



## *CineMonitor* *HD* *Evolution*

### **Operator Manual**

# ABOUT

This Operator Manual describes the use of the Transvideo CineMonitorHD Evolution family.

The first CineMonitor has been introduced to the Film Industry during year 1995.  
The CineMonitorHD Evolution is our latest contribution to the Digital Cinematography world, including advanced decision tools for the HD world.

The CineMonitorHD Evolution family includes the following products:

<i>CineMonitorHD<sup>6</sup> SBL Evolution</i>	6" HD Monitor SuperBright
<i>CineMonitorHD<sup>6</sup> eSBL Evolution</i>	6" HD Monitor enhanced SuperBright
<i>CineMonitorHD<sup>6</sup> X-SBL Evolution</i>	6" HD Monitor eXtreme SuperBright
<i>CineMonitorHD<sup>8</sup> Evolution</i>	8" HD Monitor
<i>CineMonitorHD<sup>8</sup> SBL Evolution</i>	8" HD Monitor SuperBright
<i>CineMonitorHD<sup>8</sup> eSBL Evolution</i>	8" HD Monitor enhanced SuperBright
<i>CineMonitorHD<sup>10</sup> SB Evolution</i>	10" HD Monitor SuperBright
<i>CineMonitorHD<sup>12</sup> SB Evolution</i>	12" HD Monitor SuperBright
<i>CineMonitorHD<sup>15</sup> SBL Evolution</i>	15" HD Monitor SuperBright
<i>CineMonitorHD<sup>15</sup> Studio Evolution</i>	15" HD Monitor Studio version

If the physical, electrical and optical characteristics of the products are different, the user interface is the same.

Several configurations are optionally available for this family of products.  
There is the choice at the order between several input boards, which gives different functionalities described in this document. Some options can be not implemented in your CineMonitorHD Evolution.

**This manual describes CineMonitorHD Evolution with Software 7.23e (and up).**

Depending of the hardware, it is possible to upgrade the CineMonitorHD Evolution. For that, contact us or your local Transvideo representative.

The products described in this manual are professional equipment. Utilization of these products implies knowledge of basics in video signal management, HDTV and film making concept.

# WARNING & CAUTION

## WARNING:

There is very high voltage inside of the component. Risk of injury or death.

## WARNING:

This product must be used in a correct grounded electrical environment; ground defects can create severe problems to the equipment, the picture quality and even cause danger for the user.

## WARNING:

**Copyright law and international treaties protect this product, its design and its software. One or several international patents apply to the CineMonitorHD Evolution.**

**Unauthorized reproduction or distribution of this product or its design or its software or any portion of them, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law.**

## CAUTION:

Warranty is void if the product is opened. The unit contains electrostatic sensitive devices, which can be damaged or destroyed if you touch them. Very high voltage is present in the product and there is some risk of electric shock if opened by a non-accredited technician. Standard ESD procedures must be strictly followed during disassembly/re-assembly of the unit.

The user and/or technician assume full responsibility for any risk of bodily injury, death or property damage arising out of the use or disassembly or repair of this equipment. In no event shall Transvideo S.A. or its local representatives be liable to a user, technician or third party for any loss of income or any damage of any kind resulting from the use of or work on the said equipment.

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# INTRODUCTION

## Unpacking

### Packing list

Control the content of the package accordingly to the packing list.

### Transportation

The CineMonitorHD is delivered in a rugged waterproof case. Use this case for storage and transportation.

### 2 years warranty

All CineMonitorHD are covered by a 2 years limited warranty unless otherwise noted.

Get a **3<sup>rd</sup> year for free** by registering your product online within the first month of the purchase.

<http://www.hd4dp.com/register-my-product>

## General safety instructions

### **IMPORTANT:**

Do not use damaged cables with this equipment.

Damaged connectors may seriously damage this equipment.

Never seal the monitor in a plastic bag.

Never use the monitor in full sun with a Raincover.

Before using the monitor make sure that the product is not damaged, that the protective glass is not broken and that the connector do not have missing pins, foreign objects inside the housing.

The CineMonitorHD needs to be in a ventilated area for a proper cooling. Prolonged use in confined environment without ventilation can damage the monitor.

### Cables

The cables must be in good condition and adapted to the environment where you are working. A bad quality or wrong-wired cable may damage this equipment or other equipment attached to it and/or create interferences.

The video cable must be adapted for carrying HD SDI signals. Proper 75  $\Omega$  connectors must be used. Always check the connector before plugging a cable to your monitor.

Transvideo offers high quality cables for cameras, power supplies and other equipment. Contact Transvideo S.A. or its local representative in case of need.

### Installation

The CineMonitorHD must be securely mounted on the camera or on its location of use. Several mounting points with 1/4-20" nut are present on this equipment for a secured professional use.

Do not use the monitor with loose fixation or damaged brackets for your own safety and that of others working with you.

Transvideo manufactures high quality brackets and accessories for the comfort of use and security for the equipment and user. Please contact Transvideo S.A. or its local representative in case of need or visit <http://www.hd4dp.com>.

## Power requirements

Only DC Voltage powers this product.

AC voltage can be used with an appropriate AC/DC converter

Recommended AC power adaptors:

<i>CineMonitor<sup>HD6</sup> SBL Evolution</i>	Transvideo AL30
<i>CineMonitor<sup>HD6</sup> eSBL Evolution</i>	Transvideo AL30
<i>CineMonitor<sup>HD6</sup> X-SBL Evolution</i>	Transvideo AL30
<i>CineMonitor<sup>HD8</sup> Evolution</i>	Transvideo AL30
<i>CineMonitor<sup>HD8</sup> SBL Evolution</i>	Transvideo AL30
<i>CineMonitor<sup>HD8</sup> eSBL Evolution</i>	Transvideo AL30
<i>CineMonitor<sup>HD10</sup> SB Evolution</i>	Transvideo AL63
<i>CineMonitor<sup>HD12</sup> SB Evolution</i>	Transvideo AL63
<i>CineMonitor<sup>HD15</sup> SBL Evolution</i>	Transvideo AL63
<i>CineMonitor<sup>HD15</sup> Studio Evolution</i>	Transvideo AL63

The input power voltage range is extremely wide from 10 to 36 V DC (except specified differently).

### Power instructions

The power consumption slightly varies with the input voltage, the operating temperature and the equipment configuration. The internal power supply is protected against reverse polarity. Over voltage may cause severe damages to the equipment and/or to other equipment connected to it. This product must be used in a properly grounded electrical environment. Ground defects can create severe problems to the equipment and/or picture quality and may even cause danger for the user.

### Turning power On/Off

The ON/OFF Switch is on the back side of the monitor.

The product needs a certain time to reach its nominal brightness.

This time can vary with the temperature.

In OFF position, the power consumption is null.

### Galvanic insulation

For safety of use the CineMonitorHD family feature a galvanic insulation of the DC input. Do not connect the power ground to the chassis of the monitor or to the metallic body of the power connector in order to keep the galvanic insulation. The galvanic insulation is rated at 1000VDC. The chassis of the monitor is connected to the video ground.



