Upgrading the D300 from version 2.0/2.1 to 2.2

NOTE! This upgrade must be done COMPLETELY – that includes all three sections. A partial upgrade may result in a non-functional unit.

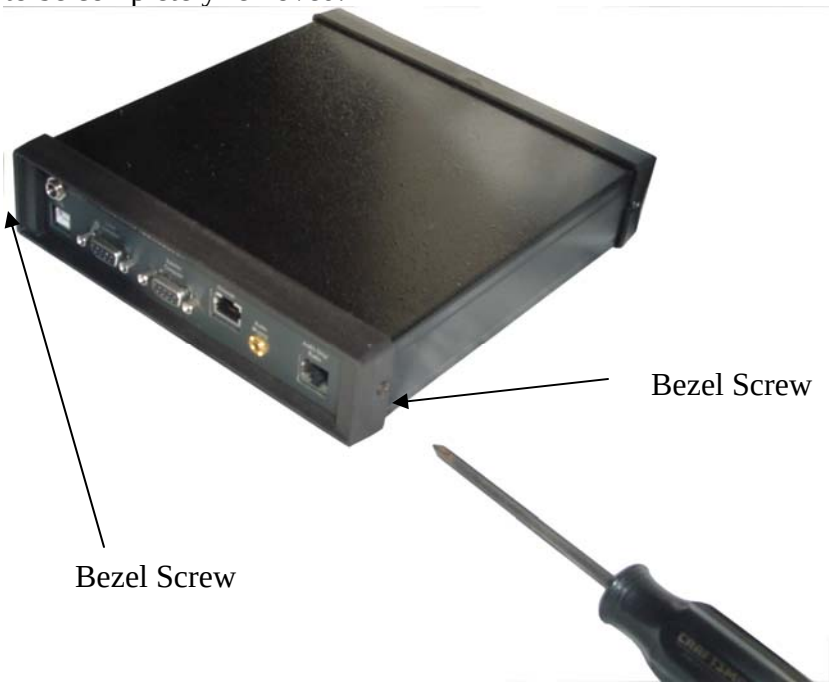
ALWAYS check the Timewave website for the latest versions of the Firmware. DO NOT use more than one version on a D300 box. There will be updates in the same version (new build dates).

The firmware may be procured from:

