TOTE VISION®

LCD-703HD Series
High Definition
7.0" TFT LCD Monitor

Model : LCD-703HD (Stand Alone)

Model: LCD-703HD2 (19" Rack Mount unit)

www.totevision.com

The LCD-703HD Series features our completely Digital million pixel TFT LCD high resolution screen, excellent color reproduction. Analog signals are digitized using an advanced 10 bit process with 4x over sampling and adaptive 5 line comb filter plus exacting color space conversion. Video is scaled to fit on screen in the highest resolution using a state of the art Triple gate technology LCD panel that incorporates with precision Gamma correction to product the best images available.

- High Resolution 7.0 inch wide screen 800xRGBx480 Dots with 1.2 million pixels
- Ultra low power consumption using 24 long life LED back light
- Runs 6 hours on optional 2600 MAh rechargeable battery(model: BP-563)
- Durable metal enclosure with VESA and 1/4-20 Mount holes
- Triple gate technology Antireflective/Antiglare coated TFT LCD
- 100% digital processing high resolution scaling of all images
- Analog signals converted to 10 bit digital
- Wide viewing radius - 130° horizontal and 120° vertical provides superior visibility
- 350 candelas per square meter (cd/m²) luminance produces enhanced image quality
- 300:1 ratio of contrast between black and white luminance values with response rates less than 22 ms results in excellent quality for motion images
- Video loss detect, Under scan feature
- 4:3 and 16:9 screen aspect ratios
- Automatic NTSC/PAL format detection
- Standard inputs:
  - Composite Video PAL/NTSC with BNC loop output
  - S-Video IN / OUTPUT
  - DVI INPUT
  - RS-232 and TALLY INPUT
  - HD/SD Component YPrPb with BNC loop out
  - 2.1mm center pin D.C. power jack
- Easy to see three color TALLY indicators
- Blue Screen for color adjustment
- Adjustment Settings Memory
- Includes ¼-20 mounting pad

Display (Viewing Area)	7" (6.0" × 3.6")
Resolution (Pixels)	800 H × RGB × 480 V
Dot Pitch	0.1905mm × 0.1905mm
Brightness (in cd/m²)	350 cd/m²
System	NTSC/PAL auto recognition
Inputs	1 Composite, 1 Component HD/SD in/OUT, S-Video IN/OUT , DVI
Dimensions	6.85"W × 5.24"H × 1.38"D
Approx. Weight	0.7 Kgs(with Remote excluding packing)
Power Consumption	DC 12V 400 mA (run @ 5-20 VDC)

1. Overview

The **LCD-703HD Series** represents a state of art LCD display technology in broadcast and professional video applications. This is a low cost stand alone monitor and is constructed with a VESA holes and 1/4-20 or flanges for 19" Rack mount option.

This unit consumes extremely low power and the monitor can be powered for over 6 hours with a 2600 MAh battery.

The 1.2-million pixel TFT screen has 130 degree viewing angles and incorporates 24 bit completely digital signal processing to provide excellent image reproduction.
All SMPTE/ITU High Definition and Standard Definition digital video standards and signal types are accepted and displayed on this model.

All video formats are scaled to fit on screen in the highest resolution using a state of the art Triple gate technology LCD panel that incorporates with precision Gamma correction. Additional features include, three LED tally, setup memory, Blue Gun, and on screen menu access for all adjustment and selection functions.

Features

High Definition Displays	Capable of displaying more than 1000 TV Lines resolution. Standard definition is internally up converted to High Definition. All signals remain completely digital to provide the most exact images available.
Standard Inputs	• Analog Component YPrPb (3 BNC with loop out) (ITU-BT601/607) • Analog Composite PAL/NTSC Auto Detect (BNC with loop out) (SMPTE170M) • Y/C (S-video) (4 Pin Mini-din with loop out) • DVI
Durable metal enclosure	• Protection for all connections and controls with strategically placed ventilation for use in harsh environments
Display Multiple Screen Formats and Frame Rates	• **720x480-60i , 576-50i, (Interlaced), 720x480-60p , 576-50P, (Progressive)** • **1280x720 - 50/ 60P (Progressive)** • **1920x 1080 - 50/ 60i (Interlaced), 1920x 1035 - 60i (Interlaced)** • **1920x 1080 - 50/ 60P (Progressive)**
Memory Function	Adjustment Settings Memory stored on shutdown and recalled when power is applied
Blue Gun Screen	Use for adjustment to SMPTE color Bars
TALLY (DB-9)	**Three LEDs (Amber,Red, Green) produce 7 different tally indications**
RS-232 (DB-9)	Control by external devices via network

