



Remote Camera Panel



Operating Instructions

V.6.1 – 27/03/2018

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Introduction

The **Remote Camera Panel Mk3** offers operational control of a variety of cameras from various manufacturers. Up to 4 cameras (from a total of 99) can be controlled from one panel.

The camera type is selected from the menu and the parameters particular for that camera then become available. For example: Sony cameras have a 'GREEN Gain' adjustment but most other makes have only BLUE and RED Gain.

Current Camera types:

Sony
JVC
Ikegami
Hitachi
Panasonic
Bradley
AltaSens (4k)

Others becoming available by customer demand

It is supplied with a standard 'touch-down' joystick. A continuous wheel iris knob with a separate touch-down knob for master pedestal can be supplied to order.

The panel is designed to fit into a standard engineering desk with offset connectors and fixing holes under the overlay which can be easily punctured to add the required screws.

The unit employs our proprietary membrane panel technology with user adjustable backlighting and individual illumination of all buttons and knobs.

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Power & Data

Power is supplied to the unit via the male XLR4 socket on the underside. 12 - 16 volts DC. The unit generates RS485 data which is output on the XLR3 socket. The cable length for the RS485 output can be up to 1km using good quality balanced cable for the data pair.

Tally Inputs

Tally **inputs** are provided which can be triggered by contact closure (switch or relay) or by connecting the appropriate pin to GND (pin 9) with an 'open collector' circuit. The 9pin Dsub connects both the tally inputs and also the 'touch down' outputs.

Holding the appropriate tally pin to GND will generate a 'Tally On' command to the camera. Removing the GND generates a 'Tally Off' command to the camera. A 'tell-tale' red indicator will illuminate on the panel.

Monitor Switching

Also on this 9pin Dsub are open collector to GND **outputs** for monitor switching. Operating the Touch Down switch will ground the pin associated with the selected camera. Use pin 9 for GND connection.

A green indicator will illuminate on the panel when the touch-down is held.

Multiple Panels

Multiple panels can be cascaded using the Hirose 4pin connector. Both power and data are distributed via this connector. Connect power to panel 1, then using a Hirose to XLR cable connect to panels 2, 3, 4 etc. All the data finally appears on the output of the last panel in the cascade.

Refer to page 8 for pin assignments.

Assignable Menus

The unique feature of the panel is the Assignable Menus. There are 3 menus, **each** with 3 adjustable parameters. The 3 menus are selected by simply pushing down the appropriate **menu** button.

Any knob in any menu can be assigned to any available parameter enabling the operator to customise the 3 menus. As supplied, some of the parameters are as follows;

Menu 1

Red Gain, White Balance, Blue Gain

Menu 2

Red Pedestal, -----, Blue Pedestal

Menu 3

Detail, -----, Gamma



To assign a different parameter to a knob simply push down on the knob and rotate it to change the function. When the knob is released the knob now controls the parameter shown. If the function requires a switch action a brief touch down on the knob toggles the switch action.

Numeric values are sent as the knob is rotated. Other values e.g. White Balance Modes are only sent when the knob is pushed.

The panel sends unidirectional commands to the cameras but memorises all the sent values for the 4 cameras selected and recalls these values when each camera is selected. It also automatically stores these values whilst powered off and recalls all values and the knob settings when powered up.

Because all the functions are software generated, additional functions can be added as required and updates are simply a matter of replacing one, plug-in chip.

The display also shows the Master Pedestal level when adjusted.

Configuration

The centre assignable knob has additional configuration parameters. The additional settings are;

Camera Model	Sony, Ikegami, Panasonic, Hitachi, JVC, Bradley, etc.
Backlight Adjustment	Level 1 - 10 for low light visibility
SDI/HDS DI format	Some cameras support multiple formats
Tally Light setup	Enables or inhibits tally light commands
Zoom Focus generator	Allows temporary control of zoom & focus for line up
Change Head Nos.	Changes the current ID No. to a different No.

Shutter, Iris, Gain

Situated in the central section of the panel are the controls and displays for Shutter, Iris, and Master Gain.

Each of the knobs can be rotated or pushed down. Rotation adjusts the value which is then displayed by the LEDs.

Touch down on the '**Shutter**' knob switches the shutter OFF. (1/50 or 1/60 sec in most cameras)



On the latest models, a brief touch down on the '**Iris**' knob toggles control of the **Iris** or **ND Filter** from the Iris Joystick. Iris can always be controlled with the centre knob. Push and hold on the '**Iris**' knob switches the camera to **Auto Iris** (if supported). The Iris display will show if BARS are selected.

