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About MoreMem

MoreMem(TM) 4.0a

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Fixes "Insufficient Memory to Run" Errors When Loading Windows Programs

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You are granted a limited license to copy MoreMem only for use during a trial period of thirty (30) days subject to the terms of this software license agreement described herein, provided the conditions described below are met:

MoreMem MUST be copied in an unmodified form and MUST contain the following files:

- File_id.diz
- MemIcon4.exe
- MemOrder.wri
- MemOrder.txt
- MemPopup.exe
- MoreMem4.drv
- MoreMem4.hlp
- MoreMem4.rtf
- MoreMem4.txt
- OEMSetup.inf
- Readme.txt
- Setup.exe
- Sysop.txt
- TopBar4.exe

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Operators of electronic bulletin board systems (Sysops) may post MoreMem for downloading by their users without written permission only as long as the above conditions are met. A fee may be charged for access to the bbs as long as no specific fee is charged for downloading MoreMem files without first obtaining express written permission from Gamma Research to charge such a fee.

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The above constitutes the license agreement for MoreMem. It supercedes any and all previous license agreements.

Shareware Terms

You may try MoreMem for 30 days before you must either register MoreMem or delete it from your computer. **Please be honest, and in the spirit of shareware,** register the program if you use it for longer than 30 days. See the [Payment and Registration](#) and [Order Form](#) topics.

Summary of MoreMem

Each Windows program needs a small amount of DOS memory to load. MoreMem pushes DLLs out of DOS memory into extended memory, so DOS memory remains free for programs to load.

MoreMem is a device driver that is designed to fix "Insufficient Memory to Run" errors when loading Windows programs. On startup, each Windows program needs about 800 bytes of conventional DOS memory below 640K. This is because Windows is basically a DOS extender that still needs to communicate with DOS for things like disk and other hardware interrupts. Other programs may also need DOS memory. For example, Windows for Workgroups needs about 8192 bytes to connect to a network drive. MoreMem creates DOS compartments of free DOS memory, so that programs can load.

New Features Over MoreMem 4.0

- (1) MoreMem 4.0a allows the user to turn off free DOS memory calculations to prevent conflicts with memory leaking programs.
- (2) MoreMem 4.0a has a new algorithm for finding windows to prevent conflicts with programs that do not correctly close windows.
- (3) MoreMem 4.0a allows the user to view which programs are using DOS memory.
- (4) MoreMem 4.0a displays the largest amount of contiguous DOS memory.

New Features Over MoreMem 3.0

- (1) MoreMem 4.0 allows the user to reserve three different sets of DOS compartments. Within each set, the size and number of the compartments are user-definable.
- (2) MoreMem has 16 default settings to handle various Windows configurations and drivers.
- (3) MoreMem can automatically cycle through the configurations on bootup until an optimal configuration is found.
- (4) MoreMem's setup dialog box can be shown on bootup until the user finds an optimal configuration.
- (5) To keep more DOS memory free after bootup, MoreMem can allocate most of DOS memory when Windows boots and free it after all drivers and startup applications load through the use of temporary compartments.
- (6) MoreMem can set aside a user-specified amount of DOS memory for programs that require larger amounts of DOS memory. These are called filled compartments, which can be automatically freed and re-filled for user-specified programs.
- (7) MoreMem can be temporarily disabled.
- (8) MoreMem can be uninstalled through a button in its setup dialog box.
- (9) MoreMem has a new dialog box to display DOS memory usage by program and size.

New Features in MoreMem's TopBar

- (1) MoreMem now includes TopBar, a resource monitor and task switcher that fits into the title bar area at the top of the screen.
- (2) TopBar displays the time, date, DOS memory, system memory, GDI resources, and USER resources.
- (3) As memory levels fall below user-specified thresholds, TopBar changes its background color from green to yellow to red.
- (4) TopBar can optionally warn the user through a popup dialog box.
- (5) The icon of each running application is displayed in TopBar.
- (6) The user can click on an icon to switch to an application.
- (7) The user can also restore, maximize, minimize, close, and hide applications using a popup menu.
- (8) TopBar can automatically free some filled compartments when a program executes and, then, re-fill them after the program exits.

NOTE TO MOREMEM 3.0 USERS: DOS blocks are now called DOS compartments to reduce confusion with DOS Upper Memory Blocks.

Why MoreMem Works

In summary, each Windows program needs a small amount of DOS memory to load. MoreMem pushes DLLs out of DOS memory into extended memory, so DOS memory remains free for programs to load.

On startup, each Windows program needs about 800 bytes of conventional DOS memory below 640K for its task database and an allocation by Windows' USER.EXE module. This is because Windows is basically a DOS extender that still needs to communicate with DOS for things like disk and other hardware interrupts.

Unfortunately, DLLs also try to load into DOS memory, although they can load into extended memory. MoreMem fragments DOS memory by breaking it into small compartments of free DOS memory, so DLLs cannot fit into DOS memory. Thus, DLLs are pushed out of DOS memory into extended memory, and DOS memory is saved for the other uses that actually require it. Since MoreMem just systematically allocates and deallocates DOS memory, MoreMem should be compatible with any Windows or DOS program. If any program does not seem to be working with MoreMem, try increasing the size of MoreMem's DOS compartments. Please contact Gamma Research if you find any programs that do not work with MoreMem, so that we can try to create a fix or configuration to allow those programs to work with MoreMem.

Windows allocates moveable memory from the top of memory, but it allocates fixed memory from the bottom. Therefore, if fixed memory allocations fill up the DOS memory below 640K, then no new programs can run, and you get that dreaded "Insufficient Memory to Run" error, no matter how many megabytes of free extended memory your computer has.

Programs should allocate most of their memory as moveable. However, some things like interrupt code and data need to be fixed, and some DLLs are incorrectly designated as fixed. Things like screen savers, drivers, 386 enhanced drivers, sound, multimedia, and modem software are notorious for gobbling up DOS memory. Thus, this trick is to fragment DOS memory into many small compartments so that those fixed memory allocations are prevented from loading into DOS memory, and then, programs can load into the remaining free DOS compartments.

Starting MoreMem

Since MoreMem is a device driver, it automatically executes whenever Windows loads. You can bring up MoreMem's setup dialog box by:

- (1) clicking on the MoreMem icon in TopBar's task button bar.

