1:1 Ratio, when in H Only or V Only modes:	↑ + ↓

PROC CONTROL Button Operation

Choose Parameter	PROC CONTROL
Increase or Decrease Setting	↑ or ↓
Reset Setting:	↑ + ↓

Genlock Button Operation

Turn On/Off	GENLOCK

Genlock Phasing Button Operation

Choose Parameter	GENLOCK PHASING
Set Delay	DLY
Set Advance	ADV
Reset Offset to Zero	DLY + ADV

Anti-Flicker Button Operation

Auto Mode	ANTI FLICKER Until Led is off
Manual Mode	ANTI FLICKER Until Led is on
Increase Anti-Flicker Level (1- 8)	ANTI FLICKER While Led is on

Test Button Operation

100% Color Bars	TEST 1x
75% Color Bars	TEST 2x

Factory Defaults Button Operation

Factory Defaults	TEST + ANTI FLICKER

Front Panel Lock/Unlock Button Operation

Lock	ZOOM + PAN
Unlock	ZOOM + PROC CONTROL

Fiber Optic On/Off Button Operation

Turn On	GENLOCK + ↑
Turn Off	GENLOCK + ↓

On Screen Display (OSD) On/Off Button Operation

Turn On	GENLOCK PHASING + ↑
Turn Off	GENLOCK PHASING + ↓

IP Address Button Operation

View the IP Address	GENLOCK + ←
Enter Edit Mode	GENLOCK + ←
Change Value	↑ or ↓
Move Cursor	← or →
Save Changes	GENLOCK + ←
Cancel Changes	GENLOCK PHASING + →
Reset Ethernet Port	GENLOCK PHASING + →

CSI Communications Specialties, Inc.
(631) 273-0404 | commspecial.com
Check for Scan Do® Updates at: scandohd.tv

Notes

What's Included with your Scan Do® HD

1 - Scan Do® HD DVI Computer Video to HD/SD-SDI Scan Converter

1 - AC power line cord

1 - DVI Computer input cable

1 - CAT5 Ethernet cable

1 - RS-232 serial cable

1 - User's Manual (This document)

1 - Remote Control Manual

1 - Scan Do HD Front Panel Quick Reference Chart

1 - Rack Mounting Kit

1 - Accessory Pack (Replacement fuse, rubber feet)

Available Optional Accessories:

- AC line cords for North America, Japan, UK, Europe or Australia
- Fiber Optic to Electrical Receiver for HD/SD-SDI optical output
- Expand Scan Do HD's input capabilities: CSI's Model 2100 performs broadcast quality VGA or Component Video to DVI conversion.
- Fiber Optic and Coaxial Cables

For more about available accessories for your Scan Do® HD, please see page 13.

Introduction

Thank you for purchasing **Scan Do® HD**, the high-performance DVI computer video to HD/SD-SDI scan converter.

With Scan Do® HD, you now have the ability to convert your high-resolution DVI computer video sources into a SMPTE standard HD or SD SDI signal for broadcasting on air or integrating into a professional video production system. Scan Do® HD does not require that you install any special software or hardware on your computer.

Like all the products from Communications Specialties, Scan Do® HD comes with our continuing commitment to provide support. Should you need to contact us for support, our office is open Monday through Friday, from 8:30 AM to 5:00 PM Eastern Time. Our Singapore office is open Monday through Friday, from 9:00 AM to 5:00 PM Singapore time.

We also offer a comprehensive web site for your added convenience.
Visit us at scandohd.tv

To avoid fire and/or personal injury, please observe these safety and operating precautions:

Use the Proper Power Cord. Use only the proper power cord specified for this product and certified for the country of use.

Ground the Product. This product is grounded through the grounding conductor of the power cord. To avoid electric shock, the grounding conductor must be connected to the earth ground. Before making connections to the input and output of the product, make sure that the product is properly grounded.

Prevent Electrical Circuit Overloading. The unit operates from a single-phase power source with the neutral conductor at or near earth ground. The line conductor is fused for over-current protection. A protective ground connection through the grounding conductor in the power cord is essential for safe operation. Ensure that the available AC line power is sufficient to meet the power requirements of the unit without exceeding the rated load for the supply circuit and its wiring.

