datavideo

2 X 7" HD/SD
TFT LCD MONITOR
TLM-702HD
Instruction manual

www.datavideo.com

Table of Contents

Disclaimer of Product & Services

The information offered in this instruction manual is intended as a guide only. At all times, Datavideo Technologies will try to give correct, complete and suitable information. However, Datavideo Technologies cannot exclude that some information in this manual, from time to time, may not be correct or may be incomplete. This manual may contain typing errors, omissions or incorrect information. Datavideo Technologies always recommend that you double check the information in this document for accuracy before making any purchase decision or using the product. Datavideo Technologies is not responsible for any omissions or errors, or for any subsequent loss or damage caused by using the information contained within this manual. Further advice on the content of this manual or on the product can be obtained by contacting your local Datavideo Office or dealer.

FCC Compliance Statement

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

Warnings and Precautions

1. Read all of these warnings and save them for later reference.
2. Follow all warnings and instructions marked on this unit.
3. Unplug this unit from the wall outlet before cleaning. Do not use liquid or aerosol cleaners. Use a damp cloth for cleaning.
4. Do not use this unit in or near water.
5. Do not place this unit on an unstable cart, stand, or table. The unit may fall, causing serious damage.
6. Slots and openings on the cabinet top, back, and bottom are provided for ventilation. To ensure safe and reliable operation of this unit, and to protect it from overheating, do not block or cover these openings. Do not place this unit on a bed, sofa, rug, or similar surface, as the ventilation openings on the bottom of the cabinet will be blocked. This unit should never be placed near or over a heat register or radiator. This unit should not be placed in a built-in installation unless proper ventilation is provided.
7. This product should only be operated from the type of power source indicated on the marking label of the AC adapter. If you are not sure of the type of power available, consult your Datavideo dealer or your local power company.
8. Do not allow anything to rest on the power cord. Do not locate this unit where the power cord will be walked on, rolled over, or otherwise stressed.
9. If an extension cord must be used with this unit, make sure that the total of the ampere ratings on the products plugged into the extension cord do not exceed the extension cord rating.
10. Make sure that the total amperes of all the units that are plugged into a single wall outlet do not exceed 15 amperes.
11. Never push objects of any kind into this unit through the cabinet ventilation slots, as they may touch dangerous voltage points or short out parts that could result in risk of fire or electric shock. Never spill liquid of any kind onto or into this unit.
12. Except as specifically explained elsewhere in this manual, do not attempt to service this product yourself. Opening or removing covers that are marked "Do Not Remove" may expose you to dangerous voltage points or other risks, and will void your warranty. Refer all service issues to qualified service personnel.
13. Unplug this product from the wall outlet and refer to qualified service personnel under the following conditions:
    a. When the power cord is damaged or frayed;
    b. When liquid has spilled into the unit;
    c. When the product has been exposed to rain or water;
    d. When the product does not operate normally under normal operating conditions. Adjust only those controls that are covered by the operating instructions in this manual; improper adjustment of other controls may result in damage to the unit and may often require extensive work by a qualified technician to restore the unit to normal operation;
    e. When the product has been dropped or the cabinet has been damaged;
    f. When the product exhibits a distinct change in performance, indicating a need for service.

Warranty

Standard Warranty

- Datavideo equipment are guaranteed against any manufacturing defects for one year from the date of purchase.
- The original purchase invoice or other documentary evidence should be supplied at the time of any request for repair under warranty.
- The product warranty period begins on the purchase date. If the purchase date is unknown, the product warranty period begins on the thirtieth day after shipment from a Datavideo office.
- All non-Datavideo manufactured products (product without Datavideo logo) have only one year warranty from the date of purchase.
- Damage caused by accident, misuse, unauthorized repairs, sand, grit or water is not covered under warranty.
- Viruses and malware infections on the computer systems are not covered under warranty.
- Any errors that are caused by unauthorized third-party software installations, which are not required by our computer systems, are not covered under warranty.
- All mail or transportation costs including insurance are at the expense of the owner.
- All other claims of any nature are not covered.
- All accessories including headphones, cables, and batteries are not covered under warranty.
- Warranty only valid in the country or region of purchase.
- Your statutory rights are not affected.

