Doing a Fresh Install of XP Pro on a Dell E520 Desktop

There is much confusing (and often incorrect) information on how to install XP on this computer. An XP installation will fail (blue screen) part way into the install with an error message. The problems are that all devices (hard drives and CD ROM drives) are SATA (IDE is not supported) and Dell uses RAID drivers to control the hard drive. The Microsoft Windows XP Pro CD does not support installing to RAID drives. The work-around is to use F6 to load the required driver (must be from a floppy drive) during XP installation.
Some suggestions to be found on the internet say to change the SATA Operation from RAID only to "RAID Autodetect/ATA" in the BIOS. Although this will work, it will reduce the performance of the E520 by not taking advantage of using the separate RAID buss for data transfer to the hard drives. Instead, all data (including video card, sound card and hard drive) must share the same buss.
The following description is from a recent XP Pro fresh install I did on my Dell E520.

Preparation
- Locate your copy of Windows XP Pro SP2 or SP3 and product key

- Refer to the Dell Dimension E520 Service Manual at
  http://support.dell.com/support/edocs/systems/dime520/en/SM_EN/index.htm

- Download the latest Intel driver for the Matrix Storage Manager (found under SATA drives) from the Dell support web page (enter the service tag for your computer). The file I downloaded was called "R158601.exe" which is a self extracting file. Put it in a temporary folder and double click and run it to extract the files – change the path so that the files end up in the folder you created. The only files you want are:
  iaahci.cat   iaahci.inf
  iastor.cat   iastor.inf
  iastor.sys   txtsetup.oem
  Delete the other files and copy these 6 files onto a floppy

- Download the Intel driver for the 825XX 10/100 Platform LAN Connect Device and put on a CD or a USB stick for after windows installs. The new XP installation does not recognize the E520 built-in Ethernet so you can't connect to the internet until you install the driver.

Temporarily attach a floppy disk drive to the mother board using a standard floppy drive ribbon cable plugged into the connector shown in the System Board Components drawing under Technical Overview. The power connector for the floppy drive is the short cable coming from the power supply and secured under a clip on the plastic fan enclosure. Refer to Removing and Installing Parts – Floppy Drive in the Service Manual.
I tried using an external USB floppy for the install, but could not get it to work.

Press F2 during boot-up to enter Setup, and under Drives – Diskette Drive, select "Internal" to enable your temporary floppy drive.
Also check under SATA Operation to ensure that the factory default "RAID On" is selected.

Check the Boot Sequence and change if necessary so that "Onboard or USB CD-ROM Drive" is listed above the hard drive.

Save/Exit Setup and follow the on screen direction to press any key to boot from CDROM (if you are not installing on a new hard drive). Next watch for the "press F6 if you need to install third party SCSSI or RAID drivers" – press F6.

Wait for the screen to press "S" to specify additional device. Insert the floppy with the drivers you created and press "S" and "Enter" when ready.

A list of 4 choices will appear – the one you want is "Intel ICH8R/ICH9R SATA RAID Controller"

Just press Enter when asked to specify additional equipment.

Windows XP Pro install should begin.

Leave the floppy in the drive as Windows will require the drivers again after it has finished formatting the hard drive.

Shutdown the computer and remove the floppy drive. Since I was doing a fresh install of XP Pro because the old install was corrupted, I installed the old hard drive as the second drive. According to Dell, the boot drive should be plugged into SATA0 and the second drive into SATA1. In my computer, one of the CD/DVD ROM drives was in SATA1. Note that there are only 4 SATA connectors on the motherboard – SATA0, SATA1, SATA4 and SATA5. Rearrange the cables so the ROM drives are on SATA4 and 5, plug the second hard drive into SATA1.

Re-enter Setup with F2 and set the floppy drive to OFF. If you have rearranged the SATA cables, turn on the ones that have something plugged into them.

Immediately go to the Windows Update site to download required updates, often you can also get drivers for some of the hardware installed in your E520. Other driver updates etc. can be downloaded from the Dell Support web page.