

# LDK 4016/O5

7-inch SDTV Viewfinder with PIP



## User's Guide

3922 496 48651 St.01

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## Declaration of Conformity

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We, Thomson Broadcast Solutions 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

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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 computing device pursuant to Subpart J of part 15 of 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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**Contents**

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About This Manual .....	1-2	Connectors and Cables .....	1-9
Installation .....	1-3	Dimensions .....	1-10
Operation .....	1-4	Internally Selectable Function .....	1-11

# About This Manual

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## Purpose of this manual

The purpose of this manual is to present a global description of how to operate the viewfinder. Consult the Operator's manual 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 4016/05 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 Thomson Multimedia Broadcast Solutions endeavours to ensure that help will be quickly on hand in the unlikely event of anything going wrong. The guiding principles of the Thomson Multimedia Broadcast Solutions 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 LDK5310 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 Thomson Multimedia Broadcast Solutions 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 Thomson Multimedia Broadcast Solutions 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 Thomson Multimedia Broadcast Solutions service centre.

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

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

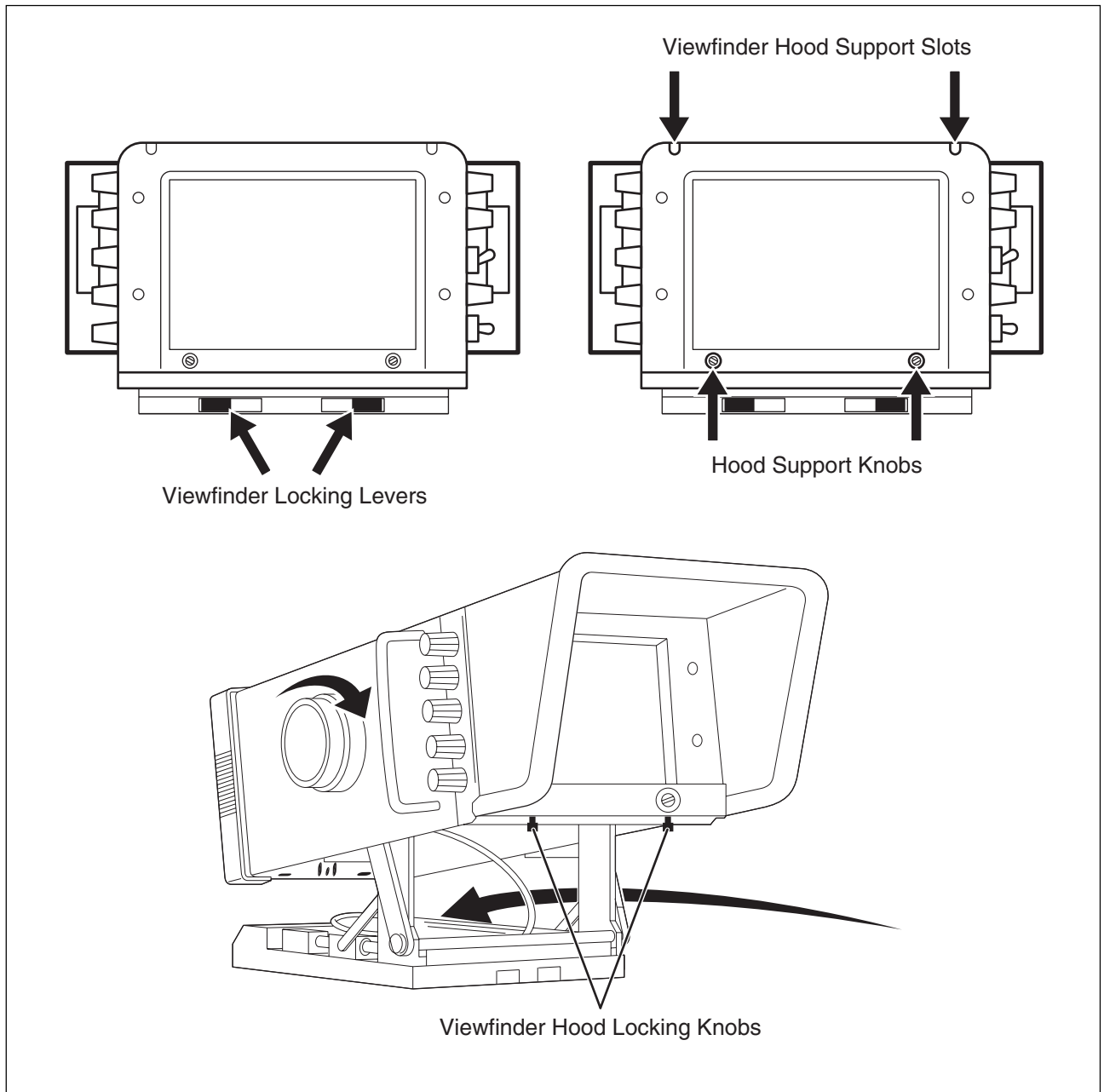
## Storage

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



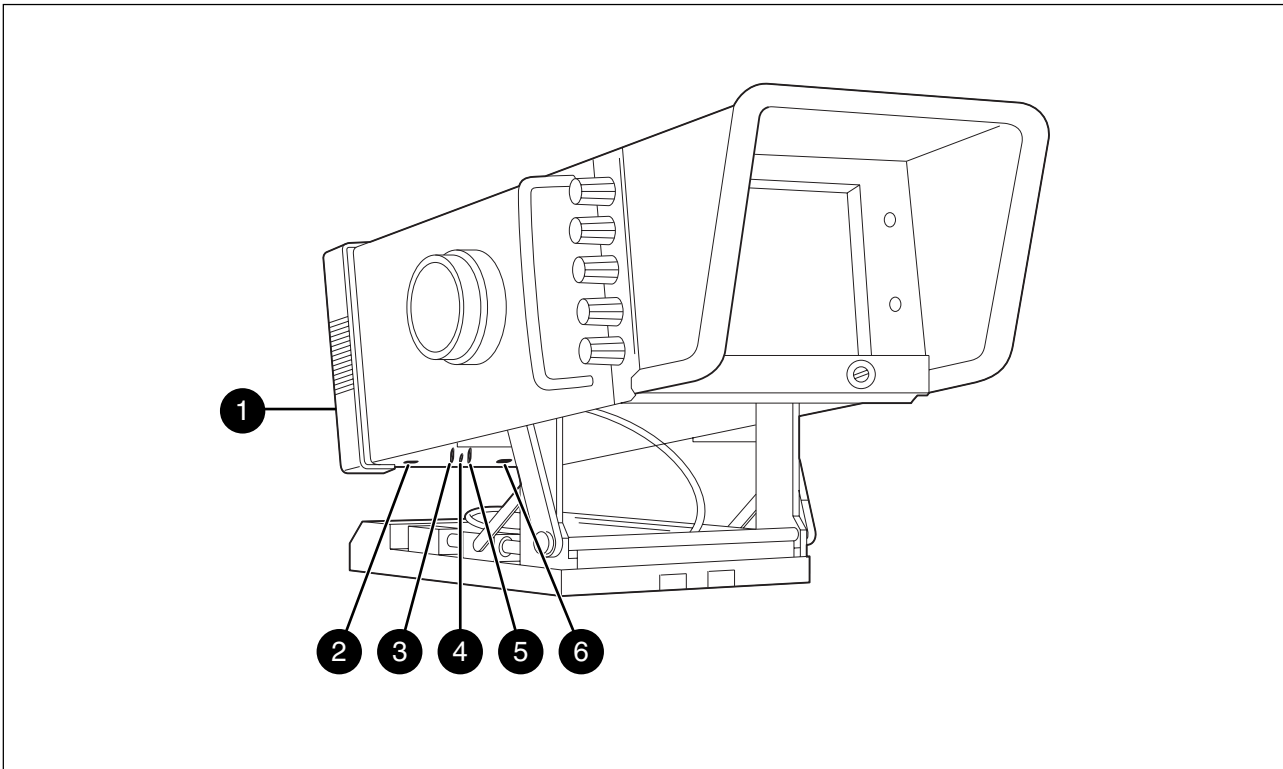
To mount the viewfinder on top of the camera proceed as follows:

- Slide the viewfinder along the rails on top of the camera until it can go no further.
- Push both locking levers inwards and slide the viewfinder until it firmly engages the connector.
- Release the locking levers and ensure they click into the lock position.

To attach the viewfinder hood to the viewfinder proceed as follows:

- Clip the hood onto the slots on top of the viewfinder.
- Swing it down and attach it to the support knobs on the front of the viewfinder by pushing the two hood locking knobs outwards.
- Let go of the hood locking knobs and ensure that the hood clips into place.

### 7-inch Viewfinder



#### 1 Red On-air Lamps

These two red tally lamps on either side of the back of the viewfinder light when the camera picture is on-air.

#### 2 Power Switch

This switch is used to switch the power supply to the viewfinder on and off. The supply to the viewfinder is supplied from the camera. When there is no camera power the viewfinder receives no power even though the power switch may be on.

#### 3 PIP size

This switch is used to switch the size of the PIP signal to 1/9 or 1/16 of the viewfinder picture.

#### 4 Reset button

This button resets the PIP signal to the top left corner of the picture.

#### 5 PIP border

This switch is used to switch the border of the PIP signal on and off. This switch doesn't work in the reverse mode.

