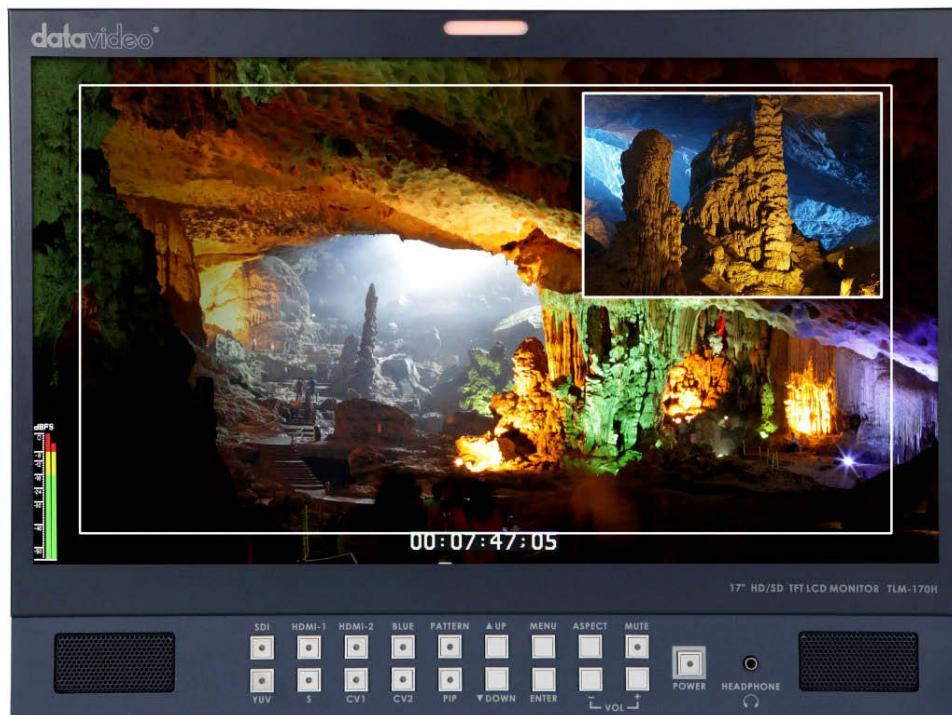


17.3" WIDESCREEN LCD TFT MONITOR TLM-170H / HR / HM



Instruction Manual

www.datavideo-tek.com

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Disclaimer of Product and 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.



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 slightly damp cloth for cleaning.
4. Do not use this unit in or near water.
5. Do not place this unit on an unstable surface, cart, stand, or table. The unit may fall, causing serious damage.
6. Any slots and openings on the case 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 may become blocked. This unit should never be placed near or over a heat source 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, damaged 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's 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 case 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 case has been damaged;
 - f. When the product exhibits a distinct change in performance, indicating a need for service.

Warranty

Standard Warranty

- Datavideo equipment is 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.
- Damage caused by accident, misuse, unauthorized repairs, sand, grit or water is not covered by this warranty.
- All mail or transportation costs including insurance are at the expense of the owner.
- All other claims of any nature are not covered.
- Cables & batteries are not covered under warranty.
- Warranty only valid within the country or region of purchase.
- Your statutory rights are not affected.

Two Year Warranty

- All Datavideo products purchased after 01-Oct.-2008 qualify for a free one year extension to the standard Warranty, providing the product is registered with Datavideo within 30 days of purchase. For information on how to register please visit www.datavideo-tek.com or contact your local Datavideo office or authorized Distributors
- Certain parts with limited lifetime expectancy such as LCD Panels, DVD Drives, Hard Drives are only covered for the first 10,000 hours, or 1 year (whichever comes first).

Any second year warranty claims must be made to your local Datavideo office or one of its authorized Distributors before the extended warranty expires.




Disposal



For EU Customers only - WEEE Marking

This symbol on the product indicates that it should not be treated as household waste. It must be handed over to the applicable take-back scheme for the recycling of Waste Electrical and Electronic Equipment. For more detailed information about the recycling of this product, please contact your local Datavideo office.

TLM-170H Model Types

Model	TLM-170H	TLM-170HR	TLM-170HM
Image			
System	Desktop	7U rack mount	1U mobile tray rack mount

Packing List

Item	Model No	TLM-170H	TLM-170HR	TLM-170HM
	BNC to BNC Cable 1.2m		5	5
Desktop Stand (LA-100-2)		1		
7U Rack Mounts			2	
1 RCA to 1 RCA Cable		2	2	2
Y/C Cable (S-Video) 1.2m		1	1	1
AC Power Cord		1	1	1
Cable Tie 36cm		2		
Cable Tie 12cm			5	5
Switch adaptor DC 12V 4.16A		1	1	1
Screw M3*6mm			8	8
Screw M5*10mm			8	8
Screw M4*6mm				4
TLM-170H Series Instruction Manual		1	1	1

Product Overview

The Datavideo TLM-170H monitor is designed for superior performance. Whether your application is in a live production gallery, 19" rack monitoring, 12V OB truck or a video editing suite the TLM-170H will help you confidently monitor the pictures within your chosen workflow.

The Datavideo TLM-170H monitor has an on-screen menu which allows control and set up of brightness, contrast, saturation, hue, sharpness, colour temperature and picture in picture. The menus can also be used to display onscreen overlays for frame marker, 4:3 marker, 16:9 Marker, Cinema Zone Marker, Center Point, embedded SDI Timecode and Monitor Title.

