



Technical Reference  
020-101695-04

# **Boxer 4K**

Status System

**CHRISTIE®**

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- e. Problems or damage caused by the use of any lamp, replacement part or component purchased or obtained from an unauthorized distributor of Christie lamps, replacement parts or components including, without limitation, any distributor offering Christie lamps, replacement parts or components through the internet (confirmation of authorized distributors may be obtained from Christie).
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- j. For LCD projectors, the warranty period specified in the warranty applies only where the LCD projector is in "normal use" which means the LCD projector is not used more than 8 hours a day, 5 days a week.
- 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. Defects caused by normal wear and tear or otherwise due to normal aging of a product.

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Preventative maintenance is an important part of the continued and proper operation of your product. Failure to perform maintenance as required, and in accordance with the maintenance schedule specified by Christie, will void the warranty.

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CAN ICES-3 (A) / NMB-3 (A)

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The product is designed and manufactured with high-quality materials and components that can be recycled and reused. This symbol  means that electrical and electronic equipment, at their end-of-life, should be disposed of separately from regular waste. Please dispose of the product appropriately and according to local regulations. In the European Union, there are separate collection systems for used electrical and electronic products. Please help us to conserve the environment we live in!

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# Boxer 4K status system

This guide contains information about the values and fault conditions that can be reported by the status system on Boxer 4K devices.

The status system provides an overview of the device at the current point in time. It contains a number of groups, which contain a set of status items. Each status item represents a component or sub-component of the system. Obtain specific details regarding a warning or error for a status item using the log system.

The numbers next to the status items in this guide correspond directly to the status item index within each group.



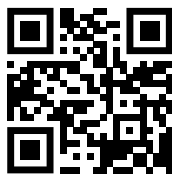
The device presents the information contained in this document in the language selected by the operator.

## Product documentation

For installation, setup, and user information, see the product documentation available on the Christie Digital Systems USA Inc. website. Read all instructions before using or servicing this product.

### Boxer 4K, Boxer 2K, Boxer 30

1. Access the documentation from the Christie website:
  - Go to <http://bit.ly/2mpf6QK> or <https://www.christiedigital.com/en-us/business/products/projectors/3-chip-dlp/boxer-series>
  - Scan the QR code using a QR code reader app on a smartphone or tablet.



2. On the product page, select the model and switch to the **Downloads** tab.

## Related documentation

Additional information on the projector is available in the following documents.

- *Boxer 4K Installation and Setup Guide (P/N: 020-101902-XX)*
- *Boxer 4K User Guide (P/N: 020-101777-XX)*
- *Boxer Product Safety Guide (P/N: 020-101780-XX)*
- *Boxer 4K Service Guide (P/N: 020-101699-XX)*

- *Boxer 4K Serial Commands Guide (P/N: 020-101697-XX)*

## Status system states

The status system has three states to indicate the health of the device.

|                                                                                   |         |                                                                                                             |
|-----------------------------------------------------------------------------------|---------|-------------------------------------------------------------------------------------------------------------|
|  | OK      | No known issue                                                                                              |
|  | Warning | A problem with this item should be addressed.                                                               |
|  | Error   | A problem with this item prevents the projector from properly displaying video or turning on the projector. |

## Alarm Group (SST+ALRM?)

Displays any status items in the warning or error state. This group contains a dynamic number of status items. If everything in the projector is OK, this group is empty.

## Configuration Group (SST+CONF?)

The Configuration Group provides values and fault conditions for configuration-related items in Boxer 4K.

| # | Status               | State                                                                               | Value                   | Description                                                                                           |
|---|----------------------|-------------------------------------------------------------------------------------|-------------------------|-------------------------------------------------------------------------------------------------------|
| 0 | Projector Model      |  | <projector model>       | Displays the model for the Boxer 4K projector.                                                        |
|   |                      |  | Unknown                 | Cannot retrieve the model information.                                                                |
|   |                      |  | Jig Mode                | Reserved for engineering use.                                                                         |
| 1 | Projector S/N        |  | <serial number>         | Displays the serial number of the projector.                                                          |
|   |                      |  | Unknown                 | The storage device containing the information is inaccessible or the data on the device is corrupted. |
| 2 | Output Resolution    |  | <horizontal>x<vertical> | Displays the native output resolution of the projector.                                               |
| 3 | Projector Build Date |  | <YYYY>/<MM>/<DD>        | Displays the build date of the projector.                                                             |
|   |                      |  | Unknown                 | The storage device containing the information is inaccessible or the data on the device is corrupted. |

# System Group (SST+SYST?)

The System Group provides values and fault conditions relating to the system and its health for Boxer 4K.



Some of the lamp driver and memory module statuses listed below may not be applicable for your installation as the model of projector determines the number of lamps in the projector.

| #  | Status                     | State | Value                      | Description                                                                                                                                                                                                                                                           |
|----|----------------------------|-------|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0  | Projector Hours            |       | <hours>:<minutes>          | Displays the total amount of time that the projector has been on (including warm up and cool down times).                                                                                                                                                             |
|    |                            |       | N/A                        | Cannot retrieve or update the value.                                                                                                                                                                                                                                  |
| 1  | Pitch/Roll                 |       | <pitch value>/<roll value> | Displays the physical orientation of the projector: <ul style="list-style-type: none"> <li>• A negative pitch means that the projector is pointing down.</li> <li>• A negative roll means the projector is tilted counter clockwise as seen from the rear.</li> </ul> |
|    |                            |       | Communication Fault        | Information is not available due to a hardware fault.                                                                                                                                                                                                                 |
| 5  | Lens Motor Horizontal-Axis |       | Calibrating                | Currently calibrating the lens motor.                                                                                                                                                                                                                                 |
| 6  | Lens Motor Vertical-Axis   |       | Calibrated                 | The motor range has been properly calibrated.                                                                                                                                                                                                                         |
| 7  | Lens Motor Zoom- Axis      |       | Unknown                    | The status of the motor is unknown because a problem occurred in the upstream communication path.                                                                                                                                                                     |
| 8  | Lens Motor Focus- Axis     |       | Uncalibrated               | The range for the current lens has not been determined and/or the reported position on the axis may be inaccurate.                                                                                                                                                    |
|    |                            |       | Failed                     | During reset or calibration, an error was detected related to the motor and/or sensor.                                                                                                                                                                                |
| 9  | Built-In Self Test         |       | N/A                        | The built-in self test has not been executed yet.                                                                                                                                                                                                                     |
|    |                            |       | Passed                     | The built-in self test completed successfully.                                                                                                                                                                                                                        |
|    |                            |       | Failed                     | The built-in self-test failed.                                                                                                                                                                                                                                        |
| 10 | System ID Board            |       | OK                         | The device has been properly detected and initialized.                                                                                                                                                                                                                |