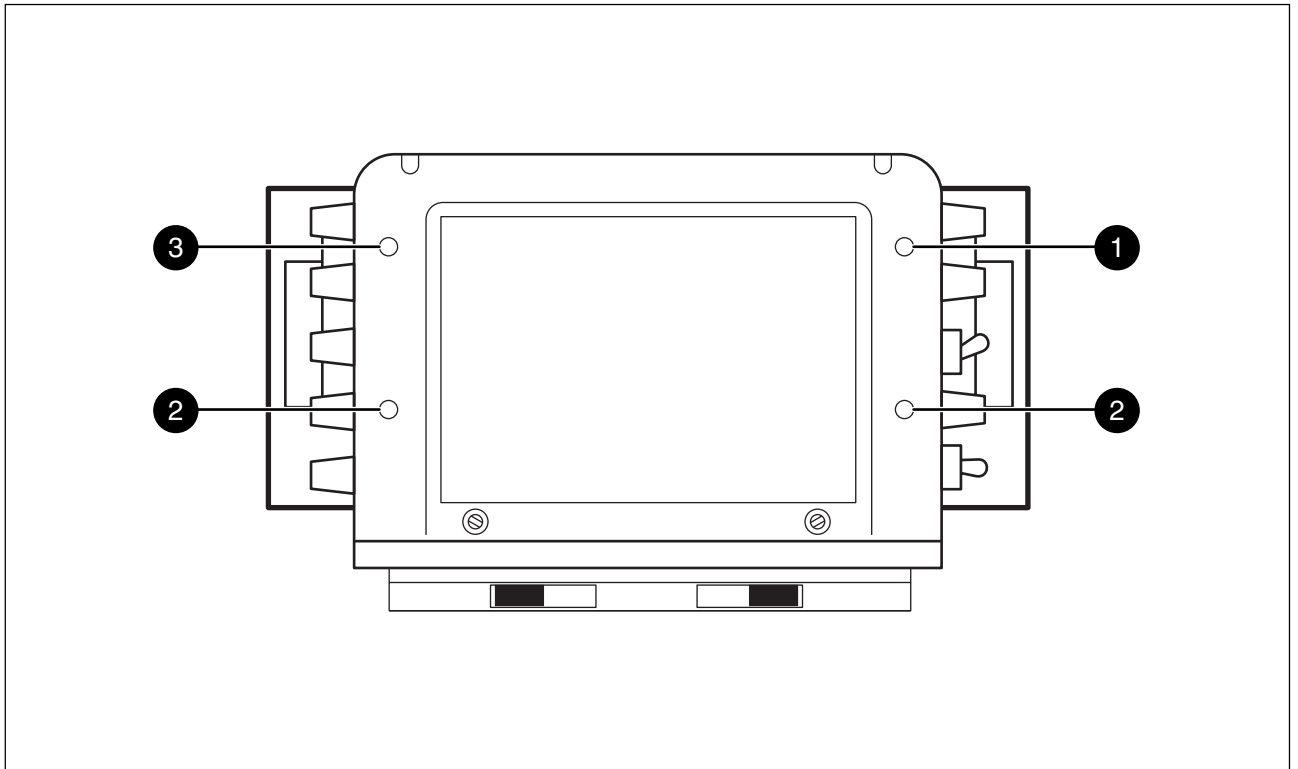
#### 6 Aspect Ratio Switch

This switch changes the aspect ratio of the viewfinder display. The two positions are 4:3 and 16:9 aspect ratios.

If the viewfinder is a part of the LDK 10 camera system, the IIC-bus will be used and switch 3 then is disabled.

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## Front View LED's



### 1 Call LED

This green LED lights to attract the cameraman's attention.

