

# **D4K and Mirage 4K Troubleshooting**

**Technical Reference**

020-101452-03

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- k. Except where the product is designed for outdoor use, problems or damage caused by use of the product outdoors unless such product is protected from precipitation or other adverse weather or environmental conditions and the ambient temperature is within the recommended ambient temperature set forth in the specifications for such product.
- l. Image retention on LCD flat panels.
- m. Defects caused by normal wear and tear or otherwise due to normal aging of a product.

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# D4K and Mirage 4K Troubleshooting

This document provides information and procedures for resolving common projector issues. If a projector issue cannot be resolved, contact Christie Technical Support.



**ELECTRICAL SHOCK HAZARD!** Always turn off, disconnect, and disengage all power sources to the projector before servicing. Failure to comply results in death or serious injury.



Only Christie accredited service technicians are permitted to open any enclosure on the projector and only if the AC power has been fully disconnected. Failure to comply could result in minor or moderate injury.

## Missing image quadrant with TDPIC

When Twin DisplayPort Input cards (TDPIC) are used in a Four Port Input configuration using the AMD FirePro™ graphics card as the source, one or more quadrants may be missing.

### Details

This issue has been traced to the graphics card failing the DisplayPort link connection, which results in the graphics card driver dropping the signal.

### Solution

The latest AMD driver corrects this issue. Contact your video source vendor for an update or download the driver directly from AMD.

## Signals fail to lock on Four Port Input configurations

The projector fails to lock onto non-master video signals for a Four Port Input configuration.

## Details

In a multi-port input configuration, the projector requires all signals to have a stable sync. The projector automatically selects the top-left signal as the master signal to use as reference. If the master is unstable, all of the other signals look unstable. Possible symptoms of the issue include:

- Non-master signals constantly locking and unlocking
- Dropped frames in the affected sections of the display
- Tearing in the affected sections of the display

Possible root causes include the master signal or non-master signals not having stable syncs.

For more details, refer to the following:

- Signal Group (SST+SIGN?) section in the *D4K Status System Technical Reference (P/N: 020-101259-XX)* and *Mirage 4K Status System Technical Reference (P/N: 020-101450-XX)*.
- Troubleshooting > Incoming signal(s) problems section in the following manuals:
  - *D4K2560 User Manual (P/N: 020-101076-XX)*
  - *Mirage 4K25 User Manual (P/N: 020-101361-XX)*
  - *D4K3560 User Manual (P/N: 020-101075-XX)*
  - *Mirage 4K35 User Manual (P/N: 020-101377-XX)*

## Solution

Change Slot 1 Input 1 cable (master) with the Slot 3 Input 1 cable. If the master signal is the issue, only Slot 3 Input 1 should show the lock/unlock symptom. If the video source is the issue, the symptoms should remain the same.

## Screen has reversed colors

The screen has reversed colors (such as the blue and green are swapped) and the Formatter Mismatch alarm appears in the Status tab of the TPC. For example:

Formatter - Green HW Version	Mismatch Blue
Formatter - Blue HW Version	Mismatch Green

## Details

The formatters are not connected correctly to the high speed image processor board (HIP)—the above example illustrates the green and blue formatters.

For more information, refer to the following:

- *D4K Status System Technical Reference (P/N: 020-101259-XX)*
- *Mirage 4K Status System Technical Reference (P/N: 020-101450-XX)*
- *D4K2560 Interconnect Drawing (P/N: 020-101088-XX)*

- [D4K3560 Interconnect Drawing \(P/N: 020-101087-XX\)](#)

## Solution

Check the MINISAS cables between the HIP and the formatters are connected to the correct colors.

## Colors are correct but the Formatter Mismatch alarm occurs

One or more Formatter Mismatch errors appear in the Status tab of the TPC, for example:

Formatter - Green HW Version	Mismatch Blue
Formatter - Green HW Version	Mismatch - Unknown

## Details

One or more temperature harnesses are incorrectly connected to a formatter board or the HIP. Or, the wrong temperature harness is being used for a particular formatter board.

