

RCP-160

OPERATION MANUAL

ICONIX

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Warnings / Safety Precautions

The following must be read and followed before using the RCP-160.

- Power supply:
 - Nominal Voltage: 12V DC
 - Absolute Minimum: 9V DC
 - Absolute Maximum: 22V DC (peak)
 - 500mA maximum current requirement
- Use only the specified power source voltage and connection cord. The wrong source could result in fire or electric shock.
- Do not use this unit in situations that exceed the temperature specifications (5° to 40° C). This may cause malfunction and/or damage the unit.
- Do not touch the power cord or cables during a thunderstorm.
- Operation near any appliance which generates strong magnetic fields may give rise to noise in the communications or video signals.
- Do not place unit into a confined space. Make sure adequate ventilation is available at all times during use. Failure to do so may cause your unit to overheat and cause a fire hazard or electric shock.
- Electric shock warning: Do not remove cover. There are no user serviceable parts inside.
- Use with recommended accessories only.
- Do not use this unit in a place where it could come in contact with water, moisture, steam, dust, or smoke. This could cause fire, electric shock, or camera failure.
- To reduce the risks of fire, shock and damage, do not expose this unit to rain, snow, inclement weather, moisture, or high humidity. Keep this unit away from all liquids. Do not place liquid containers on the top of the unit.

Regulatory Compliance

USA:

WARNING: This equipment has been tested and found to comply with the limits for Class A digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction's manual, may cause interference to radio communications. Operation of this equipment in a residential area is likely to cause interference in which case the user will be required to correct the interference at his/her own expense.

The user is cautioned that changes and modifications made to the equipment without approval of the manufacturer could void the user's authority to operate this equipment.

CANADA:

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numerique de la classe A respecte toutes les exigences du Reglement sur le materiel brouilleur du Canada.

DISPOSAL:

This product contains some components with regulated disposal due to environmental considerations.



This symbol means that used electrical and electronic products should not be mixed with general household waste.

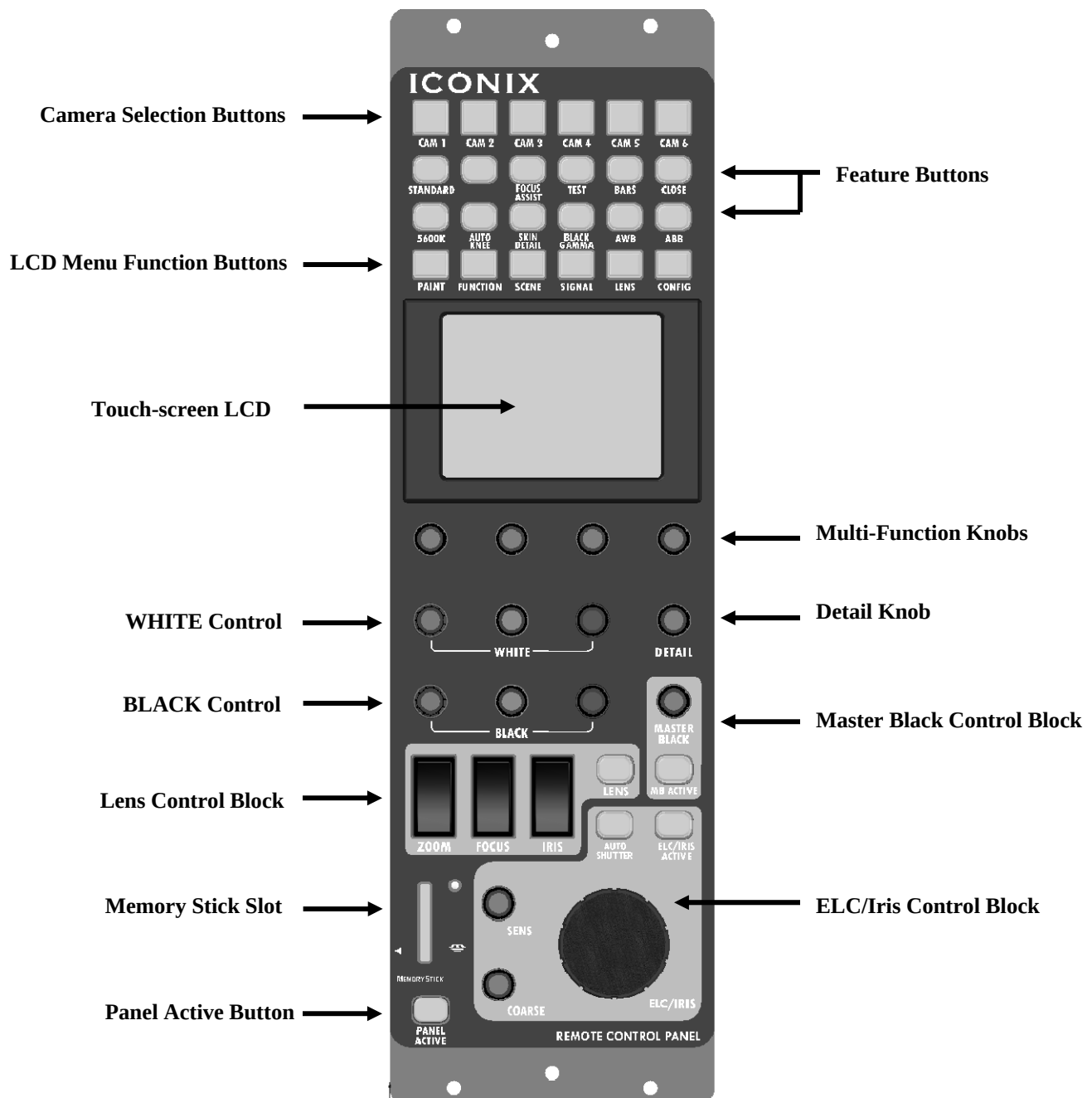
For disposal or recycling information please contact your local authorities, or the Electronics Industries Alliance.

