grass valley
A THOMSON BRAND

User's Guide

3922 496 48951
STATUS 38

LDK 4501/02

SDTV CAMERA BASE STATION FOR ETHERNET USE

Declaration of Conformity

We, Thomson Broadcast Solutions 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.

Copyright

User's Guide

SD Camera Base Station

Contents

About This Manual

Service policy
The Camera Base Station is a sophisticated base station 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 Solutionss 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 base station operational, despite a fault, by module replacement and the replacement of minor mechanical parts by the user.

Purpose of this manual
The provision of correct information is the first step in ensuring the operational integrity of the base station. Information on the operation of the base station is contained in Section 3 of the manual.

This User's Guide is an integral part of the service policy. It ensures that you will be able to operate, install and set-up your base station to meet the requirements of your environment. The information on the installation of the base station is contained in Section 2 of the manual. The remaining sections of the manual provide 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.

Structure of this manual
The manual is divided into eight different sections:

Section 1: Safety Instructions
Outlines the safety precautions that must be taken when using the base station.

Section 2: Installation
Gives instructions on the integration of the base station into the operating environment and the customization of certain functions.

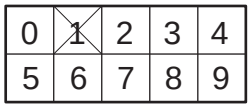
Section 3: Operating instructions
Explains how to program the menu system for your personal preferences. The menu structure and the methods of function selection are also explained. An appendix to this section lists all the menu functions.

Section 4: Replacements
Gives information on the replacement of components at first line level.

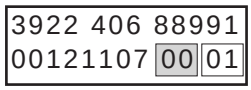
Section 5: Adjustments
Contains the adjustment procedures to be followed to obtain the best performance.

Section 6: Diagnostics
Gives a guide to diagnostic messages and procedures for fault-finding.

Identification and Status
To indicate the status of a drawing, a box with the numbers 0 to 9 is shown in the bottom-right of the drawing. The number that is crossed-out is the status number of the drawing. For example, in the illustration below, the status is 1.



A sticker is used on the units themselves to identify them and to indicate their status. For example, in the illustration below, the top line is the 12-digit number that identifies the unit type.



The first four digits of the number on the second line represent a date code (year, week); the next four digits represent the serial number for that week.

The number in the grey area indicates the status of the unit. The last two digits represent the number that will be given to the next status. However, if these two digits are contained in a box, then this is the current status. For example, in the illustration above, the current status of the unit is 01.

Section 1

Safety Instructions

This section outlines the precautions that must be taken into account when using the LDK 4501/02 Base Station.

Contents

Safety Summary

This informaton 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.

FOR SAFETY REASONS THE UNIT MUST BE MOUNTED IN A 19-inch RACK WHICH HAS SAFETY COVERS ACCORDING TO IEC65.

WHEN TWO UNITS ARE MOUNTED ABOVE EACH OTHER THE MINIMUM DISTANCE BETWEEN THEM MUST BE 50MM OR THE RACK MUST BE FORCE-AIR COOLED.

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.

Only connect a Triax cable from the LDK SD camera family to this unit.

Do not allow system ground currents to exceed 1.5A in the outer shield of the triax cable or 0.2A in other cable shields.

It is strickly prohibited to short circuit the inner and outer shields of a triax cable used to connect a camera to a base station.

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.

Cathode ray tubes

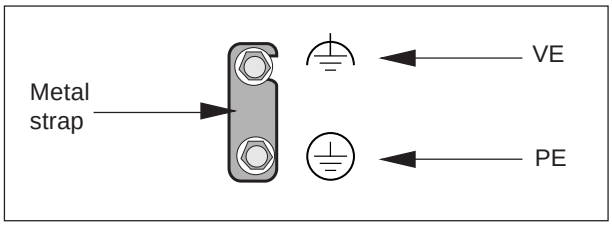
Components marked ⚠ on the circuit diagram are critical for safety and include those specified to comply with X-ray emission standards for units using cathode ray tubes and those specified for compliance with various regulations regarding spurious radiation emission.

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.

The rear of the unit has two separate screw terminals for protective earth ⏚ (PE) and video earth (VE).



These are normally connected by a metal strap. The protective earth terminal is internally connected to the protective earth conductor of the power cable. If required, the central earth connection wire of the studio can be connected to terminal PE.

In normal circumstances the connection between the protective earth and the video earth should not be broken.

The metal strap may be removed only if the studio (or OB van) is equipped with separate protective and video earth systems. Under these circumstances the video earth terminal must be connected to the central functional earth potential (video earth) of the studio. This earth potential should have functional protective and noiseless earth (FPE) qualities as stated in the VDE regulation 0800/part2. A low impedance interconnection of both earth conductors must be provided at the central studio earthing point.

WARNING

THE UNIT MUST ALWAYS BE CONNECTED TO PROTECTIVE EARTH.

Mains Lead Wiring for UK Users

The wires in the mains lead are coloured in accordance with the following code:

GREEN AND YELLOW	-	EARTH
BLUE	-	NEUTRAL
BROWN	-	LIVE

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug proceed as follows:

- The wire coloured GREEN AND YELLOW must be connected to the terminal on the plug marked with the letter E or by the safety earth symbol ⏚ or coloured GREEN or GREEN AND YELLOW.
- The wire coloured BROWN must be connected to the terminal marked with the letter L or coloured RED.
- The wire coloured BLUE must be connected to the terminal marked with the letter N or coloured BLACK.

Ensure that your equipment is connected correctly - if you are in any doubt consult a qualified electrician.

Section 2

Installation

This section provides information which is relevant when the base station is to be used for the first time. Packing and unpacking instructions together with information on the integration of the base station into your studio system are provided. The procedures for the customization of certain hardware functions and connector information is also provided.

Contents

Unpacking/Transport/Storage

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 units have 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 units do 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.

Transport

If a 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:	-40°C to +70°C
Humidity:	Max. 90% (non condensing)
Altitude:	max. 50.0000 feet

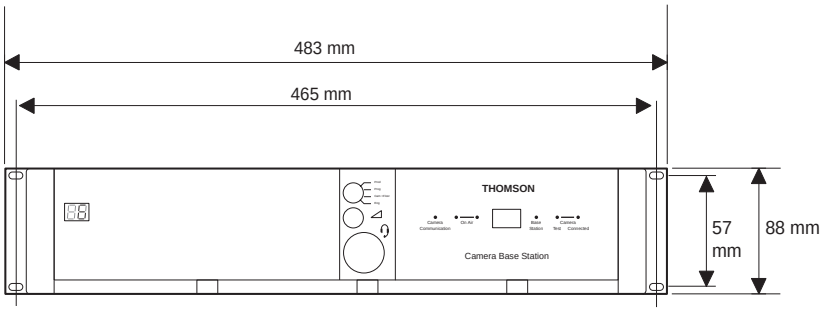
When stored, the unit should be protected from temperarure extremes which may cause condensation, and should also be protected from high levels of dust.

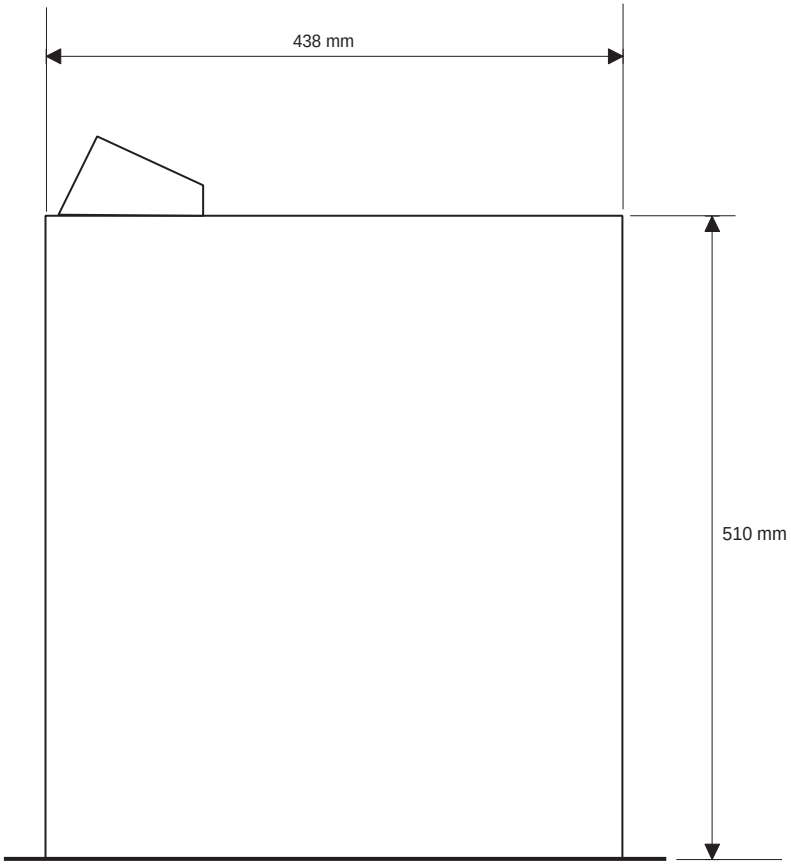
Dimensions

Dimensions:

Width:	438 mm
Height:	88 mm
Depth:	510 mm max. (excluding triax connector + cable)

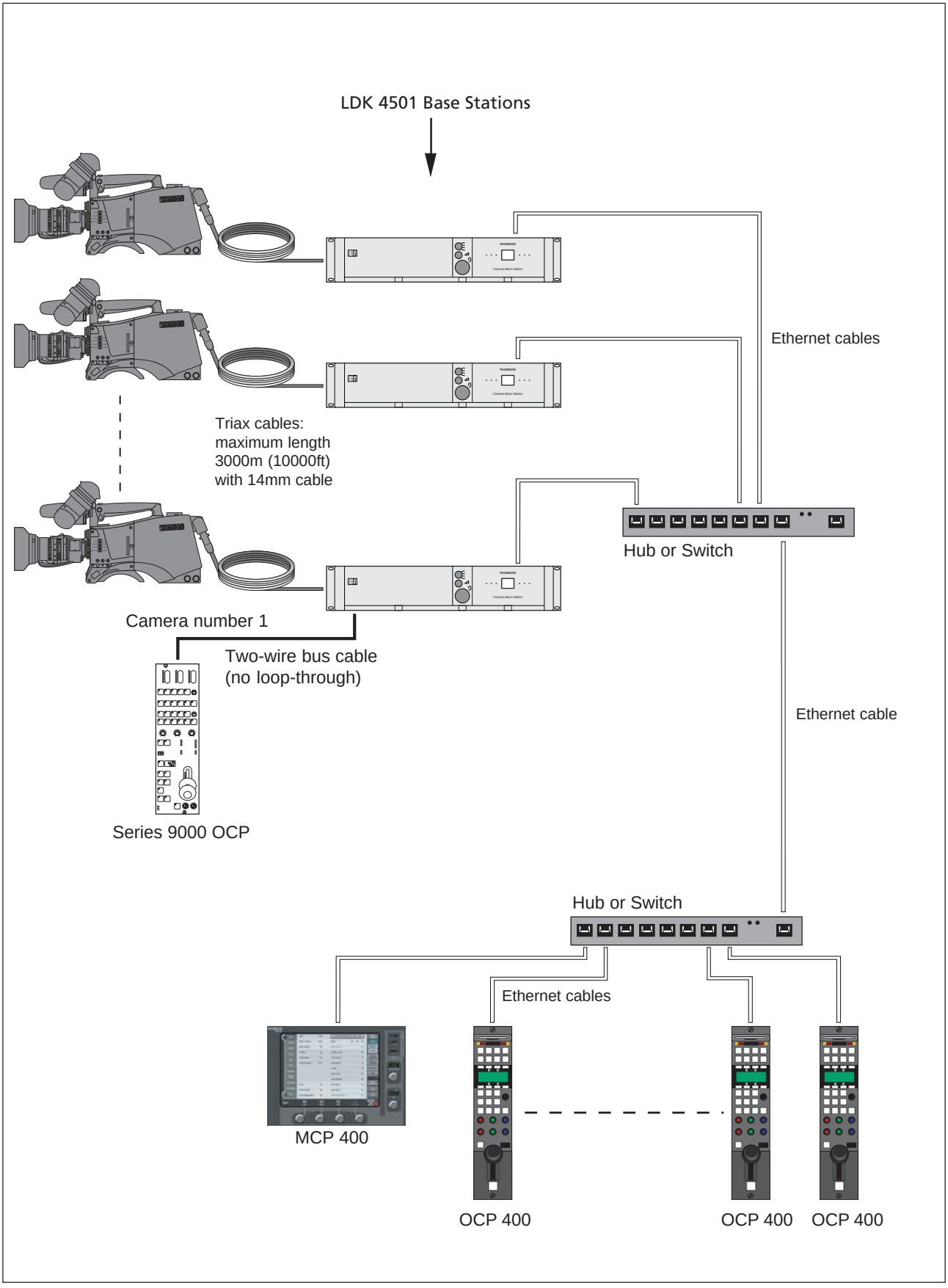
Weight: approx. 17kg.





Typical configuration

Multiple triax cameras with C2IP network



Control bus

The Base Station can be connected to either:

- an Ethernet control network (**C2IP**)
  or
- a two-wire Series 9000 control bus (**S9000**).

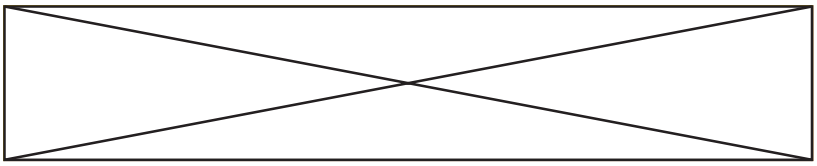
One of these options can be selected in the *System / Control Mode* menu item. The Base Station is delivered with the default value set to **C2IP**, so only the Ethernet control bus is active.

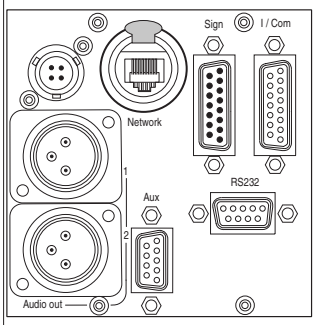
If you use control panels of the Series 9000 system, then you must change the value of the *System / Control Mode* menu item to **S9000** so that you can connect these panels to the 4-pin Data connector at the rear of the unit.
(To loop-through Series 9000 control panels use the special connector cable provided.)

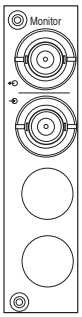
The IP address and other options for the Ethernet connection can be set up in the *System* menu. These items can also be set up remotely using a network configuration tool such as NetConfig.

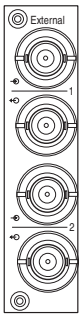
Note: Even if you have selected the **C2IP** control bus, then you can still connect a single OCP from the Series 9000 system to the 4-pin Data connector at the rear of the unit. However, you may not connect more than one device as this leads to unreliable operation. Also set the Series 9000 OCP to control camera number 1.

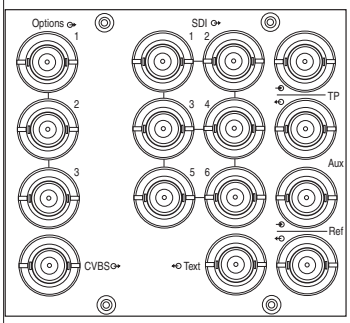
Backplane layout of the LDK4501/02

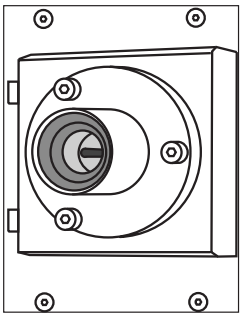




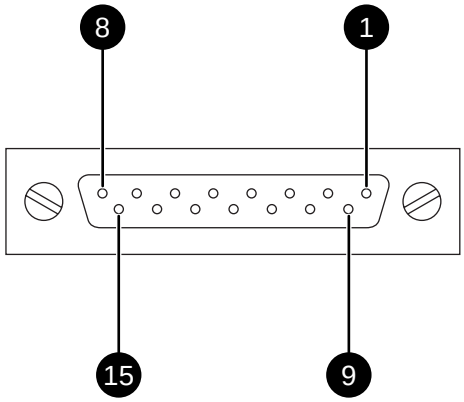








Intercom Connector - Panel View



X374 **15-pin female**

Panel part number 2411 022 06239
Cable part number 2411 022 05168

15-pin female, shielded cable

1. Prod. out (4-wire out, 2-wire in/out)
2. Prod. in (4-wire only)
3. Prod. in shield (4-wire only)
4. ENG in (4-wire only)
5. ENG out (4-wire out, 2-wire in/out)
6. Progr. in (4-wire only)
7. Progr. in shield (4-wire only)
8. Housing
9. prod. out return (4-wire out, 2-wire in/out)
10. prod. in return (4-wire only)
11. ENG in shield (4-wire only)
12. ENG in return (4-wire only)
13. ENG out return (4-wire out, 2-wire in/out)
14. Progr. in return (4-wire only)
15. Housing

Shield of cable to the pin marked housing.

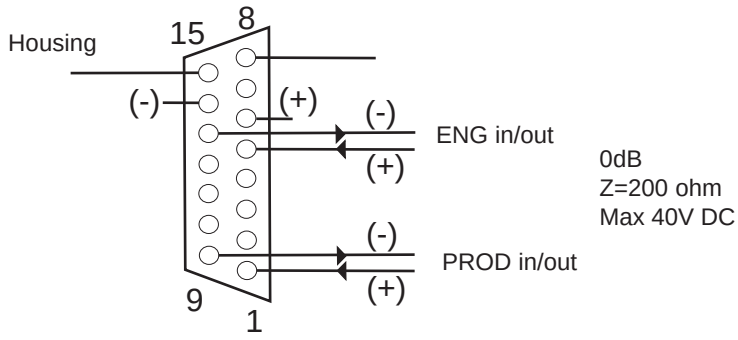
4-wire:

Output signals: level +6dBu or 0dBu selectable output impedance 50 ohm (max), symmetrical

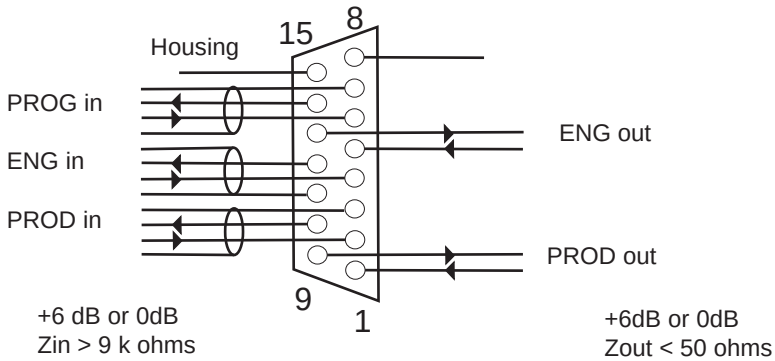
Input signals: level +6dBu or 0dBu selectable impedance 9 Kohm (min), symmetrical

2-wire: level 0dBu
load impedance: 200 ohm
maximum DC level = 40 V

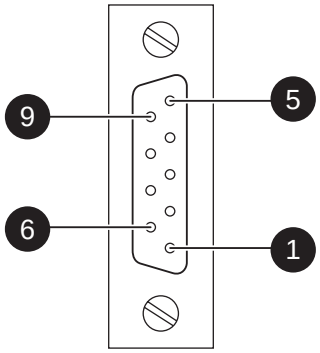
2 - Wire configuration



4 - Wire configuration



RS232 Connector - Panel View

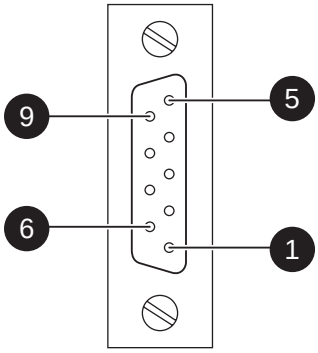


1. SPARE
2. RS-RXD - Receive Data
3. RS-TXD - Transmit Data
4. RS-DTR - Data Terminal Ready
5. RS-DGND - Signal Ground
6. RS-DSR - Data bSet Ready
7. RS-RTS - Request To Send
8. RS-CTS - Clear To Send
9. +12V

X7 Data Board **9-pin male**
X379 Signal Connector Board

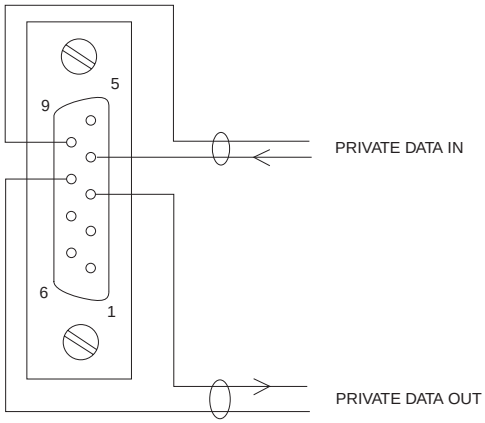
Panel part number	2422 025 12962
Serial Interface Cable	4822 872 03413

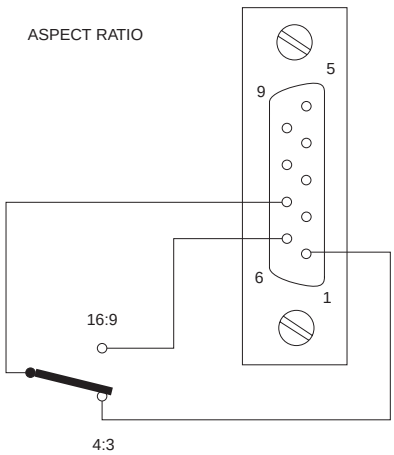
Auxiliary Connector - Panel View



X371 **9-pin female**

Panel part number 2411 022 06238
Cable part number 2411 022 05284





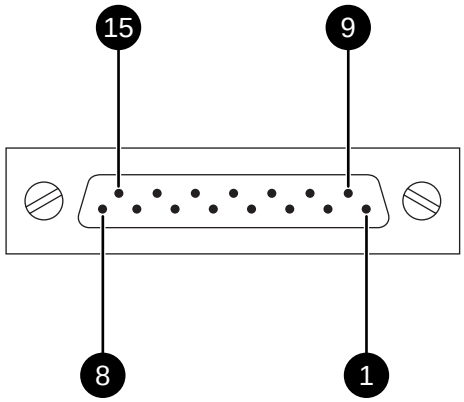
9-pin female, shielded cable

1. +5V
2. AN 0
3. PRIVATE DATA OUT
4. PRIVATE DATA IN
5. Housing (Shield of cable to this pin)
6. GND
7. AN 1
   For aspect ratio switching on wide screen sensor cameras:
   16:9 -0.5 to +0.8Vdc
   4:3 +2.4 to +5.5Vdc
8. PRIVATE DATA OUT RET
9. PRIVATE DATA IN RET

Shield of cable directly to the connector housing.

AUX (private data BS - CAM)
: "0"= 0V +/- 0.5V
: "1"= 5V +/- 0.5V
Rout = 150 ohm
Baudrate typ 2400 bits/sec
max 4800 bits/sec
Duty cycle difference between input and output is max 5%

Signalling Connector - Panel View



X 370 15-pin male; panel view

Panel part number 2411 022 05292
Cable part number 2411 022 06157

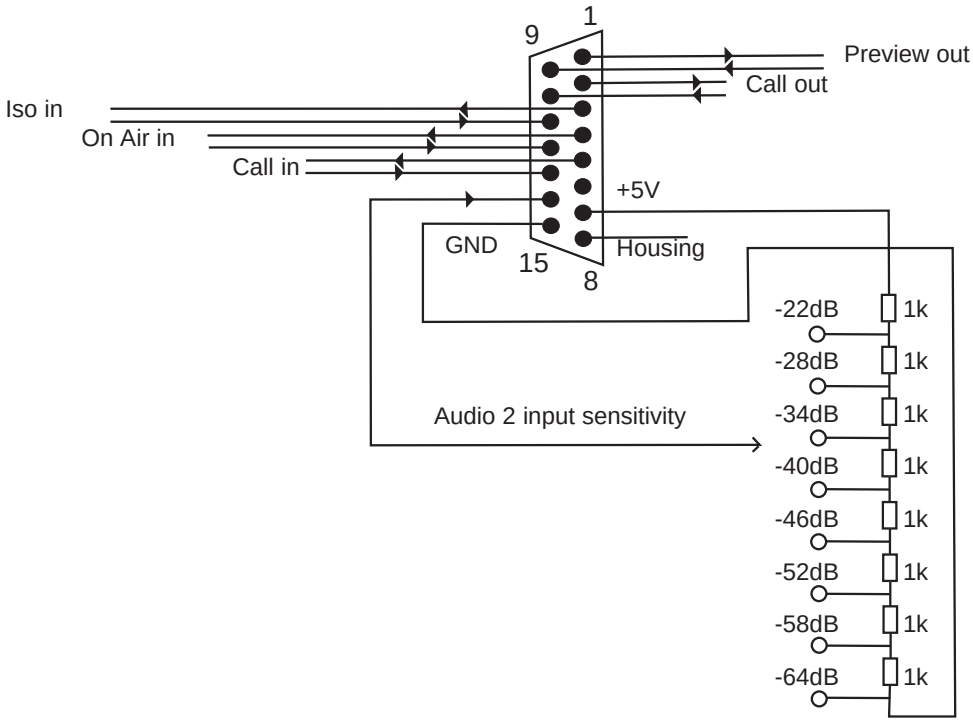
15-pin male, shielded cable

1. Prev. out ext. (relay contact < 10 ohm)
2. Call out ext. (relay contact < 10 ohm)
3. Iso in ext. (dry contact)
4. On-Air in ext (dry contact)
5. Call in ext. (dry contact)
6. Audio 1 level (analogue input voltage 0V to +5V, see figure below)

   - 64 dB ------ 0V
   - 58 dB ------ +0.7V
   - 52 dB ------ +1.3V
   - 46 dB ------ +1.9V
   - 40 dB ------ +2.5V
   - 34 dB ------ +3.1V
   - 28 dB ------ +3.7V
   - 22 dB ------ +4.3V

7. +5 Vdc; OCP
8. Housing
9. Prev. out ext. return
10. Call out ext. return
11. Iso in ext. return
12. On-Air in ext. return
13. Call in ext. return
14. Audio 2 level (see pin 6)
15. GND

Shield of cable to the pin marked housing.



Iso, On-Air and Call signal switching

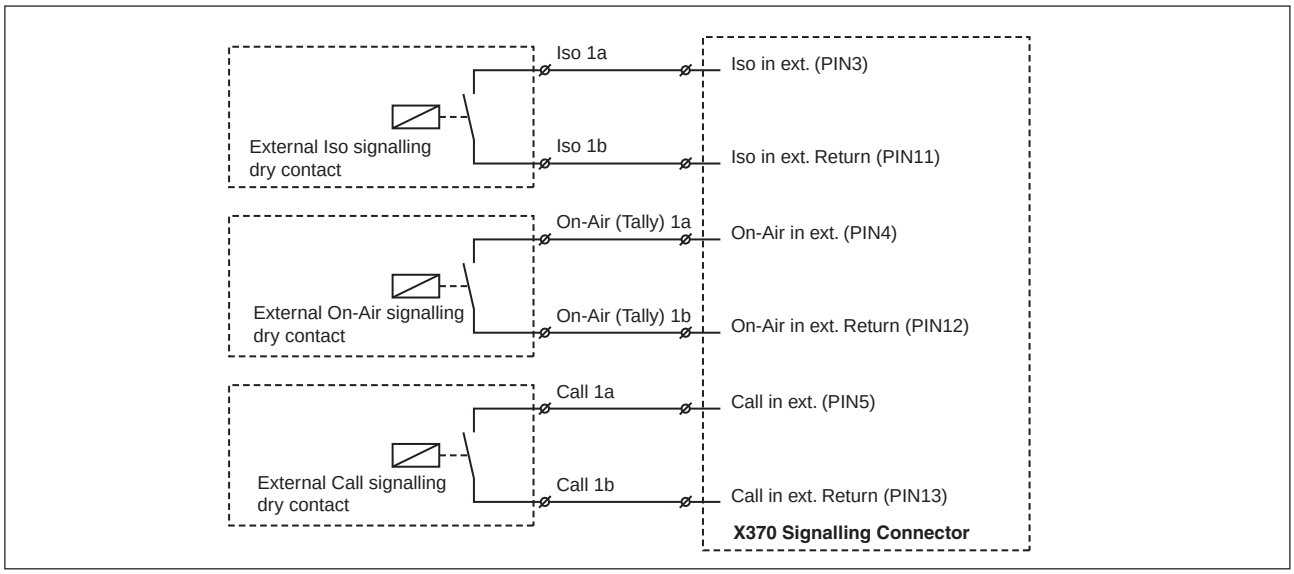
These functions are switched either by a dry contact or by a DC voltage applied to the signalling connector. The X370 signalling inputs are not galvanically separated. We recommend that you use dry contacts and when these are not available use galvanically separated DC voltages.

The *Yellow In* (ISO) and *On Air In* items of the *System/Tally* menu allow you to set the input to either **SW** or **DC.** This determines how the inputs behave.

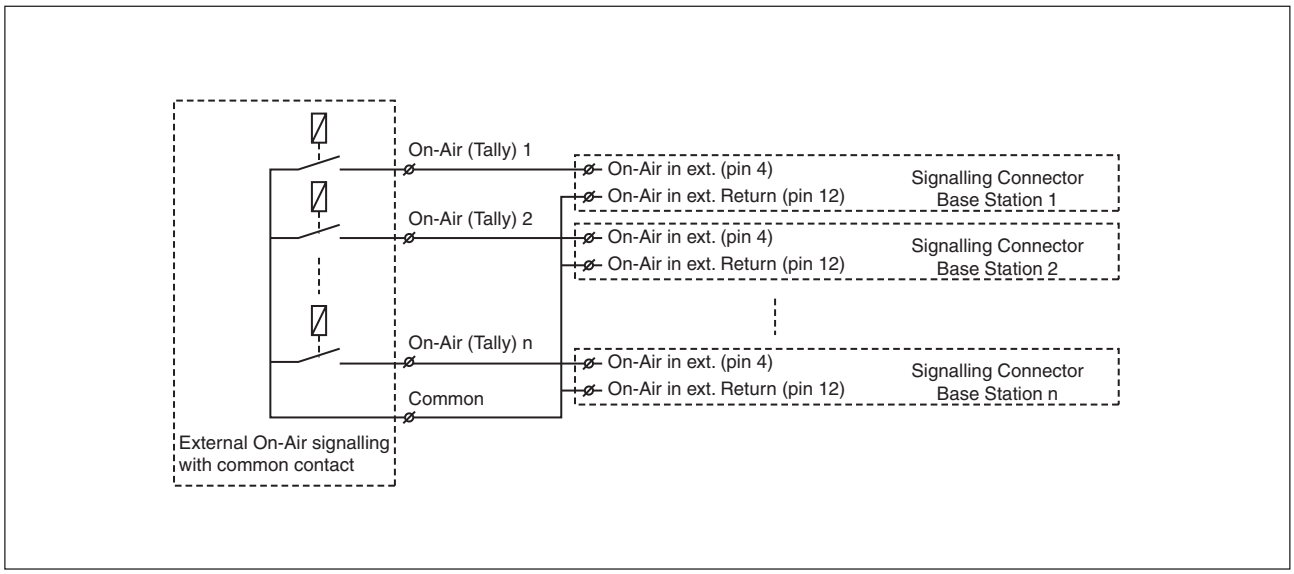
There are eight possible ways to switch these functions; four dry contact methods and four DC voltage methods.

Dry Contact
Both *Yellow In* (ISO) and *On Air In* items are set to **SW**.

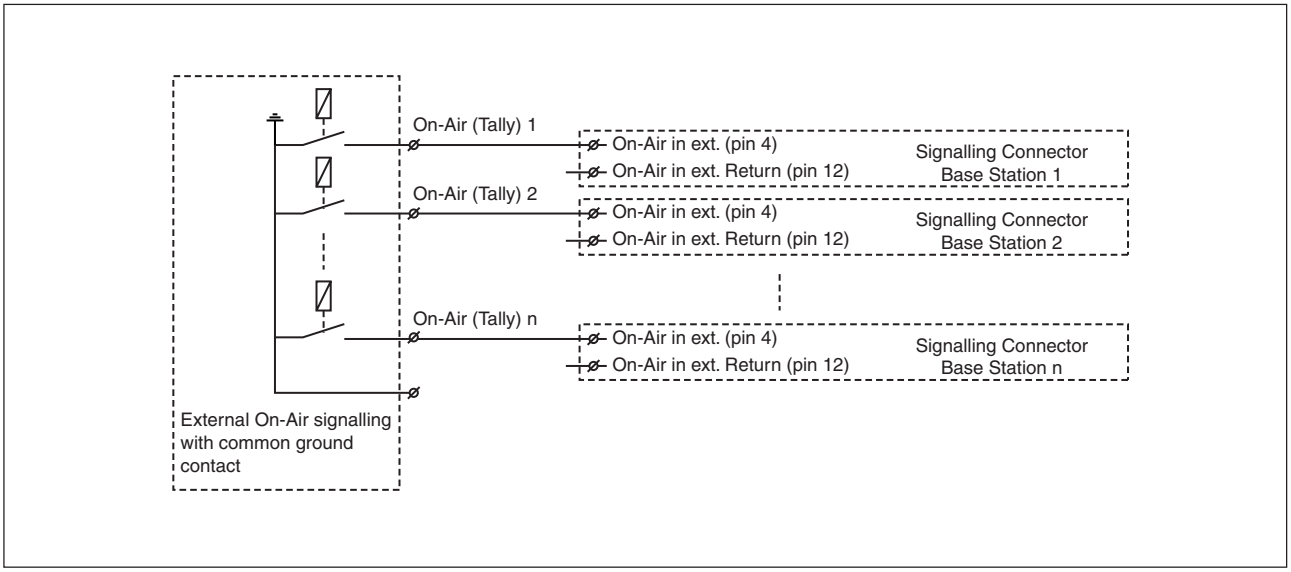
1. Short Circuit
   If the contact is closed, the function is active. Do **not** connect either lead to ground.



