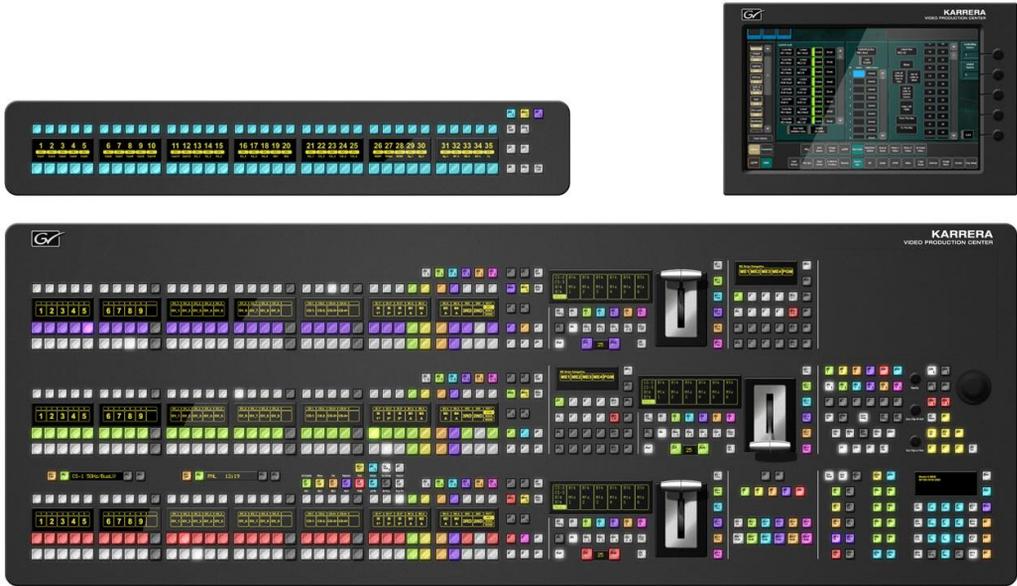
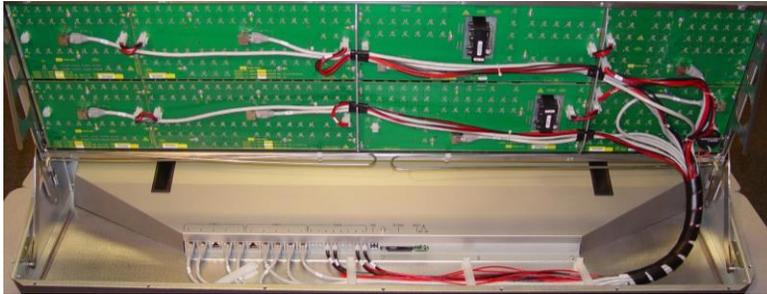


Section 5B – Karrera Technical - Panels



5B-1

Karrera Panels - 2 ME



Stripe Data & Power Connections See Notes for Data Cable Connection Order



USB Connections for Processor Boot & Diagnostics ONLY



grass valley
A BELDEN BRAND

5B-2

Panel internal Cabling

The Panel processor in the bottom of the Panel tray has connections for all of the Button Boards for both Power and Data.

The power connections all have “self Mending” fuses. These act as a Circuit Breaker and open the circuit when a short or over current condition exists. To reset them, the unit must be powered down and after a few short minutes, powered up.

All of the power connections are made by 4 Pin Molex type connectors. In some cases, power is daisy – chained from one board to the next.

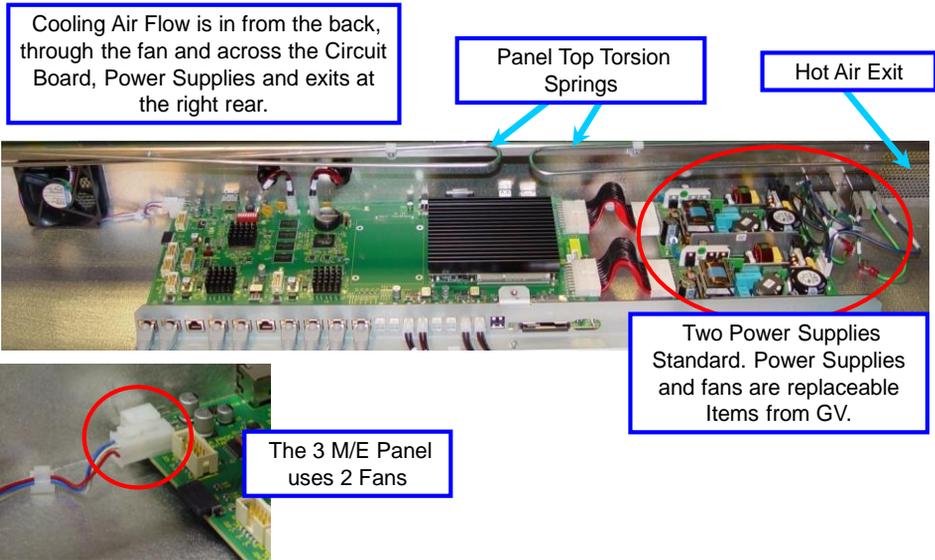
The Data connections are divided into sets of five RJ-45 connectors on the Processor. They are labeled from right to left: 1 to 5. Each group of five are dedicated to a Stripe and are labeled for Stripes: A, B and in the case of a 3 ME Panel, C.

