LDK 4482

SuperXpander

TH

User's Guide

THOMSON MULTI MEDIA
BROADCAST SOLUTIONS

Declaration of Conformity

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

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

Rear Panel

❶ Optical filter selection

Select the optical filter by touching the appropriate numbered switch.   Switch 1 : Clear filter

          Switch 2 : ND 0.6 filter
          Switch 3 : ND 1.2 filter
          Switch 4 : ND 1.8 filter
          Switch 5 : 4 Point Star filter
          Switch 6 : 6 Point Star filter

The LED in the switch flashes during a change and then lights continuously to indicate the selected filter. (The operation of this switch depends on the user level that has been set for the camera.)

❷ Automatic white balance switch

Pressing this switch starts the automatic white balance process. This switch is in parallel with the AWB switch at the front/left of the camera and operates in the same way.

The LED in the switch flashes during the auto-white process. (The operation of this switch depends on the user level that has been set for the camera.)

❸ VTR switch

When pressed it starts or stops the VTR when the camera is in the local control mode.

❹ LED indicators

CAMERA ON : lights when the camera is receiving power.
REMOTE   : lights when the camera is in the remote control mode.
HEATER   : lights when the lens heater is on.
ON AIR   : the red LED lights when the camera is on air.
               : the yellow LED lights when the ISO signal is activated.

❺ Viewfinder R, G and B switches

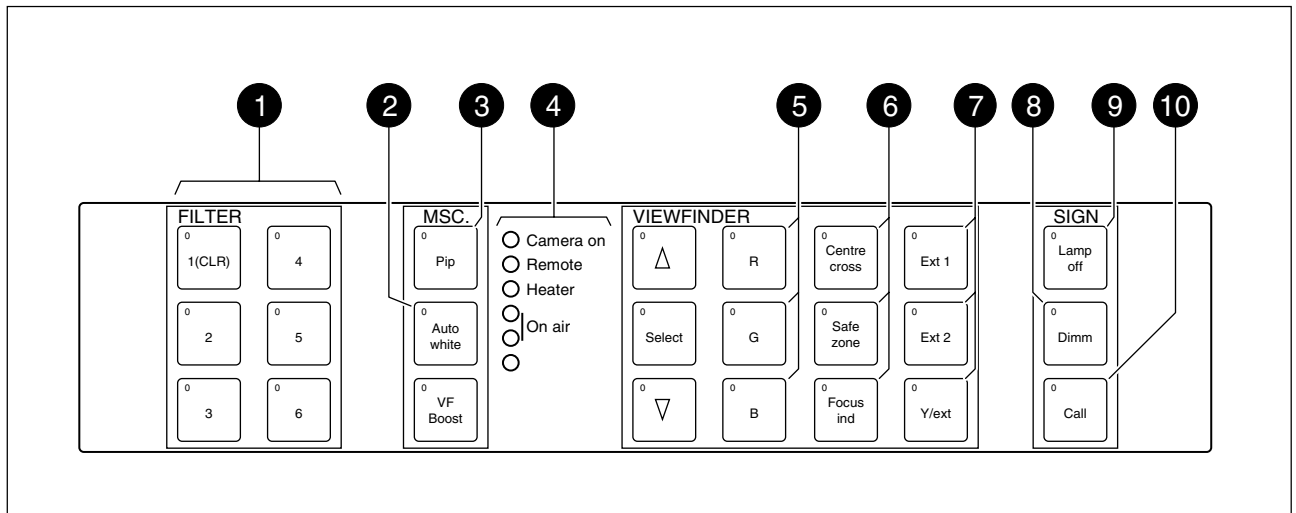Switches the R, G or B signal from the camera for display in the viewfinder. When an R, G or B switch is deselected, the Y or Y + c signal is displayed.

The selection of the Y or Y+c (contours added) signal is carried out in the Vf/Lens \ Vf Inst \ Vf mon menu on camera.

❻ Viewfinder indicators switch

Switches the centre cross, safe area and focus indicators in the viewfinder on and off.

7 **Viewfinder EXT1, EXT2 and Y switches**

Switches the Ext 1 and Ext 2 signal for display in the viewfinder. Ext 1 and Ext 2 are also selectable with the pan-bar switches.

Y/ext on switches a mix of Y and Ext 1 or Ext 2 signal for display in the viewfinder.