Observe These Rack Mount Installation Precautions. If the product is to be rack mounted, make sure the following are observed:

* The unit operates correctly in ambient temperatures from 0 degrees C to +50 degrees C. Leave space for cooling by ensuring standard side clearance for rack mounting or 2 inches of side clearance for table top use. Also, ensure rear clearance of approximately 3 inches so that cables are not damaged by sharp bends.

* Reduced air flow through and around the unit may have an adverse effect on the operation and safety of the unit. Make sure that air flow is adequate to ensure the ambient temperature does not rise above or below the specified levels. When rack mounted, no equipment or other item is to be placed directly on top of the unit as this will make the mounting of the unit unsafe and unstable.

About Your Scan Do® HD

Serial Number: _____

Date of Purchase: _____

Purchased From: _____

Installed By: _____

Installation Location: _____

Configuration: _____

Specifications

Input Resolutions

- DVI-D single link resolutions
- RGB, Progressive or Interlaced, up to 1920 x 1200 @ 60 Hz
- Pixel clock frequency 25 to 165 MHz

Input/Output

- Input: DVI-D, or DVI-I (digital signal only) single link with active loop-through
- Coaxial SDI output x 2; per SMPTE 292 & 259
- Optical SDI output x 1; per SMPTE 292 & 297
  (1310 nm, single mode or multimode, SC/PC, -8.0 dBm nominal output power)

Output Resolutions

10-bit HD-SDI per SMPTE 292:

• 720/60/P	• 720/59.94/P	• 720/50/P	• 720/30/P
• 720/29.97/P	• 720/25/P	• 720/24/P	• 720/23.98/P
• 1035/60/I	• 1035/59.94/I	• 1080/60/I	• 1080/59.94/I
• 1080/50/I	• 1080/30/P	• 1080/29.97/P	• 1080/25/P
• 1080/24/P	• 1080/23.98/P		

10-bit SD-SDI per SMPTE 259:

• 525/59.94/I (NTSC) • 625/50/I (PAL)

Video Processing

- 10-bit, all digital

Genlock

- NTSC/PAL black burst or HD tri-level sync
- HD resolutions will genlock to NTSC/PAL black burst at the same vertical rate
- Passive loop-through
- H, V and Clock phasing with a range of one output vertical period and resolution of 840 pS

Processing Controls

- Brightness
- Contrast
- Hue
- Color Saturation
- Sharpness

Image Size & Positioning

- Separate H & V positioning
- Zoom and Shrink; H & V separate or together

Control Interfaces

- 10/100 Base-T ethernet LAN port with internal HTML host
- RS-232 port
- Front panel push button

Additional Features

- Variable flicker reduction
- Test pattern generator: color bars at 100% and 75% Saturation
- Multiple pre-set storage and recall settings through remote control interfaces
- On Screen Display (OSD)
- Factory defaults reset
- Rack mount kit included
- RoHS compliant

Dimensions

- 16.75 W (without rackmount ears) x 1.75 H x 10 D (inches)
- 425 W x 44 H x 254 D (mm)
- Weight: 5.5 pounds; 2.49 kg

Power

- Internal universal input AC power supply
- 95 - 250 volts AC, 47 - 63 Hz, 20 watts

Installation Instructions

Follow these steps for a simple and successful Scan Do® HD Installation

Step 1: Power Off both your computer and the Scan Do HD and disconnect your DVI monitor from the DVI monitor port on your computer.

Step 2: Using the supplied DVI input cable provided with the Scan Do HD, connect one end to the DVI monitor port on your computer and the other to the connector on the rear panel of the Scan Do HD marked DVI-D Input.

Step 3: Connect your DVI monitor, if you have one, to the Scan Do HD connector labeled DVI-D Loop Through. Use the cable that is attached to your monitor for this purpose.

Step 4: Connect the AC line cord provided with the Scan Do HD to the AC power connector. Plug the AC line cord to the wall outlet to provide power.

Step 5: Connect the Scan Do HD's HD/SD-SDI output to your video equipment. If desired, you may use all outputs simultaneously. (Refer to the next section.)