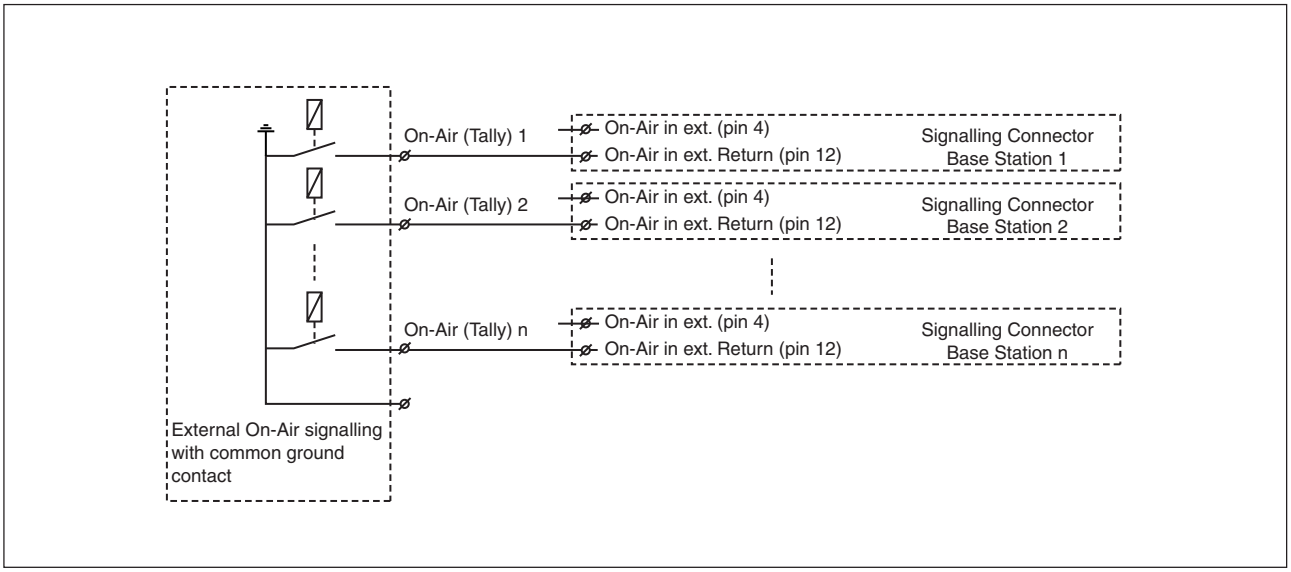
2. Common return
   If a contact is closed, the corresponding function is active. Do **not** connect the common return point to ground.



3. Common ground
   If a contact is closed, the corresponding function is active. Ensure that a reliable ground coupling exists between the control device ground and the Base Station ground.

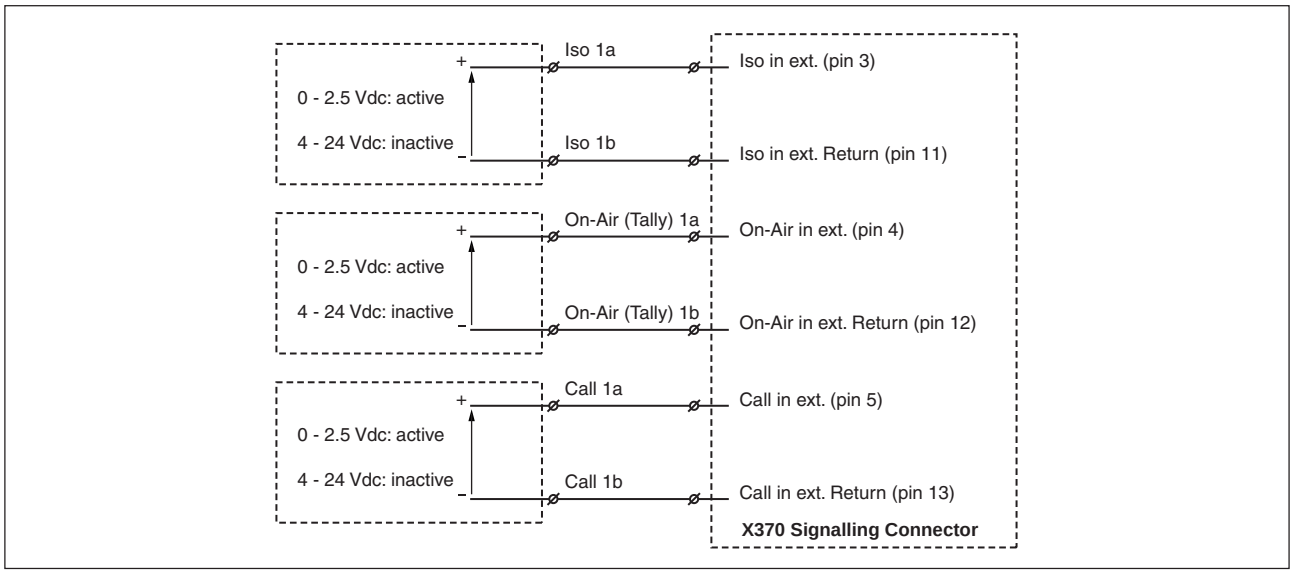


4. Common ground (return)
   If a contact is closed, the corresponding function is active. Ensure that a reliable ground coupling exists between the control device ground and the Base Station ground.

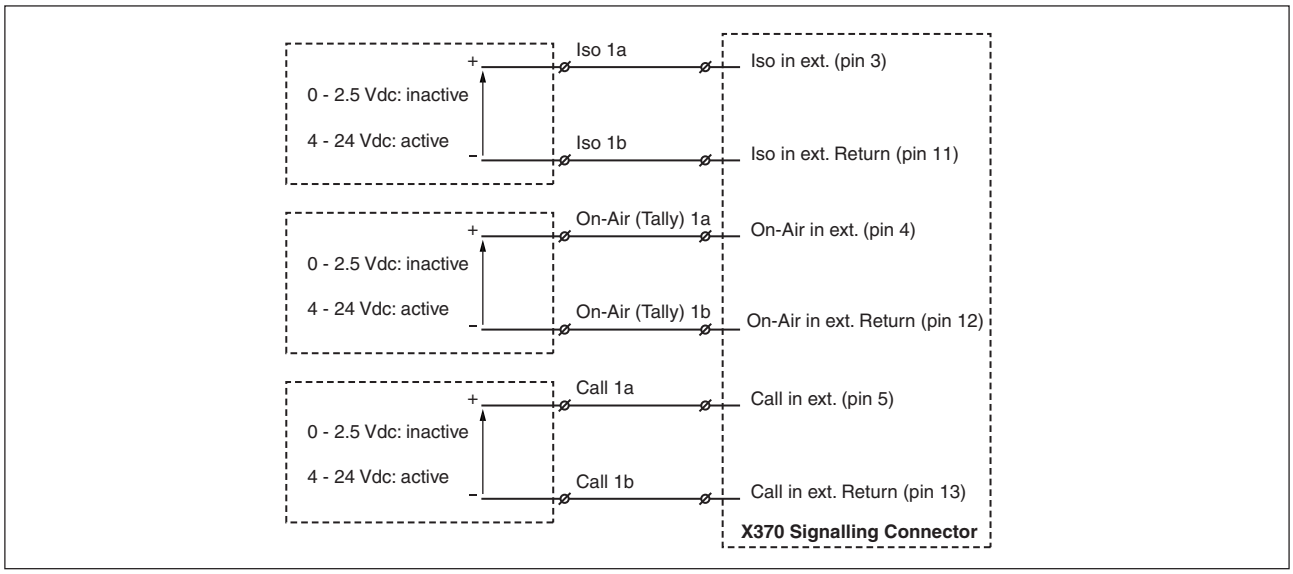


DC voltage
For active-low switching set *Yellow In* (ISO) and *On Air In* items to **DC**.
For active-high switching set *Yellow In* (ISO) and *On Air In* items to **SW**.

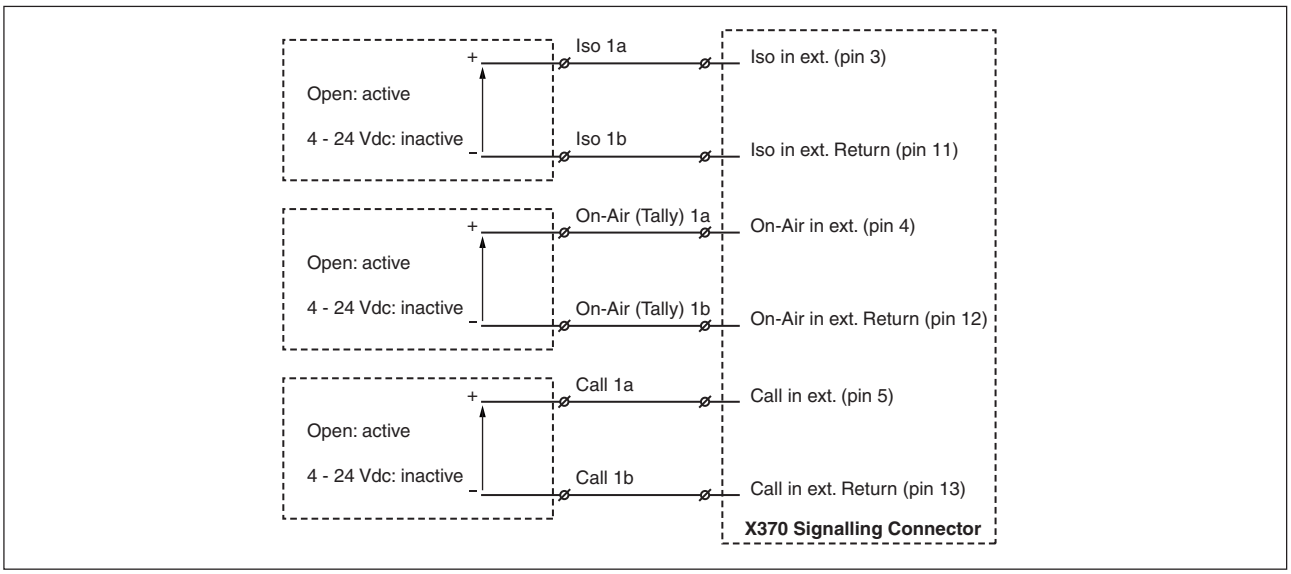
5. Low-voltage / high-voltage switching (active-low)
   Set menu item to **DC**. Apply a voltage across the inputs (respect polarity). If the voltage is low (0 to 2.5 Vdc), the function is active. If the voltage is high (4 to 24 Vdc), the function is inactive.



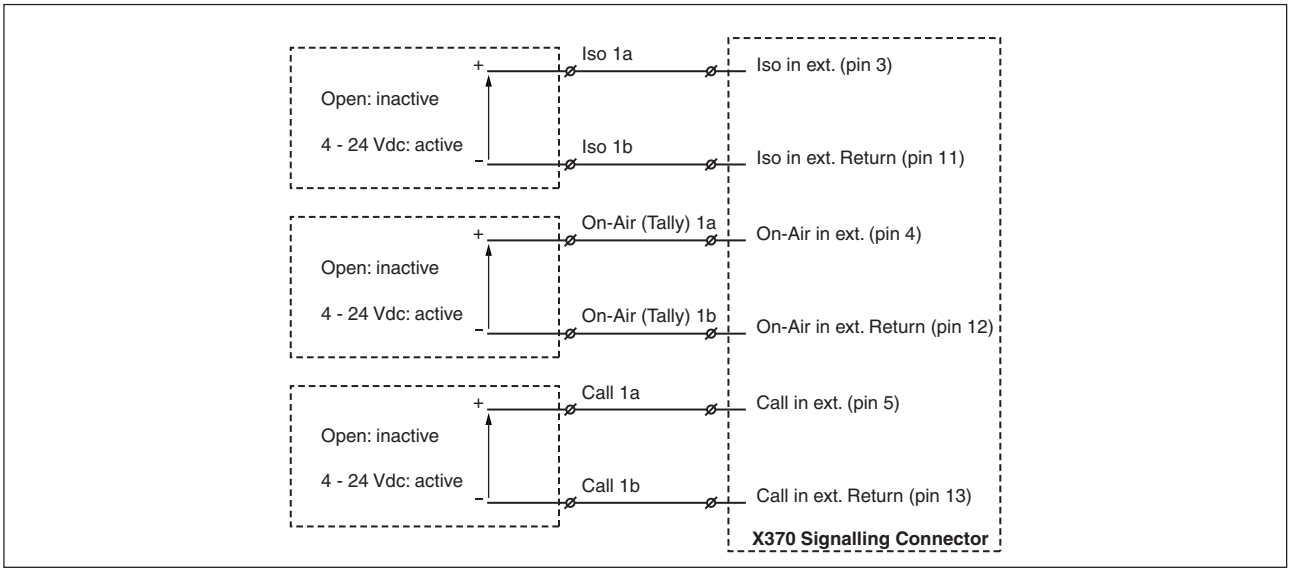
6. Low-voltage / high-voltage switching (active-high)
   Set menu item to **SW**. Apply a voltage across the inputs (respect polarity). If the voltage is low (0 to 2.5 Vdc), the function is inactive. If the voltage is high (4 to 24 Vdc), the function is active.



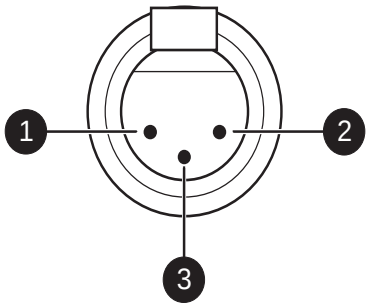
7. Open circuit / high-voltage switching (active-low)
   Set menu item to **DC**. Leave the circuit open or apply a voltage across the inputs (respect polarity). If the circuit is open, the function is active. If the voltage is high (4 to 24 Vdc), the function is inactive.



8. Open circuit / high-voltage switching (active-high)
   Set menu item to **SW**. Leave the circuit open or apply a voltage across the inputs (respect polarity). If the circuit is open, the function is inactive. If the voltage is high (4 to 24 Vdc), the function is active.



Audio Connector - Panel View



1. shield
2. Audio +
3. Audio -

Microphone impedance >200 ohm

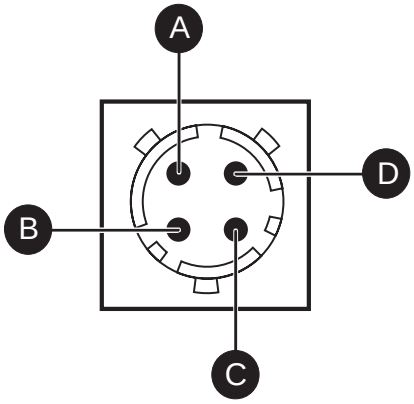
Sensitivity remote controlled via base station:

range: -64 to -22 dBu.

Shield of cable directly to the connector housing.

X338/X339	**XLR 3-pin male**
Panel part number	2422 026 02985
Cable part number	2432 026 00185

Data Connector - Panel View



4-pin male, shielded cable

A. Data

B. Data not

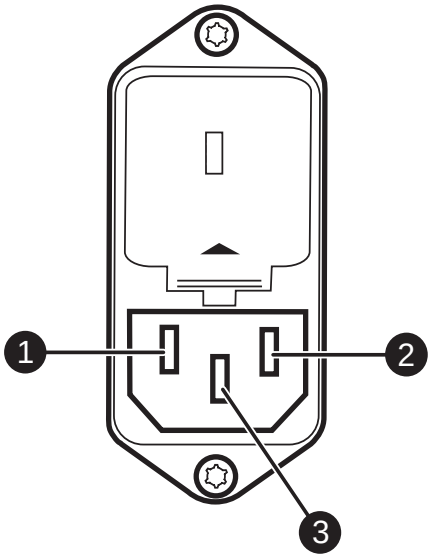
C. Not connected

D. Shield

Shield of cable to the pin marked housing.

X368 / X378	**4-pin male**
Panel part number	2411 020 11367
Cable part number	2411 020 12025

Mains Input Connector - Panel View



Eurostyle 3-pin male

1. Neutral
2. Line
3. Earth

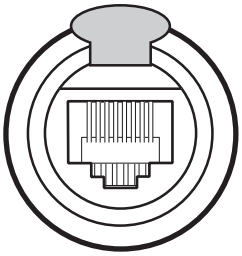
Mains input voltage: 230 Vac or 115 Vac

Fuses: 4AT 10AT

Mains frequency: 47 to 63 Hz

Power consumption: 320 Watt

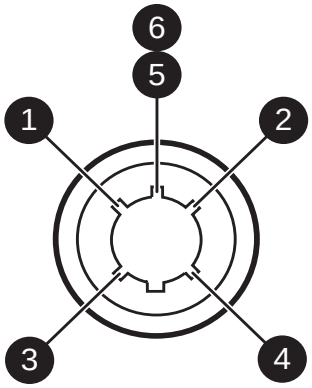
Ethernet Connector - Panel View



8-pin Standard Ethernet RJ-45 connector

X378 **Neutrik RJ-45**

Headset Connectors - Panel View



X574 **Tuchel 5-pin female**
Panel part number
Cable part number

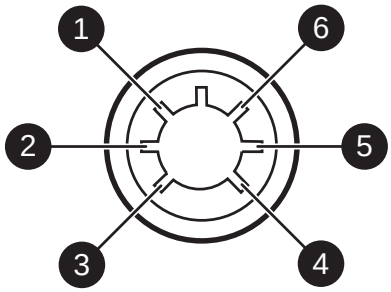
Headset Connector

Tuchel 5-pin female

1. Telephone left
2. Telephone return
3. Microphone
4. Microphone return

5/6. Telephone right

Shield of cable directly to the connector housing.

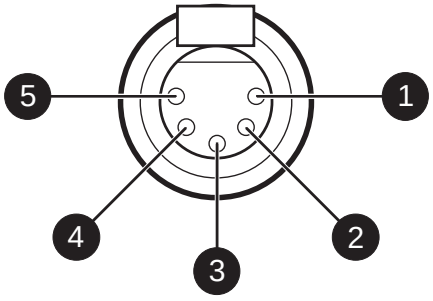


X574 **Tuchel 6-pin female**
Panel part number
Cable part number

Tuchel 6-pin female

1. Telephone left
2. Telephone return
3. Microphone
4. Microphone return
5. Telephone right
6. Telephone return

Shield of cable directly to the connector housing.



X574 **XLR 5-pin female**
Panel part number 2422 026
Cable part number

XLR 5-pin female

1. Microphone return
2. Microphone
3. Telephone return
4. Telephone left
5. Telephone right

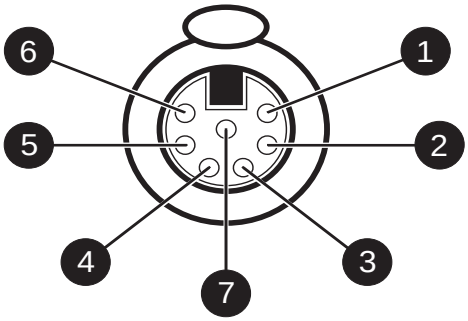
Microphone level -64dBu

Microphone impedance 200 ohm

Telephone level +6dBm nominal

Telephone output impedance <50 ohm

Shield of cable directly to the connector housing.

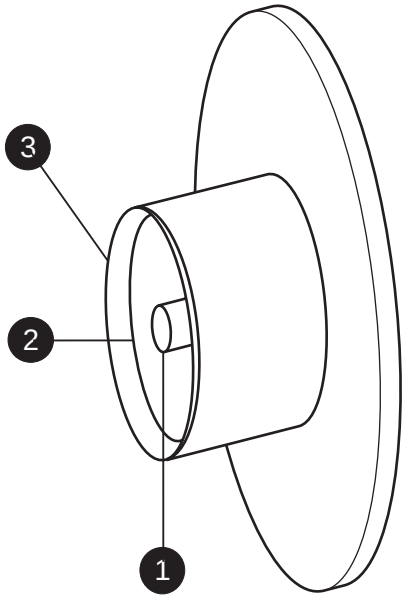


X574 **XLR 7-pin female**
Panel part number 3922 494 16571
Cable part number

XLR 7-pin female

1. not connected
2. Return
3. ENG Telephone right
4. Return
5. ENG Telephone left
6. Return
7. ENG Microphone

Triax Connectors - Panel View



X540	**Fischer male**
Panel part number	3922 407 30531
X540	**Trilock female**
Panel part number	3922 407 30551
X540	**ARD female**
Panel part number	3922 407 30571
X540	**LEMO 3 female**
Panel part number	3922 407 30631
X540	**LEMO 4 female**
Panel part number	3922 407 30591
X540	**LEMO BBC male**
Panel part number	3922 407 30611

The panel partnumbers are the connectors including the assembly.

Triax Connectors

Fischer

1. Inner pin:	Signals + power
2. Inner shield:	Return
3. Outer shield:	Base Station housing

Trilock

1. Inner pin:	Signals + power
2. Inner shield:	Return
3. Outer shield:	Base Station housing

ARD

1. Inner pin:	Signals + power
2. Inner shield:	Return
3. Outer shield:	Base Station housing

Lemo 3

1. Inner pin:	Signals + power
2. Inner shield:	Return
3. Outer shield:	Base Station housing

Lemo 4

1. Inner pin:	Signals + power
2. Inner shield:	Return
3. Outer shield:	Base Station housing

Lemo BBC

1. Inner pin:	Signals + power
2. Inner shield:	Return
3. Outer shield:	Base Station housing

Intercom

The intercom functions available are determined by the configuration of the base station. The Headset board and the Audio/Intercom board are optional. This results in four possible configurations:

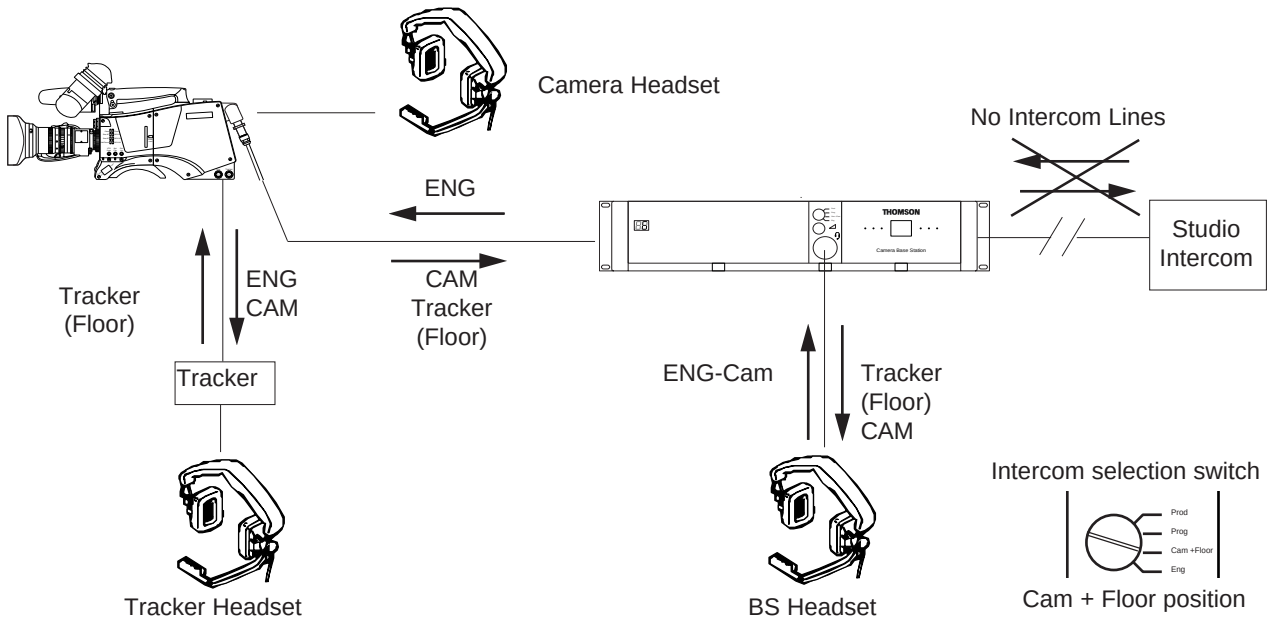
1. Headset board present - Audio/Intercom board absent
2. Headset board absent - Audio/Intercom board present
3. Both boards present
4. Both boards absent

If both boards are absent then there are no intercom facilities available. The other configurations are shown in the figures below.

Depending on your camera configuration, consult the cross-reference tables to see which menu positions should be used for both camera and base station menus for routing the intercom signals.

Intercom settings for LDK 100 and LDK 200 cameras
(Headset board present - Audio/Intercom board absent in Base Station)

1. Headset board present - Audio/Intercom board absent



Intercom settings for LDK 100 and LDK 200 cameras

(Headset board present - Audio/Intercom board absent in Base Station)

LDK 5430 Triax adapter

FROM \ TO	Tracker Headset	Camera Headset	BS Headset
Tracker Mic (Phantom Power !)	Tracker Output = ENG Channel Camera system menu: Install \ Intercom \ Track mic to ≠ Off Install \ Intercom \ Track Source = Side	Camera system menu: Install \ Intercom \ Track mic to ≠ Off Install \ Intercom \ Cam track ≠ Off Install \ Intercom \ Cam level > 0	Camera system menu: Install \ Intercom \ Track mic to ≠ Off BS system menu: Audio/Intercom \ ENG headset \ Tracker to headset = On Audio/Intercom \ ENG headset \ Tracker volume > 0 BS front: Intercom selection switch = Cam + Floor
Camera Mic (Phantom Power !)	**CAM Channel** Tracker Output = Camera Channel Cam Mic = On* Camera system menu: Install \ Intercom \ Cam Mic to = CH1 **ENG Channel** Tracker Output = ENG Channel Camera system menu: Install \ Intercom \ Track Source = Side Install \ Intercom \ Cam Mic to = Ch2	Camera system menu: Install \ Intercom \ Cam Mic = On Install \ Intercom \ Side tone > 0	Camera system menu: Install \ Intercom \ Cam mic to = CH1 *(If=CH2, then monitoring via floor)* BS system menu: Audio/Intercom \ ENG headset \ Cam to headset = On Audio/Intercom \ ENG headset \ Cam volume > 0 Audio/Intercom \ ENG headset \ Floor to headset = On BS front: Intercom selection switch = Cam + Floor
BS Headset Mic (Phantom Power !)	Tracker Output = ENG Channel Camera system menu: Install \ Intercom \ Track Source = ENG BS system menu: Audio/Intercom \ ENG Headset \ Mic to ENG-Cam = On	Camera system menu: Install \ Intercom \ Cam engineering ≠ Off BS system menu: Audio/Intercom \ ENG Headset \ Mic to ENG-Cam = On	BS system menu: Audio/Intercom \ ENG headset \ Sidetone > 0

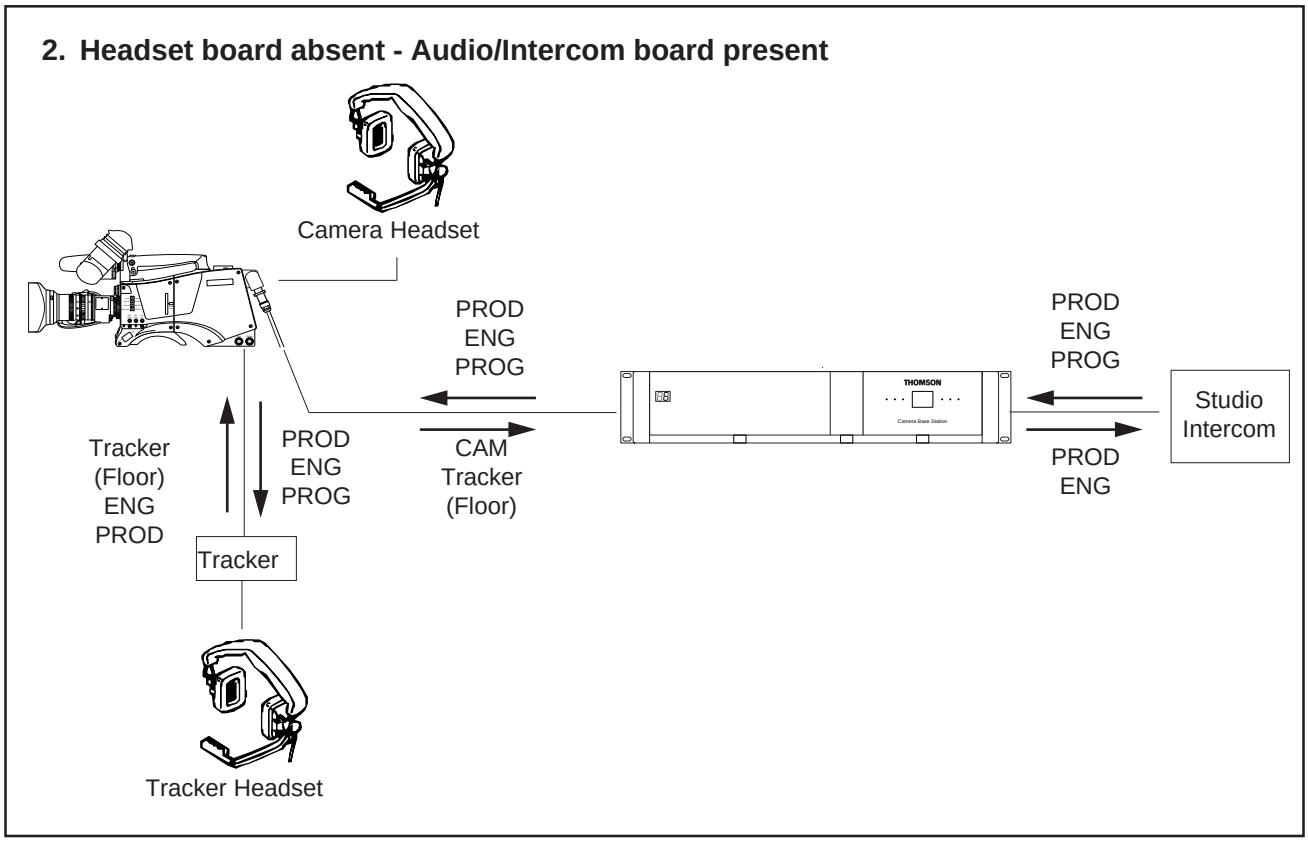
* Other ways to switch on camera microphone:
- Camera: Start button = On
- Camera: Intercom Routing Switch = ENG or PROD

LDK 5400 Triax adapter

FROM \ TO	Tracker Headset	Camera Headset	BS Headset
Tracker Mic (Phantom Power !)	Not available	Not available	Not available
Camera Mic (Phantom Power !)	Not available	Camera system menu: Install \ Intercom \ Side tone > 0	BS system menu: Audio/Intercom \ ENG headset \ Cam to headset = On Audio/Intercom \ ENG headset \ Cam volume > 0 BS front: Intercom selection switch = Cam + Floor
BS Headset Mic (Phantom Power !)	Not available	BS system menu: Audio/Intercom \ ENG Headset \ Mic to ENG-Cam = On	BS system menu: Audio/Intercom \ ENG headset \ Sidetone > 0

Studio PROD, ENG or PROG signals are not available

Intercom settings for LDK 100 and LDK 200 cameras
(Audio/Intercom board present - Headset board absent in Base Station)



LDK 5400 Triax adapter

FROM \ TO	**Camera Headset**	**Studio PROD**	**Studio ENG**
Camera Mic (Phantom Power !)	Camera system menu: Install\Intercom\Sidetone>0	BS system menu: Audio/Intercom\Intercom\Isolate\ Isolate=Syst Camera intercom routing switch = Prod (or camera start button = on)	BS system menu: Audio/Intercom\Intercom\Isolate\ Isolate=Syst Camera intercom routing switch = ENG
Studio PROD	No settings	Not available	Not available
Studio ENG	No settings	Not available	Not available
Studio PROG	No settings	Not available	Not available

Tracker or Base station signals are not available

Intercom settings for LDK 100 and LDK 200 cameras

(Audio/Intercom board present - Headset board absent in Base Station)

