CRS-5K Hardware Manual

Jupiter

May 23, 2022

A-CAN-001-03, Rev. A

Acknowledgments

Conventions Used in this Manual

Labels from the user Interface (UI) are bolded to make it easier to follow instructions. If you see a bolded word or set of words, look for the label in the UI. Where possible tabs and dialog boxes are named in instructions as markers so you know you are in the right place.

Notice of Regulatory Compliance

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

This equipment generates, uses, and can radiate radio frequency (RF) energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case users will be required to correct the interference at their expense. The user is cautioned that changes or modifications not expressly approved by Jupiter Systems can void the user's authority to operate this equipment. The entire risk of the use or the result of the use of this Hardware and Software and documentation remains with the User. Information in this document is subject to change without notice. No part of this document may be reproduced, transmitted, transcribed, stored in a retrieval system, or translated into any language in any form or by any means, electronic or mechanical, including photocopying without express written permission of Jupiter Systems. See also "Jupiter Canvas Hardware" on page 15.

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Chapter 1
INTRODUCTION

1.1 CRS-5K Features

The Canvas CRS-5K system is a small but powerful computer designed for rapid sharing of presentations in a meeting room.

With the Canvas CRS-5K system, teams in huddle rooms can quickly collaborate using live video (streaming), applications, document presentations, and web windows.

The CRS-5K provides this versatility by running a Canvas Client and SimpleShare software. SimpleShare permits sharing content from locally connected personal computers, and Canvas allows sharing of data from the entire Canvas domain of computers and attached devices.

Figure 1.1: CRS-5K Front Panel

Note: This manual does not cover the use of SimpleShare nor Canvas configuration. For those topics, see the Canvas Manual.

1.2 CRS-5K Functionality

1.2.1 CRS-5K Sources

The CRS-5K is a conference room appliance which provides access to:

- Web pages
- Network camera streams
- Remote PCs via VNC
- Windows applications
- Shared desktops
- Shared Video calls

1.2.2 CRS-5K Displays

The CRS-5K may be used as a Client in a larger Canvas system, sharing sources and canvas across the network.

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Chapter 2
SPECIFICATIONS AND CONNECTIONS

2.1 Hardware Features & Specifications

With a built-in graphics adapter, the CRS-5K delivers up to four 1K outputs or a single 4K/5K output. It has four USB 3.0 compliant ports, one Ethernet port, a microphone input, and an audio output which can be used with a headset or an amplified speaker system.

Table 2.1: CRS-5K Specifications

Item	Description
HARDWARE	
CPU	Intel Core i7
RAM	16 GB
Hard Drive (SSD)	256 GB
Nominal Power Supply	150W
PHYSICAL	
Form Factor	mini-ITX
Dimensions (H x W x D)	3.8 x 8.7 x 12.9 inches (96.52 x 220.98 x 327.66 mm)
Weight	10 lbs (4.5 kg)
Shipping Weight	15 lbs (6.8 kg)
MTBF	100,000 hours
Operating Temperature	-10°C - 70°C
Operating Humidity	10%-90%, non-condensing

Table 2.1: CRS-5K Specifications

Item	Description
INTERFACE PORTS	
USB	4 USB 3.0, A type
Audio	3.5mm stereo, (AC'97 and HD audio), digital audio output, microphone in
Network	1 RJ45
OUTPUT PORTS	
Interface	Mini-Display Port
Max Output Resolution	5120 x 2160 @60Hz
Max FHD Outputs	4
Max 5K Outputs	1
Max Windows per display	32
Picture-in-Picture	Yes
INPUT	
Software Decoding (per system)	12 x 1920 x 1080 @30Hz
Protocols	RTSP, RTP
IP INPUTS	
SimpleShare (Desktop Sharing)	12
VNC	12
Web	12