OR

- (1) starting MEMPOP4.EXE, which pops up the setup dialog box of MoreMem's device driver.

OR

- (1) starting MEMICON4.EXE, which places a MoreMem icon on the bottom of the screen.
- (2) clicking on the MoreMem icon, which pops up the setup dialog box of MoreMem's device driver.

OR

- (1) starting the Control Panel,
- (2) double clicking on the Drivers Icon, and
- (3a) double clicking on the "Gamma Research MoreMem Utility" item in the listbox, or
- (3b) selecting the "Gamma Research MoreMem Utility" item in the listbox and clicking on the Setup button.

Passwords

A password is required to start MoreMem. Case, spaces, and punctuation do not affect the password. The user name, company name, and password for registered users should be on your diskette and/or your invoice/sales receipt. For multiple licenses, GRI usually provides only one user name, company name, and password for all of the licenses.

If you are an unregistered user, you can get a 14-day no password trial with a 30-day total shareware trial. After your 14-day trial is over, you will be given a temporary password in the About dialog box to enter for the remainder of your shareware trial. When you register by paying \$40, you will get a password, a user name, and a company name that will disable the password requirement. See the [Payment and Registration](#) and [Order Form](#) topics.

Payment and Registration

When you pay the \$40 shareware registration fee, you will get a password, user name, and company name that will disable the password requirement in the About dialog box. You can order and get the password by

- (1) phone (9am-5pm CST): (205) 533-7103
- (2) 24-hour FAX: (205) 533-7103
- (3) Internet e-mail: gamma@traveller.com
NOTE: DO NOT SEND CREDIT CARD NUMBERS BY INTERNET E-MAIL.
CREDIT CARD NUMBERS SHOULD BE SENT BY FAX, MAIL, OR PHONE.
- (4) mail

In addition, everyone will receive their password, user name, company name, and sales receipt through the mail.

Orders with the following payment methods are accepted:

- (1) Visa, Mastercard, or American Express credit card,
- (2) US check,
- (3) US currency,
- (4) US money order, or
- (5) International money order. International money orders are preferred in US currency, but International money orders in foreign currency are accepted (though not preferred) if you ensure that all costs of conversion are included in the payment.
- (6) Purchase orders are also accepted. The terms for purchase orders are net 30 days.

See the [Order Form](#) topic.

[See the Discount Pricing For Multiple Licenses topic.](#)

Print Order Form

MoreMem 4.0a Order Form

To: Gamma Research, Inc.
112 Teakwood Drive
Huntsville, AL 35801-3453

(205) 533-7103 Sales (9am-5pm CST) Voice and (24-hour) FAX
(205) 881-5341 Tech Support (9am-5pm CST)
gamma@traveller.com Internet e-mail
NOTE: DO NOT SEND CREDIT CARD NUMBERS BY INTERNET E-MAIL.
CREDIT CARD NUMBERS SHOULD BE SENT BY FAX, MAIL, OR PHONE.

From: Name: _____
Company: _____
Street Address: _____

City, State, Zip: _____
Phone #: _____
FAX Phone #: _____
e-mail Address: _____

Units:	0-9	10-99	100-499	500-	1000-
Price/Unit:	\$40	\$35	\$30	\$20	Call

Quantity: _____
Shipping: _____ \$0 to Mail Password
\$5 per Disk ___3.5" ___5.25"
\$15 for Overnight Disk
Total: _____

Payment Method ___ Visa ___ MC ___ Amex ___ Check ___ Cash ___ MO ___ PO

Credit Card # _____

Expiration Date ___ / ___

Signature _____

How did you hear about MoreMem ? _____

Where did you get MoreMem ? _____

Suggestions: _____

MoreMem Dialog Box

MoreMem 4.0 Setup

User Name: Daniel Woo
Company Name: Gamma Research
Free DOS Memory Now: 110848 Bytes (Contiguous: 27872)
Free DOS Memory On Bootup: 268000 Bytes
Free DOS Memory Before MoreMem: 94352 Bytes
Free DOS Compartments; Free Bytes: A[8], B[0], C[0]; 65536 Bytes
of Reserved DOS Compartments: A[16], B[20], C[0]

Configurations

- 1. Minimal User
- 2. Normal User
- 3. Power User
- 4. Max Out User
- 5. WFW Net Min. User
- 6. WFW Network User
- 7. Power WFW Network
- 8. Max Out WFW Net.
- 9. Custom User

Options

- Double Default Sizes
- Cycle Through Configs
- Show Dialog On Bootup
- Reserve Compart. High
- Boot As First Driver
- Enable MoreMem
- Do Not Show Warnings
- Do Not Show F/F Warn.

Set A of DOS Compartments

Size to Reserve: 8192
Number to Reserve: 16
Type: Free Fill Temp
Free Temp Type after x Sec: 0

Set B of DOS Compartments

Size to Reserve: 1600
Number to Reserve: 20
Type: Free Fill Temp
Free Temp Type after x Sec: 0

Set C of DOS Compartments

Size to Reserve: 1600
Number to Reserve: 0
Type: Free Fill Temp
Free Temp Type after x Sec: 0

OK Reserve Help Password Reboot Close Cancel
Config Help Reg. Info Order Form About ViewMem Uninstall
Fill 1 A Fill 1 B Fill 1 C Free 1 A Free 1 B Free 1 C Free All

STATIC TEXT

User Name. Displays the current or registered user name.

Company Name. Displays the current or the registered company name.

Free DOS Memory Now. Displays the current amount of free DOS memory in bytes and the largest contiguous amount of DOS memory in parentheses.

Free DOS Memory On Bootup. Displays the amount of free DOS memory when Windows boots.

Free DOS Memory Before MoreMem. Displays the amount of free DOS memory before MoreMem was installed by the setup program.

Free DOS Compartments; Free Bytes. Displays the number of free DOS compartments for each set and the total free bytes in DOS compartments.

of Reserved DOS Compartments. Displays the number of reserved DOS compartments for each set.

RADIO BUTTONS

Configurations 1-9 are described in a previous topic. See the [Determining MoreMem's Settings / Configuration](#) topic.

CHECKBOXES

Double Default Sizes. This doubles the DOS compartment size and halves the DOS compartment number of the first eight default configurations to get the other eight default configurations.

Cycles Through Configs. This increments the configuration setting on each bootup. You should uncheck this checkbox when you find a setting that works with all of your programs.