The TLM-170H Front Panel Buttons allow selection of source input as well as PIP, Aspect ratio, Blue only, Pattern (Colour Bars), Menu and audio controls. Input HD/SD sources via the rear panel SDI, HDMI, Component (Y, Pb, Pr), S-Video (Y/C) and Composite connections as well as monitoring RCA phono or embedded SDI / HDMI audio.

Features

Front Panel

- 17.3" (1600x900) LCD TFT Display
- Source Selection buttons
- Aspect ratio switch, Picture in Picture, Blue Only and Pattern buttons
- Audio Level and Mute buttons
- 3.5mm Headphone Jack
- Bi-Colour Tally indicator (Off, Yellow, Red)
- Standby Power ON/OFF button

Rear Panel

- 12V DC Power adaptor input (2.1mm) with screw locking thread
- Main Power ON/OFF switch
- Adjustable viewing angle (model dependant)

Video Inputs

- HD-SDI /SD-SDI video BNC input with loop-through BNC output
- 2x Standard HDMI inputs (Ver. 1.1)
- 1x Component Y Pb Pr on BNC
- 1x S-Video (Y/C) 4pin mini din connector
- 2x Composite BNC inputs
- PAL & NTSC auto switching

Audio Inputs

- 4 x RCA sockets for analogue audio from Component, Y/C and Composite sources
- Supports SD/HD-SDI embedded audio
- Supports HDMI embedded audio (Ver.1.1)
- Speaker cable output connections (L-, L+, R-, R+) Max 5v p - p (2w)

Menu Features

- Monitor Underscan and Overscan mode selection
- Adjustment of Brightness, Contrast, Saturation, Hue and Sharpness
- Adjustable Colour Temperature setting (6500K, 7500K, 9300K and user defined)
- Adjustable PIP source and placement settings
- Internal and external speaker mute control
- On-Screen Audio Level indicator
- Selectable On-Screen overlay for center mark, 4:3, 16:9, Cinema Zone and Frame markers
- On-Screen Time Code available when monitoring SD-SDI or HD-SDI signals
- On-Screen Editable Monitor Title on Safe area
- LCD Backlight adjustment

- Factory reset option

Supported Formats

From a Video Source

• HDMI RGB	• SDI	• YUV	• CV & S-Video
- 720 x 576i x 50 Hz	- 720 x 576i / 50 Hz	- 720 x 576i x 50 Hz	- 720 x 576i (PAL) &
- 720 x 480i x 60 Hz	- 720 x 480i / 60 Hz	- 720 x 480i x 60 Hz	- 720 x 480i (NTSC)
- 1280 x 720p x 50 Hz	- 1280 x 720p / 60 Hz	- 1280 x 720p x 50 Hz	
- 1280 x 720p x 60 Hz	- 1280 x 720p / 50 Hz	- 1280 x 720p x 60 Hz	
- 1920 x 1080i x 50 Hz	- 1920 x 1080i / 50 Hz	- 1920 x 1080i x 50 Hz	
- 1920 x 1080i x 60 Hz	- 1920 x 1080i / 60 Hz	- 1920 x 1080i x 60 Hz	