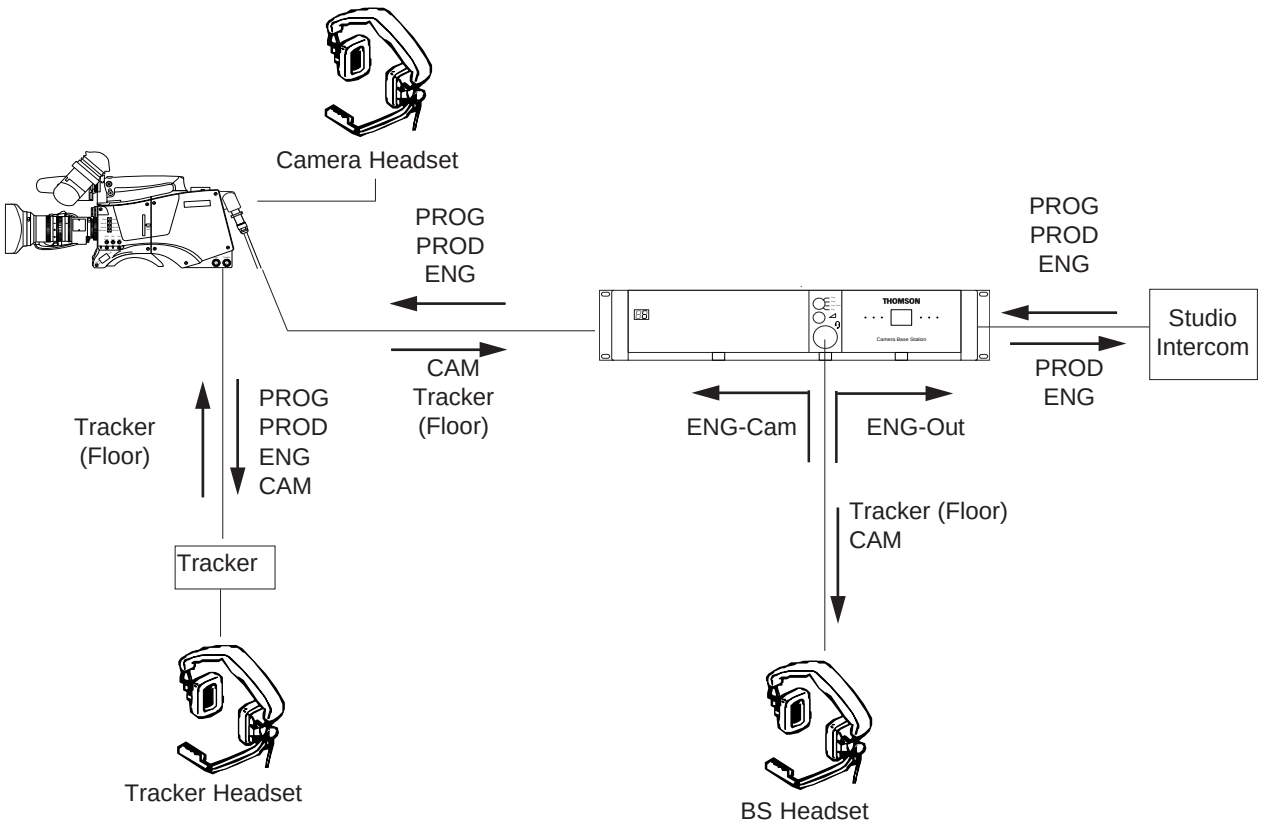
LDK 5430 Triax adapter

FROM \ TO	**Tracker Headset**	**Camera Headset**	**Studio PROD**	**Studio ENG**
Tracker Mic (Phantom Power !)	Tracker box = ENG Channel Camera system menu: Install\Intercom\Track mic to≠ Off Install\Intercom\Track Source = Side	Camera system menu: Install\Intercom\Track mic to≠ Off Install\Intercom\Cam track≠ Off Install\Intercom\Cam level>0	Camera system menu: Install\Intercom\Track mic to= All or Prod BS system menu: Audio/Intercom\Intercom\Isolate\ Isolate=Syst	Camera system menu: Install\Intercom\Track mic to= All or ENG BS system menu: Audio/Intercom\Intercom\Isolate\ Isolate=Syst
Camera Mic (Phantom Power !)	**CAM Channel** Tracker box = Camera Channel Cam Mic = On * Camera system menu: Install\Intercom\CamMic to = CH1 **ENG Channel** Tracker box = ENG Channel Camera system menu: Install\Intercom\Track Source = Side Install\Intercom\CamMic to = Ch2	Camera system menu: Install\Intercom\CamMic = On Install\Intercom\Side tone>0	BS system menu: Audio/Intercom\Intercom\Isolate\ Isolate=Syst Camera intercom routing switch = Prod (or camera start button = on)	BS system menu: Audio/Intercom\Intercom\Isolate\ Isolate=Syst Camera intercom routing switch = ENG
Studio PROD	Tracker box = PROD Channel	Camera system menu: Install\Intercom\Cam production ≠Off	Not available	Not available
Studio ENG	Tracker box = ENG Channel Camera system menu: Install\Intercom\Track Source = ENG	Camera system menu: Install\Intercom\Cam engineering ≠Off	Not available	Not available
Studio PROG	Tracker box = PROG Channel	Camera system menu: Install\Intercom\Cam program≠ Off	Not available	Not available

* Other ways to switch on camera microphone:
- Camera: Start button = On
- Camera: Intercom Routing Switch = ENG or PROD

Intercom settings for LDK 100 and LDK 200 cameras
(Audio/Intercom board and Headset board present in Base Station)

3. Headset board present - Audio/Intercom board present



Intercom settings for LDK 100 and LDK 200 cameras

(Audio/Intercom board and Headset board present in Base Station)

LDK 5430 Triax adapter

FROM \ TO	**Tracker Headset**	**Camera Headset**	**BS Headset**	**Studio PROD**	**Studio ENG**
Tracker Mic (Phantom Power !)	Tracker box = ENG Channel Camera system menu: Install \ Intercom \ Track mic to ≠ Off Install \ Intercom \ Track Source = Side	Camera system menu: Install \ Intercom \ Track mic to ≠ Off Install \ Intercom \ Cam track ≠ Off Install \ Intercom \ Cam level > 0	Camera system menu: Install \ Intercom \ Track mic to ≠ Off BS system menu: Audio/Intercom \ ENG headset \ Tracker to headset = On Audio/Intercom \ ENG headset \ Tracker volume > 0 BS front: Intercom selection switch = Cam + Floor	Camera system menu: Install \ Intercom \ Track mic to = All (or Prod) BS system menu: Audio/Intercom \ Isolate \ Isolate ≠ Isol	Camera system menu: Install \ Intercom \ Track mic to = All (or Eng) BS system menu: Audio/Intercom \ Isolate \ Isolate ≠ Isol
Camera Mic (Phantom Power !)	**CAM Channel** Tracker box = Camera Channel Cam Mic = On* Camera system menu: Install \ Intercom \ Cam Mic to = CH1 **ENG Channel** Tracker box = ENG Channel Camera system menu: Install \ Intercom \ Track Source = Side Install \ Intercom \ Cam Mic to = Ch2	Camera system menu: Install \ Intercom \ Cam Mic = On Install \ Intercom \ Sidetone > 0	Camera system menu: Install \ Intercom \ Cam mic to = CH1 *(If=CH2, then monitoring via floor)* BS system menu: Audio/Intercom \ ENG headset \ Cam to headset = On Audio/Intercom \ ENG headset \ Cam volume > 0 Audio/Intercom \ ENG headset \ Floor to headset = On BS front: Intercom selection switch = Cam + Floor	BS system menu: Audio/Intercom \ Isolate \ Isolate ≠ Isol Camera intercom routing switch = PROD	BS system menu: Audio/Intercom \ Isolate \ Isolate ≠ Isol Camera intercom routing switch = ENG
BS Headset Mic (Phantom Power !)	Tracker box = ENG Channel Camera system menu: Install \ Intercom \ Track Source = ENG BS system menu: Audio/Intercom \ ENG Headset \ Mic to ENG-Cam = On	Camera system menu: Install \ Intercom \ Cam Engineering ≠ Off BS system menu: Audio/Intercom \ ENG Headset \ Mic to ENG-Cam = On	BS system menu: Audio/Intercom \ ENG headset \ Sidetone > 0	Not available	BS system menu: Audio/Intercom \ Isolate \ Isolate ≠ Isol Audio/Intercom \ ENG Headset \ Mic Eng-Out = On
Studio PROD	Tracker box = PROD Channel	Camera system menu: Install \ Intercom \ Cam Production ≠ Off	BS front: Intercom selection switch = PROD	Not available	Not available
Studio ENG	Tracker box = ENG Channel	Camera system menu: Install \ Intercom \ Cam Engineering ≠ Off	BS front: Intercom selection switch = ENG	Not available	Not available
Studio PROG	Tracker box = PROG Channel	Camera system menu: Install \ Intercom \ Cam Program ≠ Off	BS front: Intercom selection switch = PROG	Not available	Not available

* Other ways to switch on camera microphone:
- Camera: Start button = On
- Camera: Intercom Routing Switch = ENG or PROD

Intercom settings for LDK 100 and LDK 200 cameras
(Audio/Intercom board and Headset board present in Base Station)

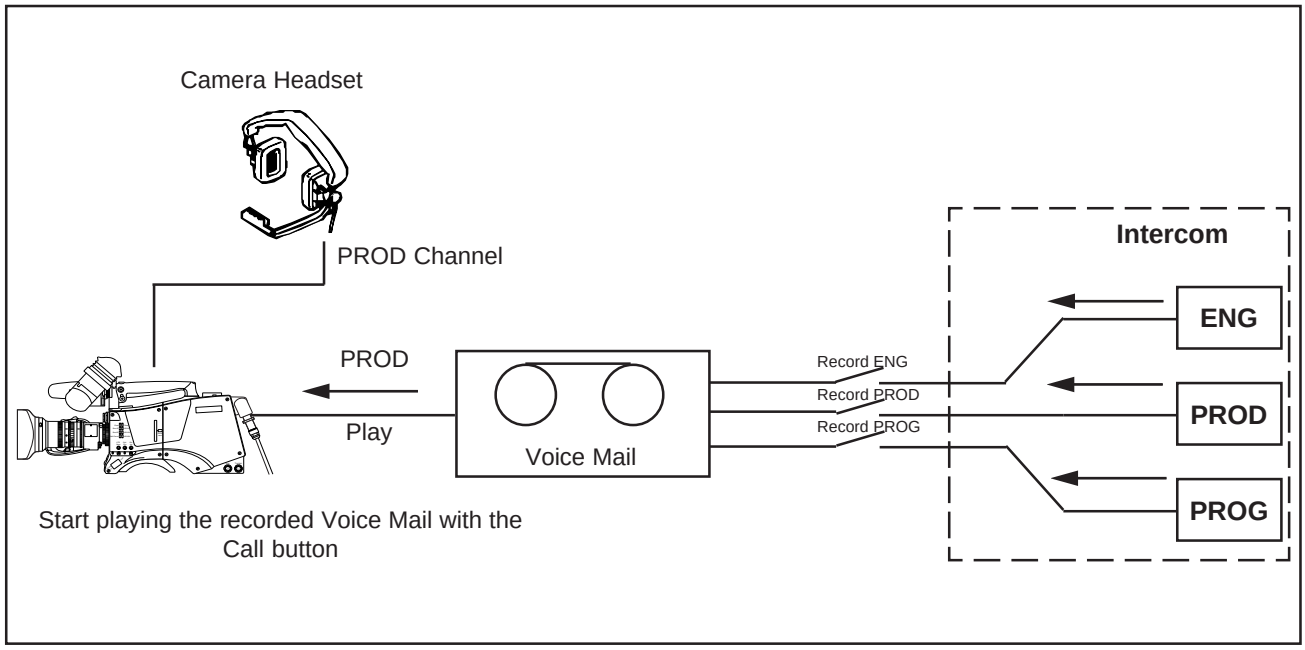
LDK 5400 Triax adapter

FROM \ TO	**Camera Headset**	**BS Headset**	**Studio PROD**	**Studio ENG**
Camera Mic (Phantom Power !)	Camera system menu: Install \ Intercom \ Cam Mic = On Install \ Intercom \ Sidetone > 0	Camera system menu: Install \ Intercom \ Cam mic = On BS system menu: Audio/Intercom \ ENG headset \ Cam to headset = On Audio/Intercom \ ENG headset \ Cam volume > 0 BS front: Intercom selection switch = Cam + Floor	BS system menu: Audio/Intercom \ Isolate \ Isolate ≠ Isol Camera intercom routing switch = PROD	BS system menu: Audio/Intercom \ Isolate \ Isolate ≠ Isol Camera intercom routing switch = ENG
BS Headset Mic (Phantom Power !)	Camera system menu: Install \ Intercom \ Cam Engineering ≠ Off BS system menu: Audio/Intercom \ ENG Headset \ Mic to ENG-Cam = On	BS system menu: Audio/Intercom \ ENG headset \ Sidetone > 0	Not available	BS system menu: Audio/Intercom \ Isolate \ Isolate ≠ Isol Audio/Intercom \ ENG Headset \ Mic Eng-Out = On
Studio PROD	No settings	BS front: Intercom selection switch = PROD	Not available	Not available
Studio ENG	No settings	BS front: Intercom selection switch = ENG	Not available	Not available
Studio PROG	No settings	BS front: Intercom selection switch = PROG	Not available	Not available

* Other ways to switch on camera microphone:
  - Camera: Start button = On
  - Camera: Intercom Routing Switch = ENG or PROD

Tracker signals are not available

Voice Mail



Voice Mail is an intercom message storage function.

Note: Voice mail is only available if the Base Station menu item *Audio/Intercom* \ *Intercom* \ *Call* is set to Voice.

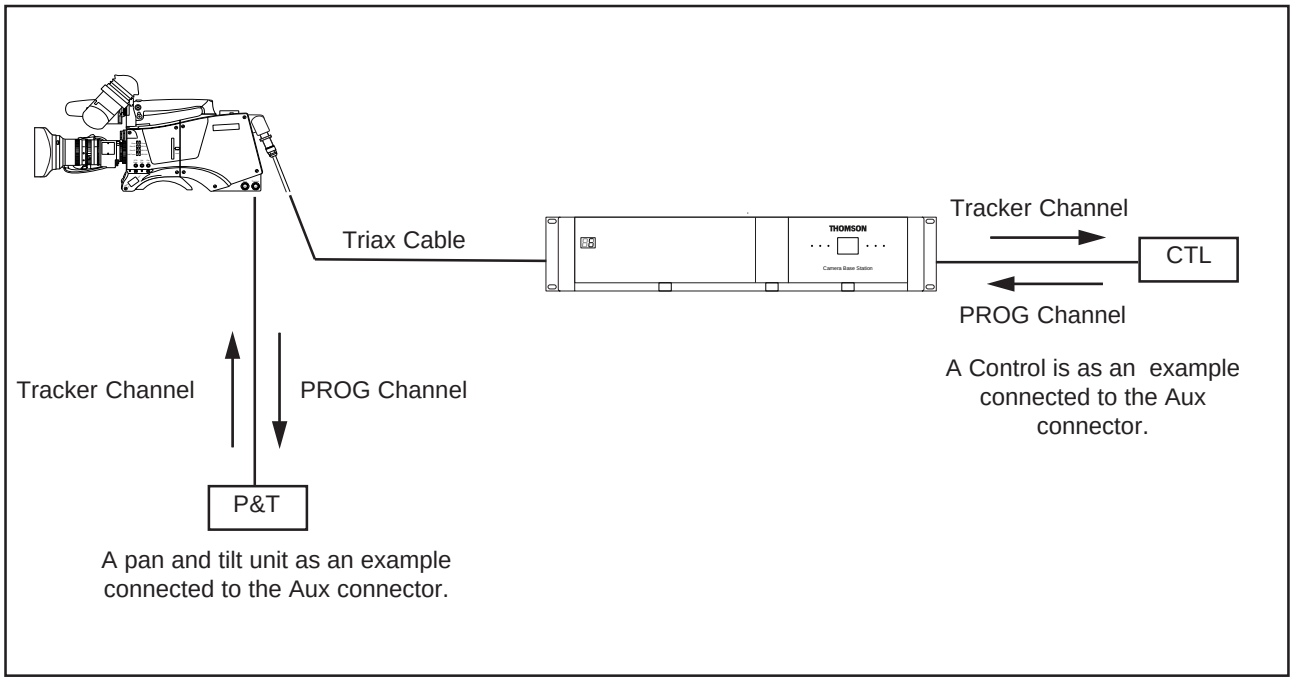
Recording
Recording starts automatically at the start of a message. A new message erases the previous recorded message. The maximum message length is 16 seconds. Longer messages are recorded in a retroloop. Only the last 16 seconds are available for playback.

Select the intercom channels to be recorded via the Base Station menu items *Audio/Intercom* \ *Intercom* \ *Voice mail* \ *Record ENG, PROD and PROG*.

Note: The voice mail box can only contain one message. If voice mail recording starts from an other intercom channel the previous message is erased.

Listening to the message
Push the camera call button to start playing out the recorded voice mail to the camera headset. Push the call button again to stop playing the voice mail message.

Private Data



Private data channels can be used for the transmission of serial data via the triax cable. For example, electronic scriptboard or character data for a video display unit can be transmitted to the camera.

The tracker microphone intercom channel is used for the data channel from camera head to Base Station. The program intercom channel is used for the data channel from Base Station to camera head. The input and output signals are available on the auxiliary connectors of the camera and Base Station (for camera see the connectors and cables section). If a channel is used for private data, then of course the original functions are no longer available.

To select the function of the Base Station to camera channel set the Base Station menu item *Audio/Intercom* \ *Private Data* \ *PROG Channel* to Priva.

To select the function of the Camera to Base Station channel set the Base Station menu item *Audio/Intercom* \ *Private Data* \ *Tracker Channel* to Priva.

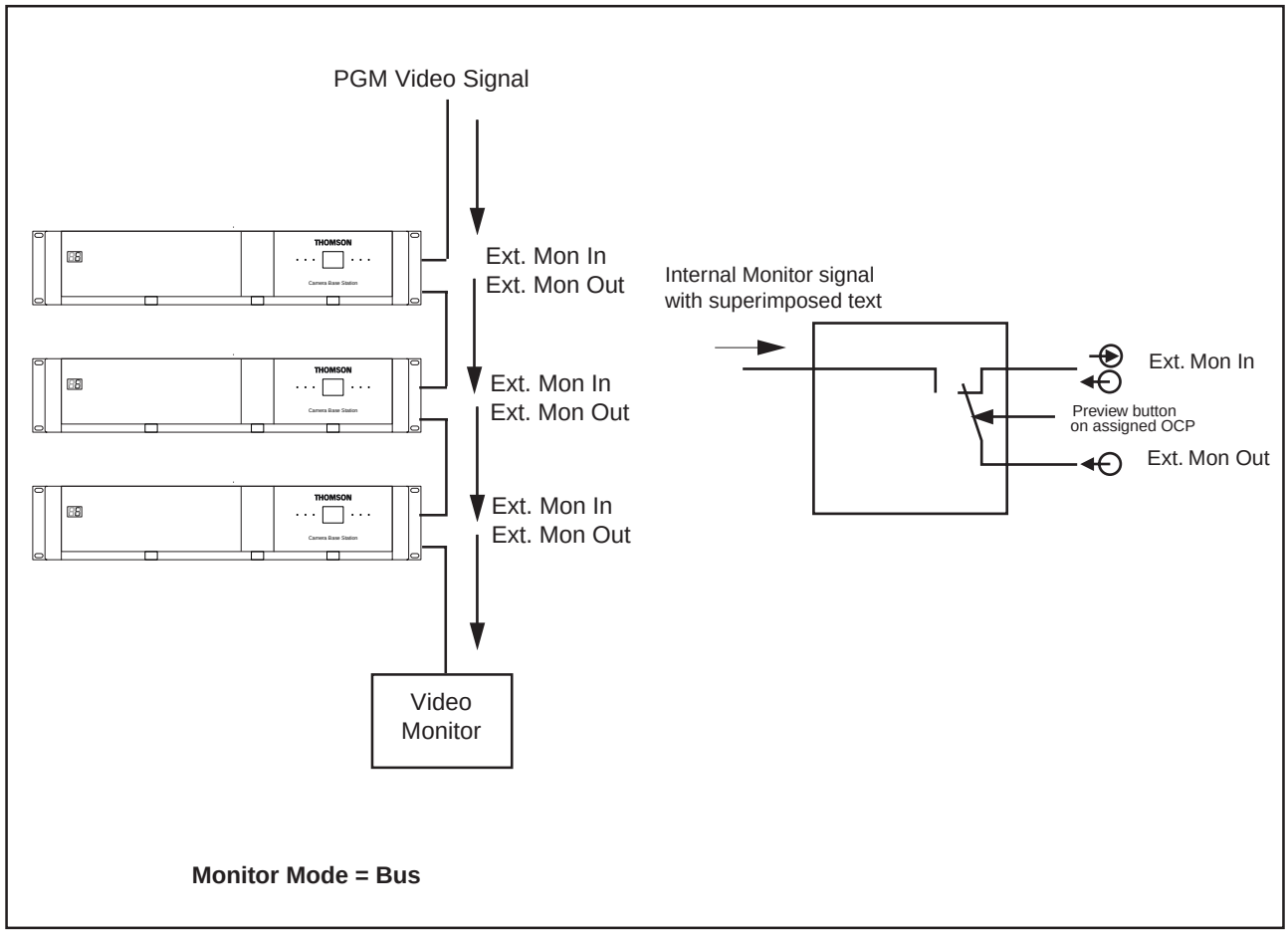
Remember that the propagation-delay times are different for different triax cable lengths, especially if a return signal is involved. At maximum lengths of 2400 metres the total delay is at least 25 µsec. and can be more than 30 µsec, depending on the type of triax cable.

Data signal specifications
Baudrate: 2400
Input level: TLL, possible RS232
Input impedance: 100Kohm
Output impedance: ~300 ohm
Max load: ~1Kohm

Note: The LDK 100 and LDK 200 cameras with LDK 5430 Triax adapter follow these settings automatically. For the LDK 10(p), LDK 20(p) and LDK 2000(p) cameras dip- switches in the camera have to be set.

	BS -> CAM	CAM -> BS
LDK 10	Video Intercom Tx S501	Audio Intercom Rx S301
LDK 10p	Audio Intercom LF S801	Audio Intercom LF S802
LDK 20	Video Intercom Tx S501	Audio Intercom Rx S301
LDK 20p	Audio Intercom LF S801	Audio Intercom LF S802
LDK 5400	Not available	Not available
LDK 5430	No settings	No settings

Text Loop-through with multiple base stations



The Base Station menu text can be displayed at the Monitor output. To display the menu text of a selected Base Station proceed as follows:

Installation

a. Set the Base Station menu item *System* \ *Monitor Mode* to Bus.
b. Set the Base Station menu Item *Monitoring* \ *Menu* \ *Monitor Output* to On.
c. Connect the Base Stations in a loop-through monitoring chain.

Note: It is not possible to change the monitor mode if the Monitor mode is set to WFM by hardware. Consult section 2 "System Settings" for detailed information.

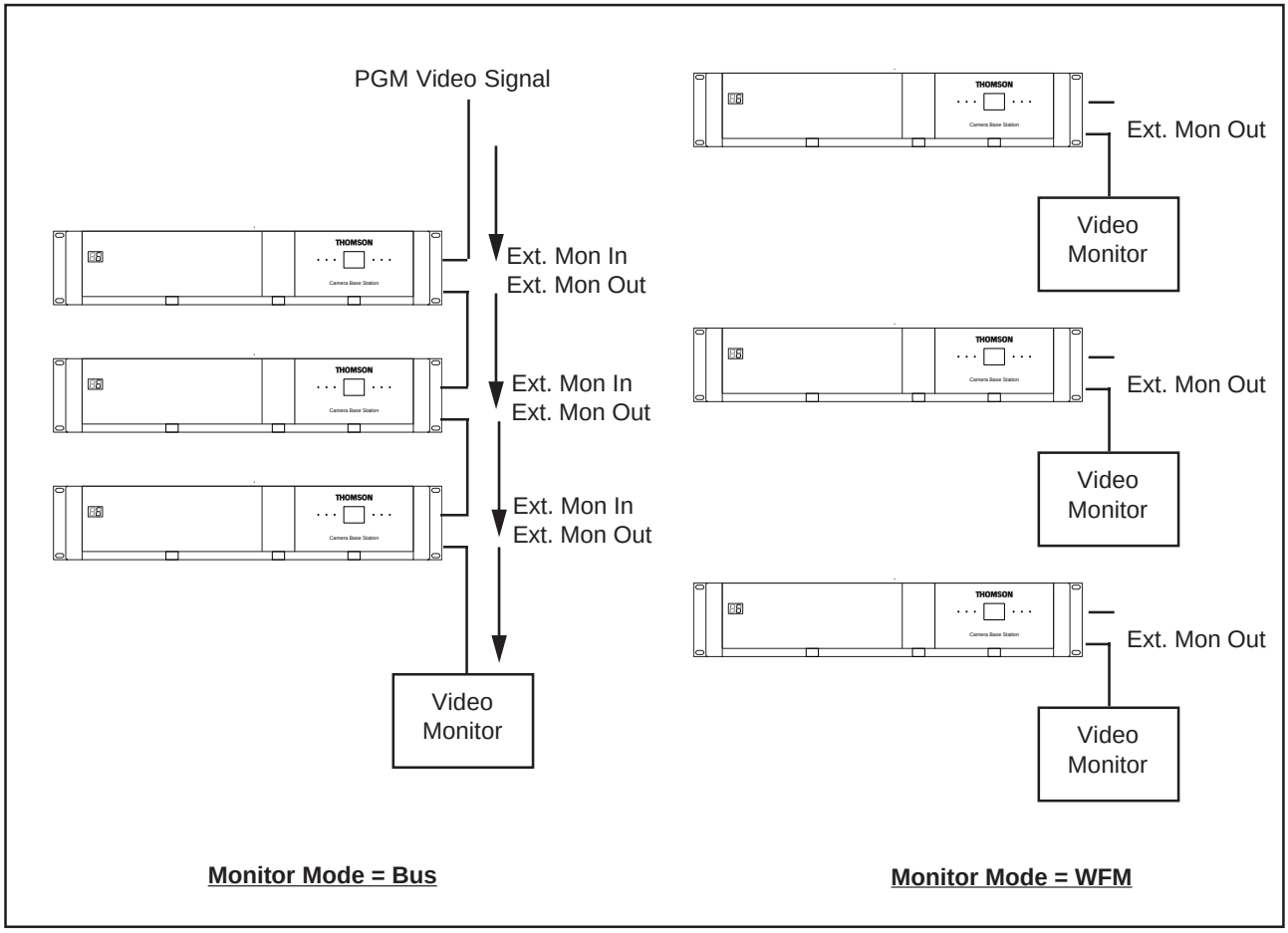
Operation

a. Select the Base Station with the Operational Control Panel's preview button.
b. Enter the Base Station menu by means of the Operational Control Panel.

Note: Consult the Operational Control Panel User's Guide for detailed information about the Base Station Menu Control mode.

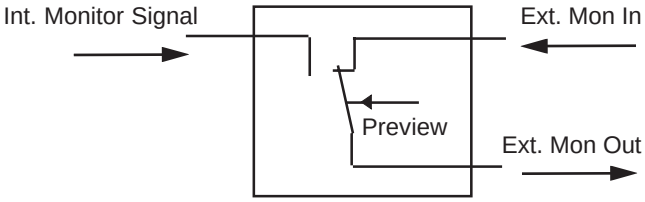
Monitor Mode

The Monitor mode can be set in the Base Station menu *System \ Monitor Mode*.



Bus Mode

The Preview button of the connected Operational Control Panel selects if the internal or external monitor signal is provided at the External Monitor output.



WFM Mode

In WFM mode the External Monitor Output always provides the Internal Monitor Signal.

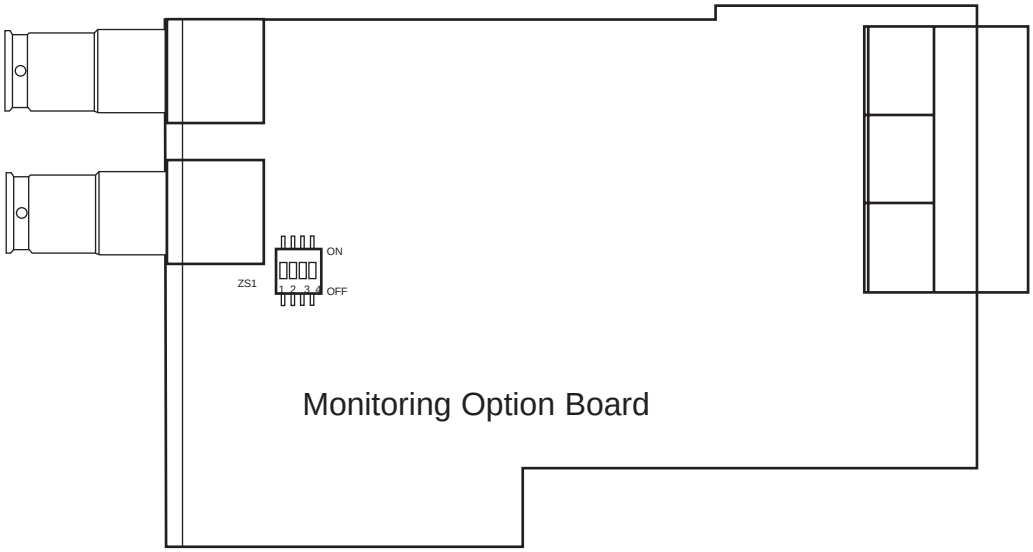
Note: It is not possible to change the monitor mode if the Monitor mode is set to WFM by hardware.

Monitoring mode selector

On the Monitoring Option Board with dipswitch ZS1-1 the WFM mode can be set permanent or selectable as follows:

Select WFM mode or BUS mode in menu item system\monitor mode

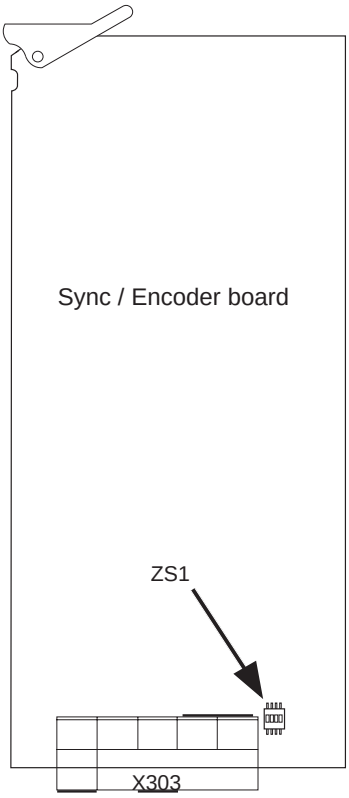
Permanent WFM mode



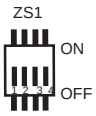
Reference input and output

Reference output selection

A switch (ZS1-1) on the Sync./Encoder board determines how the reference output connector on the rear of the base station is configured.

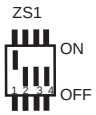


ZS1-1 OFF (open):

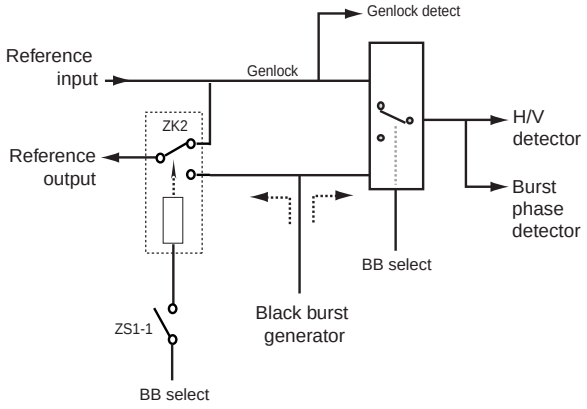


The reference input connector is always looped-through to the reference output connector. (An internal reference signal is never supplied to the reference output.)

ZS1-1 ON (closed):



If no external reference signal is supplied, the Base Station supplies an internal reference signal (black burst) to the reference output connector.



MCP Available

When no MCP is available it might occur that some functions are in an undesirable position, for example, a lock on the upper part of the OCP. To prevent this happening, set the Base Station menu item *System* \ *MCP Available* to No when an MCP is not available.

