

## User's Guide

3922 496 49931 December 2009 v8.0



## OCP 400

Operational Control Panel

---

## Declaration of Conformity

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

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

following the provisions of:

- a. the Low Voltage directive 2006/95/EC
- b. the EMC directive 2004/108/EC

## 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

Copyright Grass Valley Nederland B.V. 2009. Copying of this document and giving it to others, and the use or communication of the contents thereof, are forbidden without express authority. Offenders are liable to the payment of damages. All rights are reserved in the event of the grant of a patent or the registration of a utility model or design. Liable to technical alterations in the course of further development.

## Trademarks

Grass Valley and Infinity are trademarks of Grass Valley, Inc. All other tradenames referenced are service marks, trademarks, or registered trademarks of their respective companies.

## Website

Visit the Grass Valley public website to download the latest user's guide updates and additional information about your broadcast product:

[www.grassvalley.com](http://www.grassvalley.com)

---

---

# Table of contents

## Chapter 1 – Introduction

1.1	Application	7
1.2	Features	7
1.3	Using this guide	8
1.4	Location of controls	9
1.5	Using the OCP controls	10
1.5.1	Button lights	10
1.5.2	Non-standard indication	10
1.5.3	Momentary buttons	10
1.5.4	Assignable rotary controls	10
1.5.5	Joystick	11
1.5.6	Lens indicators	11
1.5.7	Panel lock button	12
1.5.8	Free button	12
1.5.9	Bars button	13
1.5.10	Call button	13
1.5.11	Using the menu panel	13

## Chapter 2 – Configurations

2.1	Studio camera network	15
2.2	Studio camera in local mode	16
2.3	Viper LDK 7500 camera	16
2.4	DMC camcorder	17
2.5	DigiLink system	17
2.6	Digital Triax system	18

## Chapter 3 – Setup

3.1	Checking system status	19
3.2	Setting up the OCP	20
3.3	Setting up the Base Station	23
3.4	Setting up the camera	24

## Chapter 4 – Operation

4.1	Camera control	29
4.1.1	Setting white balance	29
4.1.2	Iris control	29
4.1.3	Changing camera video parameters	30
4.2	Camera status pages	31
4.3	Using files	32
4.3.1	Storing and recalling scene files	32

<b>4.4</b>	<b>OCP File Management</b> .....	<b>33</b>
4.4.1	Introduction .....	33
4.4.2	Formatting OCP storage cards .....	33
4.4.3	Fast Recall menu .....	34
4.4.4	Recall/Store menu .....	34
4.4.5	Delete/Rename menu .....	36
4.4.6	Read/Write attribute menu .....	36
4.4.7	Copy Files menu .....	37
4.4.8	Card menu .....	38
4.4.9	Partial file recall .....	38
4.4.10	Recalling standard files .....	38
<b>4.5</b>	<b>Adjusting video parameters</b> .....	<b>39</b>
4.5.1	Skin button .....	39
4.5.2	Setting skin detail .....	40
4.5.3	Gamma button .....	41
4.5.4	Knee button .....	41
4.5.5	Color button .....	42
4.5.6	Black button .....	42
4.5.7	Flare button .....	43
4.5.8	Exposure time button .....	43
4.5.9	Gain button .....	43
4.5.10	Filters button .....	44
4.5.11	Detail button .....	45
4.5.12	Non-standard indication .....	46

## Chapter 5 – Specifications

5.1	Specifications for OCP 400 .....	47
5.2	Dimensions .....	48

## Chapter 6 – Connectors

6.1	Power connectors .....	49
6.1.1	Power input connector (DC input) .....	49
6.1.2	Power output connector (DC output) .....	49
6.2	Communication connectors .....	50
6.2.1	Ethernet connector .....	50
6.2.2	Serial interface connector (RS-232 or RS-422) .....	50
6.2.3	Preview connector .....	51
6.3	Tally signalling (On-Air) .....	52

---

## End-of-life product recycling



Grass Valley's innovation and excellence in product design also extends to the programs we've established to manage the recycling of our products. Grass Valley has developed a comprehensive end-of-life product take back program for recycle or disposal of end-of-life products. Our program meets the requirements of the European Union's WEEE Directive and in the United States from the Environmental Protection Agency, individual state or local agencies.

Grass Valley's end-of-life product take back program assures proper disposal by use of Best Available Technology. This program accepts any Grass Valley branded equipment. Upon request, a Certificate of Recycling or a Certificate of Destruction, depending on the ultimate disposition of the product, can be sent to the requester.

Grass Valley will be responsible for all costs associated with recycling and disposal, including freight, however you are responsible for the removal of the equipment from your facility and packing the equipment ready for pickup.

For further information on the Grass Valley product take back system please contact Grass Valley at + 800 80 80 20 20 or +33 1 48 25 20 20 from most other countries. In the US and Canada please call 800-547-8949 or 530-478-4148. Ask to be connected to the EH&S Department. In addition, information concerning the program can be found at:

[www.grassvalley.com/environment](http://www.grassvalley.com/environment)

## Important information

Read this information carefully before installing this equipment and retain them for future reference. Read and comply with the warning and caution notices that appear in the manual. Any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.



---

### Caution

Do not plug in the power cable connector into the Ethernet connector. Plugging the power cable connector into the Ethernet connector of the OCP 400 will damage the connector.

---

## Safety Summary

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

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.

## Warnings

Warnings indicate danger that requires correct procedures or practices to prevent death or injury to personnel.

- Do not modify this equipment;
- Installation of this equipment must only be performed by qualified personnel;
- Do not use any accessories other than those recommended by the manufacturer;
- In case of an emergency ensure that the power is disconnected;
- Mount equipment so that power lead can be accessed to disconnect power;
- To prevent fire or shock hazard, do not expose the unit to rain or moisture;
- There are no user servicable parts inside. Refer servicing to qualified personnel only or contact your local Grass Valley representative.

## Cautions

Cautions indicate procedures or practices that should be followed to prevent damage or destruction to equipment or property.

- Do not subject the unit to severe shocks or vibration;
- Do not expose the unit to extremes of temperature;
- To prevent risk of overheating, ventilate the product correctly.

# Chapter 1

## Introduction

### 1.1 Application

The OCP 400 is a compact operational control panel for all Grass Valley cameras. Control of both HD and SD cameras is supported. The user interface is designed for convenience, with menu accessible functions for detailed set-up and a clear display of settings and values.

The OCP 400 operates within an Ethernet-based camera control network using TCP/IP as communication protocols. The OCP 400 not only controls all camera functions, it can also be used to change the menu values of the Grass Valley camera base stations. Extensive set-up parameters for the OCP itself, the camera and base station are all available.

### 1.2 Features

- Standard IEEE 802.3 10/100 Mb Ethernet;
- IP connectivity;
- Off-the-shelf IT-network infrastructure;
- Communicates with other Grass Valley products (e.g. NetConfig);
- Remote Diagnostics;
- Software upgradable;
- Improved ergonomics and large flexibility;
- Comfortable, slimline and clean design;
- Hard style buttons;
- Menu display for detailed setup.

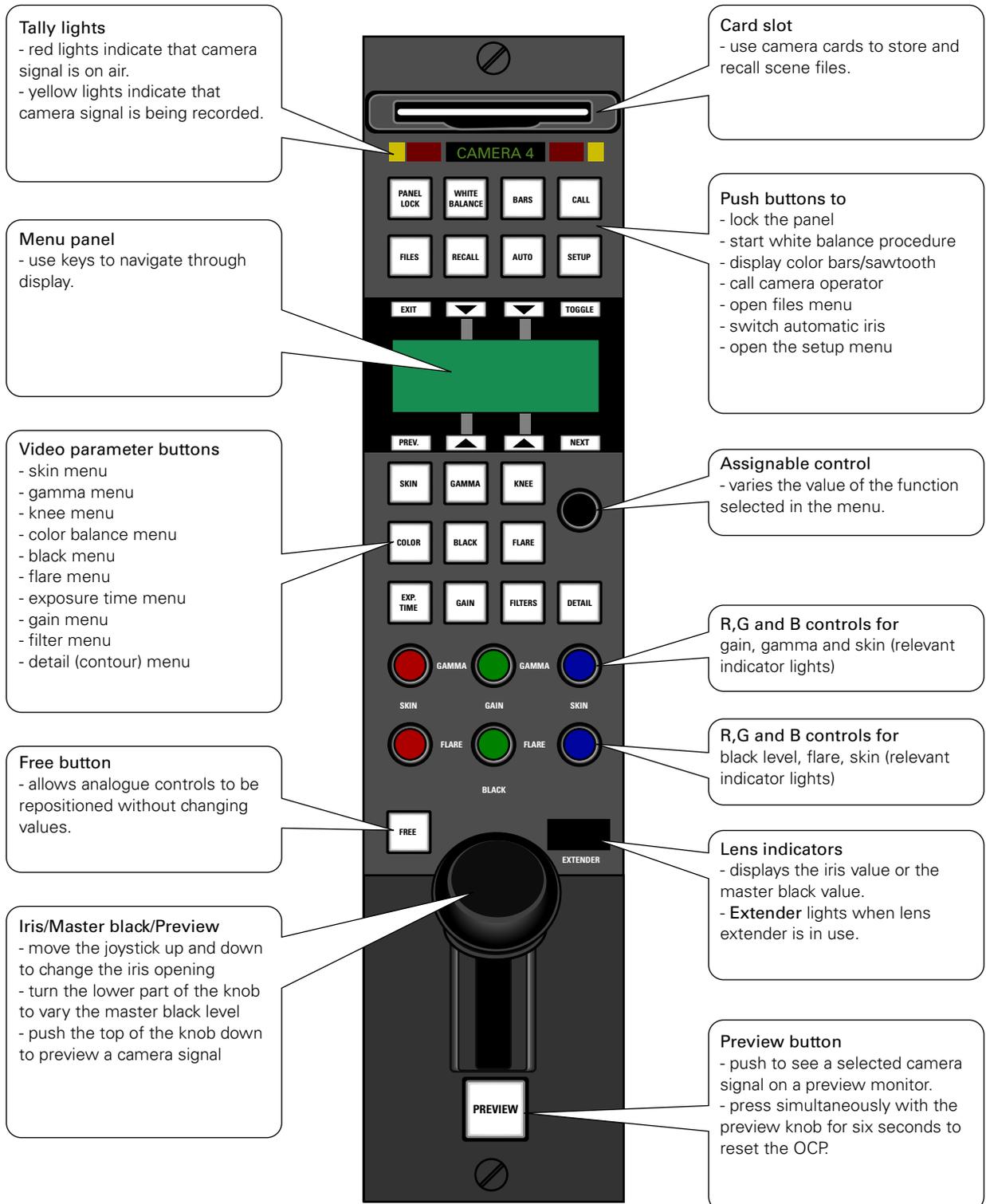
## 1.3 Using this guide

The OCP 400 can control many different types of camera. This guide includes all possible menu items and functions. Depending on the type of camera to which the OCP is connected, not all of these items and functions may be available. The values available are also camera dependent. The menu system only displays the relevant items.