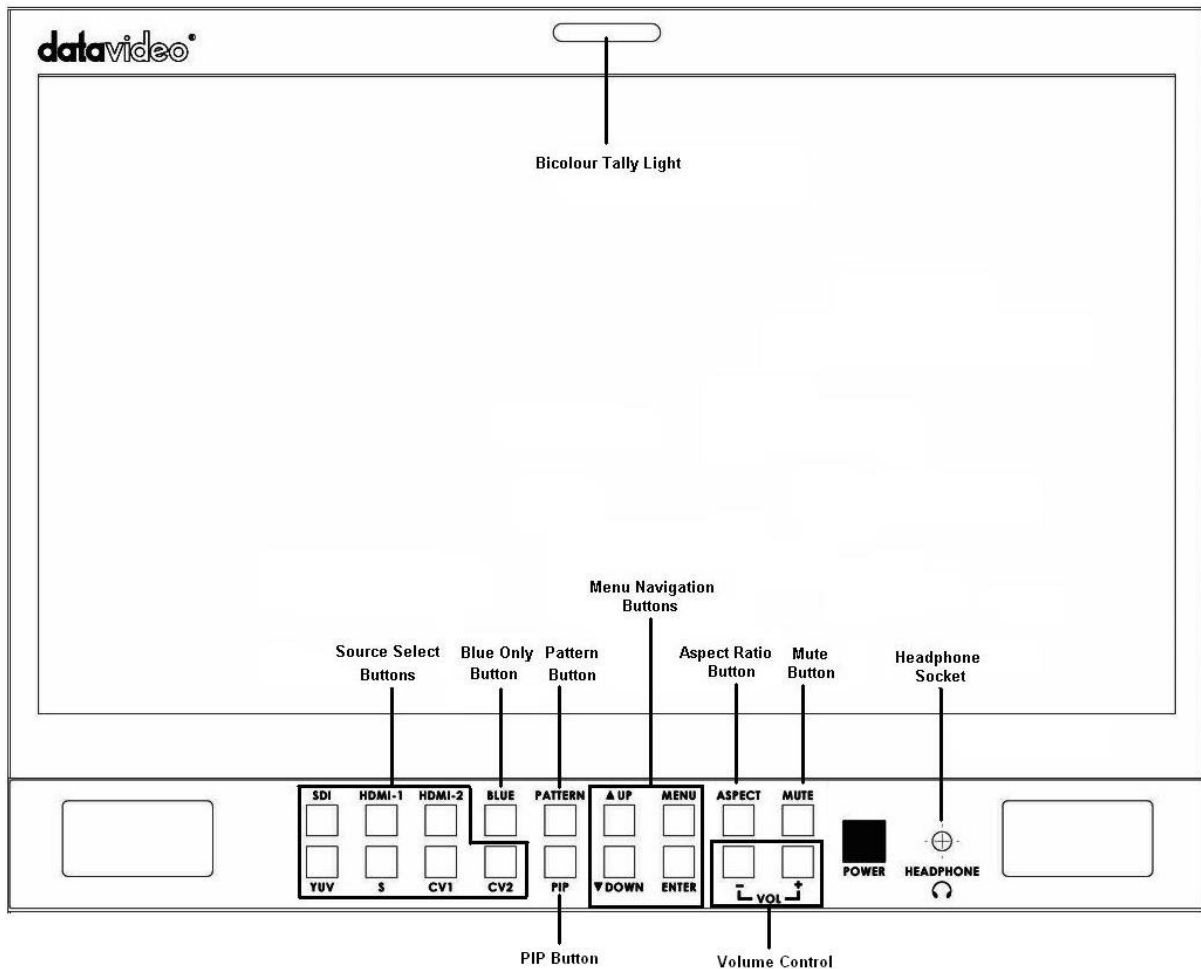
From a Graphics Card

The TLM-170H panel will support/display the following 60Hz computer resolutions when supplied via a standard DVI to HDMI cable.

Please note the TLM-170H panel is natively 1600 x 900 pixels so certain resolutions may be slightly edge cropped and bars/columns may be shown with other resolutions when the panel is switched between 16:9 and 4:3 using the aspect button.

	Resolution	Aspect
SVGA	800 x 600	4:3
XGA	1024 x 768	4:3
	1152 x 864	4:3
WXGA	1280 x 768	16:9
WXGA	1280 x 800	16:10
	1280 x 960	4:3
SXGA	1280 x 1024	5:4
	1360 x 768	16:9
WSXGA+	1680 x 1050	16:10

Connections & Controls Front Panel



Bi-Colour Tally Light

Can be used to indicate Live (RED) or Cued (AMBER) source.

Source Select Buttons

Select the type of input you are using
SDI, HDMI, YUV, S-Video, CV 1 & 2
The active input will be indicated by a red LED on the Source Button

Aspect Ratio Button

Toggles the Aspect Ratio between 16:9 and 4:3
The selected aspect ratio will be confirmed in the top left corner of the display

PIP Button

Activates Picture in Picture Mode - See *PIP Menu* for more details.
Red LED will light when PIP mode is active.

Menu Navigation Buttons

See *Menu Options* for more details

Mute Button

Mutes the audio from the internal speakers or headphone socket.

Volume Control - /+

Adjusts the speaker / headphone volume up / down.

Standby Button

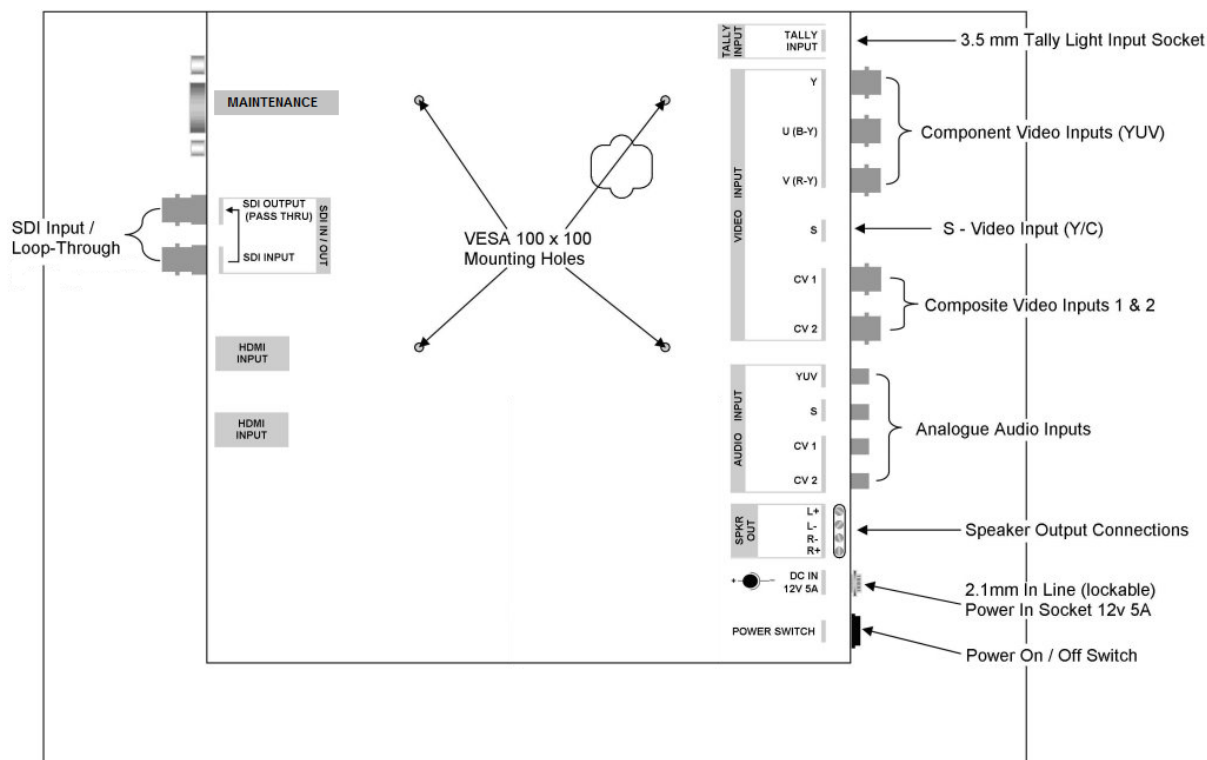
Switches the TLM-170H screen On from standby / Off to standby

N.B. The main Power On/Off switch is located on the rear of the TLM-170H.