**Anton-Bauer batteries / FuelReader™**

TransvideoLabs engineer's integrated communication between the fuel computer of Logic Series Digital batteries from Anton-Bauer and CineMonitorHD Evolution. The FuelReader™ gives to the user a view of the remaining available percentage of the battery and the time to run.

On 6" and 8" CineMonitorHD Evolution, you need to use the battery socket from to enjoy the benefits of the FuelReader™. On 10", 12", and 15" CineMonitorHD Evolution you need to order the monitor with the Anton-Bauer Gold Mount socket.

**WARNING RISK OF FIRE:**

It is always recommended to remove the power source from the monitor when you do not use it and/or when you travel. Especially if you place the monitor in a closed environment (bag, box, ...).

**Start-up**

- ① Connect an appropriate power supply to the XLR4 connector or a battery if any socket is available.
- ② Connect a video source (SDI, HDMI, CVBS) to the corresponding input
- ③ Set the power switch to ON
- ④ Select the correct input with "Inputs" key

# PRODUCT OVERVIEW

## Parts identification

All connectors are on the back of the monitor. Depending on the size of the monitor, the connectors and their location may differ.

The CineMonitorHD Evolution family offers a video connector panel common to all sizes. 10" to 15" monitors also provide a power out connector and a battery plate (more details in chapter "SPECIFICATIONS").

Figure 1 to 2 show the backs of a 10" and a 8" CineMonitorHD Evolution.

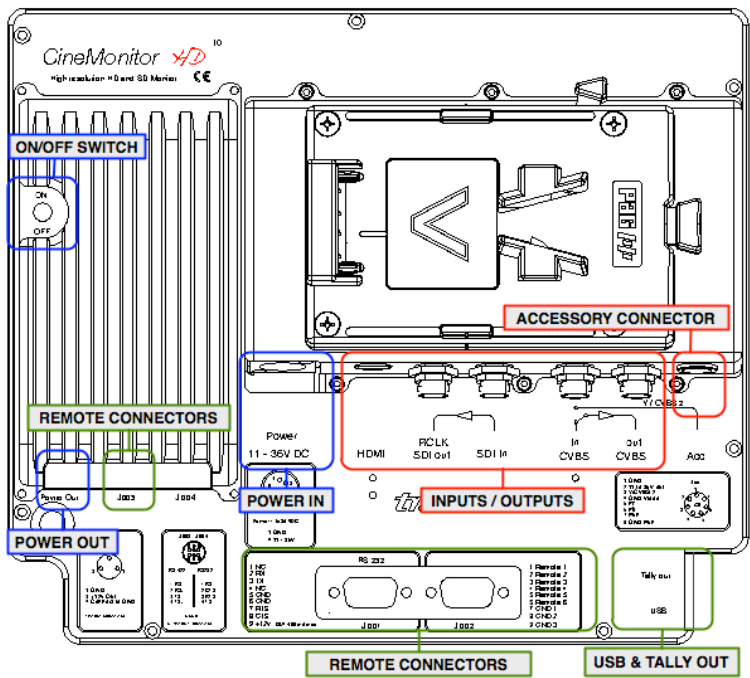


Figure 1: CineMonitorHD10 Evolution back

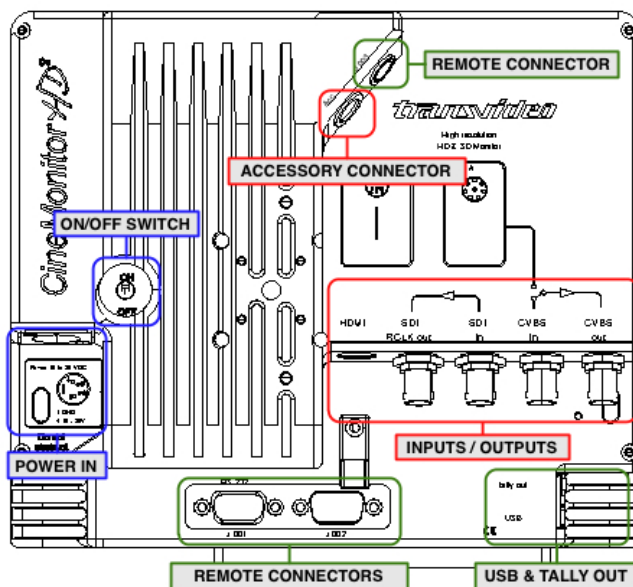


Figure 2: CineMonitorHD8 Evolution back

## User interface

The CineMonitorHD Evolution family offers a user interface common to all sizes. Some functions are directly accessible from the "direct functions" keypad, others from the menu with use of the rotating knob.

The CineMonitorHD screen is partitioned in two areas:

- ① The picture zone displays the picture from the camera in 16/9 format
- ② The tools zone displays tools and measurements in the remaining area of the screen.

Figure 3 show the front of a 8" CineMonitorHD Evolution.

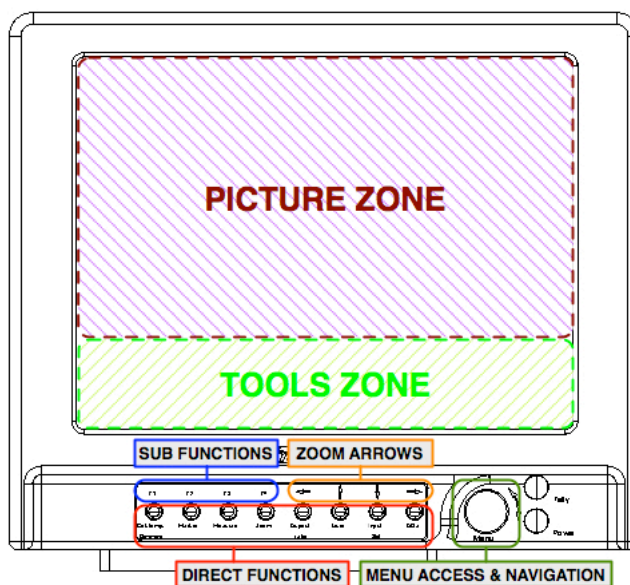


Figure 3: CineMonitorHD8 Evolution front

## Direct functions

Several direct functions are available from the keypad.

One short press on a key gives access to the function.

One long press (more than 2 seconds) on a key gives access to the sub functions of the related function (if any). Pressing F1...F4 enables to adjust those sub functions.

Depending of the function, options and environment, the content of F1...F4 may differ. Pressing a key will activate or deactivate the sub function. An activated sub function is highlighted by an orange text while an inactivated function prompts in white.

In some specific case, F4 may extend the selection to a second page of sub menu.

## Rotating knob

The menu knob is a rotating encoder with a push function. It is used to access and navigate in the menus, adjust some parameter values, validate and exit functions by turning or pushing it.

One sort press on the knob gives access to the menu. Rotating the knob enables to navigate between the menu items. Pushing the knob gives access to the sub menu of the highlighted menu item.

Selecting EXIT exits from the current menu level to the previous (if any). A long push on the knob exits from the menu. Exiting the menu is also possible by automatic temporization, adjustable in MENU / TECHNICAL.