Boards in a Stripe are connected to the Ports in order: The far right board must connect to Port 1. The next board to the left, to Port 2, etc. When only 4 Ports are used, a gap may be anywhere.

Stripe A will always feed the Top Stripe on the Panel. Stripe B is for the Bottom Stripe on a 2 ME Panel or the middle on a 3 ME Panel.

On a 3 ME Panel, Stripe C Data cables will connect on the far left to a Data Extension Board connected to the main Processor. This board supplies the additional five RJ-45 connections required for the third stripe.

Karrera Panels – 2 ME – Cooling & Power Supplies



Panel Cooling

The Cover over the Processor Board and power Supplies should NEVER be removed during Operation. This will result in both a safety hazard and will over heat the processor board.

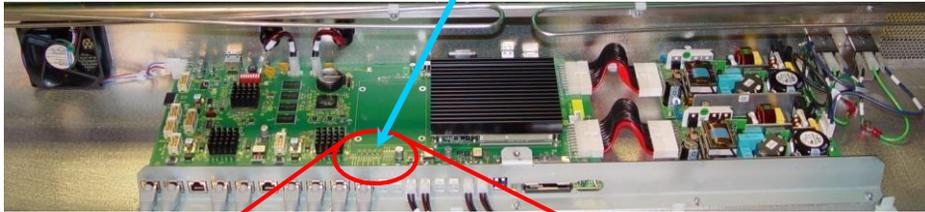
A ME Panel has one cooling fan and for correct error reporting and fan control needs to be plugged into the front fan Molex connector. The rear connector is reserved for the 2nd fan used on the 3 ME Panel.

The 2 Power Supplies are standard and are a replaceable part from Grass valley.

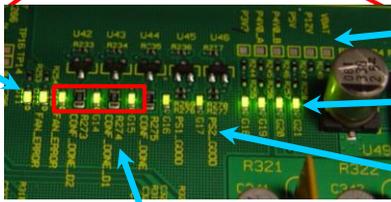
Care must always be taken when raising and lowering the Panel Top. Ensure that there are no objects in the way.

Karrera Panels – Test Points & Indicators

Power Test Points and Health Monitoring LEDs are located under the EMI / Safety Shield. This shield must always remain in place except when performing maintenance or repair.



Green Fan Health LEDs. Left LED only Indicates in 3 M/E panel for 2nd Fan. Red for Fan Errors.



Power Rail Test Points

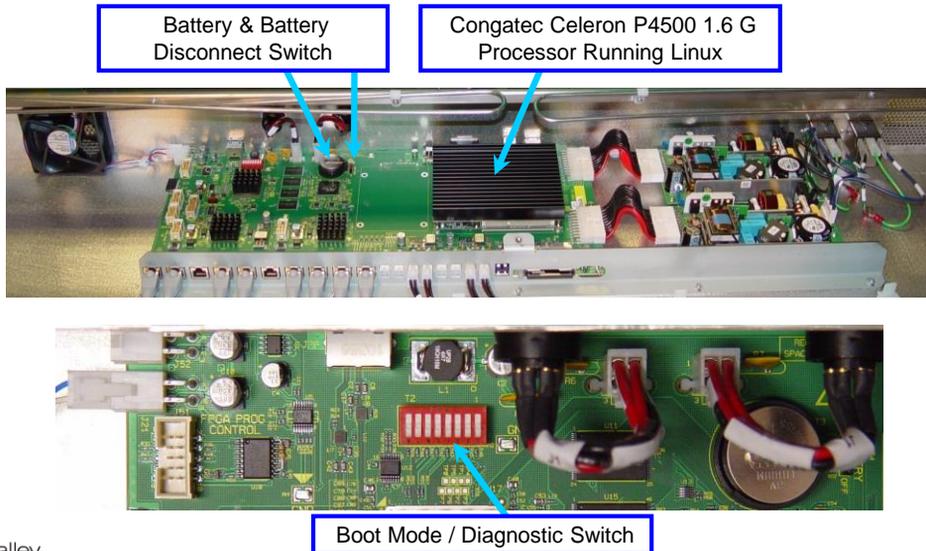
Power Rail Voltages Present

Power Supplies Functional

FPGA Load Complete



Karrera Panels – Processor & Battery



5B-5

Processor Hardware

The lithium cell battery is to keep the panel Bios, Date and Time all accurate and current.

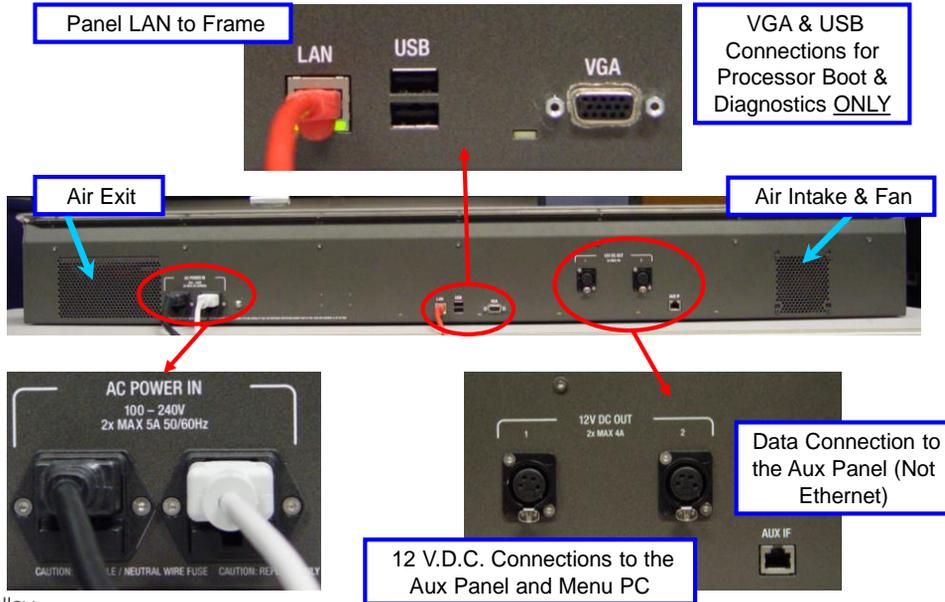
The Boot Mode Switch needs to be in position 0 for all switches for normal operation.

