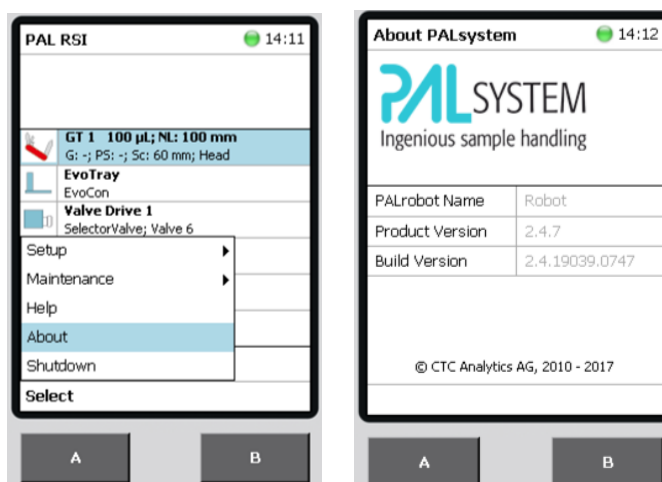# Evosep One

How to update autosampler firmware

Prerequisites:

1. USB memory stick. For example the Evosep memory stick that is shipped with the Evosep One system.
   - It is mandatory, that only one partition is defined, and the file system should be FAT or FAT32
2. Latest version of the Evosep One autosampler PAL firmware, which can be downloaded from the Evosep support zone www.evosep.com/support/ , and has filename extension .cont.
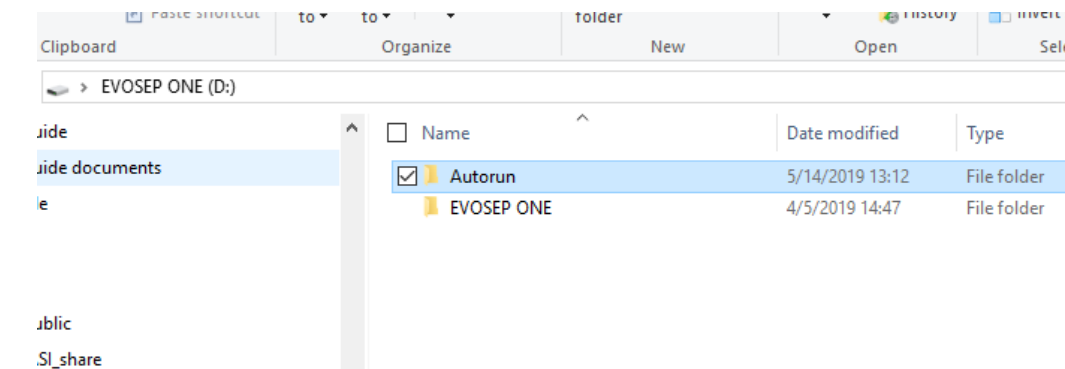
Currently installed firmware version can be seen in the About menu on the Terminal noted as Product Version.
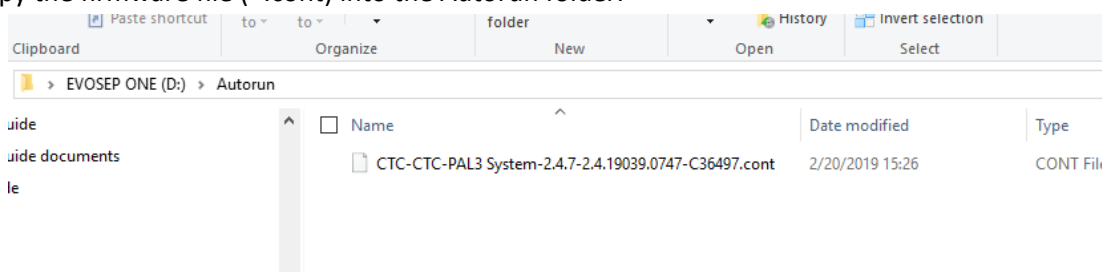

