

Safety Direct Field Programming

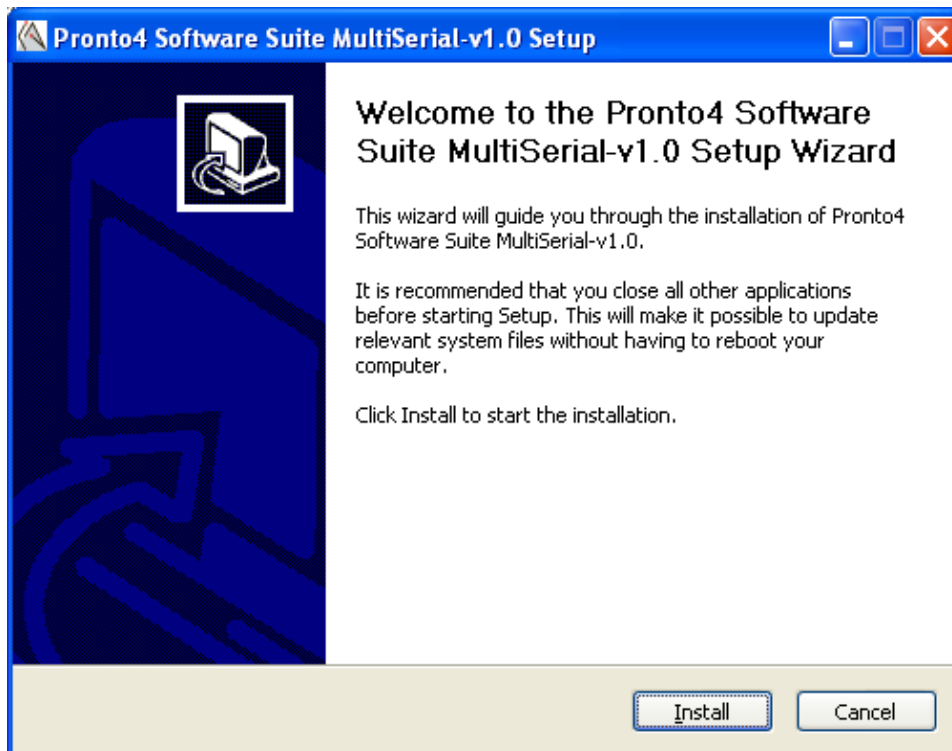
This procedure describes how to update the firmware of the Safety Direct.

Requirements

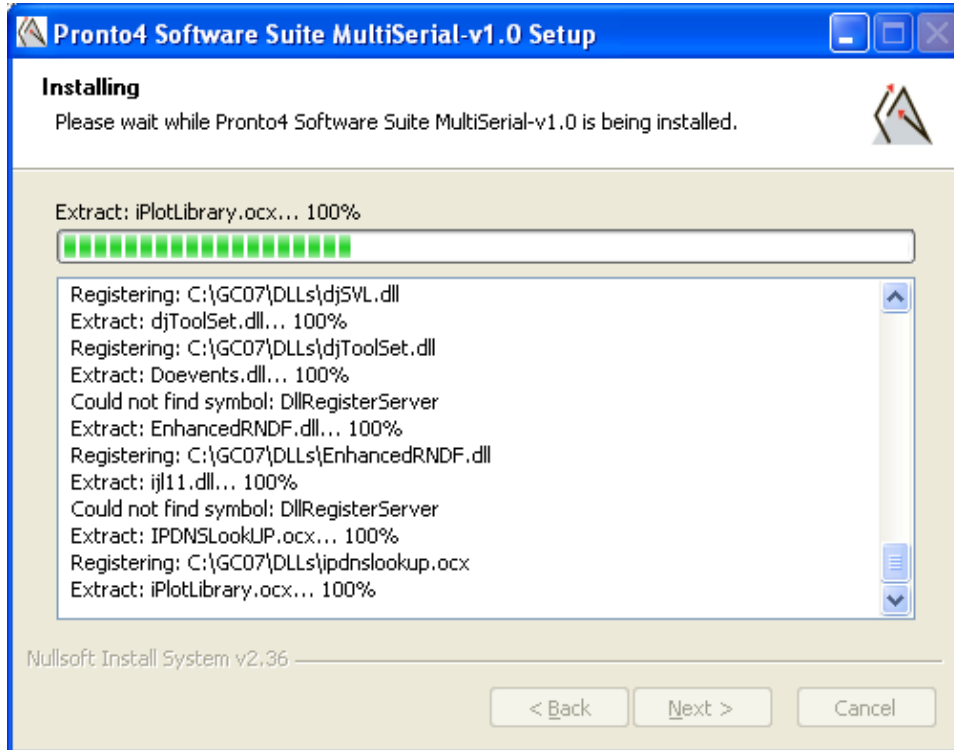
- Windows XP 32-bit PC with available USB port
- FTDI virtual com port (VCP) drivers: <http://www.ftdichip.com/Drivers/VCP.htm>
Or C:\GC07\RFU\Drivers\FTDI-VCP.zip.
- Kairos Autonomi djMultiSerial installer. This is provided by the Kairos engineering team, or by contacting Kairos for the latest version.
- Appropriate firmware version (.bin file). One is provided in the installer.