The functions affected by this setting and their state is as follows (if the item value is set to “MCP Available = No"):

Variable black stretch (Yes/No)	Yes
Variable gamma (Yes/No)	Yes
Variable Flare (Yes/No)	Yes
Saturation (Yes/No)	Yes
White clipper (Yes/No)	Yes
Knee slope (Yes/No)	Yes
Knee point (Yes/No)	Yes
Iris(Normal/Reverse)	Normal
OCP lock (Upper/Total)	Total
Intercom (System/Isolate)	System
Audio (External/MCP)	External
Aspect Ratio (External/MCP)	External
Aspect Ratio (4:3/16:9)	4:3
Autolight (Yes/No)	Yes

LDK 10(p) LDK 20(p) and LDK 2000(p):

Camera User Level	4

Specifications

LDK 4501/00	**SDTV BASE STATION UNIT**
General	
Dimensions (WxHxD)	483 (19" rack) x 88 (2RU) x 510mm. (17.2 x 3.5 x 20.1 inch)
Operating temperature	-20ºC to +50ºC (-4ºF to 122ºF)
Storage temperature	-40ºC to +70ºC (-40ºF to 158ºF)
Operating Humidity	Max. 90% (non condensing)
Shock resistance	Max. 10G (transport), Max 2G (operating)
Altitude	Max. 50,000 feet
Weight	Approximately 17.0 kg (37.5 lbs.) fully equipped with options.
Transmission	
Nom. Cable Length	2,000 m. (3,281 ft) *(14 mm./0.55" triax cable, S/N ratio 60dB)*
Max. Cable Length	3,000 m. (4,922 ft) *(14 mm./0.55" triax cable, S/N ratio 42dB)*
Bandwidth	7/7/7MHz. (+/-3dB), RGB or Y,B-Y,R-Y
Connectors	
Teleprompter in	BNC 2x 1.0Vp-p, 75ohm (loop-through)
Reference in	BNC 2x 1.0Vp-p, 75ohm (loop-through)
SDI out	BNC 6x, 0.8Vp-p, 75ohm *(CCIR 601 with EDH, SMPTE RP165)*
Text out	BNC 1x 1.0Vp-p, 75ohm (VBS)
Auxiliary out	BNC 1x 1.0Vp-p, 75ohm *(CVBS, replaces teleprompter input)*
Reference out	BNC 1x 0.3Vp-p, 75ohm *(BB, if external reference in not available)*
Composite video out	BNC 1x 1.0Vp-p, 75ohm *(CVBS, multi standard w/ or w/o text, NTSC acc. SMPTE 170M, PAL acc. ITU 624)*
Signalling in/out	D-sub 15-pin, male *Preview, Green tally (call), dry contact, Yellow tally (I,ISO), dry contact Red tally (on-air), dry contact Remote audio level control (22-64dB), DC*
Auxiliary in/out	D-sub 9-pin, female *An0, 0-5Vdc in, output on camera head An1, 0-5Vdc in, or aspect ratio remote control, 16:9<0.8Vdc in, 4:3>2.4Vdc in Private data in/out, 2.4kB TTL (RS-232)*
RS-232	D-sub 9-pin, male *(RXD,TXD,DTR,DSR,RTS,CTS)*
Control data	4-pin, male *(Series 9000, 2-wire camera control bus)*
Ethernet	RJ-45 connector *C2IP camera control*

LDK4510	**POWER MODULES**
LDK4510/10	AC/DC power module for studio and portable camera heads
Power requirement	AC 115V/230V +/- 15%, 47 to 63 Hz
Power connector	IEC type, 3-pin male
Power consumption	470 VA or 270 Watts max. *(with studio camera head)* 360 VA or 210 Watts max. *(with portable camera head)*
Utility power	150 VA or 150 Watts max. *(on studio camera head)* 80 VA or 80 Watts max. *(on portable camera head)*

LDK4520	**SDTV TRIAX MODULES**
LDK4520/10	Fischer triax connector
LDK4520/20	Tri-Lock triax connector
LDK4520/30	ARD triax connector
LDK4520/40	Lemo 4 triax connector
LDK4520/50	Lemo BBC triax connector
LDK4520/60	Lemo 3 triax connector

LDK4530	**EXTERNAL VIDEO IN MODULES**
LDK4530/10	External video module
External video in	BNC 2x 1.0Vp-p, +/- 6dB, 75ohm (loop-through) (CVBS or VBS)

LDK4540	**AUDIO & INTERCOM MODULES**
LDK4540/10	2 ch. audio & 2/4-wire intercom
Audio out	XLR-3 2x, 0/+6dBu (+/-1.5dB, max. 18dBu, 600ohm, Gain Max. 70dB)
Frequency response	40Hz to 15kHz, (+1/-3dB, *1kHz, -10dBu output level)*
Distorsion	Less than 0.5% *(100Hz/1kHz, +6dBu out, 600ohm)*
S/N ratio	58dB *(unweighted RMS)*
Intercom in/out	D-sub 15-pin, female (program in, production in/out, engineering in/out *in: 0 or 6dBu (max. 6 or 12dBu), 9kohm out: 0 or 6dBu (+/- 2dB, max. 12dBu), 600ohm)*
Frequency response	150Hz to 6kHz *(1kHz, -10dBu output level)*
Distortion	Less than 2% *(1kHz, +12dBu level)*

LDK4541	**ENGINEERING INTERCOM MODULE**
LDK4541/10	XLR-5 engineering intercom module
LDK4541/20	Tuchel 6-pin engineering intercom module
LDK4541/30	Tuchel 5-pin engineering intercom module
LDK4541/40	XLR-7f engineering intercom module *(6dBu, +/-2dB, max. 12dBu, 25-400ohm)*
Frequency response	150Hz to 6 kHz, +/-3dB (0dB, 1kHz, -10dBu output level)
S/N ratio	46dB *(unweighted RMS)*
Phantom power	+12Vdc (+/-1V), menu selectable

LDK4560	**MONITORING MODULES**
LDK4560/10	Bus monitor with preview control or WFM output
Composite video out	BNC 2x 1.0Vp-p, 75ohm (loop-through) *(CVBS, Y, R, G, B, RGB sequential, RGB superimpose, Ext. 1, Ext. 2, Ext. 1 + Y or Ext. 2 + Y)*
Frequency response	0.1 to 5MHz (+0.5/-1dB)
Kfactor	Less than 2%

Section 3

Operating Instructions

This section describes the structure of the camera base station control system. This section explains how to control and program the menu system and how to set up the menu system to suit your personal preferences. The menu structure and the methods of function selection are also explained. The appendix shows the contents of the menu system.

Contents

Introduction

The flexible design of the base station means that it can be integrated into a variety of configurations in studios or OB vans. To made full use of its extensive functionality it provides many facilities for setting it up. Once set up, operation is vitually transparent.

We recommend that you spend time using the various controls and displays in order to fully discover the wide range of features. Read the instructions in this section carefully but also feel free to examine the various menus in detail. In this way you will learn quickly to intuitively use the system.

Simple set-up

The Rotary/Push button behind the left front cover can be used to control some basic set-up functions. It can also be used to navigate through the menu system.

Menu System

The menu system is used for setting up and configuring the base station. As there are a large number of functions and set-up options available, it may require some time for you to become familiar with them all.

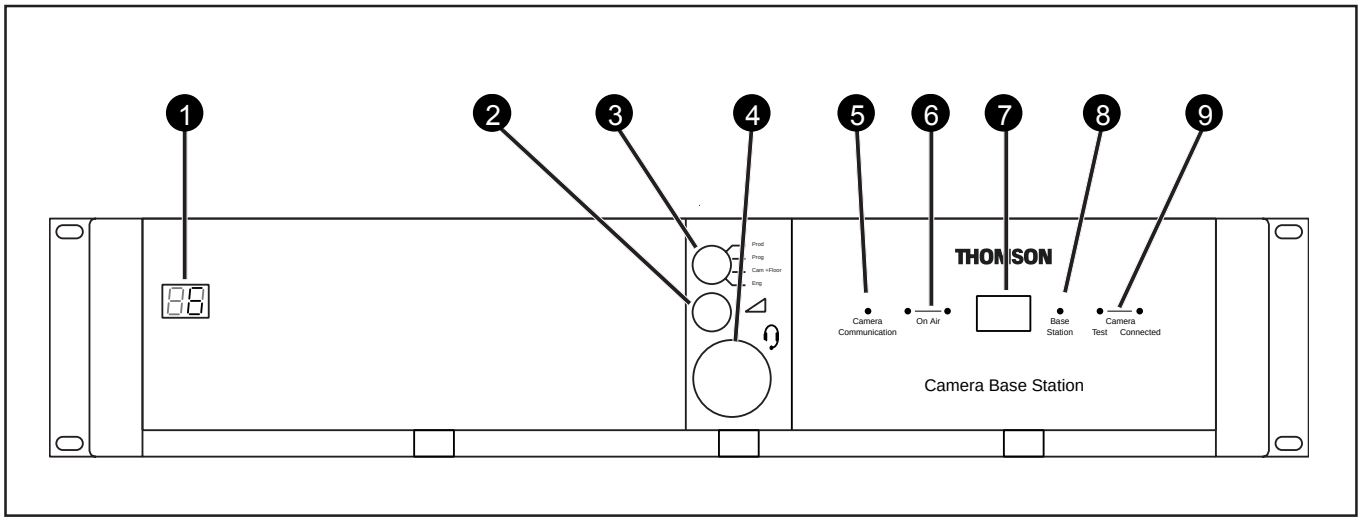
OCP menu control

Although the Rotary/Push button can be used to navigate through the menu system, it is more convenient to use the OCP connected to the Base Station. (Refer to the OCP user guide to find out how to do this.)

Viewing the menu

The System Menu video signal is available on the Text output of the base station. The System Menu text can also be superimposed on the CVBS and the Monitor output if desired. Consult the section "Text Loop-through with Multiple Base Stations" for viewing the menu text through the monitoring bus.

Front panel



1 Display

During normal operation the display shows the number of the camera connected to the Base Station.

When the set-up control (located behind the left front cover) is activated, the display shows a two letter code to identify the set-up function (see Set-Up).

The display can be switched on or off via the Base Station menu system.

2 Intercom volume control

Adjusts the volume of the selected intercom channel being monitored on the connector below.

3 Intercom selection switch

Use this switch to select the intercom channel that is monitored on the connector below.

4 Intercom connector

Connect a headset to this connector to monitor the selected intercom channel.

5 Camera Communication

This green LED lights when the communications between Camera and Base Station are OK.

6 On Air and ISO indicators

The red LED lights when the Camera is On Air.
If the Camera is selected as ISO Camera the yellow LED lights.

7 Power Switch

Switches the power supply to the Base Station on and off. A built-in light lights to indicate that the power is ON.

8 Base Station

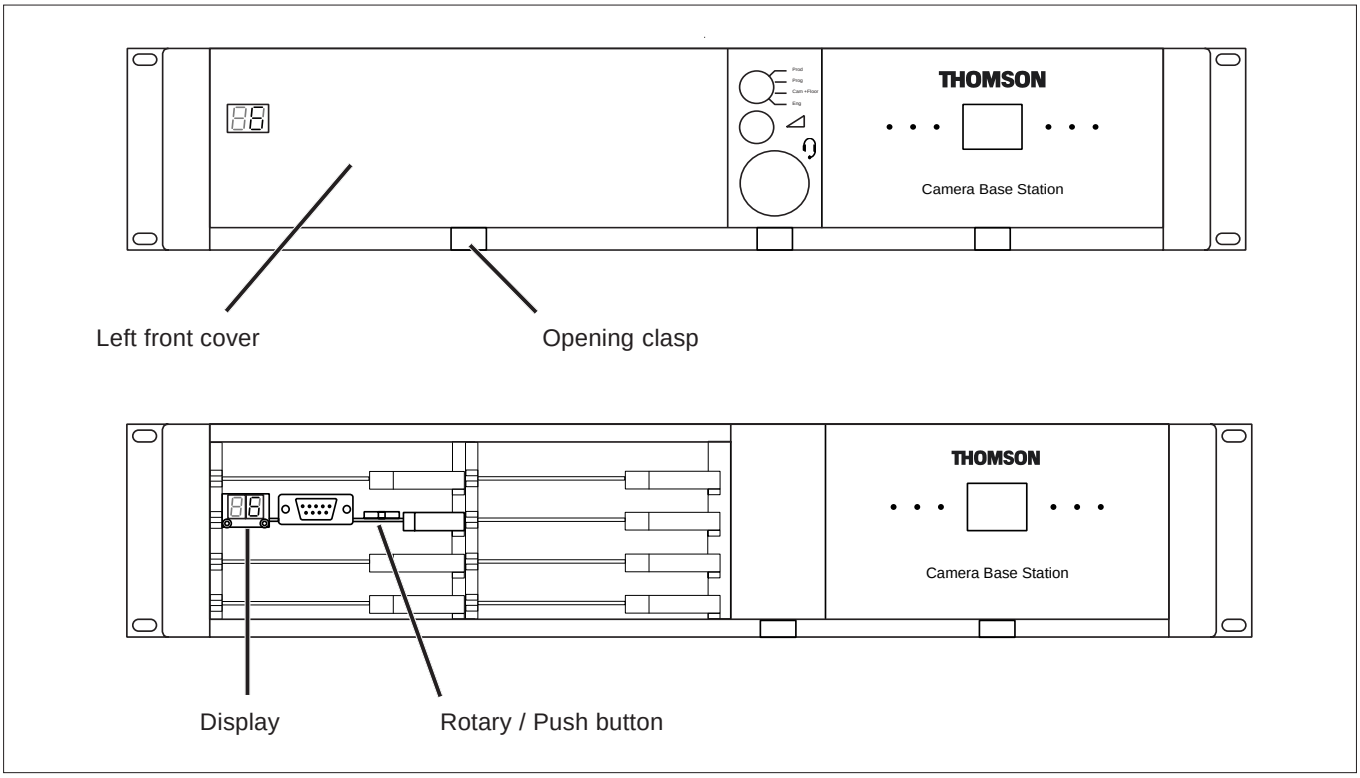
This green LED lights when the Base Station is operationally ready.

9 Camera indicators

This bicolour TEST LED lights red or yellow to indicate the Camera and Triax status:

- Red lights continuously – Triax short circuit.
- Red flashes – Triax open circuit.
- Yellow – Camera power switched off with the Operational or Master Control Panel.

This green CONNECTED LED lights when the Camera is connected and the Camera power switch is On.



Set-up items

There are four items that can be accessed via the set-up Rotary/Push button on the Data Board:

- Camera number (CA)
- Subcarrier adjustment (SC)
- H-phase (HP)
- System menu (NN)

Remove the left front cover to access the Rotary/Push button on the Data Board.

Rotate the button to the left or right to select the required item. The display shows the abbreviation of the current item.

Camera Number (CA)

When CA is displayed, push the Rotary/Push button to enter the selection mode. Rotate the button to the left or right to select an available camera number. Push the Rotary/Push button to set the new camera number. The Base Station automatically resets and the new camera number is shown in the display.

Subcarrier (SC)

When SC is displayed, push the Rotary/Push button to enter the Subcarrier adjustment mode. Rotate the button to the left or right to shift the Subcarrier phase. If you continue to rotate the button, the shift change occurs in bigger steps. Push the Rotary/Push button to leave the Subcarrier adjustment mode.

H-Phase (HP)

When HP is displayed, push the Rotary/Push button to enter the H-Phase adjustment mode. Rotate the button to the left or right to shift the H-Phase. If you continue to rotate the button, the shift change occurs in bigger steps. Push the Rotary/Push button to leave the H-Phase adjustment mode.

System Menu (NN)

When NN is displayed, push the Rotary/Push button twice to enter the System Menu. The Rotary/Push button can be used to navigate through the menu system, however, it is more convenient to use the OCP connected to the Base Station. (Refer to the OCP user guide to find out how to do this.)

The System Menu video signal is available on the Text output of the base station. The System Menu text can also be superimposed on the CVBS and the Monitor output if desired.

Entering the Systems menu

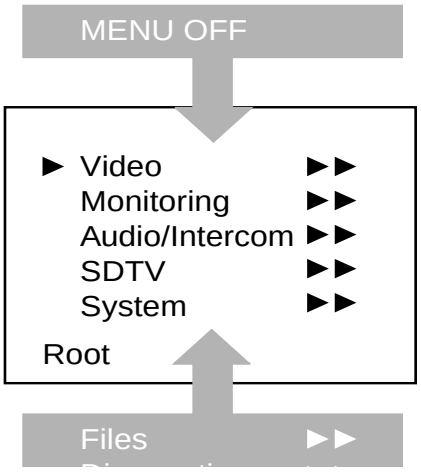
The system functions of the base station are grouped into menus and sub-menus. Rotate the Rotary/Push button to the left or right to select the Systems Menu. The display shows the abbreviation NN. Push the Rotary/Push button twice to enter. The Main menu appears on the monitor.

Note:

Navigating the system menu is also possible with the LDK4628 and LDK4629 Operational Control Panels. Refer to their respective User's Guide for information on how to do this.

The main menu screen shows five items and the name of the menu. One more item is hidden but becomes visible when you scroll down.

A cursor shows your position in the menu. The Rotary/Push button moves the cursor up and down.



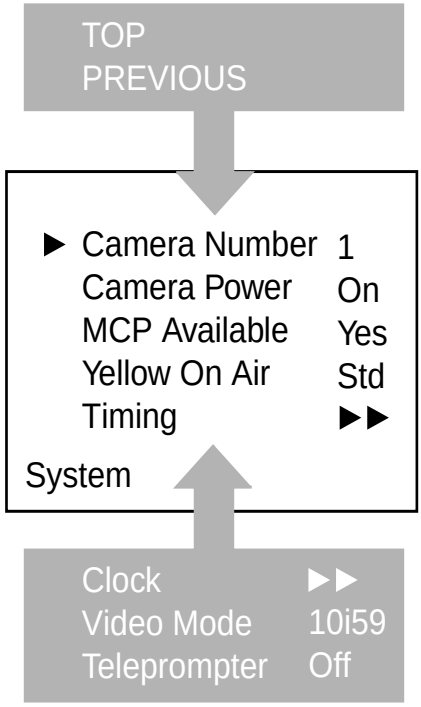
Finding your way

Use the Rotary/Push button to move the cursor through the menu items. If a double arrow (>>) is visible, then pressing the Rotary/Push button brings you one level lower in the menu system. Only five items are visible in each menu. Scroll up or down to see any additional items.

When you first enter a menu (other than the main menu) the cursor is positioned next to the first item.

The TOP and PREVIOUS entries are not immediately visible but are located above the first item. Use the Rotary control to scroll up to them.

- Select TOP to bring you back to the MAIN menu.
- Select PREVIOUS to go back to the menu that you were in before the current one.



The SYSTEM menu above shows the items displayed when you first enter the menu and the other items that are available by scrolling up or down with the Rotary control.

Leaving the Systems Menu

If you are deep within the menu structure, follow these steps to leave:

a. If necessary move the cursor to the left most column with the Rotary/Push button.
b. Scroll upwards until the cursor points to TOP (this is the main menu).
c. Press the Rotary/Push button. The cursor now points to the Menu off item of the MAIN menu.
d. Press the Rotary/Push button to leave the system menu.

This is the recommended way of leaving the system menu.

The menu system disappears after a few seconds when you stop navigating. (This delay can be programmed in the *MONITORING / MENU* menu.) However, when you enter the system menu again you enter at the last position of the cursor and not at the top of main menu.

To prevent confusion the next time you enter the system menu, it is advisable to leave the system menu by returning to the main menu (TOP) and selecting *MENU OFF*.

Making changes

To find out where to change a function, consult the List of System Menu Functions at the end of this section to find out under which menu group or subgroup the function is located.

If the cursor points to an item (and there are no double arrows to indicate a sub-menu) then the item pointed to has a value. The value can be:

- a toggle value (only two values)
- a list value (more than two values)
- an analogue value (variable from 00 to 99)

or unavailable (---).

If the value is unavailable it cannot be changed. This is indicated by three dashes (---). This can occur, for example, when a function is switched off. The analogue values associated with that function are then unavailable.

If there are only two values associated with the function, then pressing the Rotary/Push button toggles between these two values.

If a value is displayed next to a function that is one of several possible values, then pressing the Rotary/Push button places the cursor in a list menu indicating the value currently selected. Use the Rotary/Push button to point to a new value. Press the Rotary/Push button to return the cursor to the function list.

If an analogue value is displayed next to a function name, then pressing the Rotary/Push button places the cursor in front of the value and the Rotary/Push button is used to change the analogue value. Press the Rotary/Push button to return the cursor to the function list.

Undoing changes

If you make changes to the settings in the Systems menu and you decide not to keep them, use the Recall File function to recall a standard or stored set of values for the parameters. These files are available in the FILES menu.

Menu Structure

Access to the functions on these menus is determined by the user level that has been set. The menus are as follows:

Main (top) menu

The top menu gives access to the other menus.

Video menu

The video menu contains those functions which affect the picture quality.

Monitoring menu

This menu contains the functions which determine how items in the video monitor are displayed.

Audio/Intercom

The functions contained under this menu control various aspects of audio and intercom.

System menu

This menu contains the functions that are used to set up the general configuration and for carrying out adjustments and calibrations of the Base Station.

Files menu

This menu allows values to be stored in System and operator files, and allows these files to be recalled as required.

Diagnostic menu

The diagnostic menu is designed to provide information on the current status of the Base Station.

User Levels

The menu items are divided into two user levels. The operator level "O" is default accessible. Menu items with user level Install "I" are only accessible if the menu level is set to Install.

To enter the Install level proceed as follows:

a. Enter the menu.
b. Navigate to the *Monitoring* \ *Menu* \ *Menu level* Item.
c. Set the Menu level to Inst.

The purpose of the user levels is to restrict the set of functions which can be changed by whoever is using the Base Station. In this way a the danger of the operator accidentally changing critical functions while shooting is reduced.

The system Menu Structure paragraph of this section indicates which functions are available at each user level.

Video menu - Special features

Auto lighting

The Auto Lighting item of the the video menu compensates for variations in the frequency of the power supply used for gas discharge lamps (fluorescent or HMI lighting).

The frequency of power supply generators can vary from the nominal value. This variation affects the lighting which in turn affects the colour balance. If camera system and lighting are supplied by the same power source, then the base station auto lighting function can automatically adjust the exposure to follow the variations and maintain a constant colour balance. This correction only works when the camera exposure time is set to the 50Hz or 60Hz position.

Gain adjustment

The Gain Adjustments item of the the video menu is a special item. It combines menu items from various other menus to help you when you are adjusting the gain. It should only be used when carrying out the gain adjustments on the Sync/ Encoder board in conjunction with the procedure given in section 5.

Section 4

Replacements

This section gives information on the procedures to follow when replacing printed circuit boards and mechanical components at first line level.

Contents

Introduction

The instructions given in this section are restricted to those modules which can be replaced at the first line service level. These modules include:

- The printed circuit boards
- The connector boards
- The front panels

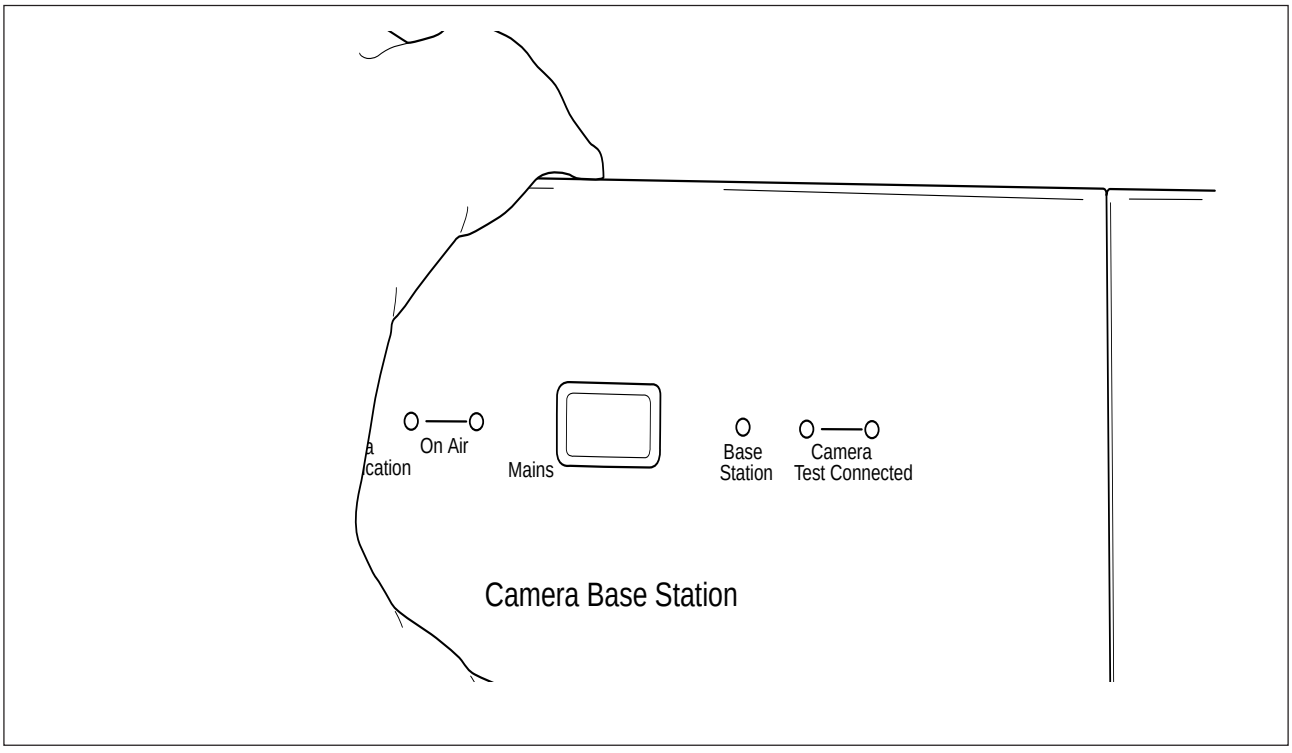
After a printed circuit board has been replaced it is sometimes necessary to carry out adjustments to match the new boards to your base station and so maintain the performance levels. The relevant adjustment procedures are given in Section 4.

The procedures for removing the modules should be followed in reverse order when remounting the units.

Power

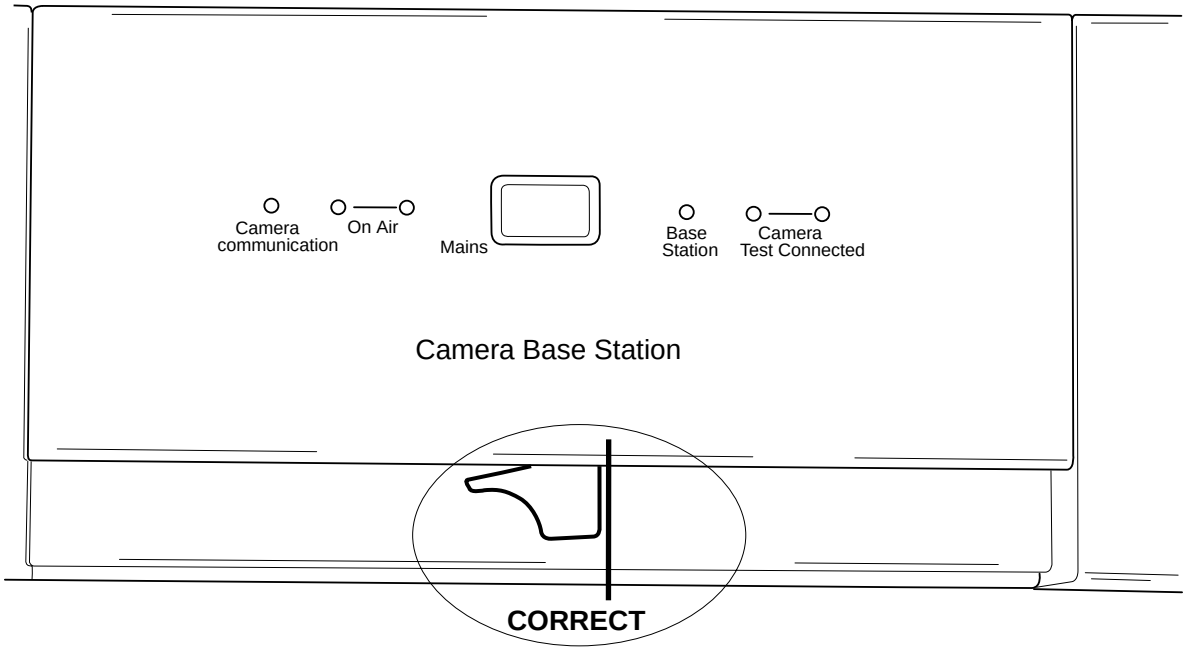
Removing the Power Unit

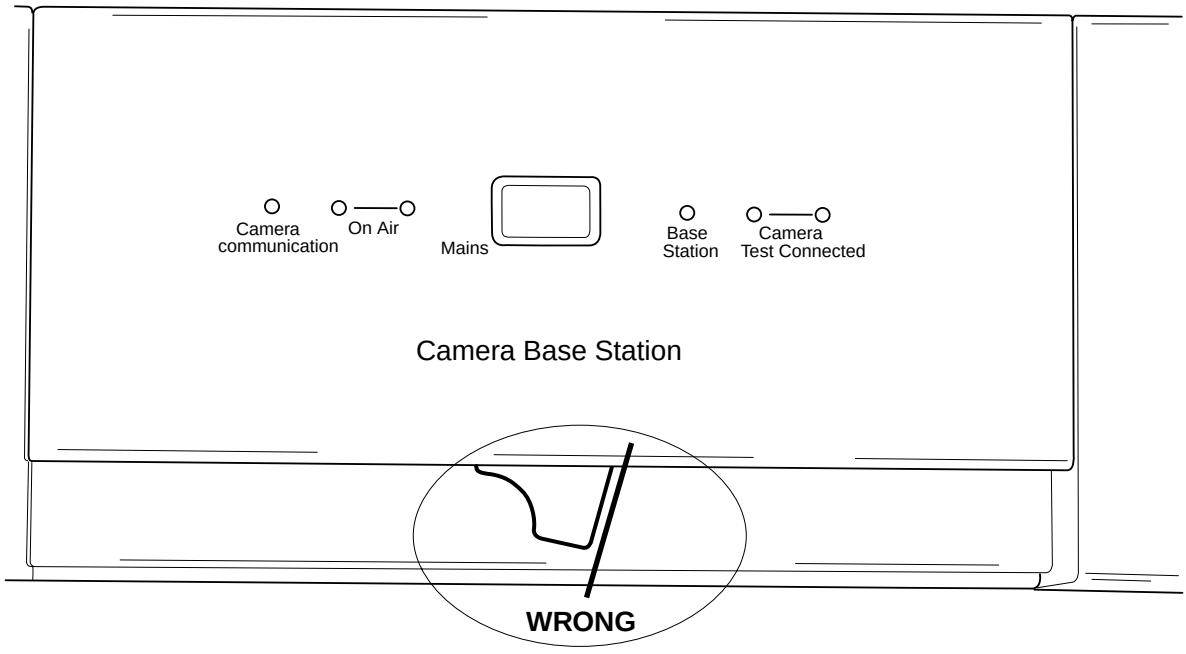
Remove the screw at the rear of the power Unit. With your thumb push up the lever, as shown on the picture below, and pull the Power Unit out of the Base Station.



Locking the Power Unit

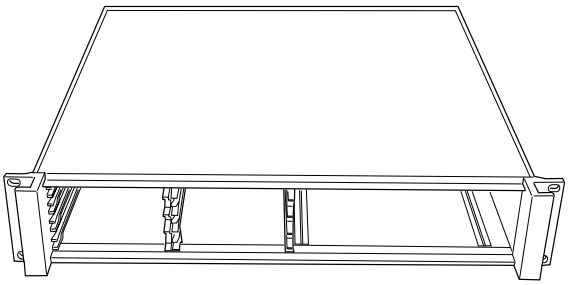
Put the Power Unit in the leading and push the Power in the Base Station till the locking clicks.
Check if the Power Unit is correct locked.
The correct and wrong locking positions are shown in the pictures below.



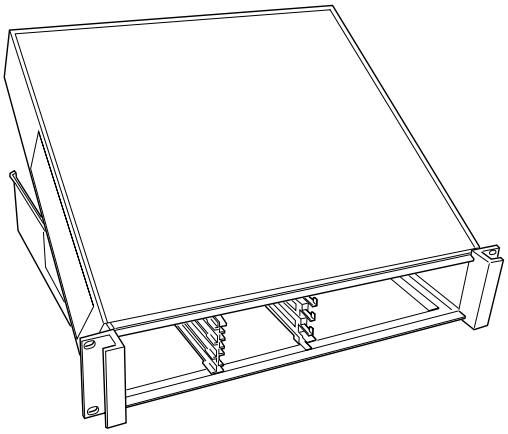


Opening The Base Station

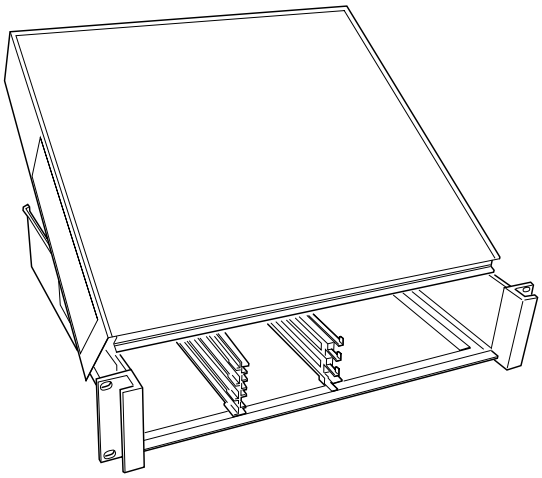
House with top mounted



To remove top, bend both sides outwords and lift backside as shown onthe picture

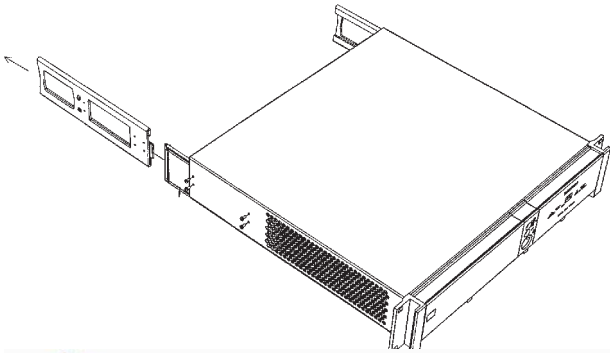


Slide top backwords and lift from house

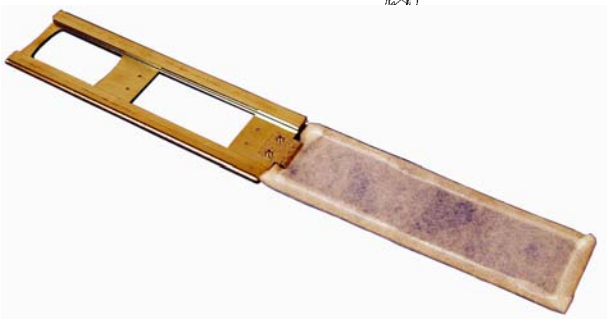


Replacing Dust Filters

Side-inlet

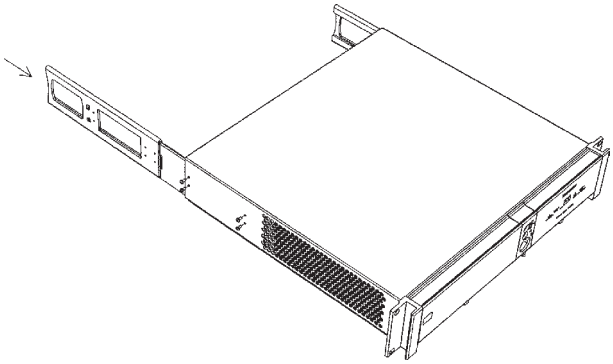


1. Remove 4 screws.
2. Slide back support with dust filter out of base station.



3. Remove dust filter.

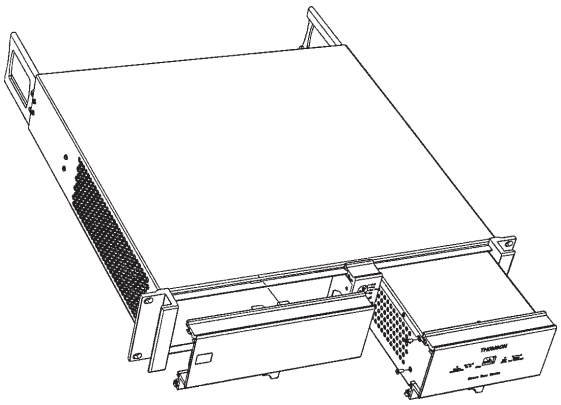
4. Connect clean dust filter to back support



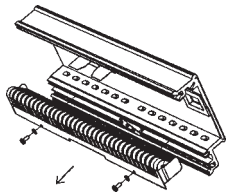
5. Slide back support with dust filter into base station
6. Fix back support with 4 screws

Front-inlet

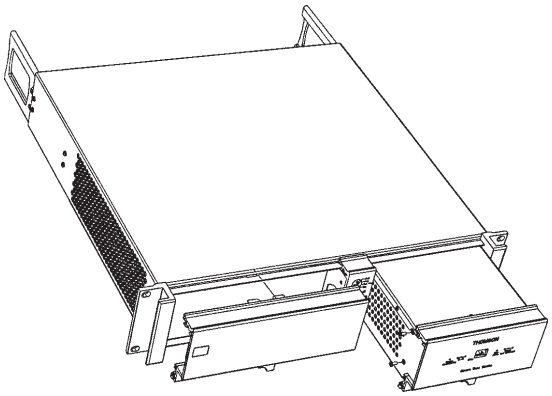
1. Remove PCB frontplate.