If you wish to discard this product, please contact your local authorities or dealer and ask for the correct method of disposal.

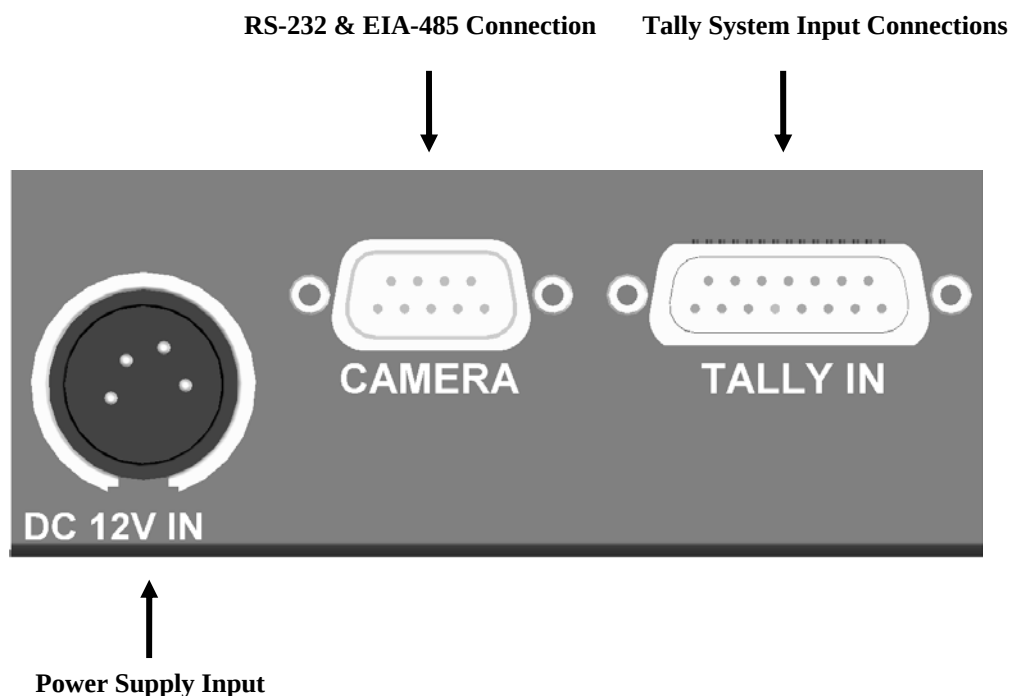
Product Overview

The RCP-160 is a rack-mountable remote control panel designed for the remote control of up to six (6) Iconix Video, HD-RH1 remote head camera systems.

RCP-160 Remote Control Panel - Top



RCP-160 Rear Panel Connectors



FAQ: Why are the connectors upside down?

Answer: While that depends on your perspective, the mating four-pin XLR connector has a latch release that cannot be accessed if the connector is right-side up, due to the overhang of the remainder of the RCP enclosure. To accommodate easy access for this connector, it was inverted. Due to the other electronics in the RCP, this also meant inverting the other two connectors. The alternative was to make the RCP larger in size, which did not meet design requirements.

Hardware Setup

System Requirements

Typical System Requirements for remote control operation:

- RCP-160
- DSUB-9 male-to-female serial cable
- +12V DC power supply
- Iconix video camera (and required accessories)

Powering the RCP-160

The RCP-160 may be powered by either an external power supply, or a camera that provides +12V DC remote power via the serial port connector, such as the Iconix HD-RH1F**.

When using the RCP-160 a long distance from the camera, powering the RCP-160 with an external power supply is recommended. In some cases, an external supply must be used, such as when using a media converter (such as for fiber optic) or when communicating through a hub or other equipment.

Powering the RCP-160 via camera remote power is only recommended for reasonably short distances, and when communicating to only one camera per RCP-160.

When an RCP-160 is connected to both an external power supply and a camera that provides remote power, the RCP-160 will default to use the external supply as the primary source. Should the external supply be removed, the RCP-160 will automatically switch to camera remote power. However, depending on the nature of the removal or failure of the external supply, un-interrupted operation may not occur. In some power failure cases, the RCP-160 will be forced to completely power down and restart under camera remote power.

**Note: Older version HD-RH1 cameras do not typically supply +12V DC to the serial connector.

RS-232 Connections

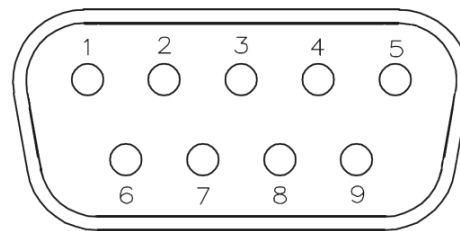
RS-232 communication is used for single-point camera control, at typical distances from 50-ft (15m), and up to 500-ft (150m) with good-quality cable.

Iconix does not support multiple-camera operation with RS-232. RS-232, by nature, is not a multi-drop system. If multiple-camera operation is required with RS-232, then a third-party RS-232 “hub” or similar device is required.

The RCP-160 is configured as DTE for RS-232 connections. Iconix cameras are always configured as DCE. Iconix RS-232 hardware uses only the RX, TX, and GND signals. Other signal lines (CTS, RTS, DTR etc.) are “looped back” for proper operation with other devices that require them.

The pin-out of the “CAMERA” connector when in RS-232 mode is as follows:

Pin Number	RS-232 Signal
1	DCD
2	RXD
3	TXD
4	DTR
5	GND
6	DSR
7	RTS
8	CTS
9	+12V DC IN



(View facing rear panel)

EIA-485 Connections

EIA-485 communication is implemented as a four-wire full-duplex system. This is to achieve full-duplex multi-camera control with minimal overhead and bus contention. The EIA-485 interface can be used to communicate over distances up to 4000-ft (1200m) with good quality twisted-pair cable.

