Complete Guide for Upgrading ASX-500 and ASX-510 Autosamplers with an EXR-8

Installing the Extended Rack

The EXR-8 Extended Rack is designed for easy installation. Installation consists of four parts: Upgrading the firmware on the CETAC autosampler, removing the autosampler head from its base, assembling the Extended Rack, and connecting it to the host analytical instrument.

This document contains three guides to help in the installation of the EXR-8:

Guide for Upgrading the Firmware on the ASX-500 and ASX-510 Autosamplers with an EXR-8

1. Firmware Upgrade

Guide to Installing the EXR-8 with a CETAC Autosampler

1. Assemble the Cart.
2. Remove the head assembly from the base of the autosampler.
3. Mount the head assembly (autosampler) onto the Extended Rack.
4. Connect the autosampler to the Host Computer
5. Align the Extended Rack.

Guide for Replacing the Firmware on the ASX-500 and ASX-510 Autosamplers

This guide describes the necessary steps for upgrading the firmware on the ASX-500 and ASX-510 autosamplers.

1. Place the autosampler on a flat surface (Figure 1-1) and turn the unit off.

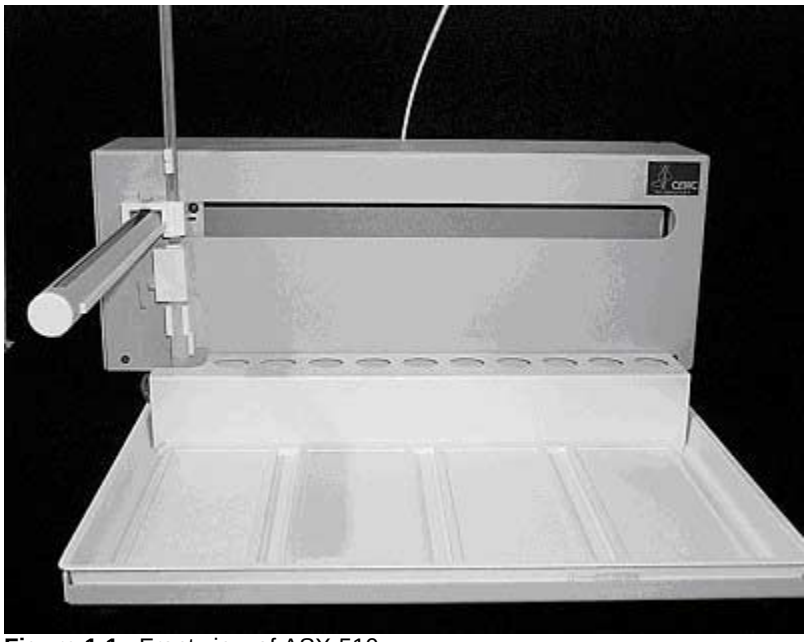

Figure 1-1. Front view of ASX-510.

2. Remove the two Kynar thumbscrews from the Y-axis home block (Figure 1-2).

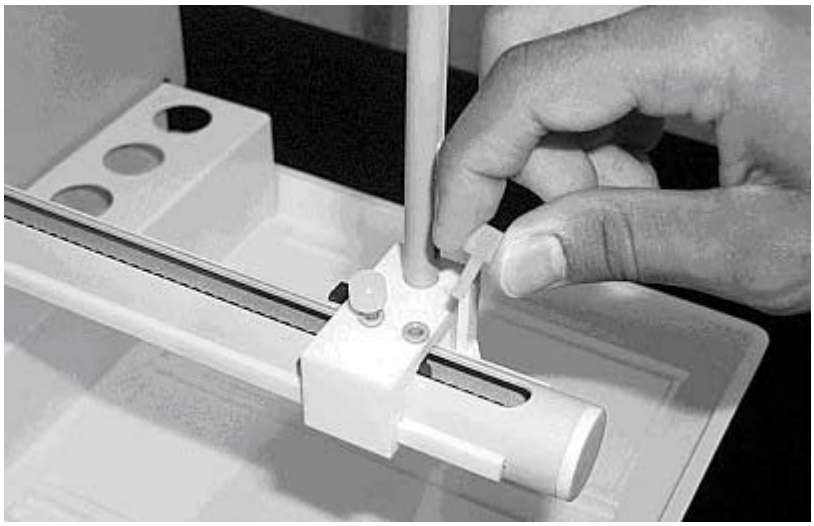

Figure 1-2. View of Y- axis home block with Kynar thumbscrews.