http://www.timewave.com/support/DSP-D300/d300support.htm

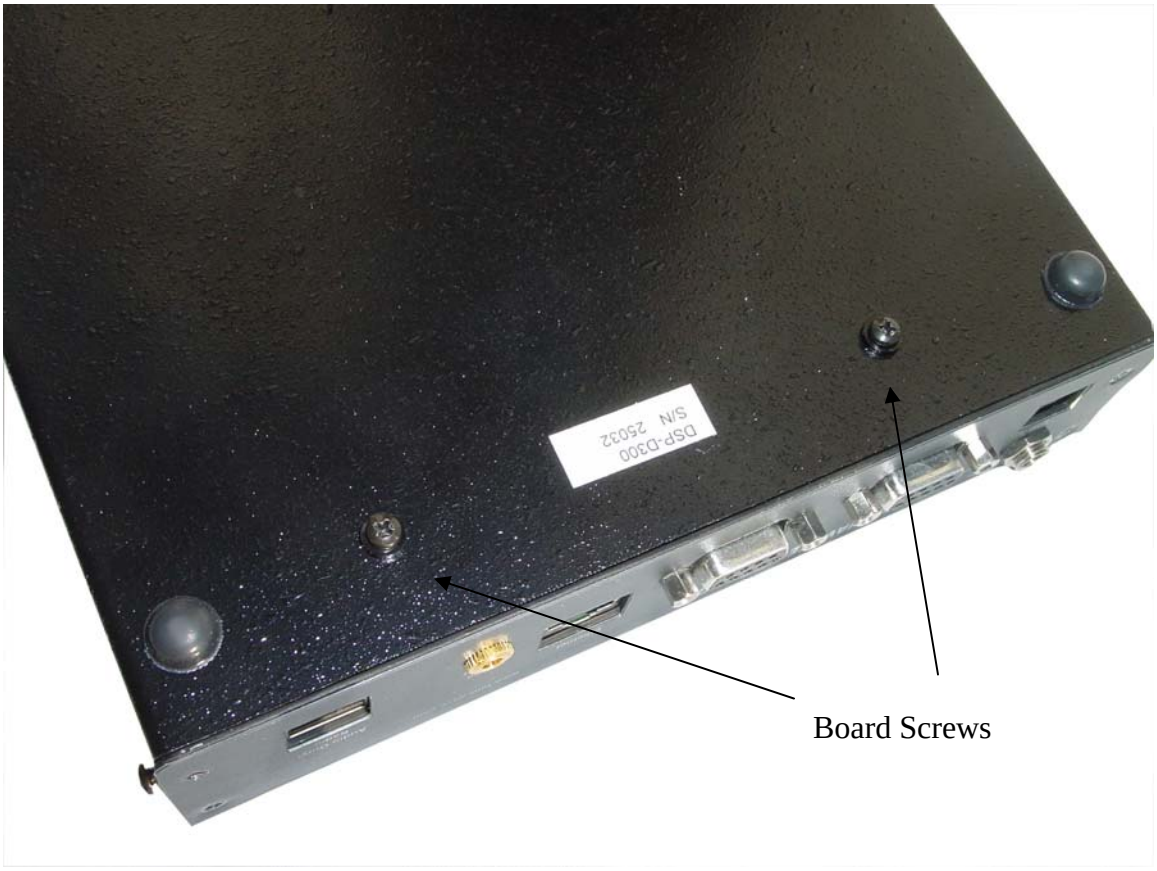
Part 1 - Updating the CPU firmware

1. Disconnect the D300 from all connections. Make sure that the two 8 pin connectors are clearly labeled. When reconnecting these must not be connected to the incorrect sockets.
2. Locate the two screws holding the rear bezel in place. Loosen them. They do not need to be completely removed.



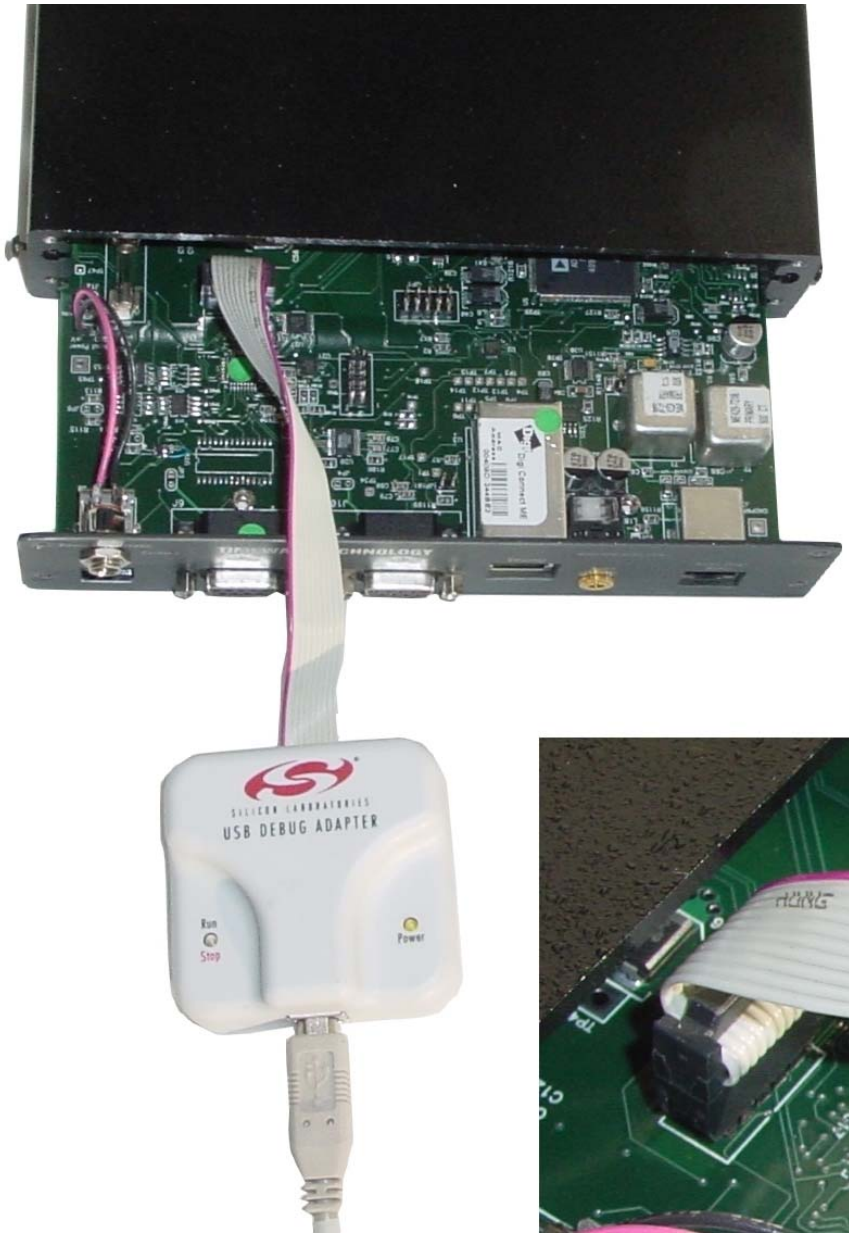
3. Remove the bezel and locate the four back panel screws. Remove them.