Y/ext off switches only Ext 1 or Ext 2 signal for display in the viewfinder.

If no switch is selected the previous signal is displayed (R, G, B, Y or Y+c).

The Y or Y+c (contours added) signal is selected in the Vf/Lens \ Vf Inst \ Vf mon menu on the camera.

Note: Viewfinder and External selection switches on the camera are disabled.

8 **Dim**

Switches the brightness of the on-air lamp on the viewfinder up and down in steps.

9 **On air lamp switch**

If function On air is on you can switch the on air lamp on the lens and 7-inch viewfinder on and off.
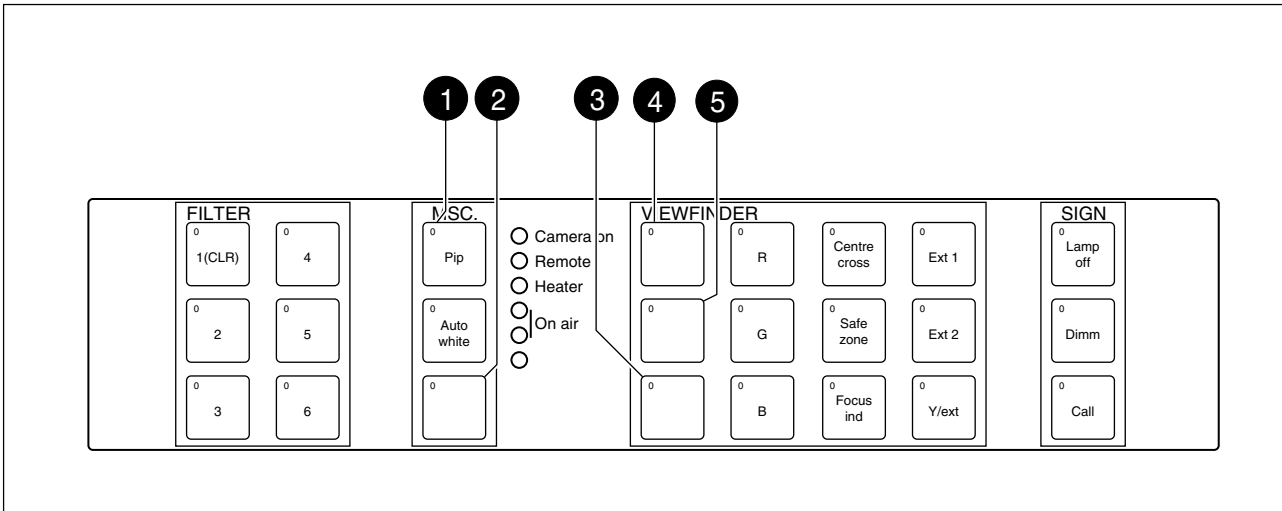
Note:

For function On air see Installation Manual Base Station.

10 **Call switch**

Pressing this switch sends a signal to the control panels calling for attention. An incoming call activates the LED in the switch.

Location of Controls and Functions for HS

Rear Panel

① **Pip switch**

Switches on the PIP signal on the viewfinder screen.

② **VF Boost switch**

This switch is used to add an extra 18dB amplification to the viewfinder contours.
This function can be used as a "focus assist" tool for the camera man.