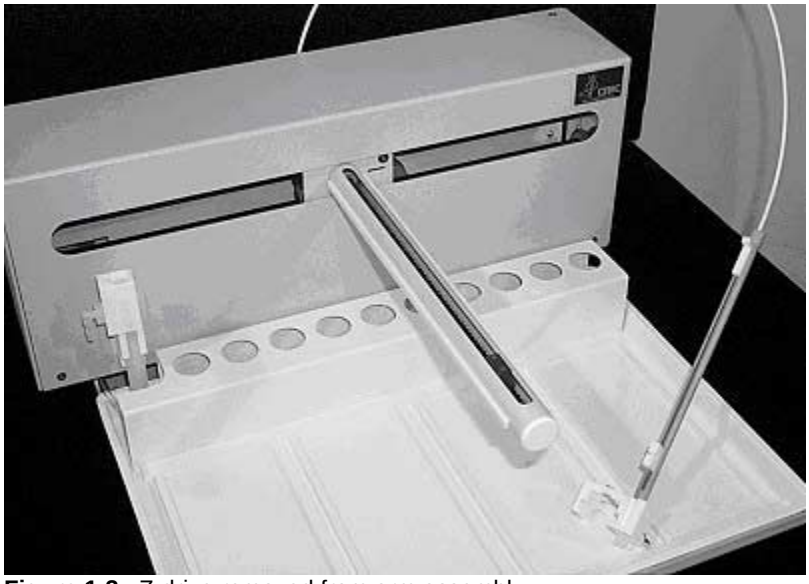

Figure 1-3. Z-drive removed from arm assembly.

3. Next, remove the whole Z-drive assembly from the arm by pulling the whole Z-drive assembly forward and off the autosampler arm (Figure 1-3).

4. Once the Z-drive assembly has been removed, remove the rinse station (Figure 1-4). Turn the rinse station ¼ turn counter-clockwise while pulling up. Also, the tubing located at the bottom of rinse station will have to be removed or moved aside (Figure 1-5).

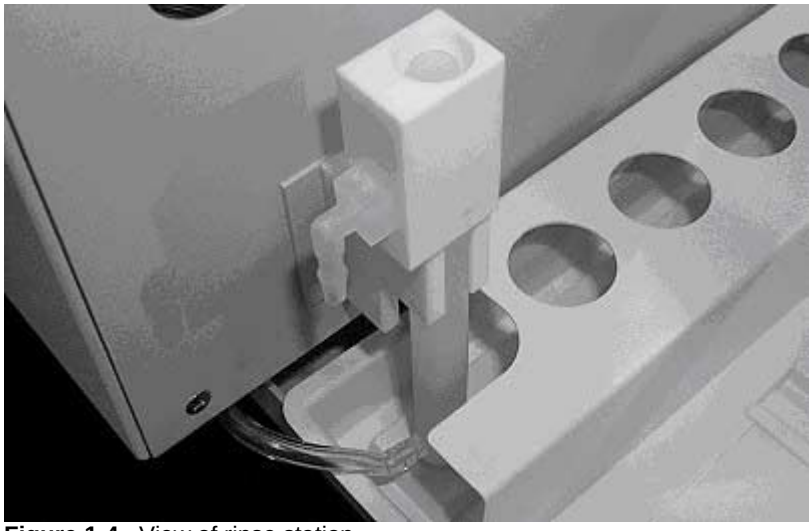

Figure 1-4. View of rinse station.

