

MULTI STANDARD CAMERA SYSTEM

9 INCH LCD VIEW FINDER

VF-L90HD

OPERATION MANUAL

Hitachi Kokusai Electric

Declaration of Conformity

Manufacturer's Name: Hitachi Kokusai Electric Inc.
Manufacturer's Address: 4-14-1 Sotokanda, Chiyoda-ku,
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Hitachi Kokusai Electric U.K. Ltd.
Windsor House, Queensgate,Waltham Cross,Herts
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declares, that the product:

Product Name: View Finder
Model Number(s): VF-L90HD

conforms to the following Standards:

EMC: EN 55103-1:2009 class E3
EN 55103-2:2009 class E3

LVD: EN 60065:1998 + Amd1

Supplementary Information:

"The product complies with the requirements of the Low Voltage Directive 2006/95/EC and the EMC Directive 2004/108/EC."

Signature:



K.Enomoto
Senior Manager
Quality Assurance Department II
Quality Assurance Center
Hitachi Kokusai Electric Inc.
Date:2011.09.02



M.Momose
Managing Director
Hitachi Kokusai Electric Europe GmbH

SAFETY INSTRUCTION



ALERT SYMBOL

This is the “Safety Alert Symbol.” This symbol is used to call your attention to items or operations that could be dangerous to you or other persons using this equipment. Read these messages and follow these instructions carefully.

1. IMPORTANT SAFETY INSTRUCTIONS FOR THIS PRODUCT.

- (1) When carrying this product around, please do not give the high impact to the product. It may cause spill liquid from the LCD or damage of the product, explosion, heat and fires.
- (2) Avoid using this product where there are inflammable and explosive substance in the immediate vicinity.

2. POWER SOURCE and SETTING

- (1) A DC voltage ranging from 10.5V to 17V serves as this unit's power supply.
- (2) When removing the connector from this product, must hold the plug then pull out the connector.
- (3) Do not turn the power back on immediately after having turned it off. Do so can cause malfunctioning.

Caution

1. LCD PANEL

- (1) This product may cause the pixel error (bright point, dark point and etc) from the LCD own characteristic.
- (2) Do not touch any liquid crystal which has leaked from the liquid crystal panel.
If the liquid crystal panel has been damaged inadvertently, and the liquid inside (liquid crystal) has leaked out, keep the liquid away from your mouth and skin and do not inhale its vapors. In the event that liquid crystal has made contact with your eyes or mouth, rinse it off with water immediately. If it has come into contact with your skin or clothing, wipe it off immediately with alcohol, and then wash it off with soap. Leaving it in place may damage your skin or clothing.
- (3) Exercise care with the glass of a broken liquid crystal panel.
If the LCD panel has broken, take care not to cut your hands on the glass shards. If you should touch an area where the glass has broken off, you may injure yourself.
- (4) The liquid crystal panel is a high-precision component and, as such, the following care must be taken in its handling.
 - (4-1) Wiping the panel's surface with benzene, paint thinners, etc. will cause a deterioration in its quality.
 - (4-2) If water (salty water) is left on the display surface, discoloration and staining will result.
 - (4-3) Exposing the panel directly to ultraviolet rays for an extended period may cause the deflection

panel to turn brown, in turn causing the contrast to drop and other forms of deterioration to develop in the display quality.

(4-4) Moisture inside the monitor due to condensation, etc. may cause unevenness in the colors.

(4-5) Directly tapping the surface or bumping it into objects may crack the panel, etc.

(4-6) Do not attempt to disassemble the panel since leaking liquid crystal may make contact with your skin, which is hazardous.

(4-7) Please note the handling of the LCD protection panel.

2. As for the following items, it is neither a breakdown nor trouble.

(1) The liquid crystal generate the following states as of the LCD character.

The response time, brightness and the color of the liquid crystal might change depending on the ambient temperature. The content of the display might see irregular brightness, a flicker, a length stripe, and a slight macula.

The flicker might stand out compared with the time of 60Hz and 59.94Hz at the time of 50Hz, 48Hz, and 47.95Hz in the LCD frequency.

(2) An optical characteristic (brightness and irregular display, etc.) changes depending on the operation time. Especially, it changes at the low temperature.

(3) The display color might change by the viewing angle.

(4) The noise might be caused on the start screen.

(5) The afterimage might be generated. Please avoid the display of a fixed pattern of a long time.

(6) The display image in the liquid crystal panel has one frame delayed from the input image.

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Specification

1.General

This product is the nine inches LCD viewfinder for the Hitachi Multi standard camera series.

