

SILENT SENTINEL ARE SPECIALISTS IN LONG RANGE  
OPTICAL SENSORS INCLUDING BOTH COOLED AND  
UNCOOLED THERMAL CAMERAS

# Silent Sentinel IP User Guide

## Performing a Firmware Update

Version: V1.0

Date: 24/11/2020



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If you need the latest version of this manual, please contact us. Silent Sentinel recommends that you use this manual under the guidance of professionals.

## Version Control

Version	Author	Approver	Date
1.0	Matthew Short	Matthew Short	24/11/2020

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## Introduction

The below instructions cover the process for updating the Main Board of the Jaeger / Osiris / Aeron / Oculus.

## Prerequisites

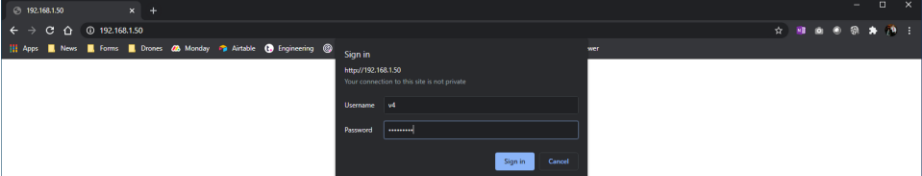
In order to start this process you will need the following;

1. USB <> RS485 Adapter.
  - a. Ideally a NOVUS i485
2. Camera Platform
  - a. Access to the CHARM100 Web Brower
3. IP Address for the CHARM100
  - a. Should one be fitted.
4. View of the Silent Sentinel OSD Menu.
  - a. This is typically overlaid onto the Thermal Video Feed. If not, then it can be viewed by connected the BNC output from the Multi-Core cable to an Analogue Monitor or Video Encoder.

## Performing a Main Board Firmware Update

### Step 1 – Disable the CHARM100

This step only applies if the unit has been provided with Video Tracking Capabilities.

Step	Description	Image
1	<p>Log into the CHARM100 Web Brower using the IP Address it is currently configured to.</p> <p>http://*IP _ADDRESS*</p> <p><b>Username:</b> v4</p> <p><b>Password:</b> vision4ce</p>	

<p>2</p>	<p>Select the Configure CHARM Link</p>		
<p>3</p>	<p>Select the checkbox for either 'factory.xml' or 'Production_Test.xml'.</p> <p>Select the Submit Query Button.</p> <p><b>NOTE:</b> Make a note of the currently selected configuration file as you will need to return to this after the Firmware Update is complete.</p>		

<p>4</p>	<p>Return to the CHARM100 base menu and select the Reboot button.</p>	<p>The screenshot shows a web browser window with the address bar displaying '192.168.1.50'. The page title is 'VISION4CE CHARM Main Page'. On the left side, there is a vertical menu with the following items: 'Update_CHARM', 'Change_IP_address', 'Configure_CHARM', 'Set_NTP_server_address', and 'Information'. The 'reboot' button is located below the 'Information' link and is highlighted with a red rectangular box. The background of the page features a blue geometric pattern of interconnected lines.</p>	
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## Step 2 – Setup and Verify Comms

Step	Description	Image
1	Connect the USB <=> RS485 to the Serial Lines on the end of the MultiCore Cable.	



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<p>2</p> <p>Open Up SSUtility2.0, connect to the camera so that the OSD Video Feed can be viewed.</p> <p>Refer to the SSUtility 2.0 User Guide as required.</p>			
<p>3</p> <p>Select 'Debug Toggle' button from the Admin Tab to display the Debug.</p>			

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<p>4</p>	<p>Verify that the CHARM100 has been disabled by observing the Debug and verifying that no commands are being received.</p> <p>1. Verify that the highlighted area is not changing. This shows the most recent command.</p>		
<p>5</p>	<p>Verify that the USB &lt;-&gt; RS485 is connected correctly by sending in PT control from SSUtility2.0 and verifying that the Unit responds.</p>		