Procedure

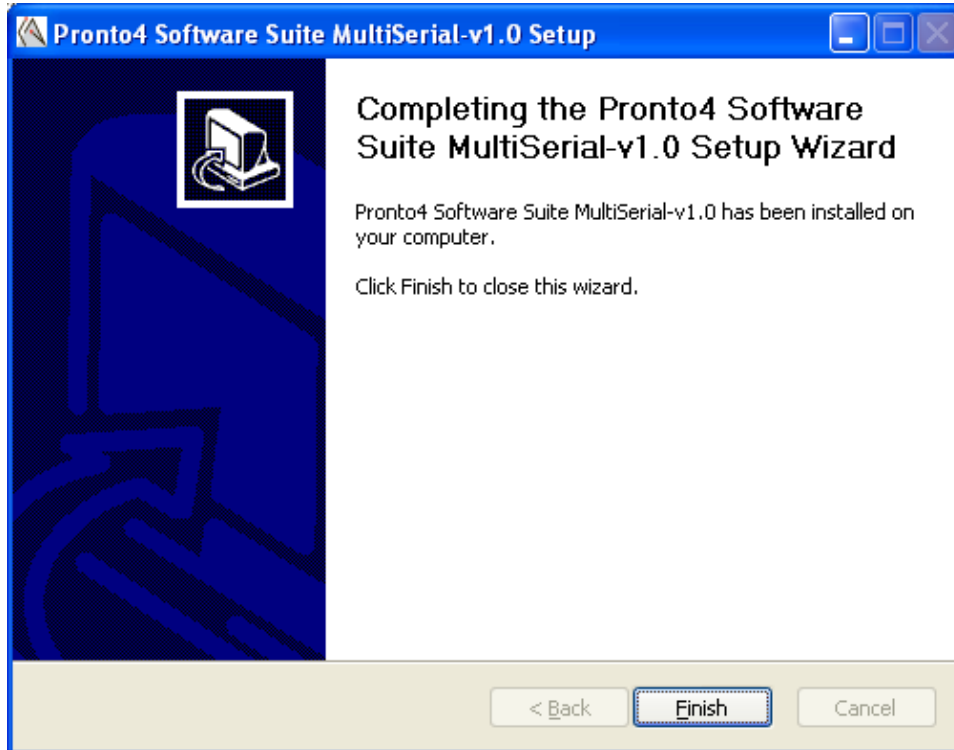
1. Locate and double-click the djMultiSerial.exe file. In the Setup window that opens, click the Install button.