| #  | Status             | State                                                                               | Value                | Description                                                                                  |
|----|--------------------|-------------------------------------------------------------------------------------|----------------------|----------------------------------------------------------------------------------------------|
|    |                    |    | Unknown              | The status of the device is unknown.                                                         |
|    |                    |    | Communication Fault  | Cannot communicate with the device.                                                          |
|    |                    |    | Invalid Data         | The information on the device is missing or corrupted.                                       |
| 11 | Housekeeping Board |    | OK                   | The device has been properly detected and initialized.                                       |
|    |                    |    | Unknown              | The status of the device is unknown.                                                         |
|    |                    |    | Detection Fault      | Cannot read the device hardware information.                                                 |
|    |                    |    | Initialization Fault | Cannot properly initialize the device.                                                       |
|    |                    |    | Communication Fault  | The device failed to respond or it provided a bad response to a command.                     |
| 12 | Keypad Display     |    | Auto Detect          | The projector is attempting to detect the presence of the IKB and PDS.                       |
|    |                    |   | Programming          | Programming the device with the correct firmware.                                            |
|    |                    |  | OK                   | The device has been properly detected and initialized.                                       |
|    |                    |  | Detection Fault      | Cannot detect the IKB and PDS.                                                               |
|    |                    |  | Unexpected Behavior  | The device is not responding correctly.                                                      |
|    |                    |  | Upgrade Failed       | The device failed to upgrade properly.                                                       |
| 13 | Power Supply       |  | OK                   | The power supply has been properly detected and initialized.                                 |
|    |                    |  | Unknown              | The status of the power supply is unknown due to an upstream communication fault.            |
|    |                    |  | Limited Mode         | The power supply is running in limited power mode.                                           |
|    |                    |  | Fan Problem          | One or more of the power supply fans is not performing to specification.                     |
|    |                    |  | Overtemperature      | The power supply is reporting an overtemperature event even though all fans are operational. |

| #  | Status                | State                                                                               | Value                       | Description                                                                                                |
|----|-----------------------|-------------------------------------------------------------------------------------|-----------------------------|------------------------------------------------------------------------------------------------------------|
|    |                       |    | Overtemperature/Fan Problem | The power supply is reporting an overtemperature event and a fan problem.                                  |
|    |                       |    | Communication Fault         | Communication either timed out or an error occurred in the transmission/reception of data.                 |
|    |                       |    | Upgrade Failed              | The power supply failed to upgrade or downgrade to the correct firmware version.                           |
| 14 | Lamp A1 Driver        |    | OK                          | The device has been properly detected and initialized.                                                     |
| 15 | Lamp A2 Driver        |    | Unknown                     | The status of the device is unknown.                                                                       |
| 16 | Lamp A3 Driver        |                                                                                     | Unknown                     | The status of the device is unknown.                                                                       |
| 17 | Lamp B1 Driver        |    | Communication Fault         | A problem occurred communicating with the device.                                                          |
| 18 | Lamp B2 Driver        |                                                                                     | General Fault               | The device is not behaving as expected.                                                                    |
| 19 | Lamp B3 Driver        |                                                                                     | Upgrade Failed              | Failed to upgrade the lamp driver to the correct firmware version.                                         |
|    |                       |                                                                                     | Overheat Protection         | The lamp driver is overheating.                                                                            |
|    |                       |                                                                                     | Low Voltage                 | The lamp driver is not providing enough voltage to the lamp.                                               |
|    |                       |                                                                                     | High Voltage                | The lamp driver is providing too much voltage to the lamp.                                                 |
|    |                       |                                                                                     | DC Drive Error              | The lamp driver stopped due to a DC drive error.                                                           |
|    |                       |                                                                                     | Low Input Voltage           | The lamp driver is not receiving enough power.                                                             |
|    |                       |                                                                                     | Abnormal Voltage Surge      | The lamp driver received an abnormal surge of power.                                                       |
| 20 | Lamp A1 Memory Module |  | OK                          | The device has been properly detected and initialized.                                                     |
| 21 | Lamp A2 Memory Module |                                                                                     | OK                          | The device has been properly detected and initialized.                                                     |
| 22 | Lamp A3 Memory Module |  | Unknown                     | The status of the device is unknown because the communication path to the memory module is non-functional. |
| 23 | Lamp B1 Memory Module |                                                                                     | Unknown                     | The status of the device is unknown because the communication path to the memory module is non-functional. |
| 24 | Lamp B2 Memory Module |  | Communication Fault         | Cannot communicate with the device.                                                                        |
| 25 | Lamp B3 Memory Module |                                                                                     | Invalid Data                | The information on the device is missing or corrupted.                                                     |
| 26 | Lamp Door             |  | Closed                      | The lamp door is closed.                                                                                   |

| #  | Status                     | State                                                                               | Value                | Description                                                                                                                                                                |
|----|----------------------------|-------------------------------------------------------------------------------------|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    |                            |    | Unknown              | The lamp door status is unknown because the housekeeping board cannot be communicated with.<br>See the Housekeeping Board status item for details about the failure.       |
|    |                            |    | Open                 | The lamp door is open.                                                                                                                                                     |
| 27 | Power Supply Input Voltage |    | <voltage>V           | The incoming AC voltage into the power supply is OK.                                                                                                                       |
|    |                            |    | Unknown              | The status of this output is unknown because the power supply cannot be communicated with.                                                                                 |
|    |                            |    | <voltage>V           | The incoming AC voltage is out of range.                                                                                                                                   |
| 28 | Spare Interlock            |    | Closed               | The interlock is closed.                                                                                                                                                   |
|    |                            |    | Unknown              | The spare interlock status is unknown because the housekeeping board cannot be communicated with.<br>See the Housekeeping Board status item for details about the failure. |
|    |                            |  | Open                 | The interlock is open.                                                                                                                                                     |
| 29 | Lens ID                    |  | Detected             | The lens was detected.                                                                                                                                                     |
|    |                            |  | Unknown              | The communication path to the lens is not working; therefore, the state is unknown.                                                                                        |
|    |                            |  | Not Detected         | Cannot detect the lens.                                                                                                                                                    |
| 30 | Main Control Board         |  | OK                   | The IMXB FPGA has been initialized at least once and is known to be OK.                                                                                                    |
|    |                            |  | Unknown              | The IMXB FPGA status is unknown because it has not been powered up yet.                                                                                                    |
|    |                            |  | Initialization Fault | Cannot successfully program the IMXB FPGA.                                                                                                                                 |
| 32 | Power Supply Output A1     |  | OK                   | The device has been properly detected and initialized.                                                                                                                     |
| 33 | Power Supply Output A2     |                                                                                     |                      |                                                                                                                                                                            |
| 34 | Power Supply Output A3     |  | Unknown              | The status of this output is unknown because the power supply cannot be communicated with.                                                                                 |
| 35 | Power Supply Output B1     |                                                                                     |                      |                                                                                                                                                                            |
| 36 | Power Supply Output B2     |                                                                                     |                      |                                                                                                                                                                            |
| 37 | Power Supply Output B3     |                                                                                     |                      |                                                                                                                                                                            |

| #  | Status                       | State                                                                               | Value                | Description                                                                                       |
|----|------------------------------|-------------------------------------------------------------------------------------|----------------------|---------------------------------------------------------------------------------------------------|
|    |                              |    | Overcurrent Detected | The lamp driver/lamp on this output rail was drawing too much power.                              |
| 38 | Lamp Cartridge A             |    | Detected             | Successfully detected the lamp cartridge.                                                         |
| 39 | Lamp Cartridge B             |    | Unknown              | The status of the lamp cartridge is unknown because a problem exists with the housekeeping board. |
|    |                              |    | Not Detected         | The lamp cartridge became undetected while the lamps were on.                                     |
|    |                              |    | Not Detected         | The lamp cartridge is undetected while the lamps are off.                                         |
| 40 | Lamp A1 Memory Module Reader |    | OK                   | The device has been properly detected and initialized.                                            |
| 41 | Lamp A2 Memory Module Reader |    | Unknown              | The status of the device is unknown.                                                              |
| 42 | Lamp A3 Memory Module Reader |    | Unknown              | The status of the device is unknown.                                                              |
| 43 | Lamp B1 Memory Module Reader |    | Unknown              | The status of the device is unknown.                                                              |
| 44 | Lamp B2 Memory Module Reader |  | Communication Fault  | Cannot communicate with the device.                                                               |
| 45 | Lamp B3 Memory Module Reader |  | Communication Fault  | Cannot communicate with the device.                                                               |
| 46 | Status LED Board             |  | OK                   | The status of the status LED board is OK.                                                         |
|    |                              |  | Unknown              | The status of the status LED board cannot be determined because the backplane is nonfunctional.   |
|    |                              |  | Communication Fault  | Cannot communicate with the status LED board.                                                     |
| 47 | Side Panel NFCT              |  | OK                   | The side panel NFCT is OK.                                                                        |
|    |                              |  | Unknown              | The side panel NFCT status is unknown because the IKB is non-functional.                          |
|    |                              |  | Communication Fault  | Cannot write to or read from the side panel NFCT.                                                 |
| 48 | Backplane                    |  | Off                  | The backplane is in standby without any cached errors or warnings.                                |
|    |                              |  | OK                   | The backplane has been properly detected and initialized.                                         |
|    |                              |  | Detection fault      | The backplane hardware information cannot be read.                                                |
|    |                              |  | Initialization fault | The backplane could not be properly initialized.                                                  |
|    |                              |  | Runtime fault        | The backplane experienced an unrecoverable failure during runtime.                                |