Touch down on the '**Gain**' knob switches the gain to 0dB.

Camera Selection and Display

The '**Camera Select**' buttons are used to select one of 4 cameras. The selected camera is displayed in the LED display. Any 4 sequential cameras in the range 1 - 99 can be controlled by the panel.

Internal DIP switches select the first camera in the range as a binary number. For example; if switches 1 & 3 are ON this the binary representation of 5. The panel will then control cameras 5 - 8.



Tally Indicators & Monitor Switching LEDs

Above each camera select button are 2 indicators – **Tally** and **Monitor**. A RED indicator shows when a tally input has been received. A 'Tally On' command is sent to the camera when the tally is received. When the tally is removed a 'Tally Off' command is sent to the camera. A GREEN indicator shows if the joystick touch down is operated.

Joystick Control

The joystick offers iris and pedestal control with 'touch down'. When moved, the appropriate value is displayed on the LED display. A friction adjustment is provided underneath the panel.

This joystick can have several functions;

1. Normal manual Iris control
2. Micro Gain override when in Auto Iris. (In 0.1dB increments for smooth exposure control).
3. ND Filter control (If the ND filter is fitted to the camera).

The **ND Filter** (if fitted) is selected by a brief touch down on the Iris knob. The ND filter is continuously variable and can be used to control the exposure whilst keeping the iris at a fixed value.

The sensitivity of the iris control is adjusted with the '**Iris Gain**' knob. Holding this knob down for 3 seconds locks the panel from accidental operation. The LED displays will be blanked out and show 'locked' in the main OLED display. Hold down again for 3 seconds to unlock the panel.

The iris centre position is adjusted using the central '**Iris**' knob.

Master Pedestal is adjusted by rotating the blue knob. The value is shown on the OLED display at the top of the panel.

There is also a 'Bars' button immediately above the joystick. Press this for 2 seconds to select colour bars ON. A short press selects colour bars OFF.

Currently Available Controls

Iris, Iris Range, Auto Iris
 Master Pedestal, Gain, Shutter, Bars
 Gamma, Aperture Correction (Detail)
 Scene Files A, B, C, D.
 White Balance - Scene, PUSH, Auto Tracing, 5600K, 3200K
 Auto Black Balance
 Red, Green and Blue Gain
 Red, Green and Blue Pedestal
 Output Standards (1080i/p/50, 1080i/p/60, 720p/50, 720p/60, PAL 4:3/16:9, NTSC 4:3/16:9)
 Filter Wheel, Camera Menu Access
 Sync phase adjustments
 Tally output to cameras
 Remote Relay Switching
 InfraRed On/Off

Iris Control Sensitivity, Panel Lock, ND Filter
 Camera Model selection
 Camera select (any 4 sequential cameras up to 99)
 Backlight Intensity
 Tally Inputs, Monitor select via GPIO
 Zoom / Focus Generator
 Change Head Numbers

Other functions can be adjusted via the camera menu displays. Additional functions, not supported on the standard panel, can be included in the assignable function menus by arrangement with BR Remote.

Connections & Pinouts

XLR4 - Power input

Pin 1	=	GND
Pin 2	=	Data A (RS485)
Pin 3	=	Data B (RS485)
Pin 4	=	+12v

XLR3 - Data Output

Pin 1	=	GND
Pin 2	=	Data A (RS485)
Pin 3	=	Data B (RS485)

Hirose 4 - Cascade output

Pin 1	=	GND
Pin 2	=	Data A (RS485)
Pin 3	=	Data B (RS485)
Pin 4	=	+12v



9 pin Dsub - Tally inputs

Pin 1	=	Cam 1 - Tally input (hold to GND for Tally ON)
Pin 2	=	Cam 1 - Touch Down output. Open collector to GND**
Pin 3	=	Cam 2 - Tally input (hold to GND for Tally ON)
Pin 4	=	Cam 2 - Touch Down output. Open collector to GND**
Pin 5	=	Cam 3 - Tally input (hold to GND for Tally ON)
Pin 6	=	Cam 3 - Touch Down output. Open collector to GND**
Pin 7	=	Cam 4 - Tally input (hold to GND for Tally ON)
Pin 8	=	Cam 4 - Touch Down output. Open collector to GND**
Pin 9	=	Common for Tally inputs (GND)

Contact closure or 'Open Collector' switching can be used for Tally. Removing the GND from the tally inputs will trigger a 'Tally OFF' command to the camera.

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