2. When the screen shows an active “Next >” button, click it.

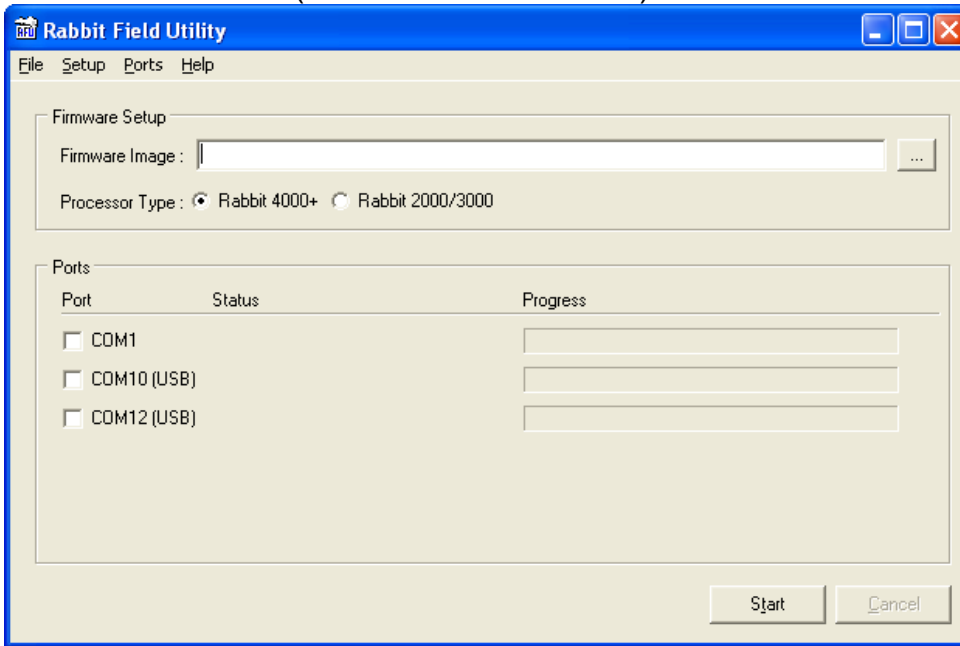


3. When the screen shows an active “Finish” button, click it.

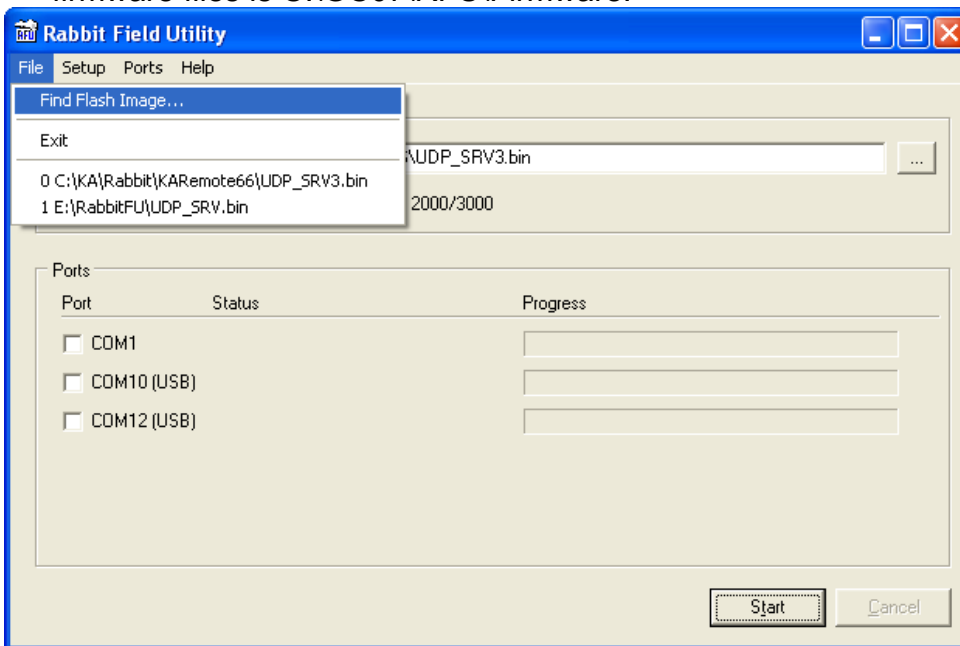


4. Ensure the FTDI virtual com port driver has been loaded. For more information see the Kairos “Loading Windows Drivers” bulletin.
5. Ensure that the Safety Direct power switch is in the Off position.
6. Use a USB cable to connect the diagnostic port of the Safety Direct to the programming cable that has djMultiSerial.exe loaded.
7. Connect one end of the USB cable to the bottom connector of the Safety Direct and the other end to an available port on the programming computer.