Switch 1 when selected to position 1, will boot the operating system (Linux) and not the Panel Application. This is used in the factory for testing and loading software. This position will also enable FTP communication over the network connection.

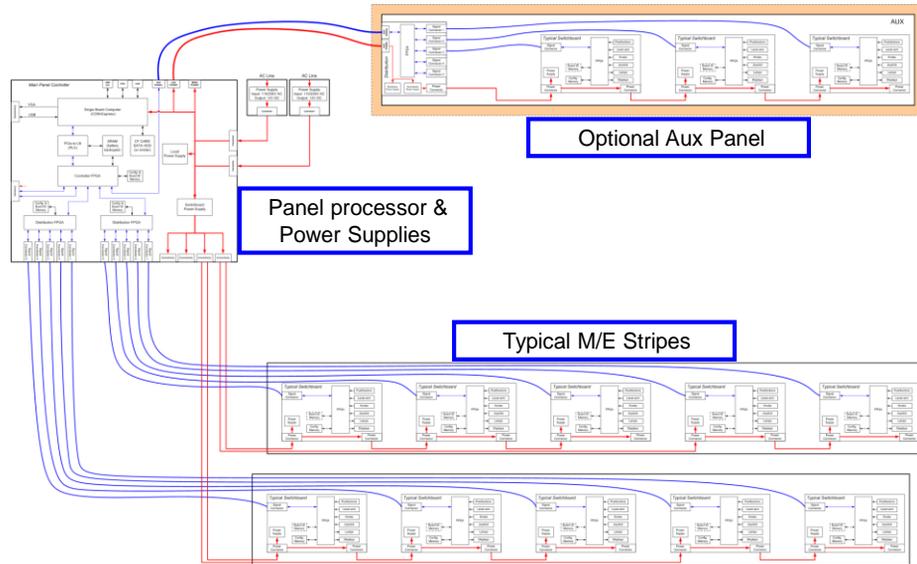
Switch 2 when selected to position 1, will enable “Crash Dumps”. This is a diagnostic mode and not recommended for use in normal operation.

Switches 3-8 are for software development modes and should never be placed in the “On” or position 1 at any time.

Karrera Panels - 2 & 3 M/E - Connections



Karrera Panels - 2 M/E Processor & Interconnects



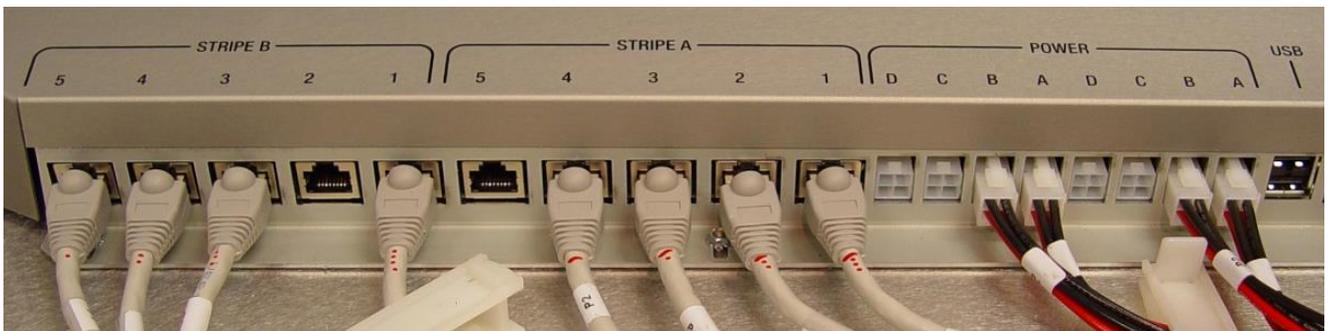
5B-7

Data Connections

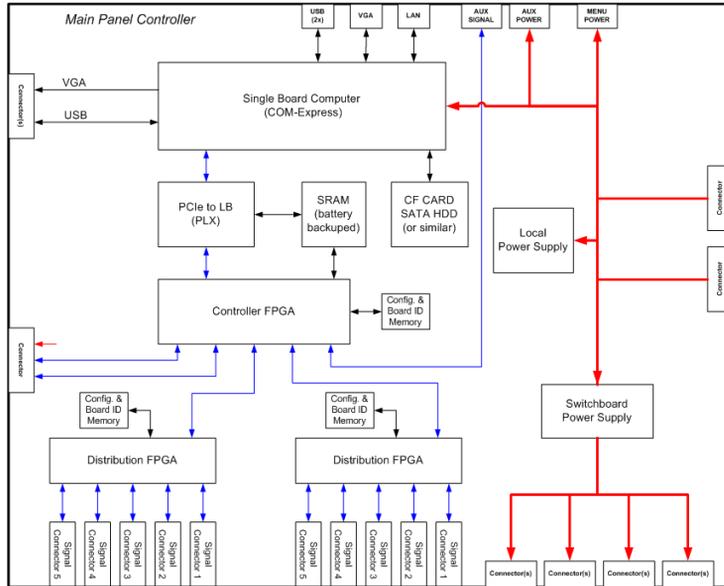
Each Stripe must communicate with the Processor in the correct order.