Similar to the RS-232 convention of DCE and DTE, Iconix has implemented a “Master” and “Slave” pin-out for the serial connectors. This is to allow the use of standard serial cables for short runs and straightforward long-distance wiring, without the need for a NULL modem or other pair-swapping methods.

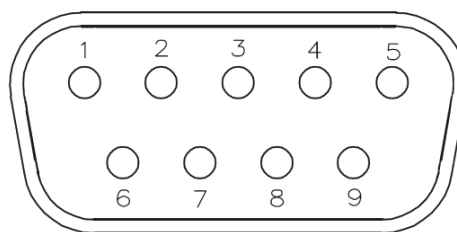
The RCP-160 is wired as a “Master” device.

With this wiring convention, Pin 2 of the RCP-160 always goes to Pin 2 of the camera. Pin 3 to Pin 3, Pin 7 to Pin 7, Pin 8 to Pin 8, and so on.

It is recommended that good quality twisted-pair cabling be used for longer runs, such as Cat 3, Cat 5, Cat 5e, or Cat 6 cable.

The pin-out of the “CAMERA” connector when in EIA-485 mode is as follows:

Pin Number	EIA-485 Master Signal
1	
2	RXA (-)
3	TXA (-)
4	
5	GND
6	
7	TXB (+)
8	RXB (+)
9	+12V DC IN



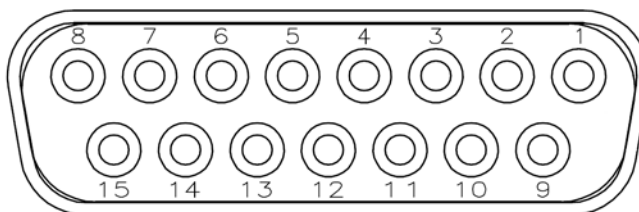
(View facing rear panel)

This EIA-485 system may be wired multi-drop to accommodate up to six cameras, but the maximum distance requirement must be met. Refer to the EIA-485 specification and published recommendations for single drop and multi-drop wiring schemes, terminations, and hardware.

Tally Connections

The RCP-160 provides a means for both red and green tally lights for all six possible cameras under its control. The interface to the tally system is provided with a female DSUB-15 connector, which is wired as follows:

Pin Number	Tally Signal
1	GND
2	CAM1 Red
3	CAM2 Red
4	CAM3 Red
5	CAM4 Red
6	CAM5 Red
7	CAM6 Red
8	GND
9	CAM1 Green
10	CAM2 Green
11	CAM3 Green
12	CAM4 Green
13	CAM5 Green
14	CAM6 Green
15	GND



(View facing rear panel)

The tally system can work in one of two standard tally configurations: contact closure, and open-drain.

For Contact Closure setup, wire the contacts between the desired tally pin (such as CAM1 Red), and one of the GND pins.

For Open-Drain (or Open-Collector) configuration, connect the Drain (Collector) of the transistor to the desired tally pin (such as CAM2 Green), and the Source (Emitter) of the transistor to one of the GND pins.

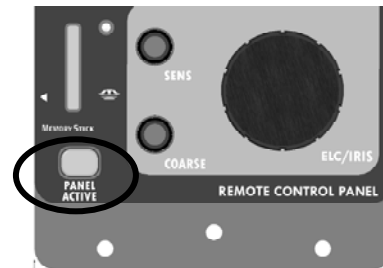
In both open-drain and contact closure configurations, the GND pins may be used common to multiple tally lines. Multiple GND pins are provided for convenience, and not all need be connected externally for proper operation.

Operation

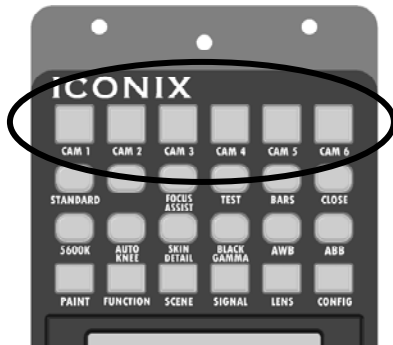
Panel Active Button

The **Panel Active** button must be activated (glowing green) to control camera settings.

If the Panel Active button is not active, some menus may still be navigated, but no adjustments can be made until it is pressed and made active.



Camera Selection Buttons



Camera Selection

To select the active camera to be controlled, press the appropriate CAM button. When selected, the CAM button will light up orange.

The RCP-160 will default to CAM 1, which has a factory default address of zero (0). The unique serial protocol address of each individual camera to be controlled must be assigned in the CONFIG menu.

Tally indication

When a CAM button glows red, it indicates Red Tally condition.

When a CAM button glows green, it indicates a Green Tally condition.

If a camera is selected while tally is active, the CAM button will toggle between orange (selection color) and the tally color (red or green).

Feature Buttons

STANDARD Button

This button is used to set up the camera to a standard default configuration. When pressed, this button will blink while this operation is being performed, and turn off when complete.

FOCUS ASSIST Button

This button is used to activate the camera's focus assist feature. When pressed, this button will glow orange.

TEST Button

This button is used to activate the camera's ramp test pattern output. When pressed, this button will glow orange.

BARS Button

This button is used to activate the camera's color bar test pattern output. When pressed, this button will glow orange.

CLOSE Button

This button is used to close and open the iris of a compatible lens when connected for control by the camera. When active (iris closed), this button will glow orange.

5600K Button

This button is used to set the camera to 5600K color temperature settings. When in 5600K, this button will glow green. Toggling this button to the inactive position will change the camera to 3200K settings. Note: This button not being illuminated does not necessarily indicate 3200K settings, as other color temperature settings may be selected in the menu. The STATUS screen will give an indication of the color temperature currently active.