Three Year Warranty

- All Datavideo products purchased after July 1st, 2017 are qualified for a free two years extension to the standard warranty, providing the product is registered with Datavideo within 30 days of purchase.

- Certain parts with limited lifetime expectancy such as LCD panels, DVD drives, Hard Drive, Solid State Drive, SD Card, USB Thumb Drive, Lighting, Camera module, PCIe Card are covered for 1 year.
- The three-year warranty must be registered on Datavideo's official website or with your local Datavideo office or one of its authorized distributors within 30 days of purchase.

Disposal
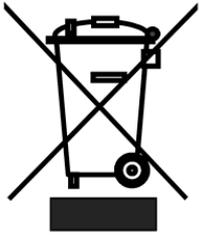
For EU Customers only - WEEE Marking

This symbol on the product or on its packaging indicates that this product must not be disposed of with your other household waste. Instead, it is your responsibility to dispose of your waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, your household waste disposal service or the shop where you purchased the product.

CE Marking is the symbol as shown on the left of this page. The letters "**CE**" are the abbreviation of French phrase "Conformité Européene" which literally means "European Conformity". The term initially used was "EC Mark" and it was officially replaced by "CE Marking" in the Directive 93/68/EEC in 1993. "CE Marking" is now used in all EU official documents.

Introduction

The Datavideo TLM-702HD is a 19" rack mountable dual 7" TFT Monitor. The all metal construction makes the TLM-702HD robust and durable, and the 12V DC power requirements make it easy to power in the field. The high resolution TFT screens have a wide viewing angle and feature NTSC / PAL auto detection.

Features

- 2 x 7" 16:9 Wide Screen Panels
- Resolution: 800 x 480 dots
- View Angle (V)+60/-40°, (H)+60/-60°
- HD/SD-SDI, YUV, HD-YUV, HDMI & CV Input
- Internal colour bar
- Blue only function
- Embedded Audio indicator for SDI, HDMI signals
- Safe Area indicator
- VITC time code display
- Dual colour tally light indicator
- Brightness, Contrast, Colour, Tint Adjustable
- Colour Temp* Adjustable
- Audio Level indicators
- NTSC / PAL Auto Switching
- 4:3 / 15:9 / 16:9 switchable

*** Colour Temp** can be set to 9300, 7500, 6500, 5400 or User RGB values*

Supported Formats

• HDMI YUV
- 720 x 576i x 50 Hz
- 720 x 480i x 60 Hz
- 1280 x 720p x 50 Hz
- 1280 x 720p x 60 Hz
- 1920 x 1080i x 50 Hz
- 1920 x 1080i x 60 Hz

• HDMI RGB
- 720 x 576i x 50 Hz
- 720 x 480i x 60 Hz
- 1280 x 720p x 50 Hz
- 1280 x 720p x 60 Hz
- 1920 x 1080i x 50 Hz
- 1920 x 1080i x 60 Hz

• SDI
- 720 x 576i / 50 Hz
- 720 x 480i / 60 Hz
- 1280 x 720p / 60 Hz
- 1280 x 720p / 50 Hz
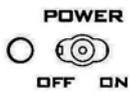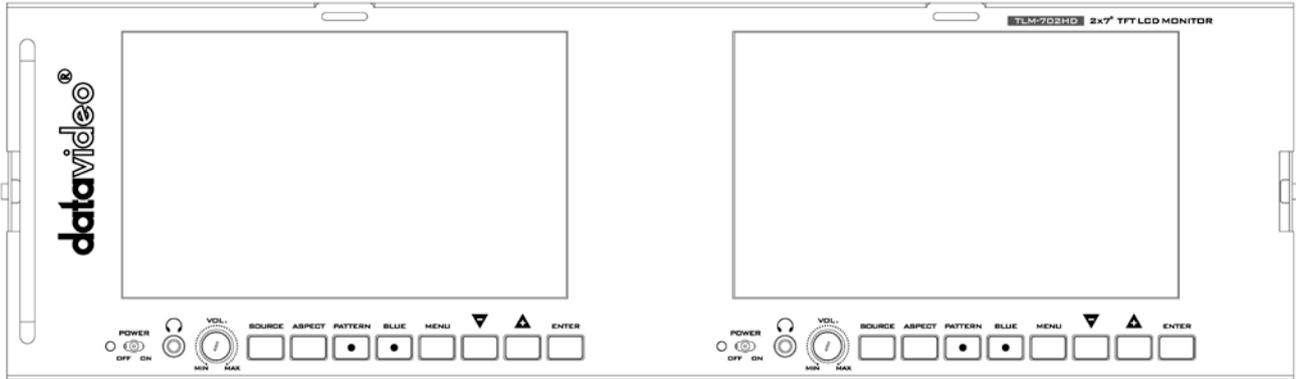- 1920 x 1080i / 50 Hz
- 1920 x 1080i / 60 Hz