Please note that there is some delay from clicking the wheel or pressing a button on the terminal to the action is performed, therefore have patience when following below procedure.
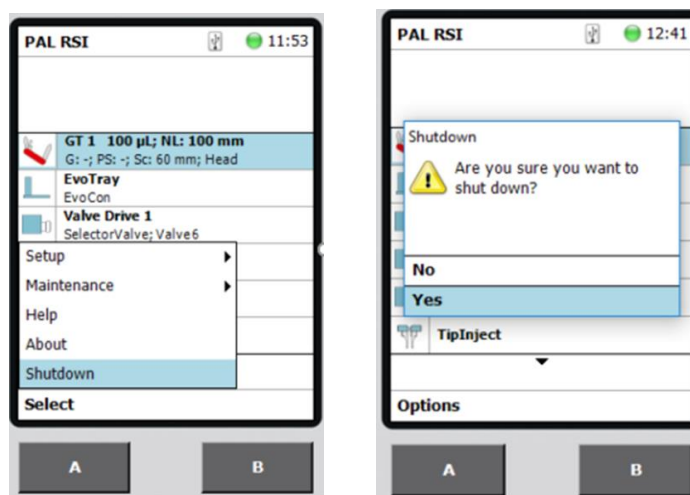
Procedure:

1. Create a directory called "Autorun" in the root folder of the USB stick.
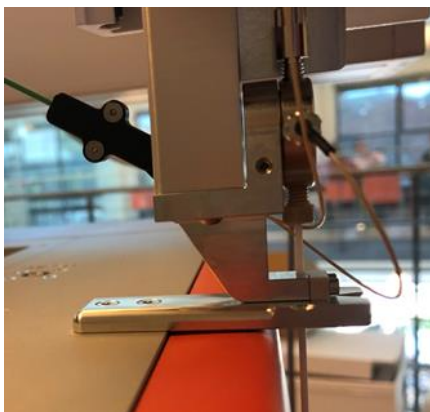

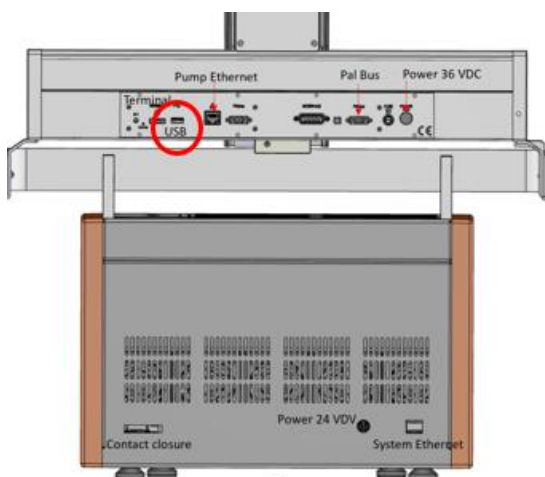2. Copy the firmware file (*.cont) into the Autorun folder.

3. Check that the Evosep One is idle, then close the controlling software (Chronos, Compass HyStar).
4. From the PAL RSI window on the terminal, press A and choose "Shutdown" and then "Yes".
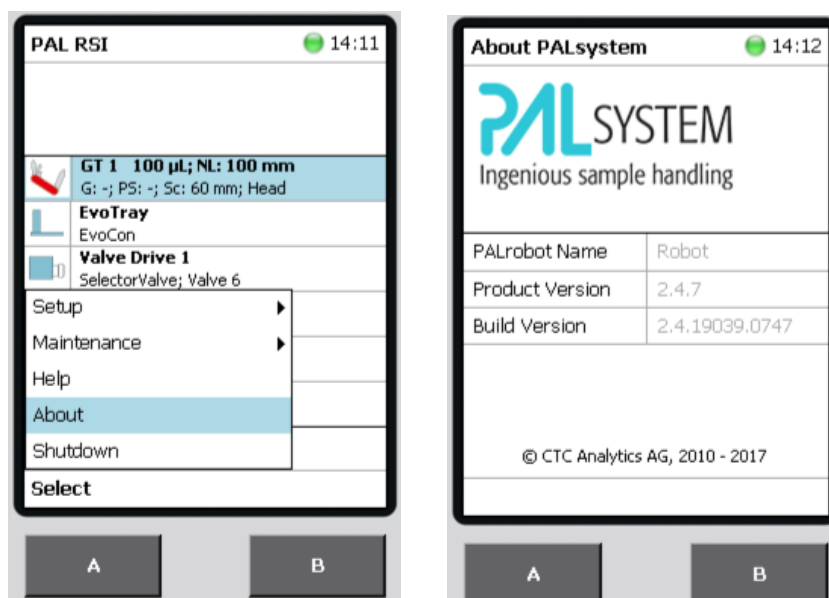