8. The PC should try and install 2 serial ports. Install the VCP drivers if not already installed.
9. Configure the installed serial ports as COM10 and COM12. The rest of the instructions assume this order.
10. On the programming computer launch C:\GC07\djMultiSerial.exe.
11. In djMultiSerial, verify COM12 is open and “DTR” is in uppercase.
12. In djMultiSerial, verify COM10 is closed.
13. Power on the Safety Direct.

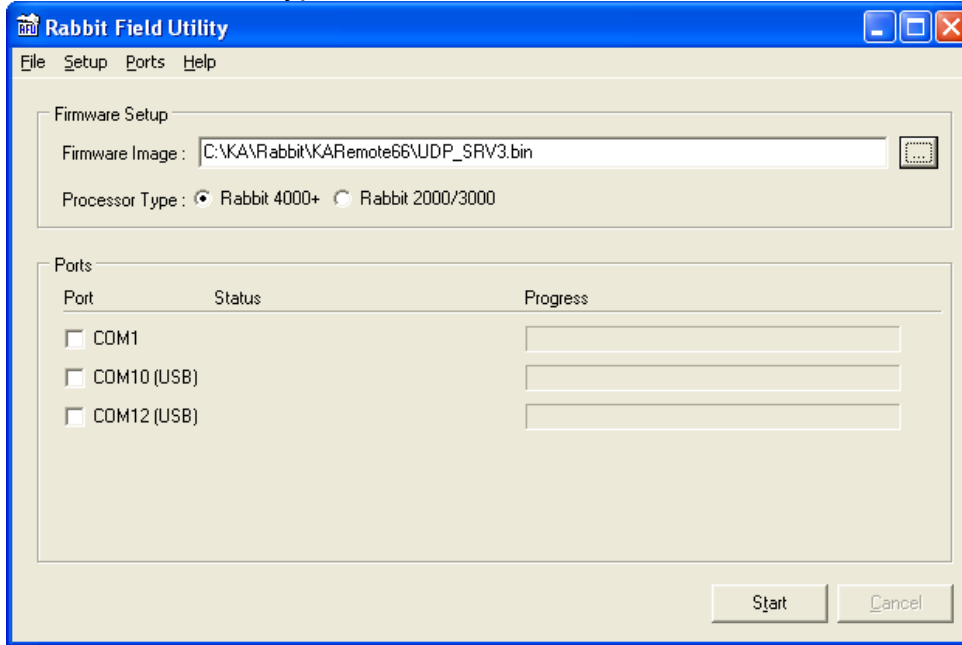
14. Launch the RFU (C:\GC07\RFU\RFU.exe).



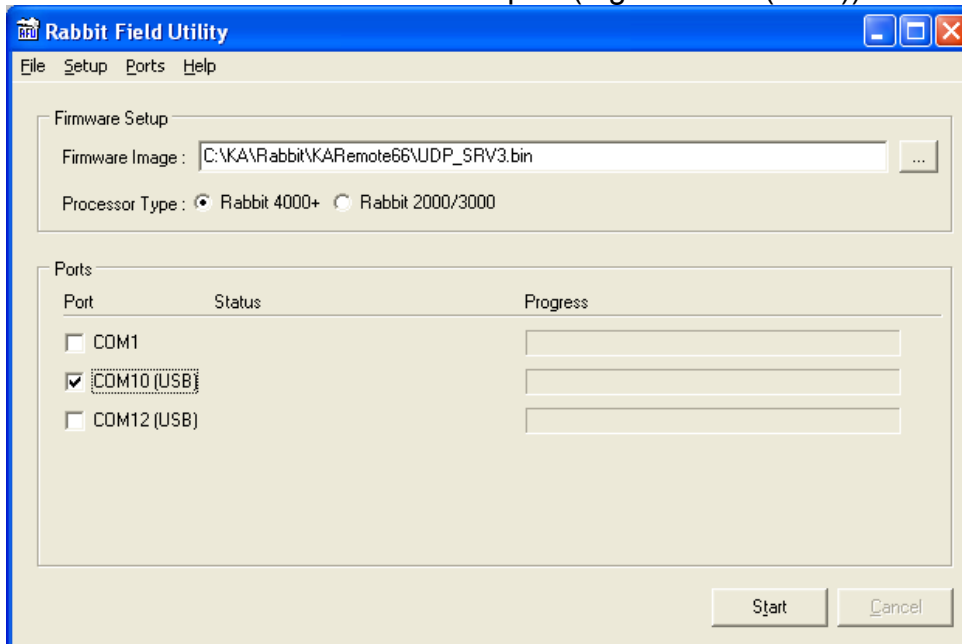
15. Select the .bin file from File→Find Flash Image. The default location for the firmware files is C:\GC07\RFU\Firmware.