③ **Down switch**

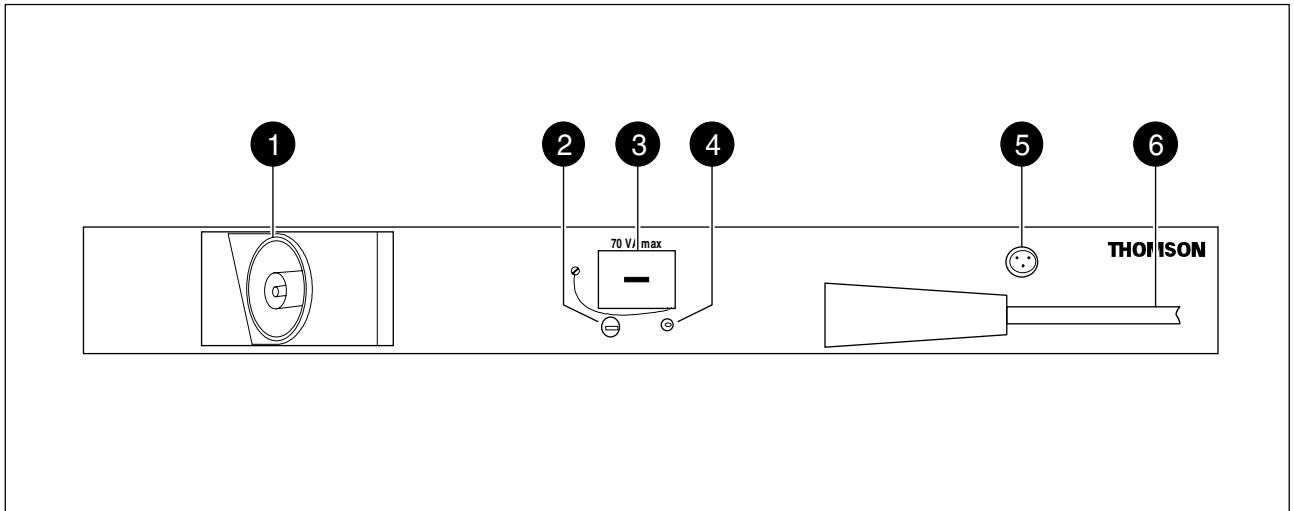This down scroll switch is used to directly move through frequently used menus, displayed in the viewfinder screen.

④ **Up switch**

This up scroll switch is used to directly move through frequently used menus, displayed in the viewfinder screen.

⑤ **Select switch**

This switch, when pressed, selects the particular menu that is pointed out by the cursor in the display or sets an on/off function.

Left Panel

1 **Triaxial cable connector**

Connects the large lens adapter to the base station and carries all signals and power.

2 **Utility outlet fuse**

This fuse protects the utility outlet. Replace only with the same type - T1A/115V or T0.5A/230V.

3 **Utility outlet**

Supplies power (maximum 70W) at the mains supply voltage and frequency. (Loading or unloading this outlet could interrupt camera operation.)

4 **Utility outlet power indicator**

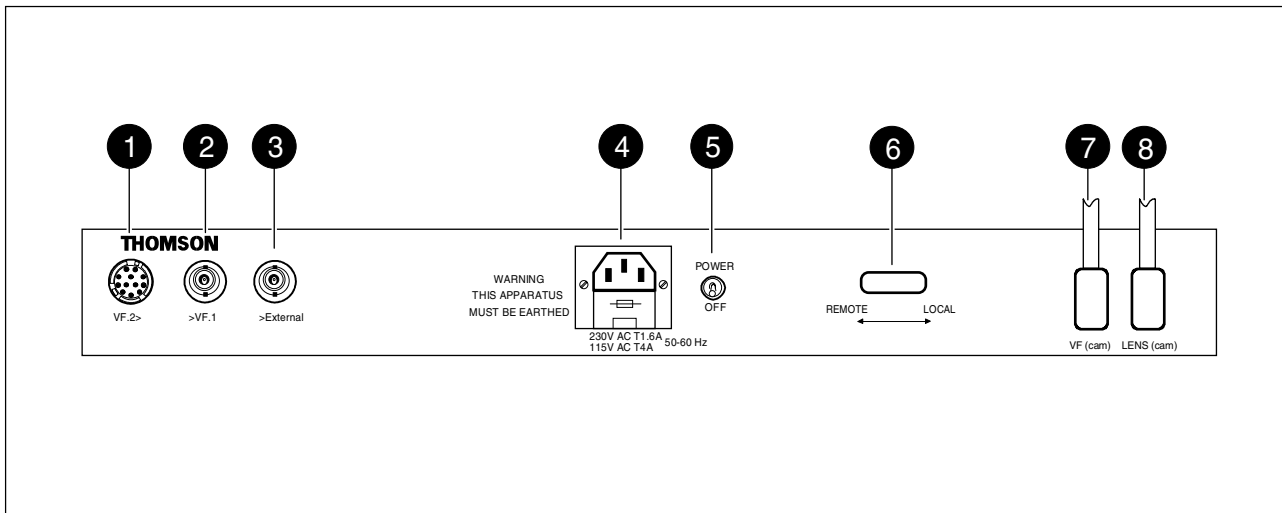Lights when power is available at the utility outlet.

5 **Script light connector**

A 3-pole socket which supplies +12 Vdc (500 mA) for a script board light. (Script board LDK 6985/15 does not connect to this socket but to the socket at the rear of the camera.)