The Data connections are divided into sets of five RJ-45 connectors on the Processor. They are labeled from right to left: 1 to 5. Each group of five are dedicated to a Stripe and are labeled for Stripes: A, B and in the case of a 3 M/E Panel, C.

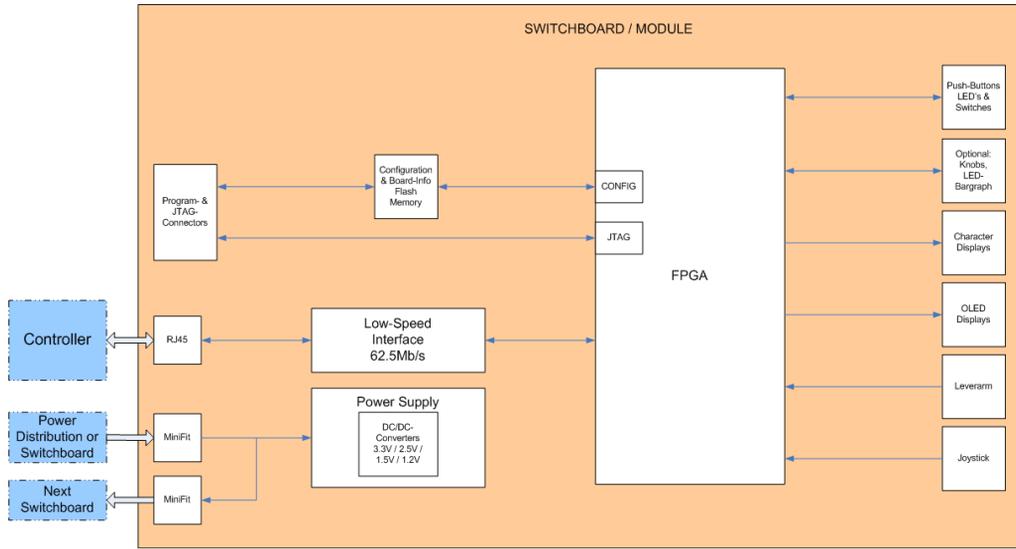
Boards in a Stripe are connected to the Ports in order: The far right board must connect to Port 1. The next board to the left, to Port 2, etc. When only 4 Ports are used, a gap may be anywhere.



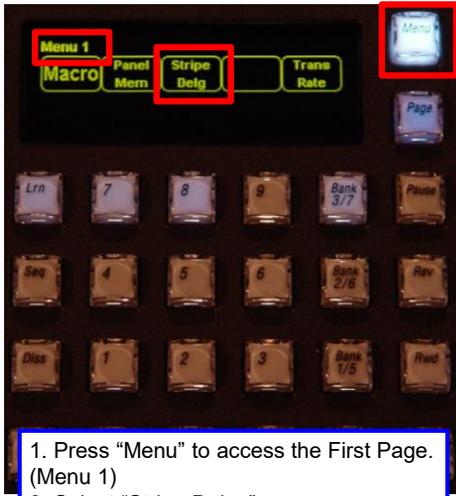
Karrera Panels Processor & Interconnects



Karrera Panels Button Board & Intercorrects



Karrera Panel - ME Delegation



1. Press "Menu" to access the First Page. (Menu 1)
2. Select "Stripe Deleg".
3. Select Desired M/E per Stripe / Row.



Top Rows show Low Talley representing a two Stripe (2 M/E) Panel. The 3rd row of buttons would be illuminated also for a 3 M/E Panel.



ME Delegation

The Panel Menu functions can be accessed by selecting "Menu" from any of the E-MEM panels.

Stripe Delegation is just one of several functions available.

Only the M/Es that are in your current Suite will be listed on the delegation menu.

Karrera Panel Adjustments



Move the Lever Arm to the position indicated by the Arrow. Press "Next". Move the arm to the other end of travel, press "Next & Exit"