Show Dialog on Bootup. This shows MoreMem's setup dialog on each bootup. You should uncheck this checkbox when you find a setting that works with all of your programs.

Reserve Compartment High. This reserves MoreMem's DOS compartments as high in DOS memory as possible. This helps reduce memory fragmentation by keeping MoreMem's DOS compartments free as long as possible, but it increases the time for Windows to bootup.

Boot As First Driver. This boots MoreMem as the first Windows device driver. You should uncheck this if you cannot get your multimedia drivers to work with MoreMem.

Enable MoreMem. This turns on MoreMem's DOS compartment allocations. You can turn off MoreMem by unchecking this option, and then pressing the Reserve button and rebooting.

Do Not Show Warnings. This turns off MoreMem's warnings when it cannot allocate all of the requested DOS compartments.

Do Not Show F/F Warnings. This turns off MoreMem's Fill/Free Warnings when it cannot fill or free a specific fill/free request.

SETS

Size to Reserve edit box. This is the size of the DOS compartments to reserve for the respective set.

Number to Reserve edit box. This is the number of DOS compartments to reserve for the respective set.

Free radio button. This is the normal type of DOS compartment. It is free for use by programs and drivers.

Fill radio button. This is a special type of DOS compartment. It is filled and cannot be used by programs until it is freed by the free buttons in MoreMem or by TopBar's command line options.

Temp radio button. This is a special type of DOS compartment. It is filled on bootup, and then, automatically freed after startup drivers and programs load.

Free Temp Type after x Sec. edit box. This is the number of seconds to wait until automatically freeing temp type DOS compartments.

BUTTONS

OK. This reserves the requested DOS compartments and closes the dialog box.

Reserve. This reserves the requested DOS compartments.

Help. This brings up the contents topic in this help file.

Password. This brings up the Password / About dialog box to enter a registered user name, company name, and password.

Close. This saves the current settings and closes the dialog box.

Cancel. This cancels the current settings and closes the dialog box.

Configuration Help. This brings up the Determining MoreMem's Settings / Configuration topic in this help file.

Registration Info. This brings up the Payment and Registration topic in this help file.

Order Form. This brings up the Order Form topic in this help file.

About. This brings up the Password / About dialog box.

ViewMem. This brings up the View DOS Memory dialog box, which displays DOS memory usage by program and size.

Uninstall. This removes MoreMem from a computer's SYSTEM.INI file.

Fill 1A. This fills 1 DOS compartment of set A.

Fill 1B. This fills 1 DOS compartment of set B.

Fill 1C. This fills 1 DOS compartment of set C.

Free 1A. This frees 1 DOS compartment of set A.

Free 1B. This frees 1 DOS compartment of set B.

Free 1C. This frees 1 DOS compartment of set C.

Free All. This frees all of MoreMem's DOS compartments. This temporarily disables MoreMem.

TopBar Command Line

TopBar has command line settings to fill and free MoreMem's DOS compartments. These command line options can be executed even if TopBar is already running.

topbar4.exe [+/-][ABC][#] [program]

[+/-] option

- + Fills [#] DOS compartments of set [A, B, or C]
- / (1) Frees [#] DOS compartments of set [A, B, or C], (2) runs the [program], (3) when the program closes, fills [#] DOS compartments.
- Frees [#] DOS compartments of set [A, B, or C]

[ABC] option specifies the set for the [+/-] option.

[#] option specifies the number of compartments.

[program] option is the command line for the program.

Examples:

topbar4.exe +A1	fills 1 DOS compartment of set A
topbar4.exe /A1 notepad.exe	(1) frees 1 DOS compartment of set A, (2) runs notepad.exe, (3) when notepad exits, fills 1 DOS compartment of set A
topbar4.exe -A1	frees 1 DOS compartment of set A

Frequently Asked Questions

1. I still can't get a program to load. What can I do?
2. How can I find out how much DOS memory a Windows program needs?
3. Why doesn't my permanent password work?
4. Does MoreMem work with DOS memory managers, like Netroom, QEMM-386, and 386MAX?
5. I cannot get my sound card, fax, communication, or network drivers to load (especially for Banyan or Sound Blasters). What should I do?
6. Does MoreMem change my config.sys or autoexec.bat file?
7. My computer boots too slow. How can I get it to boot faster?
8. Do I have to reboot every time I change MoreMem's settings?
9. I am still getting an Insufficient Memory to Run error. What can I do?
10. Does MoreMem affect the DOS memory in a Windows DOS box?
11. I am getting GPFs while starting, running, or closing Microsoft Word, Microsoft Excel, DOS boxes, and/or other programs. What can I do?
12. When can MoreMem help a program while its running?
13. Why won't my antivirus program load or run?
14. Why won't my Win32s drivers load?
15. Can MoreMem help my printing or help file problems?
16. Why are icons disappearing from my screen?
17. Why is my hard disk thrashing?
18. How much memory, resources, and CPU time do MoreMem and TopBar use?
19. How can I stress test my computer so I can get the "Insufficient Memory to Run" error?
20. Is MoreMem needed in Windows 95? Is MoreMem compatible with Windows 95?
21. Is MoreMem compatible with OS/2 Warp?
22. What is the easiest way to install many network licenses?
23. Can I get one password for all of my multiple licenses?
24. Can I register through Compuserve's SWREG?
25. Where can I download the latest version of MoreMem?
26. Where can I get a button bar program launcher that is similar to MoreMem's button bar task switcher?

Frequently Asked Questions & Answers

1. I still can't get a program to load. What can I do?

It probably needs DOS memory. Try the following process. You may first want to find out how much DOS memory a program needs. See FAQ #2.

- (1) You may want to reboot Windows using one of MoreMem's Max Out settings.
- (2) Then, bring up MoreMem's setup dialog box.
- (3) Reserve 1 compartment of size 32000 bytes of type FREE in Set C by
 - (A) typing 32000 into Set C's Size to Reserve edit box,
 - (B) typing 1 into Set C's Number to Reserve edit box,
 - (C) selecting Set C's Free radio button, and
 - (D) pressing the Reserve button.
- (4) Try to load the program.
- (5) Decrease or increase the size until you find the smallest size that will allow your program to load.
- (6a) You can then use that size as your new DOS compartment size,
- (6b) or instead, you could reserve 1 or more FILL type compartments and free 1 or more of

them before running the program.

