

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/.





 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.

Control Versi	Upgrading
Device Name	1.Do not power off or restart the camera during firmware upgrade.
Carial Museh	2.Do not control device or web page during firmware
Senai Numb	upgrade, which may cause unexpected error.
Bootloader \	3.The camera will restart automatically after firmware upgrade.
System Vers	104
App Version	
Upgrade	
	Allende

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.
- 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 <u>https://www.rossvideo.com/support/software-downloads/pivotcam/</u>.
- 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.



Technical Bulletin

🥬 mcui	sp V0.993MC	U In System	Programmer	www.r	ncuisp.co	m	x
System	Help Lang	uage Enun	Port Port:	COM1	bps:1152	00 /ww.mcuisp.com Free SW,HandHeld ISP Programmer	
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HandHe	ld eLoader STM	ISP Free S	TM IAP	bxxxISP			 *
	Start ISP(P)		Verify Run After ISP Use RamIsp Continue Prog	complete ram			
Read (ChipInfo(R)	Erase Chip(Z)) Re	adFlash			
Option	Bytes:	when ISD					
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L							-
Reset@	DTR High(>+3V)),ISP@RTS Hig	gh		•		
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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.

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System	Help	Lang	guage	EnumPort	Port:COM1	bps:115	200 www.mcuisp.com Free SW,HandHeld ISP Programmer
Code File	For Or	nline ISP	?:				
Desktop	Pivot-S	E_Main	Board_Ma	ainControl_A	RM_V2.1A_201	90313.he	X V Auto Reload Before Program
HandHel	d eLoad	ler ST	M ISP F	ree STM IAF	LPC2xxxISP		DTR be High (+3-+12V), Reset
				Verify			RTS be High (+3-+12V), enter ISP
	Start	ISP(P)	_	Run Af	ter ISP complete	2	DTP be Low(-2-12V) Reset Released
				Use Ra	mIsp		BTS keep High
				Contin	ue Program		Connectting2. Received:79
Read C	hipInfo	(R)	Erase C	hip(Z)	ReadFlash		Connect Ok @COM1@115200bps,@218ms
Ontion	Puton						BootLoader Version:2.2
opuont	sytes.						PID:00000414
Prog	ram Op	tionByte	es when I	SP			FLASH ROM size:512KB
RDP:	A5	HW O	ptions:	FF Set	ting(OptionByte	s)	SRAM size:65535KB(For reference only!!!)
WRPs:	मम	FF	TT	FF Data)-1 FF	नन	96bit unique device ID:39FFD5054E54303130740243
	2.7			Datat			
							FULL chip erase Ok!!!
							@265ms,Ready for Program
							Write 172KB Ok,100%,@55021ms
							Go from 08000000 Ok
							www.mcuisp.com:Mission Complete, Anything Ok!!!
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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.