• YUV
- 720 x 576i x 50 Hz
- 720 x 480i x 60 Hz
- 1280 x 720p x 50 Hz
- 1280 x 720p x 60 Hz
- 1920 x 1080i x 50 Hz
- 1920 x 1080i x 60 Hz

• CV
- 720 x 576i (PAL)
- 720 x 480i (NTSC)

Front Panel

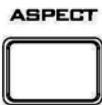**Power Switch**
Switches the power On / Off.

Stereo Headphone Mini Jack socket
The level is adjusted by headphone volume control.
Listen to embedded audio from HDMI or SDI sources.

Headphone Volume Control
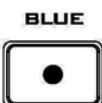Allows you to adjust the headphone volume.

Source Button
Select Input source between SDI, YPbPr, CVBS, and HDMI.

Aspect Ratio Button
Sets the LCD aspect ratio to 4:3, 15:9, or 16:9

PATTERN
The PATTERN button will generate colour bars on the screen. Press the PATTERN button again to return normal output.

BLUE
Press this button to eliminate the red and green component of input signals. Only the blue component of an input is displayed on the screen. This allows adjustments for Chroma and Phase.
(Phase adjustment is effective with NTSC signals).

MENU
Calls up the on-screen adjustment menu (See **Menu Options** for more details).

UP / DOWN
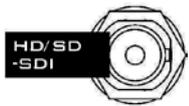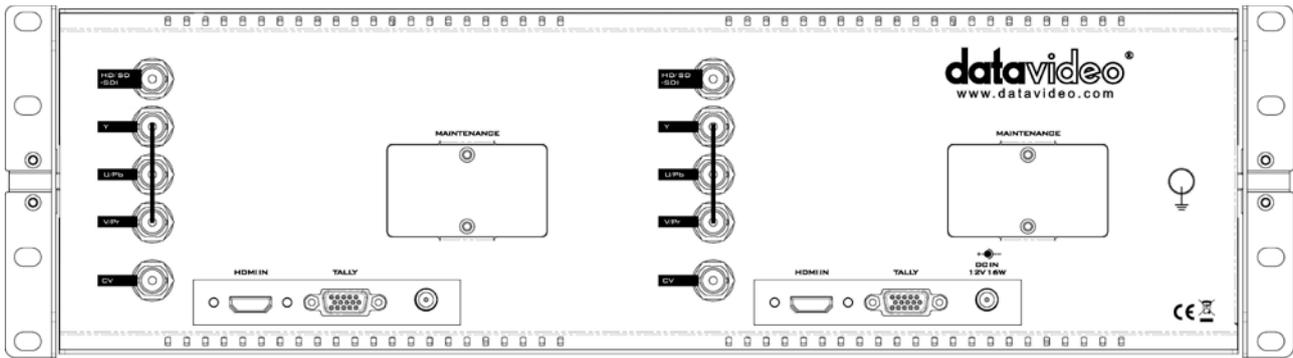Navigate the on-screen menu and set the functions & levels.

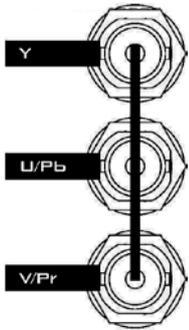**ENTER**
Confirms the new settings or return to the default state.

Rear Panel

HD/SD - SDI input
BNC connector for SDI Input.

