

Conext Three Phase Inverters

How to upgrade the Comm and DSP
firmware

2014-06-22

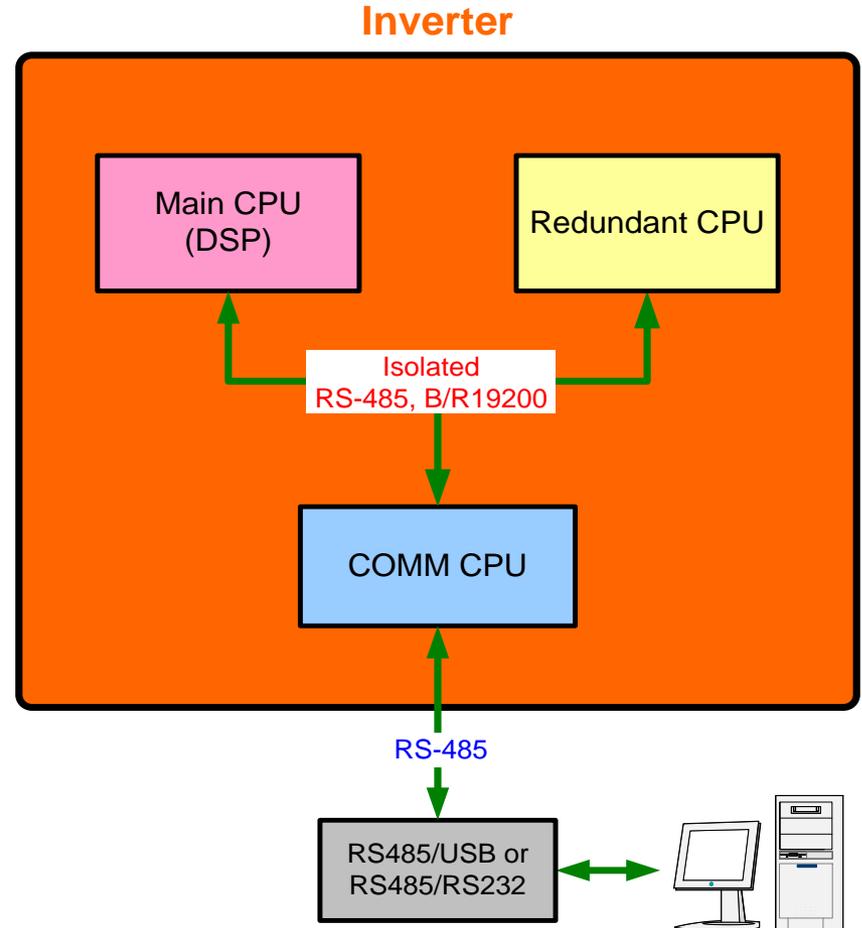
How to upgrade firmware

- **Overview**
- **Provide power to inverter – Either DC or AC**
- **Upgrade by PC or Notebook**

Overview

Note:

- There are 3 CPUs inside the inverter
- Upgrade DSP or Red., the data must go through the COMM CPU
- Upgrade B/R is fixed at 9600



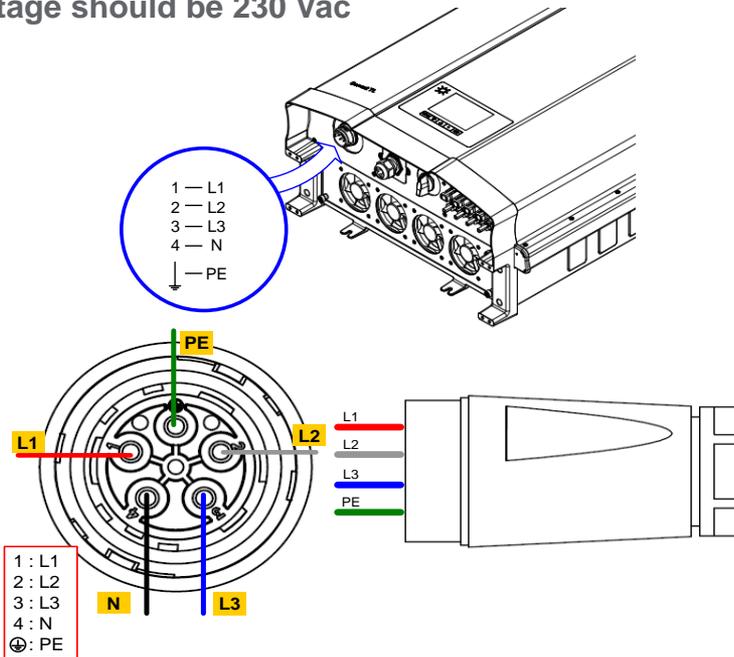
Steps to Upgrade:

Step 1 - Provide power to inverter

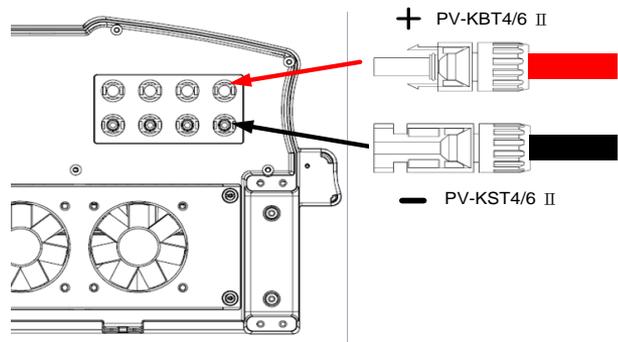
Either DC or AC. Only one is required

DC Input voltage should be > 200 Vdc

AC voltage should be 230 Vac



Either
One



> 200Vdc

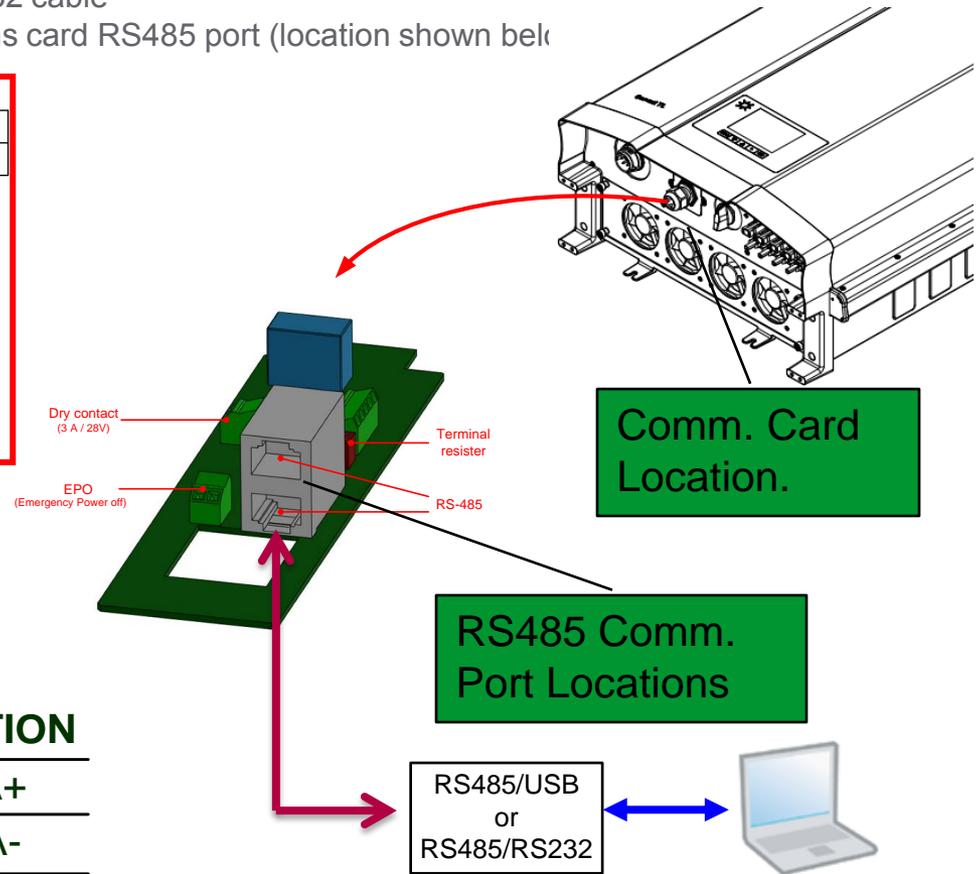
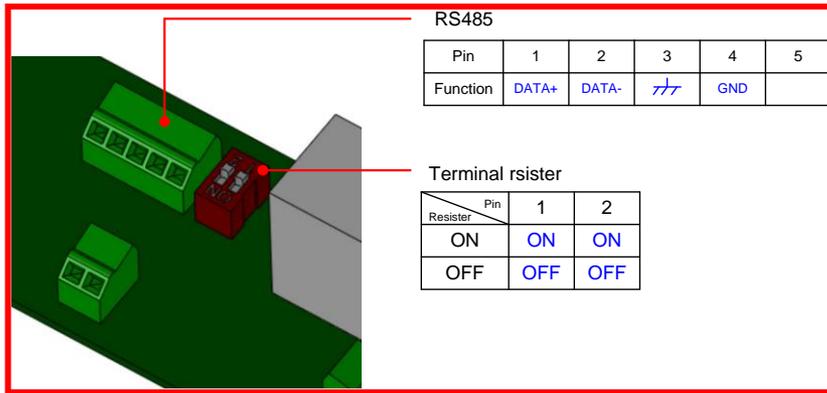
⚠ WARNING