### Step 3 – Verify PT Settings

Step	Description	Image
1	<p>Open Up SSUtility2.0, connect to the camera so that the OSD Video Feed can be viewed.</p> <p>Refer to the SSUtility 2.0 User Guide as required.</p>	
2	<p>Select 'Setup Menu' button from the Admin Tab to display the Setup Menu.</p>	

<p>3</p>	<p>Using the PT buttons scroll down to 'Communications' Option. Use zoom-in to select the menu.</p>		
<p>4</p>	<p>Using the PTZ control ensure the following settings are set;</p> <ol style="list-style-type: none"> <li>1. Auto-protocol = On</li> <li>2. Protocol Escape = On</li> <li>3. Baud Rate = 9600</li> </ol> <p>If any of the settings are changed please soft-power cycle the unit</p> <p><b>Note:</b> If the Baud Rate has to be changed then the Baud Rate of the corresponding control method (Encoder, MOXA, Serial Adapter etc) will also need to be changed to match.</p>		

<p>5a</p>	<p>Optional Step – Power Cycle Camera</p> <p>Use the ‘Zoom Out’ button to exit the OSD Menu.</p>		

5b Select the 'Default Menu' button from the Admin tab to access the default menu.

Scroll down using the PT control and select (Zoom In) the '\$Reboot camera' option.

Once the camera has rebooted reverify PT control.