Table 2.1: CRS-5K Specifications

Item	Description
SOFTWARE	
OS	Windows 10
Management Software	Canvas
Encryption	SSL/TLS
Client Software	Canvas Desktop & Web
Application Support	Yes
API	TCP/RS232
Picture Viewer	Yes
Scrolling Text	Yes
Clock	Yes, multiple time zones
CONFIGURATION CAPACITY	
5K display (5120 x 2160 @60Hz)	1
4K display (3840 x 2160 @60Hz)	1
1k displays (1920 x 1080 @60Hz)	4
CERTIFICATIONS	
Safety	UL, CE, RCM (C-Tick), EAC
Electromagnetic Compliance (EMC)	FCC, CE, ICES, AS/NZS,BSMI, VCCI

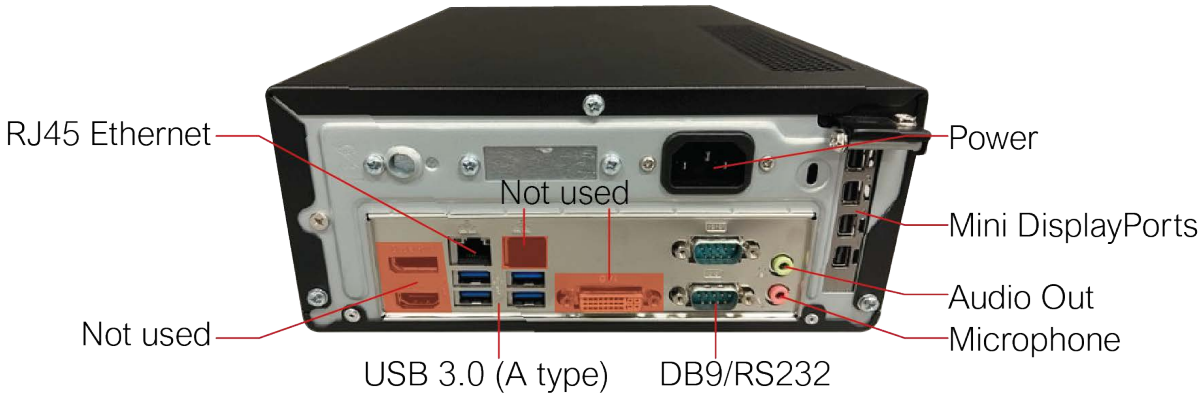
Table 2.2: Power Specifications

Rated Voltage Range	100–240 VAC auto ranging
Maximum Power	150 Watts nominal
Frequency Range	50–60 Hz

2.2 CRS-5K Connections and Buttons

2.2.1 Rear Panel Connections

Figure 2.1: CRS-5K Rear Panel



- Four mini DisplayPorts
- RJ45 Ethernet Port
- Four USB 3.0/2.0/1.1 ports (blue)
- Two male DB9/RS-232 ports
- 3.5 mm Audio Out
- 3.5 mm Microphone In
- DVI connector (center) — not used
- DisplayPort connector (upper left side) — not used
- HDMI connector (lower left side) — not used

2.2.1.1 Mini DisplayPorts

The four mini DisplayPort connectors on the right side are the primary connections to displays. Connect one output port to one display, i.e., don't connect several ports to the same display. To drive a single 5K display, use only one connection from the CRS-5K.

A convenient feature of the CRS-5K is that regardless of which port cables are used, Windows will build a display wall using the monitors in the order which they are connected. There is no set physical numbering of the chassis ports. If two cables are plugged into ports 2 and then 4, port 2 becomes output #1 and port 4 becomes output #2. If later plug a cable into the topmost port, it becomes output #3.

If a cable is unplugged, Windows automatically adjusts the wall size downwards (e.g., from 3x1 to 2x1). Plug the cable back in, and Windows automatically adjusts the wall size upwards (e.g., back to 3x1). See chapter 3 for additional details.

Different display types of displays may be connected simultaneously, e.g.: a Samsung on port 1, a Mitsubishi on port 2, an NEC on port 3, etc.