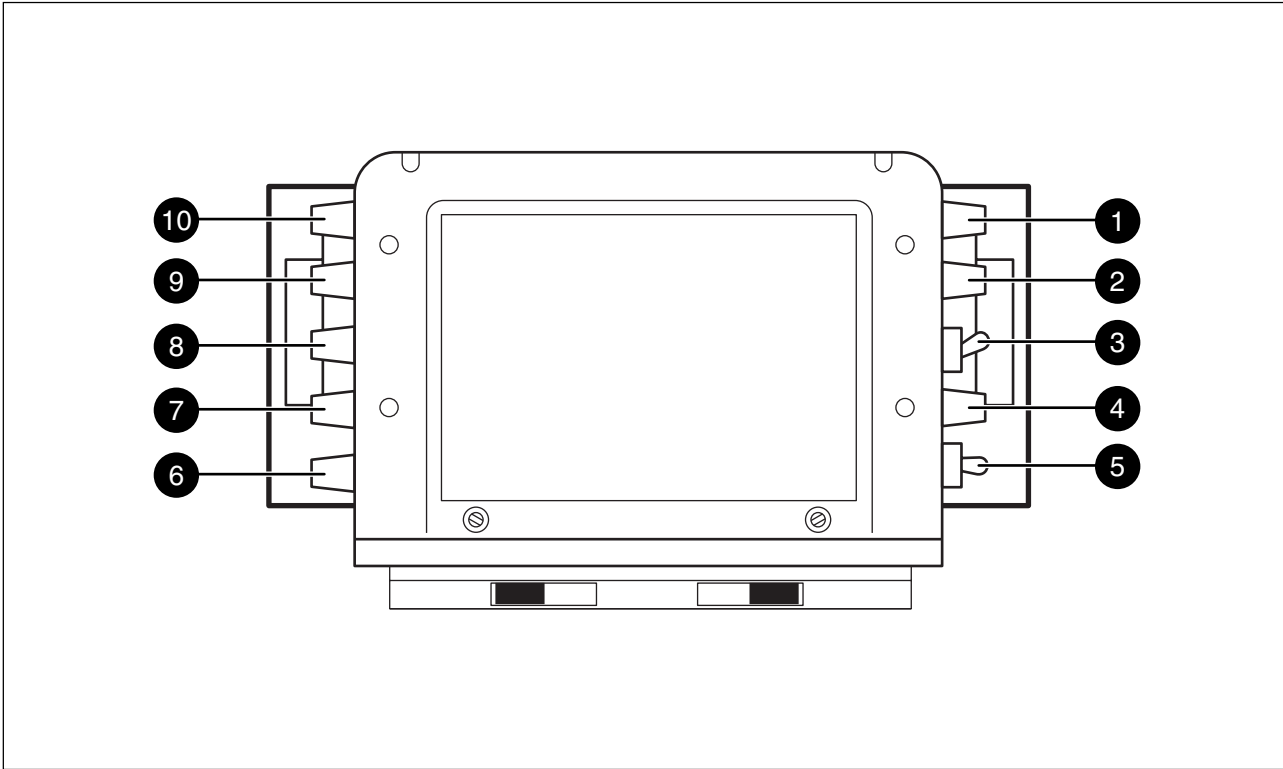
### 3 ISO LED

This yellow LED lights to indicate that the camera signal is being used though not necessarily on-air.

### 2 On-air LEDs

These red LEDs light to indicate that the camera is on-air.

## Front View Switches



### 1 Brightness Control

Controls the brightness of the viewfinder display.

### 2 Aperture Correction Control

This control varies the amount of aperture correction applied to the viewfinder signal when the aperture correction switch is in the ON position.

### 3 Aperture Correction Switch

This switch is used to switch the aperture correction of the viewfinder signal on and off.

### 4 Contrast Control

Controls the contrast of the viewfinder display.

### 5 Picture In Picture Switch

This switch is used to switch on the PIP signal.

### 6 Cursor Frame Selection

Selects the cursor frame mode for display on the viewfinder:

Off	=	Deactivated
#	=	Lines
<input type="checkbox"/>	=	Box
Off	=	Deactivated

### 7, 8 Cursor Line Control

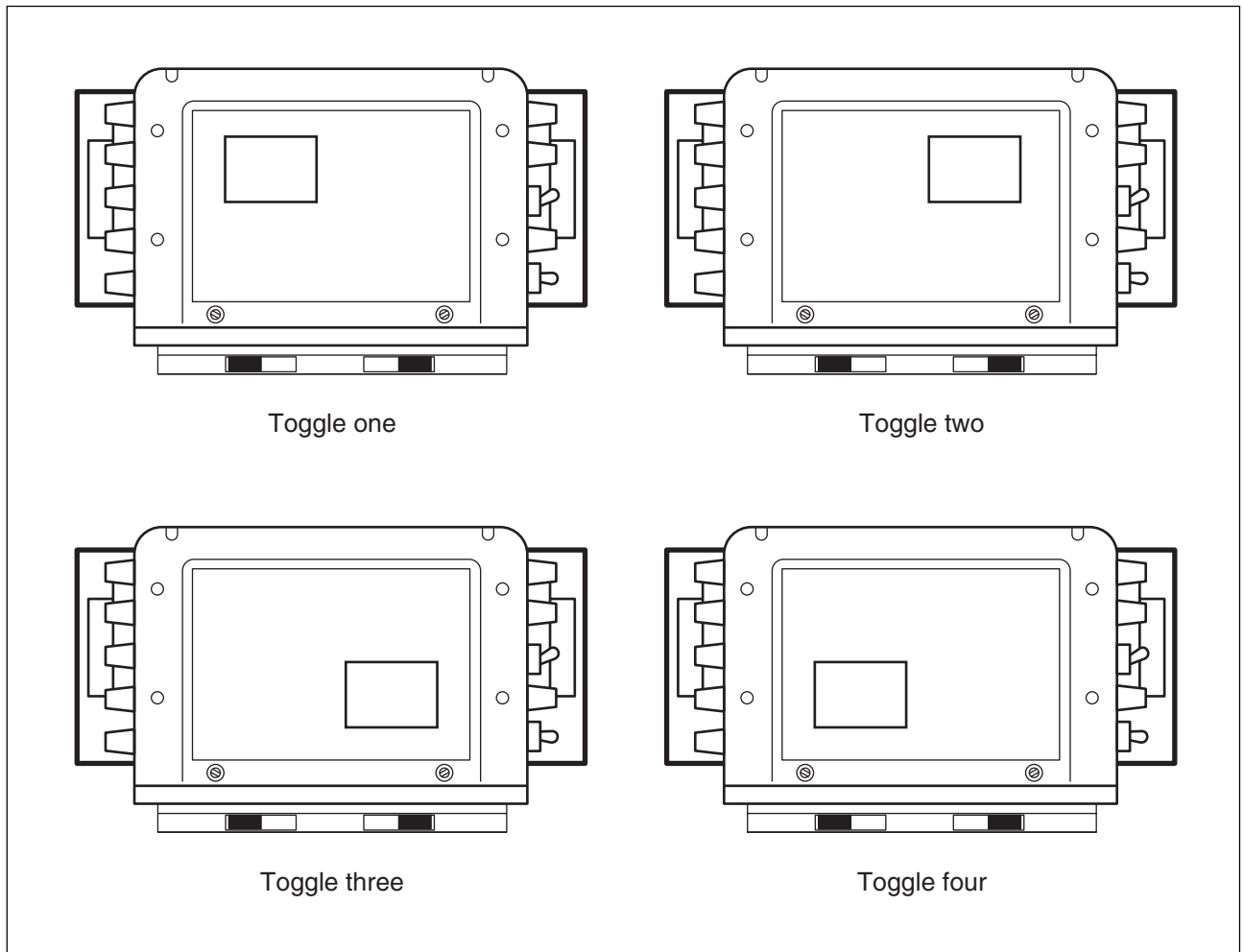
Shifts the horizontal cursor lines in a vertical direction.

### 9, 10 Cursor Line Control

Shifts the vertical cursor lines in a horizontal direction.



## How to use PIP



The PIP signal is controlled by a toggle switch and works as follows:

The first time toggle up gives the PIP signal in the top left corner of the total picture.

The second time toggle up moves the PIP signal to the top right corner of the picture.

The third time toggle up moves the PIP signal to the bottom right corner of the picture.

The fourth time toggle up moves the PIP signal to the bottom left corner of the picture.

The fifth time toggle up moves the picture back to the top left corner of the picture.

Holding toggle up longer then a second switches off the PIP signal.

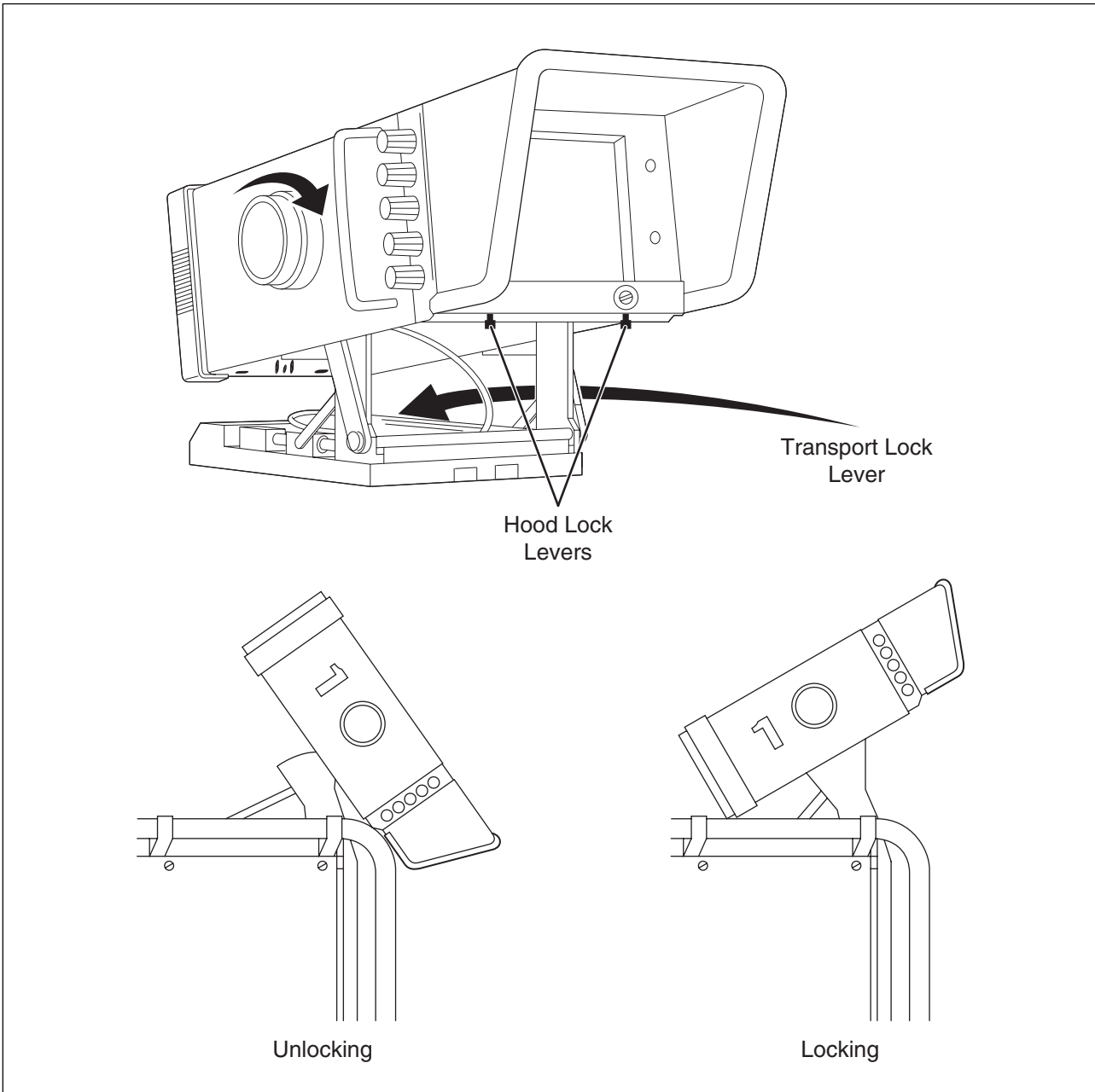
After switching on the PIP signal giving a toggle down switches the PIP in reverse mode. This means PIP signal total view and Camera signal PIP view, which can be recognised on the flashing border of the PIP view.