4. Flip the box over. Remove the two circuit board screws. These may have washers.



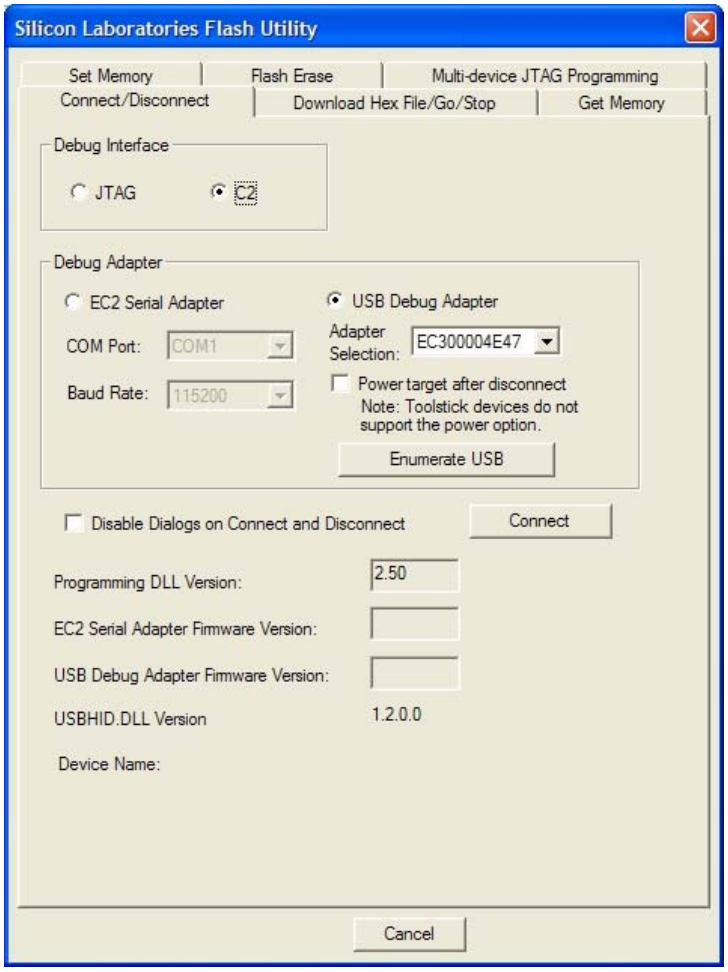
5. Slowly and carefully pull out the back panel 2.5 inches until the CPU JTAG connector is exposed. DO NOT pull the board out any further! Doing so will pull out the front panel connectors.