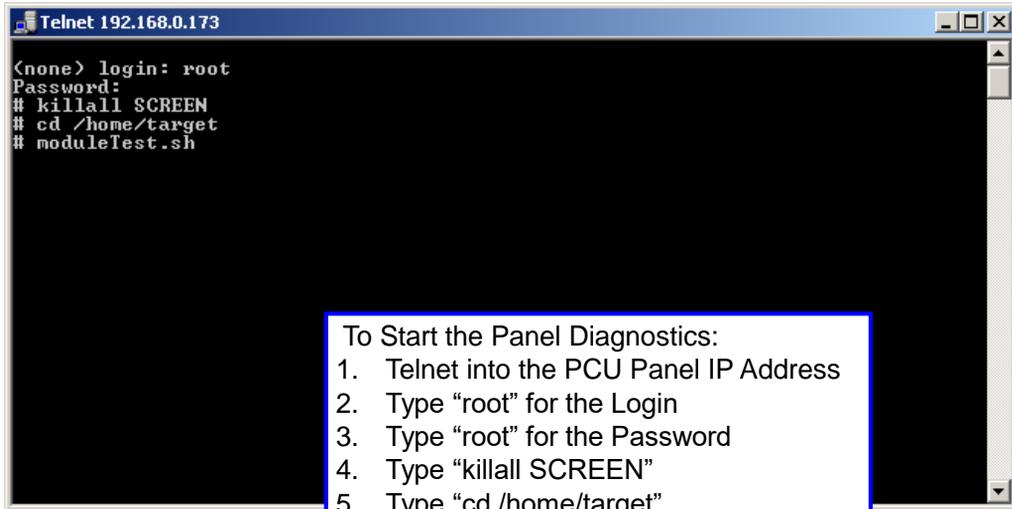
Panel Adjustments

The Panel Menu functions can be accessed by selecting "Menu" from any of the E-MEM panels.

The Transition Lever Arms and the Joy Stick all require a calibration after any software change or update.

From the Panel Menu, select "Calib". Then Select the device to calibrate, Joystick, Lever 1 or Lever 2. Lever 3 may be selected on a 3 M/E Panel. The individual routines will have instructions appear on the panel displays. Follow the instructions and "Exit".

Kayenne & Karrera Panel Diagnostics (1)



```
Telnet 192.168.0.173
<none> login: root
Password:
# killall SCREEN
# cd /home/target
# moduleTest.sh
```

To Start the Panel Diagnostics:

1. Telnet into the PCU Panel IP Address
2. Type "root" for the Login
3. Type "root" for the Password
4. Type "killall SCREEN"
5. Type "cd /home/target"
6. Type "moduleTest.sh"

Full Panel Diagnostic Test

All of the Karrera and Kayenne Panel Switches and Displays can be thoroughly tested when the system is off line. A Video frame connection is not needed.

Each Module or Button Board has several tests to check all switch functions, button addressing, button colors and display elements and colors.

Telnet to the Panel processor IP Address and follow the prompts and instructions above. The panel will reboot in the diagnostic mode. None of the normal panel functions or communication will operate in this mode.

Run through the desired tests or all if needed.

Reboot the Panel when done. This will boot the panel in the normal operating mode and re-establish communications with the Video Frame.

Over the next pages, the panel photos show the Kayenne Panel running through all of the test. The Karrera Panel works the same way. Just keep an eye open for the 2 red buttons and remember where they are located on each module as you test.

Kayenne & Karrera Panel Diagnostics (2)

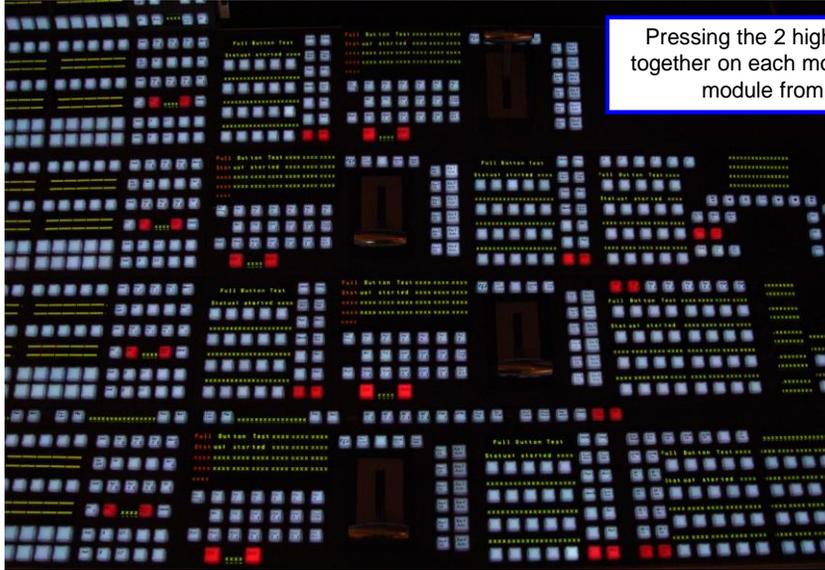
```
Telnet 192.168.0.173
hw module 1.4.21 <port 4.3> connected
Loading module 1.12.1 PDL code from file "PDL/RC4350-MasterEmem/moduleTest.pdl"
...
[Including file "PDL/RC4350-MasterEmem/./include/moduleTest.inc"]...OK
Loading module 1.12.1 hw layout from file "MHL/RC4350-MasterEmem.mhl"...OK
hw module 1.12.1 <port 4.4> connected
Loading module 1.14.4 PDL code from file "PDL/RC0000-SystembarLong/moduleTest.pdl"
...
[Including file "PDL/RC0000-SystembarLong/./include/moduleTest.inc"]...OK
Loading module 1.14.4 hw layout from file "MHL/RC0000-SystembarLong.mhl"...OK
hw module 1.14.4 <port 4.7> connected
Loading module 1.10.1 PDL code from file "PDL/RC4326-AuxBusControl35/moduleTest.pdl"
...
[Including file "PDL/RC4326-AuxBusControl35/./include/moduleTest.inc"]...OK
Loading module 1.10.1 hw layout from file "MHL/RC4326-AuxBusControl35.mhl"...OK
hw module 1.10.1 <port 5.1> connected
hw module 1.14.5 <port 5.7> connected
Startup time: 7.44 seconds

Shell started
UP>_
```

Once the screen reaches this point, the panel will be in "Test" Mode. After the Panel Tests are complete, reset the Panel Processor in the PCU (left side).