5. When the terminal window turns off, switch off the power on the autosampler power supply and wait for the Z-axis to drop into lock position.
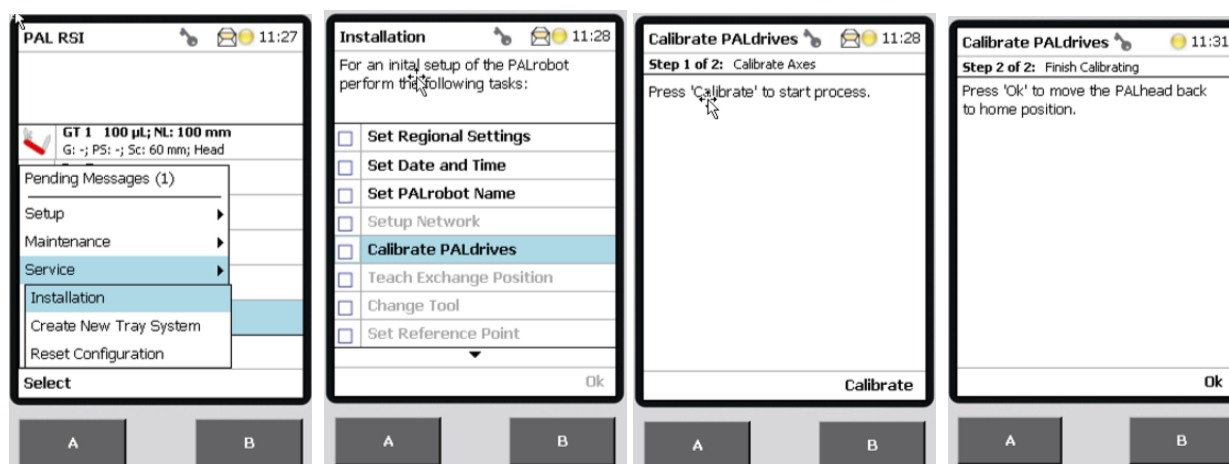
6. Insert the USB stick with the Autorun folder containing the *.cont file into the USB connector on the backside of the autosampler X-axis.
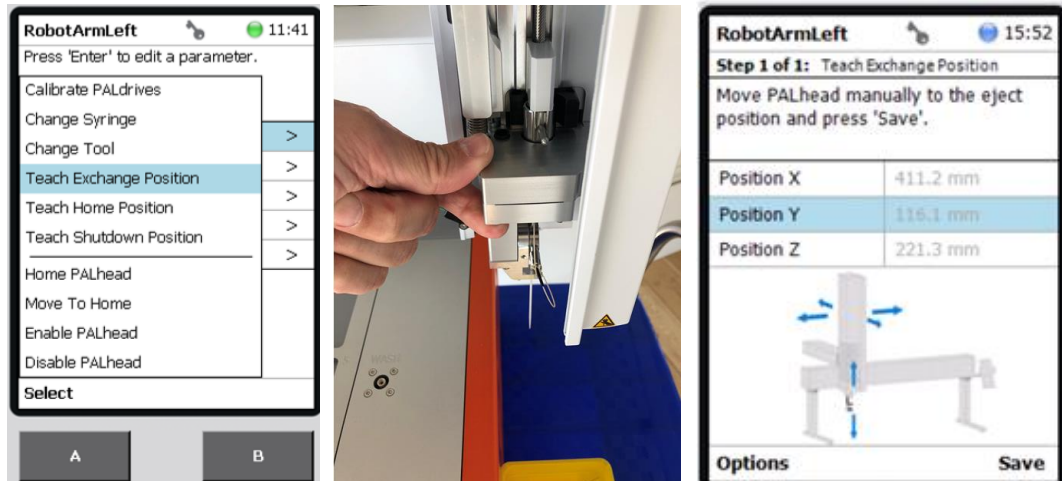