1. Keep switch off before connect to inverter
2. Beware of the connection that L1 to pin1, L2 to pin2, L3 to pin3, and PE to Ground.
3. **Incorrect wiring of PE (ex. PE and L1 were reversed) will cause electric shock or damage computer and/or inverter**
4. **Don't connect both DC and AC power, or inverter will start to operate**

Upgrade by PC or Notebook

Step 2: Communication connection – RS485

- Loosen 2 screws and remove cover plate to access comm. card. (location shown below)
- Connect computer to RS485/USB or RS485/RS232 cable
- Connect RS485 port from cable to communications card RS485 port (location shown below)



Data Format:

Baud rate: 9600

Data bits: 8

Stop bit: 1

Parity: N/A

Pin Layout:

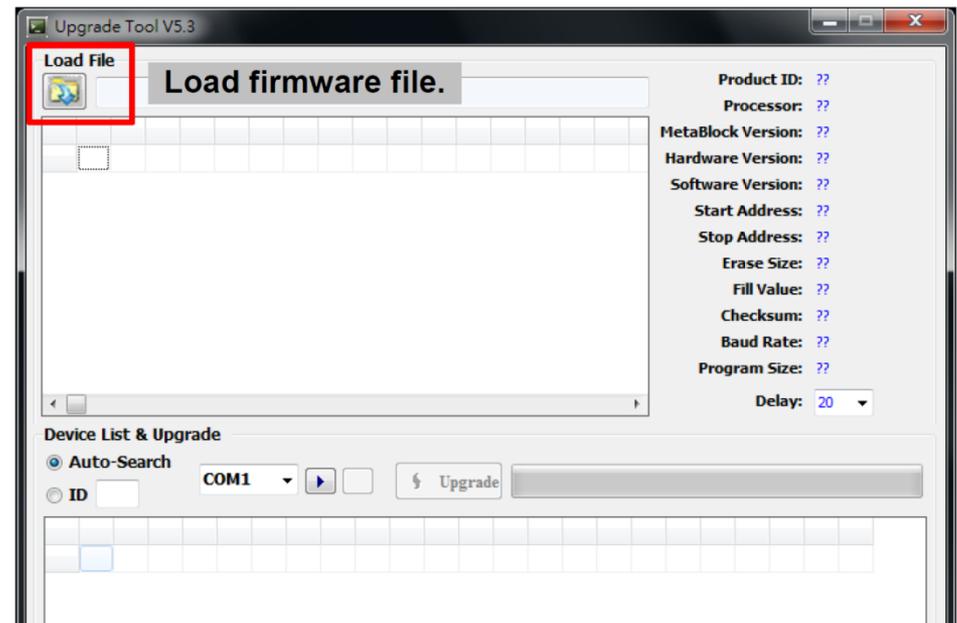
PIN	FUNCTION
4	DATA+
5	DATA-
8	GND

Step 3: Power on – switch on Power source

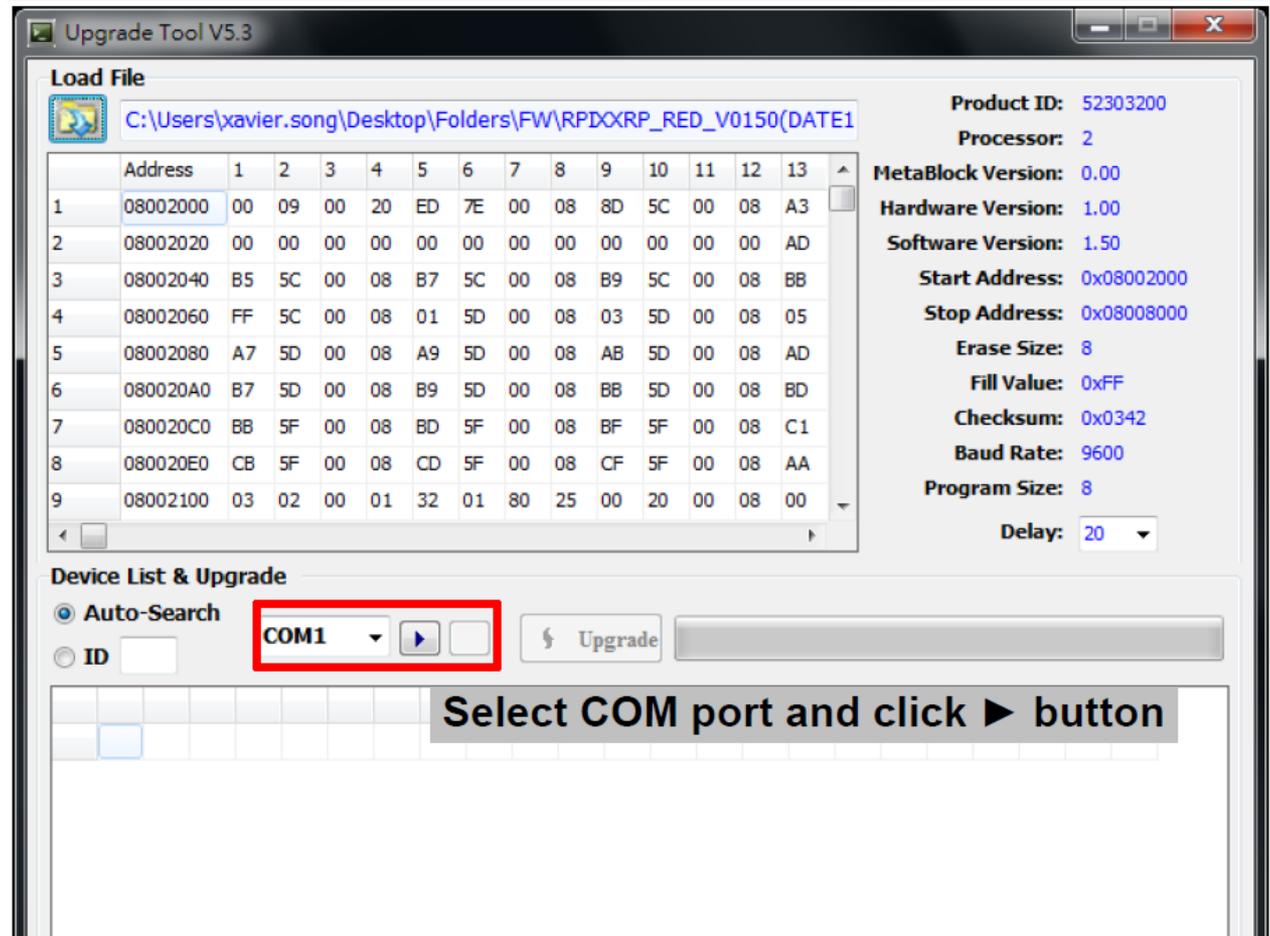
Step 4: Turn the main disconnect switch to ON position

Step 5: Start upgrade procedure

- I. Download the firmware files from SolarExchange (Services/Conext TL/Firmware)
- II. Execute the program “Upgrade V5.3.exe”
- III. Click Load File and select the correct firmware file. It is suggested to start with COMM firmware first.