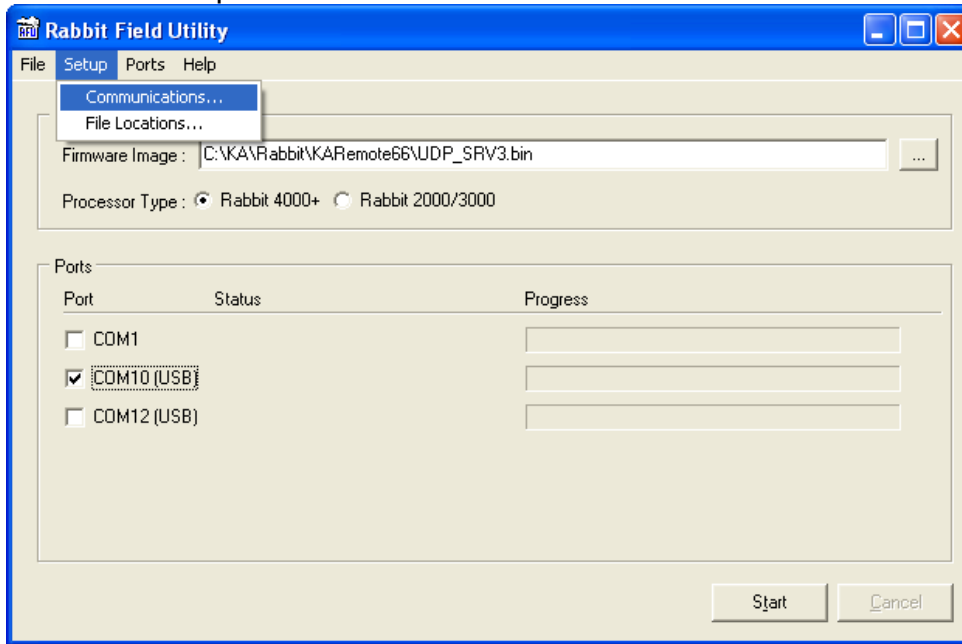
16. For Processor Type select “Rabbit 4000+”.