Headphone Socket

3.5mm headphone socket; internal speaker circuit will automatically mute when headphones are connected.

Rear Panel



VESA 100x100 Mounting Holes

For fitting a universal VESA style wall mounting bracket. Also used for attaching the Datavideo desktop stand (LA-100-2) to the monitor. **Stand is not supplied with TLM-170HR or HM models.**

3.5mm Tally Light Input

Tally light information can be supplied to the monitor from the Datavideo RMC-140, TB-5 or TB-10 via this 3.5mm jack socket.

Component Video Input

BNC connectors for Component (YUV / Y Pb Pr) Video.

S-Video Input

Input for S-Video (Y/C).

Composite Video Inputs

BNC connectors 1 and 2 for Composite Video.

Analogue Audio Inputs

Mono Audio Inputs to correspond to the Analogue Video Inputs (Component / S-Video / Composite 1 & 2)

Speaker Output Connections Speaker Output connections Max 5v p - p (2w)

DC In Socket

2.1mm In Line Power Socket with screw collar for connecting the suitable 12v 2.5A feed.

On / Off Switch

Main on / off switch, switches the TLM-170H on and off.

N.B. The front panel power button will switch the TLM-170H from Standby Mode to On.

HDMI Input

Video and Audio input from HDMI.

SDI Input & Loop Through

BNC Input for SD / HD-SDI with a Loop Through Output.

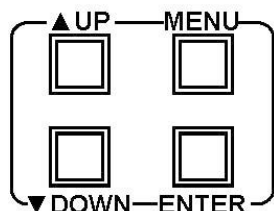
Maintenance

Not used – service use only.

Powering On

Menu Options

The TLM-170H is set up via on screen menus. To display the on screen menu press the **MENU** button. The menus are navigated using the **UP / DOWN** buttons.



There are six menus: **Video Processor**,
PIP Feature Setting,
Audio Function Setting,
Special Function I,
Special Function II

System Information

Video Processor

The first menu to be displayed is the Video Processor Menu.

To access the Video Processor Menu press enter, the Brightness setting will be highlighted.

To adjust the Brightness press Enter again. An adjustment bar will appear at the bottom of the screen. Use the Up / Down buttons to change the setting and then press Enter to store the new value and to return to the main menu.

To select a different setting (Contrast, Saturation, Hue, Sharpness, Colour Temp.) use the Up / Down buttons. Follow the same procedure to set the other values.

PIP Feature Setting

The PIP Feature Setting Menu allows you to adjust the appearance of the picture in picture. The position, size, main source and sub source can be set in the menus.

To access the menu press enter so that PIP Mode is highlighted

To access the options for the selected setting press enter again, so that the option column is highlighted - In this case Large PIP.

Use the Up / Down buttons to navigate the available options.

You can choose:	PIP Mode	Large PIP / Small PIP
	PIP Position	Bottom-Right / Top-Left / Top-Right / Bottom Left
	PIP Main Source	CVBS 1 / CVBS 2 / SVIDEO / COMP. – Component / HDMI 1 / HDMI 2 / SDI
	PIP Sub Source	CVBS 1 / CVBS 2 / SVIDEO / COMP. – Component / HDMI 1 / HDMI 2 / SDI

N.B. The PIP feature can only be one analogue source and one digital source. i.e. If the main source is analogue then the sub source must be digital, or vice versa.

Examples:	Main Source = Analogue source = CVBS / SVIDEO / COMP
	Sub Source = Digital source = HDMI / SDI
	Main Source = Digital source = HDMI / SDI

Sub Source = Analogue source = CVBS / SVIDEO / COMP

Audio Function Setting

The Audio Functions Setting Menu allows you to adjust the Internal Speaker Mute Control, External Speaker Mute Control and on screen Audio Indicator.

To access the options for the selected setting press enter again, so that the option column is highlighted.

Use the Up / Down buttons to navigate the available options.

You can choose:	Internal Speaker Mute Control	On / Off
	External Speaker Mute Control	On / Off
	Audio Indicator	On / Off

Special Function I

The Special Function I Menu has settings for the Frame Ratio, Safe Area, Scan Mode, Central Mark, Cinema Zone Mark and Mask Type...etc.

To access the options for the selected setting press enter again, so that the option column is highlighted.

Use the Up / Down buttons to navigate the available options.

You can choose:	Frame Ratio	Off / 80% / 90%
	4:3 Mark Line	On / Off
	Scan Mode	Under scan / Over scan
	Center Mark	On / Off
	Cinema Zone Mark	On / Off
	Mask Type	Overlay / Transparent

N.B. Frame Ratio - This will display a "Safe Area" frame on the screen

Special Function II

The Special Function I Menu has settings for the SDI Time Code Setup and Title Editor.

To access the options for the selected setting press enter again, so that the option column is highlighted.

Use the Up / Down buttons to navigate the available options.

You can choose:	Time Code Setup	Time Code Display	On / Off
		Time Code Position	MID_BOT / LF_TOP / RT_TOP / RT_BOT
		HD Line	Auto / 8~20
		SD Line	Auto / 10~21
		Font Size	Small / Large
		Title Editor	Title Display
		Title Position	MID_TOP / MID_BOT
		Font Size	Small / Large
		Edit Title	Pos: 1~15 Char: A~Z

NB: Switch the **Title Display** function **On** before attempting to use the **Edit Title** function.