Step 6: Turn On the Scan Do HD first. Then, turn On the DVI monitor. Finally, turn On your computer. The green input LED's on the front panel labeled Locked and Valid should illuminate, indicating the unit is receiving a valid signal from the computer.

Available Outputs

HD/SD-SDI (2): These outputs generate a SMPTE 292M or 259M compatible serial digital signal. These outputs simultaneously produce the same signal and are not capable of producing two different resolutions. The signal produced at these outputs is determined by the settings for Line Count, Vert Rate, I/P, and Rate Div.

Note: If one of the HD/SD-SDI Outputs is not used, it should be terminated at the connector in 75 ohms to improve the eye pattern of the output that is used.

Fiber Optic: This output is an optical version of the copper HD/SD-SDI outputs. This optical output is in accordance with SMPTE 292M or 297M and uses an SC optical connector. This output will support either single mode or multimode (62.5u or 50u) fiber types. The factory default is off.

DVI Input Types Supported

DVI-D Loop Through: This output is for a connection to a local DVI monitor. It will show what is present on the DVI input. If the Scan Do HD is powered on, the EDID information from the monitor connected to this output will be passed to the computer's DVI port when the computer is booted. If no monitor is connected to this output, then the Scan Do HD will provide EDID information to the computer.

Scan Do® HD will only support DVI single-link digital video signals. If a DVI-I source is used, only the single-link digital signals will be processed.

Video Standard Selection

The output video standard and timing is established by a combination of settings of the Line Count, Vert Rate, I/P, and Rate Div front panel settings.

The Scan Do HD will only allow valid SMPTE standards to be chosen. Please refer to the section "Setting the Output Format" for instructions on selecting the video standard from the front panel.

Operating the Scan Do® HD - General Front Panel Operation

Setting the Output Format

Output Format Button Operation

Change Line Count	LINE COUNT
Change Vertical Rate	VERT RATE
Change Rate Division	RATE DIV
Toggle Interlaced or Progressive	I/P

Special Operation Notes:

For NTSC or PAL output formats, you need only select 483 or 576 using the LINE COUNT button. All other selections are implied when either of these Line Count selections are made.

If, at any time, the Scan Do HD detects that no more valid selections can be made, no additional LEDs will illuminate and it will set your selections as the Output Format after a 2-3 second delay.

After pressing LINE COUNT, you can choose to configure Vertical Rate, Rate Division and I/P in any order.

If you accidentally enter Output Format mode, please wait 4-6 seconds and the Scan Do HD will not change the Output Format and will exit Output Format mode.

The desired output format is established through a combination of four front panel buttons:

Line Count (LINE COUNT button):
Determines the number of active horizontal lines in the image.

Vertical Rate (VERT RATE button):
Determines the base vertical refresh rate of the output. This is the number of frames per second if the output is progressive and the number of fields per second if the output is interlaced.

Rate Division (RATE DIV button):
Determines if the base Vert Rate is to be divided by 1.001 or not. For example, to set the output vertical field rate to 59.94 the user would set the Vert Rate to "60", the Rate Div to "1/1.001".

Interlaced/Progressive (I/P Button):
Determines if the output format is to be Interlaced or Progressive. Not all options are available for all Line Counts and Vert Rates.

Note: The allowed output format combinations of the above are specified in the Specifications section of this manual.

To set a specific output format:

Step 1: Press the LINE COUNT button. All the LEDs will blink slowly. Continue to press the LINE COUNT button until you have selected the value you want and wait 2-3 seconds. Any additional options will then illuminate.

Step 2: After making your Line Count selection, the valid Vertical Rates, Rate Divisions and I/P will illuminate and the default selections will blink. Invalid selections will not illuminate.

If the default options are desired, no further action is required.

If you wish to change the Vertical Rate, press the VERT RATE button to select the value you want and wait 2-3 seconds.

Step 3: After making your Vertical Rate selection, the valid Rate Division and I/P settings will illuminate and the default selections will blink. Invalid selections will not illuminate.

If the default options are desired, no further action is required.

