PIVOTCam-SE Firmware Upgrade Procedure

This document describes how to upgrade both the ISP and ARM of the PIVOTCam-SE PTZ camera.

Before you begin the upgrade, connect the camera to a monitor so you can see the camera's video output.

ISP Upgrade

To upgrade the ISP firmware:

1. Connect a standard Ethernet cable to the RJ45 **LAN** port on the rear of the camera.

Figure 1 - *PIVOTCam-SE (rear view), with red box showing the RJ45 LAN port*

2. Open a browser window and access the camera's WEB UI by navigating to the camera's IP address.

   Tip: The default IP address is **192.168.1.188**. Each camera on your network requires a unique IP address.

   Tip: Record the IP address of the camera, including subnet mask and gateway. You will need this information later in this procedure if you want the camera to retain its current IP address.

3. Type the **Username** and **Password** to access the WEB UI:
   - The default **Username** is **admin**.
   - The default **Password** is **admin**.
4. In the WEB UI, navigate to **Settings** > **Firmware Upgrade**.
5. Download the latest ISP firmware from https://www.rossvideo.com/support/software-downloads/pivotcam/.

6. In the WEB UI, Click **Select File**, navigate to the downloaded file (**.bin** extension), and then click **Upgrade**.

   The upgrade starts. The upgrade status bar indicates upgrade progress.

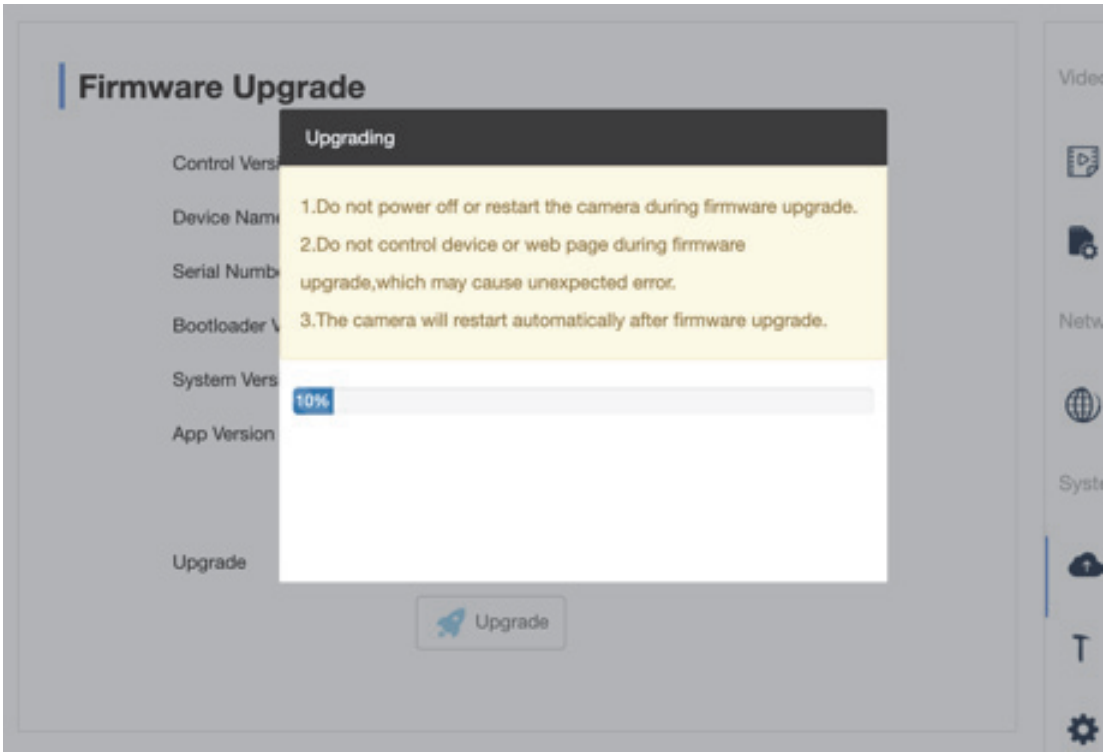

Figure 2 - *Upgrading window, showing the upgrade status bar.*

   When the upgrade is complete the camera reboots.