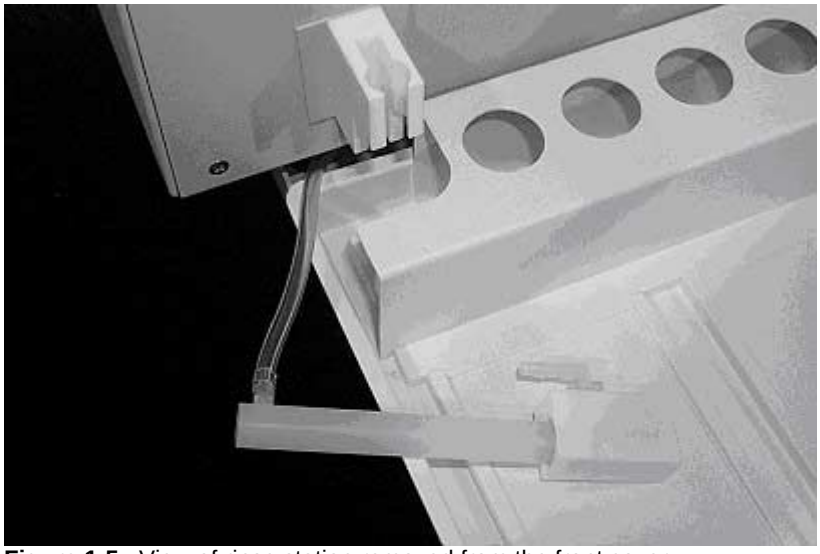

Figure 1-5. View of rinse station removed from the front cover.

5. The autosampler tray is the next to be removed. Lift up the tray and pull out (Figure 1-6).

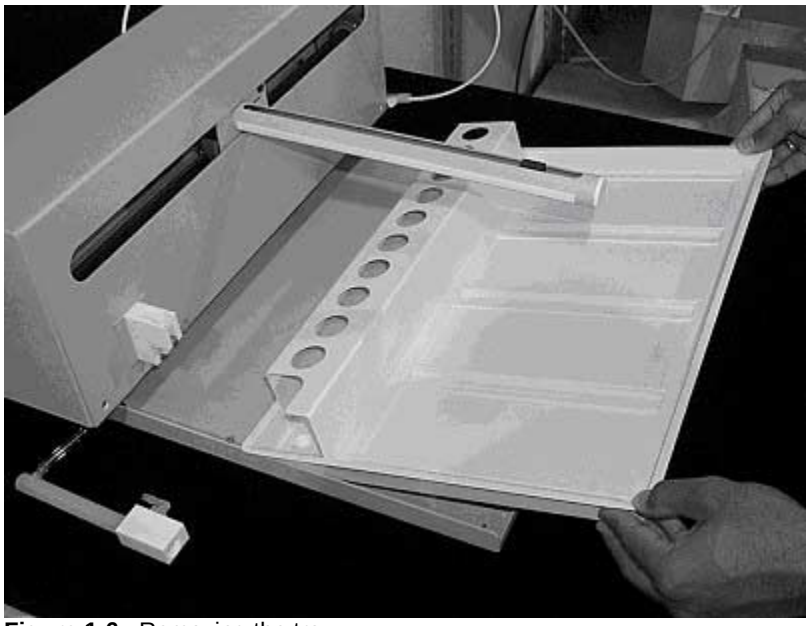

Figure 1-6. Removing the tray.

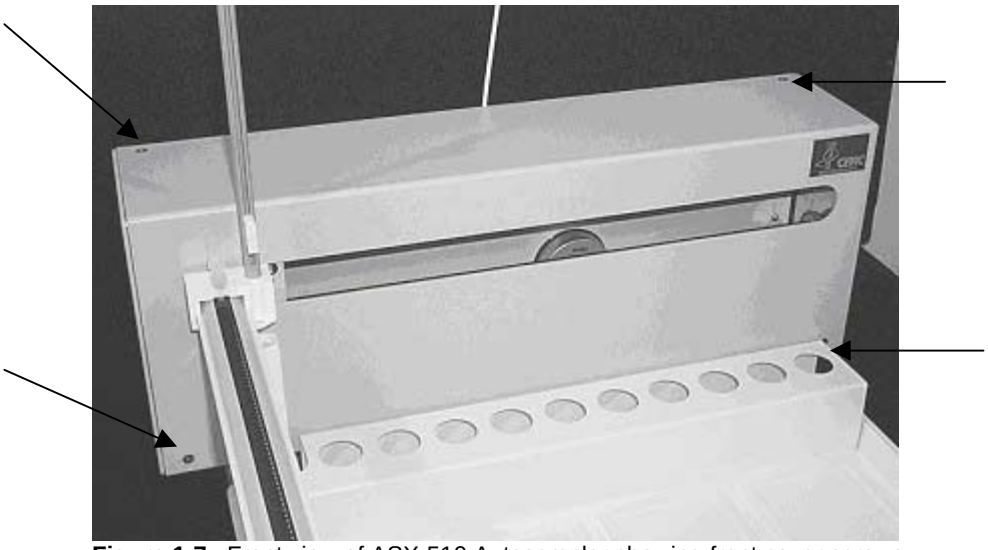

Figure 1-7. Front view of ASX-510 Autosampler showing front cover screws.