| #  | Status          | State                                                                               | Value                     | Description                                                                                                                  |
|----|-----------------|-------------------------------------------------------------------------------------|---------------------------|------------------------------------------------------------------------------------------------------------------------------|
| 49 | Image Processor |    | Off                       | The image processor is in standby without any cached errors or warnings.                                                     |
|    |                 |    | OK                        | The image processor has been properly detected and initialized.                                                              |
|    |                 |    | Detection fault           | The image processor hardware information cannot be read.                                                                     |
|    |                 |    | Initialization fault      | The image processor could not be properly initialized.                                                                       |
|    |                 |    | Runtime fault             | The image processor experienced an unrecoverable failure during runtime.                                                     |
| 50 | Formatter-Red   |    | Off                       | The formatter is in standby without any cached errors or warnings.                                                           |
| 51 | Formatter-Green |    | OK                        | The formatter has been properly detected and initialized.                                                                    |
| 52 | Formatter-Blue  |                                                                                     | Unknown                   | The formatter status cannot be determined due to an upstream issue.                                                          |
|    |                 |    | Power Bad                 | The formatter detected an unexpected power glitch and has started the process of parking the DMD. This is often recoverable. |
|    |                 |  | Detection fault           | The formatter hardware cannot be read.                                                                                       |
|    |                 |  | Initialization fault      | The formatter could not be properly initialized.                                                                             |
|    |                 |  | Runtime fault             | The formatter experienced an unrecoverable failure during runtime.                                                           |
|    |                 |  | Failed to configure clock | During initialization the clock could not be configured.                                                                     |
|    |                 |  | Failed to program FPGA    | During initialization programming the FPGA failed.                                                                           |
|    |                 |  | Memory calibration failed | During initialization an error occurred with memory calibration.                                                             |
|    |                 |  | Communication fault       | Cannot write to or read from the formatter board.                                                                            |
| 53 | Option Card 0   |  | Off                       | The option card is in standby without any cached errors or warnings.                                                         |
| 54 | Option Card 1   |                                                                                     | OK                        | The option card has been properly detected and initialized.                                                                  |
| 55 | Option Card 2   |  |                           |                                                                                                                              |
| 56 | Option Card 3   |  | Not Present               | An option card is not installed in this slot.                                                                                |
| 57 | Option Card 4   |                                                                                     |                           |                                                                                                                              |

| # | Status | State                                                                             | Value                | Description                                                           |
|---|--------|-----------------------------------------------------------------------------------|----------------------|-----------------------------------------------------------------------|
|   |        |  | Unknown              | The option card status cannot be determined due to an upstream issue. |
|   |        |  | Detection fault      | The option card hardware information cannot be read.                  |
|   |        |  | Initialization fault | The option card could not be properly initialized.                    |
|   |        |  | Runtime fault        | The option card experienced an unrecoverable failure during runtime.  |

## Signal Group (SST+SIGN?)

The Signal Group provides values and fault conditions relating to the video signal status for Boxer 4K.

| #  | Status           | State                                                                               | Value                                                   | Description                                                                                                                                                                                                   |
|----|------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0  | HDBaseT Input    |    | N/A                                                     | Either the card is not present or the card does not have a single input port.                                                                                                                                 |
| 1  | Card 0, Input 1  |    | <input type> (No Signal)                                | No signal is detected.<br>Where <input type> : {DP, HDMI, DVI, 3G-SDI}                                                                                                                                        |
| 2  | Card 0, Input 2  |                                                                                     |                                                         |                                                                                                                                                                                                               |
| 3  | Card 0, Input 3  |                                                                                     |                                                         |                                                                                                                                                                                                               |
| 4  | Card 0, Input 4  |                                                                                     |                                                         |                                                                                                                                                                                                               |
| 11 | Card 1 - Input 1 |  | <input type>, <active window>@ <v-sync rate> (<status>) | Where<br><input type> : {DP, HDMI, DVI, 3G-SDI}<br><active window> :<br><columns>x<rows><br><v-sync rate> : the input frame rate, in Hz (##.##Hz)<br><status> : {"Master", "No signal", "Inactive", "Locked"} |
| 12 | Card 1 - Input 2 |                                                                                     |                                                         |                                                                                                                                                                                                               |
| 21 | Card 2 - Input 1 |                                                                                     |                                                         |                                                                                                                                                                                                               |
| 22 | Card 2 - Input 2 |                                                                                     |                                                         |                                                                                                                                                                                                               |
| 31 | Card 3 - Input 1 |                                                                                     |                                                         |                                                                                                                                                                                                               |
| 32 | Card 3 - Input 2 |                                                                                     |                                                         |                                                                                                                                                                                                               |
| 41 | Card 4 - Input 1 |                                                                                     |                                                         |                                                                                                                                                                                                               |
| 42 | Card 4 - Input 2 |                                                                                     |                                                         |                                                                                                                                                                                                               |
|    |                  |  | <input type> <active window> @ <v-sync rate> (<status>) | Where<br><input type> : {DP, HDMI, DVI, 3G-SDI}<br><active window> :<br><columns>x<rows><br><v-sync rate> : the input frame rate, in Hz (##.##Hz)<br><status> : {"Unlocked", "Out of phase"}                  |
| 50 | Output Frequency |  | N/A                                                     | No video is being displayed.                                                                                                                                                                                  |
|    |                  |  | <rate>Hz                                                | Where <rate> : the output frame rate, in Hertz                                                                                                                                                                |

| #  | Status          | State                                                                             | Value     | Description                                                                                      |
|----|-----------------|-----------------------------------------------------------------------------------|-----------|--------------------------------------------------------------------------------------------------|
|    |                 |                                                                                   |           | If the input frequency does not match the output frequency, Free Running @ XX.YYHz is displayed. |
| 51 | Frame Locked    |  | N/A       | No video is being displayed or an internal test pattern is being displayed.                      |
|    |                 |  | Locked    | The output is locked to the selected input(s).                                                   |
|    |                 |  | Unlocked  | The output is not locked to the selected input(s).                                               |
| 53 | TSIC Connection |  | N/A       | Either the card is not present or the card does not have a single input port.                    |
|    |                 |  | No Signal | No signal is detected.                                                                           |

## Lamp Group (SST+LAMP?)

The Lamp Group provides values and fault conditions for lamp-related items in Boxer 4K.