Electrical Specifications

Display (Viewing Area)	7" (6.0"H × 3.6"V) (152.4mm x 91.44mm)
Viewing Angles	130°H x 120°V
Resolution (RGB Dots)	800H x RGB x 480V (1.2 million pixels)
Contrast Ratio	300:1
Gamma	2.2
Luma Linearity	Typical +/− 3% with 5 ire increments (0 to 10 ire)
Dot Pitch	0.1905mm H x 0.1905mm V
Pixel Response	22ms average
Screen Refresh Rate	50/60 Frames per second
Backlight Type / Life	LED / 20,000 to 30,000 Hours Typical
Brightness	350 cd/m²
System	NTSC/PAL auto recognition
Inputs	Analog Component (YPrPb / YCrCb / Y R−y B−y) (3 BNC) Analog Composite (BNC) S−Video (Y/C) (4 pin mini din female) DVI, RS−232/TALLY (DB−9 Female)
Active Outputs Available when power is applied	S−Video (Y/C) (4 pin mini din female)
Passive Outputs Available all the time	Component Video (3 BNC) Composite Video (BNC)

Mechanical Specification

	LCD−703HD	LCD−703HD2	LCD−703HDL
Dimensions (mm)	174x133x35	241x133x35	215x175x35
Approx. Weight(gm)	850	2,000	1,000
Power Consumption	5-20 VDC, Approx. 5 Watts		
Operating Temperature	-20° C to 60° C Ambient		
Storage Temperature	-30° C to 80° C		

Standard Accessories

• Remote Control
• User manual

Optional Accessories

• Custom tote bag, model TB-703
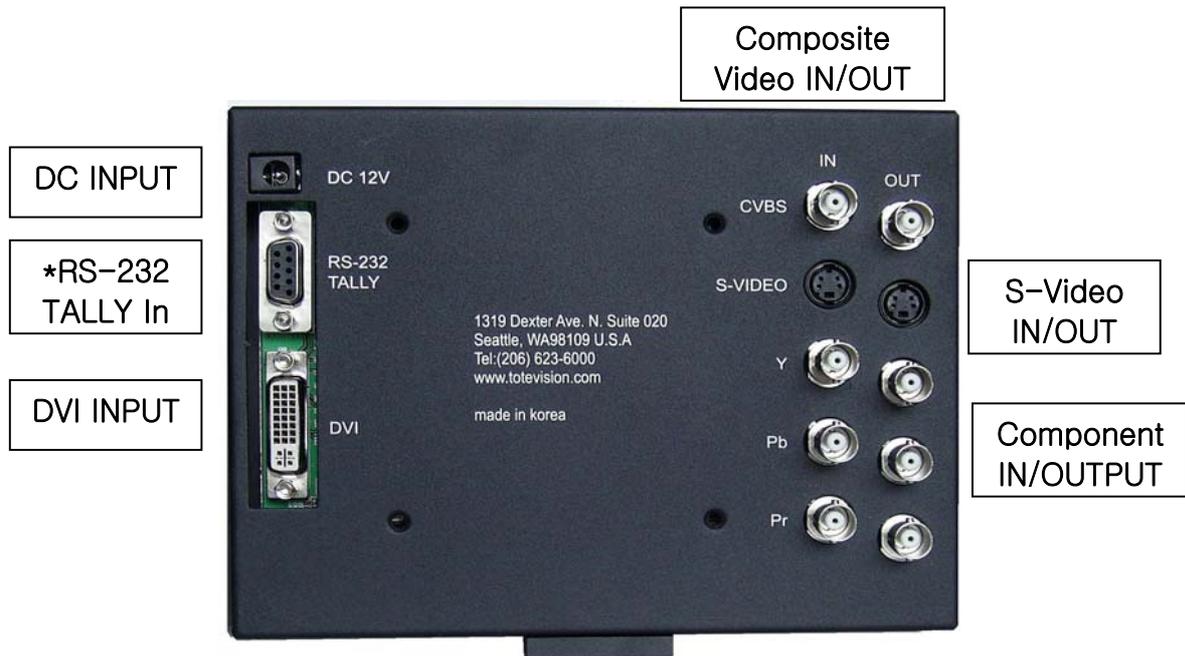
LCD Panel Cleaning