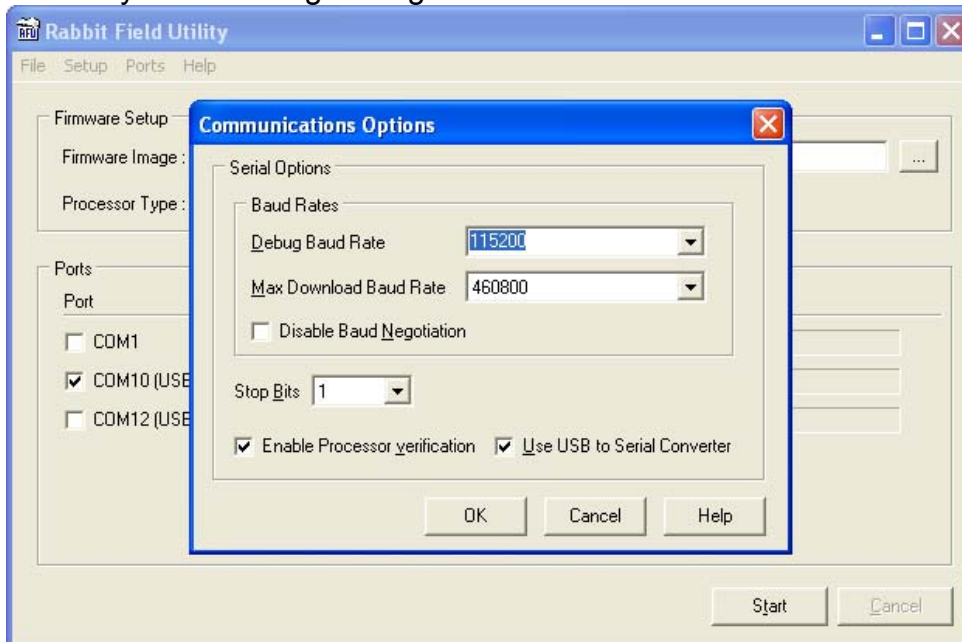
17. Select the lowest number serial port (e.g. COM10 (USB)).



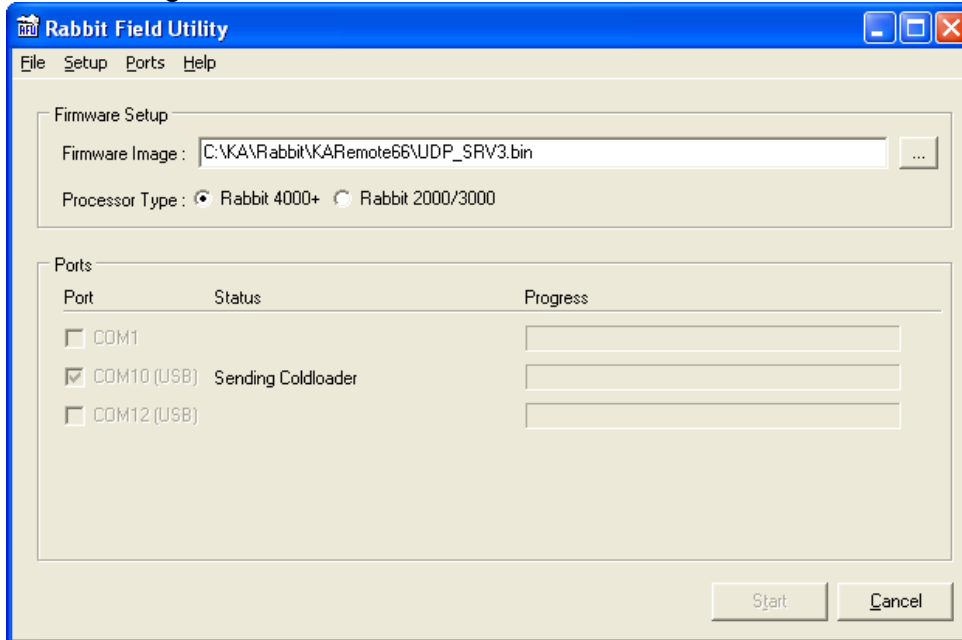
18. Go to Setup→Communications.