Some of the lamp statuses listed below may not be applicable for your installation as the model of projector determines the number of lamps in the projector.

| # | Status        | State                                                                               | Value                  | Description                                                                     |
|---|---------------|-------------------------------------------------------------------------------------|------------------------|---------------------------------------------------------------------------------|
| 0 | Lamp A1 State |  | On                     | The lamp is on.                                                                 |
|   |               |  | Warming Up             | The lamp is warming up.                                                         |
|   |               |  | Off                    | The lamp is off.                                                                |
|   |               |  | Cooling Down           | The lamp is cooling down.                                                       |
|   |               |  | Waiting to Strike      | The lamp is cooling down but will turn on as soon as the cool down is complete. |
|   |               |  | Failed to Strike       | The lamp failed to strike.                                                      |
|   |               |  | Lamp Off - Unknown     | The lamp was on but extinguished unexpectedly.                                  |
|   |               |  | Lamp Off - Interlock   | The lamp was on but turned off due to a tripped interlock.                      |
|   |               |  | Lamp Off - Fan Failure | The lamp was on but turned off due to a bulb blower or reflector fan failure.   |

| #  | Status                    | State                                                                               | Value                                            | Description                                                                                                                                                                |
|----|---------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Lamp A1 Hours             |    | <hours>:<minutes><br>(h:m)                       | The total amount of time that the lamp has been on.                                                                                                                        |
|    |                           |    | Unknown                                          | The lamp hours are unknown because the lamp memory module cannot be communicated with.<br>See the Lamp A1 Memory Module status item for details of the failure.            |
|    |                           |    | <hours>:<minutes> (h:m) -<br>Lamp is past expiry | The lamp is running past its maximum number of hours.                                                                                                                      |
| 3  | Lamp A1 Installation Date |    | <YYYY>/<MM>/<DD>                                 | Displays the date the lamp was installed.                                                                                                                                  |
|    |                           |    | Unknown                                          | The lamp installation date is unknown because the lamp memory module cannot be communicated with.<br>See the Lamp A1 Memory Module status item for details of the failure. |
| 4  | Lamp A1 S/N               |    | <value>                                          | Displays the serial number of the installed lamp.                                                                                                                          |
|    |                           |   | Unknown                                          | The lamp serial number is unknown because the lamp memory module cannot be communicated with.<br>See the Lamp A1 Memory Module status item for details of the failure.     |
| 6  | Lamp A1 Voltage           |  | <voltage>V                                       | Displays the voltage being applied to the lamp as reported by the lamp driver.                                                                                             |
|    |                           |  | Unknown                                          | The lamp state is unknown because the lamp driver could not be communicated with.<br>See the Lamp A1 Memory Module status item for details of the failure.                 |
| 40 | Lamp A2 State             |  | On                                               | The lamp is on.                                                                                                                                                            |
|    |                           |  | Warming Up                                       | The lamp is warming up.                                                                                                                                                    |
|    |                           |  | Off                                              | The lamp is off.                                                                                                                                                           |
|    |                           |  | Cooling Down                                     | The lamp is cooling down.                                                                                                                                                  |
|    |                           |  | Waiting to Strike                                | The lamp is cooling down but will turn on as soon as the cool down is complete.                                                                                            |
|    |                           |  | Failed to Strike                                 | The lamp failed to strike.                                                                                                                                                 |

| #  | Status                    | State                                                                               | Value                                            | Description                                                                                                                                                                |
|----|---------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    |                           |    | Lamp Off - Unknown                               | The lamp was on but extinguished unexpectedly.                                                                                                                             |
|    |                           |    | Lamp Off - Interlock                             | The lamp was on but turned off due to a tripped interlock.                                                                                                                 |
|    |                           |    | Lamp Off - Fan Failure                           | The lamp was on but turned off due to a bulb blower or reflector fan failure.                                                                                              |
| 41 | Lamp A2 Hours             |    | <hours>:<minutes><br>(h:m)                       | The total amount of time that the lamp has been on.                                                                                                                        |
|    |                           |    | Unknown                                          | The lamp hours are unknown because the lamp memory module cannot be communicated with.<br>See the Lamp A2 Memory Module status item for details of the failure.            |
|    |                           |    | <hours>:<minutes> (h:m) -<br>Lamp is past expiry | The lamp is running past its maximum number of hours.                                                                                                                      |
| 43 | Lamp A2 Installation Date |    | <YYYY>/<MM>/<DD>                                 | Displays the date the lamp was installed.                                                                                                                                  |
|    |                           |   | Unknown                                          | The lamp installation date is unknown because the lamp memory module cannot be communicated with.<br>See the Lamp A2 Memory Module status item for details of the failure. |
| 44 | Lamp A2 S/N               |  | <value>                                          | Displays the serial number of the installed lamp.                                                                                                                          |
|    |                           |  | Unknown                                          | The lamp serial number is unknown because the lamp memory module cannot be communicated with.<br>See the Lamp A2 Memory Module status item for details of the failure.     |
| 46 | Lamp A2 Voltage           |  | <voltage>V                                       | Displays the voltage being applied to the lamp as reported by the lamp driver.                                                                                             |
|    |                           |  | Unknown                                          | The lamp state is unknown because the lamp driver could not be communicated with.<br>See the Lamp A2 Memory Module status item for details of the failure.                 |
| 50 | Lamp A3 State             |  | On                                               | The lamp is on.                                                                                                                                                            |
|    |                           |  | Warming Up                                       | The lamp is warming up.                                                                                                                                                    |
|    |                           |  | Off                                              | The lamp is off.                                                                                                                                                           |

| #  | Status                    | State                                                                               | Value                                            | Description                                                                                                                                                                    |
|----|---------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    |                           |    | Cooling Down                                     | The lamp is cooling down.                                                                                                                                                      |
|    |                           |    | Waiting to Strike                                | The lamp is cooling down but will turn on as soon as the cool down is complete.                                                                                                |
|    |                           |    | Failed to Strike                                 | The lamp failed to strike.                                                                                                                                                     |
|    |                           |    | Lamp Off - Unknown                               | The lamp was on but extinguished unexpectedly.                                                                                                                                 |
|    |                           |    | Lamp Off - Interlock                             | The lamp was on but turned off due to a tripped interlock.                                                                                                                     |
|    |                           |    | Lamp Off - Fan Failure                           | The lamp was on but turned off due to a bulb blower or reflector fan failure.                                                                                                  |
| 51 | Lamp A3 Hours             |    | <hours>:<minutes><br>(h:m)                       | The total amount of time that the lamp has been on.                                                                                                                            |
|    |                           |    | Unknown                                          | The lamp hours are unknown because the lamp memory module cannot be communicated with.<br><br>See the Lamp A3 Memory Module status item for details of the failure.            |
|    |                           |  | <hours>:<minutes> (h:m) -<br>Lamp is past expiry | The lamp is running past its maximum number of hours.                                                                                                                          |
| 53 | Lamp A3 Installation Date |  | <YYYY>/<MM>/<DD>                                 | Displays the date the lamp was installed.                                                                                                                                      |
|    |                           |  | Unknown                                          | The lamp installation date is unknown because the lamp memory module cannot be communicated with.<br><br>See the Lamp A3 Memory Module status item for details of the failure. |
| 54 | Lamp A3 S/N               |  | <value>                                          | Displays the serial number of the installed lamp.                                                                                                                              |
|    |                           |  | Unknown                                          | The lamp serial number is unknown because the lamp memory module cannot be communicated with.<br><br>See the Lamp A3 Memory Module status item for details of the failure.     |
| 56 | Lamp A3 Voltage           |  | <voltage>V                                       | Displays the voltage being applied to the lamp as reported by the lamp driver.                                                                                                 |
|    |                           |  | Unknown                                          | The lamp state is unknown because the lamp driver could not be communicated with.<br><br>See the Lamp A3 Memory Module status item for details of the failure.                 |