For more information, refer to the following:

- [D4K Status System Technical Reference \(P/N: 020-101259-XX\)](#)
- [Mirage 4K Status System Technical Reference \(P/N: 020-101450-XX\)](#)
- [D4K2560 Interconnect Drawing \(P/N: 020-101088-XX\)](#)
- [D4K3560 Interconnect Drawing \(P/N: 020-101087-XX\)](#)

## Solution

Replace the temperature harness on the formatter reporting the error.

Formatter	Temperature Harness
Red	001-112061-XX
Green	001-112062-XX
Blue	001-112063-XX

## DisplayPort sources require reset when the projector is power cycled

When the projector is power cycled, the DisplayPort source must be restarted.

## Details

Graphic cards and/or drivers can malfunction when Twin DisplayPort Input cards are powered down.

## Solution

In the D4K v1.1.0+ software, you can enable the Keep Electronics on in Standby option to ensure the Twin DisplayPort Input cards remain on in standby mode. When this option is enabled, only reset the video source when the projector is AC cycled.

# Environmental Board HW Version status item displays Bad Power

At startup, the Environmental Board HW Version status item displays Bad Power.

## Details

The environmental board (EVB) is not receiving 12V power from the low voltage power supply (LVPS). 12V from the LVPS to the EVB is transmitted using two harnesses (P/N: 001-112012-XX and 001-112021-XX or 001-112022-XX). These harnesses must be securely connected to the EVB.

For more information, see [D4K2560 Interconnect Drawing \(P/N: 020-101088-XX\)](#) and [D4K3560 Interconnect Drawing \(P/N: 020-101087-XX\)](#).

## Solution

Verify both the 001-112012-XX and 001-112021-XX (or 001-112022-XX) harnesses are securely connected to the following:

- LVPS
- Each other
- EVB



## Green vertical bars in lower-right image

The projector display green vertical bars in the lower-right image (or other quadrant) with HDMI sources, Four Port configuration, and two THIC cards in slots one and two.



### Details

Incorrect signal detection or sync.

Call log reference number: 419852

### Solution

The Status tab > Signal group on the TPC contains information about all the signals that the projector receives. A properly configured system shows the frequency and status of Master or Locked for each input in the selected channel. Examine the Status tab > Signal group before any boards are replaced.

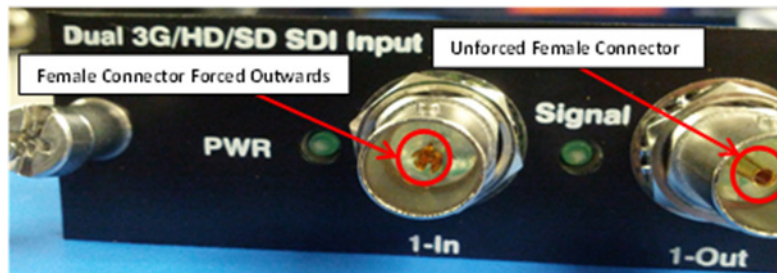
- If one or more of the signals are listed as No signal, verify that the source is properly configured and the cables are secure between the source and the projector.
- If one or more of the signals are listed as Inactive, either an incorrect channel has been selected or the cables are not plugged into the correct inputs.
- If one or more of the signals is listed as Unlocked or Out of phase, the source is not properly frame locked to the master signal. This usually occurs when two independent sources are not locked together. Check the setup of the sources. If the sources are locked together, contact Christie Technical Support for help.
- Replace the THIC cards to see if this resolves the problem.
- If the above cannot resolve the issue, replace the ABP.

## Dual 3G/HD/SD-SDI Input card intermittent or inoperative

Intermittent or inoperative video with the 3G card.

## Details

The BNC female connector on the 3G card has been forced outward by a BNC cable with an oversized male connector pin. This can cause intermittent or inoperative video due to the loose connection.



Call log reference number: 411411

## Solution

- Inspect and replace damaged 3G cards.
- Ensure the mating BNC connector pin is not oversized.
- Use 75 ohm connectors (not 50 ohm).

## Lamp hours not cleared

A new projector does not have the lamp hours factory reset to zero.

## Details

Step missed in the production process. There is no problem with the projector or lamp. However, if the uncleared lamp hours status is considered to be a serious issue, proceed with the solution step below.