In the tables on the following pages that list menu items, the Level column indicates the control level at which an item is displayed:

- An **S** (simple) indicates an item that is always shown.
- A **B** (basic) indicates items that are shown in addition to simple items when the control level is set to basic.
- An **F** (full) indicates items that are shown in addition to basic and simple items when the control level is set to full.

## 1.4 Location of controls



## 1.5 Using the OCP controls

### 1.5.1 Button lights

When the OCP is powered its buttons are illuminated. The normal colour of a button is dim green. The light shines brighter when a button is selected. You can set the illumination levels in the OCP set-up menu.

### 1.5.2 Non-standard indication

When a value for one of the video parameters is changed by the user its status will become 'non-standard'. The button for its function group will lit up bright yellow when it is selected and dim orange when it is not. A changed value is indicated by a \*-symbol in the text-display.

All changes are relative to the user's reference settings which are the last stored OR recalled settings. By recalling (full or partial) or storing a scene file all non-standard indications are reset. You can find more information about file handling in the section 'Using files' of this guide.



#### Note

Analogue values are being regarded as *changed* when they vary more than 10% of their reference value.

---



#### Note

Functions that are blocked or disabled by another function or that are not part of the current function set (simple, basic or full) will not be indicated 'non-standard' even if they are changed.

---

### 1.5.3 Momentary buttons

Two buttons on the OCP – the **Free** button and the **Preview** button – are momentary buttons. These type of buttons only operate as long as they are held down. The **Files** button operates both selective and momentary.

### 1.5.4 Assignable rotary controls

The single assignable rotary control varies the value of the function selected in the display. When no function is selected, this control varies Detail.

- The upper Red, Green and Blue assignable rotary controls vary either:
  - the gain levels of the red, green and blue signals individually (default),
  - the gamma levels of the red, green and blue signals individually, or
  - the skin contour colours.

The function selected for adjustment and its value is shown in the menu display and the relevant indicators light.

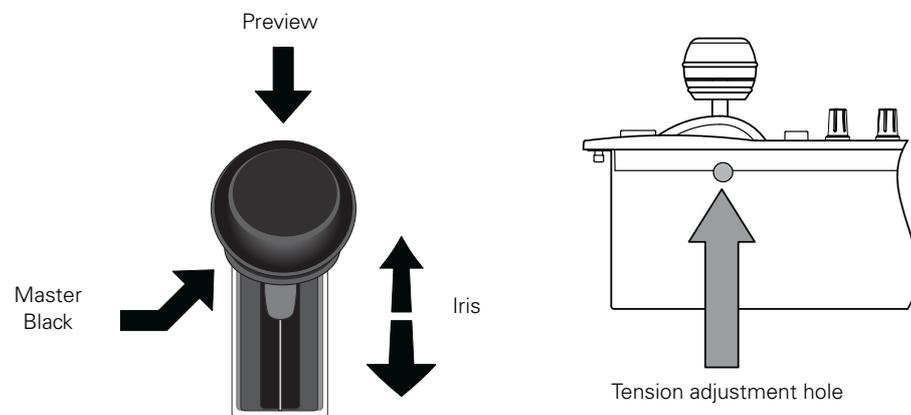
The lower Red, Green and Blue assignable rotary controls vary either:

- the black levels of the red, green and blue signals individually,
- the flare levels of the red, green and blue signals individually, or
- the skin contour colour width.

The function selected for adjustment and its value is shown in the menu display and the relevant indicators light. Black level or Flare can be set as default.

### 1.5.5 Joystick

This three-in-one control is used to vary the master black level, to control the iris and to preview the connected camera signal on a preview monitor.



#### Operation

- Press the top of the knob to get a preview of the connected camera signal.
- Turn the lower knob to vary the master black level.
- Move the joystick up and down to open and close the iris. The joystick direction, range and sensitivity can be set in the OCP setup menu.

#### Tension adjustment

When the joystick's movement becomes too loose or too tight it may be necessary to adjust its tension spring. Use a long Torx-10 type screwdriver to adjust the tension screw of the joystick. The screw is located in a hole at the side panel of the OCP casing. Turn the screw and move the joystick at the same time to find the right adjustment.

### 1.5.6 Lens indicators

The display shows the current F-number of the iris. When the master black is changed, or when the **Free** button is pressed, the value of the master black level is displayed for five seconds.

The Extender indication lights when the range extender function of the lens is selected.

## 1.5.7 Panel lock button

Push the **Panel Lock** button to lock the operation panel of the OCP. This button lights when the panel is locked (On). When off, all functions of the OCP can be used. When on, limited control is possible by using the **Free** button.

## 1.5.8 Free button

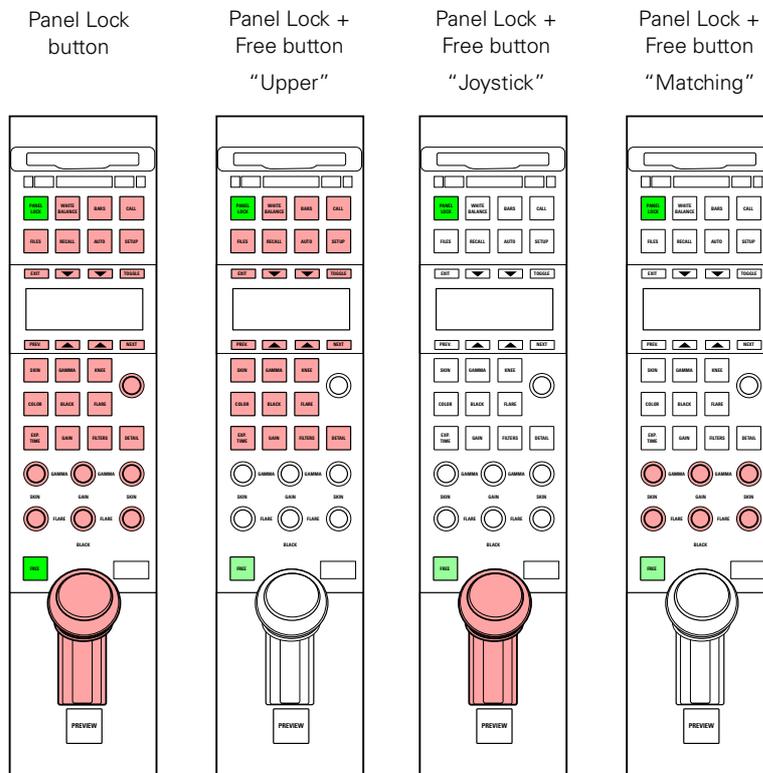
Hold down the **Free** button and change the position of all the rotary controls without affecting the value of the function assigned to them. Use this button to position the joystick without affecting the value of the iris or the master black.

### Panel lock with Free button

The **Free** button can be used together with the **Panel Lock** button to control partial access to panel functions. When the panel lock function is selected (the **Panel Lock** button is lit), the **Free** button also lights.

With panel lock engaged, push the **Free** button to allow partial access to the panel. The "Lock + Free" item in the OCP Setup menu defines which part of the operation panel stays locked when the **Panel Lock** with the **Free** button is used. Refer to [Section 3.2 on page 20](#) for more information about the OCP setup menu. The following settings can be selected:

- **Upper (default)**: all buttons in the upper operation field stay locked;
- **Joystick**: master black and iris control functions stay locked;
- **Matching**: six colour matching rotary controls in the middle section stay locked.



Red color means that the button or control is locked.

### 1.5.9 Bars button

Push the **Bars** button to switch on the colour bar test signal in the connected camera. Push the button again to select a sawtooth test signal.

- The button lights (green) when Bars are on.
- The button lights (yellow) when the sawtooth test signal is on.

### 1.5.10 Call button

Push the **Call** button to send a signal to the connected camera calling for attention.

- The **Call** button lights when it is activated or when a call is received from another system part.
- If active, push again to switch off.

#### DMC remote recording

When the OCP controls a DMC camcorder *and* the camcorder's Remote Recording option is turned on, the **Call** button acts as a recording button.

Push the **Call** button to start a recording on the camcorder.

- The Tally indication on the OCP lights.
- When a recording is in progress, push again to stop the recording. The Tally lights extinguish.

### 1.5.11 Using the menu panel

The menu panel contains a display and eight buttons for selecting items in the menu system. The main operational tasks of the menu panel are:

- to provide access to parameters for setting up the OCP, the base station (BS) and the camera.
- to display function menus and values when a direct video parameter button is pushed.
- to display the status of a set of functions.

#### Selection buttons

The function of the four arrow buttons in the centre of the menu panel is determined by the item appearing next to them on the display. Push the button associated with the item displayed to select this item.

#### Toggle button

This buttons is used in some submenus to toggle between two values.

#### Previous / Next button

Push these buttons to move up and down through the various menu pages.

#### Exit button

Push this button to exit the current menu and return to the status page.

### **Illumination**

The menu panel buttons are illuminated to indicate their state:

- not lit: no function for that button
- low light: function available; push to change or to assign to rotary control.
- bright light: function is assigned to rotary control.