| #  | Status                    | Sta<br>te                                                                           | Value                                            | Description                                                                                                                                                                    |
|----|---------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 60 | Lamp B1 State             |    | On                                               | The lamp is on.                                                                                                                                                                |
|    |                           |    | Warming Up                                       | The lamp is warming up.                                                                                                                                                        |
|    |                           |    | Off                                              | The lamp is off.                                                                                                                                                               |
|    |                           |    | Cooling Down                                     | The lamp is cooling down.                                                                                                                                                      |
|    |                           |    | Waiting to Strike                                | The lamp is cooling down but will turn on as soon as the cool down is complete.                                                                                                |
|    |                           |    | Failed to Strike                                 | The lamp failed to strike.                                                                                                                                                     |
|    |                           |    | Lamp Off - Unknown                               | The lamp was on but extinguished unexpectedly.                                                                                                                                 |
|    |                           |    | Lamp Off - Interlock                             | The lamp was on but turned off due to a tripped interlock.                                                                                                                     |
|    |                           |   | Lamp Off - Fan Failure                           | The lamp was on but turned off due to a bulb blower or reflector fan failure.                                                                                                  |
| 61 | Lamp B1 Hours             |  | <hours>:<minutes><br>(h:m)                       | The total amount of time that the lamp has been on.                                                                                                                            |
|    |                           |  | Unknown                                          | The lamp hours are unknown because the lamp memory module cannot be communicated with.<br><br>See the Lamp B1 Memory Module status item for details of the failure.            |
|    |                           |  | <hours>:<minutes> (h:m) -<br>Lamp is past expiry | The lamp is running past its maximum number of hours.                                                                                                                          |
| 63 | Lamp B1 Installation Date |  | <YYYY>/<MM>/<DD>                                 | Displays the date the lamp was installed.                                                                                                                                      |
|    |                           |  | Unknown                                          | The lamp installation date is unknown because the lamp memory module cannot be communicated with.<br><br>See the Lamp B1 Memory Module status item for details of the failure. |
| 64 | Lamp B1 S/N               |  | <value>                                          | Displays the serial number of the installed lamp.                                                                                                                              |
|    |                           |  | Unknown                                          | The lamp serial number is unknown because the lamp memory module cannot be communicated with.<br><br>See the Lamp B1 Memory Module status item for details of the failure.     |

| #  | Status                    | Sta<br>te                                                                           | Value                                            | Description                                                                                                                                                                    |
|----|---------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 66 | Lamp B1 Voltage           |    | <voltage>V                                       | Displays the voltage being applied to the lamp as reported by the lamp driver.                                                                                                 |
|    |                           |    | Unknown                                          | The lamp state is unknown because the lamp driver could not be communicated with.<br><br>See the Lamp B1 Memory Module status item for details of the failure.                 |
| 70 | Lamp B2 State             |    | On                                               | The lamp is on.                                                                                                                                                                |
|    |                           |    | Warming Up                                       | The lamp is warming up.                                                                                                                                                        |
|    |                           |    | Off                                              | The lamp is off.                                                                                                                                                               |
|    |                           |    | Cooling Down                                     | The lamp is cooling down.                                                                                                                                                      |
|    |                           |    | Waiting to Strike                                | The lamp is cooling down but will turn on as soon as the cool down is complete.                                                                                                |
|    |                           |   | Failed to Strike                                 | The lamp failed to strike.                                                                                                                                                     |
|    |                           |  | Lamp Off - Unknown                               | The lamp was on but extinguished unexpectedly.                                                                                                                                 |
|    |                           |  | Lamp Off - Interlock                             | The lamp was on but turned off due to a tripped interlock.                                                                                                                     |
|    |                           |  | Lamp Off - Fan Failure                           | The lamp was on but turned off due to a bulb blower or reflector fan failure.                                                                                                  |
| 71 | Lamp B2 Hours             |  | <hours>:<minutes><br>(h:m)                       | The total amount of time that the lamp has been on.                                                                                                                            |
|    |                           |  | Unknown                                          | The lamp hours are unknown because the lamp memory module cannot be communicated with.<br><br>See the Lamp B2 Memory Module status item for details of the failure.            |
|    |                           |  | <hours>:<minutes> (h:m) -<br>Lamp is past expiry | The lamp is running past its maximum number of hours.                                                                                                                          |
| 73 | Lamp B2 Installation Date |  | <YYYY>/<MM>/<DD>                                 | Displays the date the lamp was installed.                                                                                                                                      |
|    |                           |  | Unknown                                          | The lamp installation date is unknown because the lamp memory module cannot be communicated with.<br><br>See the Lamp B2 Memory Module status item for details of the failure. |

| #  | Status          | State                                                                               | Value                                            | Description                                                                                                                                                            |
|----|-----------------|-------------------------------------------------------------------------------------|--------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 74 | Lamp B2 S/N     |    | <value>                                          | Displays the serial number of the installed lamp.                                                                                                                      |
|    |                 |    | Unknown                                          | The lamp serial number is unknown because the lamp memory module cannot be communicated with.<br>See the Lamp B2 Memory Module status item for details of the failure. |
| 76 | Lamp B2 Voltage |    | <voltage>V                                       | Displays the voltage being applied to the lamp as reported by the lamp driver.                                                                                         |
|    |                 |    | Unknown                                          | The lamp state is unknown because the lamp driver could not be communicated with.<br>See the Lamp B2 Memory Module status item for details of the failure.             |
| 80 | Lamp B3 State   |    | On                                               | The lamp is on.                                                                                                                                                        |
|    |                 |    | Warming Up                                       | The lamp is warming up.                                                                                                                                                |
|    |                 |   | Off                                              | The lamp is off.                                                                                                                                                       |
|    |                 |  | Cooling Down                                     | The lamp is cooling down.                                                                                                                                              |
|    |                 |  | Waiting to Strike                                | The lamp is cooling down but will turn on as soon as the cool down is complete.                                                                                        |
|    |                 |  | Failed to Strike                                 | The lamp failed to strike.                                                                                                                                             |
|    |                 |  | Lamp Off - Unknown                               | The lamp was on but extinguished unexpectedly.                                                                                                                         |
|    |                 |  | Lamp Off - Interlock                             | The lamp was on but turned off due to a tripped interlock.                                                                                                             |
|    |                 |  | Lamp Off - Fan Failure                           | The lamp was on but turned off due to a bulb blower or reflector fan failure.                                                                                          |
| 81 | Lamp B3 Hours   |  | <hours>:<minutes><br>(h:m)                       | The total amount of time that the lamp has been on.                                                                                                                    |
|    |                 |  | Unknown                                          | The lamp hours are unknown because the lamp memory module cannot be communicated with.<br>See the Lamp B3 Memory Module status item for details of the failure.        |
|    |                 |  | <hours>:<minutes> (h:m) -<br>Lamp is past expiry | The lamp is running past its maximum number of hours.                                                                                                                  |

| #  | Status                    | State                                                                             | Value            | Description                                                                                                                                                                |
|----|---------------------------|-----------------------------------------------------------------------------------|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 83 | Lamp B3 Installation Date |  | <YYYY>/<MM>/<DD> | Displays the date the lamp was installed.                                                                                                                                  |
|    |                           |  | Unknown          | The lamp installation date is unknown because the lamp memory module cannot be communicated with.<br>See the Lamp B3 Memory Module status item for details of the failure. |
| 84 | Lamp B3 S/N               |  | <value>          | Displays the serial number of the installed lamp.                                                                                                                          |
|    |                           |  | Unknown          | The lamp serial number is unknown because the lamp memory module cannot be communicated with.<br>See the Lamp B3 Memory Module status item for details of the failure.     |
| 86 | Lamp B3 Voltage           |  | <voltage>V       | Displays the voltage being applied to the lamp as reported by the lamp driver.                                                                                             |
|    |                           |  | Unknown          | The lamp state is unknown because the lamp driver could not be communicated with.<br>See the Lamp B3 Memory Module status item for details of the failure.                 |

## Version Group (SST+VERS?)

The Version Group provides values and fault conditions related to software and hardware versions for Boxer 4K.