6 **Camera triaxial flying lead**

Connects the large lens adapter to the camera.

Right Panel

1 **Second viewer socket (VF2)**

A 12-pole male socket for the connection of a second viewer.

2 **Video 1 input socket**

A BNC socket which supplies a video signal for a monitor or a second viewer connected to the VF2 socket.

3 **CVBS input socket**

A BNC socket which supplies a video signal for a monitor or a second viewer connected to the VF2 socket.

4 **Mains power supply input (Local power)**

Input voltage for NTSC version: 115 Vac (±15%)
Fuse: 4A Slow, 250 Vac
Input voltage for PAL version: 230 Vac (±15%)
Fuse: 1.6A Slow, 250 Vac
The frequency of the mains power supply must be between 47Hz and 63Hz.

5 **Mains power supply On/Off switch**

Switches the mains power supply to the large lens adapter on or off. (It does not switch off the power to the utility outlet.)

6 **Local / Remote power switch**

Switches the large lens adapter to the local or remote power mode.
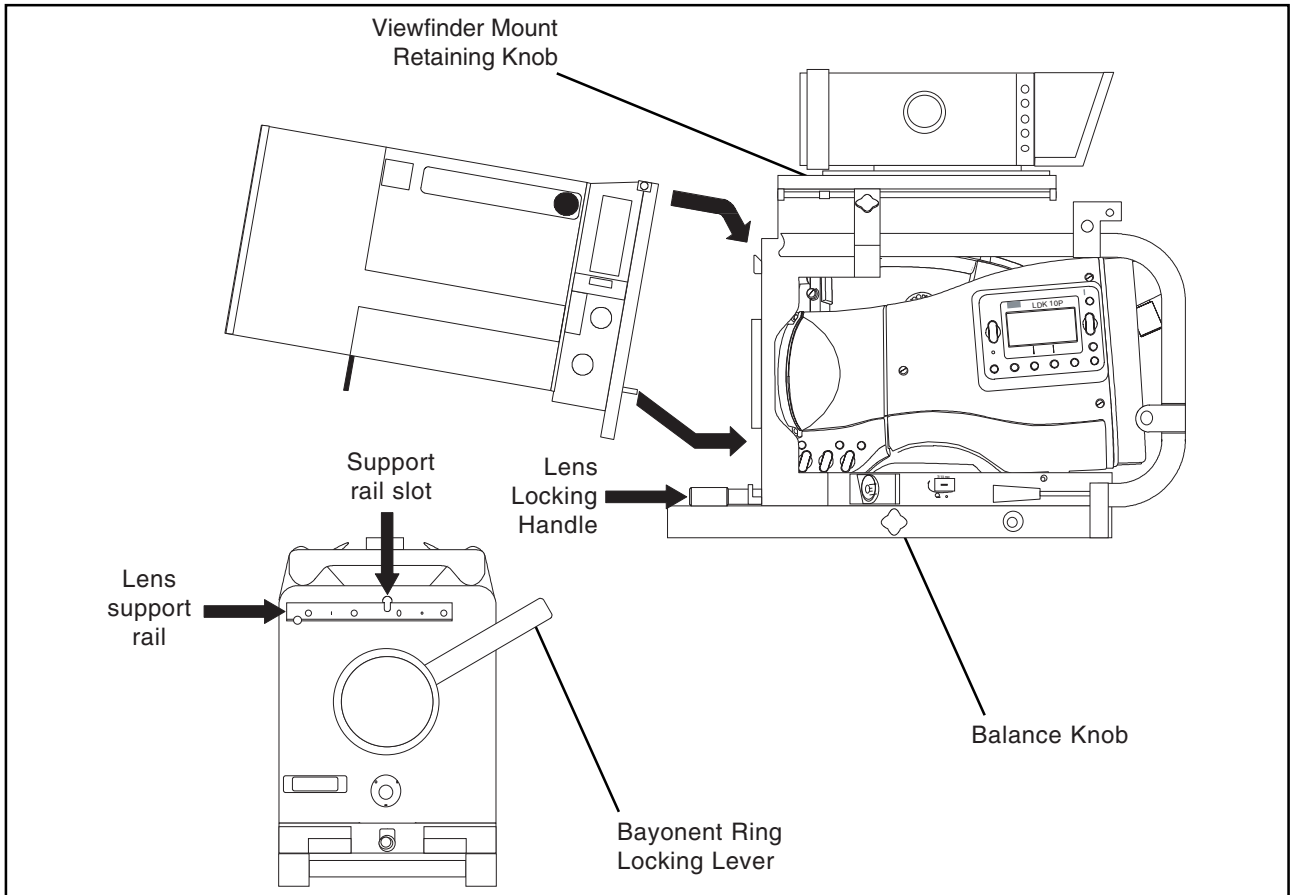
7 **Viewfinder flying lead**