- (7) To automate the process, you can use TopBar's automatic freeing and re-filling command line features. See the [TopBar Command Line](#) topic.

2. How can I find out how much DOS memory a Windows program needs?

You can use MoreMem's View DOS Memory dialog box to help you find out how much DOS memory a program needs.

- (1) You may want to reboot Windows using one of MoreMem's Max Out settings.
 - (2) Then, bring up MoreMem's setup dialog box.
 - (3) Press the Free All button in MoreMem's setup dialog box.
 - (4) Press the View Mem button in MoreMem's setup dialog box to bring up the View DOS Memory dialog box.
 - (5) The two listboxes show the free DOS memory blocks and the used DOS memory blocks.
 - (6) Load the program.
 - (7) Press the Show Changed button in MoreMem's setup dialog box.
 - (A) Memory blocks that are new are marked with a + on the right margin.
 - (B) Memory blocks that are now gone are **NOT** marked with a + on their right margin.
 - (C) Memory blocks that have not changed are no longer displayed in the listboxes.
 - (D) The program's DOS memory allocations are now displayed in the Used DOS Memory listbox.
 - (E) The change in free DOS memory is displayed at the top of the View DOS Memory dialog box.
 - (8) Use this as a guide to figure out how much DOS memory the program needs.
- (NOTE) Code and some other allocations probably do not require DOS memory. You should exclude these from your DOS memory estimate.

Also, as a temporary quick fix solution to loading a program, you can press MoreMem's Free All button and, then, press MoreMem's Cancel button before running the program, and then press MoreMem's Reserve button after the program exits.

3. Why doesn't my permanent password work?

Make sure you are **EXACTLY** entering your user name, company name, and password. It should be on your diskette and/or your invoice/sales receipt.

4. Does MoreMem work with DOS memory managers, like Netroom, QEMM-386, and 386MAX?

Yes, in fact, MoreMem works better with DOS memory managers because they provide more DOS memory for MoreMem to use.

5. I cannot get my sound card, fax, communication, or network drivers to load (especially for Banyan or Sound Blasters). What should I do?

It may need DOS memory. (A) Allocate 1 compartment of size 32000 bytes in Set C by (1) entering 32000 into Set A's Size of Reserve editbox and (2) entering 1 into Set C's Number to Reserve editbox. Decrease or increase the size until you find the smallest size that will allow your drivers to load. OR (B) Try unchecking the Boot As First Driver checkbox in MoreMem's setup dialog box.

6. Does MoreMem change my config.sys or autoexec.bat file?

No, MoreMem is a Windows device driver, which only requires changes in the SYSTEM.INI file

in the Windows directory.

7. My computer boots too slow. How can I get it to boot faster?

Turn off the Reserve DOS Compartments High checkbox in the MoreMem setup dialog box. Also, try only using 1 set by selecting configuration 1 or 2. Or, you can allocate 16 compartments of size 8192 by (1) entering 8192 into Set A's Size of Reserve editbox, (2) entering 16 into Set A's Number to Reserve editbox, and (3) entering 0 into Set B's and Set C's Number to Reserve editboxes.

8. Do I have to reboot every time I change MoreMem's settings?

No, MoreMem can dynamically change its DOS compartments while Windows is running. However, you should reboot if you change your settings a lot to get the maximum benefit of your new settings.

9. I am still getting an Insufficient Memory to Run error. What can I do?

- (A) Try all 16 of MoreMem's default settings.
- (B) MoreMem helps programs load when DOS memory is scarce. Although some users have reported to GRI that MoreMem allows programs to operate with 10% less resources than before MoreMem, MoreMem does not remove Windows' resource limitation. Windows will not let a program load when resources fall below about 10%. If your resources are below 10% as reported in TopBar or in any Microsoft About dialog box, then you can try the shareware program, AnyView, by Binar Graphics at (415) 492-8161. AnyView replaces your video driver so it can allocate resources separately to each specific program. MoreMem and AnyView can work together. During testing of AnyView, GRI has experienced 10% gains of resources on bootup and progressively more as Windows continues. AnyView is available on CompuServe and on other on-line services.
- (C) If your total system memory is low, you should increase your permanent swap file.
- (D) If your free DOS memory on bootup as reported by MoreMem's setup dialog box is below 64000, then you may need a DOS memory manager like Netroom, QEMM-386, and 386MAX to get more DOS memory for MoreMem to use.

10. Does MoreMem affect the DOS memory in a Windows DOS box?

No, MoreMem only affects the DOS memory in Windows' DOS session. Each DOS box gets its own DOS session. If you need more DOS memory in a DOS box, you may need a DOS memory manager like Netroom, QEMM-386, or 386MAX.

11. I am getting GPFs while starting, running, or closing Microsoft Word, Microsoft Excel, DOS boxes, and/or other programs. What can I do?

In general, MoreMem does not affect a program while it is running. Make sure you have the latest bug fixes for Word and Excel, which are available direct from Microsoft. When a program closes and does not release all of its DOS memory, Windows may become unstable (especially when starting a DOS box), and TopBar's free DOS memory calculations may not work correctly since TopBar checks the amount of free DOS memory during every refresh. Thus, you should uncheck TopBar's Calc Free DOS Memory checkbox when running a DOS memory-leaking program.

12. When can MoreMem help a program while its running?

If a program is specifically allocating DOS memory for a task like connecting to a network drive and it reports an Out of Memory error, MoreMem can help that program by reserving

DOS compartments for it.

13. Why won't my antivirus program load or run?

It may need DOS memory. Allocate 1 compartment of size 32000 bytes in Set C. If the problem is on bootup, then allocate it as a FREE type. If the problem is after bootup, allocate it as a FILL type and free it before running the antivirus program. Decrease or increase the size until you find the smallest size that will allow your antivirus program to load OR (B) Try unchecking the Boot As First Driver checkbox in MoreMem's setup dialog box.

To automate the process, you can use TopBar's automatic freeing and re-filling command line features. See the [TopBar Command Line](#) topic.

14. Why won't my Win32s drivers load?

They may need more DOS memory. Try using a higher numbers configuration, or reserving larger DOS compartments by entering a larger number into the Size to Reserve editboxes in the MoreMem setup dialog box.