# USING THE DIRECT FUNCTIONS

## Color Temperature & Dimming

*Short push on **Col. Temp. Dimming*** – toggles calibration modes:

FULL BRIGHT: maximum brightness and power consumption, the color calibration is deactivated

STANDARD CALIBRATED: standard mode, the brightness (200Nits) and white point are calibrated according to the settings of MENU / COLORIMETRY

USER SET: turning the rotating knob adjusts the brightness from 10 to 100% while color calibration is preserved. Allows having a reduced power mode between two takes.

*Long push on **Col. Temp. Dimming*** – accesses the settings of the Standard Calibrated mode

Press F1 to choose D56 calibration

Press F2 to choose D65 calibration

Press F3 to choose manual calibration (Adjustable in MENU / COLORIMETRY)

It is necessary to wait a few seconds after pressing the key before loading of the correct lookup table.

## Markers

*Short push on **Marker*** – activates or deactivates the selected marker(s).

Long push on Marker to select the markers to display.

Not active when ZOOM or anamorphic modes are selected.

*Long push on **Marker*** – marker(s) selection

*First page*

Press F1 to activate / deactivate **4:3 marker**

Press F2 to activate / deactivate **14/9 marker**

Press F3 to activate / deactivate **16/9 marker**

Press F4 to access next page

*Second page*

Press F1 to activate / deactivate **safe area**

Press F4 to access previous page

This menu is contextual; some functions can be unavailable depending of the video standard.

When SAFE AREA is selected in the sub menu, one short press on the Marker key displays "TURN TO ADJUST SAFE AREA: XX%". Rotating the knob makes it possible to adjust the safe area on the picture from 10 to 99%. SAFE AREA is selected by default at start-up or after a reset and with a value of 90%.

## Measurements

Short push on **Measure** – toggles the different views of the selected measurement

Long push on Measure to select the measurement to display.

The brightness of the reticule and of the spot as well as the background transparency in overlay mode (for waveform and vectoscope) can be adjusted in MENU / TOOLS / MEASUREMENT.

White and black clipping alert can be configured in MENU / TOOLS / LIMITS. The same limits are used for the waveform and the histogram. Setting these limits is useful to have a visual alert on the measurement tools if there is a risk of overexposure or of loss of black details.

## Waveform

Long push on **Measure** – measurement selection

Selecting "F1: WAVE" gives access to the selection of the waveform modes.

Press F1 to display the waveform in line mode

Press F2 to display the waveform in parade mode

Press F3 to display the waveform in frame mode

Press rotating knob to exit from menu.

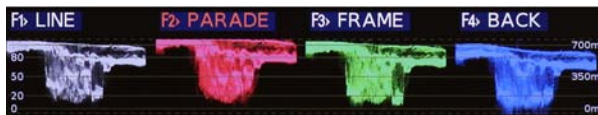
Then a short push on Measure toggles the different views of the selected waveform mode (if any). It also gives the possibility to adjust the size of the waveform by using the rotating knob (3 sizes available)

**LINE** Displays one single spot (Y, Red, Green or Blue)



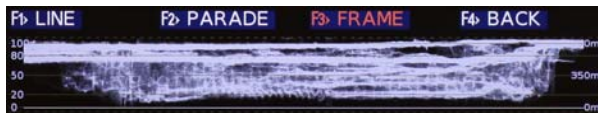
**PARADE** Displays Y, R, G, B, Cr & Cb in parade mode.

Available modes: YRGB / YGBR / RGB / GBR / YCrCb



**FRAME** Displays Y, R, G, B in frame mode (or sweep mode).

The content of one frame/picture is displayed.





## Histogram

Long push on **Measure** – measurement selection

Selecting "F2: HISTO" displays the histogram.

Press rotating knob to exit from menu.

Then a short push on Measure gives the possibility to adjust the scale of the histogram by using the rotating knob



## Vectorscope

Long push on **Measure** – measurement selection

Selecting "F3: VECTOR" displays the vectorscope.

Press rotating knob to exit from menu.



## Zoom

*Short push on **Zoom*** – toggles between different zoom modes.

OFF / 1.33x zoom / Pix to pix zoom

When activating the zoom, a pictogram showing the relative position of the magnified zone is displayed.

Arrows move the picture on Top/Bottom, Left/Right positions. Moving increments are proportional to 1/8 of the video standard. Fine adjustment can be made by rotating the rotating knob.

A long push on the Zoom key centers the picture, the next push sends back to the full picture display.

## Zoom pixel to pixel

Displays the picture in full resolution mode (pixel to pixel or 1:1).

Beyond the native resolution of the picture, magnify implies to create pixels that doesn't exist. This is why the pixel to pixel mode (1:1 zoom) is the higher magnification ratio in a Transvideo monitor.

## 1.33x zoom

The 1.33x zoom mode magnifies the active 16/9 area of the picture output by the Arri Alexa in 4:3 mode.

## Zoom in SD

In SD, the picture is displayed in full screen. In this case there is an important magnification ratio applied to the original picture. The resultant picture includes created pixels and lines and cannot be considered as a proof. In this mode the waveform will be superimposed to the picture.

## Aspect Ratio and Anamorphic desqueeze

*Short push on **Aspect ratio*** – toggles aspect ratio:

1.33:1 (4/3)	SD only
1.78:1 (16/9)	HD & SD
Anamorphic 1.3x	HD only (anamorphic desqueeze for 1.3x lenses on a 16/9 sensor)
Anamorphic 2x	HD only (anamorphic desqueeze for 2x lenses on a 4:3 sensor)
2.40:1	SD only
3.20:1	HD & SD (anamorphic desqueeze for 2x lens on a 16/9 sensor)

No sub functions in Aspect Ratio

## Assign user key

Short push on **User** – activates or deactivates selected user function.

Long push on User to select the user function.

Long push on **User** – user function selection

### First page

Press F1 to select **STATUS** as the user function

Displays the status of the monitor and the input voltage from the power supply or the battery.

Press F2 to select **FOCUS** helper as the user function

Activates the Focus Helper function as programmed in MENU / TOOLS / FOCUS HELPER.

Press F3 to select **EXPO**sure control as the user function

Gives access to the Exposure Control as configured in MENU / TOOLS / LIMITS.

*FOCUS and EXPO may be selected simultaneously. If both are activated, pressing User key set up:*

*a. FOCUS + EXPO / b. FOCUS / c. EXPO / d. nothing*

Press F4 to access next page

### Second page

Press F1 to select **High/Low** (high- or low- light details) as the user function

In high mode, the 50%-100% grey scale is shifted to 0-50% to enhance the high-light details.

In low mode, the 0-50% grey scale is shifted to 50%-100% to enhance the low-light details.

Press F2 to select **HORIZON** as the user function.

Activates or deactivates the horizon as programmed in MENU / TOOLS / HORIZON.

Press F3 to select **ZONE** as the user function

Adjusts the acquisition zone for the waveform and vectorscope.

Active when "1 LINE" or "12 LINE" are selected in MENU / TOOLS / MEASUREMENT.

Press F4 to access previous page

## Input Selection

*Short push on **Input Sel*** – toggles video inputs.