IV. Select the correct COM port and press the Arrow button.



V. Check the current firmware version before uploading.

The screenshot shows the 'Upgrade Tool V5.3' interface. The 'Load File' section displays a file path: `C:\Users\xavier.song\Desktop\Folders\FW\RPDXRP_RED_V0150(DATE1`. The 'Device List & Upgrade' section is set to 'Auto-Search' with 'COM3' selected. A table below lists device details for a single device.

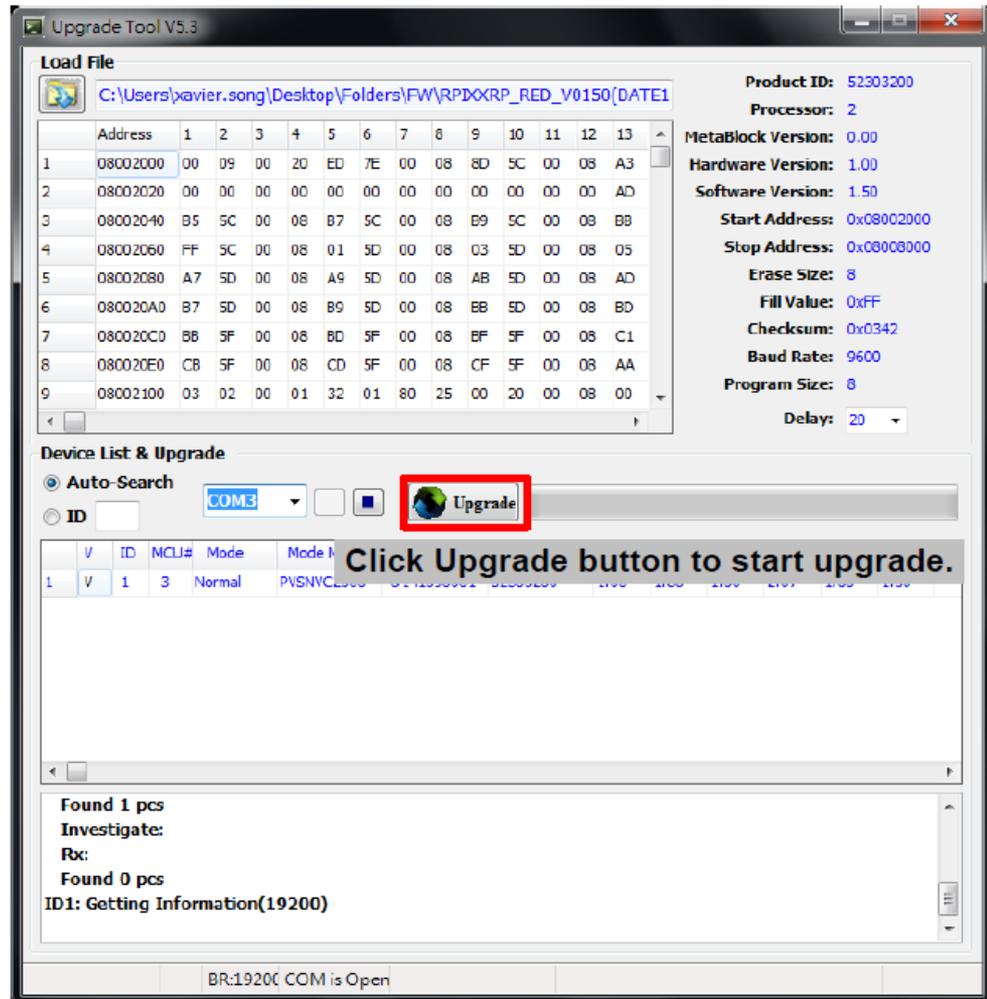
V	ID	MCU#	Mode	Mode Name	Serial Number	Product ID	P0 HW	P0 SW	P1 HW	P1 SW	P2 HW	P2 SW	P3 HW	P3 SW
1	V	1	3	Normal	PVSNVC2000	O141390001	52303200	1.00	1.86	1.00	2.07	1.00	1.50	

Red boxes highlight the 'P0 SW', 'P1 SW', and 'P2 SW' columns in the table. Red arrows point from these boxes to labels below: 'Comm. Version' (pointing to P0 SW), 'DSP Version' (pointing to P1 SW), and 'Red. Version' (pointing to P2 SW).