If you wish to change the Rate Division, press the RATE DIVISION button to select the value you want and wait 2-3 seconds.

Step 4: After making your Rate Division selection, the valid I/P settings will illuminate and the default selection will blink. Invalid selections will not illuminate.

If the default options are desired, no further action is required.

If you wish to change the I/P, press the I/P button to select the value you want and wait 2-3 seconds.

The Output Format will now be set and your selected options will be illuminated.

Certification

FCC Statement

WARNING:
This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instruction manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart B of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user, at his own expense, will be required to take whatever measures may be required to correct the interference.

CE Information

Standards to which conformity is declared:
EMC EN 55022: 1994, CISPR 22: 1993, Class A Limit
EN 50082-1: 1992
IEC 801-2: 1991
IEC 801-3: 1984
IEC 801-4: 1988

FDA & IEC Statement

Complies with FDA performance standard for laser products, Title 21, Code of Federal Regulations, Sub-Chapter J and IEC 60825-1

DANGER!
Turn off unit or laser before connecting or disconnecting optical cable!

The fiber optic transmitting element in the Scan Do® HD contains a solid state Laser Diode located within the optical connector. This device emits invisible infrared electromagnetic radiation which can be harmful to human eyes. The radiation from this optical connector, if viewed at close range without a fiber optic cable connected to the optical connector, may be of sufficient intensity to cause instantaneous damage to the retina of the eye. Direct viewing of this radiation should be avoided at all times.

WARNING

TO REDUCE THE RISK OF FIRE OR ELECTRONIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

CAUTION

RISK OF ELECTRIC SHOCK. DO NOT OPEN!

CAUTION

TO REDUCE THE RISK OF ELECTRONIC SHOCK, DO NOT REMOVE COVER. NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

This symbol warns the user of uninsulated voltage within the unit that can cause dangerous electronic shocks.

This symbol alerts the user that there are important operating and maintenance instructions in the literature accompanying this unit.

DANGER!
In the literature accompanying this unit, this symbol warns the user of dangerous conditions to avoid.

Warranty

Communications Specialties, Inc. (CSI) warrants that, for a period of three years after purchase by the Buyer, Scan Do® HD will be free from defects in material and workmanship under normal use and service. A Return Material Authorization (RMA) number must be obtained from CSI before any equipment is returned by the Buyer. All materials must be shipped to CSI at the expense and risk of the Buyer.

CSI's obligation under this warranty will be limited, at its option, to either the repair or replacement of defective units, including free materials and labor. In no event shall CSI be responsible for any incidental or consequential damages or loss of profits or goodwill.

CSI shall not be obligated to replace or repair equipment that has been damaged by fire, war, acts of God, or similar causes, or equipment that has been serviced by unauthorized personnel, altered, improperly installed, or abused.

RMA numbers and repairs can be obtained from:

Communications Specialties, Inc.
55 Cabot Court
Hauppauge, NY 11788 USA
Tel: (631) 273-0404
Fax: (631) 273-1638

or, in the Asia Pacific Region:

Communications Specialties Pte Ltd
100 Beach Road
#22-09 Shaw Tower
Singapore 189702
Tel: +65 6391 8790
Fax: +65 6396 0138

RMA numbers can also be obtained from our web site: **commspecial.com**

Please have your serial number (located underneath Scan Do HD) available.

Operating the Scan Do® HD - General Front Panel Operation

Moving the Image

PAN Button Operation

Enter Pan Mode	PAN	Until Led is on	
Move Left or Right	←	or	→
Move Up or Down	↑	or	↓
Center vertically	↑	+	↓
Center horizontally	←	+	→
Upper left corner	←	+	↑
Lower left corner	←	+	↓
Upper right corner	→	+	↑
Lower right corner	→	+	↓

PAN: Press PAN to enter Pan Mode. The LED to the right of the button will light to indicate the function is active. Use the LEFT, RIGHT, UP or DOWN ARROW keys to position your image. Press and hold for a series of fine steps followed by a more coarse adjustment.

