



User's Guide

November 2005

LDK 5305/01

5-inch HDTV Viewfinder

Declaration of Conformity

We, Grass Valley Nederland B.V., Kapittelweg 10, 4827 HG Breda, The Netherlands, declare under our sole responsibility that this product is in compliance with the following standards:

- EN60065 : Safety
- EN55103-1 : EMC (Emission)
- EN55103-2 : EMC (Immunity)

following the provisions of:

- a. the Safety Directives 73/23/EEC and 93/68/EEC
- b. the EMC Directives 89/336/EEC and 93/68/EEC

FCC Class A Statement

This product generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instructions, may cause interference to radio communications.

It has been tested and found to comply with the limits for a class A digital device pursuant to part 15 of the FCC rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment.

Operation of this product in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

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Safety Summary

This information is intended as a guide for trained and qualified personnel who are aware of the dangers involved in handling potentially hazardous electrical/electronic equipment. It is not intended to contain a complete list of all safety precautions which should be observed by personnel in using this or other electronic equipment.

The installation, maintenance and service of this equipment involves risks both to personnel and equipment and must be performed only by qualified personnel exercising due care.

Personnel engaged in the installation, operation, maintenance or servicing of this equipment are urged to become familiar with First Aid theory and practises.

During installation and operation of this equipment, local building safety and fire protection standards must be observed.

Before connecting the equipment to the power supply of the installation, the proper functioning of the protective earth lead of the installation needs to be verified.

Whenever it is likely that safe operation is impaired, the apparatus must be made inoperative and secured against any unintended operation. The appropriate servicing authority must then be informed. For example, safety is likely to be impaired if the apparatus fails to perform the intended function or shows visible damage.

This product has been designed and tested according to EN60065.

Cautions and Warnings

When performing service, be sure to read and comply with the warning and caution notices appearing in the manuals. Warnings indicate danger that requires correct procedures or practices to prevent death or injury to personnel. Cautions indicate procedures or practices that should be followed to prevent damage or destruction to equipment or property.

WARNING

THE CURRENT AND VOLTAGES PRESENT IN THIS EQUIPMENT ARE DANGEROUS. ALL PERSONNEL MUST AT ALL TIMES FOLLOW THE SAFETY REGULATIONS.

ALWAYS DISCONNECT POWER BEFORE REMOVING COVERS OR PANELS.

ALWAYS DISCHARGE HIGH VOLTAGE POINTS BEFORE SERVICING.

NEVER MAKE INTERNAL ADJUSTMENTS, PERFORM MAINTENANCE OR SERVICE WHEN ALONE OR WHEN FATIGUED.

IN CASE OF AN EMERGENCY ENSURE THAT THE POWER IS DISCONNECTED.

ANY INTERRUPTION OF THE PROTECTION CONDUCTOR INSIDE OR OUTSIDE THE APPARATUS, OR DISCONNECTION OF THE PROTECTIVE EARTH TERMINAL, IS LIKELY TO MAKE THE APPARATUS DANGEROUS. INTENTIONAL INTERRUPTION IS PROHIBITED.

USE ONLY FUSES OF THE TYPE AND RATING SPECIFIED.

CAUTION

To prevent risk of overheating, ventilate the product correctly.

Connect the product only to a power source with the specified voltage rating.

Cathode ray tubes

Components marked  on the circuit diagram are critical for safety and include those specified to comply with X-ray emission standards for units using cathode ray tubes and those specified for compliance with various regulations regarding spurious radiation emission.

When servicing units that use cathode ray tubes (CRTs), the cathode ray tubes themselves, the high voltage circuits and related circuits are specifically chosen so that they comply with recognized codes pertaining to X-ray emission.

Consequently, when servicing, replace the cathode ray tubes and other parts with specified parts only. Do not attempt to modify these circuits as any unauthorized modification can increase the high voltage value and cause X-ray emission from the cathode ray tube.

Handle the cathode ray tube only when wearing shatterproof goggles and after discharging the high voltage completely.