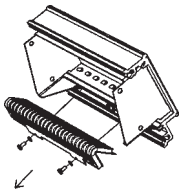
2. Remove dust filter.
3. Place clean dust filter
4. Place PCB frontplate back



5. Remove frontplate power supply



6. Remove dust filter
7. Place clean dust filter
8. Place front plate power supply back



Section 5

Adjustments

This section contains the adjustment procedures to be followed to obtain the best performance from the base station. These procedures need only be used if, following a module replacement, the base station does not perform according to specifications.

Contents

Introduction

This base station is factory tested and adjusted for operational use. Under normal circumstances, the internal automatic calibration procedures do not need to be started and the internal potentiometers do not need to be adjusted.

There is onely one situation that might require some realignment of the base station: When a printed circuit board has been replaced.

If it is discovered that the base station is misaligned, the following procedures are given as a guide for competent service personnel, who have a thorough knowledge of the base station and have the use of calibrated equipment, to realign the base station.

If no improvement can be achieved or an adjustment is out of range, please contact your local supplier or the nearest Thomson Multimedia Broadcast Solutions Service Centre.

The base station adjustment procedures are designed as separate units. Within a numbered procedure do not change the position of switches or jumpers unless instructed to do so in the procedure.

Gain Adjustments Sync Encoder Board

Test Equipment

- Osilloscope
- Waveform monitor / Vectorscope

Caution

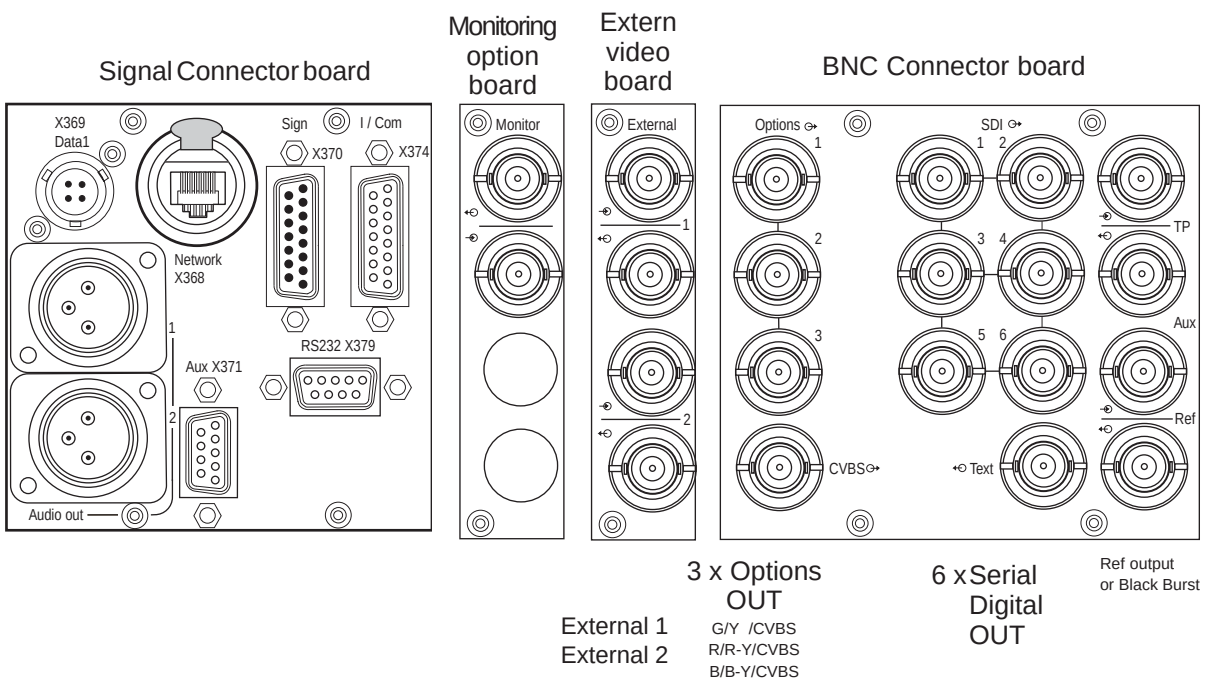
Follow all steps and complete the gain adjustment procedure to avoid misadjustments.

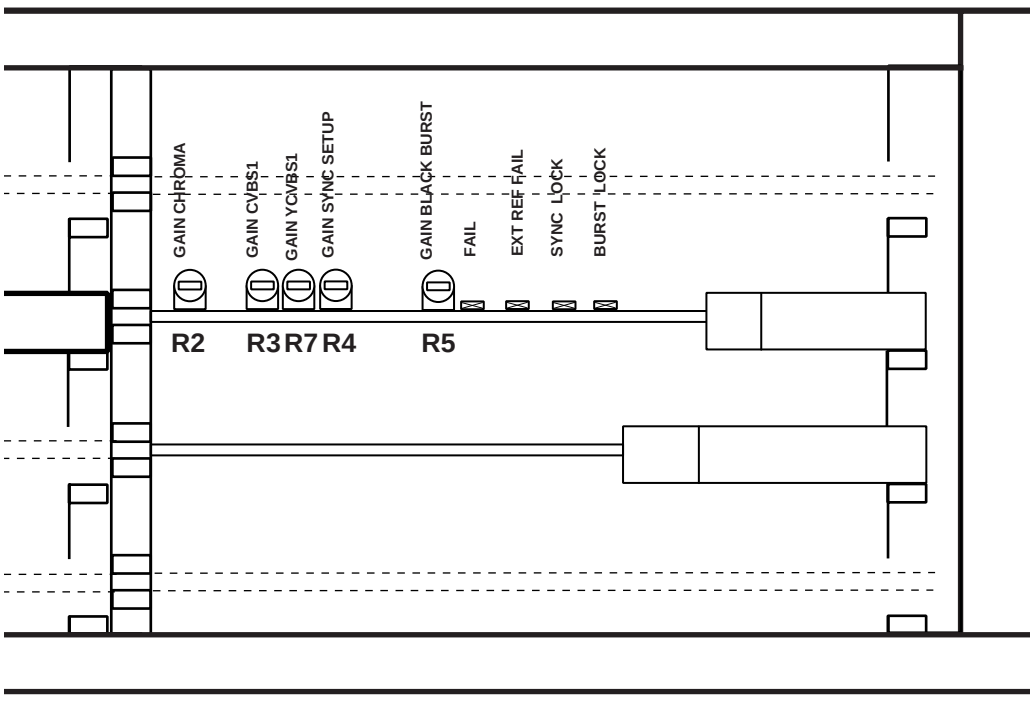
note: All Base station menu items neccesary for the Gain adjustments are located in the Base station *Video* \ *Gain Adjustments* \ *Consult manual first* menu.

If gain adjustments are required proceed as follows:

Preparation

a. Select in the Base station menu the standard Customer or Factory file. *Base station Menu: Recall Std. System File - CUST or FACT.*
b. Recall standard system file. *Base station Menu: Recall Std. Sys File - exec*
c. Set the Colour Bar to On. *Base station Menu: Colour Bar - On.*
d. Set White Bar Level to 100%. *Base station Menu: White Bar Level - 100%*
e. Supply a black burst video signal to the Reference input of the Base station.


Signal Connector board
Monitoring option board
Extern video board
BNC Connector board
X369 Data1
Sign
I / Com
X370
X374
Network X368
Aux X371
RS232 X379
Audio out
Monitor
External
Options
SDI
TP
Aux
Ref
CVBS
Text
3 x Options OUT
External 1
External 2
G/Y /CVBS
R/R-Y/CVBS
B/B-Y/CVBS
6 x Serial Digital OUT
Ref output or Black Burst

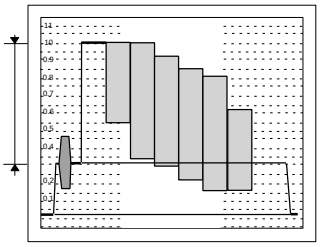

GAIN CHROMA
GAIN CVBS1
GAIN YCVBS1
GAIN SYNC SETUP
GAIN BLACK BURST
FAIL
EXT REF FAIL
SYNC LOCK
BURST LOCK
R2
R3
R7
R4
R5

If no Analoque Component Option board is present go to step k.

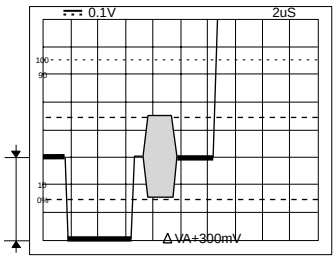
Gain adjustments Option outputs

f. Connect a Oscilloscoop via a Waveform monitor / vectorscope to the Options connector 1, 2 or 3 located at the Base station's connector panel. Terminate the wavevorm monitor with 75 ohm.
g. Set the Options video output to CVBS. *Base station Menu: Video Output - CVBS.*

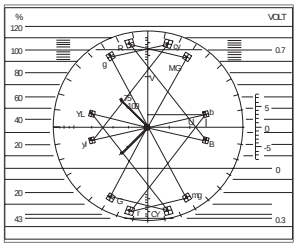
h. Adjust CVBS Y Gain.

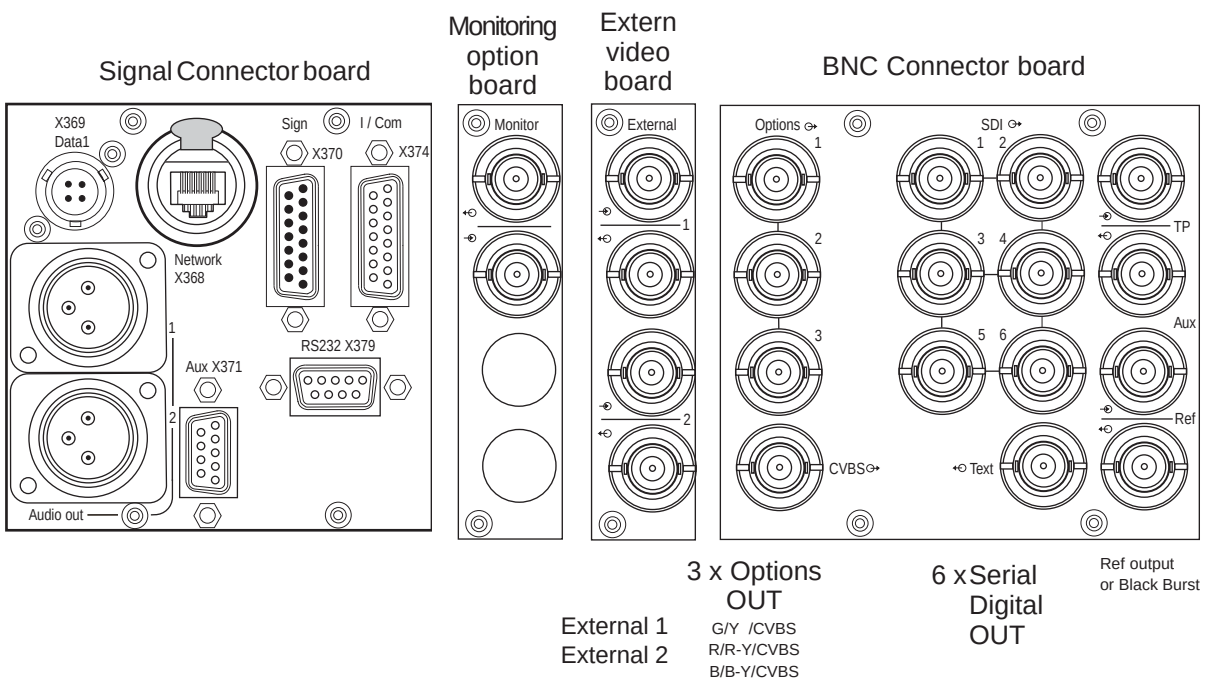
Measure at:	Adjust with:	Required result:	PAL	NTSC
BNC Connector board. Options 1,2 and 3	BS Menu: CVBS Y Gain	CVBS 700mV		

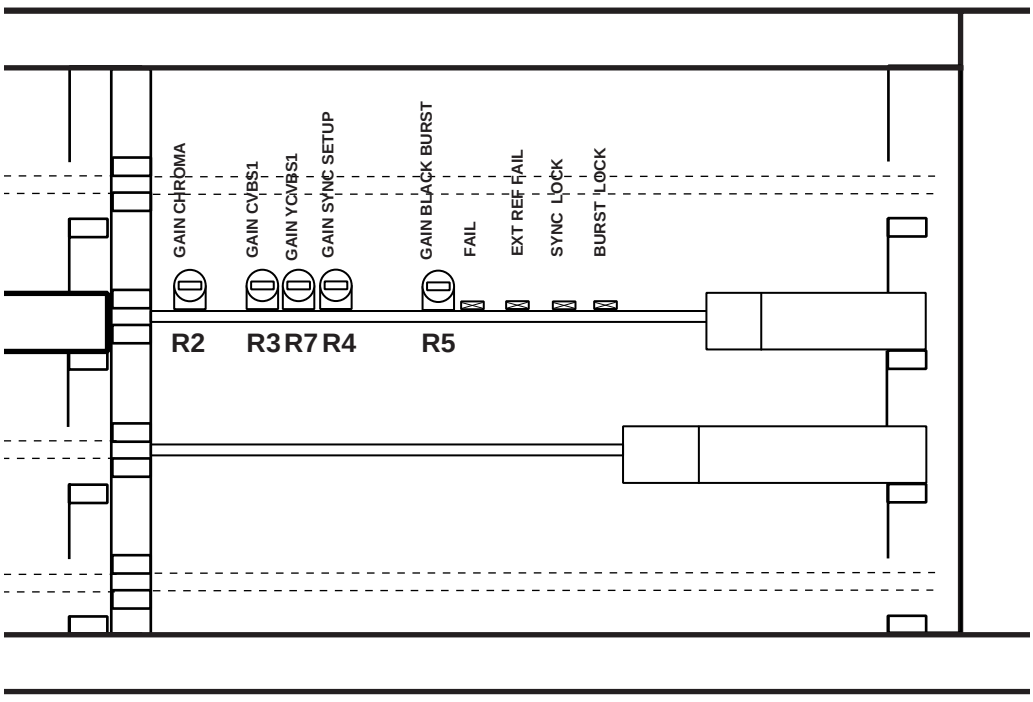
i. Adjust sync level.

Measure at:	Adjust with:	Required result:	PAL	NTSC
BNC Connector board. Options 1,2 and 3	R4	Sync 300mV		

j. Adjust Chroma level until the vector dots are exactly in the vectorscope boxes

Measure at:	Adjust with:	Required result:	PAL	NTSC
BNC Connector board. Options 1,2 and 3	BS Menu: Chroma Level			

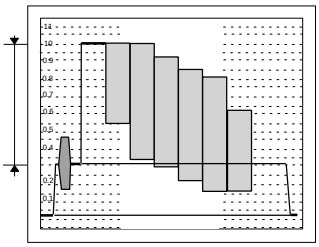

Signal Connector board
Monitoring option board
Extern video board
BNC Connector board
X369
Data1
Sign
I / Com
X370
X374
Network
X368
Aux X371
RS232 X379
Audio out
Monitor
External
Options
SDI
TP
Aux
Ref
CVBS
Text
3 x Options OUT
External 1
External 2
G/Y /CVBS
R/R-Y/CVBS
B/B-Y/CVBS
6 x Serial Digital OUT
Ref output or Black Burst


GAIN CHROMA
GAIN CVBS1
GAIN YCVBS1
GAIN SYNC SETUP
GAIN BLACK BURST
FAIL
EXT REF FAIL
SYNC LOCK
BURST LOCK
R2
R3
R7
R4
R5

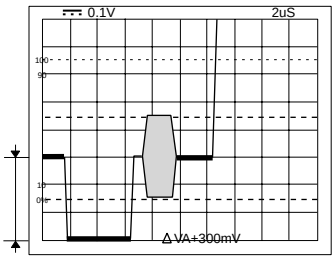
Gain adjustments CVBS output

k. Connect a Oscilloscoop via a waveform monitor / vectorscope to the CVBS output connector located at the Base station's connector panel. Terminate the wavevorm monitor with 75 ohm.

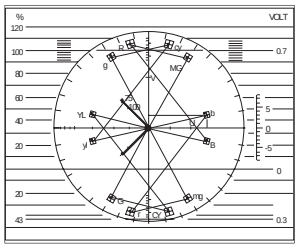
l. Adjust CVBS Y Gain.

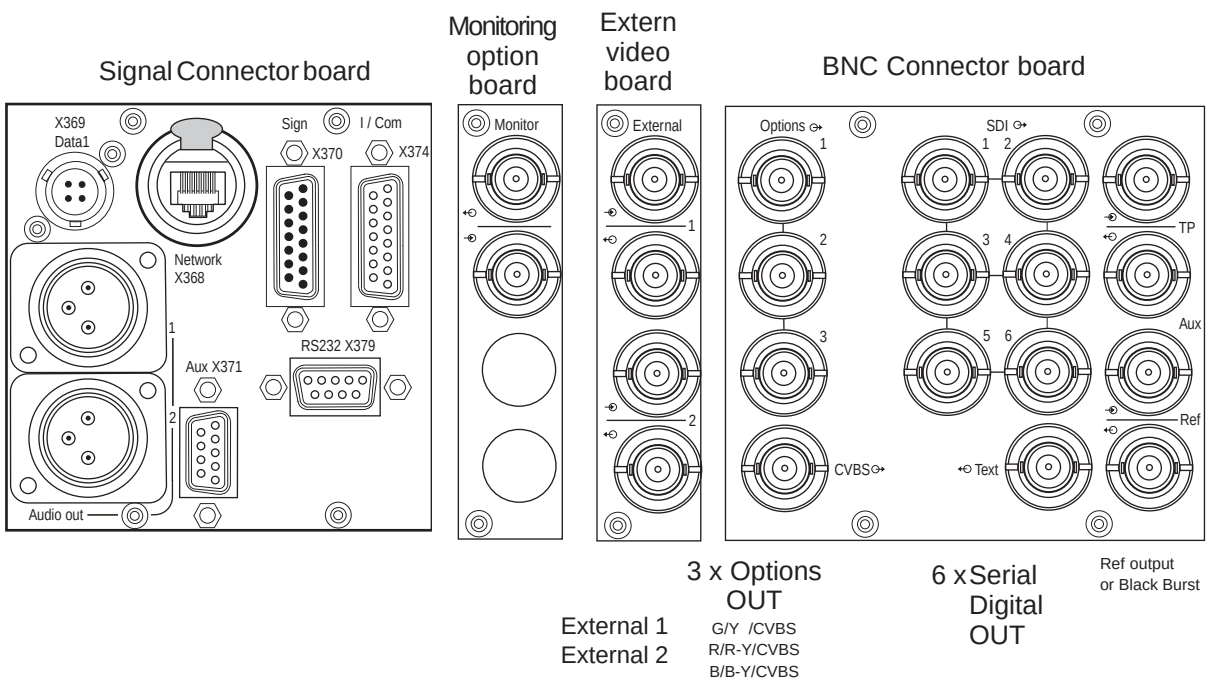
Measure at:	Adjust with:	Required result:	PAL	NTSC
BNC Connector board. CVBS Output	R7	CVBS 700mV		

m. Adjust sync level.

Measure at:	Adjust with:	Required result:	PAL	NTSC
BNC Connector board. CVBS Output	R3	Sync 300mV		

n. Adjust Chroma level until the vector dots are exactly in the vectorscope boxes

Measure at:	Adjust with:	Required result:	PAL	NTSC
BNC Connector board. CVBS Output	R2			


Signal Connector board
Monitoring option board
Extern video board
BNC Connector board
X369
Data1
Sign
I / Com
X370
X374
Network
X368
Aux X371
RS232 X379
Audio out
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External
Options
SDI
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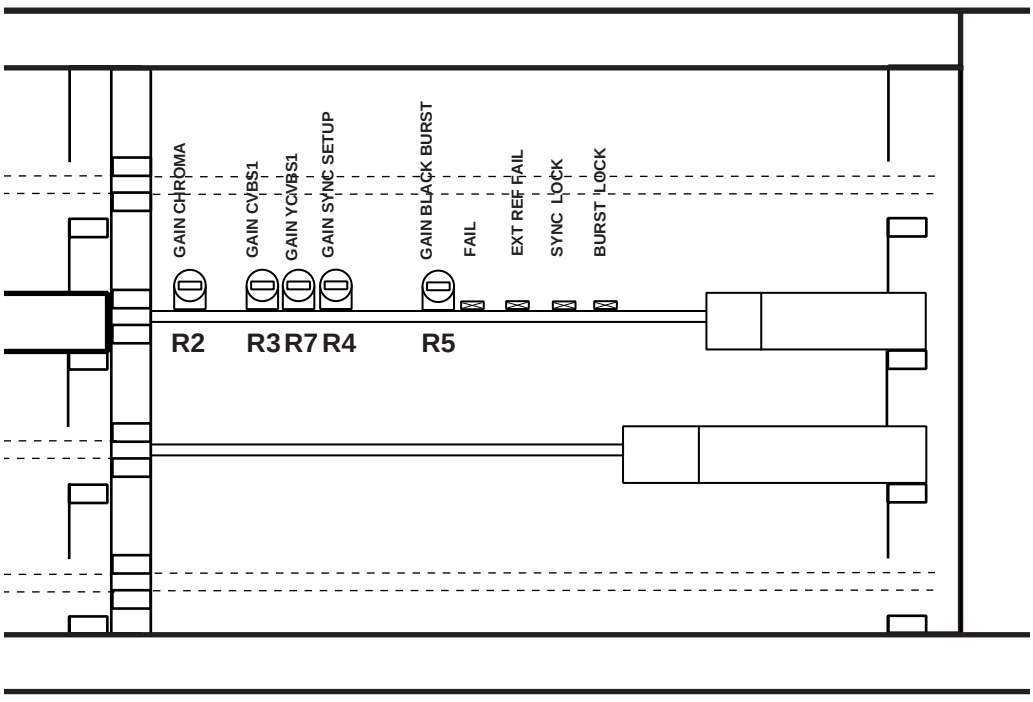
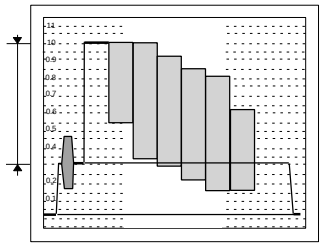
Aux
Ref
CVBS
Text
3 x Options OUT
External 1
External 2
G/Y /CVBS
R/R-Y/CVBS
B/B-Y/CVBS
6 x Serial Digital OUT
Ref output or Black Burst


GAIN CHROMA
GAIN CVBS1
GAIN YCVBS1
GAIN SYNC SETUP
GAIN BLACK BURST
FAIL
EXT REF FAIL
SYNC LOCK
BURST LOCK
R2
R3
R7
R4
R5

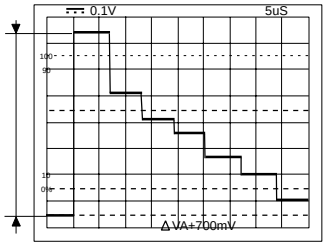
Gain adjustments Monitor output

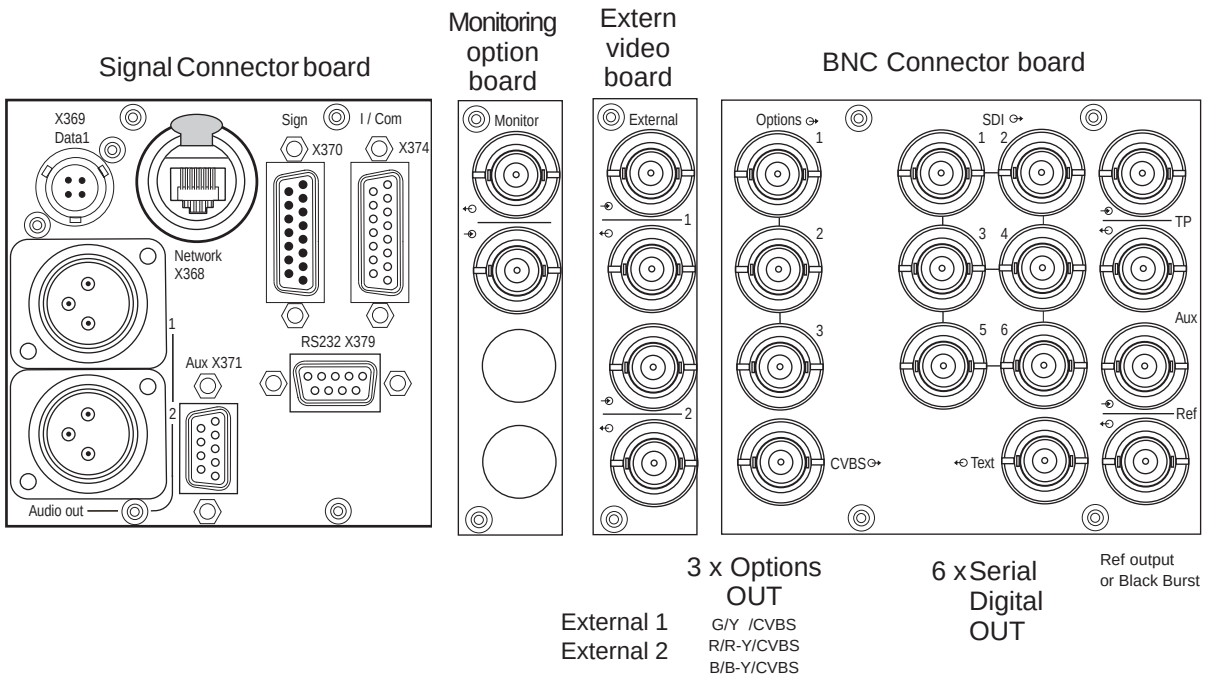
If no Monitoring Option board is installed go to step v.

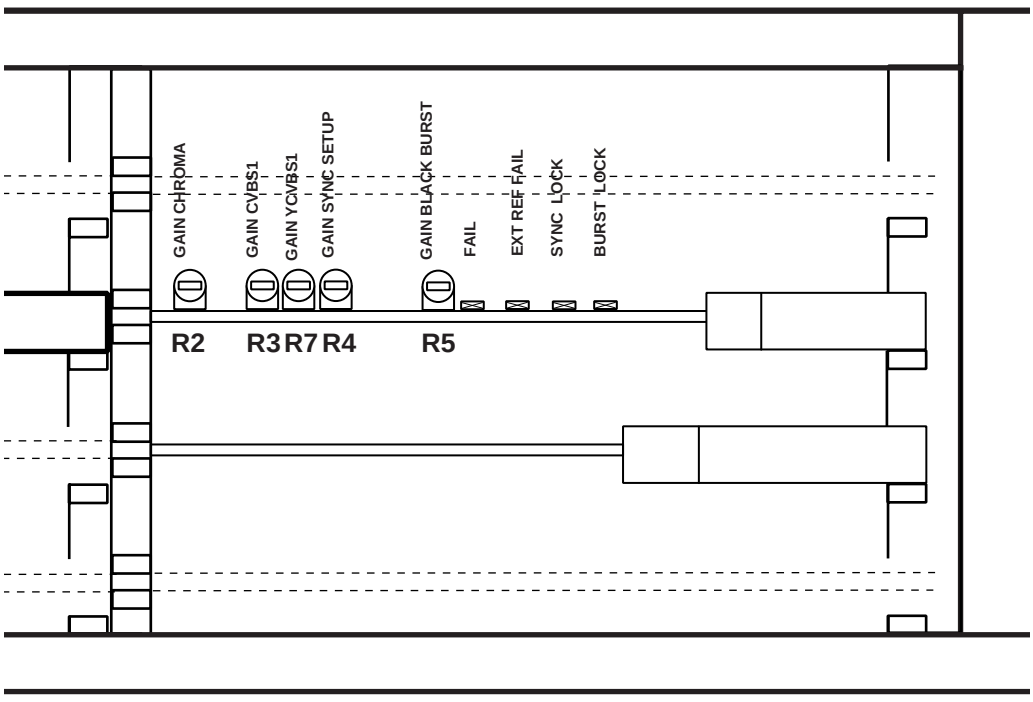
p. Connect a Oscilloscoop via a waveform monitor / vectorscope to the Monitor output connector located at the Monitoring Option board's connector panel. Terminate the wavevorm monitor with 75 ohm.
q. Set the Monitoring mode to WFM. *Base station Menu: Monitor mode - WFM.*
r. Set the Monitoring source to CVBS. *Base station Menu: Monitoring Source - CVBS.*
s. Adjust Monitoring CVBS gain:

Measure at:	Adjust with:	Required result:	PAL	NTSC
Monitoring Option board. Monitor output	BS Menu: Monitoring CVBS Gain	CVBS 700mV		

t. Set the Monitoring source to Y. *Base station Menu: Monitoring Source - Y.*
u. Adjust Monitoring YGRB gain:

Measure at:	Adjust with:	Required result:	PAL	NTSC
Monitoring Option board. Monitor output	BS Menu: Monitoring YGRB Gain	CVBS 700mV		


Signal Connector board
Monitoring option board
Extern video board
BNC Connector board
X369 Data1
Sign
I / Com
X370
X374
Network X368
Aux X371
RS232 X379
Audio out
Monitor
External
Options
SDI
TP
Aux
Ref
CVBS
Text
3 x Options OUT
External 1
External 2
G/Y /CVBS
R/R-Y/CVBS
B/B-Y/CVBS
6 x Serial Digital OUT
Ref output or Black Burst


GAIN CHROMA
GAIN CVBS1
GAIN YCVBS1
GAIN SYNC SETUP
GAIN BLACK BURST
FAIL
EXT REF FAIL
SYNC LOCK
BURST LOCK
R2
R3
R7
R4
R5

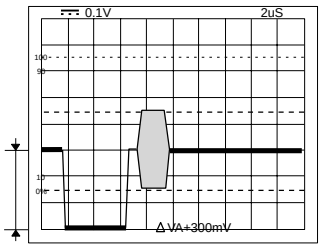
Black Burst adjustment

v. Disconnect the external reference signal.
w. Connect a Oscilloscoop via a waveform monitor / vectorscope to the Ref. output connector located at the Base station's connector panel. Terminate the wavevorm monitor with 75 ohm.

note: If no Black Burst signal is supplied at the Ref. output connector consult Section 2 "System Settings" for detailed information.

Caution

Use an isolated screw driver to prevent damage.