System Information & Factory Reset Option

The System Information Menu displays the Firmware Version of the monitor, and offers a Factory Reset option, which will return all the settings of the monitor to the factory defaults.

To access the options for the selected setting press enter again, so that the option column is highlighted.

Use the Up / Down buttons to navigate the available options.

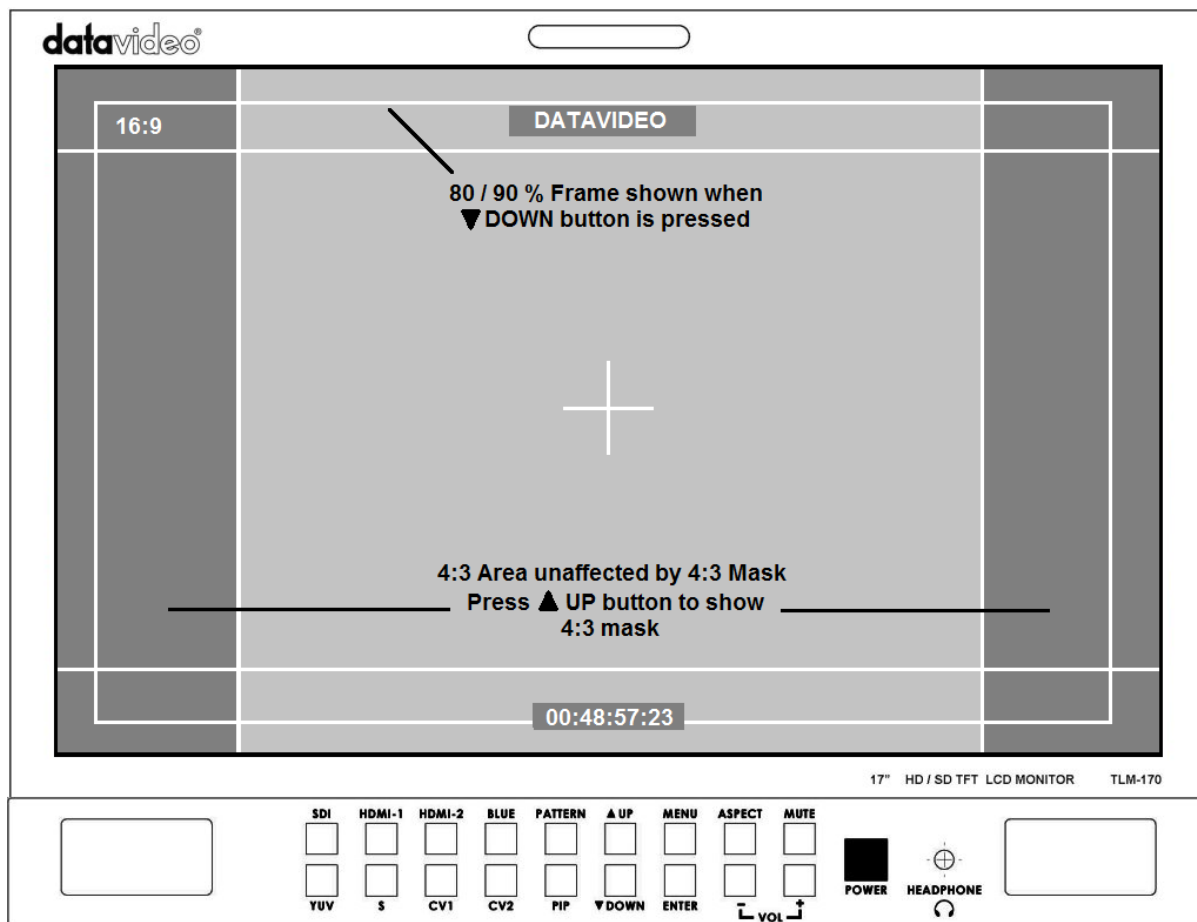
You can choose:	Back Light	1~16
	Factory Reset	Yes / No

To reset the monitor press the ENTER button, so that Factory Reset is highlighted, and then press ENTER again to highlight the options column.

Use the UP / Down button to select YES from the options and then press ENTER to reset the monitor. After a few seconds the monitor will be reset.

Using the 4:3 Mask in 16:9 mode

Sometimes when viewing 16:9 footage you may want to know what part of the video will be seen on 4:3 monitors for both picture composition and titles. The 4:3 Mask function of the TLM-170H allows you to do this easily by pressing one button during normal 16:9 viewing.



This 4:3 mask can be set as transparent or overlay within the **Special Function I** menu. The **Transparent** setting allows the 16:9 video to be seen through the mask. The **Overlay** setting does not allow video to be seen outside of the central 4:3 area.

To toggle the mask overlay on or off press the UP button during normal 16:9 viewing.