Symbol	Colour	Explanation
	Red	High voltage terminal at which a voltage, with respect to an other terminal, exists or may be adjusted to 1000V or more.
	Yellow/Black	Live part.
	Yellow/Black	This marking indicates that the operator must refer to an explanation in the Instruction Manual, or that a specific component must be replaced by the component specified in the documentation for safety reasons.
	White/Black	Protective earth (ground) terminal.

About This Manual

Purpose of this manual

The purpose of this manual is to present a global description of how to operate the viewfinder. Consult the user's guide of your camera as required during and after the installation process.

This manual is an integral part of the service policy. It ensures that you will be able to install your viewfinder to meet the requirements of your environment. The manual provides first line service information so that suitably qualified service personnel can detect and repair faults, normally by module replacement.

Because of the complexity of some of the components, second line service can only be carried out at the specially equipped service centres and information concerning second line maintenance is not supplied in this manual.

Intended audience

The manual is intended as a guide to those with a working knowledge of camera systems and installation techniques. The first line detection and repair of faults requires a general knowledge of test and measurement techniques. The guide is so designed that it can be used as well to the viewfinder, as well a simple procedural guide to those who wish to setup and start shooting immediately, and as a reference work to be consulted as required during the long life of the viewfinder.

Service policy

The LDK 5305/01 is a sophisticated viewfinder containing state of the art electronic components which are designed to provide long-life operation without the need for maintenance. With this in mind, the service policy of Grass Valley's endeavours to ensure that help will be quickly on hand in the unlikely event of anything going wrong. The guiding principles of the Grass Valley's first line maintenance philosophy are speed and cost effectiveness. First line maintenance is dedicated to keeping your viewfinder operational, despite a fault, by replacement boards and the replacement of minor mechanical parts by the user.

CAUTION

- ▲ Without additional protection the LDK5305/01 is protected according to safety specification EN60529 up to level IPX3 (spraying water). Exposure to splashing or jetting water can result in harmful effects.

Packing/Unpacking

Inspect the shipping container for evidence of damage immediately after receipt. If the shipping container or cushioning material is damaged, it should be kept until the contents of the shipment have been checked for completeness and the unit has been checked mechanically and electrically.

The shipping container should be placed upright and opened from the top. Remove the cushioning material and lift out the contents.

The contents of the shipment should be checked against the packing list. If the contents are incomplete, if there is mechanical damage or defect, or if the unit does not perform correctly when unpacked, notify your Grass Valley sales or service centre within eight days. If the shipping container shows signs of damage or stress, notify the carrier as well.

If the unit is being returned to Grass Valley for servicing, try to use the containers and materials of the original packaging. Attach a tag indicating the type of service required, return address, model number, full serial number and the return number which will be supplied by your Grass Valley service centre.

If the original packing can no longer be used, the following general instructions should be used for repacking with commercially available materials:

- Wrap unit in heavy paper or plastic.
- Use strong shipping container.
- Use a layer of shock-absorbing material around all sides of the unit to provide firm cushioning and prevent movement inside container.
- Seal shipping container securely.
- Mark shipping container FRAGILE to ensure careful handling.

Storage

The unit may be stored (non-operating condition) in environments within the following limits:

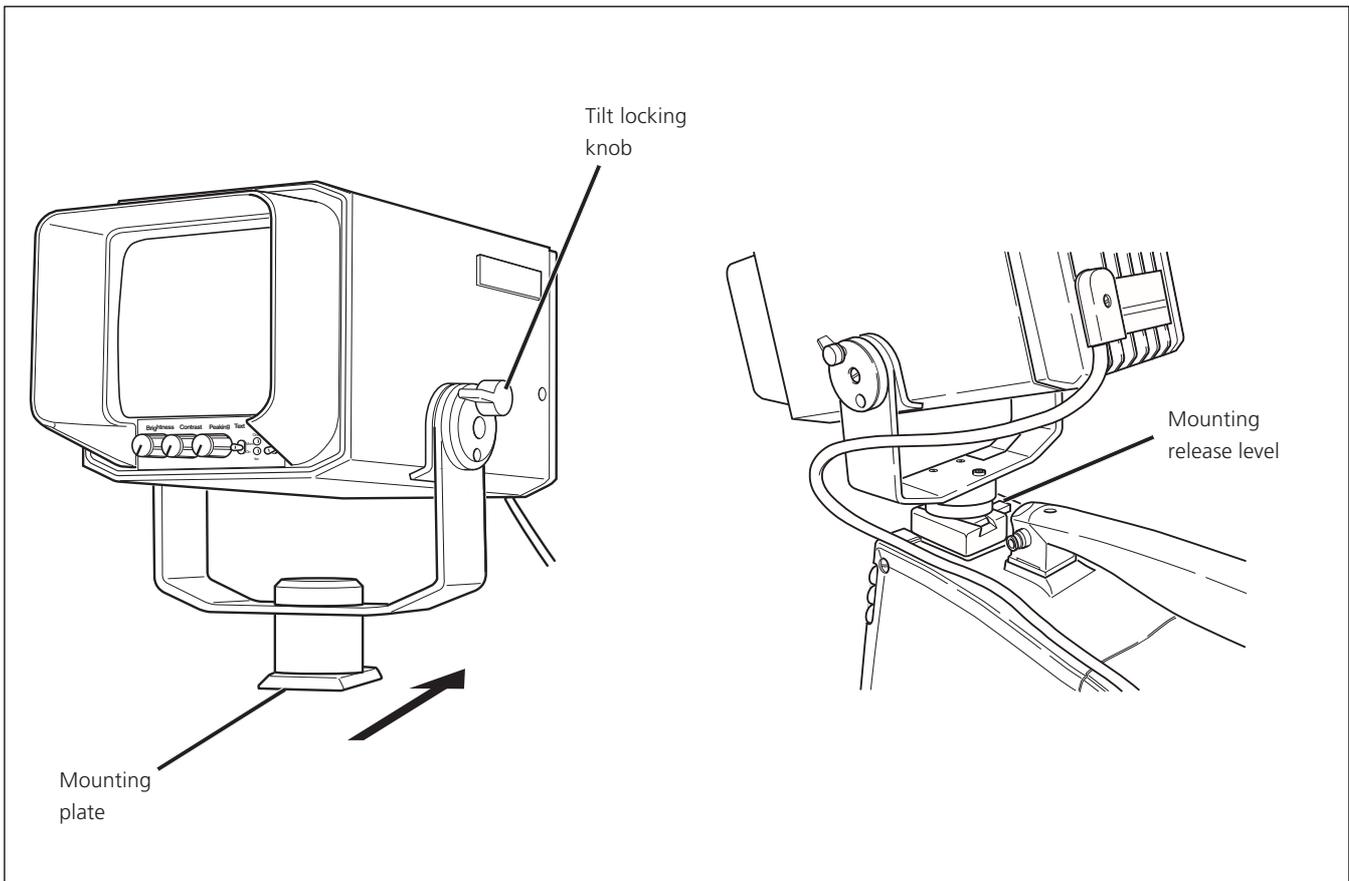
Temperature: -20 to +50 degrees C

Humidity: Up to 90%

Altitude: 50,000 feet

When stored, the unit should be protected from temperature extremes which may cause condensation, and should also be protected from high levels of dust.

Installation



The 5-inch HDTV viewfinder LDK 5305/01 is especially designed for use with LDK HDTV cameras.

CAUTION

- ▲ Before connecting, make sure that the power is switched off.

To mount the viewfinder on top of the camera adapter proceed as follows:

- Slide the mounting plate of the viewfinder into the slot on the camera adapter until you hear it click into place.
- Connect the viewfinder cable to the viewfinder connector on the camera.