Pressing certain combinations of arrow buttons simultaneously will perform specific functions when in the Pan mode:

* UP and DOWN arrows: Centers the image vertically
* LEFT and RIGHT arrows: Centers the image horizontally
* LEFT and UP arrows: Places the top left corner of the input image in the top left corner of the output
* LEFT and DOWN arrows: Places the bottom left corner of the input image in the bottom left corner of the output
* RIGHT and UP arrows: Places the top right corner of the input image in the top right corner of the output
* RIGHT and DOWN arrows: Places the bottom right corner of the input image in the bottom right corner of the output

Sizing the Image

Zoom Button Operation

Choose Parameter	ZOOM		
Increase Zoom	↑		
Decrease Zoom	↓		
Full Screen, maintain aspect ratio:	↑	+	↓
Full Screen, both H & V:	←	+	→
1:1 Ratio, when in H Only or V Only modes:	↑	+	↓

ZOOM: This button will size the image either by increasing or decreasing the visible size in the raster. The UP and DOWN arrows are used to increase and decrease respectively the size of the image. Press and hold for a series of fine steps followed by a more coarse adjustment.

When in H&V mode, both the Horizontal and Vertical outputs will be affected.
When in H Only mode, only the Horizontal output will be affected.
When in V Only mode, only the Vertical output will be affected.

Pressing certain combinations of arrow buttons simultaneously will perform specific functions when in the Zoom mode:

* UP and DOWN arrows: Zooms the image in one direction while keeping the input aspect ratio the same by proportionately zooming the opposite direction.

  When in H Only or V Only mode, the UP and DOWN arrows provide a 1:1 input/output ratio.

* LEFT and Right arrows: Zooms the image to full screen both horizontally and vertically when in H&V mode, horizontally when in H Only mode, and vertically when in V Only mode.

Operating the Scan Do® HD - General Front Panel Operation

Changing the Image Appearance

PROC CONTROL: This function alters the displayed image's appearance by varying the Brightness, Contrast, Hue, Saturation and Sharpness. The PROC CONTROL button is pressed to sequence through the different image process functions. Once the desired function is selected, use the UP and DOWN arrows to increase or decrease respectively the degree of augmentation to that image parameter.

Pressing the UP and DOWN arrows simultaneously, while in the PROC CONTROL mode, will return the active function to its default state.

PROC CONTROL Button Operation

Choose Parameter — PROC CONTROL

Increase or Decrease Setting — ↑ or ↓

Reset Setting: ↑ + ↓

Genlock Mode

The GENLOCK button turns the genlock mode On and Off. When the genlock mode is on, the unit looks at the genlock input and determines if a signal is present. During this time the Searching LED will be lit. If a signal is present, the unit determines if its format is compatible with the output format selected. If the genlock input is valid, the Locked LED will illuminate.

The Scan Do HD will accept either NTSC/PAL composite video or HD tri-level sync. The genlock vertical rate must match the output vertical rate in order to achieve genlock but the horizontal rates do not have to match. Therefore, it is possible to lock to an NTSC signal and produce a 1080i/59.94 output, for example.

The factory default setting is genlock mode off.

To genlock the Scan Do HD, connect a genlock signal to the Genlock Input connector on the rear panel. There is a passive loop through from the genlock input which is accessible on the Genlock Loop Through connector.

NOTE: If the Genlock Loop Through is not used, it should be terminated at the connector in 75 ohms.

Genlock Button Operation

Turn On/Off — GENLOCK

Genlock Phasing

The GENLOCK PHASING button, along with the DLY and ADV arrow buttons will allow for phasing the output of the Scan Do HD relative to the genlock reference. Horizontal, Vertical and Pixel Clock phasing can be adjusted.

Press the GENLOCK PHASING button to sequence through the three LEDs to select the parameter to phase.

When the desired genlock phasing mode is enabled, the Left/DLY and Right/ADV arrow buttons become the phasing delay and advance functions. Pressing the DLY and ADV buttons simultaneously will reset the phasing mode to zero offset.

NOTE: For NTSC and PAL output formats, set the Vertical Phasing to Zero Offset before adjusting any phasing.

NOTE: Clock Phasing movement is in 840 picosecond (pS) increments and may not be visible on some TV waveform monitors and rasterizers.