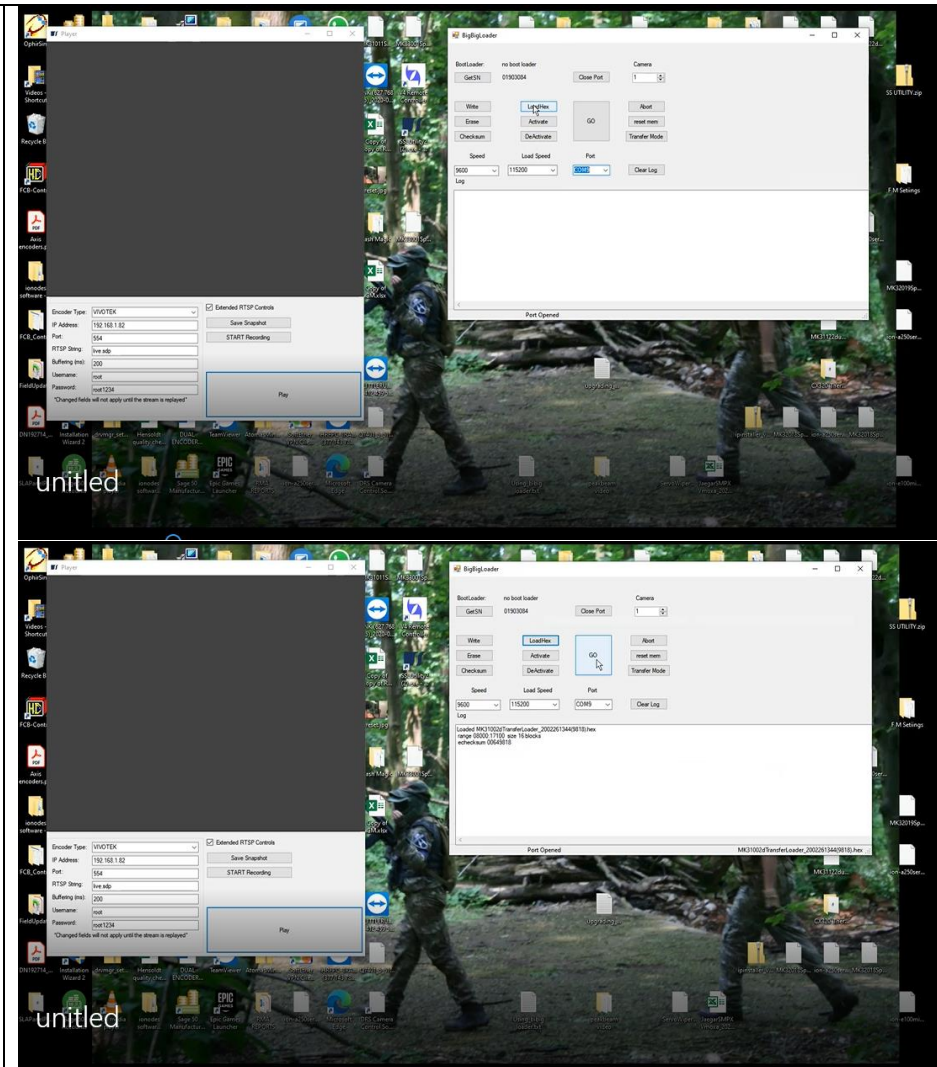


## Step 4 – Upgrade FW.

Step	Description	Image
1	<p>Open up Big Big Loader.</p> <p>Select the correct COM Port from the 'Port' drop down list then select Open.</p> <p>Should this be successful the bottom bar will display 'Port Opened'</p>	
2	<p>Select the 'Get SN' button.</p> <p>Should this be successful the OSD will momentarily change to approximate the OSD image shown and the Serial Number will be displayed next to the 'Get SN' button. This verifies two-way communications with the Pan / Tilt and the BigBigLoader utility.</p>	

3 Select the 'LoadHex' button and subsequently select the Firmware file to be uploaded.

Should the firmware be recognized correctly the 'Log' will change as per the second image.





<p>4</p> <p>Select the 'Go' button. The firmware will then begin to write.</p> <p>BigBigLoader will then transfer the firmware (in blocks) to the Main Board. Progress can be judged by reviewing the bottom part and the number of blocks currently wrote.</p> <p>If at any point the FW upload fails, power cycle the unit and return to Step 1.</p> <p>If the FW continues to fail (after writing some blocks) then either;</p> <ol style="list-style-type: none"> <li>1. Reduce the load speed from 115200 to a lower value</li> <li>2. Source an alternative USB &lt;-&gt; RS485 Adapter</li> </ol>	
<p>5</p> <p>Upon completion of Firmware upload the unit will power cycle and go through the standard Power On Self Test (POST) process.</p> <p>Successful FW is confirmed by display of 'Activated' at the bottom of the log.</p>	