Toggle down again switches back to normal PIP mode.

**Note:**

When the PIP signal is switched on, the Viewfinder shows the Camera signal and the PIP signal shows the Ext. 1, Ext. 2 or the Y/Ext signal, which can be operated from the Rear Control Panel of the LDK10 Camera.

## Positioning the Viewfinder



### To swing out viewfinder

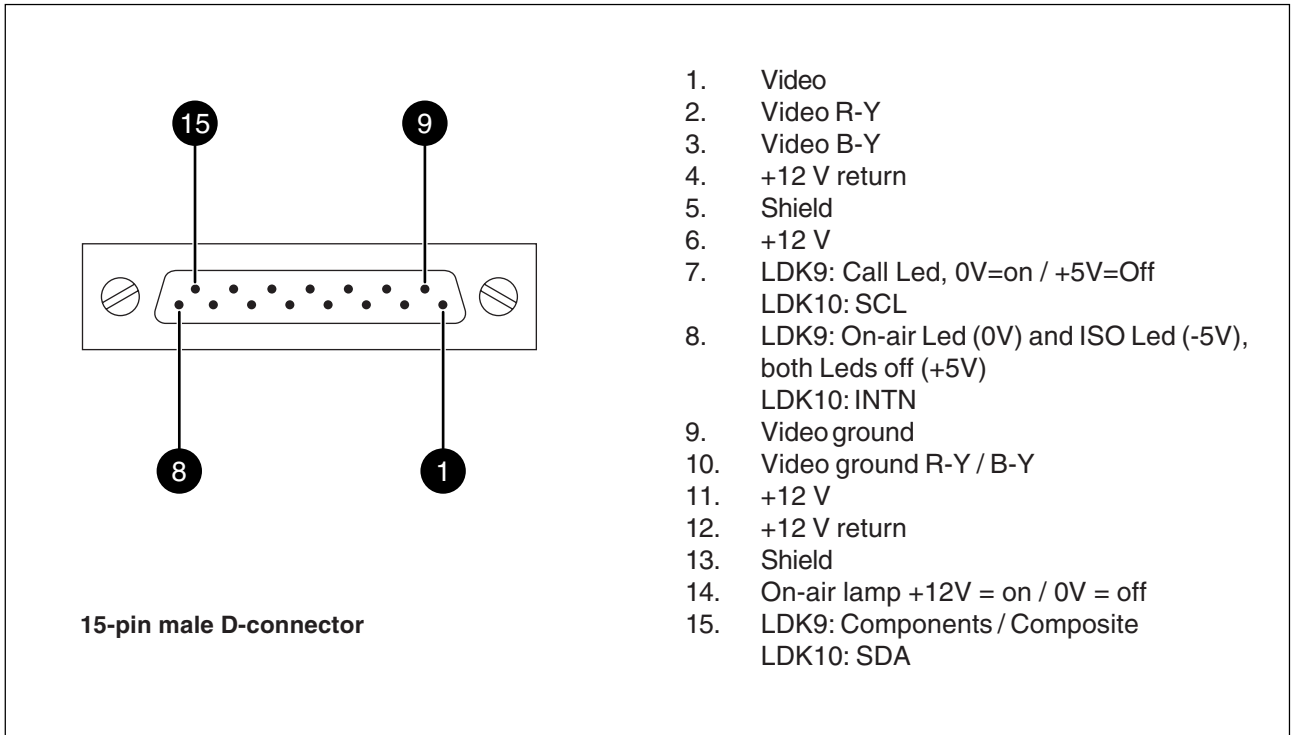
- Unlock the transport lock lever.
- Turn both unlocking knobs marked FIXED/FREE simultaneously in the FREE direction and pull up the back of the viewfinder.
- The viewfinder is now unlocked. Tilt or swing out the viewfinder into the desired position.

