CMB 4.130 TV Production Control Room - Adjusting Camera White Balance using QC Monitor & Waveform Monitor

This is a user-level instruction page explaining how to operate the camera control equipment in CMB4.130 TV Production Control Room to adjust TV studio camera settings.

See also: CMB 4.130 TV Production Control Room - Changing the studio being controlled by the TV Switcher via Video Router Salvo

Sections of this document:

- Adjusting Camera White Balance Using Quality Control Monitor and Waveform Monitor

Adjusting Camera White Balance Using Quality Control Monitor and Waveform Monitor

This is a basic introduction on how to adjust the White and Black Balance camera settings inside the PCR (Production Control Room) located in CMB 4.130. Balancing the black/white or brightness/contrast values for each camera is a crucial step for every professional television production. It calibrates all cameras to the same levels so it appears seamless when we switch between the cameras. In this exercise, we will be utilizing the following components:

- 3 x Studio 4E Sony EX3 cameras located in Studio 4E
- the RCP (Router Control Panel) located in Engineering Rack 114 in CMB 4.130
- the Camera Controls via the Telemetrics RCCP (Robotic Camera Control Panel) located in Engineering Rack 114 in CMB 4.130
- the QC (Quality Control) and Waveform/Vectorscope Video Monitor located in Engineering Rack 114 in CMB 4.130

1.) Setup the lighting as it will be recorded for the production. In this example, we will use the lighting touch control panel near the door. For the production we will use Preset #4 - News+BG. Press this button to illuminate the desk and background.

2.) Next, we need to power ON the individual Sony EX3 cameras. Move the cameras into their position, approximately 10 feet away from where your subject/talent will be. Locate the CAMERA/OFF/MEDIA slider switch on the side of the camera. Slide the switch to the left from the OFF position to the CAMERA position. This will power the camera on. Do this for all 3 cameras.
<table>
<thead>
<tr>
<th>Step</th>
<th>Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.)</td>
<td>To help aid visually in camera picture framing and positioning, we have an external 7 inch TV Logic viewfinder monitor attached to each camera. You can turn it on by pressing the power button in the lower right hand corner of the monitor.</td>
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<td>4.)</td>
<td>With cameras in position, approximately 10 feet away from where your subject will be, place a white card on an easel. Zoom in on the card until the picture on the viewfinder is filled with nothing but the white card.</td>
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<td>5.)</td>
<td>Do this for each camera so they all are zoomed in on the same white card.</td>
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6.) Enter CMB 4.130 and locate the Engineering Rack 114. The rack is located in the Southeast corner of the room, next to the Remote Mac Desktop computer. In the center of the rack you will find a control panel with many colorful buttons. This is called the RCP (Router Control Panel.)

7.) To control the cameras in Studio 4E we must make sure we have selected the JOURNALISM LAB 4E SALVO on the RCP (Router Control Panel). If you need assistance on how to do this please consult the wiki: CMB 4.130 TV Production Control Room - Changing the studio being controlled by the TV Switcher via Video Router Salvo

8.) Now that we’ve selected the SALVO we’d like to control, let’s select which camera we want to preview so that we can see it on the QC/Waveform/Vectorscope monitor. On the RCP (Router Control Panel) you will find 6 selection buttons (5 Green, 1 Red) nearest the right hand side of the rack. Depending on who used the panel last, you may have to press the “BACK” Button once or twice to return to the Home page.
9.) After pressing the “BACK” Button once or twice, you should now see the buttons on the left side of the RCP (Router Control Panel) turn Yellow. Press the Yellow “PCR QC” Button to access specific camera sources to monitor on the QC/Waveform /Vectorscope monitor.

10.) To select a camera source preview on the RCP simply push the Blue button of the desired source. In this instance, I've selected the CAM E2 which represents "Studio 4E Camera 2.”

11.) Now that we've selected a camera source to preview, we also need to select a camera to control. Locate the Telemetrics RCCP (Robotic Camera Control Panel) in the Engineering rack. It should be easy to find because it has it's own LCD view panel, big buttons labeled ENTER KNOB CAM EDIT, and has a joystick on the right hand side of the device.
12.) To select a camera to control simply press the button labeled with your preview source on the RCCP (Robotic Camera Control Panel.) In this instance, I have selected LAB E CAM 2. It has illuminated Green to indicate it is selected.

Make sure the Telemetrics Controller is in "Manual" Mode NOT Preset mode because the next steps won't work.

If the Menu doesn't look like this image to the left the controller may be rebooted and or needing rebooting see this "Secure" wiki

How to Reboot Telemetrics RCCP-1 & Load a Show

After the show is loaded using the Wiki above
Press "A" to go into "A WB Mode"

After Pressing "A" you should see "A" and "Manual" Buttons appear as shown here
Press the “A” button again to go into “Manual” Mode

To get into Manual Mode simply Press “Manual” Button

13.) Now that we have a camera selected to control and we are able to preview it on the QC monitor, we need to perform an ABB (Auto Black Balance.) This will assure that your black levels on your camera do not look “washed out” or “crushed.” On the RCCP LCD touch panel press the ABB button. It should highlight green for a second and then the QC monitor should dip to black and return to normal. Black balancing is now complete for this camera.
14.) Next, we need to adjust the Iris controls on the RCCP for the camera. Locate the Green IRIS level meter in the bottom right hand corner of the LCD touch panel.

15.) Turn the knob next to the meter until the Waveform Monitor video signal touches the 80 IRE mark (indicated with a -------- line.)
16.) Now that we’ve adjusted our video levels, it’s time for us to White Balance our camera. On the RCCP LCD touch panel press the AWB button to white balance the camera.

17a.) Your image should now have its White Level balanced properly. We can confirm by viewing in the Vectorscope Monitor. Before White Balancing, your video will most likely be off-center of the reticle/crosshair - indicating white balancing has NOT occurred.

17b.) After White Balancing, your video signal should be aligned in the dead center of the reticle/crosshair - indicating white balancing HAS occurred.

18.) Repeat Steps 8-16 for each camera to properly setup video levels for your production.