## Step 5 – Confirm Settings

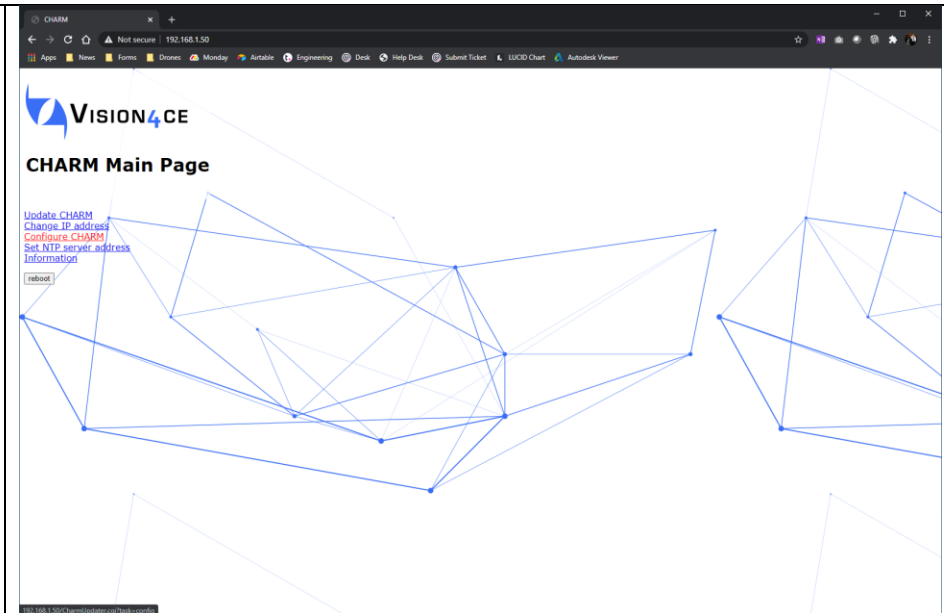
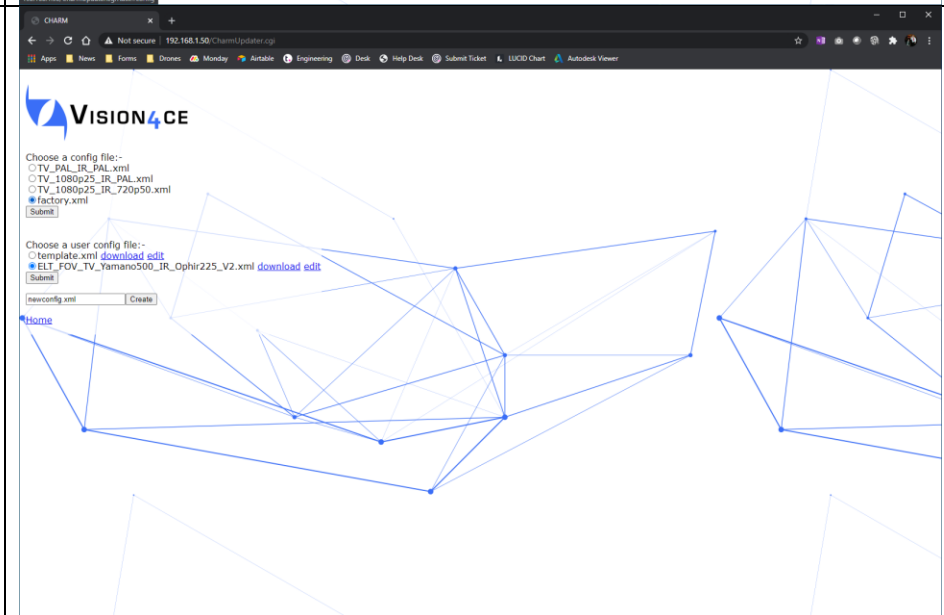
Step	Description	Image
1	<p>Open Up SSUtility2.0, connect to the camera so that the OSD Video Feed can be viewed.</p> <p>Refer to the SSUtility 2.0 User Guide as required.</p>	
2	<p>Verify PTZ controls for both lenses.</p>	

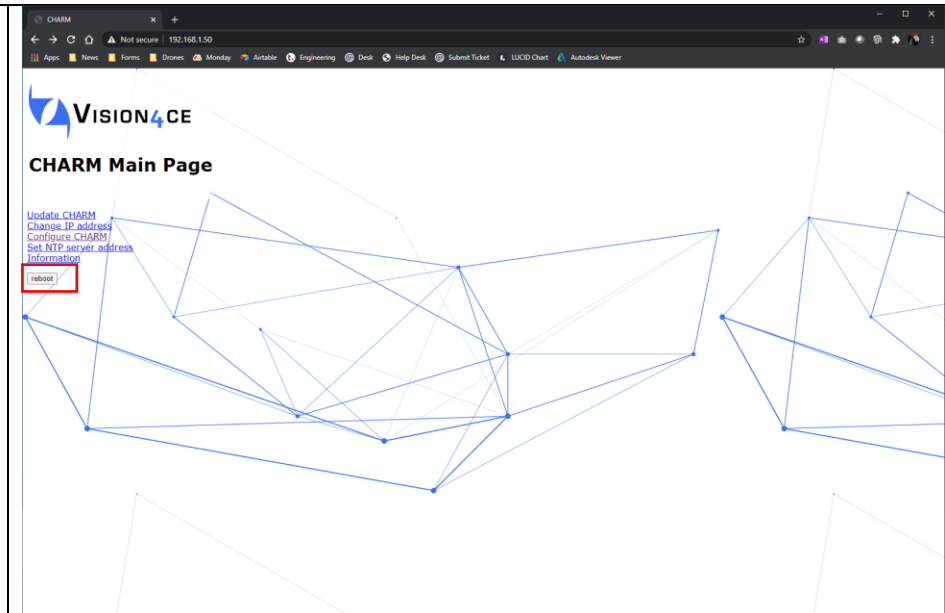

<p>3</p> <p>Using the quick buttons on the 'Admin' tab return any previously changed settings to their original values.</p> <p><b>Note:</b> If the Baud Rate has to be changed then the Baud Rate of the corresponding control method (Encoder, MOXA, Serial Adapter etc) will also need to be changed to match.</p>	
<p>4</p> <p>Optional Step – Power Cycle Camera</p> <p>Use the 'Zoom Out' button to exit the OSD Menu.</p>	