2.Major specification

Correspondence HDTV camera formats :

1080i (59.94/50),720P(59.94/50)

LCD size: 9 inch 16:9 format

Effective display area: 194mm x 116mm

Maximum display pixel number: 1280(H) x 768(V)

Picture area pixel number: 1280(H) x 720(V)

Dot pitch : 0.1515(W)mm x 0.1515(H)mm

Viewing angle: Up & Down 176°, Left & Right 176°

Color displayed 16,770,000 color (8bit)

Color temperature: 6500 degree K corresponding

Video inputsignal: Analog Y/Pb/Pr

Y: 1.0Vp-p(W/SYNC)/75Ω

Pb, Pr: 0.35 Vp-p/ 75Ω

SYNC signal Separate from Y signal or External SYNC

INPUT power: DC 10.5V~17.0V

Power consumption: Approx. 16W

Dimension : 230(W)×175(H)×86(D) mm not include projection part

Weight: Approx. 1.6kg

Operational Temperature: 0~40°C

Operational humidity Less than 85%RH (No frost)

Display function: Front Tally display (LED)

Red Tally display

Green Tally display

Lens Extender ON display

Waveform monitor ON display

Adjustment function Contrast (White level)

Brightness (Black level)

Peaking

Chroma

The other function: Power ON/OFF, Front tally Switch (H/L/OFF 3 steps)

Marker 1 ON/OFF, Marker 2 ON/OFF

WF ON/OFF

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Name & Function

2.1 In front of the VF-L90HD

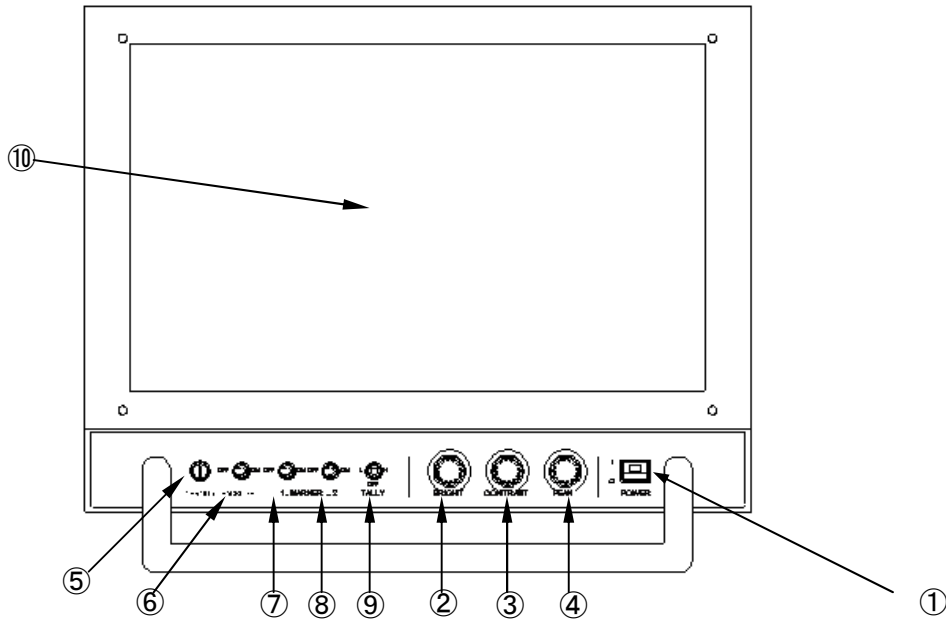


Fig. 2.1 Front view of the VF-L90HD

List 2.1 NAME of the front function

No	NAME	FUNCTION
①	POWER SWITCH	Power On and OFF. POWER ON : Lights the Green LED / POWER OFF : Off the LED
②	BRIGHT VR	Control brightness of the LCD.
③	CONTRAST VR	Control CONTRAST of signal.
④	PEAKING VR	Control PEAKING of picture.
⑤	CHROMA VR	Control CHROMA of picture
⑥	WF Switch	Turn ON/OFF of the Wavewform.
⑦	MARKER Switch 1	Turn ON/OFF of the maker.
⑧	MARKER Switch 2	
⑨	TALLY Switch	Set of the Tally LED brightness (LOW / OFF / HIGH). Condition of the Switch and Tally display as follows. Left : Tally ON (Brightness LOW) Center : Tally OFF Right : Tally ON (Brightness HIGH)
⑩	9 inch LCD	Displaying picture.