7. After the camera reboots, if no video image appears, perform a hard reset of the camera by unplugging the power cable, waiting five seconds, and then plugging it back in. The camera reboots.
8. Access the camera through the WEB UI, and then click **Settings** > **Reset to Default** > **Reset Completely**.

   The camera reboots.

   Wait until a stable image is visible through the SDI output.
9. Unplug the power cable, wait five seconds, and then plug it back in. The camera reboots.
10. Access the camera's on-screen display, navigate to the IP settings, and do the following:
    - Turn off DHCP
    - Check that the IP address and subnet MASK, and gateway (GW) are set to what you want. If they're not, set them accordingly.
11. Access the camera's Web UI and confirm that the firmware version number matches the firmware version to which you are upgrading.

    The ISP firmware upgrade is complete.

ARM Firmware Upgrade

A Windows PC is required for this upgrade procedure.

To upgrade the ARM processor:

1. Connect the 8-pin serial DIN cable to the **RS232 IN** connector on the rear of the camera. The other end of the cable has a 9-pin female RS-232 connector (DB9).

Figure 3 - *PIVOTCam-SE (rear view), with red box showing the RS232 IN port*

2. Connect a converter cable (9-pin male RS-232 to USB) to the cable mentioned in **Step 1**, and then connect the USB end of the converter cable to the Windows PC.

   Note: This cable does not come standard with the PIVOTCam-SE, but can be readily purchased online.

3. Power off the camera, and then use a paper clip or other small tool to set the DIP switches on the underside of the camera as follows: **SW1** to **OFF**; **SW2** to **ON**.

   CAUTION: Handle DIP switches with care. They are very small and delicate.

4. Download new ARM firmware and implementation software from https://www.rossvideo.com/support/software-downloads/pivotcam/.
5. Run the MCU in-system programmer tool (**ARM Upgrade Tool.exe** file).
6. Set the computer **COM** number.

   Tip: In this example we are using **COM7**, but you need to set it according to your computer.

7. Set the **Baud rate** to **115200**, and select the **ARM firmware file**, which ends in a **.hex** extension (see Figure 4 -).
8. Power on the camera, and then in the **MCU ISP** application, click the **Start ISP** button.