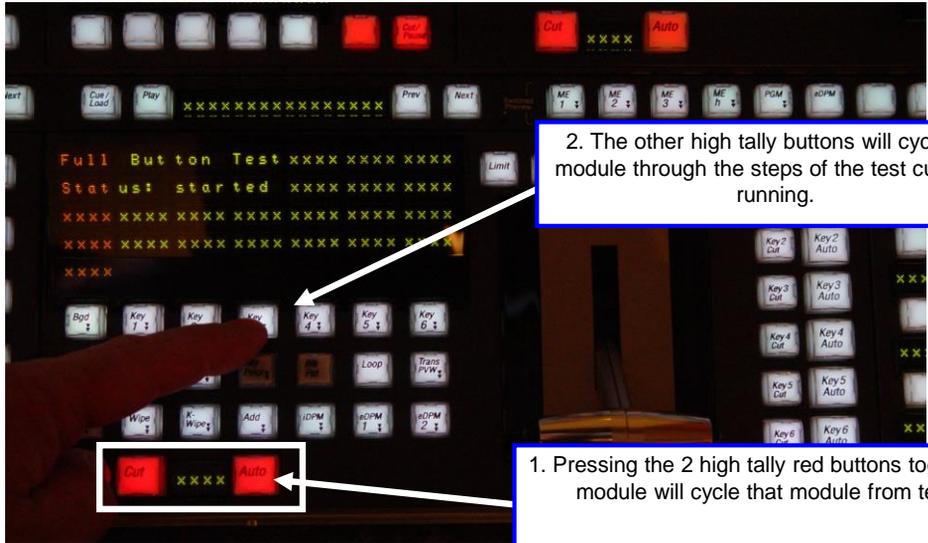
Kayenne Panel Diagnostics (1)



Pressing the 2 high tally red buttons together on each module will cycle that module from test to test.



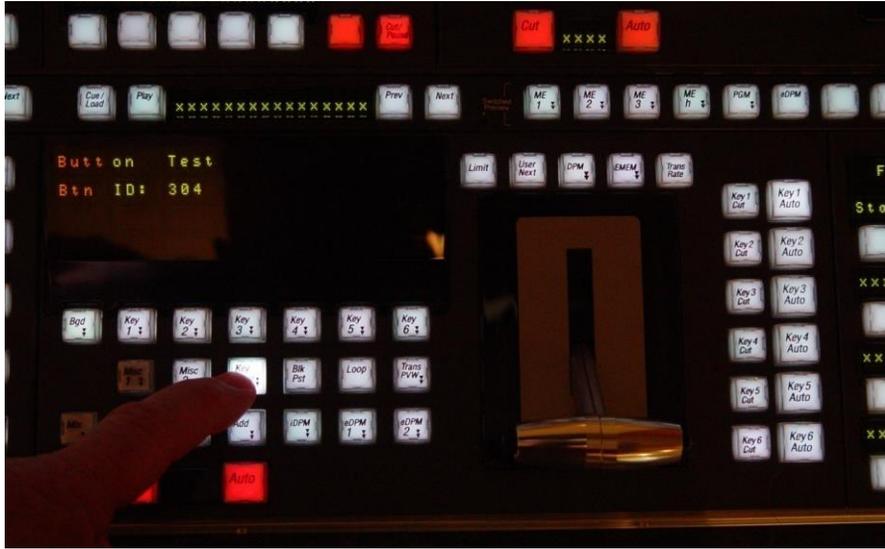
Kayenne Panel Diagnostics (2)



2. The other high tally buttons will cycle the module through the steps of the test currently running.

1. Pressing the 2 high tally red buttons together on each module will cycle that module from test to test.

Kayenne Panel Diagnostics (3)



Kayenne Panel Diagnostics (4)



Kayenne Panel Diagnostics (5)



Kayenne Panel Diagnostics (6)



Full Panel Diagnostic Test – Button LED Calibration

This test may only be completed when using a special diagnostic probe that inserts into the button shaft. When used with a PC running a special application and talking to the probe AND the PCU, color and intensity can be calibrated or balanced with all other buttons.

Always bypass this step by pressing the red buttons. NEVER press the “Sel Ref or Calib” buttons.

Running this routine without the probe and software will change the appearance of the affected buttons. This will require the replacement of the module with Customer Service.

Kayenne Panel Diagnostics (8)