2.2 Rear of the VF-L90HD

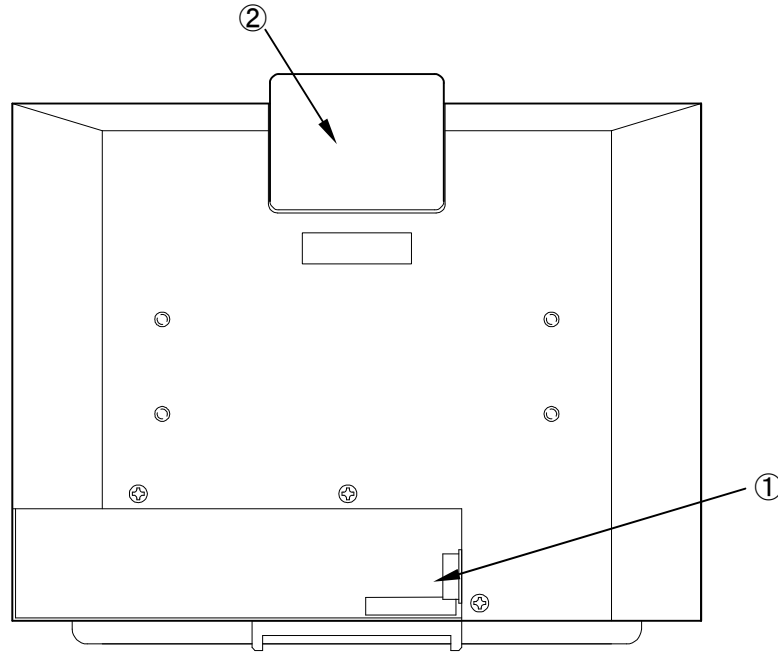


Fig. 2.2 Rear view of the VF-L90HD.

List 2.2 Name of the rear function

No	NAME	FUNCTION
①	Input Connector (※1)	Signal of the connector. Power (DC +12V) / GND Analog Y signal, Pb, Pr SYNC and DATA signal input from camera.
②	REAR TALLY	Lights R TALLY and color is red. Can select brightness by front switch.

(※1) Pin assignment for this input shown as follows.

1	Y VIDEO
2	SHIELD
3	Pb VIDEO
4	SHIELD
5	Pr VIDEO
6	SHIELD
7	SYNC
8	SHIELD
9	N.C.
10	N.C.
11	CPU DATA(IN)
12	CPU DATA(OUT)
13	DATA CLK
14	DATA STRB1
15	DATA STRB2
16	N.C.
17	+12V
18	GND
19	+12V
20	GND

HR10A-13R-20PC

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Operation

3.1 How to connect.

The VF connecting connector (HR10A-13R-20PC) has to connect after confirmed the power switch off the camera to number① of the rear VF-L90HD.

3.2 Operation method

Confirm the connection first then turn the VF power ON after the camera main switch turned on. The POWER LED lights and display picture in the LCD

In case of the no POWER LED lights, check connection of the connector.

No input signal from the camera, black for video area on the LCD and display No Signal with red character.

Input signal format will be detected and set automatically. This format selection can set to fix mode. (selection method at DIP switch setting)

3.3 Operation

Describe the VF-L90HD operation.

3.3.1 POWER switch

- Turn the power ON/OFF. Turn up to ON.
- When turn power ON, Green LED lights in the switch and Green LED off with power off.

3.3.2 WF Switch

- When the switch is turned on, the input image signal waveform is displayed on the monitor screen.
- Dis appears display waveform with this switch OFF.

3.3.3 MARKER1、MARKER2 Switch

- Marker which is generated by in the camera will display in the LCD monitor with this Marker switch ON.
- Dis appears display marker with this switch OFF.

3.3.4 TALLY Switch

- Input R TALLY signal from the camera, display TALLY in the LCD and also lights Rear TALLY LED. This TALLY LED brightness can be set to 3 steps of the OFF, ON (Bright LOW) and ON (Bright HIGH) .

3.3.5 Each adjustment VR

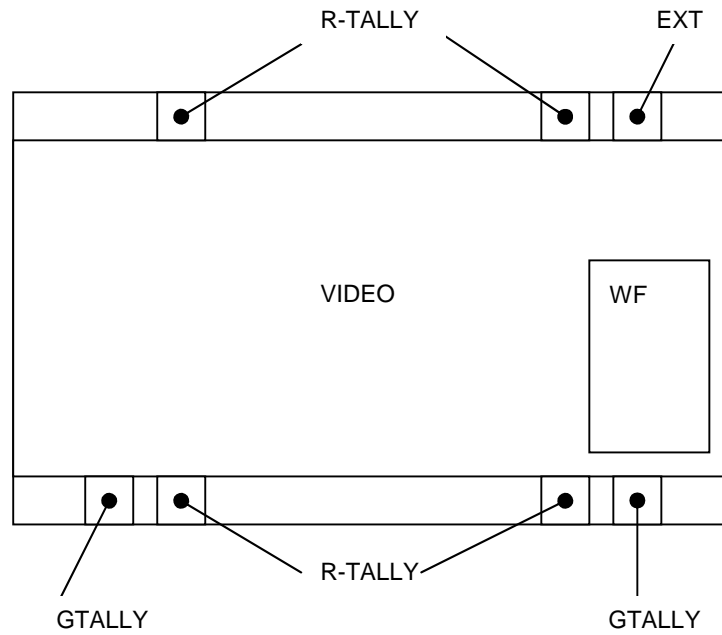
- Adjustment of the each BRIGHT、CONTRAST、PEAK、CHROMA functions are turned by the each function VR.