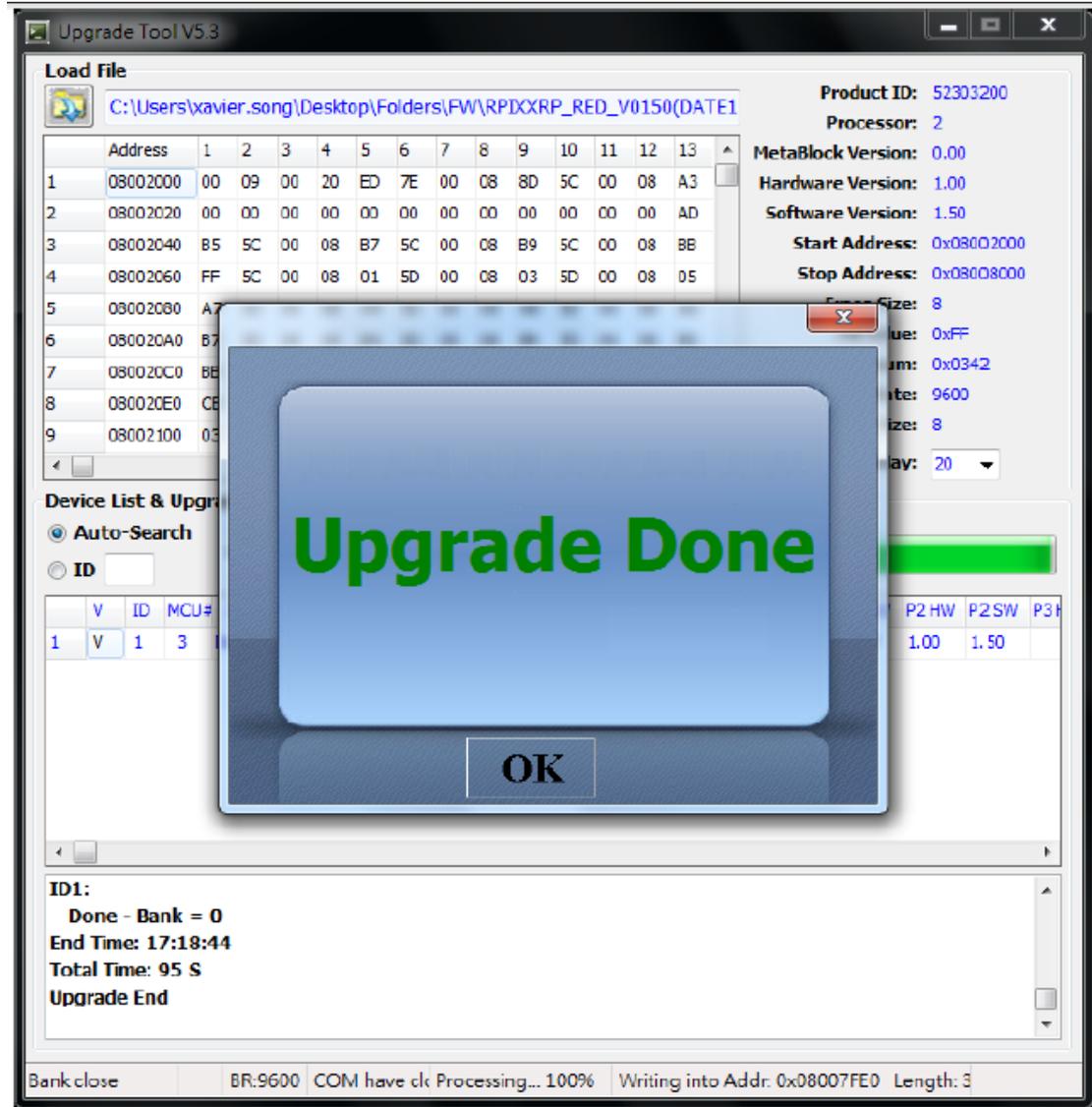
Additional device information on the right side of the window includes:

- Product ID: 52303200
- Processor: 2
- MetaBlock Version: 0.00
- Hardware Version: 1.00
- Software Version: 1.50
- Start Address: 0x08002000
- Stop Address: 0x08008000
- Erase Size: 8
- Fill Value: 0xFF
- Checksum: 0x0342
- Baud Rate: 9600
- Program Size: 8
- Delay: 20

VI. Click Upgrade button to start upgrading.

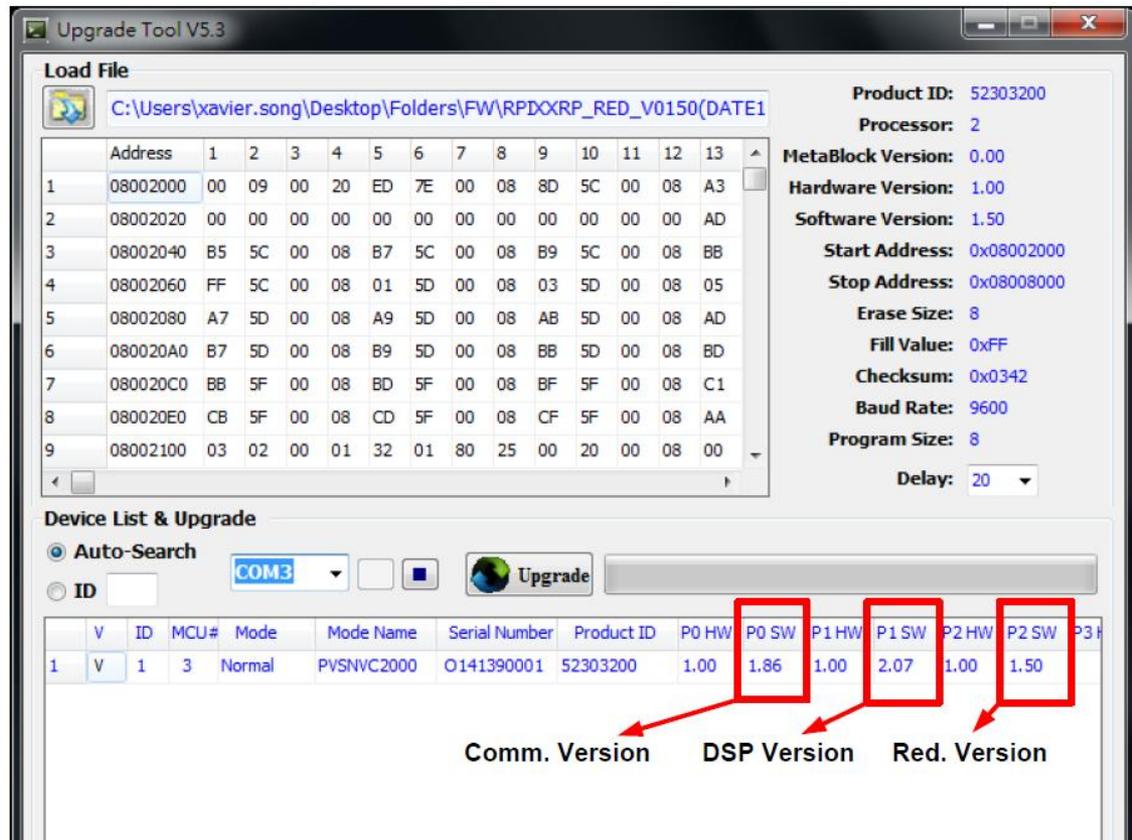


VII. When upgrade done appears, the upgrade for this processor is finished.



- VIII. Please repeat steps III to VII for the DSP.
- IX. Please repeat steps III to VII for the RED processor.

- X. Verify the following version numbers
 - Processor0 (Comm) - SW should be 1.96
 - Processor1 (DSP) – SW should be 2.10
 - Processor2 (RED) – SW should be 1.50



Step 6: Turn the main disconnect to “OFF” and remove the power source.
 Step 7: Upgrade completed.

If your upgrade fails, you will see a green and red LED on the LCM flashing alternatively. It means the inverter is in Boot loader mode. Please adjust delay value to 50 and then upgrade and try again.