Long push on Input Sel to select the active video inputs.

*Long push on **Input Sel*** – selection of the active video inputs

An active input is highlighted in orange, an inactive in white. An inactivated input cannot be selected by the Input Sel key.

Press F1 to activate or deactivate SDI

Press F2 to activate or deactivate CVBS

Press F3 to activate or deactivate the ACCessory input (YPrPb or RGB or CVBS)

Press F4 to activate or deactivate HDMI

Inactivating the accessory input reduces the power consumption of the CineMonitorHD of about 4 Watts.

The format of the ACC input can be configured in MENU / TECHNICAL when ACC input is selected. It is possible to select between component YPrPb, component RGB or CVBS.

## Display adjustments

*Short push on **ADJ*** – toggles parameters to adjust:

Brightness, Contrast, Saturation, Hue (NTCS only)

Adjust the value by rotating the knob.

Validate by pushing the knob.

### **IMPORTANT:**

The settings are different for each input. All settings are stored in setup memories. There is one memory per input. That means you can setup the ACC input differently of the SDI input. It is useful with some specific cameras offering a viewfinder menu and a HD SDI output.

# MENU FUNCTIONS

## **HELP**

Gives access to maintenance menu.

### **MONITOR INFO**

Gives software (SW) and firmware (FW) versions of all electronic boards of the monitor.

### **UPDATE**

Allows the SW and FW updates of all electronic boards of the monitor.

To update a CineMonitorHD Evolution, refer to chapter "SERVICE & MAINTENANCE", section "Updating your CineMonitorHD Evolution".

### **ADVANCED UPDATE**

Gives access to advanced functions for monitor updates. For experts only.

## **DISPLAY MODE**

Gives access to 3 display modes: COLOR, GREEN and B/W

### **COLOR**

Standard mode, displays the picture with 16 million colors, 256 gray levels.

### **GREEN**

Display the picture in green color only.

TINT and SATURATION are not working in this mode.

This mode has been invented by Transvideo in 1990 and is used since this time in Film & Night Vision systems.

### **B/W**

Displays the picture with 256 gray levels.

TINT and SATURATION are not working in this mode.

## **BLUE CHECK**

Sets the monitor in BLUE ONLY mode.

This mode is used to calibrate the monitor with an incident color bar.

## COLORIMETRY

### MANUAL

Allows the manual adjustment of RGB gain (from 0 to 2, nominal 1.00) and offset of the black (-127mV to +126mV, nominal 0 mV).

The nominal value in manual mode corresponds to the D65 setup.

**IMPORTANT:**

In MANUAL there is a risk of displaying wrong colors; this option must be used carefully.

### D56 CALIBRATED

Sets the monitor for a white point DAYLIGHT 5600

CIE 1931 Coordinates:	x:	0.3310
	y:	0.3460

### D65 CALIBRATED

Sets the monitor for a white point DAYLIGHT 6500

CIE 1931 Coordinates:	x:	0.3127
	y:	0.3290

## INPUT PROFILE

### AUTO

Adjusts the response of the monitor according to the SDI metadata information (if any).

This menu disappears if no metadata are found.

### LINEAR

Adjusts the response of the monitor with a linear gamma correction.

### REC709

Adjusts the response of the monitor to a video signal using REC709 encoding.

### S-LOG

Adjusts the response of the monitor to a video signal using S-Log encoding.

### S-LOG2

Adjusts the response of the monitor to a video signal using S-Log2 encoding.

### CANON-LOG

Adjusts the response of the monitor to a video signal using Canon-Log encoding.

### LOG-C

Adjusts the response of the monitor to a video signal using Log C encoding. It is possible to adjust the EI (Exposure Index) to 100, 125, 160, 200, 250, 320, 400, 500, 640, 800.

## BLACK LEVEL

### IP/BL DISPLAY: ON/OFF

Activates or deactivates the display of Input Profile and Black Level information.

### STANDARD

Sets the black level of the video signal to 64 / 0 IRE

### EXTENDED

Sets the black level of the video signal to 4 / -7 IRE

### ADJUST

Intermediary and adjustable black level, from 4 to 64 (-7 to 0 IRE).

## LOCK

The lock function prevents errors after configuration and calibration of the monitor.

When the function is activated, "LOCK" is displayed on the screen at each attempt to enter in the menu or to access a direct function.

Pressing the rotating knob for more than 5 seconds gives the user access to the menu where she/he will be able to deselect LOCK.

#### **IMPORTANT:**

Input Sel key is never locked.

## TOOLS

### BLUETOOTH

Bluetooth activation and device selection. Available only if the monitor is equipped with a Bluetooth module. Contact us for more information.

#### BLUETOOTH: ON/OFF

Activates or deactivates the function.

#### UPDATE DEVICE

Detects all Bluetooth devices near the monitor location.

#### SELECT DEVICE NO. #

Connects the monitor to the Bluetooth device number "#" given by menu "UPDATE DEVICE".

#### **ABOUT WIRELESS HORIZON (VirtualHorizon3):**

If a VirtualHorizon3 has already been connected to the monitor, the monitor will automatically connect to this VirtualHorizon3.

## AUDIO

Displays the SDI embedded audio presence and a bargraph showing one audio pair on the 8 possible pairs.



### AUDIO: ON/OFF

Activates or deactivates the function.

### CHANNEL PAIR: X

Selection of the pair displayed on the bargraph with the rotating knob.

### POSITION

Allows the user to place the tool in different position of the screen.

When USER is selected, use arrows and the rotating knob to move the tools.

DEFAULT replaces the tool at the factory preset.

## TIMECODE

Displays the embedded VITC 1 or 2 or LTC Timecode.



### TIMECODE: ON/OFF

Activates or deactivates the function

### ATC: AUTO, LTC, VITC1, VITC2

Selection of the displayed ATC. When AUTO is selected the first time code present is displayed (1: LTC, 2: VITC1, 3: VITC2)

### POSITION

Allows the user to place the tool in different position of the screen.

When USER is selected, use arrows and the rotating knob to move the tools.

DEFAULT replaces the tool at the factory preset.

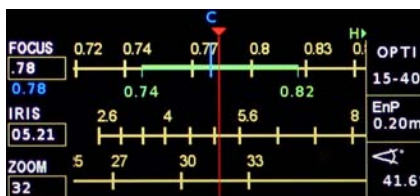
## LENS READER

The LensReader from Transvideo reads the metadata from **/i** and **LDS** lenses to display in real time the iris, focus and zoom on an intuitive graphic representation. The LensReader also displays the depth of field and the hyperfocal point.

Two graphics are available: Mobile where the scales are moving as on a real lens; static where the markers are moving on the scales.



When a Cine Tape Measure from Cinematography Electronics is connected via RS232 (HR25) to the monitor, a blue marker “C” showing the measuring distance appears on the focus ring. The distance to the object is also given as numerical value.