Displaying the 80 / 90 % area frame overlay

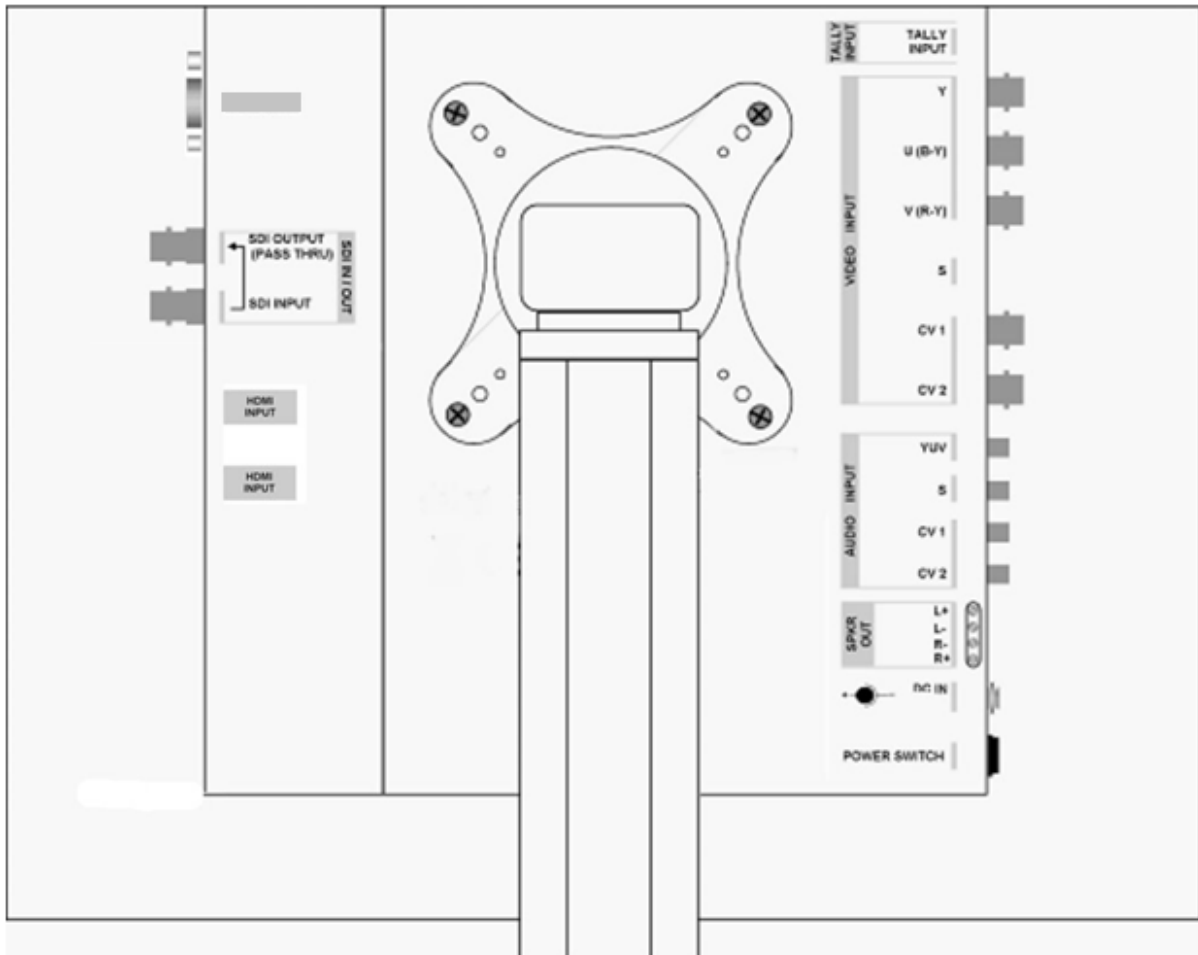
Television standards do not currently define the official size for overscan or underscan areas of video displayed on televisions and monitors. Different makes and models of monitors can show less or more of the video area that was actually captured by the camera. To ensure any overlaid titles are not cropped off the displayed video area of any monitor safe areas of 80% and 90% were devised by production companies.

The **Special Function I** menu allows a choice of off, 80% or 90% for **Frame Ratio**. By pressing the down button during normal viewing the 80% or 90% Frame overlay will be displayed or turned off.

TLM-170H: Fitting the Desktop stand to the TLM-170H

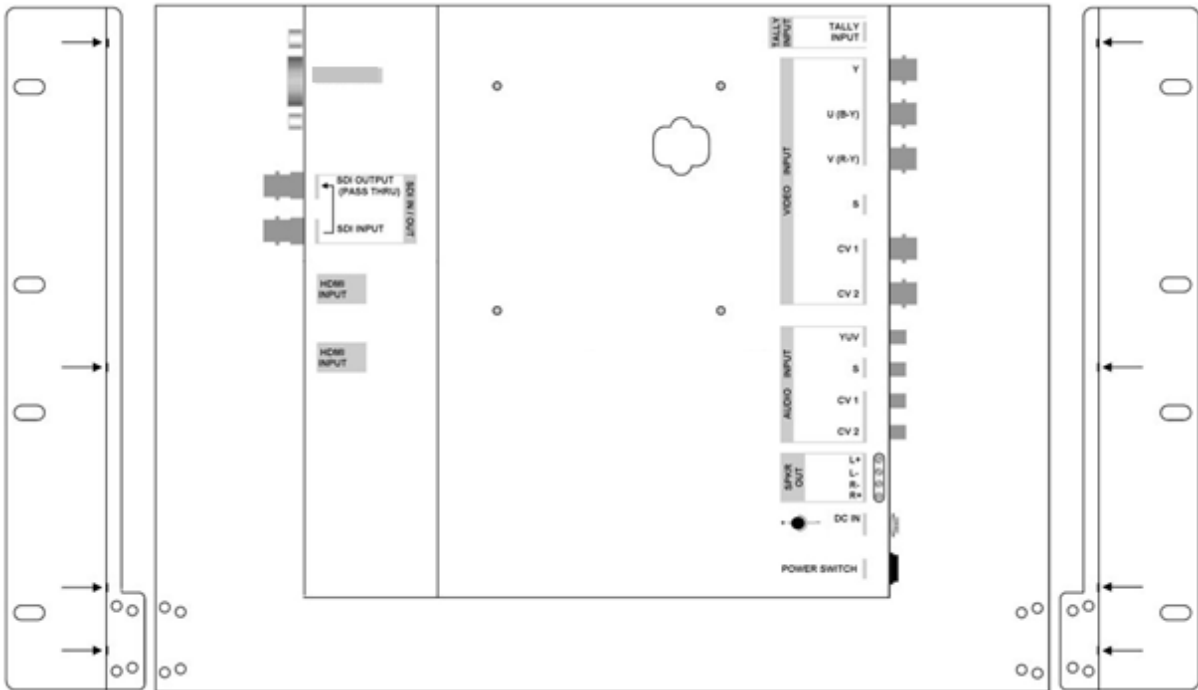
The TLM-170H is supplied with a desktop stand (LA-100-2). Please refer to the LA-100-2 User Guide for adjustments to the stand, prior to fitting it to the monitor.