Measure at:	Adjust with:	Required result:	PAL	NTSC
BNC Connector board. Ref output	R5	Sync 300mV		

Finishing procedure

x. Switch Colour Bar Off. *Base station Menu: Colour Bar - Off.*
y. Restore video settings:
   - Options Video Output:
     Base station Menu: Options Video Output.
   - Monitor Mode:
     Base station Menu: Monitor Mode - WFM,BUS
   - Monitoring Source:
     Base station Menu: Monitoring Source.
z. Store Standard system file. *Base station Menu: Store Std System File - exec*

note: Set standard system file to customer to store the standard system file. *Base station Menu: Std. System File - CUST*

Section 6

Diagnostics

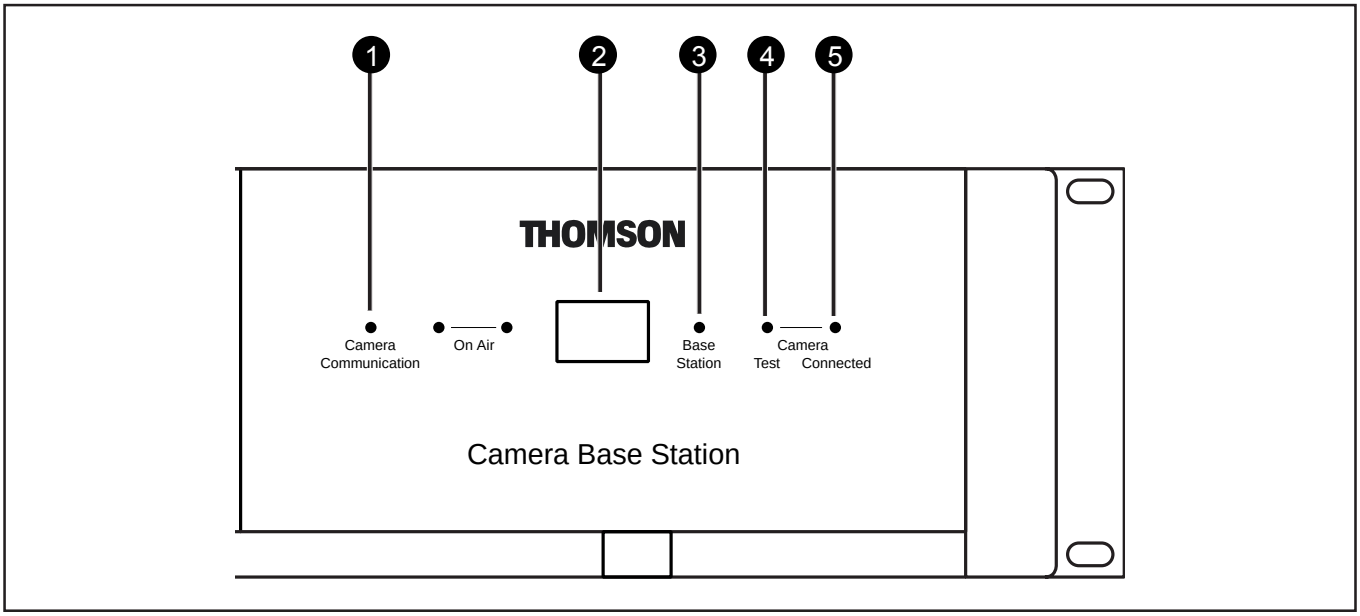
This section contains an explanation of the internal diagnostic system of the base station. The diagnostic messages and the block diagrams are a useful help when fault finding.

Contents

Diagnostic LED Indications

LED Test

When the power to the Base Station is switched on camera communication and on-air LEDs light sequentially. If a LED does not light during start-up that LED is probally defective.



1 Camera Communication

This green LED lights when the communications between Camera and Base Station are OK.

2 Power Switch and indicator

Switches the power supply to the Base Station on and off. A built-in light lights to indicate that power is being supplied to the Base Station.

3 Base Station

This green LED lights when the local power supplies to the Base Station are present.

4 Camera indicator - Test

This bicolour TEST LED lights red or yellow to indicate the Camera and Triax status:

- Red lights continuously – Triax short circuit.
- Red flashes – Triax open circuit.
- Yellow – Camera power switched off with the Operational or Master Control Panel.

5 Camera indicator - Conected

This green CONNECTED LED lights when the Camera is connected and the Camera power is not switched off by the MCP, OCP or Base Station menu.

Diagnostic indicators for camera power

Communication	Test	Connected	
off	off	green	Camera power switched off by the camera power switch.
off	yellow	off	Camera power switched off by the MCP, OCP or base station menu.

Triax diagnostic indications

Camera test LED (4) flashes red

A red flashing camera test LED (4) indicates an open triax connection (no camera is connected). Other indicators of this condition are:

OCP: Triax LED Flashes red
MCP: *DIAGNOSE \ TRIAX - OPEN*
Menu: *Diagnostics \ Communications \ Camera Connected -No*

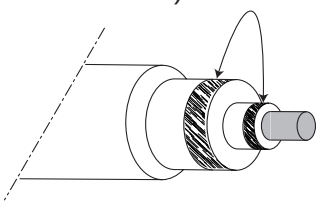
Camera test LED (4) lights continuously (red)

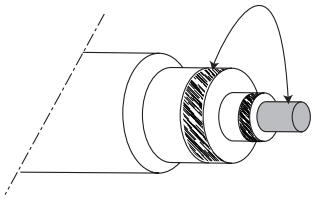
A continuously lighting red camera test LED (4) indicates a short circuit in the triax connection (or an interrupted inner core). Other indicators of this condition are:

OCP: Triax LED red (continuously)
MCP: *DIAGNOSE \ TRIAX - SHORT*
Menu: *Diagnostics \ Board Diagnostics \ Power board \ Triax Status -TSHRT, COPEN or CSHRT (The interpretation of these messages is shown below)*

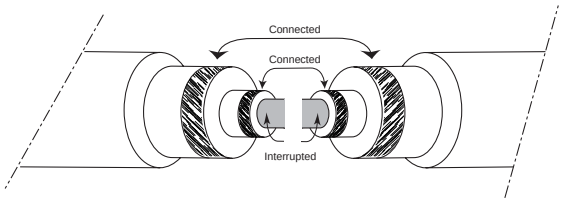
COPEN

Indicates a connection between outer and inner shield or between core and outer shield (when a camera is not connected).



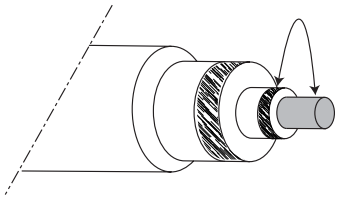


It also indicates an interruped inner core when both shields are connected correctly (when a camera is connected).



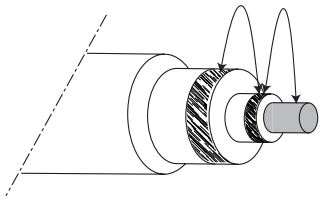
CSHRT

Indicates a short circuit between the core and the inner shield.



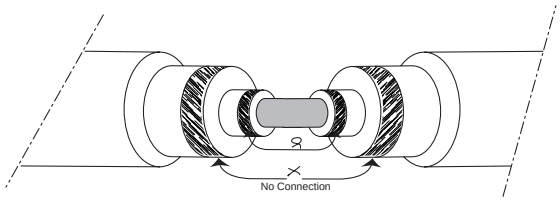
TSHRT

Indicates a short circuit between the inner shield, the outer shield and the core.



SOPEN

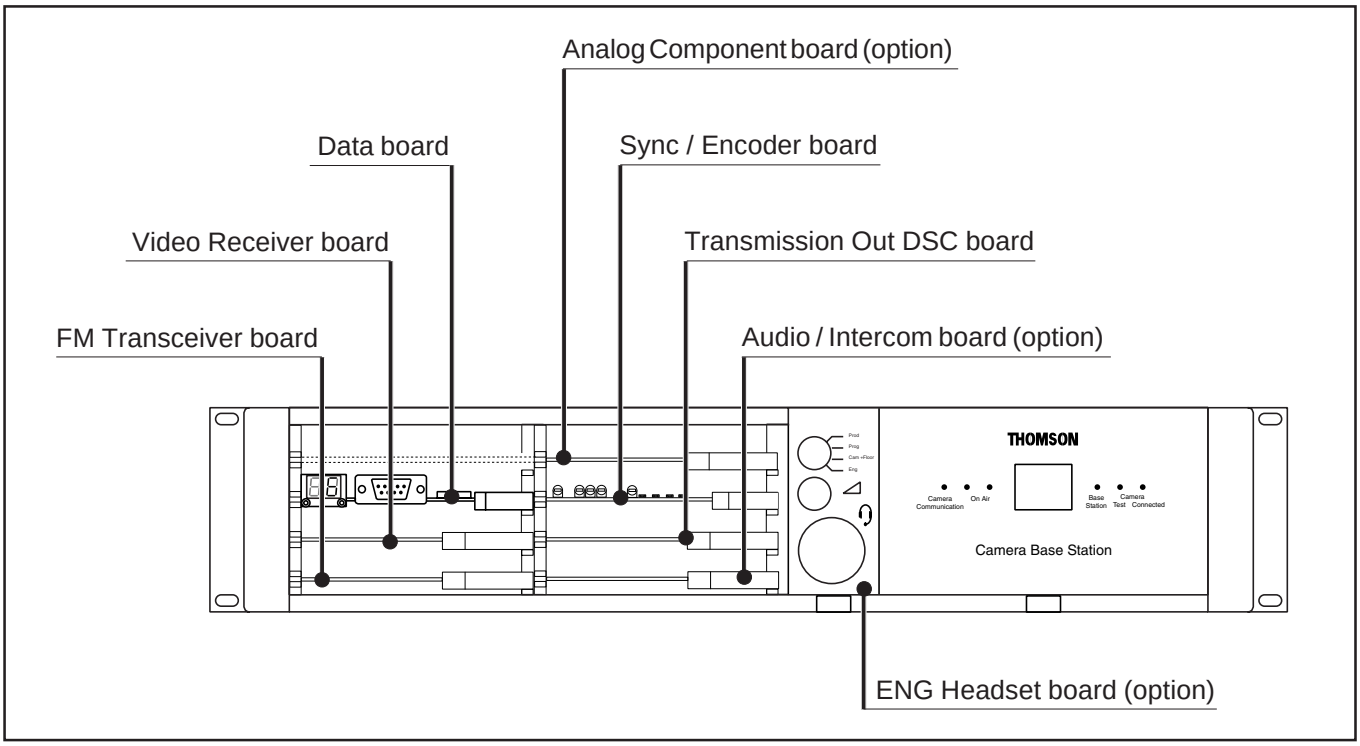
Indicates an open connection in the outer shield of the Triax cable or connector(s).

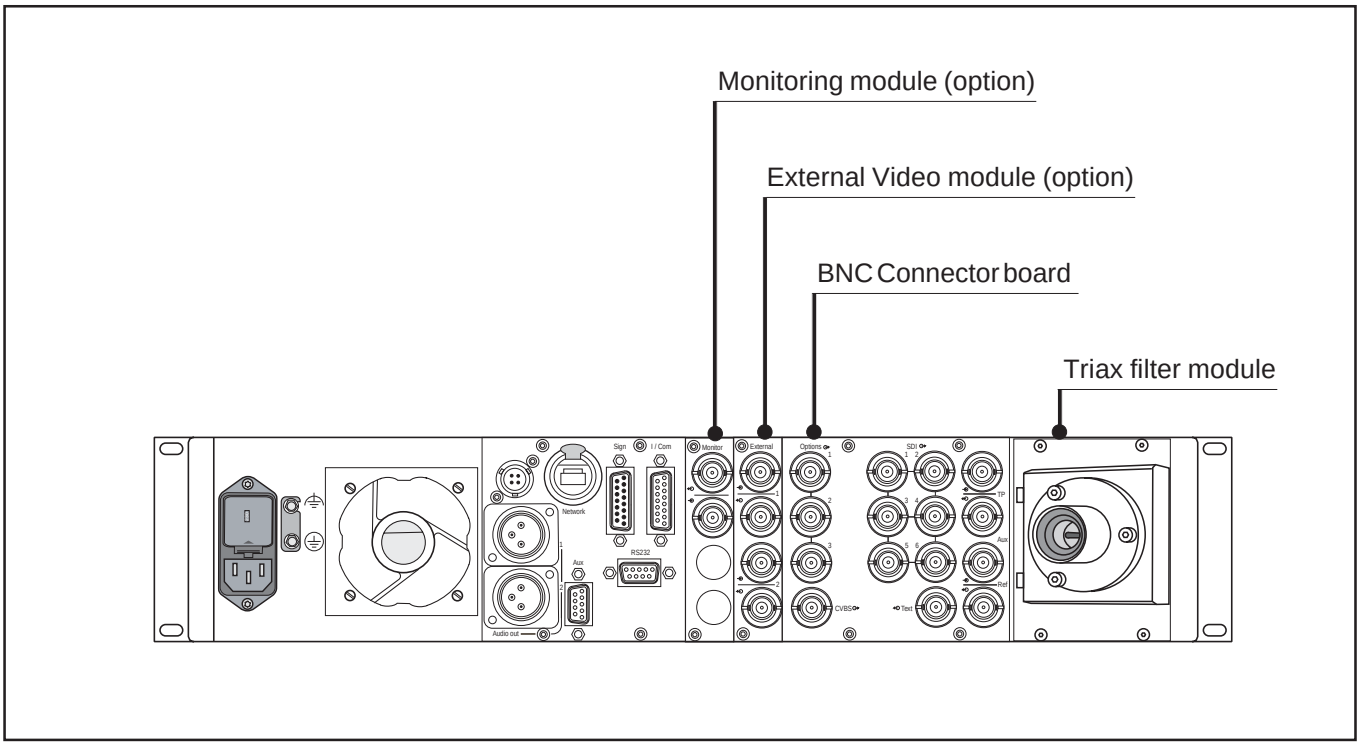


Precautions to avoid Triax problems

- Only use triax cable (with three conductors).
- Ensure that triax connectors (camera, CPU and extension cables) fit snugly into each other.
- Verify that there is no interruption in all three conductors of the triax cable before deploying (including extension triax cables).

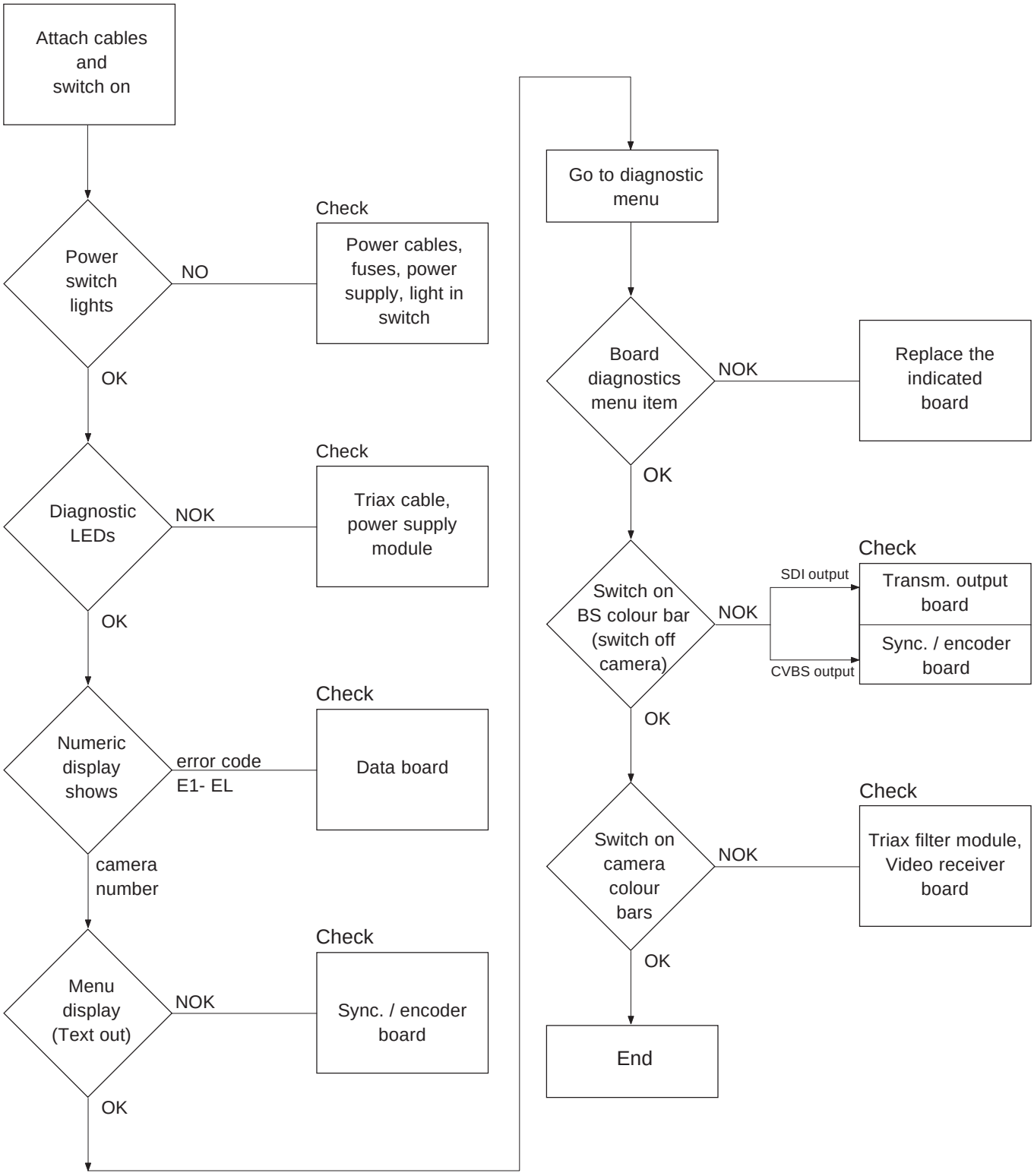
Board identification





Fault finding chart

This chart shows a simple systematic approach to locating a fault in the base station. Always check the connections first. You can check the operation of a board by swapping it with another of the same type. Use the explanation of the diagnostic LEDs on the previous page to interpret triax and power problems.



Sync/Encoder board status

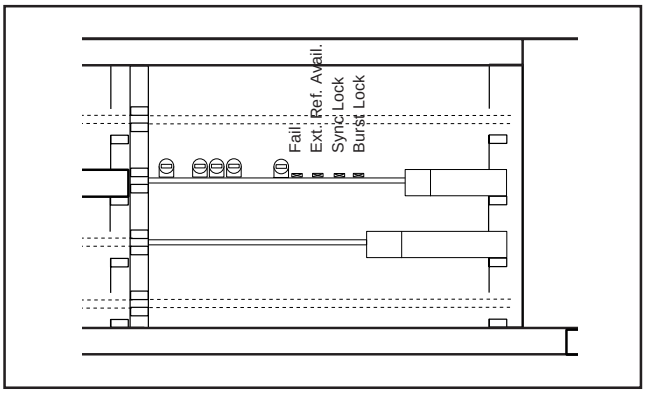
LED indicators on the Sync/Encoder board show the status of the board and the signal locking:

Fail:
- lights (red) if there is a configuration or initialisation error or if the bus clock or video sync pulses are missing.

Ext. Ref. Avail.:
- lights (green) if an external sync. signal is present.

Sync Lock:
- lights (green) if the Hor. and Vert. lock is OK.

Burst Lock:
- lights (green) if the subcarrier/H-phase lock is OK.



Appendix 1

Service Parts

Contents

Parts list & Exploded Views

Service parts	Code number	Used in LDK	Name
1.Sync Encoder BS	3922 406 87651	**LDK4501/00 and /01**	**Standard Base Unit SDTV**
2.Video Receiver BS	3922 406 87661	**LDK4501/00 and /01**	**Standard Base Unit SDTV**
3.1Transmission Out DSC	3922 406 87671	**LDK4501/00**	**Standard Base Unit SDTV**
3.2Transmission Out DSC	3922 406 89661	**LDK4501/01**	**Standard Base Unit SDTV**
4.Data Board BS	3922 406 87681	**LDK4501/00 and /01**	**Standard Base Unit SDTV**
5.Audio/Intercom BS	3922 406 87691	**LDK4540/10**	**2 CH Audio & 2/4 Wire Intercom**
6.FM Transceiver BS	3922 406 87701	**LDK4501/00 and /01**	**Standard Base Unit SDTV**
7.Monitoring Option	3922 406 87741	**LDK4560/10**	**Monitoring Module**
8.BNC Connectorboard BS	3922 406 87761	**LDK4501/00 and /01**	**Standard Base Unit SDTV**
9.Signal Interconn BS	3922 406 87771	**LDK4501/00 and /01**	**Standard Base Unit SDTV**
10.DSC Interface Board	3922 406 87781	**LDK4501/00 and /01**	**Standard Base Unit SDTV**
11.1Analog Component Option	3922 406 87801	**LDK4531/10**	**Analog Video Out Module**
11.2Analog Component Option	3922 406 89691	**LDK4531/11**	**Analog Video Out Module**
12.Signal Connector Board	3922 406 88221	**LDK4501/00 and /01**	**Standard Base Unit SDTV**
13.Subboard	3922 406 88231	**LDK4501/00 and /01**	**Standard Base Unit SDTV**
14.Ext Video Input	3922 406 88241	**LDK4530/10**	**Ext Video Module SDTV**
15.Power Module	3922 407 30681	**LDK4510/10**	**Power Module**
16.Triax Assy Fischer	3922 407 30531	**LDK4520/10/11**	**Triax Module SDTV Fischer**
17.Triax Assy Trilock	3922 407 30551	**LDK4520/20/21**	**Triax Module SDTV Trilock**
18.Triax Assy ARD	3922 407 30571	**LDK4520/30/31**	**Triax Module SDTV ARD**
19.Triax Assy LEMO 4	3922 407 30591	**LDK4520/40/41**	**Triax Module SDTV LEMO 4**
20.Triax Assy BBC LEMO	3922 407 30611	**LDK4520/50/51**	**Triax Module SDTV BBC LEMO**
21.Triax Assy LEMO 3	3922 407 30631	**LDK4520/60/61**	**Triax Module SDTV LEMO 3**

22.Back Plate Blind 3922 407 33321

Used in **LDK4501/00/01**

..... **Standard Base Unit SDTV**

23.Front Plate Assy PCB Stack 3922 407 33331

Used in **LDK4501/00/01**

..... **Standard Base Unit SDTV**

24.1Triax Assy Wired 3922 407 33421

Used in **LDK4520/10**

Used in **LDK4520/20**

Used in **LDK4520/30**

Used in **LDK4520/40**

Used in **LDK4520/50**

Used in **LDK4520/60**

24.2Triax Assy Wired 3922 407 35621

Used in **LDK4520/11**

Used in **LDK4520/21**

Used in **LDK4520/31**

Used in **LDK4520/41**

Used in **LDK4520/51**

Used in **LDK4520/61**

25.1Motherboard BS Service Assy 3922 407 33511

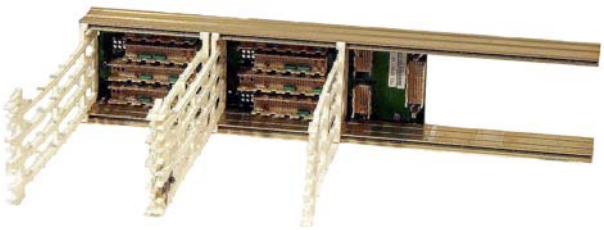
Used in **LDK4501/00**

..... **Standard Base Unit SDTV**

25.1Motherboard BS Service Assy 3922 407 35611

Used in **LDK4501/01**

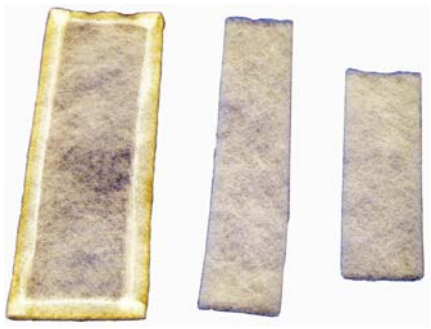
..... **Standard Base Unit SDTV**



26.Dust Filter Set 3922 407 33521

Used in **LDK4501/00**

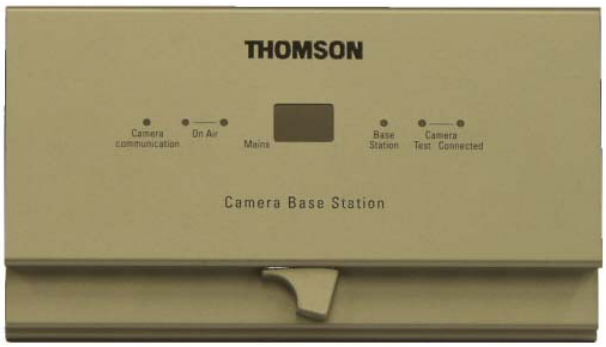
..... **Standard Base Unit SDTV**



27.Front Plate Power 3922 407 33531

Used in **LDK4510/10**

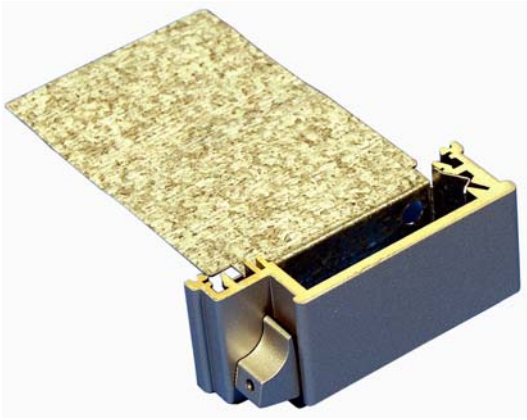
..... **Power Module**



28.Intercom ENG Option Blind 3922 407 33541

Used in **LDK4501/00/01**

..... **Standard Base Unit SDTV**



29.Protection Brackets Back 3922 407 33551

Used in **LDK4501/00/01**

..... **Standard Base Unit SDTV**

30.Print Rail Set ENG Option 3922 407 33561

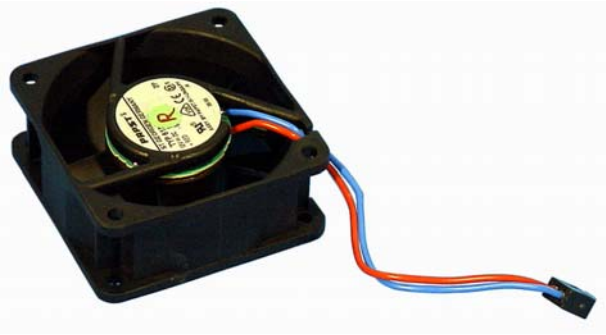
Used in **LDK4501/00/01**

..... **Standard Base Unit SDTV**

31.Fan Assy 3922 407 33571

Used in **LDK4510/10**

..... **Power Module**



32.Back Plate Fan Power 3922 407 33581

Used in **LDK4510/10**

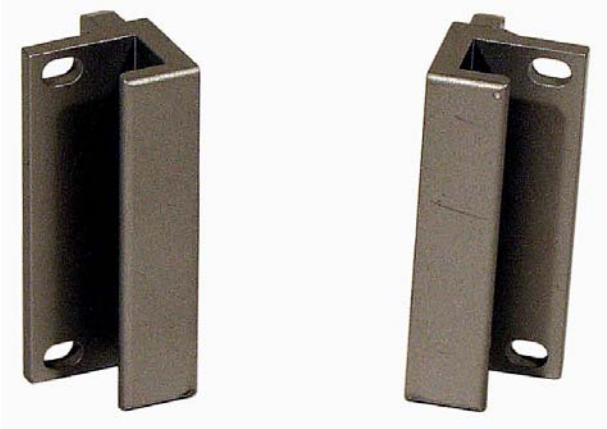
..... **Power Module**

33. Front Bracket Left 3922 404 30221

Front Bracket Right 3922 404 30231

Used in **LDK4501/00/01**

..... **Standard Base Unit SDTV**



34. Fuse Holder USA 2432 029 01004

Used in **LDK4510/10**

35. Fuse 10A 250V 6,3 x 32 ..... 2422 086 00386

Used in **LDK4510/10**

..... **Power Module**

36. Fuse Holder EUROPE 2432 034 20201

Used in **LDK4510/10**

37. Fuse T 4A 250V 5 x 20 ..... 2422 086 01193

Used in **LDK4510/10**

..... **Power Module**

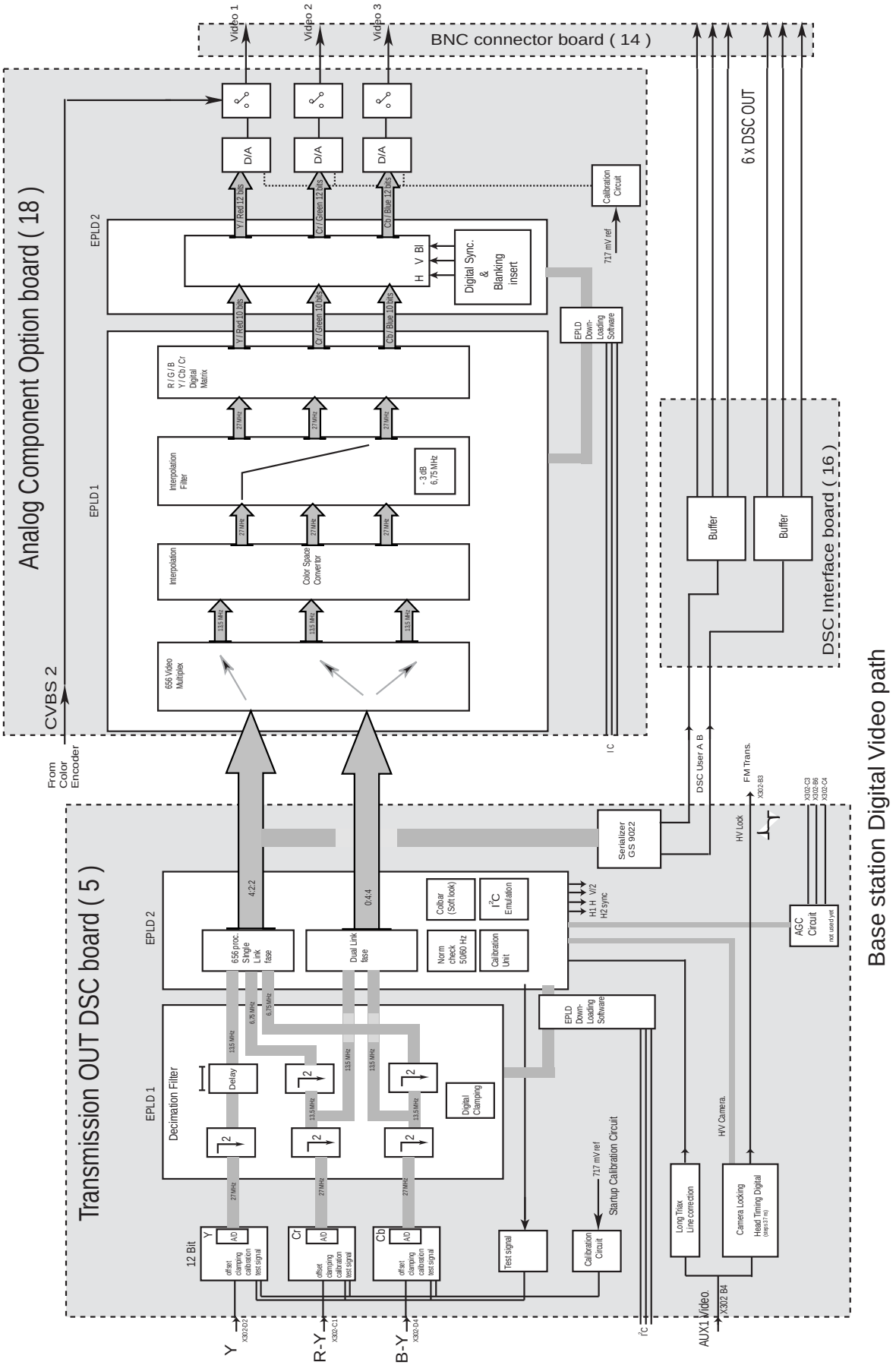
Appendix 2

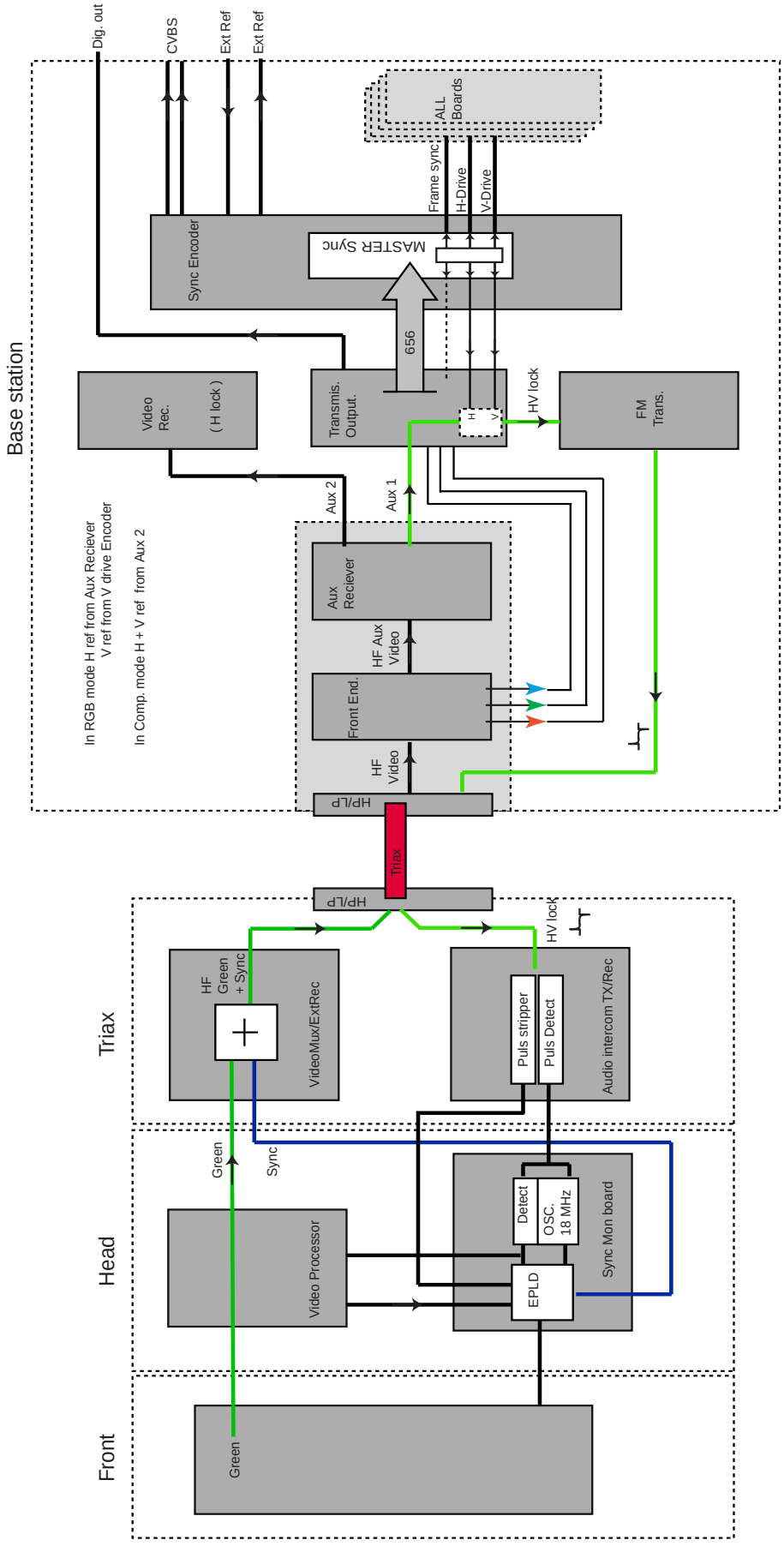
Block & Wiring Diagrams

This appendix contains block & wiring diagrams of the base station. The blockdiagrams and the wiring diagrams are a useful help when fault finding.