YUV input
BNC connectors for analogue (Component) video inputs.
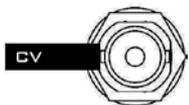
Composite Video input
BNC connector for analogue (Composite) video inputs.

HDMI in interface
HDMI digital signal input connecter.
Supports HDMI 1.1

Tally In
Send in red and yellow colour tally signal to tally LED. Red means on-air, yellow means standby.

DC in socket
Connect the supplied 12V PSU to this socket. The connection can be secured by screwing the outer fastening ring of the DC In plug to the socket.

Menu Options

Picture

- Press the `MENU` button once to display the **Picture** setting menu.
- Press the `ENTER` button to highlight the **Brightness** setting.
- Press the `UP` or `DOWN` button to highlight the setting that needs to be adjusted.
- Press `ENTER` button to select the **Brightness** setting.
- Press the `UP` or `DOWN` button to adjust the **Brightness** value between 0 and 100.
- Press `ENTER` button again to save and return to the **Picture** setting menu; now highlight another Picture setting to be adjusted. To select a different setting (**Contrast**, **Saturation**, **Tint, Color Temp***) use the `UP` / `DOWN` buttons. Follow the same procedure to set the other values.
- Keep pressing the `MENU` button to cycle through the main menu options.
- Press the `SOURCE` button to exit the menu mode.

* NOTE: Colour Temp can be set to 9300, 7500, 6500, 5400 or User RGB values

Audio

- Press the `MENU` button twice to display the **Audio** setting menu.
- Press the `ENTER` button to highlight the **Indicator** setting.
- Press the `ENTER` button again to toggle the on screen audio indicator **ON/OFF**.
- Keep pressing the `MENU` button to cycle through the main menu options.
- Press the `SOURCE` button to exit the menu mode.

Function.

- Press the `MENU` button three times to display the **Function.** Settings menu.
- Press the `ENTER` button to highlight the **Center Mark** setting.
- Press the `ENTER` button to toggle the on screen Center Mark **ON/OFF**.
- Press the `UP` or `DOWN` button to highlight the **Safety Zone** setting.
- Keep pressing the `ENTER` button to cycle through the values **80%, 90%** or **OFF**.
- Press the `UP` or `DOWN` button to exit the **Safety Zone** setting. To select a different setting (**4:3 Screen**, **Cinema Zone**) use the `UP` or `DOWN` buttons.

Follow the same procedure to set the next setting.

- Keep pressing the `MENU` button to cycle through the main menu options.
- Press the `SOURCE` button to exit the menu mode.

Setup

- Press the `MENU` button four times to display the **Setup** setting menu.
- Press the `ENTER` button to highlight the **OSD Timer** setting.
    NB: OSD Timer sets how long the setting menus will stay on screen.
- Press the `ENTER` button again to display the **OSD Timer** setting position.
- Press the `UP` or `DOWN` button to set the OSD value between 5 to 60 SEC.
- Press `ENTER` button to save the OSD value.

- Press the `UP` or `DOWN` button to highlight the **OSD Blending** setting.
    NB: OSD Blending sets how transparent the setting menus will be on screen.

- Press the ENTER button to display the **OSD Blending** setting position.
- Press the UP or DOWN button to select the OSD blending value (from 0~7).
   NB: OSD Blending value 0 = Min transparency 7 = Max transparency
- Press the ENTER button to save the OSD blending value.

- Press the UP or DOWN button to highlight the **Time Code** setting.
- Press the ENTER button to toggle the on screen Time Code display **ON/OFF**.

- Press the UP or DOWN button to highlight the **TC Position** setting.
   NB: TC Position is used to set where on the monitor Time Code will be shown.
- Press the ENTER button to cycle through the possible Time Code Positions on the monitor (Left/Up,
   Middle/Down, Right/Down, Right/Up)

- Press the UP or DOWN button to highlight the **TC HD Line** setting.
- Press ENTER button to cycle through the possible HD time code lines (8~20).

- Press the UP or DOWN button to highlight the **TC SD Line** setting.
- Press ENTER button to cycle through the possible SD time code lines (10~21).

- Press the UP or DOWN button to highlight the **TC Font Size** setting.
- Press ENTER button to cycle through the possible time code font sizes on the screen (Large or Small).