Different connector types may be used simultaneously, e.g.: DisplayPort on port 1, HDMI on port 2, DVI on port 3, etc.

2.2.1.2 Output Limits

The CRS-5K supports up to four HD displays (1920 x 1080 @60Hz) or four 4K display (up to 3840 x 2160 @60Hz) or three 5K display (up to 5120 x 2160 @60Hz).

2.2.1.3 Cables and Adapters

The mini DisplayPorts are the primary outputs. For using DisplayPort, HDMI, and DVI use adapter cables:

- **DisplayPort**

  For displays with DisplayPort connectors, use miniDP-to-DP cables. DisplayPort version 1.2 or higher cables are needed to support up to 4K@60Hz. DisplayPort version 1.4 or higher cables are needed to support up to 5K@60Hz. cables must support signals up to 8K.

- **HDMI**

  For displays with HDMI connectors, each CRS-5K output requires a miniDP-to-HDMI adapter plus an HDMI cable. The adapter comes in two varieties — passive and active. Use active adapters to drive HDMI monitors.

  Active adapters allow up to 5K throughput, although many only support 30Hz. HDMI version 1.4 or higher cables support signals up to 5K@30Hz. HDMI 2.0 cables are needed to support 5K@60Hz, so look for products that say “DP 1.2 to HDMI 2.0”.

- **DVI**

  For displays with DVI connectors, each CRS-5K output use a miniDisplayPort-to-DVI dongle plus a DVI cable. The adapter comes in two varieties — passive and active. Use active adapters to drive DVI monitors.

  Jupiter supplies miniDP-to-DVI dongles, but they must be purchased separately. No DVI dongles are included with the CRS-5K.

  DVI cables can send signals up to 1920x1200@60Hz.

Note: Use DisplayPort or HDMI to drive a 4K or 5K display - not DVI.

2.2.2 Front Panel Button, Connectors and LED

Figure 2.2: CRS-5K Front Panel

- 3.5 mm Audio Out
- 3.5 mm Microphone In
- Reset button
- HDD LED (Shows activity when blinking)
- Power button

Chapter 3
WALL CONFIGURATION

As described in *Section 2.2.1, Rear Panel Connections,* on page 6, once monitors are connected with the proper cables and adapters, the CRS-5K will configure a wall for you automatically. Microsoft Windows will build a display wall using the monitors in the order they are connected.

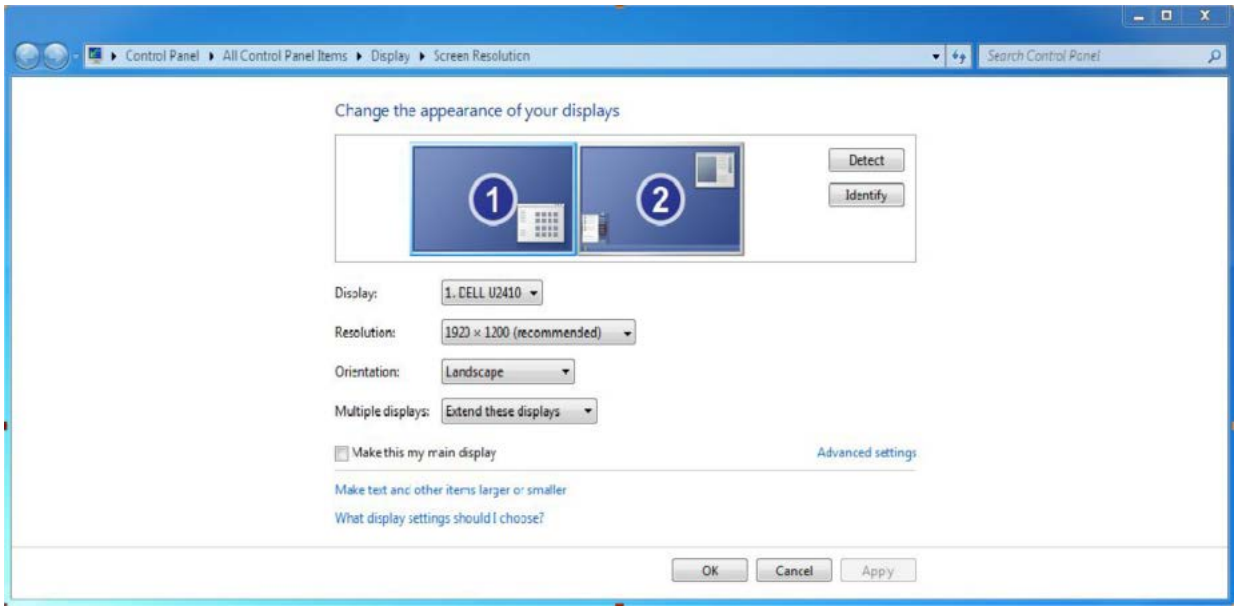
Initially, the displays will be added horizontally (e.g., 2x1, 3x1, 4x1).