To attach the stand to the monitor, align the stand with the VESA 100 mounting holes on the rear of the monitor, and use the four supplied screws to secure it.

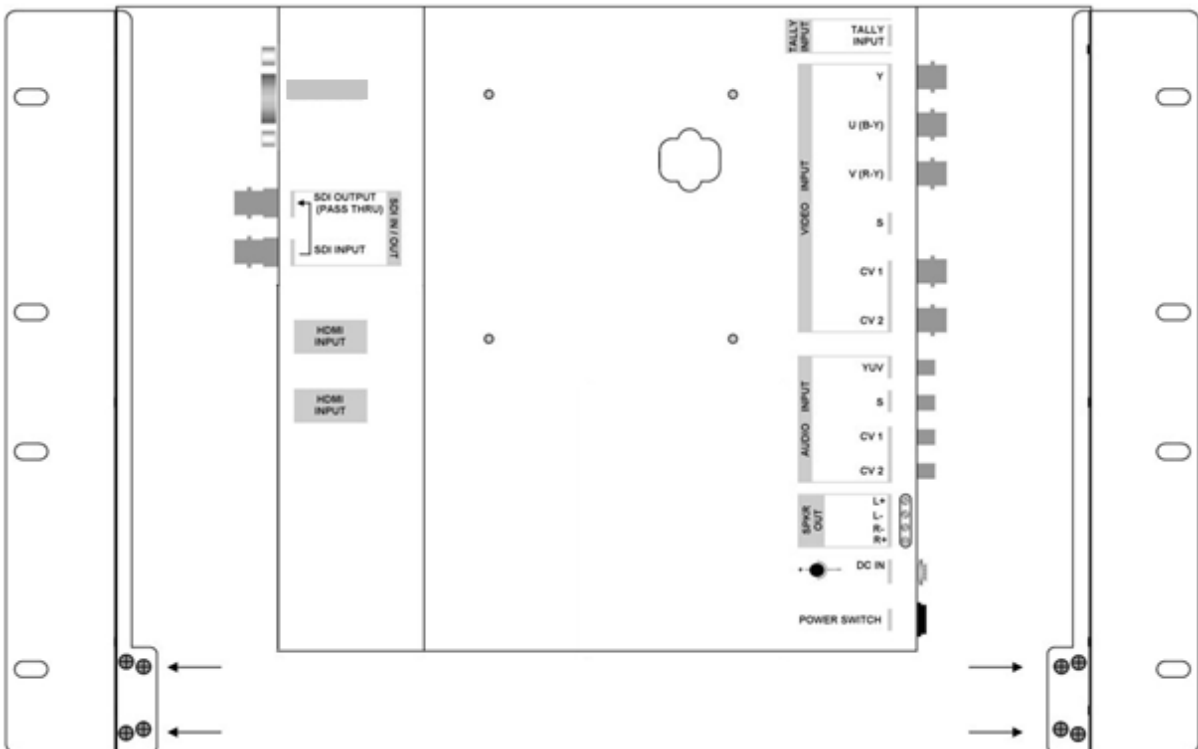


TLM-170HR: Fitting the 19" Rack Ears to the TLM-170H

The TLM-170HR is supplied with 19" Rack Ears, these allow the monitor to be rack mounted (19" 7U).



Use the supplied screws to attach the left and right rack ears. You will there are four screws either side, as illustrated above, plus additional screws at the base of each rack ear, as illustrated below.