### **Opening menu pages**

There are several ways of opening a menu page. You can use:

- the **Setup** button
- the **Files** button
- the **Recall** button
- the video parameter buttons

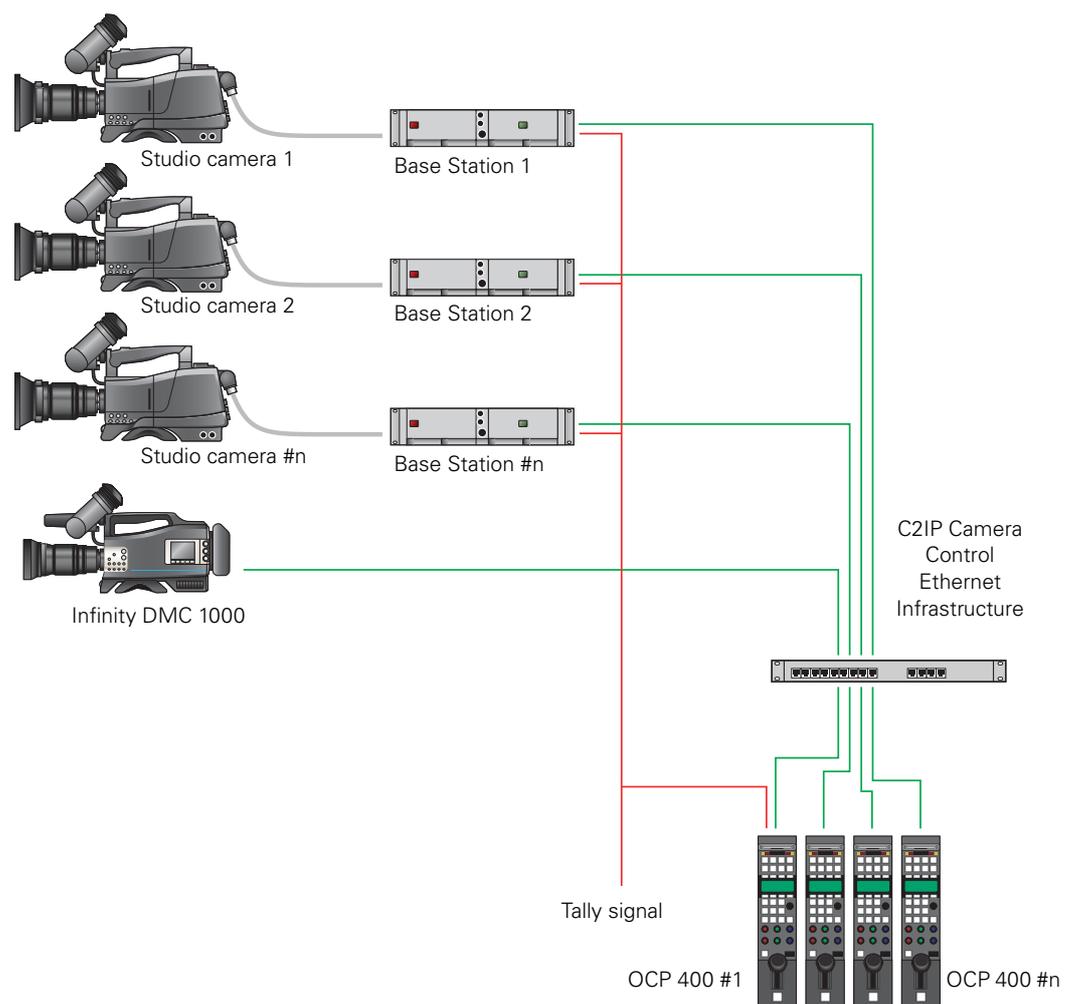
Push an activated button to exit that particular menu function.

# Chapter 2

## Configurations

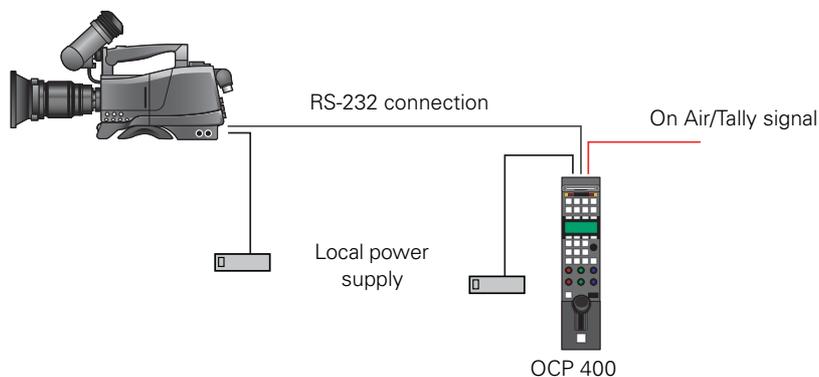
### 2.1 Studio camera network

One or more OCP 400 control panels are connected to the C2IP camera control network. The IP address and other options for the Ethernet connection can be set up in the OCP Setup menu. Connect LDK camera's with Base Stations or DMC camcorders in studio mode.



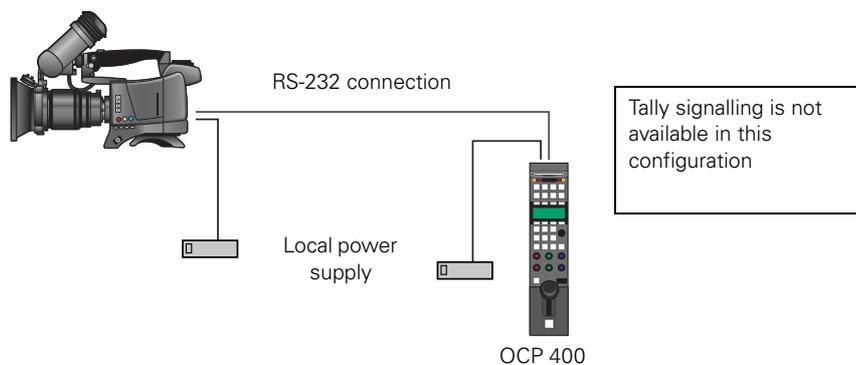
## 2.2 Studio camera in local mode

In local mode, the OCP 400 is directly connected to the serial RS-232 connector at the front of the camera. Both the camera and the OCP 400 must be powered locally. Video signals are available at the camera's adapter.



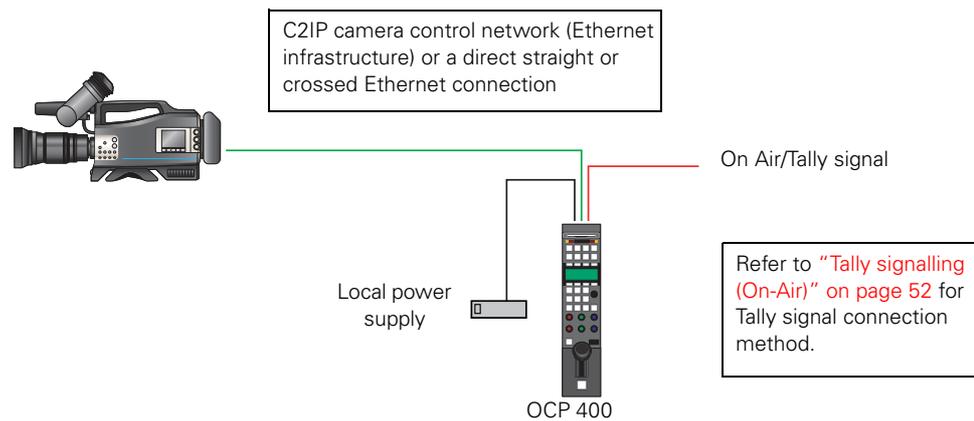
## 2.3 Viper LDK 7500 camera

To connect the OCP 400 with an LDK 7500 Viper camera a serial RS-232 connection is used:



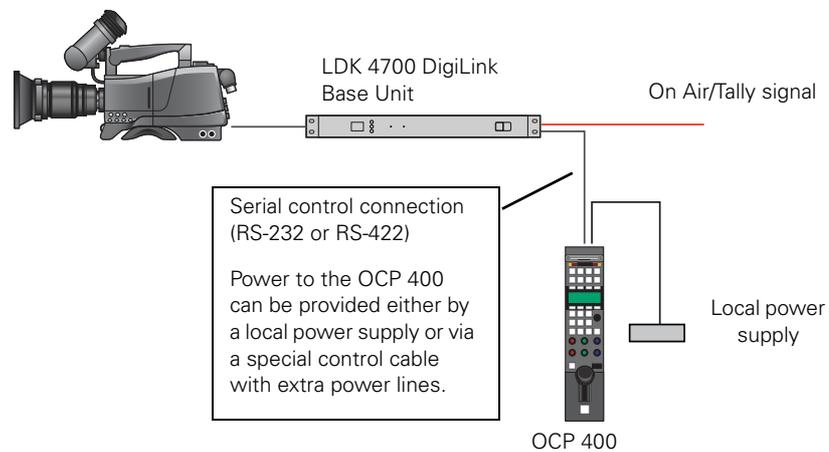
## 2.4 DMC camcorder

To connect the OCP 400 with a DMC Infinity camcorder an Ethernet connection is used. The OCP 400 must be locally powered while the camcorder is powered by its battery or a local power supply.



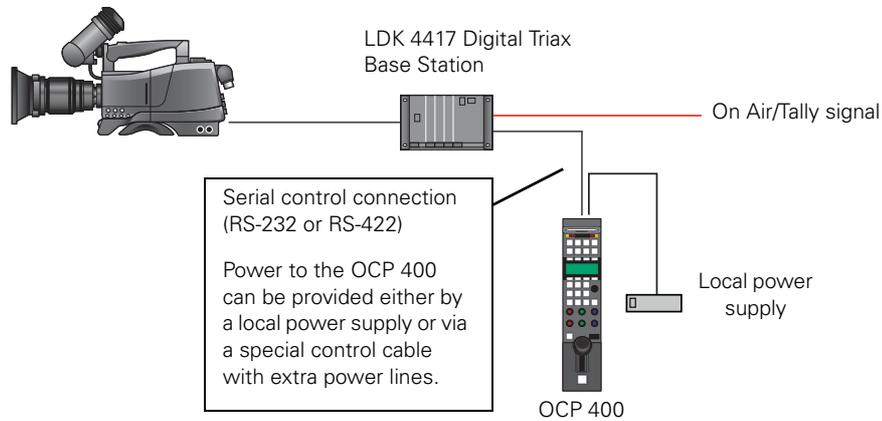
## 2.5 DigiLink system

To connect an OCP 400 with a DigiLink (SD) camera system:



## 2.6 Digital Triax system

To connect an OCP 400 to a Digital Triax camera system:



# Chapter 3

## Setup

### 3.1 Checking system status

To check that Base Station and camera are connected correctly go to the Diag submenu of the setup menu.