15. Can MoreMem help my printing or help file problems?

MoreMem can help your printing problems if they are caused by Print Manager having insufficient DOS memory to load. If WinHelp cannot load due to insufficient DOS memory, MoreMem can also help. Some programs do not report the Insufficient Memory to Run error when they cannot load. They just do not load and do not report an error.

16. Why are icons disappearing from my screen?

You are probably low on resources. See answer 6B.

17. Why is my hard disk thrashing?

More RAM would reduce hard disk thrashing caused by excessive accesses of your swap file. You should have at least 8MB of RAM to run Windows efficiently. MoreMem cannot help hard disk thrashing.

18. How much memory, resources, and CPU time do MoreMem and TopBar use?

MoreMem uses about 64K of memory and practically no GDI or USER resources. After MoreMem reserves its compartments, MoreMem uses practically no CPU time. TopBar uses about 64K-84K of memory, 1% GDI resources, and 2% USER resources. TopBar's CPU usage depends on how often you request it to refresh its time, memory, and task information.

19. How can I stress test my computer so I can get the "Insufficient Memory to Run" error?

Use MoreMem to allocate filled compartments by reserving compartments of type FILL, or by pressing one of the FILL 1 A, Fill 1 B, or Fill 1 C buttons until DOS memory is used up. Then, try to start a new program, and you should get the "Insufficient Memory to Run" error.

20. Is MoreMem needed in Windows 95? Is MoreMem compatible with Windows 95?

Windows 95 still requires DOS memory to start a program. However, Windows 95 does not use DOS memory when loading DLLs, so most users will not need MoreMem in Windows 95.

MoreMem should be compatible with Windows 95, since MoreMem just performs standard Windows memory operations.

21. Is MoreMem compatible with OS/2 Warp?

MoreMem should be compatible with OS/2 Warp, since MoreMem just performs standard Windows memory operations.

22. What is the easiest way to install many network licenses?

First, set up MoreMem on a computer with the settings that you want for your network. Then, copy the moremem4.ini file from the Windows directory to the MoreMem installation disk or directory. Now, when you run setup.exe from the MoreMem installation disk or directory, moremem4.ini will be copied to the computer, and the user will not have to re-enter the password information, because moremem4.ini already contains the user name, company name, password, and all MoreMem and TopBar settings.

You can also manually install MoreMem as described below or in the Installing MoreMem topic.

- (1) adding the entry "MoreMem4=moremem4.drv" to the [drivers] section of SYSTEM.INI,
- (2) adding moremem4.drv to the "drivers=" entry in the [boot] section of SYSTEM.INI,
- (3) copying moremem4.drv, mempop4.exe, memicon4.exe, topbar4.exe, and moremem4.hlp to the Windows system directory.
- (4) adding Program Manager icons for mempop4.exe, memicon4.exe, and topbar4.exe.

You can automate this manual process if you have a batch installation program that can modify the system.ini file, copy files, and install icons.

23. Can I get one password for all of my multiple licenses?

Yes, we usually provide only one user name, company name, and password for multiple licenses.

24. Can I register through CompuServe's SWREG?

GRI does not support registration through SWREG.

25. Where can I download the latest version of MoreMem?

MoreMem is available on the Internet, BBSs, CompuServe, SDN/Fidonet BBSs, AOL, Simtel, Bix, Genie, and Delphi.

MoreMem is available by anonymous ftp from ftp.traveller.com in directory /pub/users/gamma

MoreMem is available through the World Wide Web at <http://www.traveller.com/~gamma>

The home BBS for MoreMem is Netlink Access at (205) 830-4999. MoreMem files should be in File Area 1 of Conference 4, Shareware Support. You can also use the L command to "Locate Filename". Then, search for moremem.

Below is a description of Netlink Access from the sysop.

NetLink Access is proud to serve as the home bulletin board system for Gamma Research, developer of the popular Windows utility MoreMem.

NetLink encourages the development of public domain and shareware software. NetLink also provides Internet Electronic Mail accounts, 5500 Usenet newsgroups and 650 Fidonet echos. Our file archives contain over 42,000 files of PC software, totaling over 7.6 Gigabytes of disk space. NetLink provides four incoming telephone lines and high speed communications of up to 28,800 bps (baud) per line.

If you are a developer, user, or looking for a pleasant on-line experience, please give us a call.

Keith Thigpen
keith.thigpen@netinfosys.com
NetLink Access BBS (205) 830-4999

Compuserve has MoreMem in (1) the WINUTIL forum, in the System/Memory library as file moremem4.zip and (2) the WINSHARE forum, in the Win System Utils library as file moremem4.zip.

MoreMem is on the Internet in the CICA Archives.

mrcnext.cso.uiuc.edu [128.174.201.12] /pub/win3/util/moremem4.zip
ftp.cica.indiana.edu [129.79.26.27] /pub/pc/win3/util/moremem4.zip

USA-Mirrors-----
wuarchive.wustl.edu [128.252.135.4] (Missouri)
gatekeeper.dec.com [16.1.0.2]
ftp.cdrom.com [192.153.46.2] (California)
ftp.marcam.com [198.102.216.30]
ftp.dataplex.net [199.183.109.245] (Texas)
mrcnext.cso.uiuc.edu [128.174.201.12] (Illinois)

OVERSEAS-Mirrors-----
vmsa.technion.ac.il [132.68.7.2] (Israel Institute of Technology)
nic.switch.ch [130.59.1.40] (Switzerland)
ftp.uni-stuttgart.de [129.69.8.13] (Stuttgart, Germany)
ftp.monash.edu.au [130.194.11.1] (Monash Univ, Melbourne Australia)
nctucca.edu.tw [140.111.3.21] (Chiao Tung Univ, Hsinchu, Taiwan)
src.doc.ic.ac.uk [146.169.2.1] (JANET mirror at Imperial College, London)
ftp.nectec.or.th [192.150.251.32] (Thailand)
ftp.ij.ad.jp:/pub/win3 [192.244.176.50] (Internet Initiative, Tokyo Japan)
ftp.cyf-kr.edu.pl [149.156.1.8] (Cracow, Poland)

26. Where can I get a button bar program launcher that is similar to MoreMem's button bar task switcher?

Try AppBar 4.0 or 4.1. It should be available on-line wherever Windows programs are located including Compuserve and the CICA archives on the Internet.

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Send your \$40 registration fee to:

Gamma Research, Inc.
112 Teakwood Drive
Huntsville, AL 35801-3453

See the [Payment and Registration](#) and [Order Form](#) topics.