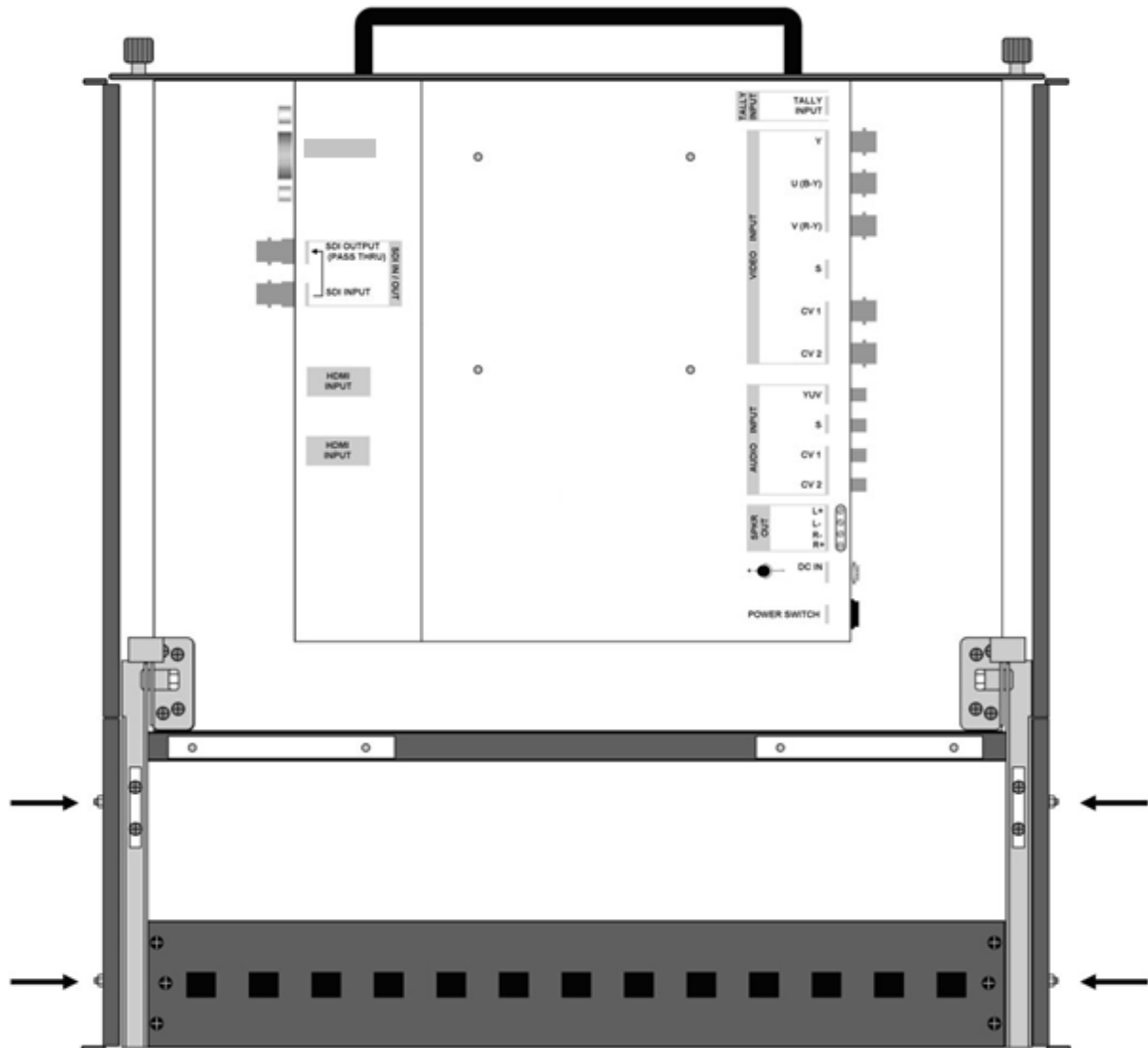


TLM-170HM: Fitting the monitor to a 19" Rack

The TLM-170HM is designed to rack mount. When folded away it is 1U high, please bear in mind that when opened for operation the monitor is 7U high, so leave adequate room above for this.

The monitor arrives already fitted with sliding rack rails, these have a length adjustment at the rear to suit the distance between the front and rear rack rails of your cabinet.

To adjust the length loosen the four adjustment nuts as illustrated below, and pull the side rails back as far as is required. Then re-tighten the nuts.



Mount the monitor in your rack with the rear panel facing upwards. Ensure the rack mounting screws are secured both front and rear.

Once mounted and secure to the rack, unscrew the two locking screws on either side of the front panel, and pull the monitor forward using the handle. Once the monitor is fully forward simply hinge it up into a vertical position.

To fold away, pull the top of the monitor forward, so that it hinges down to a horizontal position, then push it back into the rack until you are able to screw in the locking screws.

N.B. When folding the monitor away be careful not to trap your fingers or scrape your hand on the rack cabinet.

Specifications

LCD Display	17.3" TFT LCD
Resolution	RGB 1600 x 900 pixel
Aspect Ratio	4:3 and 16:9 selectable
LED Life time	12,000 hrs (approx.)
Brightness (Luminance)	220 cd/m ²
Contrast Ratio	500:1
View Angle	Top: 40 deg Bottom: 60 deg Left: 60 deg Right: 60 deg To use 2U 19" rack mount can support adjustable view angle (Tilt 45 degree viewing angle)
Video Input	2 CV / S-Video / HD-YUV / HD & SD-SDI + HDMI (ver 1.1 x 2)
Video System	NTSC / PAL auto recognition
Colour Adjustment	Brightness, Contrast, Colour Saturation, Hue
Tally Indication	1
Operation condition	Operation temperature from 0°C to 50°C, RH less than 90%
Power Consumption	DC 12Volt, 5.0A

HD/SD-SDI

Standard	SMPTE 259M-C (270Mbps - 525/625 Component Video) & 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)
Return Loss SD	> 15 dB (5 MHz to 270 MHz)
Equalization	200m Belden 8281 cable at 270 Mbps; 100m (typical) Belden 1694A at 1.485Gbps

CV

Bandwidth	> 5.0MHz
Differential of Gain (DG)	< 3%
Differential of Phase (DP)	< 3°
S/N:	> 50 dB

YUV

Bandwidth	> 5.2MHz
Differential of Gain (DG)	< 3%
S/N:	> 50 dB

Service and Support

It is our goal to make your products ownership a satisfying experience. Our supporting staff is available to assist you in setting up and operating your system. Please refer to our web site www.datavideo-tek.com for answers to common questions, support requests or contact your local office below.

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