7. Power up the autosampler.
8. With the USB stick inserted the firmware update process will be automatically started. During this process, the autosampler will reboot several times. The update will run for approximately 15 minutes.
9. The update process is completed when the PAL RSI window is shown on the terminal. Now go to Options>About (using the A button to choose "Options" and the wheel to scroll and click) to check that the Product version has been updated.

10. Remove the USB stick from the autosampler and delete the Autorun folder on the stick to avoid another firmware installation, after a reboot of the autosampler.
11. On the autosampler Terminal (handhold control unit) Press A+B keys simultaneously and select "Extended user level"
12. From the PAL RSI window, click Options>Service>Installation. With the wheel, scroll down and run "Calibrate PALdrives". Follow terminal commands to complete Calibrate PALdrives.
13. When completed, click back to return to the "PAL RSI window"
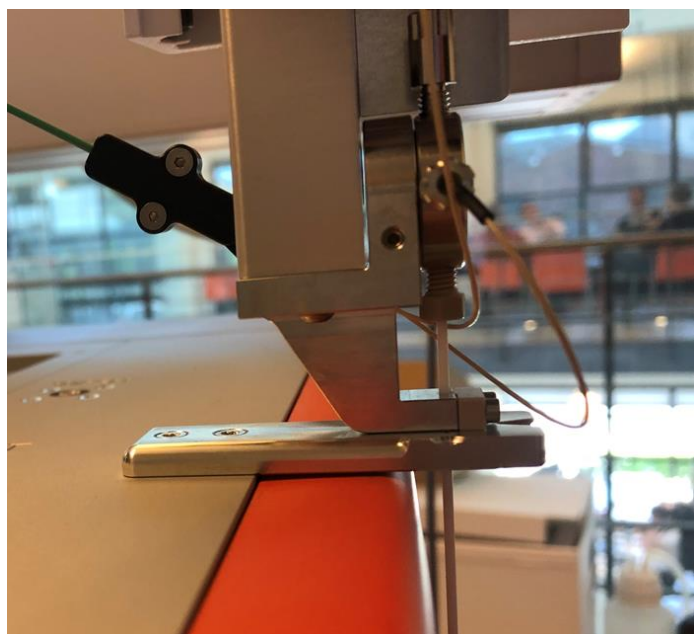

14. From the PAL RSI window, click "RobotArmLeft" then click "Options" and choose "Teach Exchange Position". Follow terminal commands to Teach the Exchange Position. Adjust the X-Y-Z axis position by hand to get following coordinates on the terminal window.
    a. Position X = 411 mm
    b. Position Y= 116 mm
    c. Position Z = 221 mm

This will put the Z axis to the right behind the Tip-ejector and down for easier access. When the values shown on the terminal are correct, press "Save" and "ok"

15. When completed click back to return to the "PAL RSI window"
16. From the PAL RSI window click "RobotArmLeft" then click "Options" and choose "Teach Home Position". Follow terminal commands to Teach the Home Position. Adjust the X-Y-Z axis position by hand. Correct position is with the needle trough the TipCheck hole (marked with a cross) and the small fixture tab on the needle tee holder into the fixture hole on the Tip-ejector arm.
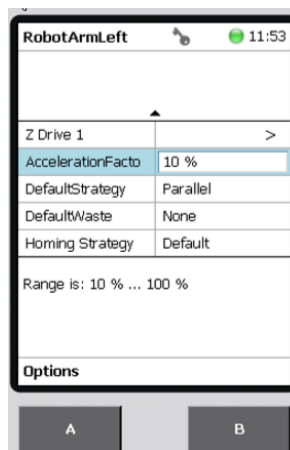17. When positioned press "Save" and "Ok"

18. From the PAL RSI window click "RobotArmLeft" then click "Options" and choose "Teach Shutdown Position" Please note that this is the same position as Home position. Follow terminal commands to Teach the Shutdown Position. Move the X-Y-Z axis by hand.