Change Wall Geometry Using Display Control Panel

1 *Open Display Settings from your Control Panel*

Right click on the desktop and select **Display Settings**.

Figure 3.1: Window Screen Resolution Pane



Note: The screen may go black if the wrong resolution is chosen. The CRS-5K will revert to the last working resolution in a short while.

2 *Select the* **Resolution** *dropdown in the dialog box and choose the desired resolution*

With multiple displays connected, the monitors may be dragged into the geometry you desire on the **Screen Resolution** pane. Screen orientation can be set to **Portrait** or **Landscape** in the **Orientation** dropdown.

3 *Select the primary display (the one with the Windows Taskbar) by clicking on it and entering a check in the Make this my main display checkbox*

Multiple display types may be connected (e.g., a Samung on port 1, a Mitsubishi on port 2, an NEC on port 3, etc.). You can connect different connector types (e.g., DisplayPort on port 1, HDMI on port 2, DVI on port 3, etc.).

The officially supported configuration is up to four 1080p monitors or one 4K/5K monitor.

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Chapter 4
REMOVING & REPLACING COMPONENTS

This section describes how to remove and replace the components listed below in the CRS-5K:

- *Battery Replacement*
- *Memory Support and Installation*

WARNING! **Due to the risk of personal injury and damage to the equipment, only a factory qualified Technician should attempt to remove and/or replace components in the CRS-5K chassis! There are NO user serviceable parts inside the CRS-5K Chassis.**

WARNING! **Static electricity can damage integrated circuits. Always use static protection when handling any internal components!**

Always make sure you are properly grounded.

To replace any component, reverse the order of the component removal procedure.

4.1 First Things First

1 Perform an orderly shutdown of the system as follows

- **a** Close/Stop Remote Sessions
- **b** Save Layouts as needed
- **c** Close Canvas Client
- **d** Quit Canvas Server
- **e** Shut down Windows

2 Disconnect all appropriate cables from the Rear Panel connector(s) on the board/assembly you are replacing

Caution: Unplug the AC power cord from the CRS-5K chassis.

3 Remove the cover

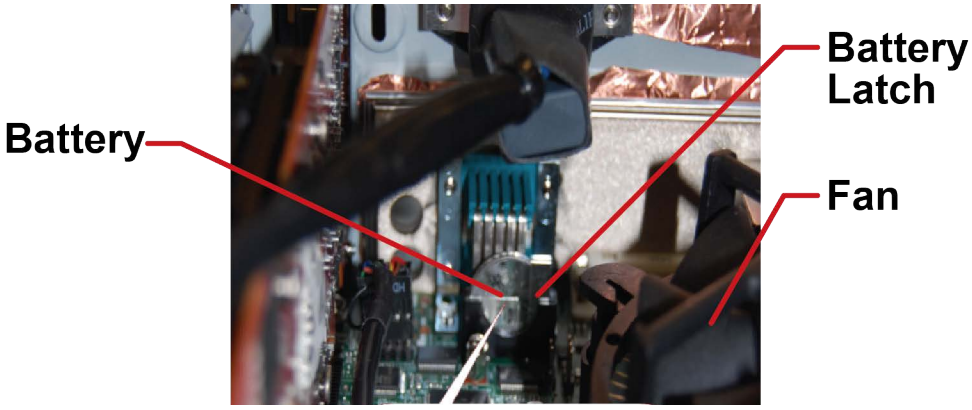
- **a** Remove the 12 screws which retain the top cover on the CRS-5K chassis
- **b** Remove top cover from CRS-5K chassis.