6. Connect the USB Debug Adapter JTAG Programmer. Make sure the ribbon cable has the red stripe facing the correct direction. Also plug in the power cord AFTER the Debug Adapter is connected.

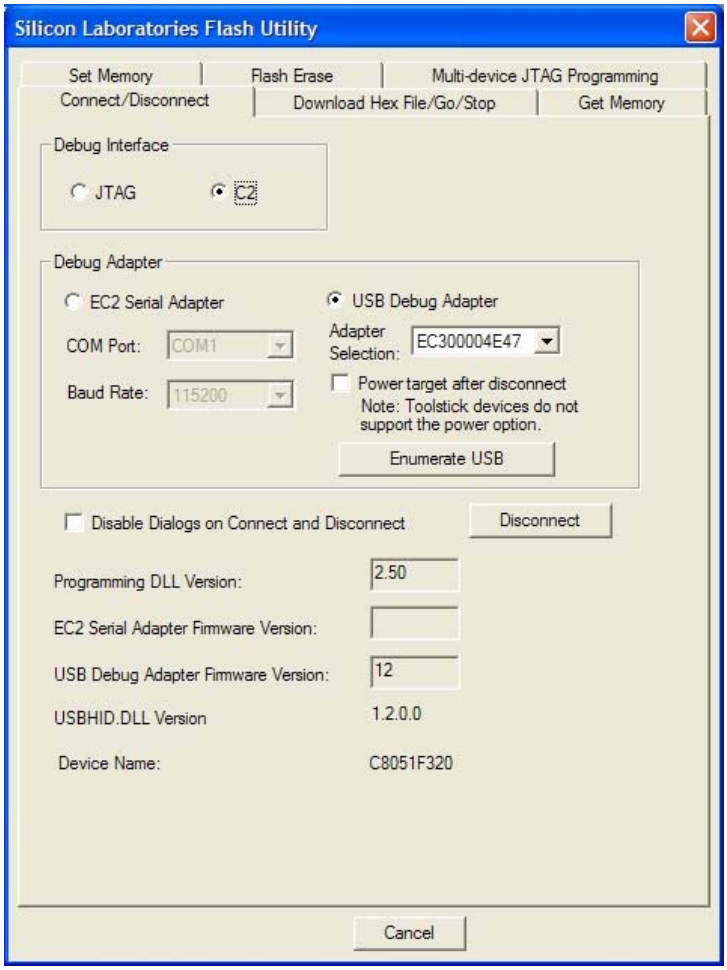


7. Load the USB Debug Adapter software. This is located in the tools folder of the CD and is called FlashUtil.exe. You may also download it from Silicon Labs at

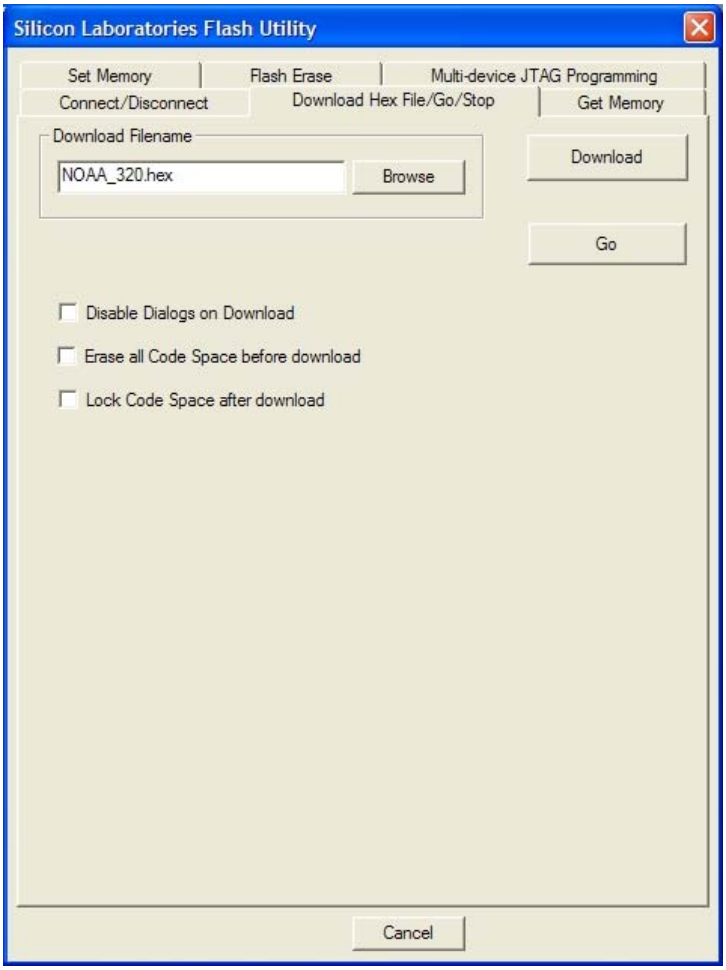
http://www.silabs.com/tgwWebApp/public/web_content/products/Microcontrollers/en/mcu_winflashutilitiy.htm