When cleaning the LCD Panel it is very important to use non-abrasive and ammonia free cleaning agents and a clean micro fiber clothe, or cheese clothe. Do not use paper towels. Paper towel fibers are coarse and may scratch the surface of the LCD screen.   Paper towels may also leave streaks on the surface. Antistatic and fingerprint resistant cleaning agents are recommended.

Operational Setup

1. Unpack the LCD-703HD and accompanying remote control.
Physically inspect for any damage that may have occurred during shipping.
Should there be any damage, immediately contact ToteVision at 206-623-6000.

2. Connect required cables for signal input and output.
Please note that power must be applied to the LCD-703HD for the S-Video outputs to be activated.   All BNC connectors should be rated for 75Ω.

3. Plug the power supply into the A.C. source.
Please note that power can be supplied from a variety of DC sources, such as batteries or Vehicle power.   Input power range is 5.0 to 20 Volt D.C.
In operation, the LCD-703HD will draw approx. 0.4 amp. @ 12VDC.

4. Turn on the LCD-703HD by tapping the power switch located on the front of the unit.

5. LED indicate selected signal source. It becomes bright if there is video loss.
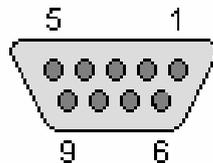
Input Connectors

* Composite Video Inputs comply to SMPTE−170M
* Component Inputs comply to ITU−BT.601/656
* <u>BNC Output always active</u> regardless of Power ON/OFF
* S−Video Outputs active when power is ON.

| DC INPUT |

| Composite Video IN/OUT |

| *RS−232 TALLY In |

| DVI INPUT |

| S−Video IN/OUT |

| Component IN/OUTPUT |

DC 12V

RS-232 TALLY

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made in korea

DVI

IN

OUT

CVBS

S-VIDEO

Y

Pb

Pr

* 9pin D-Sub Connector pin assignment
RS-232 /TALLY   pin configuration

	5	4	3	2	1
RS-232	GND	NC	T/X	R/X	NC

5   1

9   6

	9	8	7	6
TALLY	GND	Green	RED	Yellow

TALLY SYSTEM - The tally system on the LCD-703HD is accessed via the DB-09 connector on the back of the unit labeled 'RS-232/TALLY'. The system works by closing the contacts between the ground pin and the corresponding LED pin. The system is self powered, **DO NOT GIVE POWER TO THE PINS**.

Applicable signal format

Signals	Frames per Second	Aspect Raito	Active Lines	Scanning Method	Input
525-60i	30/29.97	4:3/16:9	483	Interlaced	CVBS, Y/C,YPrPb
480i	60/59.94/50	4:3/16:9	483	Interlaced	CVBS, Y/C,YPrPb
625-50i	25	4:3/16:9	576	Interlaced	CVBS, Y/C,YPrPb
480P	60/59.94/50/30/29.97 /25/24/23.976	16:9	483	Progressive	YPrPb,DVI
720P	60/59.94/50/30/29.97 /25/24/23.976	16:9	720	Progressive	YPrPb,DVI
1035i	60/59.94	16:9	1080	Interlaced	YPrPb,DVI
1080i	60/59.94/50/48/47.96	16:9	1080	Interlaced	YPrPb,DVI
1080P	30/29.97/25/24/23.976	16:9	1080	Progressive	YPrPb,DVI

Switch Settings, Functions and Indicators

CVBS, S-Video, YPrPb and DVI select input source and LED on when active.
Mode : select under scan or normal mode
Note: Tapping any active input signal toggles BLUE GUN On/Off.
      Signal selection is active when Blue Gun is on.
      Tap active selection to turn off.

Model numbers of LCD-703HD Series

LCD-703HD

LCD-703HDL

LCD-703HDX

LCD-703HDL back

LCD-703HD1 (single unit)
LCD-703HD2 (two units)