4.2 Battery Replacement

WARNING! **There is danger of explosion if the battery is incorrectly replaced. Replace only with the same or equivalent type recommended by Jupiter Systems. Dispose of used batteries according to the manufacturer's instructions.**

Avertissement! **Il y a danger d'explosion s'il y a remplacement incorrect de la batterie. Remplacer uniquement avec une batterie du même type ou d'un type équivalent recommandé par le constructeur. Debarrassez-vous et recyclez les piles usagées conformément aux instructions du fabricant.**

Figure 4.1: CRS-5K CPU Board



Caution: Removing the battery will erase key information such as the date, boot order, and RAID settings. Write down the current values for these settings before removing the battery.

1. Remove the cover as described in *Section 4.1, First Things First,* on page 11
2. Locate the battery in the rear middle of the CPU Board

   The battery is about the size of a quarter.
3. Using your finger or fingernail, pry back the battery holder/battery latch to release the battery

   Note the polarity of the battery when removing. Note the plus sign (+) on the battery.
4. Insert the battery
   - **a** Observe the battery polarity when inserting the battery into the holder

     The positive (+) pole should be toward you when the fan is on your right side.
   - **b** Put the edge in first, up under the metal spring clip/contact, then press the battery down into the latch

4.3 Memory Support and Installation

Caution: **Exercise extreme care when installing or removing DIMM modules to prevent any pos-**

sible damage.

4.3.1 Memory Support

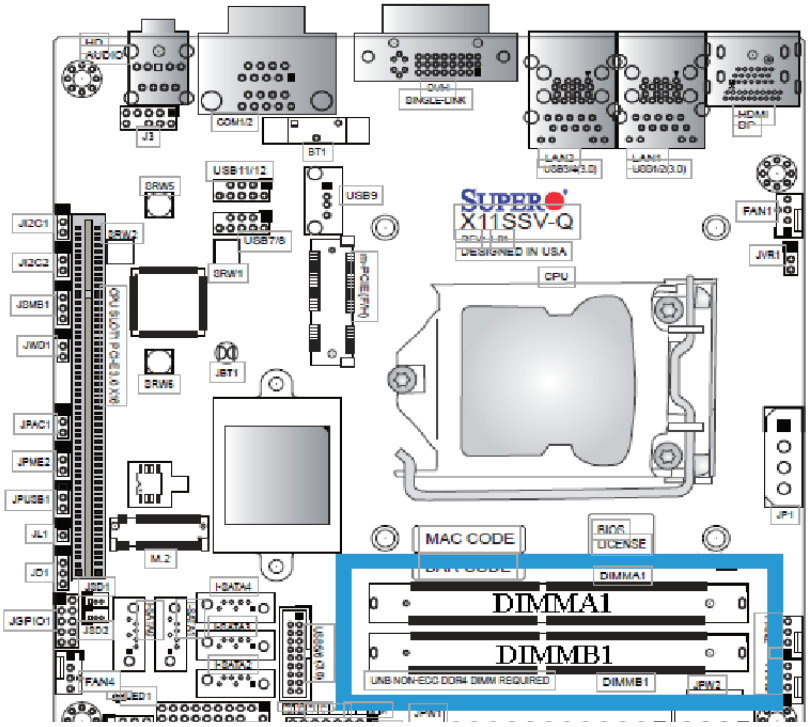
The CPU board supports up to 32GB of DDR4 Non-ECC Unbuffered SO-DIMM 2400 MHz in two memory slots. Populating these DIMM slots with a pair of memory modules of the same type and size will result in interleaved memory, which will improve memory performance.