6. Next, the front cover needs to be removed. Remove the four corner screws (Figure 1-7).

7. The front cover can be removed by lifting it slightly and pulling forward (Figure 1-8).

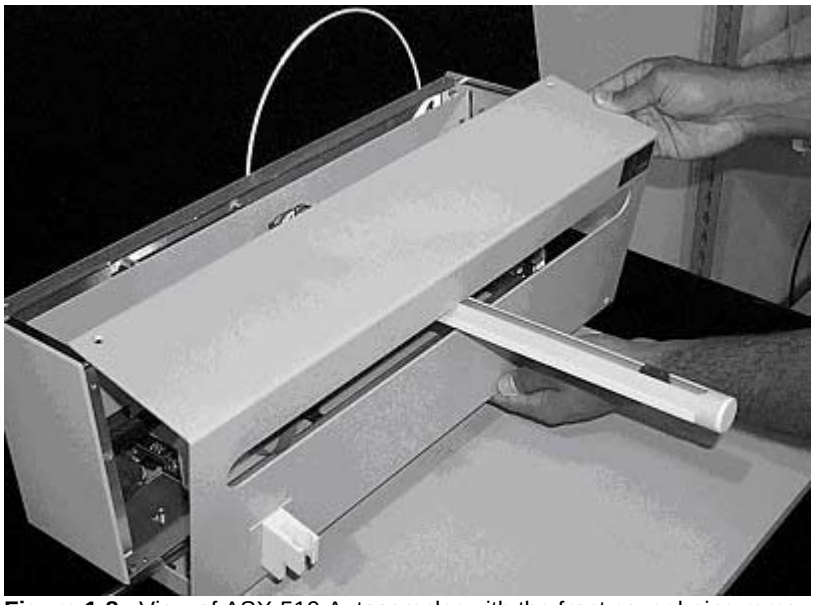

Figure 1-8. View of ASX-510 Autosampler with the front cover being removed.

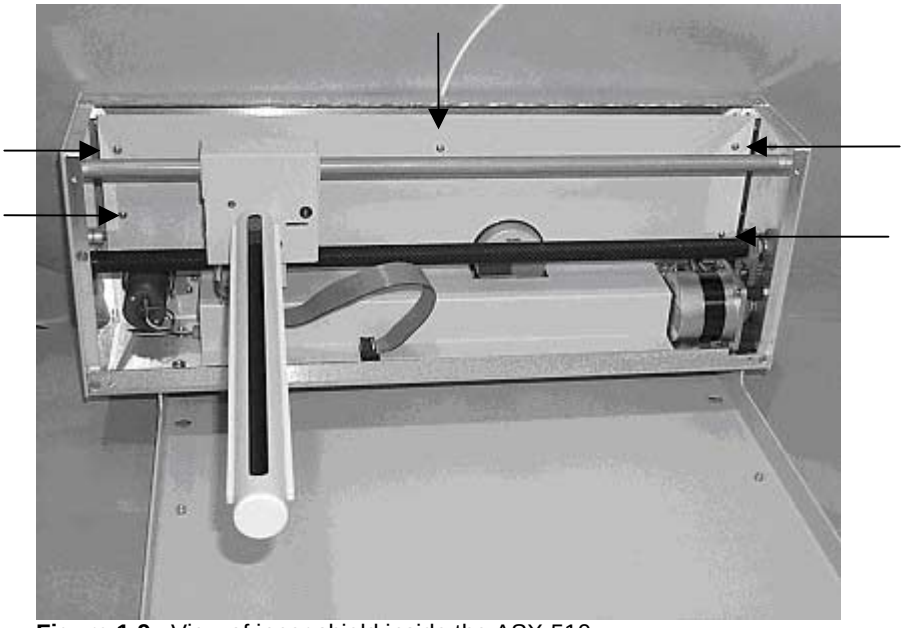

Figure 1-9. View of inner shield inside the ASX-510.

8. The five screws that hold the inner shield should be removed. Move the Y-axis assembly all the way to the left (Figure 1-9).