- Keep pressing the MENU button to cycle through the main menu options.
- Press the SOURCE button to exit the menu mode.

Advance
- Press the MENU button five times to display the **Advance** setting menu.
- Press the ENTER button to highlight the **LCD L/R Scan** setting.
   NB: The LCD L/R Scan will reverse the image displayed horizontally.
- Press the ENTER button, the screen image will be reversed (Left to Right).
- Press the ENTER button again, the screen image will return to normal view.

- Press UP / DOWN button to highlight the **LCD U/D Scan** setting.
   NB: The LCD U/D Scan will reverse the image displayed vertically.
- Press the ENTER button, the screen image will be reversed (Top to Bottom).
- Press the ENTER button again, the screen image will return to normal view.

- Press UP / DOWN button to highlight the **Reset** option.
   NB: This option will return the monitor to the factory default settings.
- Press the ENTER button to re-start the monitor with the factory default settings.

- Press UP / DOWN button to highlight the **Version** setting.
- Press the ENTER button, the firmware version will be displayed on screen.
- Keep pressing the MENU button to cycle through the main menu options.
- Press the SOURCE button to exit the menu mode.

Calibrating Datavideo Monitors

Perhaps the most important way to make sure that your video really looks as good as it can on other monitors is to monitor the video during production with a properly calibrated monitor.

For guidance on how to calibrate a Datavideo Monitor using SMPTE colour bars, please visit our website http://www.datavideo.info/specs/Datavideo_Calibrating_Monitors.pdf

Tally Light Indication

The TLM-702HD has a tally input connector on the rear of each panel. The Datavideo range of digital video switchers can provide tally light signals to this connector. The Datavideo range of intercom systems can also be used to pass on these tally signals.

Tally In
This D-sub 15pin Female connector can receive tally signals from external equipment such as a Datavideo digital video switcher.
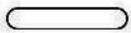
TALLY LIGHT
Red = Live, Amber = Standby.

By closing contacts between Pin 1 and 4, the LIVE or RED LED will be displayed.
When the external signal is high (5V), the LED turns Off.
When the external voltage signal is low, the LED turns On.

By closing contacts between Pin 3 and 4 the STANDBY or AMBER LED will be displayed.
When the external signal is high (5V), the LED turns Off.
When the external voltage signal is low, the LED turns On.

Pin 1:	Tally RED LED On/Off
Pin 3:	Tally Yellow LED On/Off
Pin 4, 10:	GND
Pin 2,5,6,7,8,9,11,13,14:	Not used
Pin 12,15:	Reserved – service only.

Specifications

Interface	2x HD/SD-SDI input (SMPTE 272M-C 1.5Gbps, 270Mbps with Embedded Audio) 2x Component Y.U.V Sony Betacam Specification 2x CV input 2x HDMI input 2x D-Sub 15 Pin Plug (Tally Light Signal)

HD/SD-SDI Spec	SDI/HD-SDI Specifications
	Standard SMPTE 259M-C (270Mbps - 525/625 Component Video) and SMPTE 292M (1.485/1.001 Gbps)
	Connector BNC (IEC 169-8)
	Impedance 75 Ω
	Return Loss HD > 15 dB (5 MHz to 750 MHz)
	                > 10 dB (750 MHz to 1.5 GHz)
	        SD > 15 dB (5 MHz to 270 MHz)
	Equalization 200 m Belden 8281 cable at 270 Mbps;
	           100 m (typical) of Belden 1694A at 1.485 Gbps.

CV Spec	Bandwidth: > 5.0MHz Differential of Gain (DG) $<3\%$ Differential of Phase (DP) $<3°$ S/N: > 50 dB
YUV Spec	Bandwidth: > 5.2MHz Differential of Gain (DG) $<3\%$ S/N: > 50 dB
HDMI	Supports HDMI 1.1
Operating Temperature	0°C to 40°C (32°F to 102°F)
Humidity	10% to 90% (non condensing)
Dimensions & Weight	485mm (W) x 135mm (H) x 75mm (D) / 2.2Kgs
Power	DC 12V / 1.5A (16W)

NOTE

NOTE

Service & Support

It is our goal to make owning and using Datavideo products a satisfying experience. Our support staff is available to assist you to set up and operate your system. Contact your local office for specific support requests. Plus, please visit www.datavideo.com to access our FAQ section.