4.3.2 SO-DIMM Module Population Sequence

When installing memory modules, the DIMM slots must be populated in the following order: DIMMA1, then DIMMB1.

4.3.3 SO-DIMM Installation

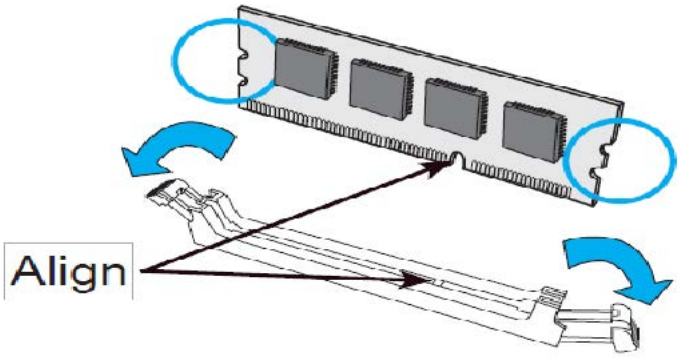
Figure 4.2: Memory Location



1 Insert SO-DIMM modules in the following order: DIMMA1, then DIMMB1. For the system to work properly, please use memory modules of the same type and speed on the motherboard

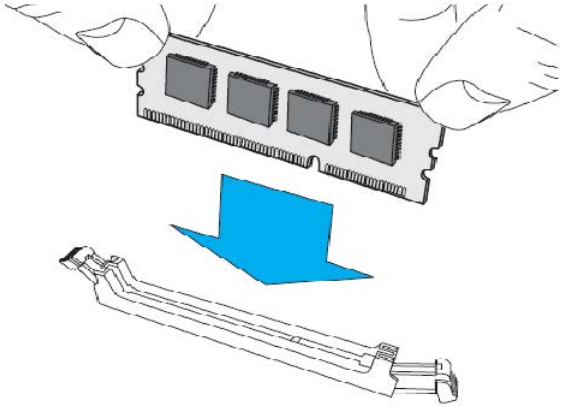
2 Position the SO-DIMM module's bottom key so it aligns with the receptive point on the slot. Take note of the module's side notches and the locking clips on the socket

Figure 4.3: Orienting DIMM Module



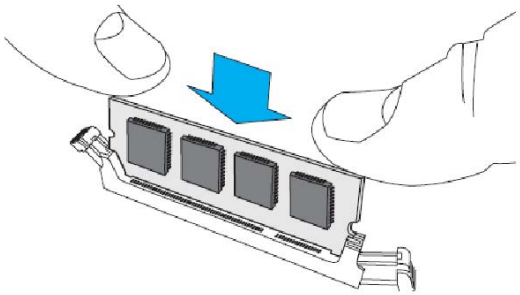
3 Insert the SO-DIMM module straight down

Figure 4.4: Inserting DIMM Module



4 Press down until the module locks into place. The side clips will automatically secure the SO-DIMM module, locking it into place

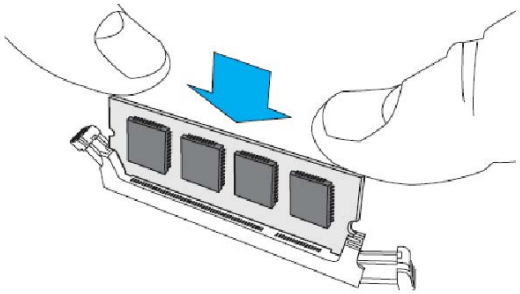
Figure 4.5: Lock DIMM Module



4.3.4 SO-DIMM Removal

Use your thumbs to gently push the side lips near both ends away from the module. This should release it from the slot. Pull the SO-DIMM module upwards.