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Determining MoreMem's Configuration

MoreMem has 16 default configurations. In general, higher numbered configurations reserve progressively larger and more DOS compartments for more advanced users. By checking the **Cycle Through Configs** checkbox, MoreMem will automatically increment the configuration on each bootup. You can then uncheck the checkbox when you find a configuration that works with all of your programs. Finally, you can uncheck the **Show Dialog on Bootup** checkbox so you no longer have to see the MoreMem setup dialog box on bootup.

- (1) **Minimal User.** This setting is for the user who only runs well-behaved Windows programs that do not allocate DOS memory.
- (2) **Normal User.** As above, except this setting reserves slightly more and slightly larger DOS compartments. This is a good setting for non-networked users who only run normal applications.
- (3) **Power User.** This setting is for the user whose communication or multimedia programs allocate some DOS memory. Try this setting if the above settings are not working.
- (4) **Max Out User.** This setting is for the user who wants to maximize free DOS memory. This setting allocates temporary DOS compartments, which are initially filled on bootup, but then, freed after bootup, so the DOS memory is not used by bootup drivers and programs.
- (5) **WFW Net. Min. User.** This setting is for the user whose network, communication, multimedia, or antivirus programs allocate some DOS memory. Try this setting if the above settings are not working.
- (6) **WFW Network User.** This setting is for the WFW network user who uses WFW to connect to network drives and uses other WFW network features like e-mail.
- (7) **WFW Power User.** This setting is for the WFW network user who needs larger sized DOS compartments.
- (8) **Max Out WFW Net.** This setting is for the WFW network user who wants to maximize free DOS memory. See setting (4) for how this is done.

The eight additional default settings are available by checking the Double Default Sizes checkbox, which doubles the DOS compartment size and halves the number of DOS compartments.

Setting (9) is for custom configuration of MoreMem. See the [Custom Configuring MoreMem](#) topic.

Installing MoreMem

There are three ways to install MoreMem.

You can automatically install MoreMem by:

- (1) starting SETUP.EXE,
- (2) if you are a registered user, entering your user name, company name, and password,
- (3) checking or unchecking Install MoreMem Group and Icons checkbox,
- (4) selecting a radio button for where to add TopBar,
- (5) checking that the from and to directories are correct,
- (6a) if you are a registered user, clicking on the Install Registered License of MoreMem button, OR
- (6b) if you are a shareware user, clicking on the Install 14-Day No Password / 30-Day Total Shareware Trial, and
- (7) clicking on the YES button to restart Windows.

YOU MUST RESTART WINDOWS FOR MOREMEM TO WORK. If you do not install to the Windows directory or the Windows system directory, the MoreMem and TopBar files must be in the PATH.

Only automatic installation using SETUP.EXE can install the 14-Day No Password Trial. The other manual installations can only install the 30-Day Total Shareware Trial.

You can manually install MoreMem by:

- (1) starting the Control Panel,
- (2) double clicking on the Drivers Icon,
- (3) clicking on the Add button,
- (4) double clicking on the "Unlisted or Updated Driver" item in the listbox,
- (5) entering the drive and directory of the MoreMem files,
- (6) pressing enter to add the "Gamma Research MoreMem Utility" item in the listbox,
- (7) configuring the MoreMem Setup dialog box,
- (8) clicking on the OK button,
- (9) clicking on the Restart Windows Now button, and
- (10) adding Program Manager icons for mempop4.exe, memicon4.exe, and topbar4.exe, which have installed to the Windows system directory.

You can also manually install MoreMem by:

- (1) adding the entry "MoreMem4=moremem4.driv" to the [drivers] section of SYSTEM.INI,
- (2) adding moremem4.driv to the "drivers=" entry in the [boot] section of SYSTEM.INI,
- (3) copying moremem4.driv, mempop4.exe, memicon4.exe, topbar4.exe, and moremem4.hlp to the Windows system directory, and
- (4) adding Program Manager icons for mempop4.exe, memicon4.exe, and topbar4.exe.

You can decompress files that end with an underscore by using the Microsoft expand utility. For example, the following will expand moremem4.dr_: `expand moremem4.dr_ moremem4.driv`

Discount Pricing For Multiple Licenses

When multiple units of MoreMem are purchased from Gamma Research, the discount pricing is as follows:

For	1	to	9	licenses, the price is \$40 per license.
For	10	to	99	licenses, the price is \$35 per license.
For	100	to	499	licenses, the price is \$30 per license.
For	500	or	more	licenses, the price is \$20 per license.
For	1000	or	more	licenses, call Gamma Research, Inc.

Removing MoreMem

You can remove MoreMem by pressing the UnInstall button in MoreMem's setup dialog box.

You should manually remove TopBar from your startup group (or your win.ini file). You must also manually remove MoreMem and TopBar icons from your Program Manager (or shell).

You can also remove MoreMem by restoring your old system.ini which was saved as system.mm4 by MoreMem's setup program.