China Shanghai
Datavideo Technologies China Co
601,Building 10,No.1228,
Rd.Jiangchang,
Jingan District,Shanghai
Tel: +86 21-5603 6599
Fax:+86 21-5603 6770
E-mail:service@datavideo.cn

China Beijing
Datavideo Technologies China Co
No. 812, Building B, Wankai Center,
No.316, Wan Feng Road, Fengtai District,
Beijing, China
Tel: +86 10-8586 9034
Fax:+86 10-8586 9074
E-mail:service@datavideo.cn

China Chengdu
Datavideo Technologies China Co
B-823,Meinian square,No.1388,
Middle of Tianfu Avenue,Gaoxin District,
Chengdu,Sichuan
Tel: +86 28-8613 7786
Fax:+86 28-8513 6486
E-mail:service@datavideo.cn

China Fuzhou
Datavideo Technologies China Co
A1-2318-19 Room,No.8, Aojiang Road,
Taijiang District,Fuzhou,Fujian,China
Tel: 0591-83211756，0591-83210187
Fax:0591-83211262
E-mail:service@datavideo.cn

China Jinan
Datavideo Technologies China Co
902, No. 1 business building,
Xiangtai Square, No. 129,
Yingxiongshan Road, Shizhong District,
Jinan City, Shandong Province, China
Tel: +86 531-8607 8813
E-mail:service@datavideo.cn

Hong Kong
Datavideo Hong Kong Ltd
G/F.,26 Cross Lane
Wanchai, Hong Kong

Tel: +852-2833-1981
Fax:+852-2833-9916
E-mail:info@datavideo.com.hk

India Noida
Datavideo India Noida
A-132, Sec-63,Noida-201307,
India

Tel: +91-0120-2427337
Fax:+91-0120-2427338
E-mail: sales@datavideo.in

India Kochi
Datavideo India Kochi
2nd Floor- North Wing, Govardhan Building,
Opp. NCC Group Headquaters, Chittoor Road,
Cochin- 682035
Tel: +91 4844-025336
Fax:+91 4844-047696
E-mail: sales@datavideo.in

Netherlands
Datavideo Technologies Europe BV
Floridadreef 106
3565 AM Utrecht,
The Netherlands
Tel: +31-30-261-96-56
Fax:+31-30-261-96-57
E-mail:info@datavideo.nl

Singapore
Datavideo Visual Technology(S) Pte Ltd
No. 178 Paya Lebar Road #06-07
Singapore 409030

Tel: +65-6749 6866
Fax:+65-6749 3266
E-mail:info@datavideovirtualset.com

Singapore
Datavideo Technologies (S) PTE Ltd
No. 178 Paya Lebar Road #06-03
Singapore 409030

Tel: +65-6749 6866
Fax:+65-6749 3266
E-mail:sales@datavideo.sg

Taiwan
Datavideo Technologies Co. Ltd
10F. No. 176, Jian 1st Rd.,Chung Ho
District, New Taipei City 235, Taiwan

Tel: +886-2-8227-2888
Fax:+886-2-8227-2777
E-mail:service@datavideo.com.tw

United States
Datavideo Corporation
7048 Elmer Avenue.
Whittier, CA 90602,
U.S.A.
Tel: +1-562-696 2324
Fax:+1-562-698 6930
E-mail:sales@datavideo.com

United Kingdom
Datavideo UK Limited
Brookfield House, Brookfield Industrial
Estate, Peakdale Road, Glossop,
Derbyshire, SK13 6LQ
Tel: +44-1457 851 000
Fax:+44-1457 850 964
E-mail:sales@datavideo.co.uk

France
Datavideo France s.a.r.l.
Cité Descartes 1, rue Albert Einstein
Champs sur Marne 774477 –
Marne la Vallée cedex 2
Tel: +33-1-60370246
Fax:+33-1-60376732
E-mail:info@datavideo.fr

Please visit our website for latest manual update.
www.datavideo.com/product/TLM-702HD

datavideo
www.datavideo.com