Silent Sentinel IP User Guide
Performing a Firmware Update

Version: V1.0
Date: 24/11/2020

SILENT SENTINEL
VISION & MOTION CONTROL

Silent Sentinel Limited reserves all the right. All in this manual including texts, pictures, diagrams, and other contents belong to Silent Sentinel Limited. Without the written permission, no one shall copy, photocopy, translate or disseminate all or part of this manual.

This manual is used as a guide. The photos, graphics, diagrams, and illustrations provided in the manual are only used for explanation, which may be different from the specific product. Please refer to the actual product. We try our best to make sure all the contents in this manual are accurate. We do not provide any representations or warranties in this manual.

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

Contents

Introduction

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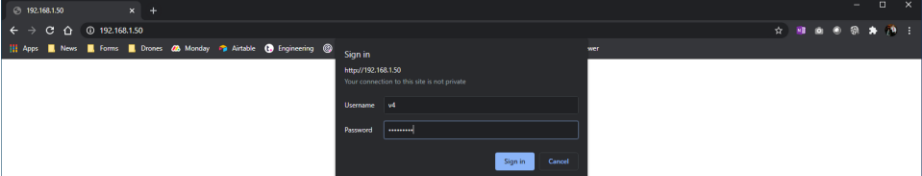
Prerequisites

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 overlayed 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	Log into the CHARM100 Web Brower using the IP Address it is currently configured to. http://*IP _ADDRESS* **Username**: v4 **Password**: vision4ce	

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

| 4 | Return to the CHARM100 base menu and select the Reboot button. | |

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.	

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

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

Step 3 – Verify PT Settings

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

3	Using the PT buttons scroll down to 'Communications' Option. Use zoom-in to select the menu.	

4	Using the PTZ control ensure the following settings are set;
	
	   1. Auto-protocol = On
	   2. Protocol Escape = On
	   3. Baud Rate = 9600
	
	If any of the settings are changed please soft-power cycle the unit
	
	Note: 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.	

5a	Optional Step – Power Cycle Camera Use the 'Zoom Out' button to exit the OSD Menu.	

| 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	Open up Big Big Loader. Select the correct COM Port from the 'Port' drop down list then select Open. Should this be successful the bottom bar will display 'Port Opened'	
2	Select the 'Get SN' button. 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.	

| 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. |
 |

4	Select the 'Go' button. The firmware will then begin to write.
	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.
	If at any point the FW upload fails, power cycle the unit and return to Step 1.

	If the FW continues to fail (after writing some blocks) then either;
	  1. Reduce the load speed from 115200 to a lower value
	  2. Source an alternative USB <> RS485 Adapter

5	Upon completion of Firmware upload the unit will power cycle and go through the standard Power On Self Test (POST) process.
	Successful FW is confirmed by display of 'Activated' at the bottom of the log.

