Setting Up a "New" Computer

This checklist provides instructions for setting up a computer for STM control via the National Instruments DIO card. Specifically, this checklist describes the setup of a dual boot configuration with both the Windows 95 and WFW 3.11 (with Win32s) operating systems. Some of the instructions may be superfluous, depending on the intended use of the machine (for example, most systems do not require the Watcom compiler). It should be noted that the program will run under Windows 95, but system interrupts under that operating system will confound the timing of the program, especially deposition and hop tracking data.

-mw 10/10/02

New Hardware (Hard Drives, Cards, etc.)

? Note that the red side of ribbon cables should be connected to pin #1.

? For multiple hard drives, be sure that the drives are appropriately set to Master and Slave.

? After installing hardware, run SETUP in the BIOS to make sure the hardware has been autodetected.

Partition and Format Hard Drives

? Primary vs. Logical partions. You can have no more than 1 primary partition per hard drive in DOS. Logical partitions must belong to an extended primary partition.

? Reboot the PC with a universal boot disk.

? Run fdisk from DOS to create Windows partitions. **Note that to create LINUX partitions, run the LINUX fdisk. Once you're done creating partitions, reboot with the universal boot disk.

? Format the disk partitions with: "format c:", etc. in DOS.

Install Windows95

? Reboot with the universal boot disk.

? Choose "Install Operating System" from the startup disk menu. Install Windows95 from CD-ROM into the directory c:\Win95. Reboot.

Install Drivers for Windows95

? Install the video display driver, if necessary. (In the case of the Millenium video card, this was from a CD ROM).

? Install network driver by opening up Network Neighborhood. Add TCP/IP. In the TCP/IP settings, set the IP address and the following:

       Gateway   128.84.231.231

       DNS Servers   128.84.231.190 and 192.35.82.50

       WINS Server 128.84.231.195

       Mask   255.255.255.0

Note that these values are available on the MSCCF web page and should probably be verified regularly.

"Fix" Windows95 and Install Windows 3.11

? Remove everything from config.sys.
? Copy the following files from the "Win95 OSR2 dual boot fix" floppy disk: command.dos, msdos.dos, io.dos.
? Set the attributes of the following files:
        "attrib +s +h +r" for io.dos and msdos.dos
        "attrib -s -h -r" for msdos.sys.
? Edit msdos.sys: add the following line
        Options
        BootMenu = 1 ✍ add this line
? Reboot and select option 6 (command prompt only). Run the program w95boot from the "Win95 OSR2 dual boot fix" floppy disk.
? "mkdir wfw311" on the c: drive (subdirectories can have > 512 files). Make this the current directory.
? "xcopy q:\wfw311*.* /s" where q: is the CD-ROM drive with the Windows 3.11 cd. The /s option allows you to copy all of the subdirectories as well.
? Remove CD ROM drivers from autoexec.sys.
? Reboot and select option 8 (old DOS). Run SETUP from c:\wfw311. Install Windows 3.11 into c:\Win31. In config.sys, remove all references to smartdrive and change himem to run form Win31, not CD-ROM.
? "mkdir pw1118" on the c: drive. ftp the file pw1118.exe from Microsoft. Run pw1118 (lots of inflating). Then, run SETUP.

Install Drivers for Windows 3.11

? Install the video display driver for Windows 3.11, if necessary. This should be pretty similar to the installation for Windows95. (In the case of the Millenium video card, this was from a CD ROM).

Setup the STM program

? In Windows 3.11, create a directory c:\stm\new. Put the following in this directory: a copy of the STM program for Windows 3.11, dep0.ini, dep1.ini, dep2.ini, dep3.ini, dosed.ini, dtransl.ini, dtranss.ini, initdir.ini, masspec.ini, samples.ini, scan0.ini, scan1.ini, scan2.ini, scan3.ini, sp0.ini, sp1.ini, sp2.ini, sp3.ini, stm.ini, stmpre.ps.
? Additionally, you can create a program group with the STM program as a program item.

Windows 3.11 Compiler

? Install the Watcom C/C++ compiler from CD ROM. Unfortunately, the patches that update this program are no longer available. So, copy the contents of the Watcom folder from a backup of a machine where all of the patches have been installed (most notably, kosh).

? Partially install Microsoft Visual C++ form CD ROM. The point of this is to get a copy of

Dialog Editor; we don't use any other features of Visual C++.

? Finally, copy all of the source code and project files for the STM program.