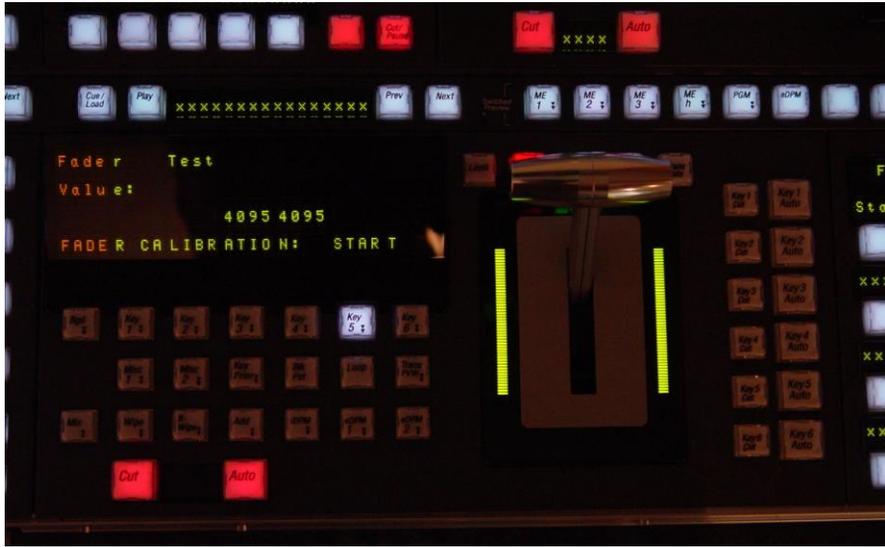
Kayenne Panel Diagnostics (9)



Kayenne Panel Diagnostics (10)



Kayenne Panel Diagnostics (12)



Kayenne Panel Diagnostics (13)



Kayenne Panel Diagnostics (14)



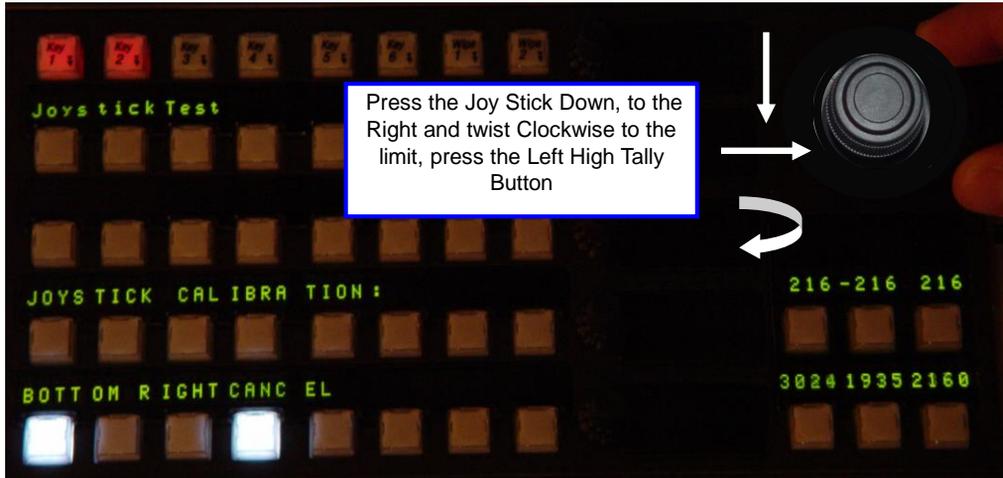
Kayenne Panel Diagnostics (15)



Kayenne Panel Diagnostics (16)



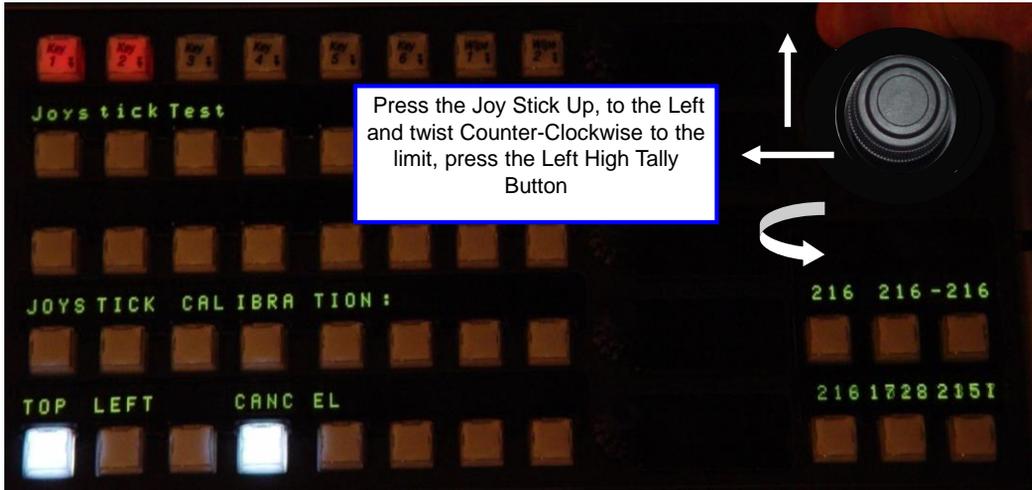
Kayenne Panel Diagnostics (17)



Kayenne Panel Diagnostics (18)



Kayenne Panel Diagnostics (19)



Kayenne Panel Diagnostics (20)



Karrera Web Browser (1)

The screenshot shows a web browser window with the URL <http://10.16.17.153/>. The page features the Grass Valley logo (A BELDEN BRAND) and a navigation menu on the left with tabs for **Panel Status**, **Configuration**, **Logging**, **Network**, **Panel Date & Time**, **Panel Description**, and **SNMP**. The main content area displays the **Panel Status** information:

- System**
 - System Name: Bay-6 Sch-198
 - Panel Name: Dan Owns this Bay
 - Panel Type: 4ME Kayenne
 - Asset Tag: Asset Bay6Panel
 - Location: SWSW Bay-6
 - SNMP: Enabled
- Connectivity**
 - Frame Connection Status: Frame Connected
 - Frame IP Address: 10.16.20.198
 - Connected Menus: 10.16.17.155, 10.16.23.5
- Software**
 - Panel Software Version: 8.0.0r02
 - Kernel Software Version: Linux 2.6.32.28

Configuration

Brightness Configuration

OLED Brightness: (0 to 4095)
 Text Display Brightness: (500 to 4095)
 High Tally: (0 to 4095)
 Low Tally: (0 to 4095)

Panel Date & Time

Date

Day: (1 to 31)
 Month: (1 to 12)
 Year:

Time

Hour: (0 to 23)
 Minute: (0 to 59)
 Second: (0 to 59)

Panel Description

Panel Name:
 Asset Tag:
 Location:

Note: A Panel Name change will not take effect till the panel is reset

Caution: Selecting "Apply" will force panel to reset if the Panel Name has changed.