AUTO KNEE Button

This button is used to activate the camera's automatic knee circuit. When deactivated, the manual knee settings will be enabled. When active, this button will glow green.

SKIN DETAIL Button

This button is used to turn on the skin detail feature. When active, this button will glow green.

BLACK GAMMA Button

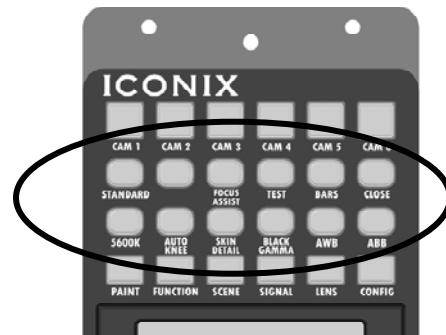
This button is used to turn on the black gamma settings. When active, this button will glow green.

AWB Button

When pressed, this button will activate the Automatic White Balance function, and will blink orange until this function is completed. This button will momentarily glow green if the AWB operation succeeds, and glow red if the AWB operation fails.

ABB Button

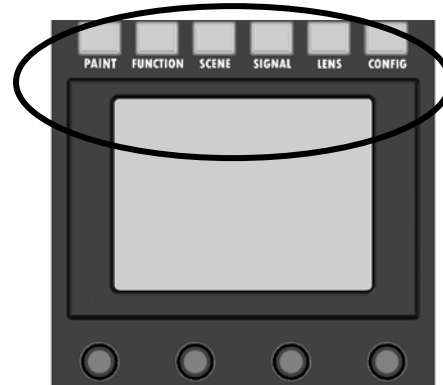
When pressed, this button will activate the Automatic Black Balance function, and will blink orange until this function is completed. This button will momentarily glow green if the ABB operation succeeds, and glow red if the ABB operation fails.



Menu Navigation Buttons

These buttons are used to access major menus for touch-screen LCD navigation.

Pressing a Menu button will bring up a corresponding menu for navigation, as described below. Pressing it again will return to the STATUS screen



PAINT Button

This button is used to access the PAINT menu, which control settings such as white balance and gamma.

FUNCTION Button

This button is used to access the FUNCTION menu, which control settings such as gain and shutter.

SCENE Button

This button is used to access the SCENE menu, which is used to change files settings, and access the memory stick.

SIGNAL Button

This button is used to access the SIGNAL menu, which controls settings such as format, frame rate, genlock.

LENS Button

This button is used to access the LENS menu, which accesses lens control settings, and configures the ELC/Iris control block.

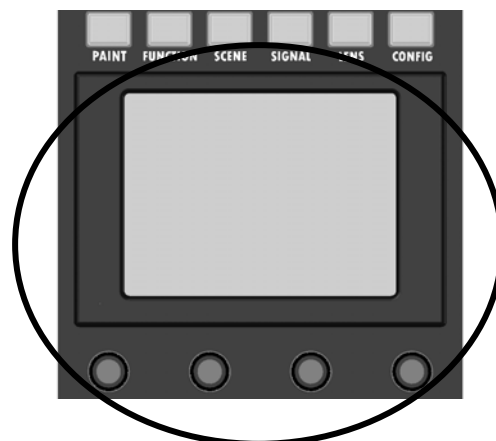
CONFIG Button

This button is used to access the CONFIG menu, which is used for RCP panel setup, and for camera communications settings.

Touch-screen LCD and Multi-Function Knobs

The touch-screen LCD is used to display status information, operation feedback, and to navigate control menus. These menus are accessed via the Menu Navigation Buttons described above.

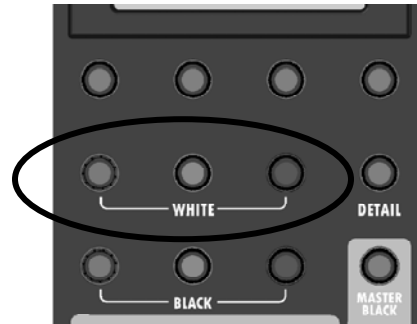
The four multi-function knobs just below the LCD are used to control parameters accessed via the touch-screen menus. The function of each knob will vary based upon which menu and control parameter is being accessed.



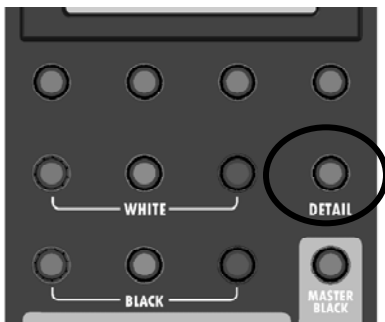
WHITE Control Knobs

These knobs are used to control white balance/white paint. White values are shown in the Status Screen and PAINT-WHITE menu.

These knobs are always active, independent of the current on-screen menu, except when re-assigned for a particular menu function, such as for User Matrix.



DETAIL Control Knob

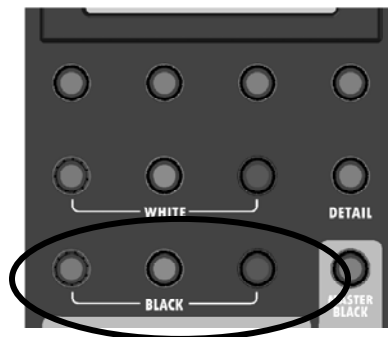


This knob is used to control the detail level. Detail level value is shown in the Status Screen and PAINT-DETAIL menu.

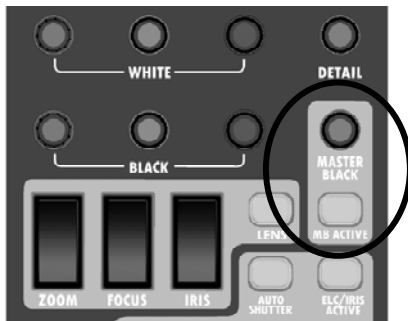
BLACK Control Knobs

These knobs are used to control black balance/black paint. Black values are shown in the Status Screen and PAINT-BLACK menu.