Some of the lamp driver statuses listed below may not be applicable for your installation as the model of projector determines the number of lamps in the projector.

| # | Status                        | State                                                                               | Value                | Description                                                                                                   |
|---|-------------------------------|-------------------------------------------------------------------------------------|----------------------|---------------------------------------------------------------------------------------------------------------|
| 0 | Main Control Board SW Version |  | <version>            | Displays the software version running on the controller board.                                                |
|   |                               |  | Unknown              | Cannot determine the software version information.                                                            |
| 1 | Main Control Board HW Version |  | <name>.<level>.<mod> | <name> = Short name of the board<br><level> = Version of the board<br><mod> = Modification level of the board |
|   |                               |  | Detection Fault      | Cannot read the board type information.                                                                       |

| #  | Status                     | State                    | Value                                            | Description                                                                                                                                                                    |
|----|----------------------------|--------------------------|--------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2  | Backplane HW Version       | <input type="checkbox"/> | <name>.<level>.<mod>                             | <name> = Short name of the board<br><level> = Version of the board<br><mod> = Modification level of the board<br>This information is cached while the projector is in standby. |
|    |                            | <input type="checkbox"/> | N/A                                              | The backplane has never been turned on or initialized.                                                                                                                         |
| 3  | Image Processor HW Version | <input type="checkbox"/> | <name>.<level>.<mod>                             | <name> = Short name of the board<br><level> = Version of the board<br><mod> = Modification level of the board<br>This information is cached while the projector is in standby. |
|    |                            | <input type="checkbox"/> | N/A                                              | The image processor board has never been turned on or initialized.                                                                                                             |
| 4  | Formatter-Red HW Version   | <input type="checkbox"/> | <name>.<level>.<mod>                             | <name> = Short name of the board<br><level> = Version of the board<br><mod> = Modification level of the board<br>This information is cached while the projector is in standby. |
| 5  | Formatter-Green HW Version |                          |                                                  |                                                                                                                                                                                |
| 6  | Formatter-Blue HW Version  |                          |                                                  |                                                                                                                                                                                |
|    |                            | <input type="checkbox"/> | N/A                                              | The formatter failed to be detected or initialized.                                                                                                                            |
| 7  | Option Card 1 HW Version   | <input type="checkbox"/> | <name>.<level>.<mod>                             | <name> = Short name of the board<br><level> = Version of the board<br><mod> = Modification level of the board<br>This is cached information while the projector is in standby. |
| 8  | Option Card 2 HW Version   |                          |                                                  |                                                                                                                                                                                |
| 9  | Option Card 3 HW Version   |                          |                                                  |                                                                                                                                                                                |
| 10 | Option Card 4 HW Version   |                          |                                                  |                                                                                                                                                                                |
|    |                            | <input type="checkbox"/> | N/A                                              | The option card has never been turned on or initialized.                                                                                                                       |
| 17 | Power Supply HW Version    | <input type="checkbox"/> | <hardware version>.<boot version>.<main version> | <hardware version> = Hardware version of power supply<br><boot version> = Version of power supply bootloader<br><main version> = Version of power supply main firmware         |
|    |                            | <input type="checkbox"/> | Unknown                                          | Cannot retrieve the hardware version.                                                                                                                                          |

| #  | Status                        | State                    | Value                | Description                                                                                                                                                                    |
|----|-------------------------------|--------------------------|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 18 | Housekeeping Board HW Version | <input type="checkbox"/> | <name>.<level>.<mod> | <name> = Name of the board (such as HKBA)<br><level> = Hardware version of the board<br><mod> = Modification level of the board                                                |
|    |                               | <input type="checkbox"/> | Unknown              | Cannot retrieve the hardware version.                                                                                                                                          |
| 19 | Keypad Display HW Version     | <input type="checkbox"/> | <name>.<level>.<mod> | <name> = Name of the board (such as IKB)<br><level> = Hardware version of the board<br><mod> = Modification level of the board                                                 |
|    |                               | <input type="checkbox"/> | Unknown              | Cannot retrieve the hardware version as the board is not ready.                                                                                                                |
| 20 | Lamp A1 Driver HW Version     | <input type="checkbox"/> | <version>            | Displays lamp driver information.                                                                                                                                              |
| 21 | Lamp A2 Driver HW Version     | <input type="checkbox"/> | Unknown              | Cannot retrieve the hardware version of the lamp driver.                                                                                                                       |
| 22 | Lamp A3 Driver HW Version     |                          |                      |                                                                                                                                                                                |
| 23 | Lamp B1 Driver HW Version     |                          |                      |                                                                                                                                                                                |
| 24 | Lamp B2 Driver HW Version     |                          |                      |                                                                                                                                                                                |
| 25 | Lamp B3 Driver HW Version     |                          |                      |                                                                                                                                                                                |
| 34 | Option Card 0 HW Version      | <input type="checkbox"/> | <name>.<level>.<mod> | <name> = Short name of the board<br><level> = Version of the board<br><mod> = Modification level of the board<br>This information is cached while the projector is in standby. |
|    |                               | <input type="checkbox"/> | N/A                  | The option card has never been turned on or initialized.                                                                                                                       |

## Temperature Group (SST+TEMP?)

The Temperature Group provides values and fault conditions for temperature-related items in Boxer 4K.



Some of the lamp driver statuses listed below may not be applicable for your installation as the model of projector determines the number of lamps in the projector.

| # | Status                          | State                    | Value      | Description                                     |
|---|---------------------------------|--------------------------|------------|-------------------------------------------------|
| 2 | Air Intake Temperature (Temp 2) | <input type="checkbox"/> | <value> °C | Displays the current temperature of the sensor. |

| #  | Status                                 | State                                                                               | Value                            | Description                                     |
|----|----------------------------------------|-------------------------------------------------------------------------------------|----------------------------------|-------------------------------------------------|
|    |                                        |    | Unknown                          | Temperature reading is unavailable.             |
|    |                                        |    | Communication Fault (shutdown)   | Cannot retrieve the temperature from sensor.    |
|    |                                        |    | <value> °C - High Temperature    | Temperature is sitting inside the warning band. |
|    |                                        |    | <value> °C - Too Hot (shutdown)  | Temperature is exceeding the error threshold.   |
|    |                                        |    | <value> °C - Low Temperature     | Temperature is sitting inside the warning band. |
|    |                                        |    | <value> °C - Too Cold (shutdown) | Temperature is below the error threshold.       |
| 4  | Main Control Board Temperature         |    | <value> °C                       | Displays the current temperature of the sensor. |
| 5  | Backplane Temperature                  |    | N/A                              | Temperature reading is unavailable.             |
| 6  | Image Processor Scaler Temperature     |    | N/A                              | Temperature reading is unavailable.             |
| 7  | Image Processor Warp-Red Temperature   |   | N/A                              | Temperature reading is unavailable.             |
| 8  | Image Processor Warp-Green Temperature |  | Communication Fault (shutdown)   | Cannot retrieve the temperature from sensor.    |
| 9  | Image Processor Warp-Blue Temperature  |  | Communication Fault (shutdown)   | Cannot retrieve the temperature from sensor.    |
| 10 | Formatter-Red Temperature              |  | <value> °C - High Temperature    | Temperature is sitting inside the warning band. |
|    |                                        |  | <value> °C - Too Hot (shutdown)  | Temperature is exceeding the error threshold.   |
|    |                                        |  | <value> °C - Low Temperature     | Temperature is sitting inside the warning band. |
|    |                                        |  | <value> °C - Too Cold (shutdown) | Temperature is below the error threshold.       |
| 11 | DMD Waterblock Temperature             |  | <value> °C                       | Displays the current temperature of the sensor. |
|    |                                        |  | Unknown                          | Temperature reading is unavailable.             |
|    |                                        |  | Not Present                      | The temperature sensor is not present.          |
|    |                                        |  | Communication Fault (shutdown)   | Cannot retrieve the temperature from sensor.    |
|    |                                        |  | <value> °C - High Temperature    | Temperature is sitting inside the warning band. |
|    |                                        |  | <value> °C - Too Hot (shutdown)  | Temperature is exceeding the error threshold.   |
|    |                                        |  | <value> °C - Low Temperature     | Temperature is sitting inside the warning band. |