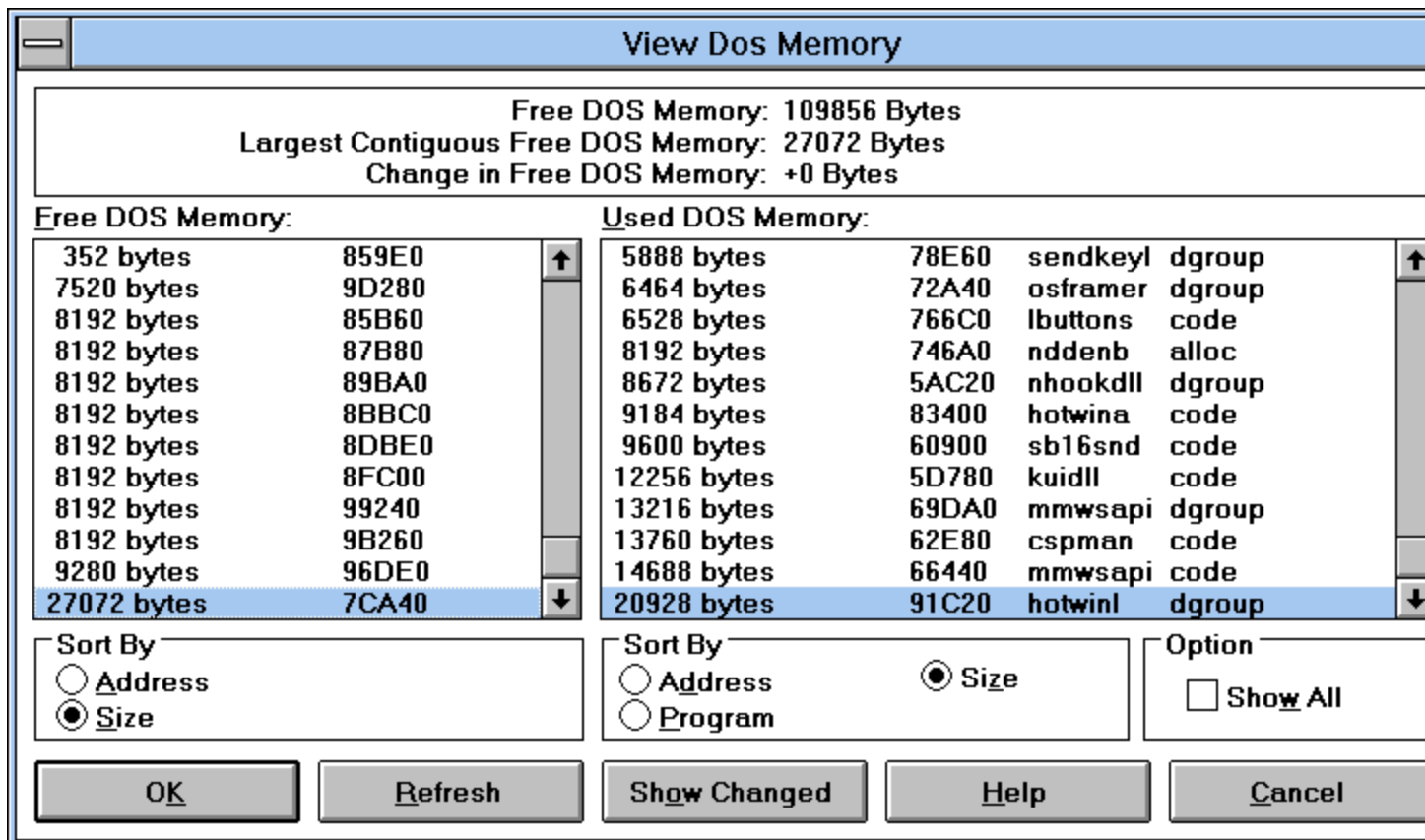
You can manually remove MoreMem by:

- (1) starting the Control Panel,
- (2) double clicking on the Drivers Icon,
- (3) clicking on the "Gamma Research MoreMem Utility" item in the listbox,
- (4) clicking on the Remove button,
- (5) pressing enter to confirm removal, and
- (6) pressing enter to restart Windows.

You can also manually remove MoreMem by:

- (1) starting an editor on SYSTEM.INI in your Windows directory,
- (2) removing the two occurrences of moremem4.drv by:
 - (2a) removing moremem4.drv from the "drivers=" entry in the [boot] section,
 - (2b) removing the entry "MoreMem4=moremem4.drv" in the [drivers] section,

View DOS Memory Dialog Box



STATIC TEXT

Free DOS Memory. This shows the amount of free DOS memory.

Largest Contiguous Free DOS Memory. This shows the largest contiguous amount of free DOS memory.

Change in Free DOS Memory. This shows the change in free DOS memory since the previous free DOS memory calculation.

RADIO BUTTONS

Address. This sorts the DOS memory by the address.

Program. This sorts the DOS memory by the program.

Size. This sorts the DOS memory by the size.

CHECKBOXES

Show All. This shows all DOS memory including MoreMem, User, MMSystem, Display, GDI, Sound, System, Comm, Kernel, Mouse, Fonts, OEMFonts, Toolhelp, Win87em, Timer, and Winoldap allocations.

BUTTONS

OK. This saves the configuration and closes the dialog box.

Refresh. This refreshes the DOS memory calculations.

Show Changes. This shows the changes in DOS memory since the last DOS memory calculations.

Help. This brings up this help topic.

Cancel. This cancels the configuration and closes the dialog box.

Special Thanks

Special thanks to Brian Livingston of *InfoWorld* for his informative and enlightening articles on MoreMem. He also suggested many changes to this help file, including the new DOS compartment terminology.

Special thanks to Roleigh Martin of United HealthCare Corp. for suggesting that GRI contact Brian Livingston of *InfoWorld*.

Special thanks to Willis Allen of Disneyland for suggesting the resource monitor features of TopBar.

Special thanks to all those misbehaved programs, which led to the automatic freeing and re-filling features of TopBar, which led to the task switching features of TopBar.

Special thanks to all those who make suggestions for MoreMem.

Special thanks to all those nice compliments from MoreMem users.

Gamma Research, Inc.

TopBar Window and Setup Dialog Box

TopBar is a separate Windows program that provides a resource monitor and task switcher that fits into the empty space at the top of the screen where the title bar of a maximized application normally resides. TopBar displays the date, time, DOS memory, system memory, GDI resources, and USER resources. As memory levels fall below user-specified warning and error thresholds, TopBar changes its background color from green to yellow to red. TopBar can optionally warn the user through a popup dialog box. The icon of each running application is displayed in TopBar. The user can click on an icon to switch to an application. The user can right click to bring up a popup menu to restore, maximize, minimize, close, and hide applications. TopBar is also used to free MoreMem's TEMP types. TopBar has command line settings to fill and free MoreMem's DOS compartments. See the [TopBar Command Line](#) topic.



- (1) To move TopBar's window, drag on the green memory information section of TopBar or on the title bar.
- (2) To bring up TopBar's setup window, double click on the green memory information or on the title bar or single click on the TopBar icon in the button bar.
- (3) To bring up MoreMem's setup window, left click or right click on the MoreMem icon in the button bar.
- (4) To switch to a task, click on its icon in the button bar.
- (5) To restore, minimize, maximize, close, or hide a task, right click over the task's icon to bring up a popup menu.