(The PEAK adjustment can be selected from the CAMERA CONTROL or Local CONTROL by DIP switch in the VF board.)

3.4 Display the LCD

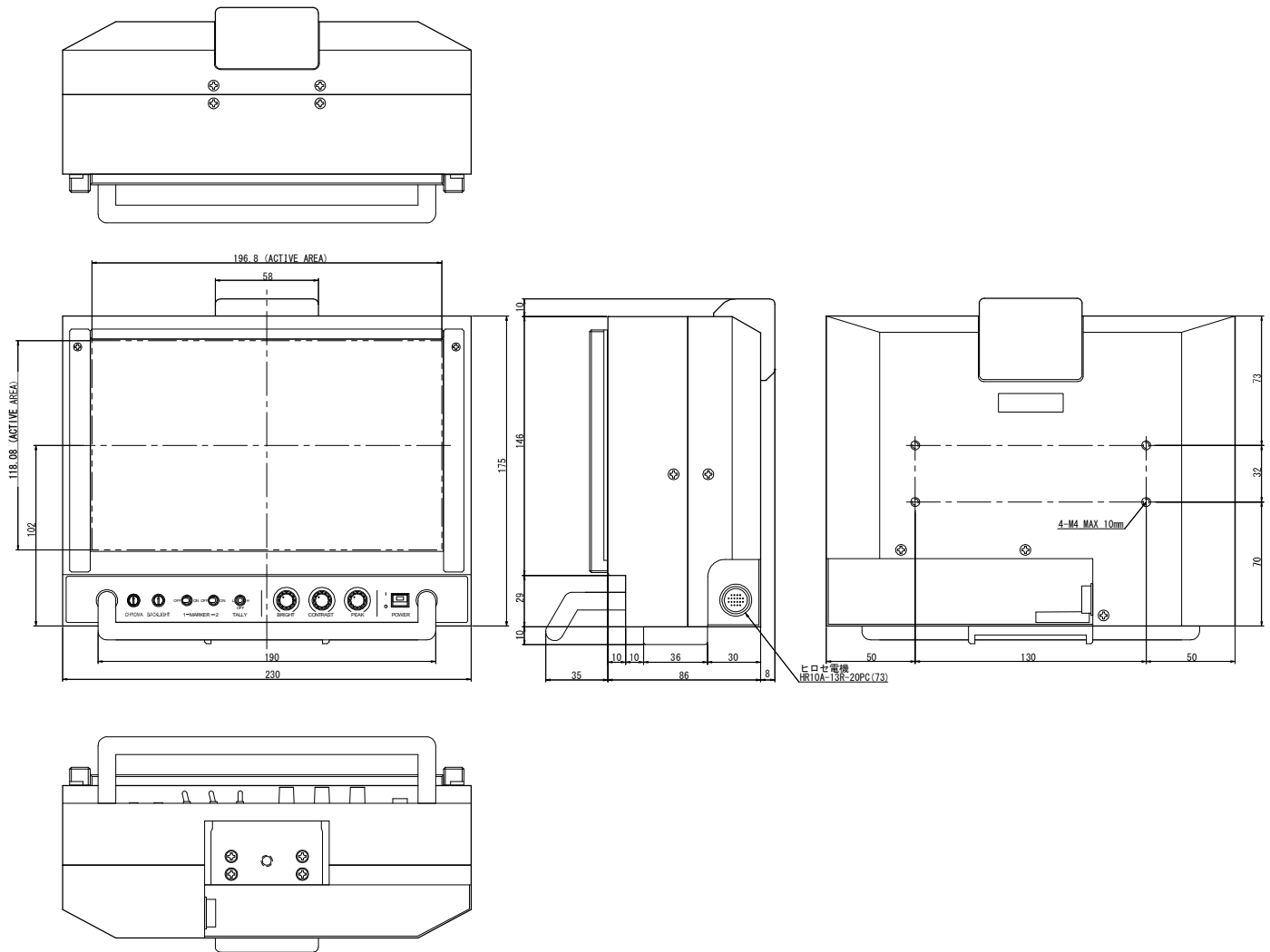
Display R TALLY、G TALLY ,EXT and WF in the LCD.

Size, positioning and color of the display are shown as follows.



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External view



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