Connects the camera viewfinder signal and data bus to the large lens adapter (the large lens adapter passes the signal to the top-mounted viewfinder).

8 **Lens flying lead**

Connects the lens connector at the front of the large lens adapter to the camera.

Assembly

Viewfinder Mount Retaining Knob

Support rail slot

Lens Locking Handle

Lens support rail

Balance Knob

Bayonent Ring Locking Lever

It is important that you assemble and disassemble the units in the right order. The correct order of assembly is as follows:

1. Attach the large lens adapter to the tripod.
2. Mount the lens onto the large lens adapter.
3. Attach the camera to the large lens adapter.
4. Mount the 7-inch viewfinder onto the large lens adapter.

To disassemble the units follow this order in reverse.

Tripod

To mount the large lens adapter on a tripod, first attach the tripod wedge plate to the underside of the adapter as follows:

a. Lie the large lens adapter on its side.
b. Ensure that the flat side of the tripod wedge plate is against the underside of the large lens adapter.
c. Secure the tripod wedge plate to the large lens adapter by screwing four M6 x 16 screws into the holes provided.
d. Slide the large lens adapter onto the tripod and lock in place with the tripod locking bar and security pin.

Mounting a Lens

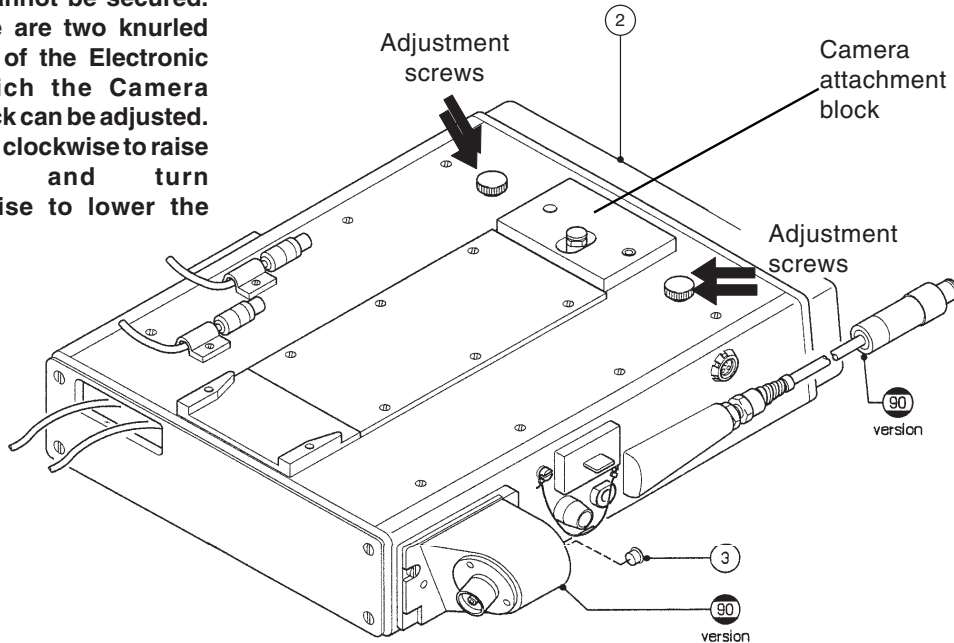To mount the lens onto the large lens adapter, proceed as follows:

a. Slide the viewfinder support back towards the rear of the large lens adapter.
b. Hook the lens onto the support rail ensuring that the upper lens pin fits into the slot in the support rail.
c. Swing the lens downwards so that the lower lens pin fits into the hole in the front of the camera.
d. Turn the lens locking handle clockwise to secure the lens in place.

If the lens cannot be secured see Information on the next page
To remove the lens, remove the camera from the large lens adapter first, then follow this procedure in reverse.