Genlock Phasing Button Operation

Choose Parameter — GENLOCK PHASING

Set Delay — DLY

Set Advance — ADV

Reset Offset to Zero — DLY + ADV

Accessories

The following accessories are available for Scan Do® HD. They may be ordered from your dealer or directly from Communications Specialties, Inc.

Convert Scan Do's Optical Output to Copper

Pure Digital Fiberlink® 3151 Series
The 3151 Series is the ideal solution for broadcast professionals that need to bridge their fiber backbone with a copper backbone.
Get more information online at commspecial.com\

DVI over Fiber

Pure Digital Fiberlink® 7500 Series
DVI transmission (up to 1920x1200) and stereo audio over one single mode fiber without compression, scaling or adjustments.

Features:

- Transmits single-link DVI (640 x 480 up to 1920 x 1200 - 165 MHz pixel clock)
- Supports HDTV resolutions of 480p, 720p, 1080i and 1080p (DVI format only)
- Uses no compression, color space conversion or scaling for crystal clear signals
- Only one fiber used - no pixel skewing
- Supports up to 50 feet (15m) DVI input cable
- Requires no adjustments, equalization or de-skewing during installation
- Advanced input circuit equalizes and re-clocks noisy and distorted DVI input signals

Expanding Scan Do® HD's Input Capabilities

CSI's Model 2100
CSI's Model 2100 VGA or Component Video to HDMI/DVI Converter was designed specifically to expand the Scan Do® HD's input capabilities. The 2100 uses no scaling, which could add unwanted artifacts, making it ideal to use in a broadcast environment.

Features:

- No scaling is performed resulting in crystal clear output.
- Connects computers with analog RGBHV (VGA) video output or DVD players with component output to HD ready Plasma, LCD, DLP TV, or Scan Do® HD
- Compliant with HDMI specification 1.0
- Supports up to 1600x1200 @ 60 Hz VGA input or up to 1080p input with stereo audio to HDMI (with audio) or single-link DVI (without audio).

Cabling

Fiber Optic Cable
We can provide you with optic cable of varying types and lengths. Fiber optic cabling is available in PVC, Plenum and Armor Jacketed. Please contact a Sales Representative today.

Please visit commspecial.com for the latest products, specifications and other breakthrough products.

Troubleshooting

Nothing seems to be working

- Are any of the green LEDs lit on the front panel? If not, check to make sure that the AC power cord is connected and plugged into the AC wall outlet and the power switch on the rear panel is On.
- Check to make sure that the computer is properly sending out a DVI-D signal by plugging the DVI monitor directly into the computer's video output.

There is no video on the DVI Loop-thru or the SDI outputs

- It is important for most PC's with a DVI output to have the DVI monitor connected at the time the PC is booted. When using the Scan Do HD with a PC having a DVI output, make sure the Scan Do HD's DVI input is connected to the PC's DVI output and the Scan Do HD is On *before* the PC is booted. Failure to do so may cause the PC to fail to recognize a DVI monitor is connected and shut off all DVI signalling from the DVI output of the PC.
- Press the TEST button to see if you get color bars on the SDI outputs. If you do get color bars, then the problem is related to your input signal. Check the items mentioned in the above bullet. If you do not get color bars, the problem is related to your output.
- When using a laptop, try turning off the laptop's LCD screen and having the DVI signal output through the external port only.

The color on the TV monitor is different than the computer monitor

- The colors on your SDI monitor will never exactly match the colors on your computer monitor because each of these devices reproduce color differently. It is also likely that the color temperature of each monitor is set differently.

There is no fiber optic output

- Check to make sure that Fiber Optic Output is turned On by pressing GENLOCK and the UP arrow buttons on the front panel. The factory default setting is off.

For additional support, please visit commspecial.com or scandohd.tv

Operating the Scan Do® HD - General Front Panel Operation

Anti-Flicker Function

Anti-Flicker Button Operation

Auto Mode	ANTI FLICKER	Until Led is off
Manual Mode	ANTI FLICKER	Until Led is on
Increase Anti-Flicker Level (1- 8)	ANTI FLICKER	While Led is on

The ANTI-FLICKER button will step through 8 levels of flicker reduction. This function is used primarily for interlaced output settings to reduce vertical flicker at the expense of vertical detail.