<p>5</p>	<p>Select the 'Default Menu' button from the Admin tab to access the default menu.</p> <p>Scroll down using the PT control and select (Zoom In) the '\$Reboot camera' option.</p> <p>Once the camera has rebooted reverify PT control.</p>	<p>The screenshot displays the Silent Sentinel v2.0 interface. On the left, there are control panels for IP Control, PTZ Control (with buttons for Zoom In, Zoom Out, Left, Right, Up, Down), Presets, and Quick Functions (including Mechanical Menu, Setup Menu, Default Menu, and Debug Toggle). The main area shows a camera feed of a boat on a lake. On the right, a terminal window displays the following text:</p> <pre> Silent Sentinel Oculus Version 2.018 (E036) C2 B SN:02009100 POST:00000000  &gt;Setup (protected) NTSC OSD layout Off Using SSUTILITY Off CAM2 control Sticky ZF Debug-units Std Minimum zoom 2:Off Maximum zoom 2:Off \$Reboot camera \$Exit menu     </pre> <p>Below the terminal, there are sections for RTSP Address and buttons for Save Snapshot and START Recording.</p>
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## Step 6 – Re-Enable the CHARM

Step	Description	Image
1	<p>Log into the CHARM100 Web Brower using the IP Address it is currently configured to.</p> <p><code>http://*IP _ADDRESS*</code></p> <p><b>Username:</b> v4</p> <p><b>Password:</b> vision4ce</p>	<p>The image shows a web browser window with a sign-in modal. The browser's address bar shows 'http://192.168.1.50'. The sign-in form has the following fields:</p> <ul style="list-style-type: none"> <li>Username: v4</li> <li>Password: vision4ce</li> </ul> <p>Buttons for 'Sign in' and 'Cancel' are visible at the bottom of the form.</p>

<p>2</p>	<p>Select the Configure CHARM Link</p>	
<p>3</p>	<p>Select the originally selected configuration file and select the 'Submit' button.</p>	

<p>4</p>	<p>Return to the CHARM100 base menu and select the Reboot button.</p>	 <p>The screenshot shows the CHARM Main Page in a web browser. The page title is "CHARM Main Page". There are several links: "Update CHARM", "Change IP address", "Configure CHARM", "Set NTP server address", and "Information". The "reboot" button is highlighted with a red box.</p>
<p>5</p>	<p>Using SSUtility2.0 enable the 'Debug Toggle' using the quick button in the admin tab.</p>	 <p>The screenshot shows the SSUtility2.0 admin interface. The "Debug Toggle" button is highlighted with a red box. The interface includes sections for "IP Control", "PIZ Control", "Promote", "Quick Functions", and "RTSP Controls".</p>

<p>6</p>	<p>Return to the CHARM100 base menu and select the Reboot button.</p>	<p>The screenshot shows the 'CHARM Main Page' in a web browser. On the left side, there is a vertical menu with several options: 'Update CHARM', 'Change IP address', 'Configure CHARM', 'Set NTP server address', and 'Information'. The 'reboot' button is located below these options and is highlighted with a red rectangular box.</p>
<p>7</p>	<p>Verify that a constant stream of commands are received on the debug display after the CHARM has rebooted.</p>	<p>The screenshot shows the 'SSI-75' camera interface. On the left, there are various control panels for IP, PTZ, and Presets. On the right, there are two video feeds. The top-right feed is labeled 'Debug On' and shows a stream of text commands. One of the lines in the stream is 'P004CDC bane #1D016A680000', where the hex value '1D016A680000' is highlighted with a red rectangular box. Below the video feeds are 'Quick Functions' and 'RTSP Controls' sections.</p>