NOTE:
Due to tolerances it is possible that the lens cannot be secured. Therefore there are two knurled screws on top of the Electronic Unit with which the Camera attachment block can be adjusted. Turn the screws clockwise to raise the block and turn counterclockwise to lower the block.

Adjustment screws

Camera attachment block

Adjustment screws

Attaching the Camera

When using an LDK10P/00 or 01 before attaching the camera remove from the handgrip items 19, 6, 7, 14 and 5. See Service Manual LDK10P.
Attach the camera to the large lens adapter only after the lens is mounted. Proceed as follows:

a. Remove the 1.5 inch viewfinder support bracket at the front of the camera handle.
b. Mount the bayonet ring locking lever to the front of the camera and ensure that the bayonet ring is open.

<div align="center">CAUTION</div>

Do not tighten the screw to much as this could deform the bayonet-ring.
Check that lever can close ring smoothly.

c. Place the camera onto the footbed but do not slide it home yet.
d. Connect the lens cable from the large lens adapter to the lens connector at the side of the camera.
e. Connect the viewfinder cable from the large lens adapter to the viewfinder connector at the side of the camera.
f. Push the camera all the way home along the wedge-shaped groove so that the stud on the footbed engages the bottom rear of the camera and the bayonet ring engages the lens.
g. Turn the bayonet ring locking lever on the front of the camera downwards so that the camera is connected to the lens.

h. Plug the flying triax lead from the left side panel of the large lens adapter into the rear of the camera.
i. Connect the triax cable from the base station to the connector on the left side of the large lens adapter.
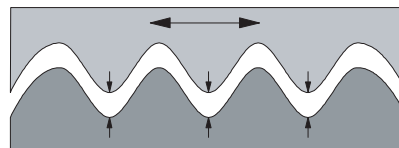
Camera Balance

When the lens and camera are mounted on the large lens adapter it may be necessary to balance the large lens adapter on the tripod as follows:

a. Loosen the balance knob on the side of the footbed by turning it counterclockwise.
b. Move the footbed back and forth along the tripod until the best balance is achieved.

<div align="center">Caution
Ensure that the ribs mesh correctly</div>

c. Tighten the balance knob on the side of the footbed by turning it clockwise.

Cable Clamp

When the lens and camera are mounted on the large lens adapter it is necessary to clamp the camera cable. Proceed as follows:
a. Loosen the cable clamp on the right side of the footbed by turning it counterclockwise.
b. Put the cable into the clamp.
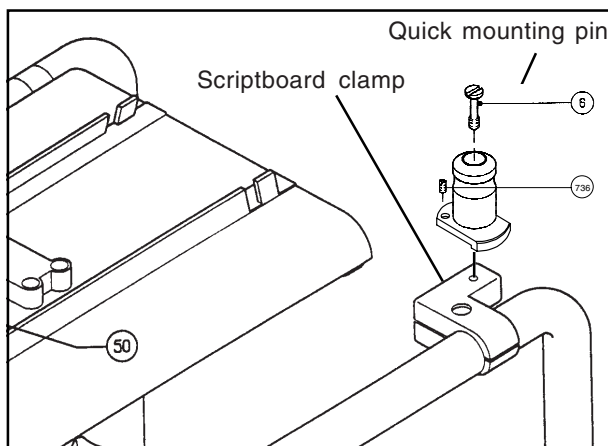c. Tighten the cable clamp by turning it clockwise.

Mounting the Viewfinder

To mount the viewfinder on top of the large lens adapter proceed as follows:
a. Slide the viewfinder along the rails on top of the camera until it can go no further.
b. Push both locking levers inwards and slide the viewfinder until it firmly engages the connector.
c. Release the locking levers and ensure they click into the lock position.
d. Loosen the viewfinder mount retaining knob on top of the large lens adapter.
e. Slide the viewfinder mount along the rails until it is in the desired position.
f. Tighten the viewfinder retaining knob on top of the large lens adapter.

Mounting the Scriptboard

To mount the scriptboard onto the large lens adapter, proceed as follows:
a. Mount the separately delivered scriptboard quick mounting pin to the scriptboard clamp of the large lens adapter. Tighten with screw 6 and secure with screw 738. The scriptboard clamp can be mounted on the right as well as on the left side of the large lens adapter. The scriptboard quick mounting pin can also be mounted on top of the camera.
b. Click the scriptboard over the quick mounting pin.