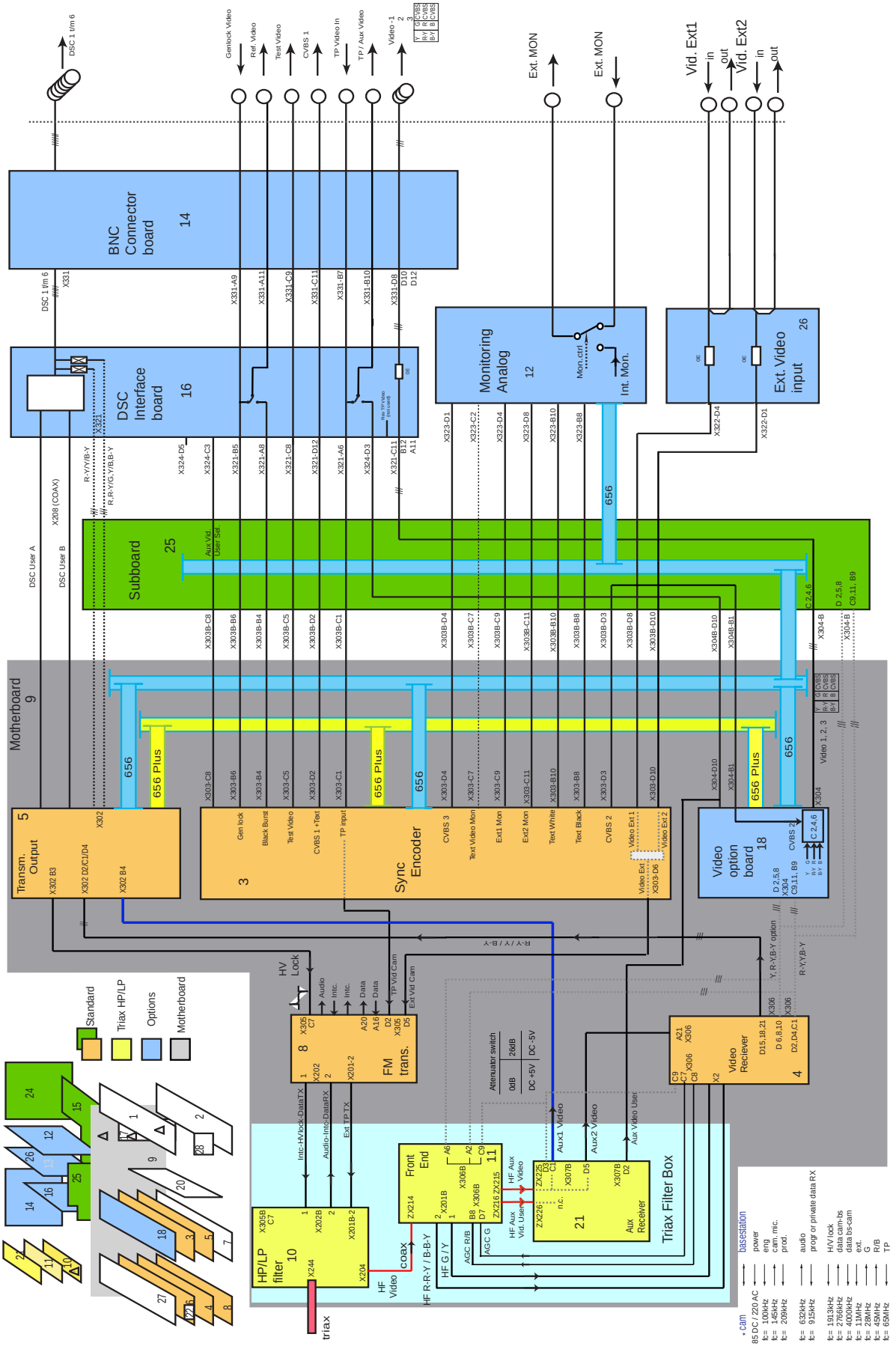
Contents

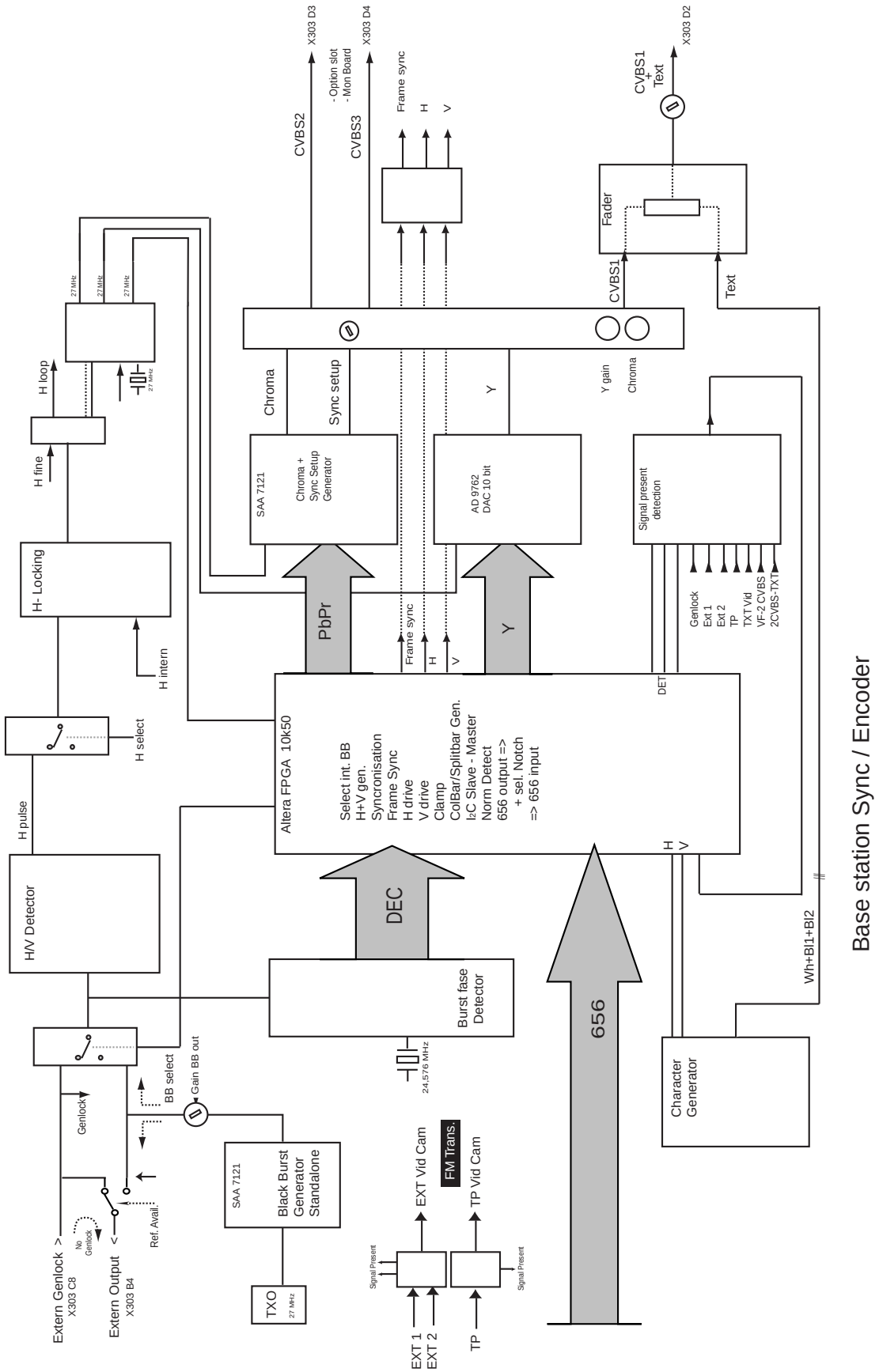
Digital Video Path




Base station
Dig. out
CVBS
Ext Ref
Ext Ref
ALL Boards
Frame sync
H-Drive
V-Drive
Sync Encoder
MASTER Sync
656
Video Rec.
(H lock)
Transmis. Output.
H
V
HV lock
FM Trans.
Aux 2
Aux 1
In RGB mode H ref from Aux Reciever
V ref from V drive Encoder
In Comp. mode H + V ref from Aux 2
Aux Reciever
HF Aux Video
Front End.
HF Video
HP/LP
Triax
HP/LP
HV lock
Triax
HF Green + Sync
VideoMux/ExtRec
Puls stripper
Puls Detect
Audio intercom TX/Rec
Green
Sync
Head
Video Processor
Detect
OSC. 18 MHz
EPLD
Sync Mon board
Front
Green

Main Video Path




Base station Sync / Encoder
CVBS2
X303 D3
- Option slot
- Mon Board
CVBS3
X303 D4
Frame sync
H
V
CVBS1
+
Text
X303 D2
Fader
CVBS1
Text
Chroma
Sync setup
Y
Y gain
Chroma
SAA 7121
Chroma +
Sync Setup
Generator
AD 9762
DAC 10 bit
Signal present
detection
H loop
H fine
27 MHz
H- Locking
H intern
H select
H pulse
PbPr
Y
Frame sync
H
V
DET
Genlock
Ext 1
Ext 2
TP
TXT Vid
VF-2 CVBS
2CVBS-TXT
Altera FPGA 10k50
Select int. BB
H+V gen.
Syncronisation
Frame Sync
H drive
V drive
Clamp
ColBar/Splitbar Gen.
I2C Slave - Master
Norm Detect
656 output =>
+ sel. Notch
=> 656 input
H
V
DEC
656
H/V Detector
Burst fase
Detector
24.576 MHz
Wh+Bl1+Bl2
Character
Generator
BB select
Gain BB out
Genlock
SAA 7121
Black Burst
Generator
Standalone
TXO
27 MHz
EXT Vid Cam
FM Trans.
TP Vid Cam
Signal Present
Signal Present
EXT 1
EXT 2
TP
Extern Genlock >
X303 C8
No
Genlock
<
Extern Output
X303 B4
Ref. Avail

POWER	Audio Inter-com	Signal Inter-conn.	Transmission Output	Sub board	Sync Encoder Board	Video Output	Fm Transceiver/EXT/TPTX/rec.	HP-LP Filter	Video Receiver	Front End	Da Bo
	X301	X301B	X302	X302B	X303	X304	X305	X305B	X306	X306B	X3
0VA	C25		C25	C25	C25	C25	B5,C5,C25	B5,C5	B5,C5,C25	B5,C5	B5,C5
0VD	C26		C26	C26	C26	C26	B1,C26	B1	B1,C26	B1	B1,C
0VD SENSE											
HOUSING											
+3.3V	D25		D25	D25	D25	D25	B3,D25	B3	B3,D25	B3	B3,I
+3.3V SENSE											
+5V	B26		B26	B26	B26	B26	B26,C4	C4	B26,C4	C4	B26
+5VD	D26		D26	D26	D26	D26	B2,D26	B2	B2,D26	B2	B2,I
+5VD SENSE											
+5VOLT	C3	C3									B26
RETURN +5VOLT	B21										
-5V	A26		A26	A26	A26	A26	A26,B4	B4	A26,B4	B4	A26
+12V RS232	C24	C24									C2
+15V	B25		B25	B25	B25	B25	B25,C6	C6	B25,C6	C6	B25
-15V	A25		A25	A25	A25	A25	A25,B6	B6	A25,B6	B6	A25
TRIAX CORE											
TRIAX SCREEN											
SAFETY GROUND											
SPARE RS232	B17	B17									B
REAR HOUSING											
	Mother ~ Boar										
	ZC1	ZC2	ZC3	ZC4	ZC5	ZC6	ZC7	ZC8	ZC9	ZC10	ZC
0VA	2	2	2	2	2	2	2	2	2	2	2
HOUSING	1	1	1	1	1	1	1	1	1	1	1
	A10	bus									
	A1	output									
	D12	input									
	A25	input									

POWER	Smart Card Option	Head-set option	Signal Conn. Board	DSC Interface / Subboard	DSC Input Option / Sub board	Monitoring Option / Subboard	DSC Interface / Subboard
	X308	X310	X311	X321	X322	X323	X324
0VA	B5,C5,C25	C25		A3,4,B3,4,C3,4,D3,4	C3,D3	C3,D3	
0VD	B1,C26	C26		A9,10,B9,10,C9,10,D9,10	C7,8	C7,8	
0VD SENSE							
HOUSING							
+3.3V	B3,D25	D25			D6,7	D6,7	C1,D1
+3.3V SENSE							
+5V	B26,C4	B26			D10	D10	B1
+5VD	B2,D26	D26			B1,2	B1,2	C6,D6
+5VD SENSE							
+5VOLT			B15				
RETURN +5VOLT			B14				
-5V	A26,B4	A26			D11	D11	B6
+12V RS232	C24		A5				
+15V	B25,C6	B25					
-15V	A25,B6	A25					
TRIAX CORE							
TRIAX SCREEN							
SAFETY GROUND							
SPARE RS232	B13		B1				
REAR HOUSING			A6,14,B18,C1				
0VA							
HOUSING							

DIG VIDEO	Trans mission Output DSC	DSC	Trans mission Output DSC	DSC	Video Output /Option	Video Output /Option	Audio	Signal	Trans mission	Sub	Sync	Video Output /Option	Fm Transcei ver/EXT /TP	Video	Data	Smart	Head-	Monitoring	DSC
		Interface		Interface	Slot	Slot	Inter- com	Inter- conn.	Output	board	Encoder Board	Slot	TX/rec.	Receiver	Board	Card Option	set option	Option / Subboard	Interfa ce
	X207	X207B	X208	X208B	X210	X212	X301	X301B	X302	X302B	X303	X304	X305	X306	X307	X308	X310	X323	X331
656-0									A23	A23	A23	A23						A15	
656-0 RET									A24	A24	A24	A24						A16	
656-1									B22	B22	B22	B22						B18	
656-1 RET									B21	B21	B21	B21						B17	
656-2									A21	A21	A21	A21						C17	
656-2 RET									A22	A22	A22	A22						C18	
656-3									B20	B20	B20	B20						D18	
656-3 RET									B19	B19	B19	B19						D17	
656-4									A19	A19	A19	A19						B15	
656-4 RET									A20	A20	A20	A20						B16	
656-5									B18	B18	B18	B18						C16	
656-5 RET									B17	B17	B17	B17						C15	
656-6									A17	A17	A17	A17						D15	
656-6 RET									A18	A18	A18	A18						D16	
656-7									B16	B16	B16	B16						B14	
656-7 RET									B15	B15	B15	B15						B13	
656-8									A15	A15	A15	A15						C13	
656-8 RET									A16	A16	A16	A16						C14	
656-9									B14	B14	B14	B14						D14	
656-9 RET									B13	B13	B13	B13						D13	
656 CLOCK							B24	B24	B24	B24	B24	B24	B24	B24	B24	B24	B24	A18	
656 CLOCK RET							B23	B23	B23	B23	B23	B23	B23	B23	B23	B23	B23	A17	
656 PLUS-0									C23	C23	C23	C23							
656PLUS-0 RET									C24	C24	C24	C24							
656 PLUS-1									D22	D22	D22	D22							
656 PLUS-1 RET									D21	D21	D21	D21							
656 PLUS-2									C21	C21	C21	C21							
656 PLUS-2 RET									C22	C22	C22	C22							
656 PLUS-3									D20	D20	D20	D20							
656 PLUS-3 RET									D19	D19	D19	D19							
656 PLUS-4									C19	C19	C19	C19							
656 PLUS-4 RET									C20	C20	C20	C20							
656 PLUS-5									D18	D18	D18	D18							
656 PLUS-5 RET									D17	D17	D17	D17							
656 PLUS-6									C17	C17	C17	C17							
656 PLUS-6 RET									C18	C18	C18	C18							
656 PLUS-7									D16	D16	D16	D16							
656 PLUS-7 RET									D15	D15	D15	D15							
656 PLUS-8									C15	C15	C15	C15							
656 PLUS-8 RET									C16	C16	C16	C16							
656 PLUS-9									D14	D14	D14	D14							
656PLUS-9 RET									D13	D13	D13	D13							
656 PLUS CLOCK							D24	D24	D24	D24	D24	D24	D24	D24	D24	D24	D24		
656 PLUS CLOCK RET							D23	D23	D23	D23	D23	D23	D23	D23	D23	D23	D23		
DSC A1																			C1
DSC A1 RET																			C2,D12
DSC A2																			A2
DSC A2 RET																			A1,B12
DSC A3																			D3
DSC A3 RET																			C3,4,D4
DSC B1																			B4
DSC B1 RET																			A3,4,B3
DSC B2																			A6
DSC B2 RET																			A5,B5,6
DSC B3																			D6
DSC B3 RET																			C5,6,D5
DSC OUT						2													
DSC TRANS	1	1																	
DSC USER A			1	1															
DSC USER B			2	2															
OPTION VIDEO 1																			D8
OPTION VIDEO 1 RET																			D7
OPTION VIDEO 2																			D10
OPTION VIDEO 2 RET																			D9
OPTION VIDEO 3																			D12
OPTION VIDEO 3 RET																			D11
PHASE 1					1														
PHASE 2					2														
PHASE 3						1													

CONTROL	Audio Inter-com	Signal Inter-conn.	Trans mission Output	Sub board	Sync Encoder Board	Sub board	Video Output / Option Slot	Sub board	Fm Transceiver / EXT/TP TX/rec.	HP-LP Filter	Video Receiver	Front End	Data Board	Aux Re-celver	Smart Card Option	Head-set Option	Signal Conn. Board.	DSC Input Option / Sub board	Monitoring Option / Subboard	DSC Inter-face / Sub board	Power Supply
	X301	X301B	X302	X302B	X303	X303B	X304	X304B	X305	X305B	X306	X306B	X307	X307B	X308	X310	X311	X322	X323	X324	X422
A-INT	A9	A9											A15			A9					
A-SCL	A8	A8											A14			A8					
A-SDA	A7	A7											A13			A7					
B-INT			A9	A9									A18							B4	
B-SCL			A8	A8									A17							B3	
B-SDA			A7	A7									A16							B2	
C-INT					A9	A9							A20					B5			
C-SCL					A8	A8							A19					B4			
C-SDA					A7	A7							A21					B3			
D-INT							A9	A9,B3					A24								
D-SCL							A8	A8,B5					A23						B3		
D-SDA							A7	A7,B4					A22						B5		
E-INT											A9	A9	A9	A9					B4		
E-SCL											A8	A8	A8	A8							
E-SDA											A7	A7	A7	A7							
F-INT									A9	A9			B10	B10							
F-SCL									A8	A8			B9	B9							
F-SDA									A7	A7			B8	B8							
G-INT													B11	B11	A9						
G-SCL													C11	C11	A8						
G-SDA													C10	C10	A7						
H-INT													C9	C9							D6
H-SCL													C8	C8							B5
H-SDA													C7	C7							C5
DATA 1	A15	A15							A16				D11	D11							
DATA N1	A16	A16							A15,17				D10	D10							
DATA 2	A17	A17							A20				D9	D9							
DATA N2	A18	A18							A19,21				D8	D8							
DATA BS CAM									A10	A10	A10	A10	A10	A10	A10	A10	A12	A10	A10		
DATA BS CAM RET									A11	A11	A11	A11	A11	A11	A11	A11	A13	A11	A11		
DATA CAM BS									A1	A1	A1	A1	A1	A1	A1	A1		A1	A1	A1	
DATA CAM BS RET																					
DATA LINK	A10	A10	A10	A10	A10	A10	A10	A10													
DATA LINK N	A11	A11	A11	A11	A11	A11	A11	A11													
MEASURING BUS	A1	A1	A1	A1	A1	A1	A1	A1													
MASTER RESET	D12	D12	D12	D12	D12	D12	D12	D12	D12	D12	D12	D12	D12	D12	D12	D12		D12	D12		
RS-CTS	A22	A22											B20		B20		A4				
RS-DGND	A19	A19											B17		B17		A1				
RS-DSR	A20	A20											B18		B18		A2				
RS-DTR	B20	B20											B16		B16		B4				
RS-RTS	A21	A21											B19		B19		A3				
RS-RXD	B18	B18											B14		B14		B2				
RS-TXD	B19	B19											B15		B15		B3				
ATTENUATOR SW.											C9	C9	D3	D3							
CARRIER PRESENT											A19		C3	C3							
GAIN LOCK											C11	C11	D4	D4							
SPARE DATA 1													C19		C19						
SPARE DATA 2													C20		C20						

ANALOGUE VIDEO	Transmission Output X302	Sub board X302B	Sync Encoder Board X303	Sub board X303B	Video Output / Option Slot X304	Sub board X304B	Fm Transceiver/EXT /TP TX/rec. X305	HP-LP Filter X305B	Video Receiver X306	Front End X306B	Data Board X307	Aux Receiver X307B	DSC Interface / Subboard X321	DSC Input Option / Subboard X322	Monitoring Option / Subboard X323	DSC Interface / Subboard X324	DSC Interface X331		
B,B-Y USER	C9	C9											B2						
B,B-Y USER RET	C10	C10											B1						
(B-Y MON)					B9	B9			C1	C1					C6				
(B-Y MON RET)					B10	B10			C2	C2					C5				
B-Y OPTION					D8	D8			D10	D10									
B-Y OPTION RET					D7,9	D7,9			D11	D11									
B-Y TRANS	C1	C1							D21										
B-Y TRANS RET	C2	C2							C20,2122,D20,22										
B-Y USER	D10	D10											C1						
B-Y USER RET	D11	D11											C2						
G,Y USER	C5	C5											D5						
G,Y USER RET	C6	C6											D6						
R,R-Y USER	C7	C7											A1						
R,R-Y USER RET	C8	C8											A2						
(R-Y MON)					C11	C11			D4	D4					C9				
(R-Y MON RET)					C10	C10			D3	D3					C10				
R-Y OPTION					D5	D5			D8	D8								A10	
R-Y OPTION RET					D4,6	D4,6			D9	D9									
R-Y TRANS	D2	D2							D18									A1	
R-Y TRANS RET	D1	D1							C17,18,19,D17,19										
R-Y USER	D8	D8											D7					D12	
R-Y USER RET	D9	D9											D8					C2	
(Y-MON)					C9	C9			D2	D2					C11			A7	
(Y-MON RET)					C8	C8			D1	D1					B11				
Y-OPTION					D2	D2			D6	D6									
Y-OPTION RET					D1,3	D1,3			D5,7	D5,7									
Y TRANS	D4	D4							D15										
Y TRANS RET	D3,5	D3,5							C14,15,16,D14,16										
Y USER	D6	D6											D2						
Y USER RET	D7	D7											D1						
AUX1 VIDEO	B4	B4	A13								C1	C1							
AUX1 VIDEO RET	B5	B5	A14								C2	C2							
AUX2 VIDEO									A21		D5	D5							
AUX2 VIDEO RET									A20,22		D6	D6							
BLACKBURST			B4	B4									A8						
BLACKBURST RET			B3	B3									A7						
BLACKBURST SELECT			B11	B11												C5			
CVBS1			D2	D2									D12				C11		
CVBS1 RET			D1,5	D1,5	B2								D11				C12		
CVBS2			D3	D3	B1	B1													
CVBS2 RET					B2	B2													
CVBS3			D4	D4											D1				
CVBS3 RET			C9	C9										D5	D2				
EXT. 1 MON.			C10	C10										D1	D4				
EXT. 1 MON. RET			C11	C11										D2	D5				
EXT. 2 MON.															D8				
EXT. 2 MON. RET															D9				
EXT 1 VIDEO			D8	D8										D4					
EXT 1 VIDEO RET			D9	D9										D5					
EXT 2 VIDEO			D10	D10										D1					
EXT 2 VIDEO RET			D11	D11										D2					
EXT. VIDEO CAM			D6	D6			D5	D5											
EXT. VIDEO CAM RET			D7	D7			D4,6	D4,6											
HV-LOCK	B3	B3	C13				C7	C7	D13										
KEY VIDEO	B1	B1							C13										
KEY VIDEO RET	B2	B2																	
GENLOCK VIDEO			B6	B6									B5				A9		
GENLOCK VIDEO RET			B5	B5									B6				A10		
AUX VIDEO																D5			
AUX VIDEO RET																D4			
AUX VIDEO SELECT			C8	C8												C3			
REF VIDEO																	A11		
REF VIDEO RET																	A12		
AUX VIDEO USER					D10	D10	C1	C1			D2	D2				D3			
AUX VIDEO USER RET					D11	D11	C2	C2			D1	D1				D2			
TEXT BLACK			B10	B10											B10				
TEXT RET			B9	B9											B9				
TEXT WHITE			B8	B8											B8				
TEXT VIDEO MON			C7	C7									C8		C2				
TEXT VIDEO			C5	C5													C9		
TEXT VIDEO RET			C6	C6									C7		C1		C10		
TP VIDEO			C1	C1									A6				B7		
TP VIDEO RET			C2	C2									A5				B8		
TP/AUX VIDEO OUT																	B10		
TP/AUX VIDEO OUT RET																	B9		
TP VIDEO CAM			B2	B2			D2	D2											
TP VIDEO CAM RET			B1	B1			D1,3	D1,3											
VIDEO 1					C2	C2							C11						
VIDEO 1 RET					C1	C1							C12						
VIDEO 2					C4	C4							B12						
VIDEO 2 RET					C3	C3							B11						
VIDEO 3					C6	C6							A11						
VIDEO 3 RET					C5	C5							A12						

AUDIO	Audio Intercom	Signal Inter-conn.	Fm Transceiver /EXT/TP TX/rec.	HP-LP Filter	Headset option	Signal Conn. Board	Option Tuchel	Option XLR5			
	X301	X301B	X305	X305B	X310	X311	X574	X574			
AUDIO 1	B1	B1	D18								
AUDIO 1 RET	B2	B2	D17,D19								
AUDIO 1 OUT+	D1	D1				D13					
AUDIO 1 OUT-	D2	D2				D14					
AUDIO 1 OUT SHIELD	D3	D3				D15					
AUDIO 2	D7	D7	D21								
AUDIO 2 RET	D8	D8	D20,D22								
AUDIO 2 OUT+	D4	D4				D16					
AUDIO 2 OUT-	D5	D5				D17					
AUDIO 2 OUT SHIELD	D6	D6				D18					
+SENSE AUD 1	C1	C1				C14					
-SENSE AUD 1	C2	C2				C15					
+SENSE AUD 2	C4	C4				C17					
-SENSE AUD 2	C5	C5				C18					
INTERCOM	**Audio Intercom**	**Signal Inter-conn.**	**Fm Transceiver /EXT/TP TX/rec.**	**HP-LP Filter**	**Headset option**	**Signal Conn. Board**	**Option Tuchel**	**Option XLR5**			
	X301	X301B	X305	X305B	X310	X311	X574	X574			
CAM MIC	C21	C21	C23		C21						
CAM MIC RET	C20	C20	C22,24		C20						
ENG IN +	D16	D16				D7					
ENG IN -	D17	D17				D8					
SHIELD ENG	D15	D15			D6	D6					
ENG OUT +	C14	C14			D4	C3					
ENG OUT -	C15	C15			D5	C4					
SHIELD ENG	C13	C13			D6	C2					
ENG TO CAM	C8	C8	D10	D10	C1,D16						
ENG TO CAM RET	C9	C9	D11	D11	C2,D17						
MIC BS	C11	C11			B22				A10	bus	
MIC BS RET	C10	C10	C10		B21						
MIC BS SW			C9		C8				A1	output	
MIC BS RET					C9						
PRIVATE DATA IN	A24	A24				A10			D12	input	
PRIVATE DATA IN RET	A23	A23				A9			D8	input	
PRIVATE DATA OUT	B22	B22				B16			A7	input/output	
PRIVATE DATA OUT RET	B21	B21				B17					
PROD IN +	D9	D9				D1					
PROD IN -	D10	D10				D2					
SHIELD PROD	D11	D11			D3	D3					
PROD OUT +	D13	D13			D1	D4					
PROD OUT -	D14	D14			D2	D5					
PROD TO CAM	B3	B3	D14		B3,D9						
PROD TO CAM RET	B4	B4	D13,15		B4,D10						
PROGR IN +	D19	D19				D10					
PROGR IN -	D20	D20				D11					
SHIELD PROGR	D18	D18				D9					
PROGR TO CAM	D22	D22	D8	D8	D19,22						
PROGR TO CAM RET	D21	D21	D7,9	D7,9	D20,21						
TRACKER/FLOOR MIC	C23	C23	C16		C23						
TRACKER/FLOOR MIC RET	C22	C22	C15,17		C22						
MICR							3	2			
MICR RET							4	1			
TEL LEFT							1	4			
TEL RET							2,6	3			
TEL RIGHT							5	5			

Wiring Boundary Scan Signals

BOUNDARY SCAN	Audio Inter-com	Signal Inter-conn.	Trans mission Output	Sub board	Sync Encoder Board	Sub board	Video Output / Option Slot	Sub board	Fm Transceiver / EXT/TP TX/rec.	HP-LP Filter	Video Receiver	Front End	Data Board	Aux Receiver	Smart Card Option	Headset option	DSC Input Option / Sub board	Moni-toring Option / Sub board	DSC Inter-face / Sub board
	X301	X301B	X302	X302B	X303	X303B	X304	X304B	X305	X305B	X306	X306B	X307	X307B	X308	X310	X322	X323	X324
SCK	B10	B10	B10	B10			C13		B10	B10	B10	B10				B10			
SDI	A13	A13	A13	A13			A13		A13		A13					A24			
SDO	A14	A14	A14	A14			A14		A14		A14					A21			
SWS	B11	B11	B11	B11			C14		B11	B11	B11	B11				B11			
TCK	A3	A3	A3	A3	A3	A3	A3	A3	A3	A3	A3	A3	A3	A3	A3	A3	A3	A3	A3
TDA			A5	A5	A5	A5	A6	A6								A5			
TDB			A6	A6	A6	A6										A6			
TDC	A5	A5								B8									
TDD	A6	A6							B8										
TDE									A5	A5							A5		
TDF									A6	A6	B8	B8							
TDG											A5	A5	D7	D7			A6	A5	
TDH											A6	A6	A5	A5				A6	A6
TDI													A6	A6	A5				
TDJ																			
TDK															A5				
TDL							B8	B8							A6		A5		A5
TDM																	A6		A6
TDN																		A5	
TDO							A5	A5										A6	
TMS	A2	A2	A2	A2	A2	A2	A2	A2	A2	A2	A2	A2	A2	A2	A2	A2	A2	A2	A2
TWE	B7	B7	B7	B7	B7	B7	B7	B7	B7	B7	B7	B7	B7	B7	B7	B7	B7	B7	B5
NTRST	A4	A4	A4	A4	A4	A4	A4	A4	A4	A4	A4	A4	A4	A4	A4	A4	A4	A4	A4
		A10	bus																
		A1	output																
		D12	input																
		B7	input																
		A7	input/output																

SIGNALLING	Audio Inter com	Signal Inter-conn.	Trans mission Output	Data Board	Signal Conn. Board																						
	X301	X301B	X302	X307	X311																						
AN 0	C6	C6		B21	C10																						
AN 1	C7	C7		B22	C11																						
AUDIO 1 LEVEL	B15	B15		C21	B11																						
AUDIO 2 LEVEL	B16	B16		C22	B12		A10		bus																		
BALANCE AUDIO 1					C13		A1		output																		
BALANCE AUDIO 2					C16		D12		input																		
CALL EXT	B5	B5		D15	B5		C19		input																		
CALL EXT RET	B6	B6		D16	B6		A7		input/output																		
CALL TO EXT	B8	B8		D17	B7																						
CALL TO EXT RET	B9	B9		D18	B8																						
ISO EXT	C19	C19		D21	C8																						
ISO EXT RET	C18	C18		D22	C7																						
PREVIEW TO EXT	B13	B13		D19	B9																						
PREVIEW TO EXT RET	B14	B14		D20	B10																						
ON AIR EXT	C17	C17		D13	C6																						
ON AIR EXT RET	C16	C16		D14	C5																						
SYSTEM	**Audio Inter com**	**Signal Inter-conn.**	**Trans mission Output**	**Sub board**	**Sync Encoder Board**	**Sub board**	**Video Output / Option Slot**	**Sub board**	**Fm Trans-ceiver / EXT/TP TX/rec.**	**HP-LP Filter**	**Video Receiver**	**Front End**	**Data Board**	**Aux Receiver**	**Smart Card Option**	**Headset Output / option**	**DSC Input Option / Sub board**	**Moni-toring Option / Sub board**	**Power Supply**
	X301	X301B	X302	X302B	X303	X303B	X304	X304B	X305	X305B	X306	X306B	X307	X307B	X308	X310	X322	X323	X422
FRAME SYNC	C12	C12	C12	C12	C12	C12	C12	C12	C12	C12	C12	C12	C12	C12	C12	C12		C12	
H-DRIVE	A12	A12	A12	A12	A12	A12	A12	A12	A12	A12	A12	A12	A12	A12	A12	A12		A12	
V-DRIVE	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12		B12	
MAINS FREQ.					C14														D4
FRAME SYNC EXT																	C11		
H-DRIVE EXT																	C9		
V-DRIVE EXT																	C10		
TRANSMISSION	**Fm Trans-ceiver / EXT/TP TX/rec.**	**HP-LP Filter**	**Fm Trans-ceiver / EXT/TP TX/rec.**	**HP-LP Filter**	**Video Receiver**	**Front End**	**Front End**	**Front End**	**Front End**	**HP-LP Filter**	**Aux Receiver**	**Aux Receiver**	**HP-LP Filter**	**Trans mission Output**	**Sub board Option**	**Video Output / Option Slot**	**Fm Transceiver / EXT/TP TX/rec.**	**Video Receiver**	**Front End**
	X201	X201B	X202	X202B	X205	X205B	X214	X215	X216	X225	X226	X244	X302	X302B	X304	X305	X306	X306B
AGC R-Y/B-Y																		C8	C8
AGC Y																		C7	C7
SYSTEM AGC B-Y													C4	C4	B11			B18	
SYSTEM AGC R-Y/B-Y													C6	B6	B6			B17	
SYSTEM AGC Y													C3	C3	C7			B16	
INTERCOM/HVLOCK/DATA TX			1	1															
AUDIO/INTERCOM RX			2	2															
EXT/TP TX	2	2																	
HF-VIDEO					2	1													
HF-VIDEO G							x				x								
HF-VIDEO R/B					1	2													
HF-AUX VIDEO								x		x									
HF-AUX VIDEO USER									x		x								
SDINT-DATA													B8				A24		
TRIAX												x							
		A10	bus																
		A1	output																
	D12	input																	
	B12	input																	
	A7	input/output																	

Appendix 3

Menu System

Contents

System Menu Structure

The system Menu tables present the functions ordered in the logical divisions of the menu system itself with additional information in the columns:

- User level column
  The User level column indicates the functions that are available with different user levels.