These knobs are always active, independent of the current on-screen menu, except when re-assigned for a particular menu function, such as for User Matrix.



MASTER BLACK Control Block



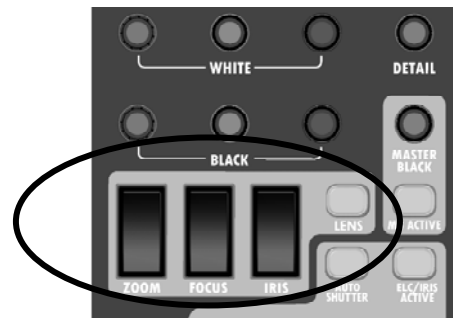
The **MASTER BLACK** knob is used to raise and lower the master black level. The master black value is shown in the Status Screen and PAINT-BLACK menu.

This knob can only be used to adjust the master black level when the **MB ACTIVE** button is active (glowing green).

Lens Control Block

The **ZOOM**, **FOCUS**, and **IRIS** rocker switches are used to control motorized lens functions. When the upper rocker switch is pressed, the corresponding lens motor will be driven forward. When the lower rocker switch is pressed, the motor is driven in reverse.

The speed (PWM) and voltage for the motors controlled by these rockers is set in the LENS menu.

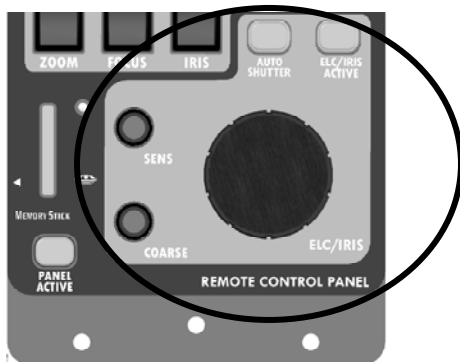


These rocker switches can only be used to drive the lens motors when the **LENS** button is active (glowing green).

NOTE:

This lens control block is meant to control operation of a lens with motorized zoom, focus, and iris. These buttons control only the PWM DC motor outputs of a camera. A DC-style iris (as opposed to DC motorized iris), must use the ELC/IRIS block. These functional blocks are not tied together in any way.

IRIS / ELC Control Block



This block may be used to control ELC (electronic shutter) or a compatible iris. This programmable function is selected in the CONFIG menu.

The **ELC/IRIS**, **COARSE** and **SENS** knobs can only be used when the **ELC/IRIS ACTIVE** button is active (glowing green).

The **COARSE** knob is for coarse control of ELC or the Iris, while the **ELC/IRIS** knob is used for fine control. A variable amount of fine control for the ELC/Iris knob can be increased or decreased by the **SENS** knob.

The **AUTO SHUTTER** button is used to turn on and off the Automatic shutter function. When the **ELC/IRIS** button is active and the panel is set for ELC control in the CONFIG menu, this button will toggle between Auto Shutter and ELC. Otherwise, the **AUTO SHUTTER** button toggles between shutter = auto, and shutter = off

NOTE:

This Iris control is intended only for DC-style iris lenses. These knobs will not control DC motor outputs of a camera, which are controlled by the Lens Control Block, described above. These functional blocks are not tied together in any way

Using the Menus

Status Screen

The Status Screen is shown on the LCD at panel start-up, and is shown when no menus are active (all Menu Navigation buttons are OFF).

C. Temp	Shutter	Gain	File
D4300K	Sync-Scan	7dB	B
	White		Detail
0	0	0	5
	Black		M. Black
0	0	0	0

This screen shows current status information for a number of parameters, including Color Temperature, Shutter, Gain, and current Scene file.

Additionally shown on the Status Screen are the values for all eight of the dedicated knobs for White, Detail, Black, and Master Black.

The Color Temp, Shutter, Gain, File, and Detail parameters shown in this screen are also live soft-key “short-cuts”. If pressed, they will jump to their corresponding menu screens for more information and further adjustment. For example, pressing the Detail soft-key will bring up the Detail page of the PAINT menu, which can be used to turn on or off Detail, and also adjust Skin Detail.

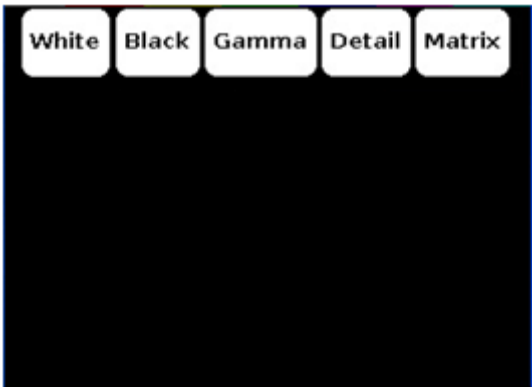
Touch-screen LCD Workflow

Menu workflow begins by pushing one of the menu navigation buttons: PAINT, FUNCTION, SCENE, SIGNAL, LENS, and CONFIG.

When a Menu button is pressed and active, it will be lit orange, and the corresponding menu is displayed. Pressing a Menu button a second time will de-activate it (the button is no longer lit)

Once a Menu button is active, the touch-screen can be used to further navigate to the desired settings. Settings can be changed either by soft keys on the touch-screen, or by the Multi-Function Knobs. Soft-keys are shown as being active when they are white text in a blue field, and inactive when black text in a white field.