Rain and Off-use Cover

The rain and off-use cover LDK6989/00 must be used when the camera system is in wet or damp environment. This protection is necessary for personal safety reasons. The cover can also be used in dusty environments. It can also be useful if the camera is being put into storage.

Dimensions

The dimensions of the large lens adapter are:
    Length: 600 mm
    Width: 350 mm
    Height: 390 mm
The weight of the large lens adapter does not exceed 17 Kg (excluding lens, camera and 7-inch viewfinder but including wedge plate).
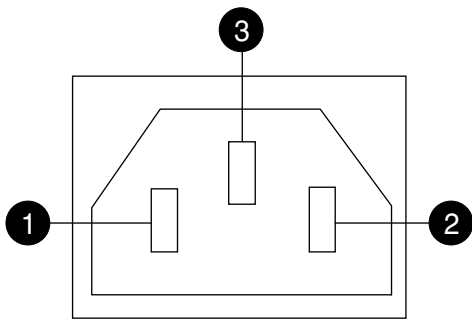
Connections

Connector Signals

In each of the following figures the connectors are shown as seen on the panels of the camera. Remember to use the mirror image of the drawings to identify the pins on the solder side of the connector. The part numbers of the panel connectors can be found in the spare parts lists of the service manual.
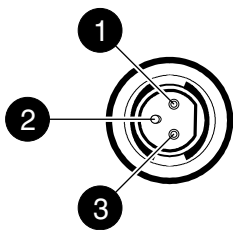
Utility Outlet Connector (X602)

Eurostyle 3-pin female

1. Neutral
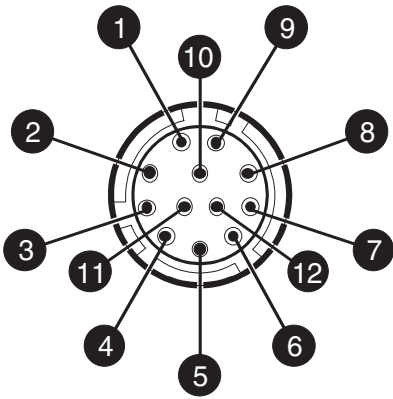2. Line
3. Earth
Voltage: 115/230 Vac
Maximum power: 70 VA

Script Light Connector (X604)

3-pin female

1. +12V (500mA)
2. GND (+12V return)
3. Housing
Shield of cable directly to the connector housing.
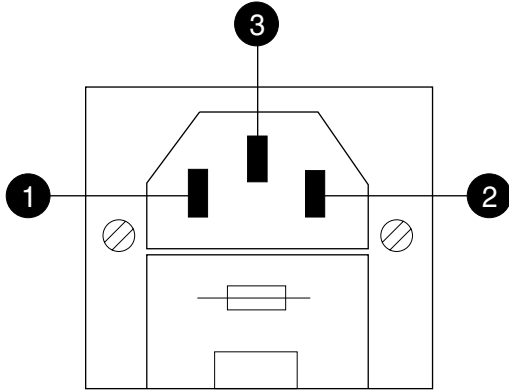
Monitor Connector (X608)

12-pin male

1. Housing
2. -80V
3. no connection
4. +13V
5. no connection
6. D-SCL
7. GND
8. D-SDA
9. D-INTN
10. Video 2 in
11. Video return
12. Video 1 in
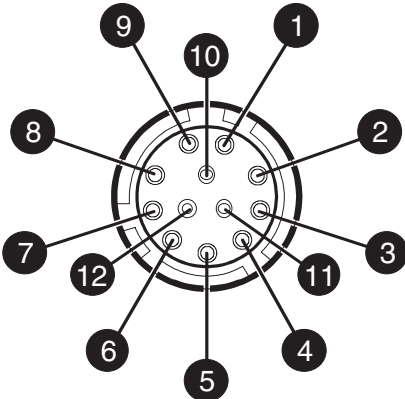Shield of cable directly to the connector housing.