When the ANTI-FLICKER LED is off, the function is in automatic mode where the best level of flicker reduction is selected for you based on the input and output timing parameters detected.

Pressing the ANTI-FLICKER button will put the function in manual mode and the LED will be lit. Sequential pressing of the button will increase the anti-flicker level from 1 (least reduction) to 8 (most reduction). Pressing it again after level 8 will extinguish the LED and return the function to auto mode.

If OSD is enabled, the mode and value of the Anti-Flicker function will be shown in the upper left corner of the output display.

Test Signals

Test Button Operation

100% Color Bars	TEST	1x
75% Color Bars	TEST	2x

Scan Do HD will generate several test signals in place of the converted video output:

- 100% Color bars
- 75% Color bars

These test patterns can be enabled by pressing the TEST button. The first press will generate the 100% Color bars signal. The second press will generate the 75% color bar signal and the next press will shut off the test signal generator and return to the converted output.

Returning to Factory Default Settings

Factory Defaults Button Operation

Factory Defaults	TEST	+	ANTI FLICKER

You may quickly return all Scan Do® HD functions to their factory default settings by simultaneously pressing the TEST and ANTI-FLICKER buttons.

Locking the Button Panel

Lock/Unlock Button Operation

Lock	ZOOM	+	PAN
Unlock	ZOOM	+	PROC CONTROL

The front panel may be locked or unlocked by simultaneously pressing the following button combinations:

* To Lock: ZOOM and PAN
* To Unlock: ZOOM and PROC CONTROL

Fiber Optic Output On/Off

On/Off Button Operation

Turn On	GENLOCK + ↑
Turn Off	GENLOCK + ↓

The fiber optic output may be turned On and Off by simultaneously pressing the following button combinations:

* To turn On: GENLOCK and UP arrow
* To turn Off : GENLOCK and DOWN arrow (Factory Default)

The Genlock Phasing LEDs H, CLK, and V, will momentarily illuminate when the above key presses are made.

On Screen Display (OSD) On/Off

On/Off Button Operation

Turn On	GENLOCK PHASING + ↑
Turn Off	GENLOCK PHASING + ↓

The OSD feature of the Scan Do HD may be turned On and Off by simultaneously pressing the following button combinations:

* To turn On: GENLOCK PHASING and UP arrow (Factory Default)
* To turn Off: GENLOCK PHASING and DOWN arrow

The Genlock Phasing LEDs H, CLK, and V, will momentarily illuminate when the above key presses are made.

Scan Do HD can be controlled remotely in two ways. A standard Ethernet port can be used to control the unit using a standard browser (i.e. Internet Explorer, Firefox) enabled with Java version 1.6 (JRE 6) or later. It can also be controlled using ASCII command strings through the RS-232 serial port.

Connecting to the Ethernet Port

10/100 BASE-T: 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 following buttons simultaneously for an 30 second on-screen display of the IP settings:

GENLOCK and LEFT arrow

If you connect the ethernet cable after you have powered on your Scan Do HD, you may have reset the ethernet port by pressing:

GENLOCK PHASING and RIGHT arrow

The unit may also be assigned an IP address manually.
Please refer to your Scan Do® HD Remote Control manual.

IP Address Button Operation

View the IP Address	GENLOCK + ←
Reset Ethernet Port	GENLOCK PHASING + →

Once the Scan Do 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 Scan Do HD.

Note: It is important that your browser have Java 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

Connecting to the RS-232 Port

RS-232: This port is designed to work with a standard RS-232 serial port.
The signalling parameters are:

19200, 8, N, 1

There is no hardware or software flow control and Generic TTY should be used. A "straight-through" DB-9 M/F cable should be used when connecting to a standard PC. Scan Do® HD is designed to be DCE equipment.

The following pins on the DB-9F connector are used:
- 2 - Data Transmit from Scan Do HD
- 3 - Data Receive into Scan Do HD
- 5 - Signal Ground

A complete list of commands can be found in the Scan Do® HD Remote Control manual.