Top Bar Setup

<p>Top Bar Options</p> <input type="checkbox"/> 24 Hour Time <input type="checkbox"/> European Date <input checked="" type="checkbox"/> 2 Line Display <input type="checkbox"/> Stretch Icons <input type="checkbox"/> Full Size Top Bar <input checked="" type="checkbox"/> No Warning Messages <input checked="" type="checkbox"/> No Error Messages <input type="checkbox"/> Show Hidden Windows <input checked="" type="checkbox"/> Always On Top <input type="checkbox"/> Hide Top Bar <input type="checkbox"/> Hide When Screen Saver <input type="checkbox"/> Load TopBar in win.ini <input type="checkbox"/> No Title Bar <input type="checkbox"/> Calc Free DOS Memory <input type="checkbox"/> Exit After Free Temps	<p>Messages</p> <table border="1"> <thead> <tr> <th></th> <th>Warning</th> <th>Error</th> </tr> </thead> <tbody> <tr> <td>DOS KB:</td> <td>20</td> <td>10</td> </tr> <tr> <td>Mem KB:</td> <td>100</td> <td>50</td> </tr> <tr> <td>GDI %:</td> <td>20</td> <td>10</td> </tr> <tr> <td>User %:</td> <td>20</td> <td>10</td> </tr> </tbody> </table> <p>Refresh Every x Sec: 1</p> <p>Number of Task Icons: 8</p> <p>Font: Arial</p>		Warning	Error	DOS KB:	20	10	Mem KB:	100	50	GDI %:	20	10	User %:	20	10
	Warning	Error														
DOS KB:	20	10														
Mem KB:	100	50														
GDI %:	20	10														
User %:	20	10														
<p>Colors</p> <p>Good Warning Error Text</p> <p>OK Help Exit</p> <p>Reboot Compact Memory Cancel</p>																

CHECKBOXES

24 Hour Time. This option turns on 24 hour military time.

European Date. This option makes the date format day-month-year.

2 Line Display. This option turns on a 2 line display of memory information.

Stretch Icons. This option stretches icons to fit in the button bar.

Full Size Top Bar. This option displays full size (32x32) icons in the button bar.

No Warnings. This option turns off the popup warning message boxes.

No Error Messages. This option turns off the popup error message boxes.

Show Hidden Windows. This option shows all windows in the button bar.

Always On Top. This option displays TopBar over all other windows.

Hide Top Bar. This option hides TopBar.

Hide When Screen Saver. This option hides TopBar for Windows 3.0 screen savers that do not cover Always-On-Top windows.

Load TopBar in win.ini. This option adds topbar4.exe to the "load=" entry in the [windows] section of win.ini.

No Title Bar. This option removes the title bar from TopBar's window and adds a thickframe to TopBar's window.

Calc Free DOS Memory. This option turns on calculation of free DOS memory for TopBar's information window. Uncheck this option if you have any DOS memory-leaking programs that are conflicting with TopBar.

Exit After Free Temps. This option closes TopBar after all MoreMem TEMP types are freed.

EDIT BOXES

Messages: Warning and Error for DOS KB, memory KB, GDI %, and User %. These eight edit boxes set the thresholds for popping up warning and error message boxes and for changing TopBar's background color from green to yellow to red.

Refresh Every x Sec. This sets the time between refreshing the memory information and task button bar. The valid range is 1 to 60.

Number of Task Icons. This sets the number of task icons in the button bar. The valid range is 1 to 30.

Font. This sets the font for the memory information.

BUTTONS

Font. This brings up a font dialog box for the memory information.

Good. This brings up a choose color dialog box for the good background color.

Warning. This brings up a choose color dialog box for the warning background color.

Error. This brings up a choose color dialog box for the error background color.

Text. This brings up a choose color dialog box for the text color.

OK. This accepts the current values in the dialog box and closes the dialog box.

Help. This brings up TopBar's topic in the help file.

Exit. This closes TopBar. All of MoreMem's TEMP type DOS compartments are immediately freed.

Cancel. This cancels the current values in the dialog box and closes the dialog box.

Custom Configuring MoreMem

First, you need to enter the size of a MoreMem DOS compartment into the Size to Reserve edit box of Set A. The number should be at least 512 and a multiple of 32. (MoreMem automatically rounds off for you.) A size of 800 will allow the DOS memory of a normal Windows program to fit inside of a MoreMem DOS compartment. A size of 8192 will allow Windows for Workgroups to connect to network drives. Lotus, network, communication, antivirus, and multimedia drivers/programs may require a size greater than 800. Remember that each MoreMem DOS compartment uses about 32 extra bytes of DOS memory. If any program does not seem to be working with MoreMem, it may need a larger continuous compartment of DOS memory. Try increasing the size of MoreMem's DOS compartments.

Second, you need to enter the number of DOS compartments into the Number to Reserve edit box of Set A. The valid range of DOS compartments to reserve is 0 to 500. Remember that MoreMem loads before practically all other drivers and programs. If you use a DOS compartment size of 800, estimate the maximum number of Windows programs and drivers that you will load after MoreMem and then add a bunch more for safety. If you use a DOS compartment size of 800, a good number to use would be around 100. If you use a DOS compartment size of 8192, a good number to use would be around 15. In general, you want 50-200K worth of DOS compartments.

Third, you need to determine what kind of DOS compartment that you want. FREE type compartments are the normal DOS compartments of free DOS memory. FILL type compartments take up DOS memory. They are used to set aside DOS memory for specific programs or tasks. (FILL type compartments are not fragmented; they are continuous in memory.) TEMP type compartments are filled on bootup and, then, freed after startup drivers and programs load. You can specify how many seconds for MoreMem to wait before freeing its TEMP type compartments by entering the number of seconds into the Free Type Temp After x Sec edit box. (TEMP type compartments are not fragmented if they are freed after 0 seconds.) TEMP type compartments maximize free DOS memory by preventing startup drivers and programs from taking too much DOS memory.

Fourth, if you need different sized DOS compartments for different programs, you can repeat the process for Set B and Set C. The order of allocation is Set C, then Set B, and then Set A. For example, if a sound board or antivirus program needs about 32K on bootup, you could allocate one 32768 byte Free type DOS compartment in Set C.

Fifth, you probably want to reserve DOS compartments as high as possible in DOS memory by checking the **Reserve Compart. High** checkbox. Since DOS memory is allocated from the bottom, this feature helps prevent fragmentation of DOS memory, by keeping MoreMem's DOS compartments unused as long as possible, but it increases the time for Windows to bootup. However, this option uses a more complicated allocation algorithm, which increases bootup time.