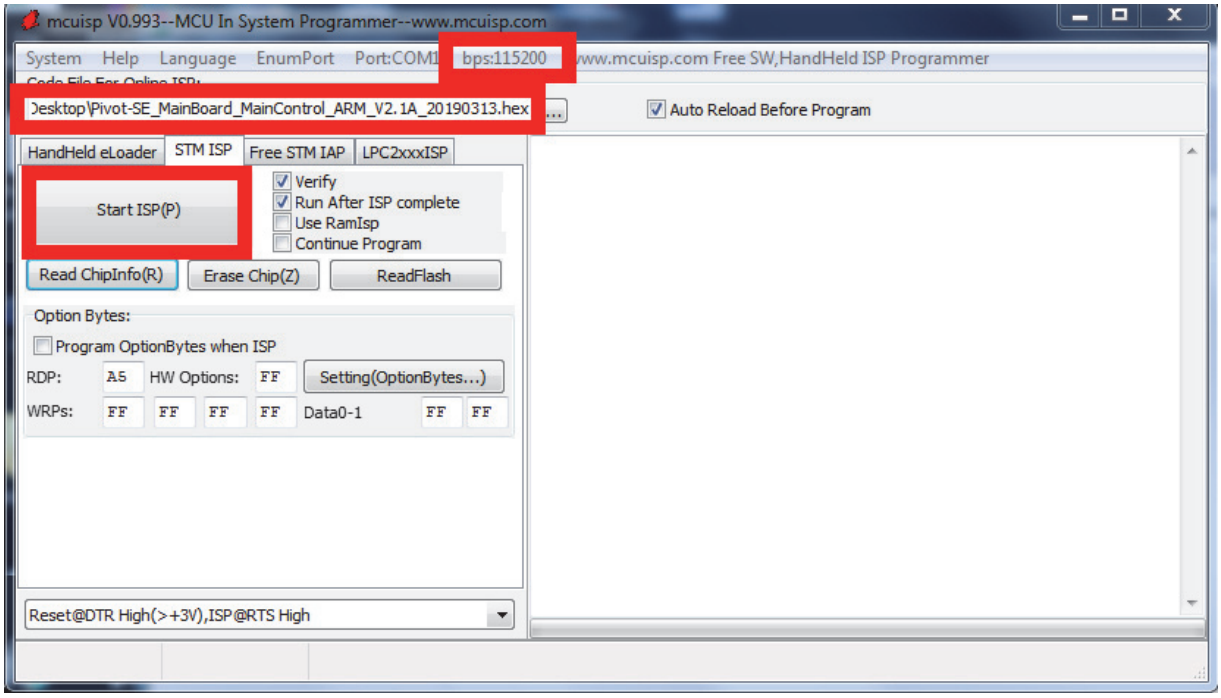

Figure 4 - *MCU In System Programmer (mcuisp.exe) application, with red boxes showing the Baud rate setting (bps), the file selection area, and the Start ISP button*

When the programming is completed, a tip appears in the lower right corner. The lens then automatically zooms in and out. Do **NOT** power off the camera until after this step is completed.

The following figure shows the progress log of a successful upgrade.

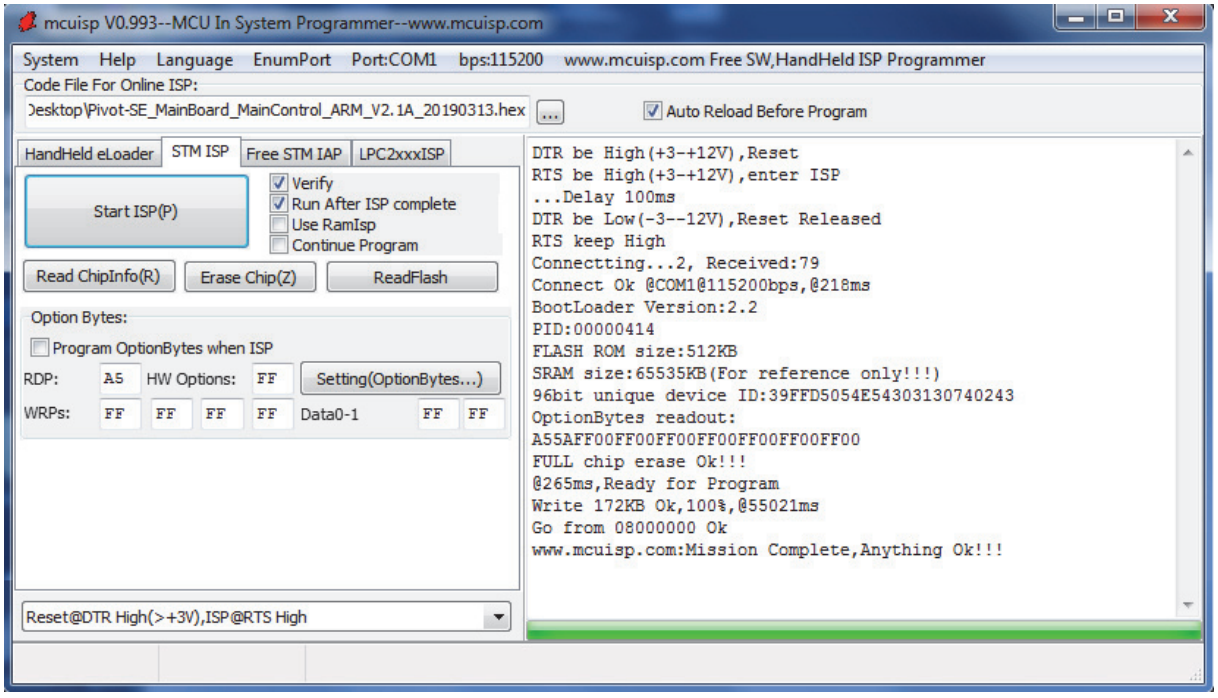

Figure 5 - *MCU In System Programmer (mcuisp.exe) application, showing the progress log of a successful upgrade*

9. Power **OFF** the camera, and then set DIP switch **SW1** to the **ON** position.

   Tip: The correct operational configuration of the DIP switches is as follows: **SW to SW5 are ON**, and **SW6 is OFF**.

10. Power **ON** the camera to run it with the new ARM.

    IMPORTANT: The lens must be allowed to automatically perform a zoom in and out after the upgrade to avoid upgrade failure.