EXAMPLE: To change the color temperature to the D4300K setting, the PAINT button would be pressed, and the following screen would be displayed:

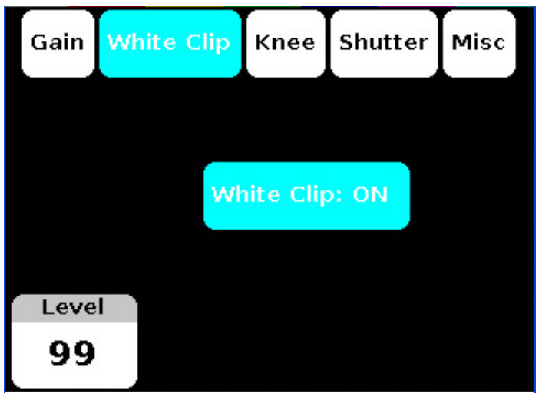


To get to the color temperature settings, the “White” soft-key is pressed, and several options are displayed, among them being “Color Temp”. Pressing the “Color Temp” soft-key will bring up the color temperature preset options, and the “D4300K” option may be selected by pressing that soft-key. The resulting screen would be as follows:

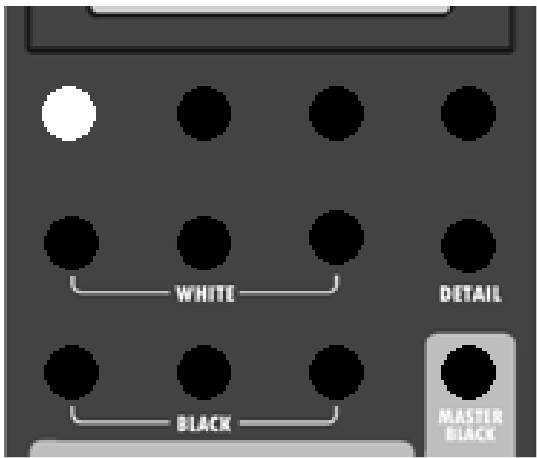


Note the white-on-blue active state of the soft-keys in the menu.

For some parameters, the Multi-Function Knobs are used for adjustment. For White Clip adjustment (FUNCTION menu), the screen is as follows:



In this case, the left-most Multi-Function knob is used to adjust, as shown highlighted in white below:



Some screens will have as many as four parameters to be adjusted by the multi-function knobs. The parameters will appear above each knob used to adjust, in order.

*A complete menu tree of all menus pages and parameters is provided in Appendix B.

Feature Compatibility

There are some features the RCP can control that are not supported by all cameras. When this is the case, the RCP will simply not display the information for that feature, or will apparently not respond to a command. An example would be when the “Skin Detail” button is pressed and the camera does not support the skin detail feature. In this case, the button will not light up, as the command was not acknowledged.

Additionally, in the menus, an unsupported parameter value will be shown only as a double-dash (- -) instead of a number.

For example, some newer Iconix cameras, such as the HD-RH1F, will use the “Normal” white balance mode on the RCP-160 to control white levels.

However, some older cameras will not support white level control while in “Normal” mode, due to a different control structure. These cameras also do not support black level control. In this case, the white and black values will be unavailable to the RCP, and will be shown as a double dash “- -” in the PAINT → White and PAINT → Black menus, and the Status Screen, as shown:

C. Temp	Shutter	Gain	File
D4300K	Sync-Scan	7dB	B
	White		Detail
--	--	--	5
	Black		M. Black
--	--	--	--

To maintain compatibility, the RCP-160 has the ability to control the older style interface.

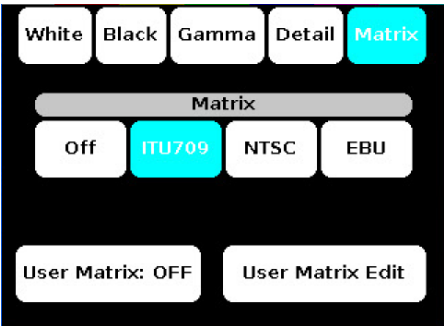
Black control for these cameras is only available via ABB, or pedestal control. Pedestal control is available in the PAINT → Black → Pedestal menu.

White control for these cameras is achieved by AWB, or by switching the RCP-160 to “Manual” white balance mode via the PAINT → White menu. When in this mode, Red and Blue may be controlled, but not Green. The White knobs will then control the white for these cameras, and the Status Screen will appear as follows for an older camera when in this mode:

C. Temp	Shutter	Gain	File
D4300K	Sync-Scan	7dB	B
	White		Detail
0	--	0	5
	Black		M. Black
--	--	--	--

User Matrix Adjustment

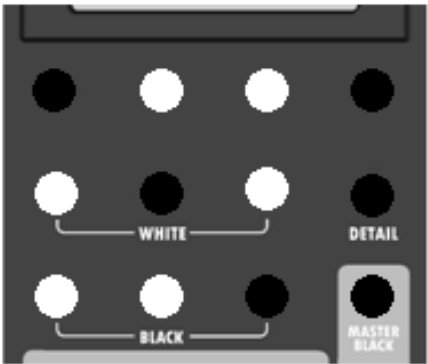
One of the advanced features of the RCP-160 is adjustment of the User Matrix using the knobs. In order to accomplish this, some of the dedicated White and Black knobs are temporarily re-assigned when in this screen. The User Matrix is accessed from the “PAINT → Matrix” menu page, as shown:



Pressing the “User Matrix Edit” soft-key from this screen will bring up the following User Matrix entry screen:



The six adjustable fields correspond to the following six knobs below the screen as follows (highlighted white):



Pressing the “Done” soft-key will exit the User Matrix entry, and return to the PAINT menu

It is often desirable to adjust White or Black during User Matrix adjustment, and this can easily be accomplished by using the PAINT menu button to toggle between the User Matrix screen, and the Status Screen (to adjust White or Black with the knobs).

Memory Stick Interface

Using Memory Sticks

A Memory Stick device may be used to store Scene File data, and to share Scene Files among multiple RCPs.

Up to eight (8) scene files may be stored on a Memory Stick. The RCP may be used to both send a scene file to a camera, and to store a Scene File from a camera.