SNMP

SNMP Configuration

SNMP Status: Enabled
 Enable/Disable:
 Trap IP Address 1:
 Trap IP Address 2:
 Trap IP Address 3:
 Community:



Karrera Web Browser (3)

Panel Status
Configuration
Logging
Network
Panel Date & Time
Panel Description
SNMP

Network

Network Configuration

Panel Name: Dan Owns this Bay

Network Settings

Panel IP Address: 10.16.17.153
Subnet Mask: 255.255.248.0
Gateway IP: 10.16.16.1
Frame IP Address: 10.16.20.198
Connected Menus: 10.16.17.155
10.16.23.5
Panel Ethernet MAC Address: 00:13:95:05:42:86

Note: Changes to the Panel Network settings or Panel Name will cause the Panel to reset

Note: Changes to the Frame IP Address will cause the panel to reconnect to the new Frame without resetting

Caution: Changing Panel IP address to an incorrect value may render the system inoperable

Apply Show Factory Defaults Show Current Settings



Karrera Web Browser (2)

The screenshot shows the 'Logging' page in the Karrera web browser. The left sidebar contains navigation links: Panel Status, Configuration, Logging, Network, Panel Date & Time, Panel Description, and SNMP. The main content area is titled 'Logging' and includes 'Log Level Selection' with checkboxes for Error, Warning, Info, Fatal, and Alert. Below that is 'Log File Category' with radio buttons for Startup, HW Driver (selected), Kayenne Frame Driver, and Mainframe Driver System, and checkboxes for Network IO and UCPP. There are buttons for 'View' and 'Create PanelSWDiag'. The log output shows 'HWDriver.log' with a 'Reload' and 'Prev' button. The log text includes timestamps and module information.

1. The logging page allows for selection of types of files you wish to view. Select class of message to be viewed. Multiple boxes may be checked.

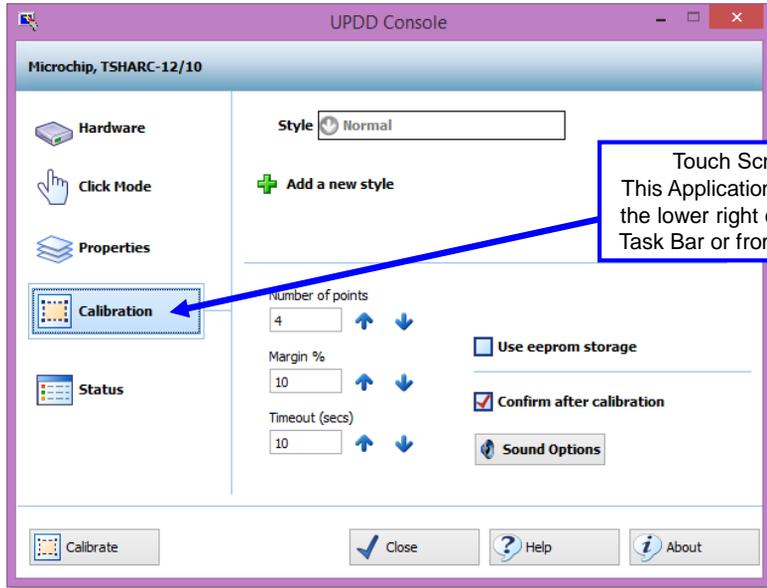
2. Select the "Category" or log function you wish to see. This selection is one at a time.

3. Two actions may be made here: View may be selected to look at the desired loge type based upon the above selections. Creating a complete Panel Log can be selected causing the Save location button to appear.

Karrera Panel Board Types will report to logging as:

- 4731 = "**sourceselect10**" (10 Button Source Select)
- 4734 = "**sourceselect10_devicewindow**" (10 button Source Select Device Window)
- 4741 = "**sourceselect15**" (15 Button Source Select)
- 4728 = "**sourceselect15_systembar**" (15 Button Source Select System Controls)
- 4737 = "**aux10**" (10 Button Aux Select)
- 4739 = "**aux15**" (15 Button Aux Select)
- 4720 = "**transition_localemem**" (Transition & Local E-Mem Board)
- 4723 = "**localemem_transition**" (Local E-Mem & Transition Board)
- 4717 = "**transition_horizontalkeyer**" (Transition & Horizontal Keyer Board)
- 4726 = "**multifunction**" (Multifunction Board)
- 4725 = "**masteremem**" (Master E-Mem panel Board)

Kayenne Menu Touch Screen - UPDD



Touch Screen "Calibration"
This Application can be reached from
the lower right corner of the Windows
Task Bar or from the Programs Menu.