### Locking the viewfinder

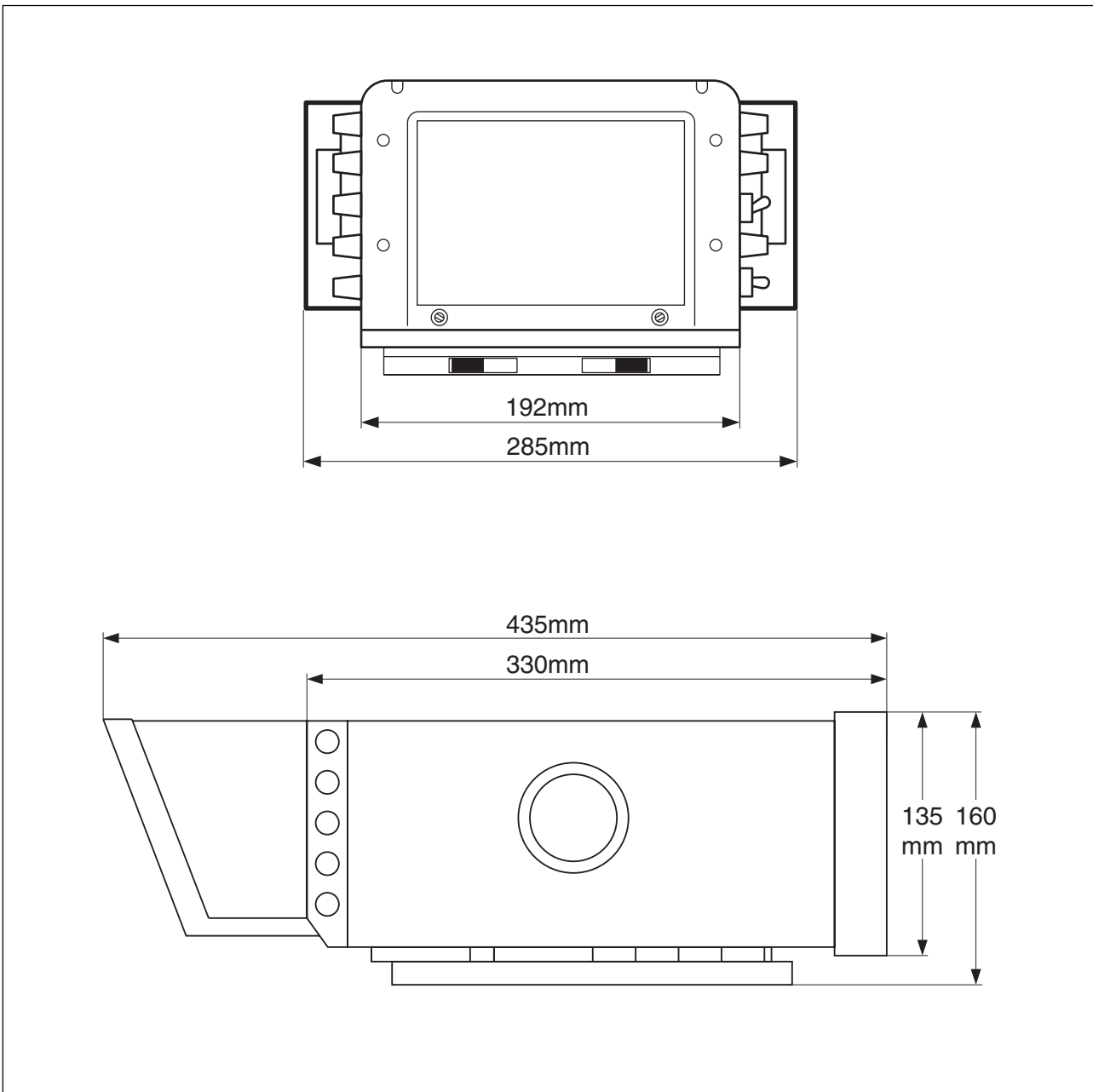
- Rotate the two unlocking knobs marked FIXED/FREE simultaneously in FREE direction and push the back of the viewfinder down all the way.
- Hold the two unlocking knobs in the FREE position and push down the viewfinder until it clicks into place.
- Lock the transport lock lever.