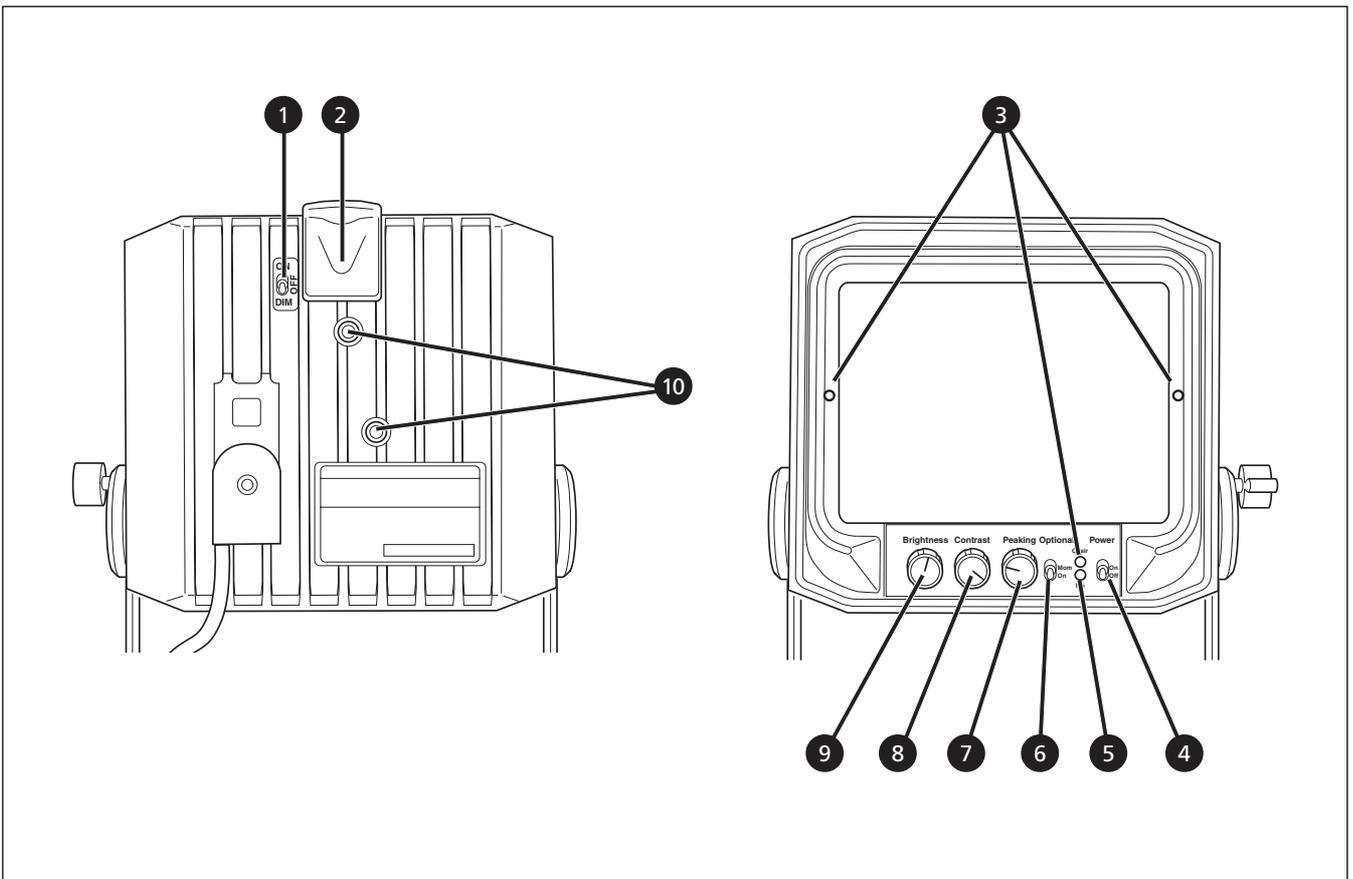
To release the viewfinder push the release lever in and slide the viewfinder out of the slot.