8. Click on “Connect”. You will get a message box saying that it connected. Click on “OK”. You will see the Debug adapter version and the device name on the screen.



9. Click on the “Download Hex File” Tab. Click on “Browse” and select the CPU HEX file update from the CD. This may also be downloaded from http://www.timewave.com/support/DSP-D300.



10. Click on “Download”. A dialog will appear and download the file. When complete, click on “OK”. Click on the Connect/Disconnect tab, then click on “Disconnect”. Close the utility.

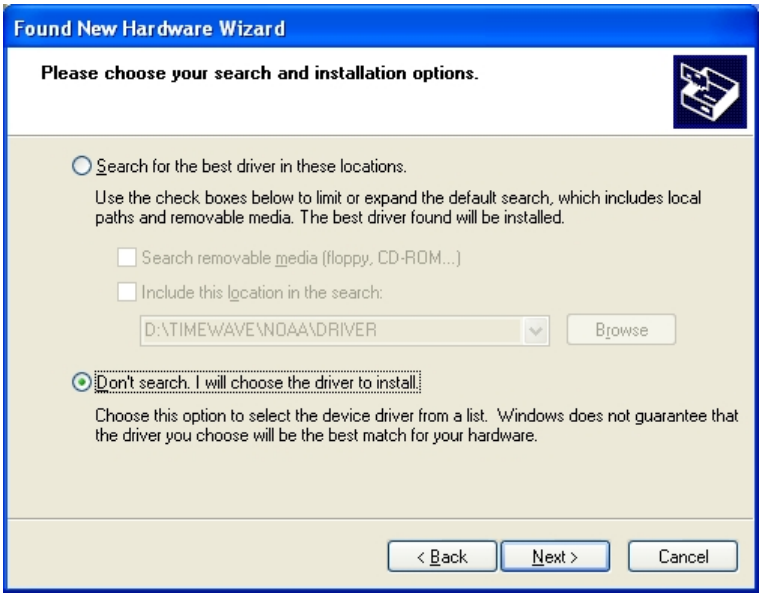
11. Move the USB Debug Adapter JTAG Programmer Cable to one of the COM JTAG connectors. Make sure the ribbon cable has the red stripe facing the correct direction. Right on the top connector and facing the back on the bottom connector.

12. Repeat steps 7-10 with the COM HEX file for BOTH connectors.
13. Disconnect the USB JTAG Programmer and reassemble the D300.