## Connectors and Cables

### Viewfinder Connector

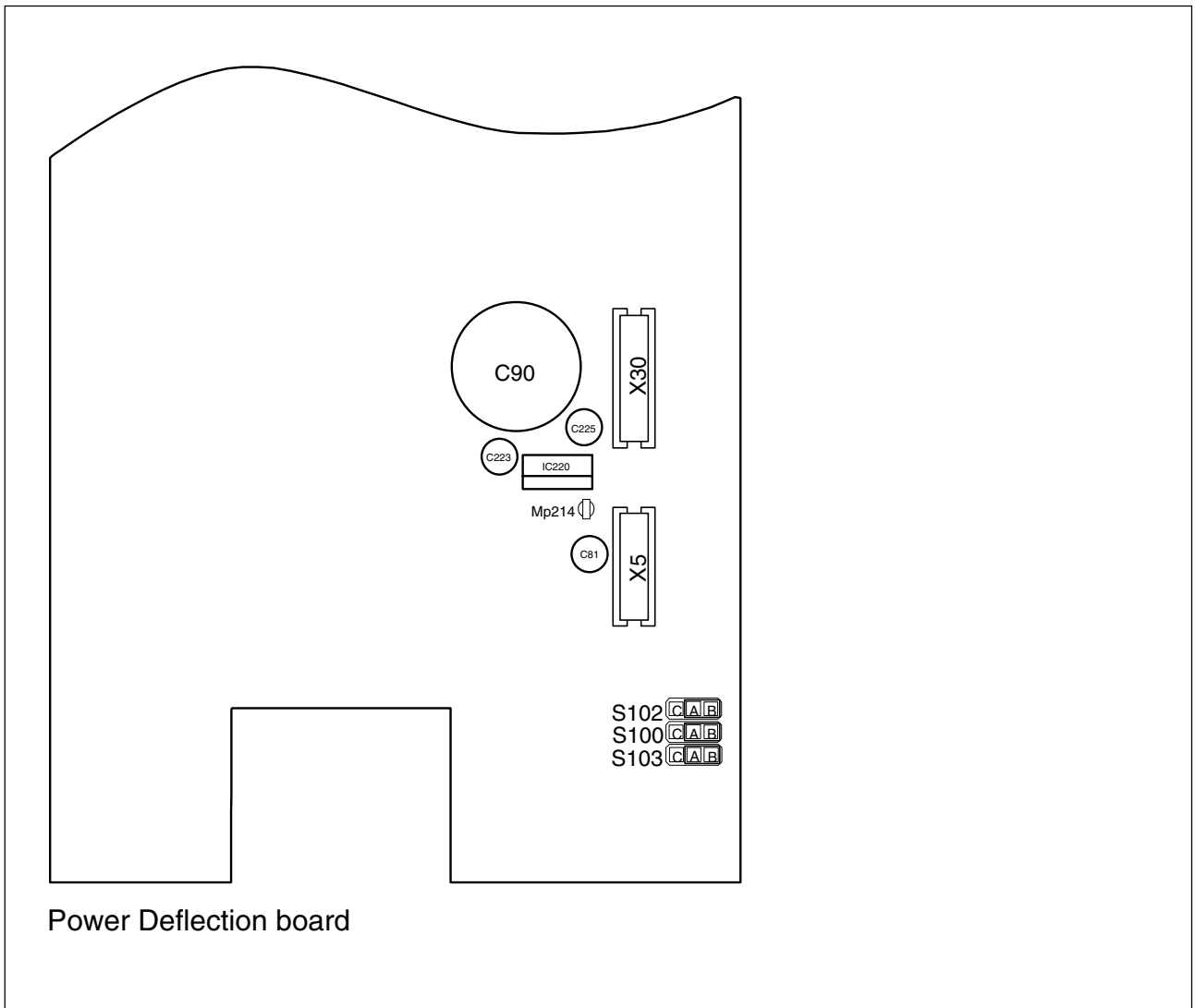


## Dimensions



The weight of the viewfinder is 6.55 Kg.

## Internally Selectable Function



Viewfinder Led indicators and the Aspect-ratio switch can be selected either by the IICbus (LDK10/10p) or Hardwire (LDK9).

For Jumper setting see drawing above.

JUMPERS	LDK 9	LDK 10 / 10P
S100	A-C	A-B
S102	A-C	A-B
S103	A-C	A-B

**Note:** If the viewfinder is a part of the LDK10/10p camera system, and the IIC bus is used, the aspect ratio switch is then disabled.