9. The inner shield can be removed by lifting it up while pulling forward (Figure 1-10).

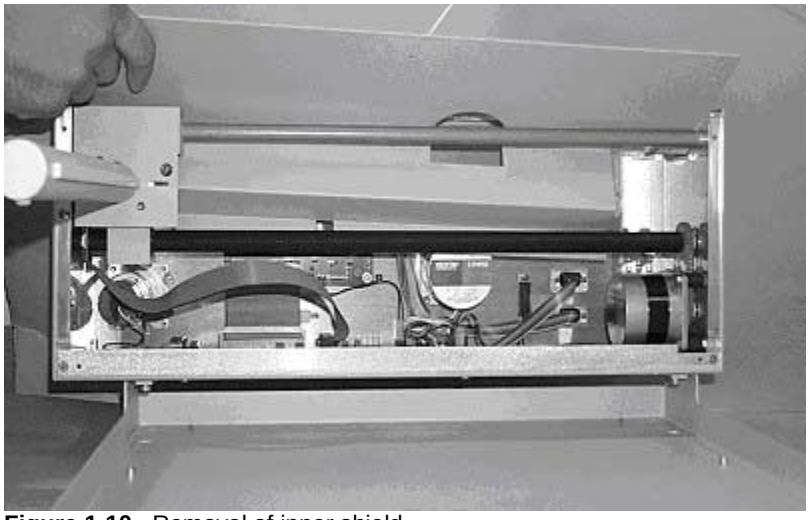

Figure 1-10. Removal of inner shield.

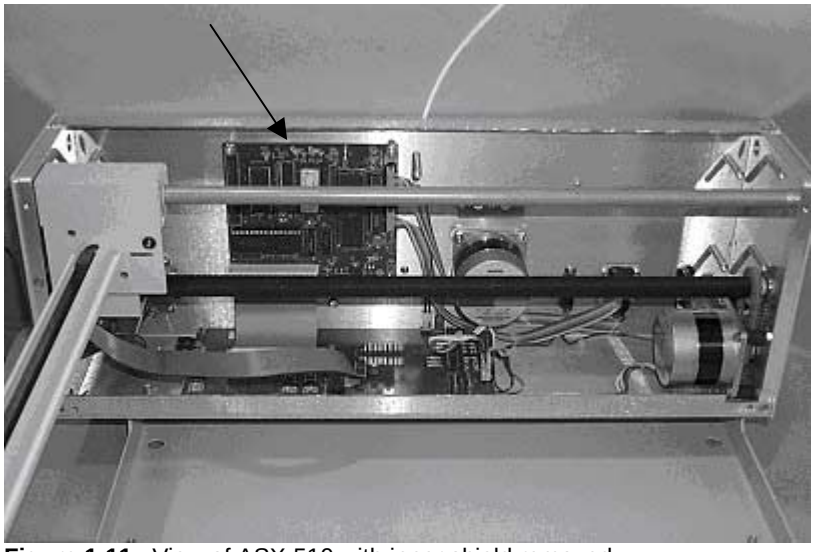

Figure 1-11. View of ASX-510 with inner shield removed.

10. The CPU board may be accessed to remove and or replace the firmware (Figure 1-11). Ensure that the notch on the EPROM is facing down.

11. To assemble the unit, replace the inner shield, the front cover, the tray, the rinse station and finally the Z-drive assembly.

12. Once the unit has been assembled, turn it on. The arm should move to the home position.

Guide to Installing the EXR-8 with a CETAC Autosampler

Assembling the Cart

The Cart should be assembled using the instructions provided with the Cart. The Cart should have two holes on the top layer (Figure 1).

Figure 1. Cart from above.

Removing the head assembly from the base of the autosampler

1. Unplug the autosampler.
2. Remove all sample vials and the tray.

Figure 2. Autosampler on its side

3. Place the autosampler on its side (Figure 2).
4. Remove the contents from Bag A and locate the hex wrench (Figures 3 and 4).

Figure 3. Contents of Bag A.

Figure 4. Hex wrench.

5. Using the hex wrench, remove the four screws connecting the head assembly to the base (Figure 2).
6. Remove the head assembly from the base.