Figure 4.6: Remove DIMM Module



Chapter 5
WARRANTY & TECHNICAL SUPPORT

This chapter includes the following sections:

5.1 Warranty

Jupiter Canvas Care provides limited Fusion Catalyst Hardware Warranty, Fusion Catalyst Hardware and Canvas Software Support and Software Updates. Two years of Jupiter Canvas Care is included in the base price

5.1.1 Jupiter Canvas Hardware

Jupiter Systems (Jupiter) warrants that the Canvas systems sold by Jupiter are free from defects in material and workmanship and will perform in accordance with the product specification for a period of 24 months from the date of shipment from Jupiter Systems. This warranty is in effect whether the product was purchased directly from Jupiter or through an authorized Jupiter distributor. Any product becoming defective within the time period specified will be repaired or replaced, at Jupiter's option and at Jupiter's factory or authorized repair center. The defective product must be returned to Jupiter or to the Jupiter authorized repair center at the expense of the customer. Expense for the return shipment of the product to the customer within the U.S. will be borne by Jupiter. Products returned to Jupiter must have a Return Merchandise Authorization (RMA) number. To obtain an RMA number contact the Jupiter repair service center at the phone number listed on the Copyright page.

5.1.2 Return Merchandise Authorization

PRODUCTS SHIPPED TO JUPITER WITHOUT A RETURN AUTHORIZATION NUMBER WILL NOT BE ACCEPTED. JUPITER'S TOTAL LIABILITY UNDER THIS WARRANTY SHALL BE LIMITED TO THE REPAIR OR REPLACEMENT OF THE DEFECTIVE PRODUCT OR, AT JUPITER'S OPTION, RETURN OF THE PRODUCT TO JUPITER FOR A REFUND OF THE FULL PURCHASE PRICE. THE ABOVE WARRANTY IS THE ONLY WARRANTY APPLICABLE TO JUPITER'S PRODUCTS AND IS THE CUSTOMER'S SOLE AND EXCLUSIVE REMEDY FOR ANY DEFECT IN THE PRODUCTS.

5.1.3 Limitations

Jupiter does not warrant the product for fitness for any particular purpose or application. Jupiter has no liability for statements of functionality, performance, or configurability beyond the written product specification for the specific Jupiter product. Jupiter shall not be held liable for incidental, indirect, consequential, general or special damages resulting from the use or the inability to use or the failure of a Jupiter product used in any application. No warranty, including this warranty, shall apply to any Jupiter products that have been modified in any way, by any organization other than the Jupiter factory. The warranty is void for products that have been subjected to misuse, improper maintenance, negligence, and/or damage by excessive current, temperature, or accident.

Jupiter neither assumes nor authorizes any representative or other person to assume for Jupiter any other warranty or liability in connection with the sale or shipment of Jupiter products. Jupiter reserves the right to make changes or improvements in its products without incurring any obligation to similarly alter products previously purchased.

Jupiter voids the warranty of Canvas and other products purchased alongside from Jupiter if the warranty seal is broken on the Canvas CRS-5K. This is irrespective of geographic location. The warranty is also voided if Canvas CRS-5K is used in a different geographic location than for which it is initially purchased.

Any attempt to tamper with, modify, or change the Canvas CRS-5K will result in the warranty being voided as noted above

5.2 Hardware Faults

If you require assistance with any suspected hardware fault, please contact the vendor from whom you purchased the display while within the full warranty period for the display.

If you require technical assistance, please contact Jupiter Systems' technical support team. Please provide as much information to the support team about the fault and any steps you have taken in trying to resolve the issue.

5.3 Contact Information

- Website
  www.jupiter.com /support
- Phone
  1-510-675-1000
- Email
  support@jupiter.com
- Mail (physical)
  ATTN: Technical Support
  Jupiter Systems
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