### Supported lenses

Angénieux Optimo DP 25-250	<i>connected to the monitor through RS232</i>
Arri/Zeiss Ultra Prime LDS Arri/Zeiss Master Prime Arri/Zeiss Master Anamorphic Arri/Fujinon Alura lightweight zoom	<i>through the SDI outputs of Arri Alexa SUP 7 (and up)</i>
Cooke 5/i Cooke S4/i Cooke mini S4/i Cooke Anamorphic /i	<i>through the SDI outputs of Arri Alexa SUP 8.1 (and up), or Sony PMW- F3/F5/F55/F65 (hardware &amp; firmware dependent) 5/i &amp; S4/i can also be connected to the monitor through RS232</i>
Fujinon Cabrio series	<i>through the SDI outputs of Arri Alexa SUP 8.1 (and up), or Sony PMW- F3/F5/F55/F65 (hardware &amp; firmware dependent)</i>

### MODULE: ON/OFF

Activates or deactivates the function

### RING: MOBILE/STATIC

Toggles between mobile and static rings display.

### IRIS: DECIMAL/FRACTIONS

Toggles the iris value between decimal and fraction values.

### ZONE: OP+ASSIT / ASSIST / OFF

Available only if a Cooke 5/i is connected to the monitor. The COOKE 5/i is able to light the focus and iris scales on the operator and/or the assistant side.

Selection of the lighted zones OPERATOR + ASSISTANT or ASSISTANT ONLY

### BRIGHTNESS

Adjusts the brightness of the LEDs on a COOKE 5/i lens.

### UNIT

Selection of METRIC or IMPERIAL unit.

### FILM

Selection of 16mm or 35mm.

## FOCUS HELPER

Activates a precise focus helper displaying in-focus zones with colored dots. The focus helper is based on a complex multidimensional digital filter.

The focus helper can be remoted by the User key. The settings must have been previously configured (Press long time User key, then set the function with F1...F4).

### COLOR

Selection of the in-focus zone color.

Red, Green, Blue, Yellow, Magenta, Cyan, Black or White.

### LEVEL

Adjustment of the selectivity of the filter.

OFF, 1 to 9 (9 gives the highest effect)

## FRAMELINE

Enables to displays one locating cross and up to 3 programmable frames with or without center marker and a matting generator.

### CROSS

CROSS ON/OFF	Activation of the cross
COLOR	Selection of the color of the lines
WIDTH	Selection of the width of the lines
V POS	Vertical position of the cross
H POS	Horizontal position of the cross

### FRAME 1...3

FRAME 1...3 ON/OFF	Activation of the frame
CENTER ON/OFF	Activation of the center cross
COLOR	Modification of the color of the frame
DOT	Modification of the structure of the frame
SEND TO CENTER	Sends the frame to the center of the screen.
V SIZE	Size of the frame (bottom part is moving)
H SIZE	Size of the frame (right part is moving)
V POS	Vertical position of the frame
H POS	Horizontal position of the frame
V ZOOM	Vertical homothetic modification of the frame
H ZOOM	Horizontal homothetic modification of the frame

### SEND ALL TO CENTER

Sends all frames to the center of the screen.

### BCKGND COLOR (Matting Generator)

Selects the background color outside of the frames.

## HORIZON

Displays a color coded electronic leveler on screen.

### SENSOR

Toggles between internal and external sensors

HORIZON	Internal sensor
HORIZON 2 <sup>(1)</sup>	Internal sensor with compensation of acceleration and shocks (gyro)
WIRELESS HORIZON <sup>(2)</sup>	Uses the wireless Transvideo VirtualHorizon3™
BETZ <sup>(3)</sup>	Uses external electronic bubble designed by BETZ Tools

### DISPLAY: NORMAL / REVERSE <sup>(4)</sup>

Toggles the action of the horizon, normal or reversed.

### RANGE <sup>(4)</sup>

Sets the range of the horizon

HORIZON	+/-5°, +/-10°, +/-22°, +/-45°, +/-90°
HORIZON 2	+/-2°, +/-5°, +/-10°, +/-22°, +/-45°, +/-90°
WIRELESS HORIZON	+/-2°, +/-5°, +/-10°, +/-22°, +/-45°, +/-90°

### STYLE

Displays the Horizon on the monitor and selects the style of the virtual horizon (6 different models).

### 0 CAL <sup>(4)</sup>

Sets the horizon to 0. A temporization of 5 seconds allows the user to stabilize the position of the system. Pushing the rotating knob during calibration exits from the timing.

### 0 CAL ON TAP: ON/OFF <sup>(4)</sup>

Activates or deactivates the Cal-on-Tap functionality.

When activated, tap on screen or on Transvideo logo to zero calibrate the horizon.

### 0 CAL ON TAP THRESHOLD <sup>(4)</sup>

Adjust the threshold level of the Cal-on-Tap.

Level 4 requests a tough tap to trigger the 0 CAL, while level 1 requests a soft tap.

### POSITION

Allows the user to place the tool in different position of the screen.

When USER is selected, use arrows and the rotating knob to move the tools.

DEFAULT replaces the tool at the factory preset.

- (1) Available only if VirtualHorizon2™ option is implemented in the monitor. VirtualHorizon2 is an optional feature. It can be ordered with the monitor or implemented through an upgrade. Contact us for more information.
- (2) Available only if external bubble VirtualHorizon3™ is connected to the monitor via Bluetooth. The monitor needs to be equipped with a Bluetooth module (option). Contact us for more information.
- (3) The BETZ sensor is an external electronic bubble designed by Betz-Tools. It needs to be connected to the monitor through J001 connector with a specific cable. Transvideo does not support this third party equipment.
- (4) Not applicable with BETZ sensor.

## LIMITS

Safety levels can be displayed as false colors in the picture. These levels and clippings are set in this menu.

Safety levels can also be displayed in the measurement tools, activated in MENU / TOOLS / MEASUREMENTS.

### MAX LEVEL

Sets the maximum level (White). Adjustment goes from 100 IRE to 109 IRE

All information over the limit will be displayed in **red** on measurement tools and/or on the picture.

### WHITE CLIPPING

Sets the top clipping level (White). Adjustment goes from 70 IRE to 109 IRE

The upper value is limited by the MAX LEVEL setting.

All information over the limit will be displayed in **orange** on measurement tools and/or on the picture.

### BLACK CLIPPING

Sets the low clipping level (Black). Adjustment goes from -6.9 IRE to 36 IRE

The lower value is limited by the MIN LEVEL setting.

All information below the limit will be displayed in **blue** on measurement tools and/or on the picture.

### MIN LEVEL

Sets up the minimum level (Black). Adjustment goes from -6.9 IRE to 36 IRE

All information below the limit will be displayed in **violet** on measurement tools and/or on the picture.

### SORIN's MARKER

Adjusts the central value of the marker in IRE.

### SORIN's MARKER WIDTH

Adjusts symmetrically the thickness of the marker within the limits of the white and black clipping values.

All information within the Sorin's marker limits will be displayed in **green** on measurement tools and/or on the picture.

### OVEREXPOSURE: ON/OFF

Activates or deactivates the overexposure control on the picture.

The MAX LEVEL and the WHITE CLIPPING are displayed in false colors when activated.

### SORIN'S MARKER: ON/OFF

Activates or deactivates the Sorin's Marker on the picture.