- Values column
  All available choices are listed for a function.

- Blocked if column
  Lists the conditions that block the function.

- Default column
  The default column lists the values of the functions when a camera is delivered.

- Files column
  The File column indicates where the value of the function is stored; in the operator file or in the system file or not at all.

- Comments column
  The Comments column list information about the function.

MAIN Menu				
Menu text		**User**		**Values**
<Menu Off>		**O**	**I**	
Video	>>	**O**	**I**	
Monitoring	>>	**O**	**I**	
Audio/Intercom	>>	**O**	**I**	
System	>>	**O**	**I**	
Files	>>	**O**	**I**	
Diagnostics	>>	**O**	**I**	

VIDEO Menu							
Menu text	**User**		**Values**	**Default**	**Blocked if**	**File**	**Comments**
Chroma >>	**O**	**I**	On,Off	On	-	Scene	Add colour information to the CVBS signals
Colour Bar >>							
Colour Bar	**O**	**I**	On,Off	Off	-	Scene	-
White Bar Level		**I**	75%,100%	100%	-	System	Change white bar level in colour bar
Auto Lighting	**O**	**I**	On,Off	Off		Operator	Corrects colour effects due to artificial AC lighting in combination with short exposure time values by adjusting the integration time of the sensor
Notch >>							
Notch	**O**	**I**	On,Off	Off	Colour Bar=On	Scene	Suppress visible distortion in hatch patterns
Level	**O**	**I**	0..99	50	Colour Bar=On	Scene	-
EXT Video		**I**	On,Off	Off	-	System	Suppress chroma to obtain true luminance on B&W viewfinders with external supplied video signals
Saturation	**O**	**I**	0..99	50	Colour Bar=On	Scene	Colour amplitude level for all video outputs
Gain Adjustments >>							Consult section "Gain Adjustments"
Consult manual first! >>							-
Std. System File		**I**	CUST,FACT	CUST	-	-	Use CUST file if the customer file contains your default settings
Recall Std Sys File		**I**	exec	-	-	-	-
Colour Bar	**O**	**I**	On,Off	Off	-	Scene	-
White Bar Level		**I**	75%,100%	100%	-	System	-
Chroma	**O**	**I**	On,Off	On	-	Scene	-
Options Video Output		**I**	GRB,YRyBy, CVBS	GRB	-	System	-
Options CVBS Y Gain		**I**	0..99	50	-	System	-
Options Chroma Level		**I**	0..99	50	-	System	-
Monitor Mode		**I**	WFM,Bus	WFM	Set to WFM by hardware	System	Consult section "System Settings"
Monitoring Source	**O**	**I**	CVBS..YExt2	CVBS	Colour Bar=On	Scene	-
Monitoring CVBS Gain		**I**	0..99	50	Colour Bar=On	System	-
Monitoring YGRB Gain		**I**	0..99	50	Colour Bar=On	System	-
SDI amplitude Ext1		**I**	0..99	50	Colour Bar=On	System	-
SDI amplitude Ext2		**I**	0..99	50	Colour Bar=On	System	-
Store Std System File		**I**	exec	-	Std. System file=FACT	-	Warning: This will replace the default CUST file
Cam Match G		**I**	0..99	50		System	-
Cam Match R		**I**	0..99	50		System	-
Cam Match B		**I**	0..99	50		System	-
Cam Match Y		**I**	0..99	50		System	-
Cam Match R-Y		**I**	0..99	50		System	-
Cam Match B-Y		**I**	0..99	50		System	-

MONITORING Menu							
Menu text	**User**		**Values**	**Default**	**Blocked if**	**File**	**Comments**
Monitoring Source	**O**	**I**	CVBS,R,G,B,Y,Seq, Sup,Ext1,Ext2, YExt1,YExt2	CVBS	-	Scene	Select signal on Monitoring output
Auto Skin Win Ins	**O**	**I**	On,Off	On	-	Operator	Superimposed information at Monitoring output during Auto Skin process. Not available with LDK10(p) and LDK20(p)
Auto White Win Ins	**O**	**I**	On,Off	On	-	Operator	Superimposed information at Monitoring output during Auto White process. Not available with LDK10(p) and LDK20(p)
Menu >>							
Display	**O**	**I**	On,Time	Time	-	Operator	Time out superimposed menu text on or off
Contrast	**O**	**I**	0...99	50	-	System	Menu text contrast at CVBS and Text output
Menu Time	**O**	**I**	5...99	10	-	Operator	Time out duration superimposed menu text
CVBS Output	**O**	**I**	On,Off	Off	-	Operator	Menu text superimposed at CVBS output
Monitor output	**O**	**I**	On,Off	On	-	Operator	Menu text superimposed at Monitoring output
Menu Level	**O**	**I**	Oper,Inst	Inst	-	-	Set menu level to Operator or Install level
Statusbar >>							
Studio >>							
Studio	**O**	**I**	On,Off	Off	-	Operator	Display studio name in Statusbar
Name	**O**	**I**	*[String]*	-	-	-	Edit studio name
Operator >>							
Operator	**O**	**I**	On,Off	Off	-	Operator	Display camera operator name in statusbar
Name	**O**	**I**	*[String]*	-	-	-	Edit camera operator name
Camera Number	**O**	**I**	On,Off	Off	-	Operator	Display camera number in statusbar
Cable Length	**O**	**I**	On,Off	Off	-	Operator	Display remaining cable length in statusbar
Auto Lighting	**O**	**I**	On,Off	Off	-	Operator	Display Auto lighting in statusbar

AUDIO/INTERCOM Menu							
Menu text	**User**		**Values**	**Default**	**Blocked if**	**File**	**Comments**
Audio >>							
Audio Level 1		**I**	0dB,6dB	6dB	-	System	Studio audio system level input 1
Audio Level 2		**I**	0dB,6dB	6dB	-	System	Studio audio system level input 2
Intercom >>							
Private Data >>							Consult Section "Private Data" for detailed information
Tracker Channel		**I**	Inter,Priva	Inter		System	Private data channel from Camera to Base Station *
Prog Channel		**I**	Inter,Priva	Inter	-	System	Private data channel from Base Station to Camera *
Isolate >>							No Intercom communication from Camera to Base Station (Studio)
Source	**O**	**I**	Local,Rmote	Local	-	Operator	Local = Setting available in Base Station Menu, Rmote = Setting available with MCP
Isolate		**I**	Isol,Syst	Syst	Source=Rmote	Install	Isol = Isolate, Syst = Isolate is off
ENG >>							
Wire Mode		I	2 wire,4 wire	4 wire	-	System	Standard studio intercom system setting
Side Tone	O	I	0..99	50	-	Operator	-
level	O	I	0dB,6dB	6dB	ENG Wire Mode=2	Operator	Standard studio intercom system setting
In Ref Level		I	0..99	50	-	System	Input intercom level signal from studio
Out Ref Level	O	I	0..99	50	-	Operator	Output intercom level to studio
PROD >>							
Wire Mode		I	2 wire,4 wire	4 wire	-	System	Standard studio intercom system setting
Side Tone		I	0..99	50	-	System	-
Level	O	I	0dB,6dB	6dB	PROD Wire Mode=2	Operator	Standard studio intercom system setting
In Ref Level		I	0..99	50	-	System	Input intercom level signal from studio
Out Ref Level		I	0..99	50	-	System	Output intercom level to studio
PROG >>							
Wire Mode		I	2 wire,4 wire	4 wire	-	System	Standard studio intercom system setting
Level	O	I	0dB,6dB	6dB	PROG Wire Mode=2	Operator	Standard studio intercom system setting
In Ref Level		I	0..99	50	-	System	Input intercom level signal from studio
ENG Headset >>							Settings for the optional headset module
Phantom Power	O	I	On,Off	Off	-	Operator	12V DC Phantom power
Mic Level	O	I	0dB,20dB	20dB	-	Operator	Headset microphone sensitivity
Side Tone	O	I	0..99	50	-	Operator	Headset side ton level
Mic to Headset		I	On,Off	On	ENG Wire Mode=2	System	Side tone on/off
CAM to Headset	O	I	On,Off	On	-	Operator	Camera ENG channel to headset
CAM Volume	O	I	0..99	50	-	Operator	Camera ENG channel to headset level
Tracker to Headset	O	I	On,Off	On	-	Operator	Tracker ENG channel to headset

AUDIO/INTERCOM Menu (Continued)							
Menu text	**User**		**Values**	**Default**	**Blocked if**	**File**	**Comments**
Tracker Volume	O	I	0..99	50	-	Operator	Tracker ENG channel to headset level
Mic Eng-Out	O	I	On,Off	On	-	Operator	Headset to basestation ENG output
Mic to Eng-Cam	O	I	On,Off	On	-	Operator	Headset to camera ENG channel
Call		I	Call,Voice	Call	-	Operator	Set to Voice if Voice Mail functionallity is required. (The Call function is still available if Call is set to Voice)
Voice Mail >>							See Section 3 "Voice Mail"
Record ENG	O	I	On,Off	On	Call is not Voice	Operator	Intercom messages from the ENG channel to the camera are recorded.
Record PROD	O	I	On,Off	On	call is not Voice	Operator	Intercom messages from the PROD channel to the camera are recorded.
Record PROG	O	I	On,Off	On	call is not Voice	Operator	Intercom messages from the PROG channel to the camera are recorded.

***** *The LDK 100 and LDK 200 cameras with LDK5430 triax adapter follow these settings automatically. For the LDK 10(p), LDK 20(p) and LDK 2000(p) cameras dip- switches in the camera have to be set.*

SYSTEM Menu							
Menu text	**User**		**Values**	**Default**	**Blocked if**	**File**	**Comments**
Cable >>							
Size	**O**	**I**	8,11,14	8	-	System	Select triax cable diameter to calculate maximum triax extension.
Length	**O**	**I**	0..5000	-	-	-	Maximum triax extension.
Transmission Mode		**I**	GRB,YRyBy	YRyBy	-	-	Maximum triax extension.
Camera Number	**O**	**I**	1..15	15	-	-	Set camera number
Control Mode	**O**	**I**	C2IP, S9000	C2IP	-	-	Select control bus type
IP Address >>							
IP Config Mode	**O**	**I**	Man, Auto	Auto	-	-	Manual or auto IP assignment.
IP digit 1	**O**	**I**	1 .. 250	169	-	-	IP address part 1.
IP digit 2	**O**	**I**	1 .. 255	254	-	-	IP address part 2.
IP digit 3	**O**	**I**	1 .. 255	1	-	-	IP address part 3.
IP digit 4	**O**	**I**	1 .. 255	1	-	-	IP address part 4.
Subnet mask	**O**	**I**	0 .. 31	24	-	-	Subnet mask
Apply IP Settings	**O**	**I**	Exec	-	-	-	Confirm IP address
Ethernet >>							
Ethernet speed	**O**	**I**	100Mb, 10Mb, Auto	10Mb	-	-	Select speed
Ethernet duplex	**O**	**I**	Full, Half, Auto	Auto	-	-	Select duplex mode
Camera Power	**O**	**I**	On,Off	On	-	Operator	Switch the power to the camera
MCP Available		**I**	Yes,No	Yes	-	Operator	See Section "No MCP Available"
Tally >>							
Yellow On Air	**O**	**I**	Std, Indep	Std	-	-	Standard or independent
Yellow In	**O**	**I**	SW, DC	SW	-	-	Software or voltage control
On Air In	**O**	**I**	SW, DC	SW	-	-	Software or voltage control
Monitor Mode		**I**	WFM,Bus	WFM	-	System	See Section "Monitor Mode"
TV System >>							
Auto Lock		**I**	Yes,No	Yes	-	System	TV System is set by TV System of supplied video at Reference Video Input
TV System		**I**	NTSC,PAL	PAL	Auto Lock=Yes	System	
TP/Aux Video		**I**	TP/Aux	TP	-	System	Only with LDK5430 triax adapter
External Video >>							
External video source		**I**	CVBS, SDI	SDI	-	System	Select external source type
SDI CHROMA Ext1		**I**	On,Off	On	-	System	
SDI CHROMA Ext2		**I**	On,Off	On	-	System	
Analog Options >>							
Video Output		**I**	GRB,YRyBy,CVBS	GRB	-	System	Select Option outputs signal type
Sync >>							Add sync to analog video outputs
Sync in Y		**I**	On,Off	On	-	-	-
Sync in G		**I**	On,Off	On	-	-	-
Sync in RB		**I**	On,Off	Off	-	-	-
Timing							
H Phase Course	**O**	**I**	0..99	50	No ext. Ref.	System	No external reference signal at the reference input connector.
H Phase Fine	**O**	**I**	0..99	50	No ext. Ref.	System	See comments H Phase Course
Subcarrier Course	**O**	**I**	0,90,180,270	180	No ext. Ref.	System	See comments H Phase Course
Subcarrier Fine	**O**	**I**	0..99	50	No ext. Ref.	System	See comments H Phase Course
Subc H Phase Course		**I**	0,90,180,270	180	Ext. Ref	System	External ref. at reference input
Subc H Phase Fine		**I**	0..99	50	Ext. Ref	System	External ref. at reference input
Head Timing		**I**	0..99	50	-	System	External ref. at reference input
SDI Hor Delay Ext1		**I**	0..99	50	-	System	Horizontal delay Ext1
SDI Hor Delay Ext2		**I**	0..99	50	-	System	Horizontal delay Ext2
Clock >>							
Day		**I**	1..31	1	-	-	-
Month		**I**	Jan,Feb..Dec	Jan	-	-	-
Year		**I**	0..99	0	-	-	-
Hour		**I**	0..23	0	-	-	-
Minute		**I**	0..59	0	-	-	-

FILES Menu						
Menu text	**User**		**Values**	**Default**	**Blocked if**	**Comments**
User Operator Files >>						The "File" column of a menu item indicated with "Operator" is stored in a Operator file.
Operator File	**O**	**I**	O_BS1..O_BS4	BS1		Select Operator file
Recall	**O**	**I**	exec	-		Recall Operator file
Store	**O**	**I**	exec	-		Store Operator file
Std. Operator Files >>						Standard Operator files
Operator File	**O**	**I**	CUST,FACT	CUST		Set the standard Operator file to customer or to factory.
Recall	**O**	**I**	exec	-		Recall standard Operator file
Store		**I**	exec	-	Std. Operator fille=FACT	Store standard customer Operator file. It is not possible to overwrite the factory file
User System Files >>						The "File" column of a menu item indicated with "System" is stored in a System file.
System File		**I**	S_BS1..S_BS4	-		Select System file
Recall		**I**	exec	-		Recall System file
Store		**I**	exec	-		Store System file
Std. System Files >>						Standard System files
System File		**I**	CUST,FACT	CUST		Set the standard System file to customer or to factory.
Recall		**I**	exec	-		Recall standard System file
Store		**I**	exec	-	Std. System file=FACT	Store standard customer System file. It is not possible to overwrite the factory file

DIAGNOSTICS Menu							
Menu text	**User**		**Values**	**Default**	**Blocked if**	**File**	**Comments**
Board ID >>							
Power Board	**O**	**I**				-	-
HP/LP Board	**O**	**I**				-	-
Sync/Encoder Board	**O**	**I**				-	-
Data Board	**O**	**I**				-	-
Video Receiver Board	**O**	**I**				-	-
Front End Board	**O**	**I**				-	-
Transm. Output Board	**O**	**I**				-	-
Audio/Intercom Board	**O**	**I**				-	-
External Video Board	**O**	**I**				-	-
Monitoring Board	**O**	**I**				-	
FM Transceiver Board	**O**	**I**				-	
Analog Comp Board	**O**	**I**				-	
Aux Receiver Board	**O**	**I**				-	
DSC Interface Board	**O**	**I**				-	-
ENG Headset Board	**O**	**I**				-	
Local Power Board	**O**	**I**				-	
Board Diagnostics >>							
Power Board >>						-	
Triax Status	**O**	**I**	DCPWR..ACODC	-	-	-	See Section "Triax Status Indications"
Local Power Status	**O**	**I**	Ok,NotOK	-	-	-	-
Power Overheated	**O**	**I**	Yes,No	-	-	-	-
Fan	**O**	**I**	Ok,NotOK	-	-	-	-
Sync/Encoder Board >>							
Sync/Encoder Status	**O**	**I**	Ok,NotOK	-	-	-	-
Reference Available	**O**	**I**	Yes,No	-	-	-	-
Reference Norm		**I**	NTSC,PAL	-	-	-	-
TV System	**O**	**I**	PAL,NTSC	-	-	-	-
Hor. Sync lock	**O**	**I**	Yes,No	-	-	-	-
Burst Lock	**O**	**I**	Yes,No	-	-	-	-
EXT1 Analog	**O**	**I**	None,NTSC,PAL,?	-	-	-	-
EXT2 Analog	**O**	**I**	None,NTSC,PAL,?	-	-	-	-
656 Bus Available	**O**	**I**	Yes,No	-	-	-	-
TP Available	**O**	**I**	Yes,No	-	-	-	-
Data Board >>							
Boot Software Id	**O**	**I**	0..255	-	-	-	-
Base Station 12NC	**O**	**I**	0..9999	-	-	-	-
Base Station Status	**O**	**I**	0..255	-	-	-	-
Eth MAC	**O**	**I**	Mac address	-	-	-	-
Eth Link Type	**O**	**I**	Speed/duplex	-	-	-	-
Eth Link State	**O**	**I**	Conn, Disconn.	-	-	-	-
Video Receiver Board >>							
Video Format Detect	**O**	**I**	GRB,YRyBy, ERROR	-	-	-	-
Aux Receiver Board >>							
Carrier Detected	**O**	**I**	Yes,No	-	-	-	-
Trans. Output Board >>							
Cam Video Available	**O**	**I**	Yes,No	-	-	-	-
H&V Ref Available	**O**	**I**	Yes,No	-	-	-	-
Camera Lock	**O**	**I**	Yes,No	-	-	-	-
Video Start Calibr	**O**	**I**	exec				
Video Calibr Status	**O**	**I**	Run,Ready,Fail	-	-	-	Start video calibration by executing the Video Start Calibr status
Transm Output Status	**O**	**I**	OK,Fail	-	-	-	-

DIAGNOSTICS Menu							
Menu text	**User**		**Values**	**Default**	**Blocked if**	**File**	**Comments**
Audio/Intercom Board >>							
Self test	**O**	**I**	exec	-	-	-	-
ENG Test Tone Intern	**O**	**I**	Run,OK,Error	-	-	-	-
PROD Test Tone Intern	**O**	**I**	Run,OK,Error	-	-	-	-
PROG Test Tone Intern	**O**	**I**	Run,OK,Error				
ENG Test Tone Studio	**O**	**I**	Run,OK,Error	-	-	-	-
PROD Test Tone Studio	**O**	**I**	Run,OK,Error	-	-	-	-
ENG Headset Board >>							
Self test	**O**	**I**	exec	-	-	-	-
Test Intern	**O**	**I**	Run,OK,Error	-	-	-	-
Test Studio	**O**	**I**	Run,OK,Error	-	-	-	-
Test Tone Mic. BS	**O**	**I**	On,Off				
Test Tone Tr/Flr.Mic	**O**	**I**	On,Off	-	-	-	-
Test Tone Cam.Mic	**O**	**I**	On,Off	-	-	-	-
Ext Video Input Board >>							
Carrier Eq Ext 1	**O**	**I**	Yes,No	-	-	-	-
Carrier Rcve Ext1	**O**	**I**	Yes,No	-	-	-	-
SDI Lock Ext1	**O**	**I**	Yes,No	-	-	-	-
SDI TV System Ext1	**O**	**I**	625, 525				
Carrier Eq Ext 2	**O**	**I**	Yes,No	-	-	-	-
Carrier Rcve Ext2	**O**	**I**	Yes,No	-	-	-	-
SDI Lock Ext2	**O**	**I**	Yes,No	-	-	-	-
SDI TV System Ext2	**O**	**I**	625, 525				
BS TV System	**O**	**I**	PAL, NTSC	-	-	-	-
Communications Diag. >>							
Camera Connected	**O**	**I**	Yes,No	-	-	-	-
OCP Connected	**O**	**I**	Yes,No	-	-	-	-
MCP Connected	**O**	**I**	Yes,No	-	-	-	-

List of System Menu Functions

Function	Path in Menu
Analog Comp Board	Diagnostics \ Board
Analog Options	System
Audio Level 1	Audio/Intercom \ Audio
Audio Level 2	Audio/Intercom \ Audio
Audio/Intercom Board	Diagnostics \ Board ID
Auto Lighting	Video
Auto Lock TV System	System \ TV System
Auto Skin Win Ins	Monitoring
Auto White Win Ins	Monitoring
Aux Rec Board	Diagnostics \ Board ID
Base Station 12NC	Diagnostics \ Board Diagnostics
Base Station Status	Diagnostics \ Board Diagnostics
Board Diagnostics	Diagnostics \ Board Diagnostics
Board ID	Diagnostics \ Board ID
Boot Software Id	Diagnostics \ Board Diagnostics \ Data Board
Burst Lock	Diagnostics \ Board Diagnostics \ Sync/Encoder Board
Cable Length	System \ Cable
Cable Length	Monitoring \ Statusbar
Cable Size	System \ Cable
Call	Audio/Intercom \ Intercom
Cam Video Available	Diagnostics \ Board Diagnostics \ Trans. Output Board
Camera Connected	Diagnostics \ Communications Diag.
Camera Lock	Diagnostics \ Board Diagnostics \ Trans. Output Board
Camera Number	System \ Camera Number
Camera Number in Status Bar	Monitoring \ Status Bar
Camera Power	System \ Camera Power
Carrier Detected	Diagnostics \ Board Diagnostics \ Aux Receiver Board
Chroma	Video \ Chroma
Clock System \ Clock	
Colour Bar	Video \ Colour Bar
Colour Bar White Bar Level	Video \ Colour Bar
Control Mode	System \ Control Mode
Customer File	Files \ ..
CVBS Menu Output	Monitoring \ Menu
Data Board	Diagnostics \ Board ID
Date System \ Clock	
Day System \ Clock	
Display Time	Monitoring \ Menu
DSC Interf Board	Diagnostics \ Board ID
Ethernet	System \ Ethernet
ENG Headset	
Board	Diagnostics \ Board ID
CAM to Headset	Audio/Intercom \ Intercom \ ENG Headset
CAM Volume	Audio/Intercom \ Intercom \ ENG Headset
Mic Level	Audio/Intercom \ Intercom \ ENG Headset
Mic Norm Level	Audio/Intercom \ Intercom \ ENG Headset
Mic to ENG-Cam	Audio/Intercom \ Intercom \ ENG Headset
Mic to ENG-OUT	Audio/Intercom \ Intercom \ ENG Headset
Mic to Headset	Audio/Intercom \ Intercom \ ENG Headset
Phantom Power	Audio/Intercom \ Intercom \ ENG Headset
Side Tone	Audio/Intercom \ Intercom \ ENG Headset
Tracker to Headset	Audio/Intercom \ Intercom \ ENG Headset
Tracker Volume	Audio/Intercom \ Intercom \ ENG Headset
ENG	
In Ref Level	Audio/Intercom \ Intercom \ ENG
Level	Audio/Intercom \ Intercom \ ENG
Out Ref Level	Audio/Intercom \ Intercom \ ENG
Side Tone	Audio/Intercom \ Intercom \ ENG
Test Tone Detect	Diagnostics \ Board Diagnostics \ Audio/Intercom Board
Wire Mode	Audio/Intercom \ Intercom \ ENG
EXT1 Analog	Diagnostics \ Board Diagnostics \ Sync/Encoder Board
EXT2 Analog	Diagnostics \ Board Diagnostics \ Sync/Encoder Board
External Video	System

Function	Path in Menu
External Video Board	Diagnostics \ Board ID
Factory File	Files \ ..
FM Transceiver Board	Diagnostics \ Board ID
Front End Board	Diagnostics \ Board ID
Generator Lock	Diagnostics \ Board Diagnostics \ Sync/Encoder Board
H Phase Course	System \ Timing
H Phase Fine	System \ Timing
H&V Ref Available	Diagnostics \ Board Diagnostics \ Trans. Output Board
Head Timing	System \ Timing
Headset	
CAM to Headset	Audio/Intercom \ Intercom \ ENG Headset
CAM Volume	Audio/Intercom \ Intercom \ ENG Headset
Tracker to Headset	Audio/Intercom \ Intercom \ ENG Headset
Tracker Volume	Audio/Intercom \ Intercom \ ENG Headset
Mic Level	Audio/Intercom \ Intercom \ ENG Headset
Mic Norm Level	Audio/Intercom \ Intercom \ ENG Headset
Mic to ENG-Cam	Audio/Intercom \ Intercom \ ENG Headset
Mic to ENG-OUT	Audio/Intercom \ Intercom \ ENG Headset
Mic to Headset	Audio/Intercom \ Intercom \ ENG Headset
Phantom Power	Audio/Intercom \ Intercom \ ENG Headset
Side Tone	Audio/Intercom \ Intercom \ ENG Headset
Hour	System \ Clock
Hor. Sync lock	Diagnostics \ Board Diagnostics
HP/LP Filter Board	Diagnostics \ Board ID
Intercom	
In Ref Level	Audio/Intercom \ Intercom \ ...
Isolate	Audio/Intercom \ Intercom \ Isolate
Isolate Source	Audio/Intercom \ Intercom \ Isolate
Level	Audio/Intercom \ Intercom \ ...
Out Ref Level	Audio/Intercom \ Intercom \ ...
Private Data	Audio/Intercom \ Intercom \ Private Data
Test Tone Detect	Diagnostics \ Board Diagnostics \ Audio/Intercom Board
IP address	System \ IP Address
Isolate	Audio/Intercom \ Intercom \ Isolate
Isolate Source	Audio/Intercom \ Intercom \ Isolate
Local Power Board	Diagnostics \ Board ID
Local Power Status	Diagnostics \ Board Diagnostics \ Power Board
MCP Available	System \ MCP Available
MCP Connected	Diagnostics \ Board Diagnostics \ Communications
Menu	Monitoring \ Menu
Menu CVBS Output	Monitoring \ Menu
Menu Display	Monitoring \ Menu
Menu Monitor Output	Monitoring \ Menu
Menu Time	Monitoring \ Menu
Minute	System \ Clock
Monitor Menu Output	Monitoring \ Menu
Monitor Mode	System
Monitoring Board	Diagnostics \ Board ID
Monitoring Source	Monitoring
Month	System \ Clock
Name in Status Bar	Monitoring \ Status Bar
Notch	Video
OCP Connected	Diagnostics \ Board Diagnostics \ Communications
Operator files	Files \ ...
Operator Name	Monitoring \ Status bar
Power Board	Diagnostics \ Board ID
Power Overheated	Diagnostics \ Board Diagnostics \ Power Board
Power Status	Diagnostics \ Board Diagnostics \ Power Board

Function	Path in Menu
Private Data	Audio/Intercom \ Intercom \ Private Data
PROD	
In Ref Level	Audio/Intercom \ Intercom \ PROD
Level	Audio/Intercom \ Intercom \ PROD
Out Ref Level	Audio/Intercom \ Intercom \ PROD
Side Tone	Audio/Intercom \ Intercom \ PROD
Test Tone Detect	Diagnostics \ Board Diagnostics \ Audio/Intercom Board
Wire Mode	Audio/Intercom \ Intercom \ PROD
PROG	
In Ref Level	Audio/Intercom \ Intercom \ PROG
Level	Audio/Intercom \ Intercom \ PROG
Test Tone Detect	Diagnostics \ Board Diagnostics \ Audio/Intercom Board
Wire Mode	Audio/Intercom \ Intercom \ PROG
Record ENG Voice Mail	Audio/Intercom \ Intercom \ Voice Mail
Record PROD Voice Mail	Audio/Intercom \ Intercom \ Voice Mail
Record PROG Voice Mail	Audio/Intercom \ Intercom \ Voice Mail
Reference Available	Diagnostics \ Board Diagnostics \ Sync/Encoder Board
Reference Norm	Diagnostics \ Board Diagnostics \
Saturation	Video \ Saturation
Standard Operator Files	Files \
Standard System Files	Files \
Status Bar	Monitoring
Auto Lighting	Monitoring \ Status bar
Cable length	Monitoring \ Status bar
Camera number	Monitoring \ Status bar
Operator in Status Bar	Monitoring \ Status bar
Studio in Status Bar	Monitoring \ Status bar
Subc H Phase Course	System \ Timing
Subc H Phase Fine	System \ Timing
Subcarrier Course	System \ Timing
Subcarrier Fine	System \ Timing
Sync/Encoder Board	Diagnostics \ Board ID
Sync/Encoder Status	Diagnostics \ Board Diagnostics \ Sync/Encoder Board
System files	Files \ ...
Tally	System
Teleprompter	System \ TP/Aux Video
Test	Audio/Intercom \ Intercom \ Test
Time	System \ Clock
Timing	System \ Timing
TP/Aux Video	System
TP Available	Diagnostics \ Board Diagnostics \ Sync/Encoder Board
Transm. Output Board	Diagnostics \ Board ID
Transm Output Status	Diagnostics \ Board Diagnostics \ Trans. Output Board
Triax Status	Diagnostics \ Board Diagnostics \ Power Board
TV System	System
TV System	Diagnostics \ TV System
User Operator File	Files \ User Operator Files
User System File	Files \ User System Files
Video Calibr Status	Diagnostics \ Board Diagnostics \ Trans. Output Board
Video Format Detect	Diagnostics \ Board Diagnostics \ Video Receiver Board
Video Output	System
Video Rec Board	Diagnostics \ Board ID
Voice Mail	Audio/Intercom \ Intercom
White Bar Level	Video \ Colour Bar
Wire Mode	Audio/Intercom \ Intercom \ ...
Year	System \ Clock

List of Abbreviations

Abbreviation	Meaning
adap	adapter
agc	automatic gain control
awb	automatic white balance
bal	balance
cam	camera
ch	channel
cont	contour
ctemp	colour temperature
ctl	control track longitudinal
cus	customer
df	drop frame
dyn	dynamic
exec	execute
exp	exposure
ext	external
ext	extended
flt	filter
fr	front
frm	frame
f-run	free run
hd	head
hr	hour
ind	indicator
info	information
interv	interview
intv	interview
ir	infra-red
lvl	level
man	manual
max	maximum
mic	microphone
min	minute
min	minimum
mom	momentary
mon	monitor
nam	non-additive mix

Abbreviation	Meaning
nd	neutral density
ndf	no drop frame
ocam	camera operator file
ocard	smart card operator file
op	operation
oper	operator
outp	output
ovl	overload
pin number	personal indentification
r/w	read/write
re	rear
repl	replay
r-run	record run
rst	reset
sawt	sawtooth
scam	camera scene file
scard	smart card scene file
sec	second
sel	select
srch	search
st	stereo
std	standard
str	stretch
tc	time code
tm	timer
ub	user bits
unbal	unbalanced
und	underload
var	variable
ver	version
vert	vertical
vf	viewfinder
wa	wide angle
wh	white
wrn	warning
wrx	wireless receiver