- Push the **Setup** button to open the menu.

Menu	Selections	Function	Level	Possible values
Setup	Diag	Diagnostic menu	S	
	OCP	OCP setup menu	S	
	BS	Base station setup menu	S	
	Cam	Camera setup menu	S	

- Push the **Selection** button to choose the Diag submenu. The Diag submenu appears.

Menu	Selections	Function	Level	Possible values
Diag	Camera	Camera Connection	S	No camera, [Camera Type]
	Gen Lock	GenLock Status	S	Locked, Not Locked, No sync
	Triax St.	Triax Status	S	OK, Open, Short, DC Power
	-			
	Cam 12NC	Camera software 12NC	S	
	Cam SW Status	Camera software status	S	
	BS 12NC	Basestation software 12NC	S	
	BS SW ST	Basestation software status	S	
	OCP Appl	Application software version	S	
	OCP BootSw	Boot software version	S	
	OCP FirmW	Firmware version	S	
	OCP Type	OCP device type	S	OCP 400/00 or OCP 400/10
	Ethernet MAC	OCP Ethernet MAC address	S	Mac-address is displayed as: XX:XX:XX:XX:XX:XX
	Address			
	Link Type	Ethernet link speed	S	10 Mbit/100 Mbit Full/Half Duplex
	Link State	Ethernet connection status	S	Connected / Not Connected

Menu	Selections	Function	Level	Possible values
 	Ser Recv		F	
	Ser Sent		F	
	Frame Err		F	
	Sum Err		F	

## 3.2 Setting up the OCP

Various aspects of the OCP can be set to suit your work methods. To open the menu which lets you set up these preferences proceed as follows:

- Push the **Setup** button to open the menu.
- Push the **Selection** button to choose the OCP submenu.
- The first page of the OCP setup menu appears. Use the **Next** button to find the page with the item you wish to change and then select this item with its selection button.

Menu	Selections	Function	Level	Possible values
OCP	Cam Nr	Camera number	S	1..99
	SELECT	Connect to selected camera	S	Press button to connect to the selected camera
	Conn.Mode	OCP Connection mode	S	Ethernet, Serial
	Serial	Select type of serial connection	S	RS-232, RS-422 (when available)
 	IP CONFIG	Go to IP config menu	F	
	IRIS	Go to Iris menu	S	
	BlackPot	Black rotary controls assignment	B	<b>Black</b> , Flare
	CLOCK	Go to clock menu	F	
 	LCD BackL	LCD display backlight adjust	B	0..99 ( <b>50</b> )
	LCD Contr	LCD display contrast adjust	B	0..99 ( <b>50</b> )
	Buzzer	OCP audio signal with Call	B	On, Off
	Txt Bright	Brightness of dot matrix textdisplays	B	1..20 ( <b>20</b> )
 	Tally Leds	Tally LEDs intensity level	B	Low, Medium, High, Full
	Text Leds	Rotary text-LEDs intensity	B	0..99
	LED Low	Button Low-Level illumination	B	0..99
	LED High	Button High-Level illumination	B	0..99
 	MB Res	Master black rotary resolution	F	Vfine, fine, normal, coarse, Vcoarse
	MB Mode	Master black mode	F	Linear, Mixed
	ETH CONFIG	To Ethernet configuration menu	F	
	Preview	On Air status to Preview button	F	On Air On, On Air Off
 	TallyOnOff	Select local tally input mode (only when an Infinity camera is connected)	F	<b>High/Low</b> , Open/High, High/ Open, Low/High
	-			
	-			
	Lock + Free	Defines which part of the panel stay locked when Free button is pushed (in Locked mode).	B	<b>Upper</b> , Joystick, Matching

Menu	Selections	Function	Level	Possible values
	OCP Set	OCP Menu set	S	Simple (S), Basic (B), Full (F)
	-			
	-			
	Reset OCP	Resets all local functions to their default values.	F	Press button to execute reset



#### Note

To access some of these settings it may be necessary to set the OCP control level to *Full*.

### Setting the OCP control level

The OCP menu system has three levels of control; Simple, Basic and Full. These levels determine which functions are displayed. In the OCP setup menu move to the OCP control set item and select S (simple), B (basic) or F (full).

- Select the simple level to reduce the number of functions displayed to a minimum. Use this level to protect against unintentional changes to critical parameters.
- Select the basic level as the normal operational mode of the OCP. Use this level to prevent set-up parameters from being displayed.
- Select the full level to access all functions available on the OCP.

### Camera assignment

The OCP can be assigned to a Base Station/Camera combination by moving to the CamNum item of the OCP setup menu. Select the camera number of the camera that you want to control using the assignable rotary control. Press SELECT to confirm.

## IP Configuration

For the OCP to operate in a network environment it must have a unique identification. By default, an IP address is assigned automatically. To set the IP address manually use the IP CONFIG and ETH CONFIG submenus.

Menu	Selections	Function	Level	Possible values
IP Config	IP Mode	IP address assignment	F	Auto, Manual
	Apply	Set IP mode	F	Press button to activate the new IP settings
	Subnet Mask	Subnet mask address	F	255.255.0.0
	-			
	IP Byte 1	IP address 1st byte	F	1..250 (192)
	IP Byte 2	IP address 2nd byte	F	0..255 (168)
	IP Byte 3	IP address 3rd byte	F	0..255 (0)
	IP Byte 4	IP address 4th byte	F	1..254 (2)

Menu	Selections	Function	Level	Possible values
Ethernet Config	Eth Speed	Ethernet speed setting	F	10 Mbit, 100 Mbit, Auto
	Duplex	Ethernet duplex-mode setting	F	Full, Half, Auto
	-			
	-			

## Display and button brightness

The text brightness and contrast of the display and the brightness of the low and high levels of the button lights can be set in the OCP setup menu. Select the item you wish to change and then use the assignable rotary control to adjust its value.

## Iris (joystick) set-up

The range over which the iris opening can be controlled by the joystick and its sensitivity are set in the Iris submenu of the OCP Setup menu. The direction of control can also be set in the IRIS submenu.

Menu	Selections	Function	Level	Possible values
Iris Setup	Iris Mode	Select Iris joystick mode	S	Normal, Reverse
	Range	Set Iris joystick control range	S	0..99
	Center	Set Iris joystick control center	S	0..99
	IRIS CALIB	Calibrate joystick	S	Move the joystick to the most upper and lower position.

## Clock

The time for the internal clock is set in the CLOCK submenu of the OCP setup menu. The assignable rotary control is used to set the hours, minutes and seconds.

Menu	Selections	Function	Level	Possible values
Clock	Hour	Hour selection function	F	0..23
	Minute	Minute selection function	F	0..59
	Second	Second selection function	F	0..59
	-			
	Year	Year selection function	F	2000..2099
	Month	Month selection function	F	<months>
	Day	Day selection function	F	0..31
	-			
	-			

## Default values

The default values of the OCP are stored in the OCP and are restored when the Reset OCP item is selected. When the OCP is powered up or reset, a connection to the last camera number used is made.

The default values for the camera and base station parameters are stored in the Camera and Base Station default files. The camera parameters and their values that are shown on the OCP depend on the camera connected to OCP. If you select a different camera number, a different set of parameters and values can appear.

## 3.3 Setting up the Base Station

- Push the **SETUP** button to open the menu.
- Push the **Selection** button to choose the BS submenu. The BS menu appears. Use the **Next** button to view subsequent pages.

Menu	Selections	Function	Level	Possible values
BS	Monitoring	Picture monitor selection	S	CVBS,R,G,B,Y,EXT1,EXT2,Y/ EXT1,Y/EXT2
	-			
	-			
	Menu	BS internal menu enable	S	
	H PHASE	Adjustment H-Phase	B	0..99
	SC COARSE	Adjustment SC-Phase coarse	B	0,90,180,270
	-			
	SC FINE	Adjustment SC-Phase fine	B	0..99
	Notch Lvl	Notch Depth	B	0..99
	Notch	Notch function	B	On, Off
	-			
	-			

### Accessing the BS internal menu

Select the Menu item of the BS menu to access the internal menu of the base station. The menu appears on the Base Station text and monitoring output.

Menu	Selections	Function	Level	Possible values
BS internal menu	Up	Up menu	S	
	-			
	Down	Down menu	S	
	Select	Select	S	

## 3.4 Setting up the camera

- Push the **SETUP** button to open the menu.
- Press the **Selection** button to choose the Cam(era) submenu. The initial camera menu depends on whether a studio or Infinity camera is connected and whether an SD or HD video format is selected.

### For studio cameras

Menu	Selections	Function	Level	Possible values
CAM	Videomode	Select video mode	S	<various video modes>
	SELECT			Press button to activate selected video mode
	-			
	OutputMode	Output Mode selection (Viper only)	S	RGB, YCrCb, Filmstream, HD stream
	HD Ratio	HD Aspect Ratio	S	16:9, SW
	SD Lbox	Select Letterbox function	S	14:9, 10:9, 16:9, Off
	SD Ratio	Select SD Aspect Ratio	S	4:3, 16:9
	Ratio Sel	Aspect Ratio Selection	S	Extern, MCP
	Freeze	Freeze picture	S	On, Off
	-			
	Reverse Scan	Reverse Scan	S	On, Off
	Mode	Reverse Scan Mode	S	Horizontal, Vertical, Both
	Lens Ctrl	Lens control point	S	Local, Remote
	-			
	Focus	Remote Focus	S	0..99
	Zoom	Remote Zoom	S	0..99
	Iris Pk/Av	Iris Peak/Average level	F	0..99
	Paint Rng	Painting range setting	F	3dB, 6dB
	-			
	VF MENU	Go to VF MENU control	F	