Types of Memory Sticks

There are two types of Memory Sticks: general “Memory Sticks” and “Magic Gate” Memory Sticks, which use copyright protection technology. Either type may be used with the RCP-160, but the RCP-160 does not support copyright protection. Data stored on the Memory Stick will not be subject to Magic Gate encryption protection.

Memory Stick Insertion

Insert a Memory Stick with the label side (side with small arrow) on the left into the Memory Stick slot until it clicks.

To eject the Memory Stick, press down on the Memory Stick in the slot with your finger until it stops. When you remove your finger, the memory stick will “pop” up, and it may be grasped to be removed.

The Access Lamp near the Memory Stick slot shows the status of the Memory Stick:

Off: No Memory Stick is inserted

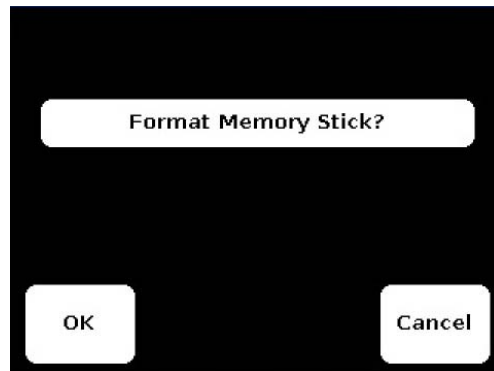
Lit Green: The Memory Stick in the slot is inactive, and may be safely removed.

Lit Red: Data is being read or written to the Memory Stick. Do **NOT** eject the Memory Stick while in this condition or all data may be lost.

Formatting the Memory Stick

If a new Memory Stick is being used, or if erasing it is desired, then it may be formatted for use with the RCP-160.

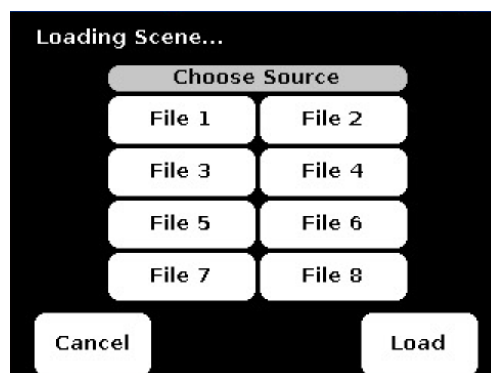
In the SCENE menu, navigate to the “SCENE → File Utilities → Format” menu page. The following screen will appear, and to format, press “OK”:



Loading a Scene File

To load a scene file, first be sure to be in the active Scene File that it is desired to load it into, either A, B, or C. This may be done in the “SCENE → Scene file” menu page.

Navigate the menus to “SCENE → File Utilities → Load Scene” which will bring up the following “Choose Source” screen:

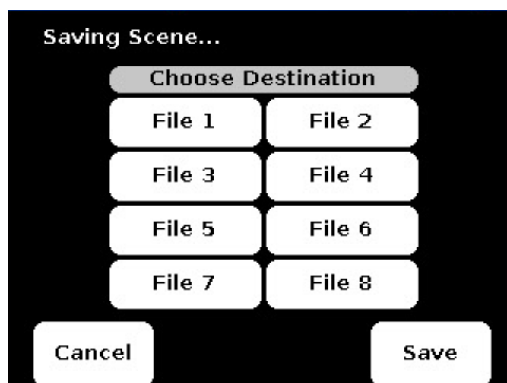


Select the desired File stored on the Memory Stick, and press “Load” to read into the currently selected Scene File (A, B, or C).

Storing a Scene File

To store a scene file, first be sure to be in the active Scene File that it is desired to be stored from the camera, either A, B, or C. This may be done in the “SCENE → Scene file” menu page.

Navigate the menus to “SCENE → File Utilities → Save Scene” which will bring up the following “Choose Destination” screen:



Select the desired File number to write into on the Memory Stick, and press “Save” to store.

NOTE:

This will write over any previously stored information at the file location.

Appendix A - Connector Pin-Outs

Power: DC 12V In

Pin Number	Description
1	GND
2	No Connect
3	No Connect
4	+12V DC

NOTES:

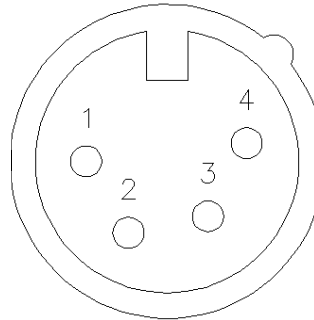
Connector is standard male XLR 4-pin.

Nominal Input Voltage: 12V DC

Minimum Input voltage: 9V DC

Absolute Maximum Input Voltage: 22V DC (peak)

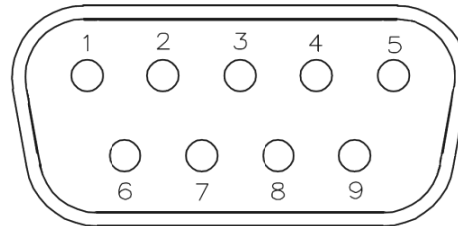
500mA maximum current requirement



(View facing rear panel)

Camera Communication

Pin Number	RS-232 Signal	RS-485 Signal
1	DCD	
2	RXD	RXA (-)
3	TXD	TXA (-)
4	DTR	
5	GND	GND
6	DSR	
7	RTS	TXB (+)
8	CTS	RXB (+)
9	+12V DC IN	+12V DC IN



(View facing rear panel)

NOTES:

Connector is standard male DSUB-9.

When in RS-232 mode, the serial port is configured as DTE.