The Sorin's area is displayed in false colors when activated.

### BLACK LIMITS: ON/OFF

Activates or deactivates the black limits control on the picture.

The MIN LEVEL and the BLACK CLIPPING are displayed in false colors when activated.

#### **About the Sorin's marker:**

Sorin Dragoi RSC is a famous Romanian Director of Photography. He suggested this tool, which he is using mainly to check the exposure on skin tone. The Sorin's marker is used to see all light equivalent zones, i.e. to see the 0 stop zone of the picture.

## MEASUREMENTS

Allows different settings for the video measurement tools.

The settings apply to all video measurement tools except the histogram, which represents always the full picture.

### SIGNAL UNIT

Selects the signal measurement unit.

IRE (default unit) or BINARY

### SIGNAL ANALYSIS

Selects 8 bits if the SIGNAL is 8 bits.

Default value: 10 bits

### OVEREXPOSURE: ON/OFF

Activates or deactivates the overexposure zoning on the measurement tools.

### SORIN: ON/OFF

Activates or deactivates the Sorin's Marker zoning on the measurement tools.

### BLACK LIMITS: ON/OFF

Activates or deactivates the black limits zoning on the measurement tools.

### 1 LINE

Displays the measurement of one line selected with the rotating knob.

### 12 LINES

Displays the measurement of a group of 12 lines.

The first line is selected with the rotating knob.

### ALL LINES

Displays the measurement of the whole picture.

### BACKGROUND INTENSITY

Adjusts the overlay transparency behind the measurement tools (when displayed in front of the picture).

### SPOT INTENSITY

Adjusts the brightness of the waveform spot.

### RETICULE INTENSITY

Adjusts the brightness of the waveform reticule.

#### **About 1 - 12 Lines selection:**

The selection of the acquisition zone can be allocated to the "User" key (see chapter "DIRECT FUNCTIONS" section "User").

## TALLY

Tally can be activated via the GPI Sub-D9 or ACC Lemo8 connectors or via the camera REC/STOP trigger embedded in the SDI (if any).

Several Tally signals can be used at the same time.

When Tally is connected to the ACC Lemo8 connector, the Tally trigger condition is adjustable in MENU / TECHNICAL / GPI > ACC.

When Tally is connected to the GPI Sub-D9 connector,

- the Tally color (red/green) is adjustable in MENU / TECHNICAL / GPI > FUNCTION #;
- the Tally trigger condition is adjustable in MENU / TECHNICAL / GPI > CONDITION #.

### TALLY ACC

Assigns a specific Tally mode for the ACC Lemo8 connector.

Possible configurations: OFF – ON AIR MODE – CUSTOM MODE

### TALLY GPI

Assigns a specific Tally mode for the GPI Sub-D9 connector.

Possible configurations: OFF – CUSTOM MODE

### TALLY SDI

Assigns a specific Tally mode for the SDI embedded Tally signal.

Possible configurations: OFF – REC MODE – ON AIR MODE – CUSTOM MODE

### CUSTOM MODE

Custom Tally mode selection.

Includes RED DOT, SQUARE, DUAL SQUARE and FRAME\* styles.

### REC MODE POSITION

Allows the user to place the tool in different position of the screen.

When USER is selected, use arrows and the rotating knob to move the tools.

DEFAULT replaces the tool at the factory preset.

### LED ON/OFF

Activates or deactivates the TALLY LED on the front panel.

\* FRAME is active on "FRAME3" of the frameline.

## PICTURE FX

### NORMAL

Restores the standard display



### VERTICAL FLIP

Returns the picture vertically



### HORIZONTAL FLIP

Returns the picture horizontally



### PICTURE REVERSE

Returns the picture horizontally and vertically (180° rotation of the picture)



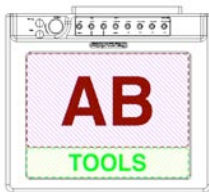
### AUTO REVERSE

Makes a MONITOR REVERSE automatically if the monitor is up side down



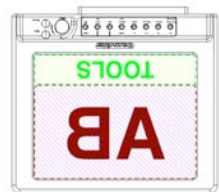
### MONITOR REVERSE

Returns the picture, tools and menus horizontally and vertically



### AUTO FLIP REVERSE

Returns the picture automatically (vertical axis only) if the monitor is up side down



## SCAN

FULL SCAN as default and only value.

## TECHNICAL

### CVBS STD SELECT

Available only when CVBS or ACC input are selected

Sets the video composite standard detection.

AUTO DETECT / PAL BGHID / NTSC 3.58

### NTSC

Available only when CVBS or ACC input are selected

Sets NTSC standards:

NTSC Japan (black 0 IRE)

NTSC US (black 7.5 IRE)

### ACCESSORY

Available only when CVBS or ACC input are selected

Sets the accessory input:

COMPONENT RGB (HD/SD RGB signal with composite synchronization on G)

COMPONENT YPrPb (HD/SD YPrPb signal with composite synchronization on Y)

CVBS (Composite)

### HDMI MODE: CANON/NORMAL

Available when HDMI input is selected

Improves the video standard switching when shooting with a Canon DSLR.

### GPI

Assigns functions and trigger conditions to the ACC Tally pin and to the 4 GPIs.

#### ACC

Set the trigger condition of the Tally activated through ACCessory connector: ACTIVE LOW, ACTIVE HIGH or LIGHT SENSOR \*.

#### FUNCTION #

Assigns a function to the pin # of the GPI connector (J002)

Available functions: NONE, TALLY RED, TALLY GREEN, ZOOM, HORIZON, SWITCH INPUT, FOCUS HELPER, EXPOSURE

#### CONDITION #

Sets the trigger condition of the function #

Available conditions (depending on the function): NOT ACTIVE, FALLING EDGE, RISING EDGE, LOW STATE, HIGH STATE, LIGHT SENSOR \*

\* *LIGHT SENSOR is a special trigger for Tally activated though a light sensor placed in front of the camera Tally light. LIGHT SENSOR trigger is set to 1.9v DC*



## VOLTAGE ALARM

### **VOLTAGE DISPLAY: ON/OFF**

### **FUEL READER (Anton-Bauer): ON/OFF**

Displays constantly the input voltage from the power supply or the battery.

When a Logic Series Digital battery from AntonBauer is detected, the Fuel Reader also gives to the user the remaining percentage of the battery and the time to run (see page 8).

### **UNIT**

Toggles between Volts, Percent and Minutes (percent and minutes only available with the FuelReader).

### **ALARM**

When activated the battery pictogram is displayed in red if the voltage of the power supply goes under the threshold setting.

### **ALARM THRESHOLD**

Sets the threshold value.

Under this value a security alert can inform the user when it is time to swap the battery on the monitor.

### **POSITION**

Allows the user to place the tool in different position of the screen.

When USER is selected, use arrows and the rotating knob to move the tools.

DEFAULT replaces the tool at the factory preset.

## REVERSE SCROLLING

Reverses the scrolling direction in the menus.