Menu	Selections	Function	Level	Possible values
	Matrix	Matrix selection	B	EBU, Skin, B/W, RAI, BBC, 1:1, CoolFL, Var1, Var2, XGL
	Mtrx SEQ	Matrix sequence	F	M->G, G->M
	VAR Mtrx	Go to VAR MATRIX menu	F	
	SHADING	Go to SHADING menu	F	
	Max User LVL	Sets maximum User level	F	0, 1, 2, 3, 4
	OnAir LAMP	Front On Air indicator	F	On, Off
	OnAir LVL	On Air indicator level	F	0..99
	Power	Camera remote power	S	On, Off
	DiskRec IF	Disk recorder interface (LDK 8300 only)	S	EVS, Std
	Combine	Selects method of combining high-speed phases for the viewing output (LDK 8300 only)	S	Field, 2-line, 4-line
	Tally Lock	Tally lock	S	On, Off
	Ext. Iris	Extended Iris	S	On, Off
	V-Shift	Vertical Shift	S	On, Off
	V-Shift Lvl	Vertical Shift Level	S	0..99
	Cam Disable	Camera Disable	S	On, Off
	-			
	Rem Audio	Remote Audio Select	S	Loc/Rem
	-			
	Audio1 Lvl	Audio 1 Level	S	-22 .. -64dB
	Audio2 Lvl	Audio 2 Level	S	-22 .. -64dB

Menu	Selections	Function	Level	Possible values
VF MENU control	UP	Up menu (also with rotary)	S	
	-			
	DOWN	Down menu (also with rotary)	S	
	SELECT	Select	S	

## For Infinity (DMC) cameras

Menu	Selections	Function	Level	Possible values
CAMERA	Videomode	Select HD Format	S	<various video modes>
	SELECT			Press button to activate selected video mode
	-			
	-			
	-			
	-			
	-			
	SD Ratio	Select SD Aspect Ratio	S	4:3, 16:9. LB
	Iris Pk/Av	Iris Peak/Average level	F	0..99
	Paint Rng	Painting range setting	F	3dB, 6dB
	-			
	-			
	Matrix	Matrix selection	B	EBU, Skin, B/W, RAI, BBC, 1:1, CoolFL, Var1, Var2, XGL
	Mtrx Seq	Matrix sequence	F	M->G, G->M
	VAR MTRX	Go to Var Matrix menu	F	
	SHADING	Go to Shading menu	F	
	V. Timing	Vertical timing adjustment	F	1..<Vertical resolution>
	Hph Coarse	Horizontal timing adjustment (coarse)	F	1..<Horizontal resolution>
	CVBS SCph	CVBS subcarrier phase adjustment	F	0..99 (0)
	Hph Fine	Horizontal timing adjustment (fine)	F	0..99 (50)

**Note**

The VF menu control is not available when an Infinity camera is connected.

The Variable Matrix and Shading menus are submenus of the CAMERA setup menu.

Menu	Selections	Function	Level	Possible values
Variable Matrix	G->R	Sets the green to red ratio.	F	0..99 (50)
	B->R	Sets the blue to red ratio.	F	0..99 (50)
	R->G	Sets the red to green ratio.	F	0..99 (50)
	B->G	Sets the blue to green ratio.	F	0..99 (50)
	R->B	Sets the red to blue ratio.	F	0..99 (50)
	G->B	Sets the green to blue ratio.	F	0..99 (50)
	-			
	-			

Menu	Selections	Function	Level	Possible values
Shading	Shading	Turns shading on or off	F	On, Off
	-			
	-			
	-			
	R-SAW H	Sets the horizontal sawtooth value (red)	F	
	R-PAR H	Sets the horizontal parameter (red)	F	
	R-SAW V	Sets the vertical sawtooth value (red)	F	
	R-PAR V	Sets the vertical parameter (red)	F	
	G-SAW H	Sets the horizontal sawtooth value (green)	F	
	G-PAR H	Sets the horizontal parameter (green)	F	
	G-SAW V	Sets the vertical sawtooth value (green)	F	
	G-PAR V	Sets the vertical parameter (green)	F	
	B-SAW H	Sets the horizontal sawtooth value (blue)	F	
	B-PAR H	Sets the horizontal parameter (blue)	F	
	B-SAW V	Sets the vertical sawtooth value (blue)	F	
	B-PAR V	Sets the vertical parameter (blue)	F	



# Chapter 4

## Operation

### 4.1 Camera control

#### 4.1.1 Setting white balance

The **White Balance** button starts the automatic white balance process. The camera measures a white area in the middle of the picture and stores a colour temperature setting in the AW1 or AW2 memory positions.

The **White Balance** button only operates if the colour temperature function is in a preset position (AW1 or AW2) and the colour bars are switched off.

1. Press the **White Balance** button once to display the measurement window in the camera viewfinder.
  - The button lights.
2. Press the **White Balance** button a second time to start the measurement process.
  - The button flashes.

If the measurement is successful, the light in the button and the measurement window are switched off. If the measurement is unsuccessful, the light in the **White Balance** button is orange.

If the button is pressed during the measurement process or at the end of an unsuccessful measurement, the value stored in AW1 or AW2 is reset.

#### 4.1.2 Iris control

Press the **Auto** button to switch on the automatic iris control system.

- The **Auto** button lights to show that the automatic iris control system is in operation.

Even when the auto iris is activated the manual control can still be used to vary the iris opening by +1 or - 1 F-stop.

### 4.1.3 Changing camera video parameters

There are several ways of changing the video parameters of the camera. You can use:

- scene files
- standard values
- the direct video parameter buttons

#### **Scene files**

Scene files can be stored and recalled to immediately change a complete set of parameters.

#### **Standard values**

Different set of standard values can be recalled to immediately reset the video parameters.

#### **Direct video parameter buttons**

A direct video parameter button when selected brings its associated menu to the display where you can navigate, select and vary the applicable values.

## 4.2 Camera status pages

Up to three different pages can be used to check the status of various camera functions. Status page 1 is displayed when the **Exit** button is used to leave the menu system. There are two more status pages. To see them use the **Next** button.

### Status page 1

Filter wheel 1 position	ND - / - 4	LDK8000	Camera type
Filter wheel 2 position	4PSTAR	1080I60	Format
Color temperature	CTEMP	3200K	Color temperature value
Saturation	SATU	90	Saturation value

### Status page 2

Knee value	KNEE ON	BLKSTR 54	Black stretch value
Knee slope and point values	SL85 PT80	SKIN 1+2	Skin detail usage
Gamma value	GAMMA V76	SD 16:9	Aspect ratio

### Status page 3

Gain R, G and B values	GAIN	R50	G50	B50	
Black R, G and B values	BLAC	R50	G50	B50	
Detail value	50		+14DB		Color temperature value
Detail	DETAIL		VARGAIN		Saturation value

## 4.3 Using files

### 4.3.1 Storing and recalling scene files

The scene file function is used for storing and recalling scene settings for the camera. Four scene files can be stored in memory positions 1 to 4 of the camera.

- To recall a scene file, push the **FILES** button to open the menu.
- Select a memory position 1 to 4. The values stored in this file are then recalled.

To create a scene file, set up the values for all the functions on the OCP, push the **FILES** button to open the menu. Push the **Next** button to open the store page and then select a memory position. The values are stored in this position.



#### Note

When a scene file is recalled, the values only take effect if the camera is not On Air (except for DMC camcorders).

Menu	Selections	Function	Level	Possible values
SCENE FILES	RECALL 1	Recall Scene File 1	S	Ready, Failed
	RECALL 2	Recall Scene File 2	S	Ready, Failed
	RECALL 3	Recall Scene File 3	S	Ready, Failed
	RECALL 4	Recall Scene File 4	S	Ready, Failed
 	STORE 1	Store Scene File 1	S	Ready, Failed
	STORE 2	Store Scene File 2	S	Ready, Failed
	STORE 3	Store Scene File 3	S	Ready, Failed
	STORE 4	Store Scene File 4	S	Ready, Failed

## 4.4 OCP File Management

### 4.4.1 Introduction

Use OCP File Management to manage settings and scene files for your camera. Up to four scene files can be stored in the camera while more Card scene files can be stored on an OCP storage card.

- To access OCP File Management functions, push the **FILES** button to open the menu.

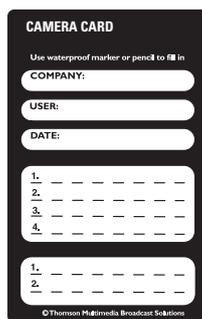


#### Note

OCP File Management is supported in software version 8 and higher. It is recommended to update both OCP and camera to the latest software version.

---

### 4.4.2 Formatting OCP storage cards



Before OCP File Management can be used you need to format an OCP storage card. Empty cards can be obtained from Grass Valley in a set of 10 cards (LDK 5210). Follow these steps for to format a card:

1. Insert the card into the slot at the top of the OCP and push the **Files** button.
2. Push the **Next** button until the OCP 400 CARD item appears.
3. Select the Format option and wait a few seconds.
4. Your OCP storage card is now ready for use.



#### Note

Make sure not to format your camera owner's card: this will make the owner's card unusable.

---



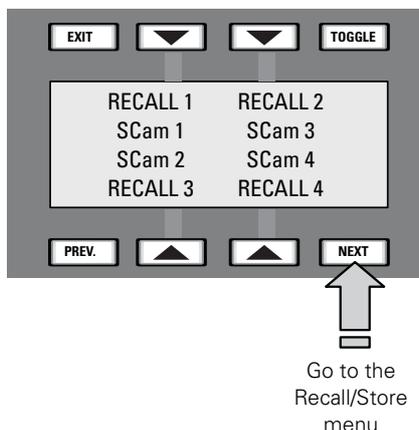
#### Note

Camera user's cards and OCP storage cards look identical, but they are not interchangeable.

---

### 4.4.3 Fast Recall menu

This menu offers fast access to your camera’s scene files. Select a scene file and the settings in this file are recalled. To recall a card scene file push the **Next** button to go to the Recall/Store menu.

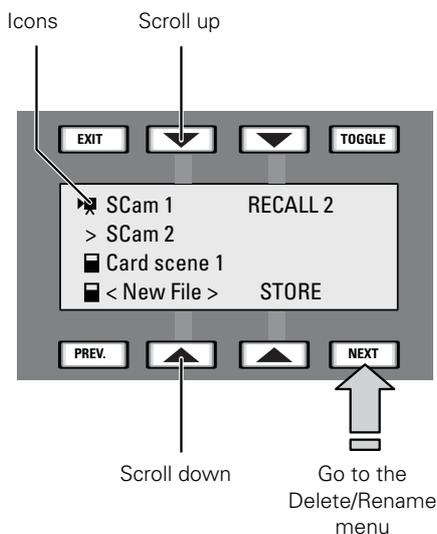


**Note**

When a scene file is recalled, the values only take effect if the camera is not On Air (except for DMC camcorders).