Mounting the head assembly (autosampler) onto the Extended Rack

1. Place Extended Rack onto the Cart such that the center holes of the Extended Rack are aligned with those on the Cart.
2. Place the standards rack on the rail plate (Figure 5).

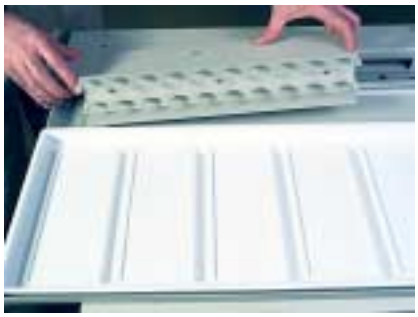

Figure 5. Standards rack placed onto the Extended Rack.

3. While holding the standards rack, place the head assembly on the standards rack (Figure 6).

Figure 6. Head assembly placed onto the standards rack.

4. Using the contents of Bag A (Figure 3), place the washers on the screws.
5. Attach the left side of the head assembly to the Extended Rack using the hex wrench as shown in Figures 7 and 8.

Figure 7. Attaching the head assembly (first screw).

Figure 8. Attaching the head assembly (second screw).

6. Attach the right side of the head assembly to the Extended Rack as shown in Figure 9.

Figure 9. Attaching the right side of the head assembly.

7. Leave the head assembly slightly loose for alignment.

Mounting the chain assembly

8. Locate the chain assembly kit (Figure 10), Bag B and the power supply provided with the CETAC autosampler.

Figure 10. Chain assembly kit.

9. Take the power supply for the CETAC autosampler and insert it into the chain assembly (Figure 11).

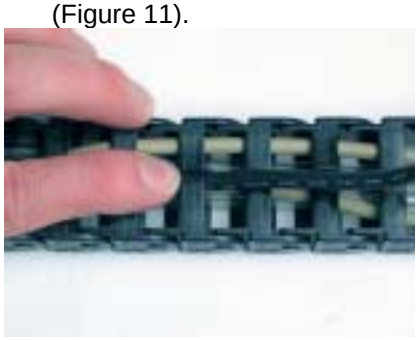

Figure 11. Inserting the power cord into the chain assembly.

10. Attach the chain bracket to the top of the head assembly using the 10-32 screw found in Bag B (Figure 12).

Figure 12. Attaching the chain assembly to the head assembly.

11. Attach the other end of the chain assembly to the right side of the Extended Rack (Figure 13) using the three screws in Bag B.

Figure 13. Attaching the chain assembly to the Extended Rack.

Connecting the head assembly to the Extended Rack

1. From the top of the chain assembly, locate the serial cable labeled 1 and connect to the COM 1 on the head assembly.
2. From the top of the chain assembly, locate the serial cable labeled 2 and connect to the COM 2 on the head assembly.
3. Plug the power cable into the head assembly.
4. From the top of the chain assembly, locate the pump tubing and connect to the rinse pump on the head assembly.
5. Replace the rinse output channel of the rinse pump with larger ID pump tubing which is supplied in the EXR-8 completion kit.
6. Cut pump tubes to length allowing for flexibility (Figure 14).
7. From the end of the chain assembly, locate the serial cable labeled 2 and plug into the right side of the Extended Rack.
8. Plug the power supply into the Extended Rack.

Figure 14. Connecting the pump tubing.

Connecting the Autosampler to the Host Computer

1. From the end of the chain assembly, locate the serial cable labeled 1 and connect it to COM 1 of the Host Computer.
2. Turn the autosampler on.
3. Install the Test Software on the Host Computer.
4. Run AScript.exe.
5. Select Tools | Hardware Setup.
6. Select EXR-8 and exit the software.

Aligning the Extended Rack

1. Run AScript.exe.
2. Select File | Open.
3. Select EXR-8 Alignment file.
4. Select Tools | Define Racks.
5. Select EXR-8 and then 60positions.txt.
6. Place racks on tray.
7. Select Cycle Indefinitely.
8. Press the Start button.
9. Verify that the probe hits center tube on all four corners.
10. If it does not, move the head assembly until the probe hits center tube on all four corners. Once it does, tighten the screws on the head assembly.
11. Press the Stop button.
12. Select File | Open, and the file EXR-8 Full Alignment.
13. Press the Start Button.
14. Verify that all the racks are aligned. If not, repeat step 10.
15. Press the Stop button.