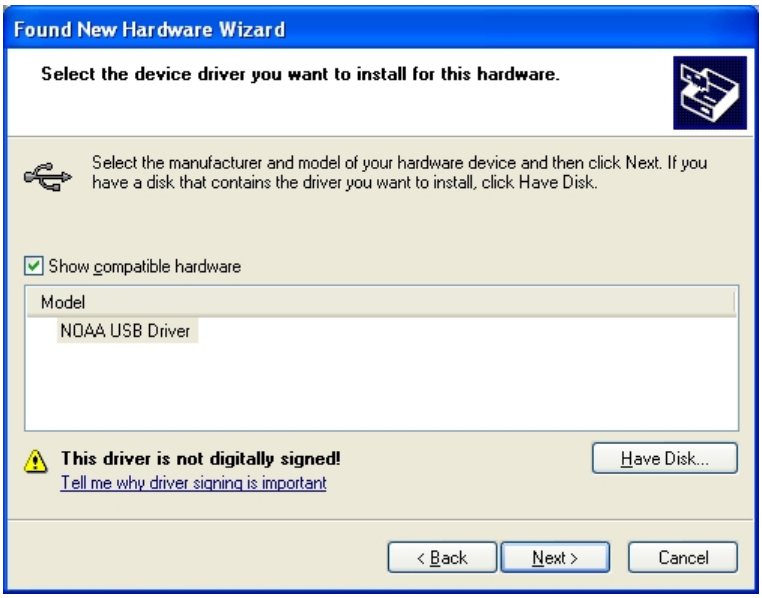
Part 2 - Updating the Control300 Software.

14. Reconnect all the D300 cables. Specifically the Ethernet connection and the USB connection. If you have not previously installed older versions of the Control300 software, do not connect the USB cable to the PC at this time. Cycle the power cable.
15. From the CD, Run the "setup_Control300.exe" program. You may also download the program from http://www.timewave.com/support/DSP-D300. Follow the on-screen instructions. Click on "Finish" when done.
16. Insert the USB cable into the PC. When prompted for a driver, select "Install from a specific location".

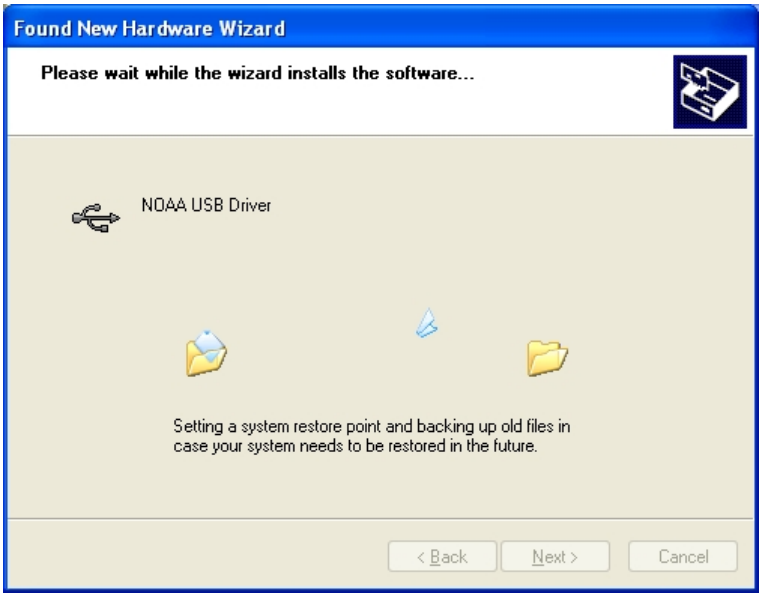
17. Select “Don’t Search”.