| #  | Status                              | State                                                                               | Value                            | Description                                     |
|----|-------------------------------------|-------------------------------------------------------------------------------------|----------------------------------|-------------------------------------------------|
|    |                                     |    | <value> °C - Too Cold (shutdown) | Temperature is below the error threshold.       |
| 12 | Formatter-Green Temperature         |    | <value> °C                       | Displays the current temperature of the sensor. |
| 14 | Formatter-Blue Temperature          |    | N/A                              | Temperature reading is unavailable.             |
| 16 | Option Card 1 Temperature           |    | N/A                              | Temperature reading is unavailable.             |
| 17 | Option Card 2 Temperature           |    | N/A                              | Temperature reading is unavailable.             |
| 18 | Option Card 3 Temperature           |    | Communication Fault (shutdown)   | Cannot retrieve the temperature from sensor.    |
| 19 | Option Card 4 Temperature           |    | Communication Fault (shutdown)   | Cannot retrieve the temperature from sensor.    |
|    |                                     |    | <value> °C - High Temperature    | Temperature is sitting inside the warning band. |
|    |                                     |    | <value> °C - Too Hot (shutdown)  | Temperature is exceeding the error threshold.   |
|    |                                     |   | <value> °C - Low Temperature     | Temperature is sitting inside the warning band. |
|    |                                     |  | <value> °C - Too Cold (shutdown) | Temperature is below the error threshold.       |
| 20 | Housekeeping Board Temperature      |  | <value> °C                       | Displays the current temperature of the sensor. |
| 23 | Lamp A1 Driver Temperature          |  | <value> °C                       | Displays the current temperature of the sensor. |
| 24 | Lamp A2 Driver Temperature          |  | Unknown                          | Temperature reading is unavailable.             |
| 25 | Lamp A3 Driver Temperature          |  | Unknown                          | Temperature reading is unavailable.             |
| 26 | Lamp B1 Driver Temperature          |  | Communication Fault (shutdown)   | Cannot retrieve the temperature from sensor.    |
| 27 | Lamp B2 Driver Temperature          |  | Communication Fault (shutdown)   | Cannot retrieve the temperature from sensor.    |
| 28 | Lamp B3 Driver Temperature          |  | Communication Fault (shutdown)   | Cannot retrieve the temperature from sensor.    |
|    |                                     |  | <value> °C - High Temperature    | Temperature is sitting inside the warning band. |
|    |                                     |  | <value> °C - Too Hot (shutdown)  | Temperature is exceeding the error threshold.   |
|    |                                     |  | <value> °C - Low Temperature     | Temperature is sitting inside the warning band. |
|    |                                     |  | <value> °C - Too Cold (shutdown) | Temperature is below the error threshold.       |
| 29 | Main Control Board FPGA Temperature |  | <value> °C                       | Displays the current temperature of the sensor. |
|    |                                     |  | N/A                              | Temperature reading is unavailable.             |
|    |                                     |  | Communication Fault (shutdown)   | Cannot retrieve the temperature from sensor.    |
|    |                                     |  | <value> °C - High Temperature    | Temperature is sitting inside the warning band. |
|    |                                     |  | <value> °C - Too Hot (shutdown)  | Temperature is exceeding the error threshold.   |

| #              | Status                                                                       | State                                                                               | Value                                           | Description                                     |
|----------------|------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------|-------------------------------------------------|
|                |                                                                              |    | <value> °C - Low Temperature                    | Temperature is sitting inside the warning band. |
|                |                                                                              |    | <value> °C - Too Cold (shutdown)                | Temperature is below the error threshold.       |
| 34<br>35<br>36 | Power Supply Heat Sink 3 Temperature<br>Power Supply Heat Sink 5 Temperature |    | <value> °C Power Supply Heat Sink 2 Temperature | Displays the current temperature of the sensor. |
|                |                                                                              |    | Unknown                                         | Temperature reading is unavailable.             |
|                |                                                                              |    | Communication Fault (shutdown)                  | Cannot retrieve the temperature from sensor.    |
|                |                                                                              |    | <value> °C - High Temperature                   | Temperature is sitting inside the warning band. |
|                |                                                                              |    | <value> °C - Too Hot (shutdown)                 | Temperature is exceeding the error threshold.   |
|                |                                                                              |    | <value> °C - Low Temperature                    | Temperature is sitting inside the warning band. |
|                |                                                                              |    | <value> °C - Too Cold (shutdown)                | Temperature is below the error threshold.       |
| 37             | Option Card 0 Temperature                                                    |  | <value> °C                                      | Displays the current temperature of the sensor. |
|                |                                                                              |  | N/A                                             | Temperature reading is unavailable.             |
|                |                                                                              |  | Communication Fault (shutdown)                  | Cannot retrieve the temperature from sensor.    |
|                |                                                                              |  | <value> °C - High Temperature                   | Temperature is sitting inside the warning band. |
|                |                                                                              |  | <value> °C - Too Hot (shutdown)                 | Temperature is exceeding the error threshold.   |
|                |                                                                              |  | <value> °C - Low Temperature                    | Temperature is sitting inside the warning band. |
|                |                                                                              |  | <value> °C - Too Cold (shutdown)                | Temperature is below the error threshold.       |

## Cooling Group (SST+COOL?)

The Cooling Group provides values and fault conditions related to cooling and fans for Boxer 4K.



Some of the lamp and bulb blower statuses listed below may not be applicable for your installation as the model of projector determines the number of lamps in the projector.