## EXIT TEMPO

Sets of the automatic exit temporization from SLOW to FAST

## LIGHTS

### **KEYBOARD**

Activates or deactivates the keyboard light (if available on the monitor). In AUTO, the keyboard light turns automatically on when a key is pressed.

### **KEY DIMMER**

Dimming of the brightness of the keyboard light.  
It is possible to switch off completely light.

### **LED DIMMER**

Dimming of the brightness of the power led.  
It is possible to switch off completely the led.

## **MEMORY**

### **MEM 1 ... MEM 4**

4 user memories per input are available to save user's configurations.

#### **SAVE**

Saves the current user set-up in the memory.

All configuration except INPUT SEL is stored in the memory, including picture and tools settings.

#### **RECALL**

Recalls the settings stored in the memory.

The standard settings a factory loaded in this memory, they will be replaced at the first SAVE from the user.

### **PRESET**

Sets the default values in the setting registers.

PRESET does not erase the user presets.

#### **PRESET ALL INPUTS**

Presets the active input and other inputs of the monitor.

#### **PRESET SELECTED INPUT**

Presets the active input only

# SERVICE & MAINTENANCE

## General

Please read carefully the chapter "TRANSVIDEO EQUIPMENT LIMITED WARRANTY" about the Transvideo S.A. warranty on the equipment described in this manual.

For repairs contact Transvideo S.A. or its local representative or use the RAN procedure in the chapter "SERVICE & MAINTENANCE", section "Product Return".

## Useful tips

### Cleaning

The painting of the CineMonitorHD is resistant to general cleaners and solvents. Do not use abrasive products to clean your product.

The front glass is a high quality optical part. A metallic multi-layers vacuum deposit makes the anti-reflection coating. Do not use abrasive or acid cleaners. The microfiber cloth delivered with the CineMonitorHD is strongly recommended to clean the glass. Remove dust and particles of the glass before using the cloth. No liquid is normally necessary. If there is some dirt on the screen, it is possible to remove it with clean warm water.

The microfiber cloth collects grease particle in its structure. It is necessary to wash it when necessary with water and soap.

The microfiber cloth is orderable as spare part (refer to your local Transvideo dealer in case of need).

### Full reset

If needed, a full reset of the monitor may be performed as follows:

- ① Connect the monitor to a power source (monitor off).
- ② Press the adjust (ADJ) key
- ③ Switch on the monitor while keeping pressed the "adjust" key until the display shows "FULL RESET"

The monitor is back to its factory default settings. This procedure totally erases all user setup in the memories.

## Hardware, Software and Firmware

Basic monitor information is indicated during the startup on the display:

SOFT	main board software version (microcontroller #1)
FIRMWARE	main board firmware version
HARDWARE	main board hardware version
LOGO	graphical user interface version
LOAD MATRIX	colorimetry version

This information is useful to write down if trouble-shooting becomes necessary.

The complete list of software and firmware versions of all electronic boards may be found in MENU / HELP / MONITOR INFO.

## Updating your CineMonitorHD Evolution

All software and firmware updates are possible by the sole use of a USB key.  
The following procedure sets how to proceed to update your monitor.

***For CineMonitorHD Evolution with Hardware 3.xx and Software 7.xx only.***

### Step 1

Get the last software update package for your CineMonitorHD Evolution.  
An update package is a .zip file that contains softwares and firmwares that are compatible each other. It can be downloaded on our website for registered users by visiting [www.transvideo.eu/support](http://www.transvideo.eu/support). You can also ask it directly to your local Transvideo representative.

### Step 2

Uncompress the .zip using your archive utility software. Then paste **all** the files **at the root** of the USB key.

### Step 3

Plug in the USB key in the monitor by using the mini USB adapter (included with your product) and turn on the monitor.

### Step 4

Go to MENU / HELP and select UPDATE

### Step 5

The update starts. Do not turn off the monitor neither remove the USB key until the update ends.  
Follow the instructions on the screen.

### Step 6

Wait for 2 green leds and restart the monitor.

### Step 7

Go to MENU / HELP / MONITOR INFO and verify that the software and firmware versions match with the update package.

**Comments**

The update duration may vary between 3 minutes and 6 minutes depending of your hardware and files present on the USB key.

During the first startup following an update, the monitor automatically performs a backup of all firmwares and a full reset. It can take several seconds before your monitor reach its normal operation. You can visit our support section on our website for more information regarding monitor updates (registered users only).

**Precaution**

We advise you to format your USB key before an update to avoid hidden files problems. Do not rename files on the USB key.

## Color Calibration

The white point of the monitor is individually calibrated in factory for D65 and D56.

The calibration doesn't need to be performed except after some specific service operation as the replacement of the backlight unit or if you need to match a large inventory of your RainbowHD after hundreds hours of use.

To perform the calibration, you need to send the product to the factory. Fees may apply if needed.

## Product Return

For repairs and technical operation you may return the product to the factory. Please use the following procedure:

① Ask for a RAN (Return Authorization Number)

Log in to our website using your user account and visit the Support section  
[www.transvideo.eu/support](http://www.transvideo.eu/support)

Or contact us by:

Email [service@transvideo.eu](mailto:service@transvideo.eu)

Fax +33 2 3260 1479

Tel +33 2 3232 2761

You will need to provide part number & serial number (found on the back of your product) and to briefly describe the reason for the return.

② Then send the product to the following address:

TRANSDVIDEO  
ZI - Rue Francois Arago  
27130 Verneuil sur Avre  
France

User is responsible for shipping and insurance of the equipment as well as for any damage that may occur during transit.

It is strongly recommended to inform us of the Tracking Number of your shipment and the RAN so we may track your return while in transit.

# SPECIFICATIONS

## Common Characteristics

Inputs / outputs	1 x HD/SD SDI in (BNC) 1 x HD/SD SDI Rclk out (BNC) 1 x CVBS in (BNC) 1 x CVBS out (BNC) 1 x ACC (Lemo8) 1 x mini HDMI in	
Display type	AMLCD	
Pixels	Picture zone 960 x 540	
Latency	Less than 1 frame in 1080i and psf, SD. Less than 1 image in 720p and 1080p	
Color calibration	D65 ITU-R BT.709-5 D56	
Color space	Rec. ITU-R BT.709-5	
Power In / XLR4	XLR4 connector (-1, +4) 10 – 36 VDC	
Power Out / Phoenix 3pts (except 6" and 8" monitors)	1 GND	3 +12V out (500mA max) 4 Connect to GND
ACCessory / Lemo8	1 GND 2 11 to 36V in/out 3 Y/CVBS2/G 4 GND Video	5 Pr/R 6 Pb/B 7 Run (low<0.9v DC, high>3.7v DC) 8 GND Run
J001 / RS232	1 NC 2 RX 3 TX 4 NC 5 GND	6 GND 7 RTS 8 CTS 9 +12V out
J002 / GPI	1 to 4 Input (0 – 18v DC) low<2v DC, high>4.2v DC 7 to 9 GND	
J003 / Hirose HR25	1 RX+ (RS422) / RX (RS232) 2 RX- / CTS 3 TX+ / RTS	4 TX- / TX 5 GND 6 +12V out
Storage temperature	-40°C +80°C	
Operating temperature	-20°C + 55°C	