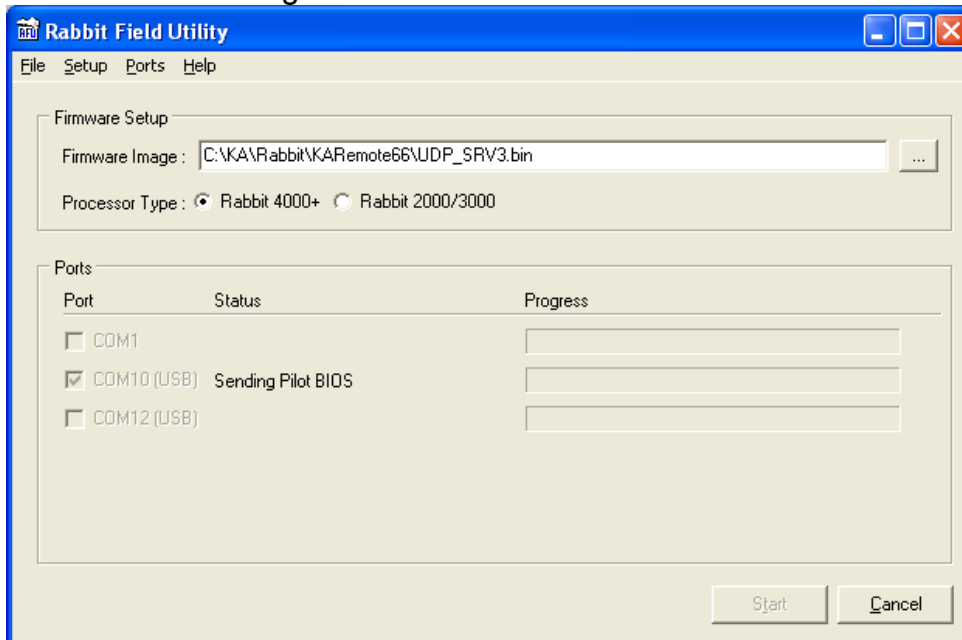
19. Verify the following settings:



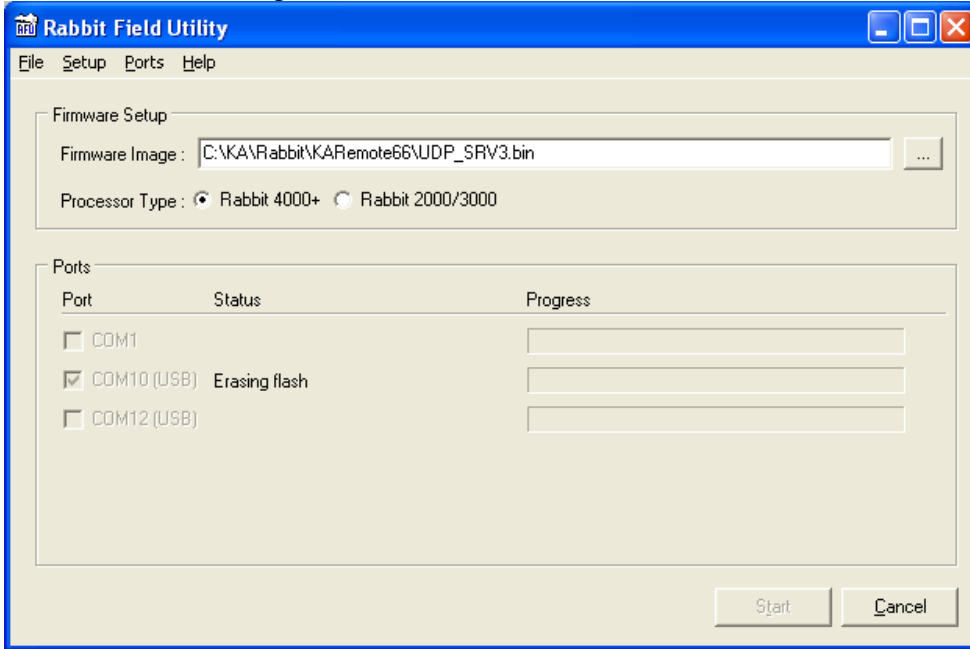
20. Click on the “Start” button of the RFU. The status message should change to “Sending Coldloader”.