Correct position is with the needle trough the TipCheck hole (marked with a cross) and the small fixture tab on the needle tee holder into the fixture hole on the Tip-ejector arm.
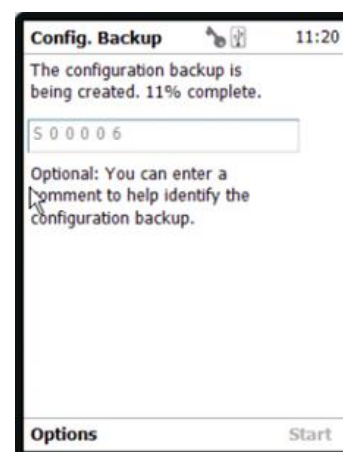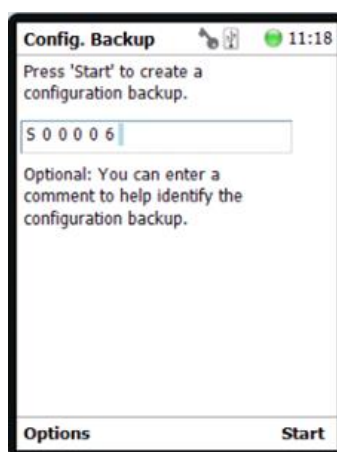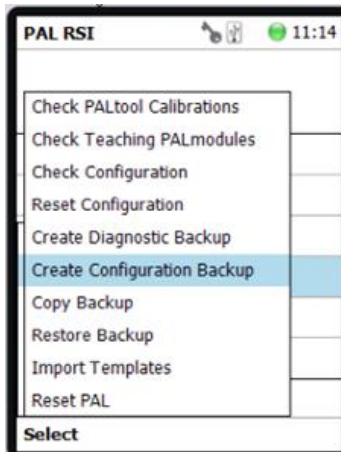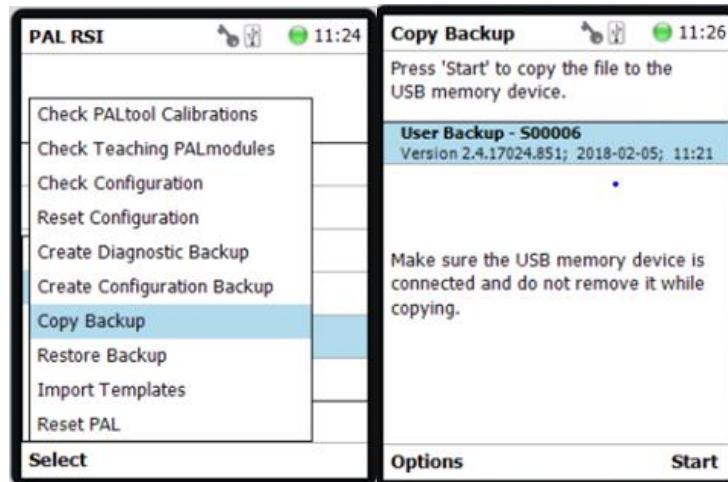
19. When positioned press "Save" and "Ok"

20. From the PAL RSI window click "RobotArmLeft", scroll down with the wheel on the terminal and then set "AccelerationFactor" to 10 %. By scrolling the wheel and acknowledge by clicking the wheel.

21. From PAL RSI window, go to Options>Maintenance and select "Create Configuration Backup".

22. Name the backup with instrument serial number, e.g. S00006 and press "Start" to start the backup. When completed, press exit to return to the PAL RSI page.
23. Insert the USB stick into the X-axis again. (Remember to remove the "Autorun" folder first.
24. Go to Options>Maintenance and select "Copy Backup" and press "Start" to copy the new configuration backup file, to the USB stick.

25. When complete, remove the USB stick from the autosampler.
26. This concludes the firmware update.