Mains Supply Input Connector (X601)

Eurostyle 3-pin male

1. Neutral
2. Line
3. Earth

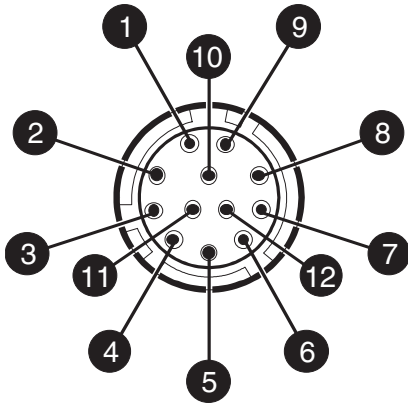## Viewfinder Flying Lead Connector (X612)

12-pin female

1. Shield
2. no connection
3. no connection
4. no connection
5. no connection
6. D-SCL
7. GND
8. D-SDA
9. D-INTN
10. no connection
11. Video return
12. VF video
Shield of cable directly to the connector housing.
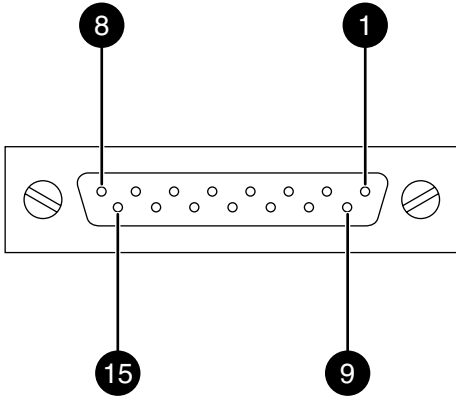
Lens Flying Lead Connector (X611)

12-pin male

1. no connection
2. no connection
3. GND (power ret.)
4. no connection
5. Iris control
6. no connection
7. Iris follow
8. Iris auto/remote
9. no connection
10. Zoom follow
11. Focus follow
12. Spare
Shield of cable directly to the connector housing.
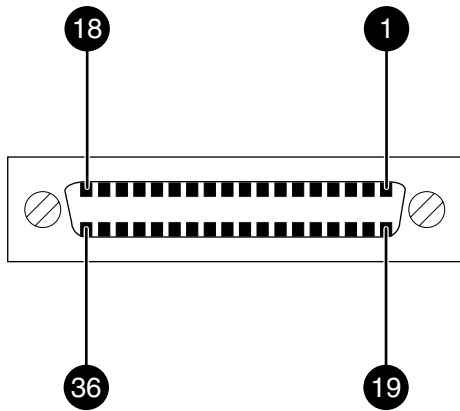
Top Viewfinder Connector (X605)

15-pin female

1.   VF video
2.   CVBS/Ext. Video
3.   no connection
4.   GND (+12V return)
5.   Housing
6.   +12V
7.   SDL
8.   no connection
9.   VF video return
10.   CVBS/Ext. Video return
11.   +12v
12.   GND (+12V return)
13.   Housing
14.   On-air lamp
15.   SDA
Shield of cable directly to the connector housing.

Lens Connector (X603)

36-pin female

1. not used
2. not used
3. not used
4. +12V
5. GND (power return)
6. GND (servo return)
7. Housing
8. R.E. A
9. R.E. B
10. R.E. C
11. not used
12. Iris F. (follow)
13. Zoom F. (follow)
14. Ext SW 1
15. Ext SW 2
16. not used
17. Iris
18. Iris A/R (auto/remote)
19. Zoom
20. Focus
21. On-airN (tally control)
22. ZF-L/R (zoom, focus local/remote)
23. Ext SW 3
24. Lens ID 0
25. Lens ID 1
26. Lens ID 2
27. Lens ID 3
28. not used
29. not used
30. Focus F. (follow)
31. not used
32. not used
33. Eng SW
34. Prod SW
35. not used
36. not used

Shield of cable directly to the connector housing.

Service Information

When using the Large Lens Adaptor with older Viewfinders LDK4016/02 it is possible that a hum appears in the picture. Also no text display will be available. To solve these problems the following changes in the Viewfinder LDK4016/02 have to be performed.

Video Board 3922 406 81721 status 9
   Remove C4
   ZR27 was 3K3 becomes 12K code number
   4822 051 51203
   In place of the not mounted ZR20 mount a
   capacitor of 22 nF (ZC22) code number 4822
   122 31797
Old status 9
New status 10

Power/Deflection Board 3922 406 81731 status 9
   Connect pin 5 of ZIC100 to the 0V pin 1 or 8 of
   ZIC100
Old status 9
New status 10