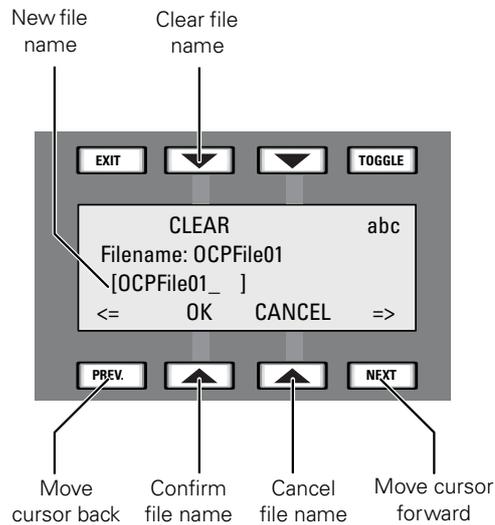
### 4.4.4 Recall/Store menu

At the left side of the menu panel a list of available scene files is shown. The first four items are camera scene files. They are followed by the card scene files stored on your OCP storage card. Use the left menu buttons or the **Assignable rotary control** to scroll up and down the list. Camera scene files are indicated with a *camera* icon and card scene files with a *card* icon. The arrow indicates the currently selected scene file.



Select the RECALL function to recall the settings in the selected scene file. Select the STORE function to store the current settings of the camera into the selected scene file.

The last item in the scene file list is <New File>. Select this item to create a new file on your card and store the current camera settings to the new file.



The default name appears for your new file. You can change it by using the Rotary Control to select a character and the PREV and NEXT buttons to move the cursor back and forward.

- Use the Toggle button to select a different character set (abc - 123 - #!@ - ABC).
- Select the CLEAR function to clear the file name.
- Select OK to use the new filename. The file will be added to the card and the current settings are stored in this file.
- Select CANCEL to cancel the operation and return to the Recall/Store menu.

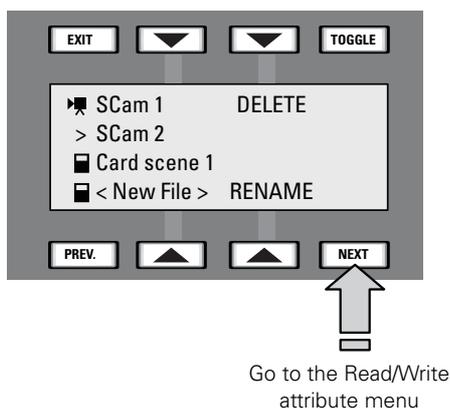


#### Note

File names can have up to ten characters.

#### 4.4.5 Delete/Rename menu

Select a scene file from the list. Select the DELETE function to delete the selected scene file. Select the RENAME function to change the name of the selected scene file. Refer to the Recall/Store section to enter a new filename.



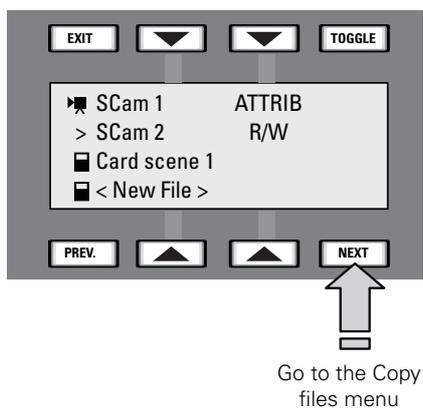
#### Note

Camera scene files can not be deleted.

Renaming files is not available on DMC camcorders.

#### 4.4.6 Read/Write attribute menu

Select a scene file from the list. Select the ATTRIB function to change the Read/Write status of the selected scene file. A scene file can have a Read Only (R) status and a Read/Write (R/W) status.



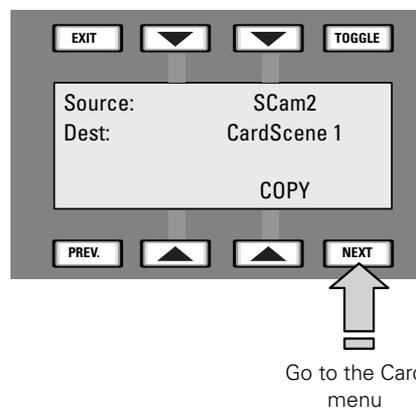
**Note**

Read/Write attributes of a camera scene files can not be changed.

Changing file attributes is not available on DMC camcorders.

#### 4.4.7 Copy Files menu

To copy one file to another, select the scene file in the source field by using the cursor up/down keys or the Assignable rotary control. Use the Toggle button to switch between the Source and Dest(ination) fields. Select the COPY function to copy the selected source scene file to the selected destination scene file.

**Note**

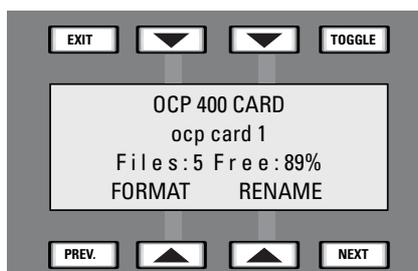
The original contents of the destination file will be overwritten.

When the item <New File> is selected in the destination field the source file is copied to a new file. You will be prompted to enter a file name. Refer to the Recall/Store menu for the naming procedure.

#### 4.4.8 Card menu

This menu displays the name of the inserted OCP storage card, the number of scene files stored on the card and the percentage of space used.

Select the **FORMAT** function to format a card. Select the **RENAME** function to enter a new name for the card. Refer to to Recall/Store menu for the naming procedure.



#### 4.4.9 Partial file recall

Partial file recall can be used to undo changes on a group of video parameters. Groups that can be recalled are Gain, Filters, Detail, Exposure Time, Color, Black, Flare, Skin, Gamma and Knee.

To recall a group of parameters press and hold the **Files** button and at the same time press the button for the function group you want to recall. All functions of this group are restored to the user's reference settings.

While the **Files** button is pressed the last recalled or restored file is displayed on the menu panel.

#### Note

A partial recall of the Gain function set will also recall the RGB Gain values and a partial recall of the Black function set will also recall the RGB Black values and the master black value.

Partial file recall is not available on DMC camcorders.

#### 4.4.10 Recalling standard files

- Push the **RECALL** button to open the menu.
- Select either a factory or a customised file for recall.
- Select Recall

Menu	Selections	Function	Level	Possible values
RECALL STD	RECALL	Recall standard file	S	
	STD CUST/ FACT	Select factory or customer file to recall	S	Factory, Custom
	-			
	-			

## 4.5 Adjusting video parameters

### 4.5.1 Skin button

- Press the **SKIN** button to open the skin menu.

When the skin colour and width pages are selected, the upper and lower red and blue rotary controls are assigned to these parameters. The **SKIN** lights light.

Menu	Selections	Function	Level	Possible values
SKIN	SKIN SEL	Turns skin detail off or on and selects the memory position.	B	Off, 1, 2, 1+2
	-			
	SET 1	Go to SET SKIN 1 page	B	
	SET 2	Go to SET SKIN 2 page	B	

Menu	Selections	Function	Level	Possible values
SET SKIN 1 PAGE	SKIN SEL	Select SKIN	B	Off, 1, 2, 1+2
	SKIN LVL	Sets SKIN detail level	B	0..99
	SKIN VIEW	Turns on to view the selected SKIN detail area	B	On,Off
	SKIN AUTO	Starts Auto Skin procedure	B	Off, Win, Run, Fail
	COLOR1 R	Adjust SKIN 1 Color R Level	B	0..99
	COLOR1 B	Adjust SKIN 1 Color B Level	B	0..99
	WIDTH1 R	Adjust SKIN 1 Width R Level	B	0..99
	WIDTH1 B	Adjust SKIN 1 Width B Level	B	0..99

Menu	Selections	Function	Level	Possible values
SET SKIN 2 PAGE	SKIN SEL	Select SKIN	B	Off, 1, 2, 1+2
	SKIN LVL	Sets SKIN detail level	B	0..99
	SKIN VIEW	Turns on to view the selected SKIN detail area	B	On,Off
	SKIN AUTO	Starts Auto Skin procedure	B	Off, Win, Run, Fail
	COLOR2 R	Adjust SKIN 2 Color R Level	B	0..99
	COLOR2 B	Adjust SKIN 2 Color B Level	B	0..99
	WIDTH2 R	Adjust SKIN 2 Width R Level	B	0..99
	WIDTH2 B	Adjust SKIN 2 Width B Level	B	0..99

## 4.5.2 Setting skin detail

Skin detail is set up to select a particular color range. The detail level within this color range can then be set independently of the rest of the picture.

Skin detail is predominantly used to reduce the level of detail in a person's skin tone to produce a more attractive picture. Decreasing the detail level of a person's skin softens the skin tones only.

The skin detail function is not limited to a particular color and so can also be used to achieve various effects in selected color areas. For example, decrease the detail level of a soccer field to accentuate the players or increase the skin detail level to accentuate a rough surface.

The color range to which the skin detail level is applied can be selected automatically or manually. Two skin detail ranges can be independently defined; both can be used at the same time.

### Auto skin detail

Carry out the Auto skin detail procedure as follows:

1. In the Skin menu, select the item Set 1 to open the skin 1 page.
2. Select SKIN Auto.
3. Point the two small black boxes that appear in the viewfinder at the intended surface (color).
4. Select SKIN Auto again to start the measurement procedure (the iris is set to Auto). The process running message appears in the viewfinder.
5. When the process is completed (within a few seconds) the OK message appears in the viewfinder.
6. Adjust the skin detail level with the Skin Lvl item. Decrease the value below 50 to soften the selected area. Increase the value above 50 to add extra detail.

Repeat the steps for the Skin 2 position if required.

Set the menu item Skin View to On to show the affected area. The color range set by the automatic procedure can be adjusted manually if required.

### Manual skin detail

Set the skin detail color range manually as follows:

1. In the Skin menu, select item Set 1 to open the skin 1 page.
2. Push the Next button.
3. Adjust the color 1 red and blue, and the width 1 red and blue parameters with the assigned rotary controls. The higher the number, the broader the range.
4. Push the Previous button.
5. Adjust the skin detail level for the selected color range with the Skin Lvl item. Decrease the value below 50 to soften the selected area. Increase the value above 50 to add extra detail.

