



 MARKS THE SPOT WHERE IT ALL COMES TOGETHER.

TB09-001:

WINDOWS MEMORY AND THE NAVIGATOR RIP

Background

Windows 2000 and XP have a 2GB limit for the amount of RAM that they will allocate to any program. Therefore, under normal circumstances, it is not possible for the Navigator RIP to use additional RAM above 2GB even if the host computer contains additional RAM. The solution to this problem is to change a setting in the Windows "boot.ini" file.

There are two settings that can be used: /PAE and /3GB.

It is important to note that the /PAE setting should NOT be used if the computer has less than 4GB of RAM. The conventions are as follows:

2 to 4GB RAM -- add the /3GB switch to the boot.ini file

4 to 8GB RAM -- add either the /PAE switch or the /PAE and /3GB switch to the boot.ini file

Note: With more than 4GB RAM performance will vary when using either the /PAE switch alone or the /PAE and /3GB switches together. The only way to determine the best setting is to experiment with both. Also, neither configuration for 4+GB RAM has been tested with Xitron Plug-ins and therefore is offered "as is" with no guarantee that it will function properly.

If you want the RIP to make use of memory greater than 2 GB you must add the /3GB switch to the Boot.ini file and then reboot the machine. If you require more information about the Boot.ini file, an article titled "Reviewing and Correcting Boot.ini Settings on x86-based Systems" is available on www.microsoft.com

(as of 2-5-08 the link is:

<http://www.microsoft.com/mspress/books/sampchap/6795a.aspx#130>).

Procedure

The boot.ini file can be found in the root directory of the system (boot) hard drive or boot partition. It may not be visible if “hide system files” is enabled under Windows “folder options.” Edit the file in a text editor or by right-clicking on the file and choosing “open.”

The boot.ini file is also editable by going to “My Computer-Properties,” “Advanced” Tab; “Startup and Recovery” settings button; “System Startup” Edit button.

Add the necessary switch at the end of the line following the [operating systems] entry. See example below.

```
[operating systems]
multi(0)disk(0)rdisk(0)partition(1)\WINNT="Microsoft Windows 2000
Server" /fastdetect /3GB
```

or

```
[operating systems]
multi(0)disk(0)rdisk(0)partition(1)\WINNT="Microsoft Windows 2000
Server" /fastdetect /PAE
```

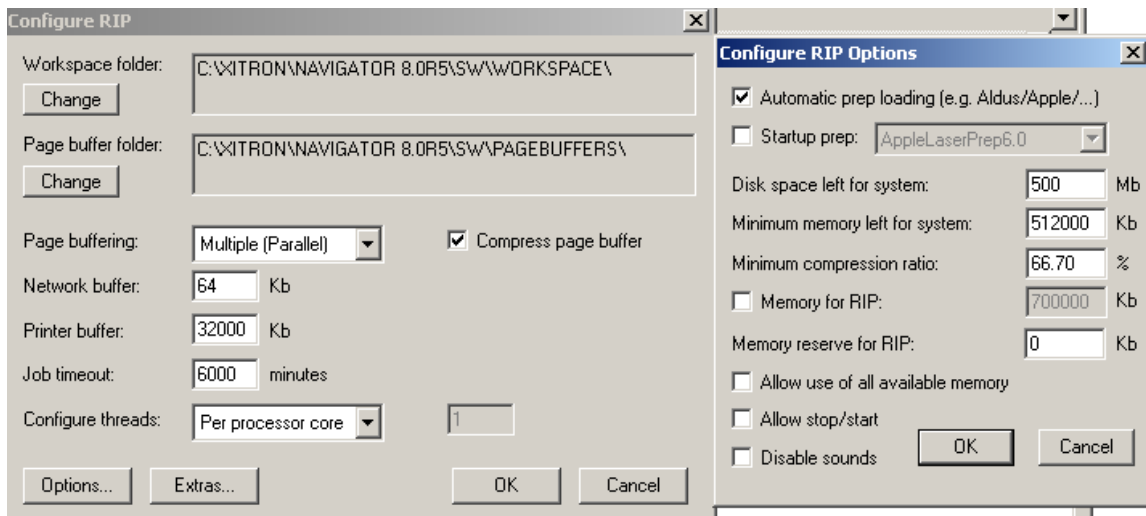
or

```
[operating systems]
multi(0)disk(0)rdisk(0)partition(1)\WINNT="Microsoft Windows 2000
Server" /fastdetect /PAE /3GB
```

Note: The name of the operating system (in the example shown as “Windows 2000 Server”) may differ depending on the operating system you are running, but the context will be the same.

After this file has been changed and saved, restart the computer.

Note: for best results it may be necessary to set the RIP to “use all available memory,” as shown below. This option is found under the Navigator RIP menu; configure RIP and Options. We suggest, however, that you do NOT change this setting unless you are having problems generating proper Page Buffers.



If the RIP has been started prior to adding the /3GB switch, the size of the available address space stored in SW/Config/ConfigureRIP will be incorrect. To reset the RIP's memory size after adding the /3GB switch, you should change the /MaxAddressSpaceSize value to 0; the RIP will then determine the new size automatically.

Similarly, If you downgrade from a 3 GB capable OS to a 2 GB OS (for example, by removing the /3GB switch), the memory size information in the RIP configuration will be wrong and will cause problems. Manually edit SW\Config\ ConfigureRIP to set the /MaxAddressSpaceSize value to 0; this will cause the RIP to re-determine the address space size. Using Migrate will reset the /MaxAddressSpaceSize value to 0.