| #  | Status                       | State                                                                               | Value                        | Description                                                                    |
|----|------------------------------|-------------------------------------------------------------------------------------|------------------------------|--------------------------------------------------------------------------------|
| 0  | Intake A (Fan 19)            |    | <tach> RPM                   | Displays the current tachometer reading.                                       |
| 1  | Intake B (Fan 20)            |    | Off                          | Fan is off.                                                                    |
| 3  | Formatter-Green (Fan 23)     |    | Unknown                      | The tachometer reading is unavailable.                                         |
| 4  | LAD Blower A (Fan 26)        |    | <tach> RPM - Low RPM         | Fan tachometer reading is lower than the minimum recommended speed.            |
| 5  | Card Cage Intake (Fan 32)    |    | Off - Overridden             | Fan is off. The fan speed has been changed from its default recommended value. |
| 6  | Card Cage Intake (Fan 33)    |    | <tach> RPM - Overridden      | Fan is on. The fan speed has been changed from its default recommended value.  |
| 8  | HIP Blower A (Fan 17)        |    | <value> L/min                | Displays the amount of liquid flowing past the sensor.                         |
| 9  | Card Cage Exhaust (Fan 30)   |    | Off                          | Liquid cooling is off.                                                         |
| 10 | Card Cage Exhaust (Fan 31)   |    | Unknown                      | The tachometer reading is unavailable.                                         |
| 12 | Liquid Cooling Flow Meter    |   | <value> L/min - Flow Impeded | The flow reading is lower than the minimum recommended threshold.              |
| 13 | Liquid Cooling Pump          |  | <tach> RPM                   | Displays the current tachometer reading.                                       |
| 15 | HIP Blower B (Fan 18)        |  | Off                          | Fan is off.                                                                    |
| 16 | Lamp Driver Exhaust (Fan 22) |  | Unknown                      | The tachometer reading is unavailable.                                         |
| 17 | Lamp Driver Intake (Fan 21)  |  | <tach> RPM - Low RPM         | Fan tachometer reading is lower than the minimum recommended speed.            |
| 18 | Bulb Blower A1 (Fan 6)       |  | <tach> RPM                   | Displays the current tachometer reading.                                       |
| 19 | Bulb Blower A2 (Fan 5)       |  | Off                          | Fan is off.                                                                    |
| 20 | Bulb Blower A3 (Fan 4)       |  | Unknown                      | The tachometer reading is unavailable.                                         |
| 21 | Bulb Blower B1 (Fan 3)       |  | <tach> RPM - Low RPM         | Fan tachometer reading is lower than the minimum recommended speed.            |
| 22 | Bulb Blower B2 (Fan 2)       |  |                              |                                                                                |
| 23 | Bulb Blower B3 (Fan 1)       |  |                              |                                                                                |

| #  | Status                   | State                                                                             | Value                   | Description                                                                                |
|----|--------------------------|-----------------------------------------------------------------------------------|-------------------------|--------------------------------------------------------------------------------------------|
| 24 | Lamp Fan A1 (Fan 12)     |  | Off - Overridden        | Fan is off. The fan speed has been changed from its default recommended value.             |
| 25 | Lamp Fan A2 (Fan 10)     |                                                                                   |                         |                                                                                            |
| 26 | Lamp Fan A3 (Fan 8)      |  | <tach> RPM - Overridden | Fan is on. The fan speed has been changed from its default recommended value.              |
| 27 | Lamp Fan B1 (Fan 11)     |                                                                                   |                         |                                                                                            |
| 28 | Lamp Fan B2 (Fan 9)      |                                                                                   |                         |                                                                                            |
| 29 | Lamp Fan B3 (Fan 7)      |                                                                                   |                         |                                                                                            |
| 31 | Formatter-Red (Fan 24)   |                                                                                   |                         |                                                                                            |
| 33 | Radiator Fan A (Fan 13)  |                                                                                   |                         |                                                                                            |
| 34 | Radiator Fan B (Fan 14)  |                                                                                   |                         |                                                                                            |
| 35 | Radiator Fan C (Fan 15)  |                                                                                   |                         |                                                                                            |
| 36 | Radiator Fan D (Fan 16)  |                                                                                   |                         |                                                                                            |
| 37 | LAD Blower B (Fan 27)    |                                                                                   |                         |                                                                                            |
| 43 | Formatter-Blue (Fan 25)  |                                                                                   |                         |                                                                                            |
|    | Lamp Door Fan 1 (Fan 28) |                                                                                   |                         |                                                                                            |
|    | Lamp Door Fan 2 (Fan 29) |                                                                                   |                         |                                                                                            |
| 45 | Power Supply Fan 1       |  | <tach> RPM              | Displays the current tachometer reading.                                                   |
| 46 | Power Supply Fan 2       |                                                                                   |                         |                                                                                            |
| 47 | Power Supply Fan 3       |  | Unknown                 | The status of this output is unknown because the power supply cannot be communicated with. |

## Serial Group (SST+SERI?)

The Serial Group provides values and fault conditions related to hardware serial numbers for Boxer 4K.

| # | Status                 | State                                                                               | Value           | Description                                                                                      |
|---|------------------------|-------------------------------------------------------------------------------------|-----------------|--------------------------------------------------------------------------------------------------|
| 0 | Main Control Board S/N |  | <serial number> | Displays the electronic serial number of the main control board.                                 |
|   |                        |  | Missing S/N     | Cannot retrieve the value because the serial number was not programmed into the board correctly. |
| 1 | Backplane S/N          |  | <serial number> | Displays the electronic serial number of the backplane.                                          |
|   |                        |  | N/A             | The information is not currently available (card not present or not powered).                    |
|   |                        |  | Missing S/N     | Cannot retrieve the value because the serial number was not programmed into the board correctly  |

| #  | Status                 | State                                                                               | Value                 | Description                                                                                      |
|----|------------------------|-------------------------------------------------------------------------------------|-----------------------|--------------------------------------------------------------------------------------------------|
| 2  | Image Processor S/N    |    | <serial number>       | Displays the electronic serial number of the board.                                              |
|    |                        |    | N/A                   | The information is not currently available (card not present or not powered).                    |
|    |                        |    | Missing S/N           | Cannot retrieve the value because the serial number was not programmed into the board correctly  |
| 3  | Formatter-Red S/N      |    | <serial number>       | Displays the electronic serial number of the formatter.                                          |
| 4  | Formatter-Green S/N    |    | N/A                   | The information is not currently available (card not present or not powered).                    |
| 5  | Formatter-Blue S/N     |                                                                                     | Missing S/N           | Cannot retrieve the value because the serial number was not programmed into the board correctly  |
| 6  | Option Card 1 S/N      |    | <serial number>       | Displays the electronic serial number of the option card.                                        |
| 7  | Option Card 2 S/N      |  | N/A                   | The information is not currently available (card not present or not powered).                    |
| 8  | Option Card 3 S/N      |                                                                                     | Missing S/N           | Cannot retrieve the value because the serial number was not programmed into the board correctly  |
| 9  | Option Card 4 S/N      |  |                       |                                                                                                  |
| 14 | Housekeeping Board S/N |  | <serial number>       | Displays the electronic serial number of the board.                                              |
| 15 | Keypad Display S/N     |  | Unknown               | The serial number is unavailable because the board is not ready.                                 |
|    |                        |  | Missing Serial Number | Cannot retrieve the value because the serial number was not programmed into the board correctly. |
| 16 | Option Card 0 S/N      |  | <serial number>       | Displays the electronic serial number of the option card.                                        |
|    |                        |  | N/A                   | The information is not currently available (card not present or not powered).                    |
|    |                        |  | Missing S/N           | Cannot retrieve the value because the serial number was not programmed into the board correctly  |

## Corporate offices

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Christie Digital Systems USA, Inc.  
ph: 714 236 8610

Christie Digital Systems Canada Inc.  
ph: 519 744 8005

## Worldwide offices

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Africa  
ph: +27 (0)11 510 0094

Australia  
ph: +61 (0) 7 3624 4888

Brazil  
ph: +55 (11) 2548 4753

China (Beijing)  
ph: +86 10 6561 0240

China (Shanghai)  
ph: +86 21 6030 0500

Columbia  
ph: +57 (318) 447 3179

France  
ph: +33 (0) 1 41 21 44 04

Germany  
ph: +49 2161 566200

India  
ph: +91 (080) 6708 9999

Japan (Tokyo)  
ph: 81 3 3599 7481

Korea (Seoul)  
ph: +82 2 702 1601

Mexico  
ph: +52 55 4744 1790

Singapore  
ph: +65 6877 8737

Spain  
ph: +34 91 633 9990

Middle East  
ph: +971 (0) 503 6800

United Kingdom  
ph: +44 (0) 118 977 8000

United States (Arizona)  
ph: 602 943 5700

## Independant sales consultant offices

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Italy  
ph: +39 (0) 2 9902 1161

Russia  
ph: +36 (0) 1 47 48 100



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