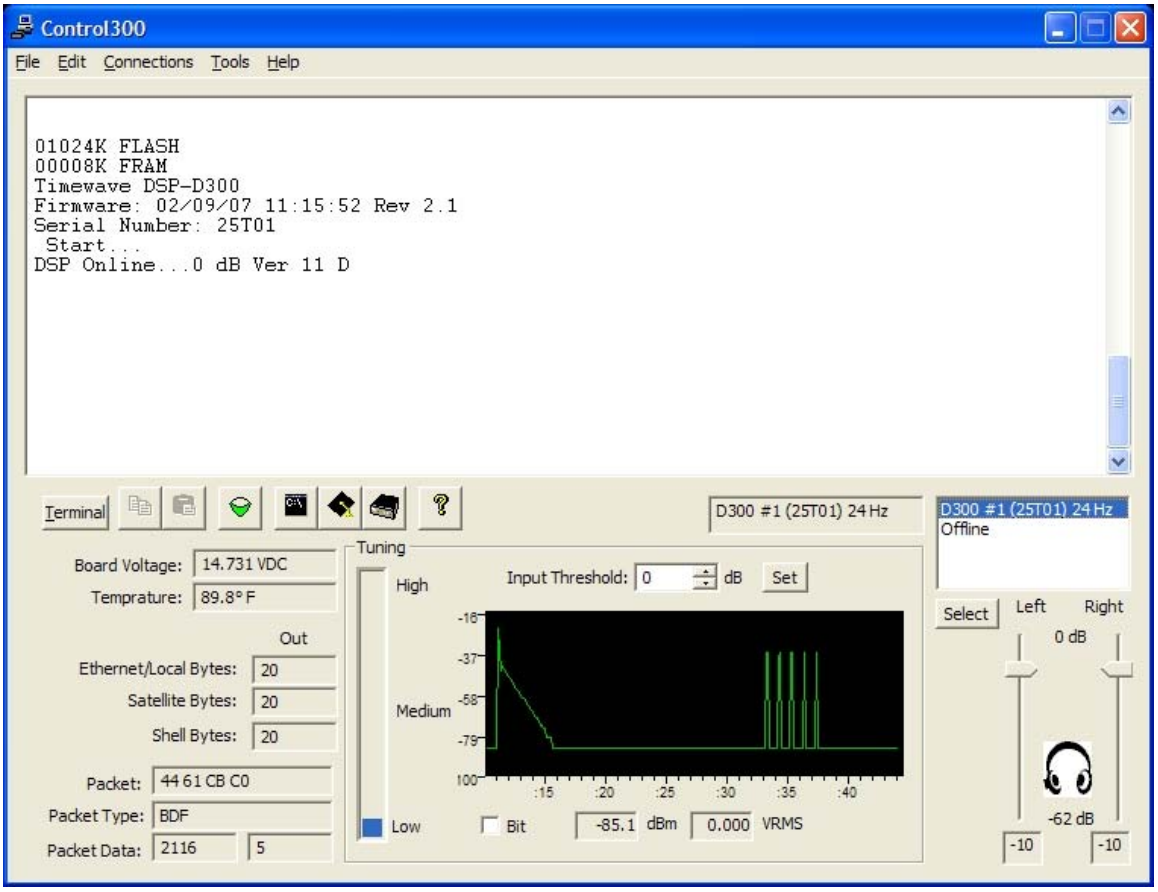
18. Select “Have Disk”. Select the driver installed with the software, typically in the folder “C:\Program Files\Timewave\DSP-D300”. “NOAA USB Driver” will be added to the list. Select it, then click on “Next”.