Repeat the steps for the Skin 2 position if required.

### 4.5.3 Gamma button

- Press the **GAMMA** button to open the gamma menu.

When variable gamma is selected and the **Next** button is pressed, the upper row of rotary controls are assigned to changing the gamma R, G and B values. The **GAMMA** lights light.

Menu	Selections	Function	Level	Possible values
GAMMA	GAMMA SEL	Gamma selection	B	1, 2, Var, Lin
	GAMMA CRV	Gamma Curve preset	B	ARD, CCIR, RAI, BBC04, BBC05, BBC06
	-			
	GAMMA LPF	Gamma LowPass Filter	B	
	GAMMA M	Gamma Master	F	0..99
	GAMMA R	Gamma Red	F	0..99
	GAMMA G	Gamma Green	F	0..99
	GAMMA B	Gamma Blue	F	0..99

### 4.5.4 Knee button

- Press the **KNEE** button to open the knee menu.

Menu	Selections	Function	Level	Possible values
KNEE	KNEE SEL	Knee function	S	Auto, Var, Off
	KN POINT	Knee Level/set point	S	0..99
	KN SLOPE	Knee Slope	S	0..99
	KN SOURCE	Knee source selection	B	Y, NAM
	KNEE DESAT	Knee desaturation function	B	On, Off
	DESAT LVL	Knee desaturation level	B	0..99
	KN SOURCE	Knee source selection	B	Y, RGB, Max
	-			
	WHITE CLIP	Turns White Clipping on or off	B	On, Off
	WCLIP LVL	Sets White Clip Master Level	B	0..99
	-			
	-			

### 4.5.5 Color button

- Press the **COLOR** button to open the color menu.

Menu	Selections	Function	Level	Possible values
COLOR	COL TEMP	Color Temperature	S	AW1,AW2, AWC, 3200K..7800K, VAR
	VAR CTEMP	Variable Color Temperature	S	2000K .. 21000K
	SATURATION	Saturation Level	S	0..99
	CHROMA	Chroma Function	S	On,Off
	Corrector	Turns Color Corrector on or off	S	On,Off
	COLCORR	Go to ColCorr menu	S	

Menu	Selections	Function	Level	Possible values
COLCORR	CC SET: n	Select color correction set	S	1..6
	ON	Turns color corr. set on or off	S	On, Off
	Color   Width	Sets Color and Color Width	S	0 .. 360°   22.5 .. 360°
	HUE   SAT   LUM	Sets new Hue, Saturation and Luminance for the selected color	S	0..99   0..99   0..99
	CC View	View color area	S	On,Off
	Smoothing	Transition between corrected and uncorrected area	S	Sharp, Medium, Smooth
	Reset CC	Reset all color correction sets	S	(execute)

### 4.5.6 Black button

- Press the **BLACK** button to open the black menu.
- The lower row of rotary controls are assigned to changing the black values. The **BLACK** light lights.

Menu	Selections	Function	Level	Possible values
BLACK	BLACK STR	Black Stretch Function	S	On,Off
	AUTO BLACK	Auto Black Function	S	Press to start
	BLKSTR LVL	Black Stretch Level	S	-99..99
	BLKSTR TYP	Black Stretch type	B	Press, Stretch

### 4.5.7 Flare button

- Press the **FLARE** button to open the flare menu.
- The lower row of rotary controls are assigned to changing the flare values. The FLARE lights light.

Menu	Selections	Function	Level	Possible values
FLARE	FLARE FUNC	Flare function	F	On, Off
	FLARE R	Red Flare Level	S	0..99
	FLARE G	Green Flare Level	S	0..99
	FLARE B	Blue Flare Level	S	0..99

### 4.5.8 Exposure time button

- Press the **EXP. TIME** button to open the exposure time menu.

Menu	Selections	Function	Level	Possible values
EXPOSURE TIME	Shutter	Selects shutter preset (Viper only)	S	90, 180, 216, VAR, MAX etc.
	Angle	Sets variable shutter angle (Viper only)	S	90° .. 315°
	Motor	Turns shutter motor on or off (Viper only)	S	On, Off
	-			
	Exp. Sel	Exposure time selection	S	Nom, CRT, 50, 60, 1/100..1/2000, Var
	AutoLight	Auto Lighting function	S	On, Off
	Var Exp	Variable exposure time function	S	50..103 (PAL), 60..150 (NTSC)
	Lighting	Lighting adjustment	S	-10..+10

### 4.5.9 Gain button

- Press the **GAIN** button to open the gain menu.
- Select Gain+ or Gain- to increase or decrease the gain in steps.

Menu	Selections	Function	Level	Possible values
GAIN	Gain +	Increase Gain	S	+++ , ++ , + , 0 , -
	VAR MGain	Variable Master Gain	S	x, xdB
	Gain -	Decrease Gain	S	-, 0, +, ++, +++
	StudioMode		S	On, Off

### 4.5.10 Filters button

- Press the **FILTERS** button to open the filters menu.
- The optical filter wheels are controlled with the ND and FX up and down selection buttons.

Menu	Selections	Function	Level	Possible values
FILTERS	ND UP	Increase ND Filter position	S	CLR, ND 1/4, ND 1/16, ND 1/64
	FX UP	Increase FX Filter position	S	CLEAR, 4 Star, 6 Star, Soft Focus
	ND DOWN	Decrease ND Filter position	S	
	FX DOWN	Decrease FX Filter position	S	
	GRADIENT	Select electronic gradient filter	B	On, Off
	SET	Go to Set Gradient page	B	
	SOFT FCS	Select electronic soft focus filter	B	On, Off
	SET	Go to Set Soft Focus page	B	
	MONOTONE	Select electronic monotone filter	B	On, Off
	SET	Go to set monotone filter page	B	
	-			
	-			

Menu	Selections	Function	Level	Possible values
SET GRADIENT FILTER	GRADIENT	Select electronic gradient filter	B	On, Off
	PRESET	Select gradient filter presets	B	ND0.3/0.6/0.9, Sunset, BlueSky, Var
	ZONE	Select area of gradient filter	B	Top, Left, Bottom, Right
	VIEW	Select view mode	B	On, Off
	GRADIENT	Select electronic gradient filter	B	On, Off
	-		B	
	CENTRE	Set center position	B	0..99
	WIDTH	Select transition width	B	1,2,3,4,5,6,7
	GRADIENT	Select electronic gradient filter	B	On, Off
	DEPTH R	Set red color depth	B	0..99
	DEPTH G	Set green color depth	B	0..99
	DEPTH B	Set blue color depth	B	0..99

Menu	Selections	Function	Level	Possible values
SET SOFT FOCUS FILTER	SOFT FCS	Select soft focus filter	B	On, Off
	PRESET	Select soft focus presets	B	Preset 1 .. 5, Var
	RADIUS	Set center spot radius	B	15..99
	VIEW	Select view mode	B	On, Off

Menu	Selections	Function	Level	Possible values
	SOFT FCS	Select soft focus filter	B	On, Off
	LEVEL	Set level of grayscale	B	0..99
	TRANSIT	Set transition level	B	15..99
	FADE	Set grayscale color (black to white)	B	0..99
	X POS	Set X position of centre spot	B	0..93
	Y POS	Set Y position of centre spot	B	0..99
	REVERSE	Reverse filter	B	On, Off
	ASP RATIO	Change aspect ratio of centre spot	B	24..99

Menu	Selections	Function	Level	Possible values
SET Monotone FILTER	MONOTONE	Select electronic monotone filter	B	On, Off
	PRESET	Select gradient presets	B	ND0.3/0.6/0.9, Sunset, BlueSky, Var
	DEPTH	Adjust monotone filter depth	B	0..99
	-			
	MONOTONE	Select electronic monotone filter	B	On, Off
	-			
	RED	Adjust Red monotone filter color	B	0..99
	BLUE	Adjust Blue monotone filter color	B	0..99

#### 4.5.11 Detail button

- Press the **DETAIL** button to open the detail menu.

Menu	Selections	Function	Level	Possible values
DETAIL	DTL LEVEL	Detail level	S	0..99
	DTL FUNCT	Detail function	S	On,Off
	LEVEL DEP	Level dependency	B	0..99
	NOISESL	Noise slicer	B	0..99
	V DETAIL	Vertical detail level	B	0..99
	C/FINE	Detail coarse/fine adjustment	B	0..99
	KNEE DTL	Knee detail	B	0..99
	-			
	-			
	SOFT LEVEL	Soft detail level	B	0..99
	SOFT DTL	Soft detail function	B	On,Off
	DTL SOURCE	Detail source selection	B	Y,R,G,R+G

### SD detail (HD cameras)

On HD cameras the detail parameters have different values for the High Definition (HD) output and the Standard Definition (SD) output. On HD cameras press the **Next** button to open the second (SD output) set of parameters.

Menu	Selections	Function	Level	Possible values
SD DETAIL	SD DTL LVL	Detail Level	S	SD 0..99
	SDDTL FUNCT	Detail Function	S	SD On, SD Off
	SDLVL DEP	Level Dependency	B	SD 0..99
	SDNOISESL	NoiseSlicer	B	SD 0..99
	SDV DETAIL	Vertical detail level	B	SD 0..99
	SDC/FINE	Detail fine adjustment	B	SD 0..99
	-			
	-			
	SDSOFT LVL	Soft detail level	B	SD 0..99
	SD SOFT DTL	Soft detail function	B	SD On, SD Off
	SD SOURC	Detail source Selection	B	SD Y,SD R,SD G,SD R+G

#### 4.5.12 Non-standard indication

Normally if the menu of a function group is active, the button is illuminated high green. But in the case that the function group is non-standard and the menu is active, the button will be illuminated yellow (mix of orange and high-green).

When a button is illuminated as non-standard, it is possible to see which individual function or functions is/are nonstandard. This is indicated with a \*-symbol behind every non-standard value in the menu.