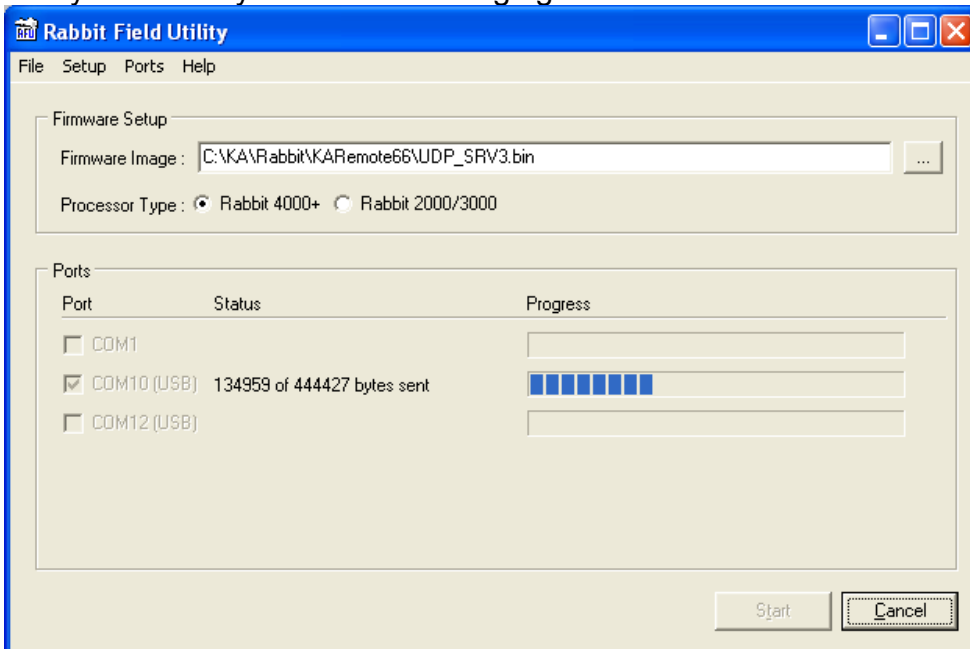
21. Then to “Sending Pilot BIOS”.



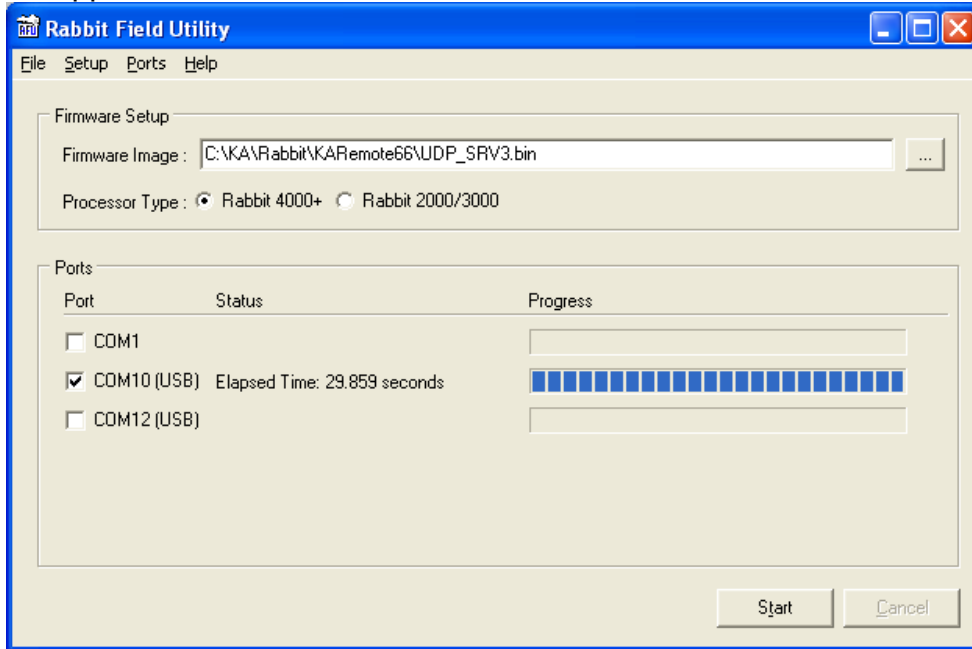
22. Then to “Erasing flash”.



23. The contents of the .bin file will then be downloaded to the Safety Direct. Actual bytes will vary from the following figure.



24. When the file has been downloaded to the Safety Direct, the following screen will appear.



- 25. Power off the Safety Direct and unplug the USB cable.
- 26. Power on the Safety Direct and verify proper operation.