19. Wait for the install, then click on “Finish”.



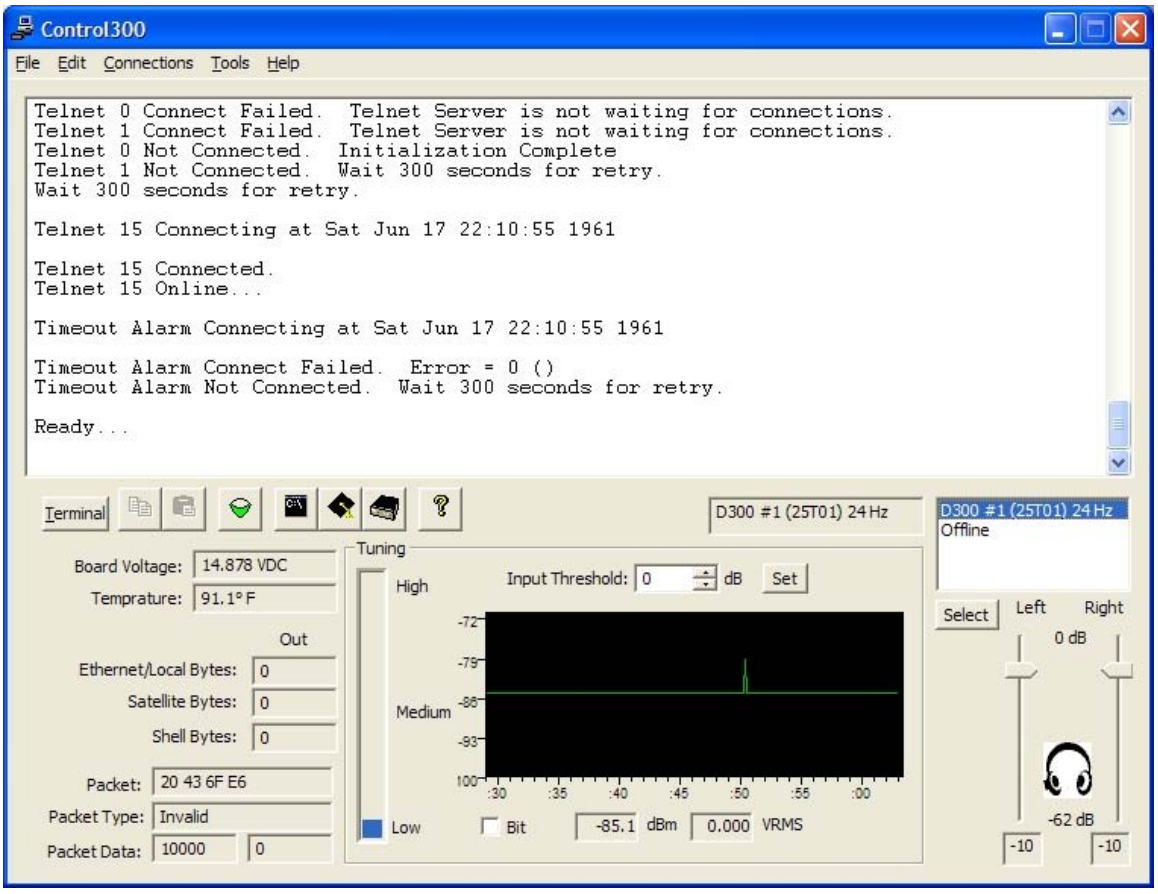
20. Start the Control300 program.



21. The program is installed correctly.

Part 3 - Updating the Ethernet firmware

22. Wait for the “Ready” prompt. This will take about a minute. Make sure that there is no message saying that the D300 is working in “Offline” mode.



23. Start the Shell. If You may log in via SSH instead if desired. DO NOT attempt to use the Ethernet GUI from the Tools menu.
24. Start your TFTP server on a machine connected to the network. Make sure that you know the IP address of the TFTP server. If you need a server, you may download a Windows one from SolarWinds.net.
25. Copy the “image.bin” file into the TFTP share folder. You may need to rename the “imagev220_200xxxxx.bin” to “image.bin”. Note: Read the following warning.

WARNING!

If the image file is labeled "imagev215_200xxxxx" (note the v215 has an odd number), then it for a different version of the Ethernet module and must NOT be used here. To determine if you have the incompatible version of the Ethernet module, either check the serial number or check the version displayed on the shell. If it gives a version for SSL, then it is the incompatible version. Contact Timewave for information.

Serial Numbers for the Version 1 Ethernet Module: (v220 firmware): 25000, 25001, 25003-25039, 25041

All other D300 Boxes will have the Version 2 Ethernet Module.

26. From the "$" prompt, type the following:

    ```
    $ loadimage image.bin 192.168.1.100
    ```

    Where the IP address is the IP address of the TFTP server.

27. Wait for the download.
28. Type the following to make sure the image is good:

    ```
    $ verifyimage image.bin 192.168.1.100
    ```

    Where the IP address is the IP address of the TFTP server. This will redownload and compare the files.

29. To update the firmware, type "updateimage". This may take 10 minutes. DO NOT disconnect the power during this operation! Doing so will require that the unit be sent back to Timewave for repairs.

    ```
    $ updateimage
    ```

30. Reboot the Ethernet module by typing "reboot" or cycling the power.

31. Wait for the "Ready". The firmware is now upgraded.