# Chapter 5

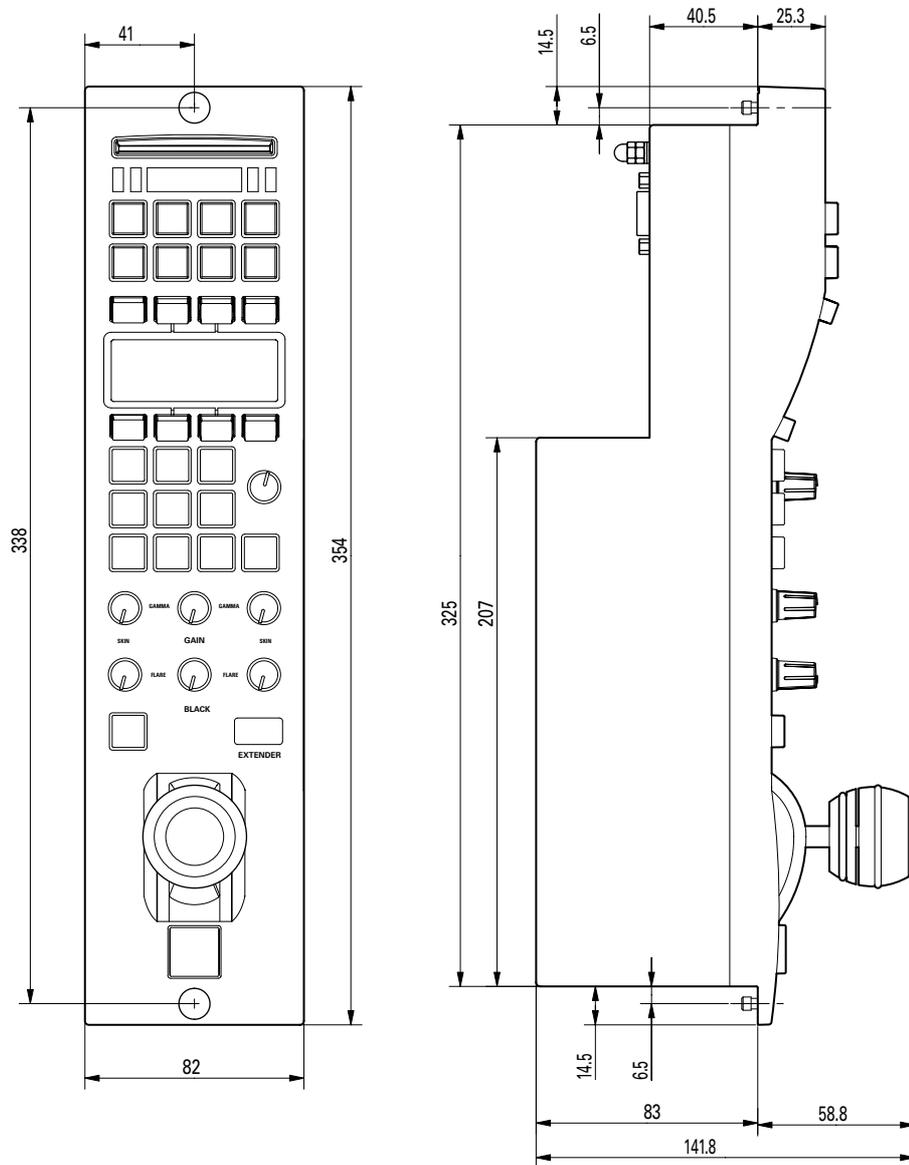
## Specifications

### 5.1 Specifications for OCP 400

Item	Value
Dimensions (Height x Width x Depth)	354 x 82 x 85 mm (13.9 x 3.2 x 3.3 in) without joystick
Weight (approx.)	2.5 kg (5.5 lbs)
Operating temperatures	0 to +45° C (32 to 113° F)
Storage temperatures	-25 to +70° C (-13 to 158° F)
Power requirements	+12 VDC nom.
Power consumption	8.5 W max.
Ethernet connection	RJ-45 connector; 10Base-T, 100Base-TX compliant with IEEE-802.3
Serial connections	Sub D connector, RS-232 or RS-422 protocol

## 5.2 Dimensions

Figure 5-1. Dimensions

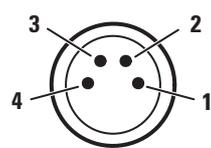


# Chapter 6

## Connectors

### 6.1 Power connectors

#### 6.1.1 Power input connector (DC input)



XLR 4-pin male  
(panel view)

Pin	Description
1	GND
2	no connection
3	no connection
4	+12 VDC input (nominal)



#### Caution

The input voltage must not exceed +17 VDC.

#### 6.1.2 Power output connector (DC output)



XLR 4-pin female  
(panel view)

Pin	Description
1	GND
2	no connection
3	no connection
4	+12 VDC output

This socket supplies the input DC voltage (+12 VDC nom.) for other Operational Control Panels.

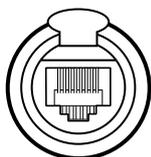


#### Note

Up to five Operation Control Panels can be looped through.

## 6.2 Communication connectors

### 6.2.1 Ethernet connector

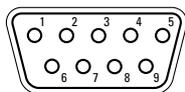


8-pin standard RJ-45 ethernet connector

Pin	Description
1	TX+
2	TX-
3	RX+
4	no connection
5	no connection
6	RX-
7	no connection
8	no connection

10Base-T, 100Base-TX compliant with IEEE-802.3 (edition 2000)

### 6.2.2 Serial interface connector (RS-232 or RS-422)



Sub-D connector 9-pin female (panel view)

Pin	RS-232	RS-422
1	no connection	no connection
2	RXD	GO_A
3	TXD	RET_B
4	nDTR	reserved
5	DGND or +12 V	DGND or +12 V
6	nDSR	reserved
7	nRTS	GO_B
8	nCTS	RET_A
9	+12 V or DGND	+12 V or DGND

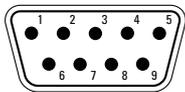
Select the connection type for the serial interface in the OCP setup menu (refer to 'Setting up the OCP' in this user's guide).



#### Note

When used with the LDK 4417 base unit (part of the Digital Triax system) the OCP should be locally powered for correct working of the On Air signalling.

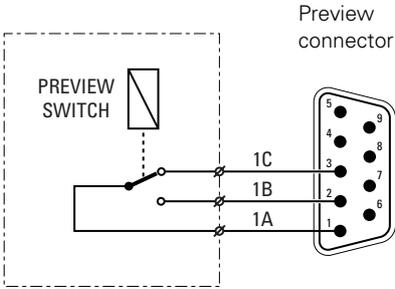
6.2.3 Preview connector



Sub D connector  
9-pin male

Pin	Description
1	Preview contact 1A
2	Preview contact 1B
3	Preview contact 1C
4	+REF external
5	GND
6	not used
7	not used
8	Tally input *)
9	shield

\*) Only used when an DMC camcorder is connected.



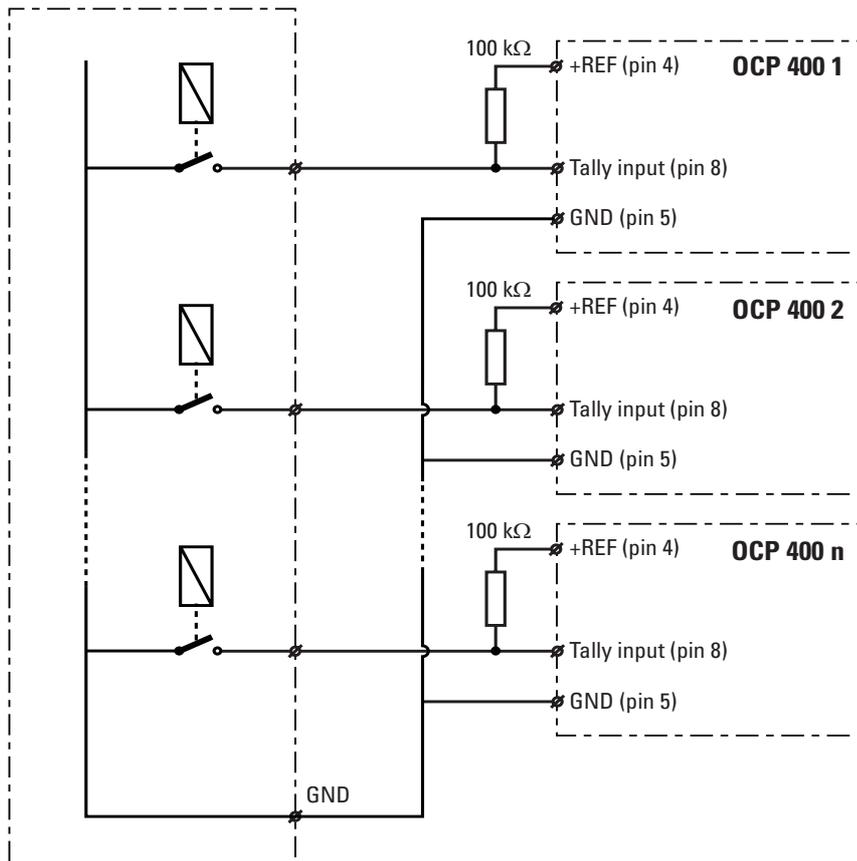
Preview switch not pressed:  
1A is connected to 1C

Preview switch pressed:  
1A is connected to 1B

## 6.3 Tally signalling (On-Air)

When used with a DMC camcorder, the OCP 400 accepts a local Tally signal applied to the preview connector. When the studio switches to On-Air, the control panel also switches a connected DMC camcorder to On-Air.

Use only external signalling with common ground contacts as shown in the following scheme:



The Tally input can be programmed to suit different methods of On-Air signalling. Follow these steps to change the Tally input settings:

- Push the **SETUP** button to open the menu.
- Push the **Selection** button to choose the OCP submenu.
- Push the **Next** button until the **TallyOnOff** item appears. The following settings are available:

TallyOnOff setting:	On-Air <i>active</i> when input is:	On-Air <i>inactive</i> when input is:
Low/High	< 1.0 V	Open or > 1.5 V
High/Low (default)	> 3.1 V	< 1.0 V
Open/High	Open or < 2.5 V	> 3.1 V
High/Open	> 3.1 V	Open or < 2.5 V

**Caution**

Do not apply voltages higher than 4.0 VDC or voltages lower than -0.6 VDC to the Tally input as they may damage the internal circuits.

---

**Note**

This functionality is available from OCP 400 software version 16 or higher. Contact your local Grass Valley service representative if your control panel needs to be upgraded.

---