## List of Standards per Input

<b>3G SDI</b> (SMPTE 424M)	1920x1080p @ 50, 59.94, 60 Hz (SMPTE 425M Level B)
<b>HD SDI</b> (SMPTE 292M)	1280x720p @ 24, 25, 29.97, 30 Hz (SMPTE 296M) 1280x720p @ 50, 59.94, 60 Hz (SMPTE 296M) 1920x1080i @ 50, 59.94, 60 Hz (SMPTE 274M) 1920x1080psf @ 23.98, 24, 25, 29.97, 30 Hz (SMPTE 274M) 1920x1080p @ 23.97, 24, 25, 29.94, 30 Hz (SMPTE 274M)
<b>SD SDI</b> (SMPTE 259M-C)	720x487i @ 60 Hz (SD SDI 525 - SMPTE 125M) 720x576i @ 50 Hz (SD SDI 625 - ITU-R BT.601)
<b>CVBS</b>	NTSC-M, NTSC-J, NTSC 4.43 PAL B/G H I D, PAL M, PAL N SECAM
<b>ACC YPrPb / RGB</b>	720x480i @ 60 Hz (SMPTE 253M) 720x576i @ 50Hz 1280x720p @ 50, 59.94, 60 Hz 1920x1080i @ 50, 59.94, 60 Hz (SMPTE 240M) 1920x1080psf @ 25, 29.97, 30 Hz 1920x1080p @ 23.97, 24, 25, 29.94, 30 Hz
<b>HDMI</b>	720x480i @ 59.94, 60 Hz 720x576i @ 50Hz 720x480p @ 59.94, 60 Hz 720x576p @ 50Hz 1280x720p @ 50, 59.94, 60 Hz 1920x1080i @ 50, 59.94, 60 Hz 1920x1080psf @ 25, 29.97, 30 Hz 1920x1080p @ 23.97, 24, 25, 29.94, 30 Hz

## Specific Characteristics

### 6" HD Monitor SuperBright

<b>Dimensions</b> (l x h x d)	196 x 168 x 65 mm 7.7 x 6.6 x 2.6 inches
<b>Weight</b>	1410g, 3.1lbs
<b>Power Consumption</b>	16W
<b>Contrast ration</b>	Max 600:1
<b>Viewing angle</b>	±80° H, +60/-80° V
<b>Brightness</b>	1000Nits

**8" HD Monitor / 8" HD Monitor SuperBright**

<b>Dimensions</b> (l x h x d)	215 x 190 x 60 mm 8.5 x 7.5 x 2.3 inches
<b>Weight</b>	1710g, 3.8lbs / 1690g, 3.7lbs
<b>Power Consumption</b>	20W / 22W
<b>Contrast ration</b> <b>Viewing angle</b> <b>Brightness</b>	Max 500:1 / 900:1 ±85° H&V / ±80° H, +60/-80° V 450Nits / 1000Nits

**10" HD Monitor SuperBright**

<b>Dimensions</b> (l x h x d)	256 x 227 x 90 mm 10.1 x 9.0 x 3.5 inches
<b>Weight</b>	2710g, 6.0lbs
<b>Power Consumption</b>	31W
<b>Contrast ration</b> <b>Viewing angle</b> <b>Brightness</b>	Max 600:1 ±80° H, ±65° V 1000Nits

**12" HD Monitor SuperBright**

<b>Dimensions</b> (l x h x d)	298 x 255 x 90 mm 11.7 x 10.0 x 3.4 inches
<b>Weight</b>	3500g, 7.72lbs
<b>Power Consumption</b>	34W
<b>Contrast ration</b> <b>Viewing angle</b> <b>Brightness</b>	Max 600:1 ±80° H, +60/-80° V 1000Nits

**15" HD Monitor SuperBright / 15" HD Monitor Studio**

<b>Dimensions</b> (l x h x d)	344 x 310 x 91 mm 13.5 x 12.2 x 3.6 inches
<b>Weight</b>	4150g, 9.1lbs / 4290g, 9.44lbs
<b>Power Consumption</b>	52W / 44W
<b>Contrast ration</b> <b>Viewing angle</b> <b>Brightness</b>	Max 650:1 / 700:1 ±80° H&V / ±85° H&V 1000Nits / 350Nits



# TRANSDVIDEO EQUIPMENT LIMITED WARRANTY

Transvideo S.A gives the warranty set forward below.

The limited warranty is only effective upon presentation of your Bill of Sale or other proof of purchase. Transvideo equipment is warranted under normal use, against defective materials or workmanship as follows:

Parts: Defective parts will be exchanged for new parts or comparable rebuilt parts for a period of TWO YEARS from the date of original purchase.

Labor: For a period of TWO YEARS from the date of original purchase, labor will be provided free of charge by our factory service centers or designated service facilities located in country where the product have been purchased, or by the factory.

When returning equipment under this warranty, you must pre-pay the shipping charges, and you must enclose the Bill of Sale or other proof of purchase with a complete explanation of the problem. During your TWO-YEAR warranty period, repairs will be made and the equipment return-shipped to you free of charge. After your warranty period is over, you will be given an estimate of the cost of repair and an opportunity to approve or disapprove of the repair expense before it is incurred. If you approve, repairs will be made and the equipment return shipped to you. (shipping charges apply). If you disapprove, we will return-ship the equipment at no charge to you. (shipping charges apply).

Non-Transvideo brand peripheral equipment and software which may be distributed with Transvideo products are sold "AS IS" without warranty of any kind by Transvideo, including any implied warranty regarding merchantability or fitness for a particular purpose. The manufacturer or producer gives the sole warranty with respect to such non-transvideo brand items

Thereof :

Transvideo shall have no responsibility under this limited warranty for use of Transvideo product in conjunction with incompatible equipment or peripheral equipment.

In order to obtain warranty service, contact the authorized Transvideo retail dealer from whom you purchased the product or contact the factory :

By phone +33 2 3232 2761

By fax +33 2 3260 1479

By email [service@transvideo.eu](mailto:service@transvideo.eu)

You will be directed to the nearest service facility for your product.

If there is no service facility in your region, you will receive a RAN (Return Authorization Number) and instruction to return your product to the factory.

This Limited Warranty covers all defects encountered in normal use of the equipment and does not apply in the following cases:

Loss or damage to the equipment due to abuse, mishandling, accident, improper maintenance, or failure to follow operating instructions;

If the equipment is defective as a result of leaking batteries, sand, dirt or water damage; If defects or damages are caused by the use of unauthorized parts or by service other than our authorized agent.

This Limited Warranty does not cover cabinet (exterior finish).

This warranty does not cover units sold to military operations or avionics. These uses are covered only by such specific warranty as Transvideo may issue with such sales.

This Limited Warranty does not apply to accessories or consumables for the product, which are sold "AS IS", without warranty of any kind by Transvideo.

Please retain this warranty card and your Bill of Sale as a permanent record of your purchase. This card is most important in order to be sure you are contacted right away should there be a safety inspection, modification or product recall under applicable laws or regulations.

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