## Solution

Replace the MCPU board (P/N: 003-111831-XX). For upgrade instructions, refer to the [D4K-60/Mirage 4K MCPU Board Upgrade Instruction Sheet](#) (P/N: 020-101350-XX) included with the new MCPU.

## Projector boots up and becomes unresponsive with v1.2.0 software

A defect in the v1.2.0 software can prevent the D4K-60 projector from properly booting. If the defect occurs, after applying AC power the projector starts to boot, reaches standby, and becomes unresponsive.

### Details

The defect is caused when the lamp power supply (LPS) initializes faster than expected. For more details, see the [D4K Software v1.2.1 Upgrade Information Bulletin \(P/N: 020-200284-XX\)](#).

### Solution

Check the following:

- This only happens on AC start as opposed to the projector failing after it has been on for more than five minutes, an hour, or a day.
- Disconnecting and reconnecting the TPC does not fix the Connection Lost message.
- Power cycling the projector does not solve the problem.
- The user cannot connect using the web page.
- Serial commands using Ethernet/RS232/RS422 do not work.

If the above solutions do not work, contact Christie Technical Support.

## Shutter out of sync

The shutter indicates the wrong status, for example it shows open on the status report but is closed.

### Details

The Shutter SW and HW statuses are not in sync, causing the projector to indicate the wrong status.

### Solution

Use the SHU serial API command to ensure the Shutter SW and HW states are in sync. Only issue the control commands when the projector is in the Standby or Power On states. Do not issue the commands when the projector is in the Lamp On state.

1. To synchronize and open the shutter, issue the Close and then Open serial API commands.  
The shutter is now in sync.
2. To synchronize and close the shutter, issue the Open and then Close serial API commands.

The shutter is now in sync.

For details on the serial API commands, refer to the *D4K Serial API Commands Technical Reference (P/N: 020-101258-XX)* or the *Mirage 4K Serial API Commands Technical Reference (P/N: 020-101449-XX)*.

## Lamp shuts off when shutter closed

After a Shutter Close command is issued, the lamp shuts off and goes into cool down mode.

### Details

The following are potential root causes for the issue:

- The lamp extinguishes due to age. Lamp power is automatically reduced when the shutter is closed. Older lamps have difficulty maintaining the arc when the power is too low.
- The projector may be operating out of specification for tilt angle, which can accelerate the aging process of the lamp.
- The projector line drawings were not available on the Christie website; therefore, the installers may not have been aware of the angle limitations of the projector.

Call log reference number: 421885

### Solution

1. To check for an old lamp, reduce lamp power to minimum without closing the shutter and check if the lamp automatically extinguish on their own within five minutes. Replace the lamp with a new one and check if the problem persists.
2. Ensure the projector tilt is no more than 15 degrees as specified in the lines drawings available on the Christie website:
  - *D4K2560/Mirage 4K25 (P/N: 020-101257-XX)*
  - *D4K3560/Mirage 4K35 (P/N: 020-101256-XX)*

## Lamp Power Supply Version – Fault Detected alarm

The Lamp Power Supply Version – Fault Detected alarm occurred.

### Details

No communication is occurring with the lamp power supply. This could occur because the in-line AC relay has become disconnected.

Call log reference number: 421612

## Solution

1. Check the communication line to the ballast for loose/damaged pins or connectors.
2. Check AC supply to the ballast.

## Liquid Cooling Flow Meter – Flow Impeded alarm

The Liquid Cooling Flow Meter – Flow impeded alarm occurred.

## Solution

1. Check the coolant lines for evidence that the flow is occurring.
2. Check the alarm status for any Temperature alarms.
3. If the coolant is flowing and no Temperature alarms have occurred, the Flow Impeded alarm can be ignored as a temporary measure until the root cause for the error is found.
4. Do not ignore other system generated alarms.
5. If no flow was detected in step 3, replace the Liquid Cooling module.

## Column swapping in the image

This problem may present in various ways and can be referred to as color separation, bad convergence, column swapping, scrambled image, and/or vertical banding. This problem can be intermittent or persistent, with random occurrence on some units but not on others.



## Details

The updated memory controller on the Light Engine formatter FPGA corrects this problem and is available in the D4K60/Mirage 4K v1.3.0+ software.

## **Solution**

Upgrade to the D4K60/Mirage 4K v1.3.0 software.

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