Step 5 – Confirm Settings
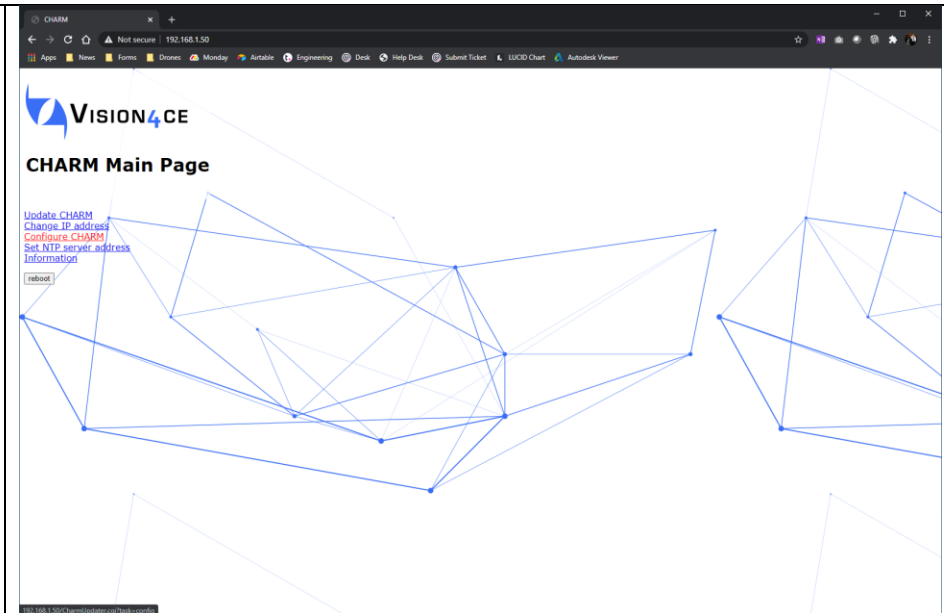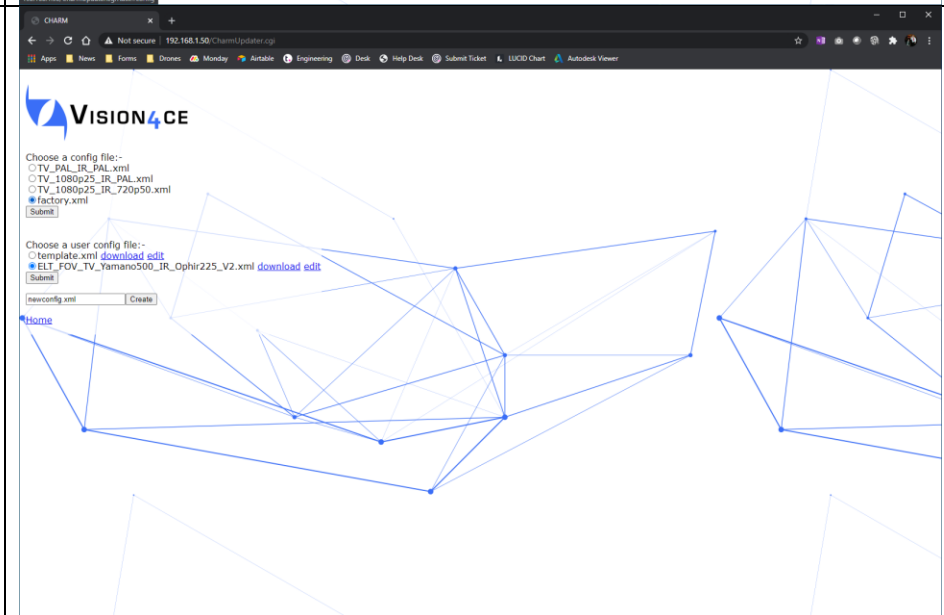
Step	Description	Image
1	Open Up SSUtility2.0, connect to the camera so that the OSD Video Feed can be viewed. Refer to the SSUtility 2.0 User Guide as required.	
2	Verify PTZ controls for both lenses.	
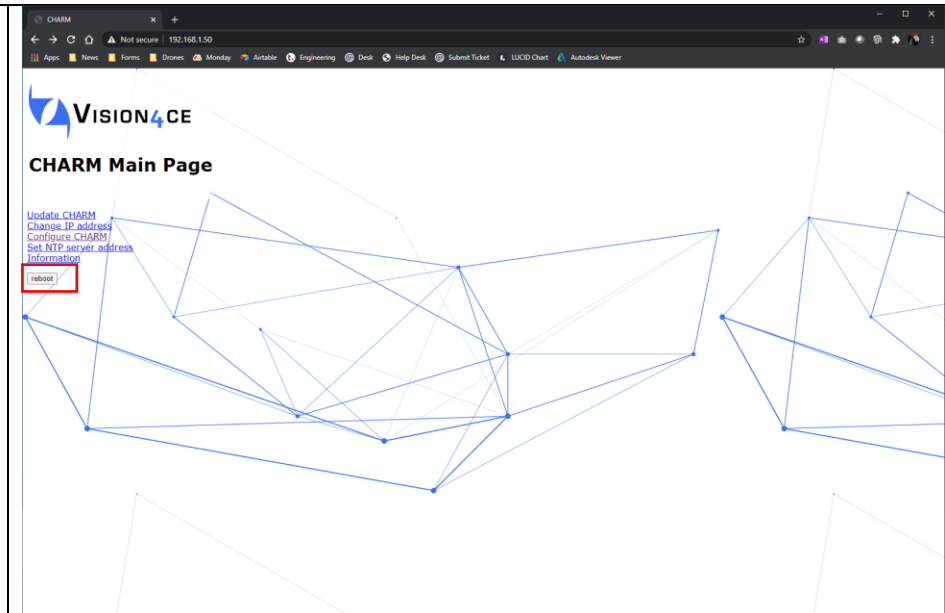
3	Using the quick buttons on the 'Admin' tab return any previously changed settings to their original values. **Note**: If the Baud Rate has to be changed then the Baud Rate of the corresponding control method (Encoder, MOXA, Serial Adapter etc) will also need to be changed to match.	
4	Optional Step – Power Cycle Camera Use the 'Zoom Out' button to exit the OSD Menu.	

| 5 | 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 6 – Re-Enable the CHARM

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

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

| 4 | Return to the CHARM100 base menu and select the Reboot button. | |
| 5 | Using SSUtility2.0 enable the 'Debug Toggle' using the quick button in the admin tab. | |

6	Return to the CHARM100 base menu and select the Reboot button.	
7	Verify that a constant stream of commands are received on the debug display after the CHARM has rebooted.	