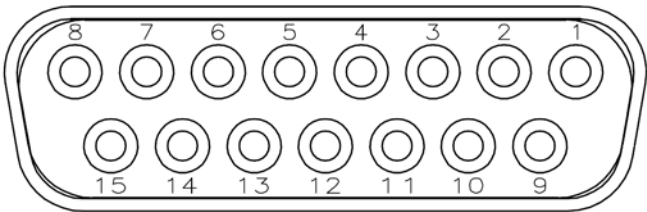
When in RS-485 mode, the serial port operates as “full-duplex” RS-485 (two pairs: one transmits, one receives). Pin-out is Iconix “Master” pin-out; no need for null modem style cabling when connected to equipment configured as “Slave”, such as Iconix cameras.

Pins 7 & 8 (CTS & RTS) are tied together, and are not used

Pins 1, 4, & 6 (DCD, DTR, & DSR) are tied together, and are not used

Tally Input

Pin Number	Tally Signal
1	GND
2	CAM1 Red
3	CAM2 Red
4	CAM3 Red
5	CAM4 Red
6	CAM5 Red
7	CAM6 Red
8	GND
9	CAM1 Green
10	CAM2 Green
11	CAM3 Green
12	CAM4 Green
13	CAM5 Green
14	CAM6 Green
15	GND



(View facing rear panel)

NOTES:
Connector is standard female DSUB-15.

See Hardware Setup section for use and configuration.

Appendix B - Menus

Menu	Page	Sub Page	Parameter	Function
PAINT	White	Levels	White Balance Mode	Sets Normal or Manual W/B mode
			• R/G/B	Adjusts levels for white
		Shading	Shading Mode	Selects shading correction mode
			• R/G/B	Adjusts manual shading correction
		AWB Area	Area Presets	Sets picture area used for AWB
			Edit User Area	Programs user-defined AWB area
	Black	Color Temp	Color Temp Presets	Sets color system for proper rendition
		Black Level	• R/G/B/Master	Adjusts the pre-gamma black level
	Gamma	Pedestal	• R/G/B/Master	Adjusts the pedestal level
		Table	Table Presets	Sets the gamma system table
			Gamma: On/Off	Turns gamma on or off
		User Power	User Presets	Sets base power function for User Gamma
		Black Gamma	Range	Adjusts curve range that black gamma affects
			• Level	Adjusts amount of crush or stretch
	Detail		Black Gamma: On/Off	Used to turn black gamma on or off
			• Detail	Adjusts detail enhancement
			Detail: On/Off	Turns detail on/off
			• Level	Adjusts skin detail enhancement
	Matrix		Skin Detail: On/Off	Turns skin detail on/off
			Matrix presets	Sets the matrix color system
			User Matrix Edit	Adjusts user matrix
			User Matrix: On/Off	Turns the user matrix on/off
FUNCTION	Gain		Gain Mode	Sets mode for gain adjustment
			• Fixed Gain	Adjusts fixed gain
			• Var Gain	Adjusts variable (manual) gain
	White Clip		• Level	Adjusts white clip level
			White Clip: On/Off	Turns white clip on/off
	Knee		Knee Mode	Sets mode for knee
			• Point	Adjusts knee point
			• Slope	Adjusts knee slope
	Shutter		Shutter Mode	Sets mode for electronic shutter
			• Exposure	Adjusts fixed exposure time
			• S-Scan	Adjusts Sync-Scan
			• ELC	Adjusts ELC level
			• Auto Level	Adjusts auto shutter level
	Misc		Digital NR: On/Off	Turns digital noise reduction on/off
			Horizontal Flip: On/Off	Turns horizontal flip on/off
			Negative Image: On/Off	Turns negative image on/off
SCENE	Scene File		Scene File Presets	Selects active scene file
	File Utilities		Save Scene	Saves a scene file to Memory Stick
			Load Scene	Loads a scene file from Memory Stick
			Format	Formats Memory Stick

Menu	Page	Sub Page	Parameter	Function
SIGNAL	Format		Format	Selects output format
	Rate		Rate	Selects output frame rate
	SDI Out		SDI Output Modes	Selects SDI output mode
	Genlock	Source	Genlock Source	Selects genlock sync source
		Adjust	• Line	Adjusts genlock by line increments
			• Pixel	Adjusts genlock by pixel increments
			Genlock On/Off	Turns genlock on/off
	Sync		Analog Sync	Selects analog channel for active sync output
			DVI Sync Polarity	Selects sync polarity for DVI outputs
LENS	Big Knob		Big Knob Control	Selects either ELC or Iris operation for Big Knob
	Motor Set-up		• Zoom	Adjusts zoom PWM/speed
			• Focus	Adjusts focus PWM/speed
			• Iris	Adjusts iris PWM/speed
			• Voltage	Adjusts motor drive DC voltage
CONFIG	Comm		Communication Mode	Selects between RS-232 and EIA-485
			• CAM Addresses 1-6	Selects camera communications addresses
	Tally		Red Tally: On/Off	Turns red tally indicators on/off
			Green Tally: On/Off	Turns green tally indicators on/off
	Panel		• LCD	Adjusts LCD screen brightness
			• LED	Adjusts button LED brightness

Appendix C - Specifications

General	
Power Requirements	12.0VDC (9.0VDC min, 22.0 VDC max)
Power Consumption	4W max.
Maximum Cable Length	500 ft (150 m) RS-232
	4000 ft (1200 m) EIA-485
Operating Temperature	41°F to 104°F
	5°C to 40°C
Dimensions (w/h/d)	4.125 x 14.0 x 2.9 inches
	102 x 354 x 74 mm
Mass	2.6 lb
	1.2 kg
Inputs/Outputs	
Camera control	Up to six (6) with EIA-485
CAMERA	9-pin D-sub connector: RS-232, EIA-485
TALLY	15-pin D-sub connector: contact closure, open-drain

ICONIX VIDEO INC.

7402 Hollister Ave.
Goleta, CA 93117
(800) 783-1080

Part Number:

900004

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<http://www.iconixvideo.com>

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