Adjust the 5-inch viewfinder position as follows:

To tilt the viewfinder:

- Loosen the tilt locking knob by turning it counterclockwise.
- Tilt the viewfinder to the desired position.
- Secure the tilt locking knob by turning it clockwise.

You can rotate the viewfinder freely.



1 Front on-air indicator switch

Switches the front on-air indicator on or off, or dims it.

2 Front on-air indicator

Lights to indicate that the camera is on air.

3 On-air indicators

Light to indicate that the camera is on air.

4 Power switch

Switches the viewfinder on and off.

5 ISO indicator

Lights to indicate that the camera is selected and ready to be switched on-air.

6 Optional switch

This switch is mounted on the viewfinder to allow future features to be incorporated.

7 Peaking control

Adjusts the peaking level of the viewfinder videosignal.

8 Contrast control

Adjusts the contrast of the viewfinder display.

9 Brightness control

Adjusts the brightness of the viewfinder display.

10 Camera number attachment slots

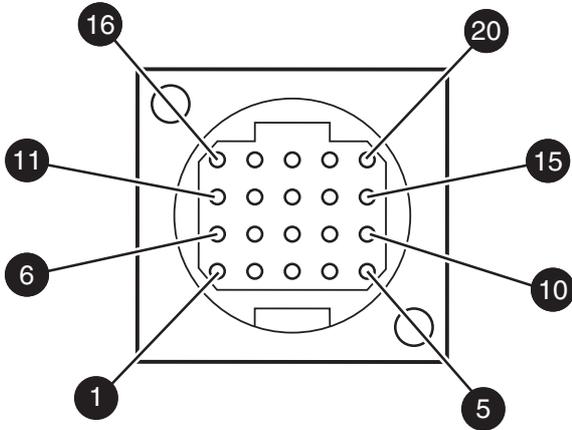
Attach a camera number to these slots.

Picture zoom

The viewfinder picture can be zoomed in about 1.3 times for detail viewing. This function is switched by the camera and can be controlled in the camera 'Install menu'. Please refer to the 'Monitoring Functions' of the camera user's guide.

Please note that when the picture is zoomed in the video signal cannot be switched externally.

Viewfinder connector



Viewfinder Connector, frontview

Note: shield cable to pin marked shield

Hirose 20-pin female, shielded cable

1. -80V
2. n.c.
3. GND
4. INTN-D
5. n.c.
6. n.c.
7. VF video return
8. SDA-D
9. SCL-D
10. n.c.
11. GND
12. VF video
13. n.c.
14. n.c.
15. GND
16. n.c.
17. n.c.
18. n.c.
19. n.c.
20. shield

Specifications

Dimensions

255 x 126 x 135 mm (LxWxH) without sunhood

Weight

approx. 3.1 kg including tilt mechanism

Video input signal

Nom. 1V_{pp} (+3dB/-6dB) VBS
Input impedance 75 Ohm ±5%

Systems

SMPTE 274, 1080i/60
SMPTE 274, 1080i/50
SMPTE 274, 1080p/24 camera processed to psf 1080i/48
SMPTE 296M, 720p/60
SMPTE 296M, 720p/50
Linedoubled 625 lines, 50 Hz, CCIR/PAL
Linedoubled 525 lines, 60 Hz, EIA/NTSC
Aspect ratios 16:9, and 4:3
automatic switching

Power Supply

-80 Vdc nom. (-50 Vdc to -100 Vdc)

Power Consumption

max. 24 W at -80 Vdc

CRT

5" CRT High Resolution type

Linearity and geometry

Distortion: 1.5% within a circle with a diameter of picture height, rest 2%

Resolution (horizontal)

Min. 650 lines in centre of screen at 400 cd/m²

Frequency response

20 MHz within -1dB to +2dB with respect to 0.1 MHz
30 MHz within -3dB

Brightness

Max. 600 cd/m²

Peaking

0 to 12dB at approx. 12 MHz

Environmental conditions:

Operating temp.: -20 to +45 °C
Non-operating temp.: -25 to +70 °C
Operating humidity: 93%

