

Subj: AppleWorks and RamWorks
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This is a three part series written for my User Groups Newsletter. It was published in three parts and I have consolidated all three in one AWP file. This is a step by step instuction on how to take advantage off the extra memory of your RamWorks card. Curbs AppleWorks desktop memory, sets up a RamDisk and AutoCopies other applications to the RamDisk. You can load say AppleWorks and Copy II Plus to your Ramworks card and have access to both without rebooting. Number of applications is limited only by the size of your RamWorks.

AppleWorks and RamWorks--Part One
by Danny Haynes

Do you have a RamWorks card from Applied Engineering and can't seem to make use of all that desktop space? Have you ever wanted to run additional applications from the extended memory card but you are unsure of just how to do this? I hope this article will help. By using this article, you should be able to run AppleWorks completely from the RamWorks as well as any of the TimeOut or Pinpoint applications. To run AppleWorks as well as any memory hungry applications such as a dictionary or the a thesaurus you will need at least 320k of ram. This article is for AppleWorks version 2.0 and RamWorks II or RamWorks III. AppleWorks versions 1.2 and 1.3 will work but the configurations will be a little different.

This will be the first of a three part series. Part One will "walk" you through the enhancement process. Part Two will "walk" you through the RamDisk set-up. Part Three will show how to customize the boot process. These articles are written for the floppy disk user, but a hard disk user or 3.5" disk user will be able to complete the modifications using the same fundamental procedures.

You will need the following software:

1. AW2 Expander from Applied Engineering
2. A COPY of AppleWorks version 2.0.
3. AppleWorks Super DeskTop Expander from Applied Eng.

First Step: Enhancing AppleWorks 2.0

A. Boot the AW2 Expander disk. The "Execute AppleWorks Enhancements" option will be highlighted. Press the "Return Key" (yep we're going to enhance AppleWorks). Press the space bar prompts until you come to the instruction to "Please insert your AppleWorks STARTUP disk."

B. At this time (you guessed it) insert your COPY of the AppleWorks disk in the drive (you can remove the AW2 Expander disk) and press the space bar. You will receive an additional prompt "Do you wish to continue (Y/N)?", type in a "Y".

C. The next prompt will be, "Please insert your AppleWorks PROGRAM disk." This is the flip side of the AppleWorks disk. So insert that side now, and again press the space bar to continue.

D. After the enhancement is complete, boot this modified AppleWorks. At the first prompt, do NOT press "Return" instead press the "Escape" key. Us floppy users will have to insert the PROGRAM side of AppleWorks before we press the "Escape" key.

E. Option 1 is to increase the number records/lines. Press the RETURN key until 23,000 appears.

Option 2 is to preload AppleWorks onto the memory expansion card. Keep this option set to "ON".

Option 3 is for a print buffer for RW. Leave this in the OFF mode.

Option 4 can be handled in a different way for GS owners, so leave this at 0 K.

Option 5 is for RamFactor owners (we are using RamWorks) so leave

this option at the default of 0 K.

Option 6 for the time display. Even if you do not have a clock, set this option to 12 hour or 24 hour display by using the RETURN key. Carefully look over all of your options and if satisfied with the choices, use option 7 to save the configuration to disk.

You have successfully enhanced AppleWorks 2.0 to have an expanded desktop and to display the time if you have a prodos compatible clock. AppleWorks will now automatically loads onto your RamWorks card and give you a large desktop. That's great for people writing novels or loading large spreadsheets. But what if you only need a 56k to 80k desktop? Wouldn't it be nice if AppleWorks only used that much of your RamWorks and left the rest of RamWorks available for use by other applications. There is a way to accomplish this.

To keep AppleWorks from "grabbing" all of the RamWorks memory for a desktop, we will have to use the AppleWorks Super Desktop Expander from Applied Engineering. Just follow the next instructions.

Second Step: Partitioning ProDrive and AppleWorks

1. Boot your COPY of the AppleWorks Super Desktop Expander. The original will not work. We must be able to write to the disk, the original is write protected.

2. After a short while, a menu will appear. Choice #6 is the one that we want. Select choice 6. and press the RETURN key. A Basic prompt, 1, should appear on the screen. You are now in BASIC with Prodos and Basic.system loaded to memory. That's exactly what we want.

3. Now type "-PARTITION" (omit the quotes) <PRESS RETURN>

4. The program Partition is now in effect. This program will modify AppleWorks' appetite for desktop ram. At the first prompt we have to type an "A" or an "O". Since we wish to modify AppleWorks, Type an "A" for AppleWorks.

5. At the next screen, the amount of "Free " needs to be adjusted. This is accomplished by using the ARROW keys to change the amount of "Free". The "Free" is the portion of ram that AppleWorks will use for the Desktop. If "Free = 128k" then the Desktop will be about 48k. The reason for this is that the ProDrive program, AppleWorks, and the enhancements made to AppleWorks all require some ram in order to operate. We must keep in mind, Prodos and Basic.system will also be loaded to memory. For now, use the ARROW keys to adjust the Free to 128k. This step can be re-done at a later time if the size of the desktop is unsatisfactory. After adjusting to "Free = 128k", press the RETURN key.

6. At the next prompt type the following, "/AW.EXP/PRODRIVE" (omit the quotation marks) and press the Return key. The Super AppleWorks Desktop Expander disk should still be in the drive. The disk drive will come to life and then stop. Another prompt will appear on your screen, asking for the pathname of APLWORKS.SYSTEM.

7. Now remove the AppleWorks Super Desktop Expander disk and place the AppleWorks Startup disk in the drive. At the prompt that is still on the screen type "/APPLEWORKS/APLWORKS.SYSTEM" (omit the quotation marks) and press the Return key. If everything works, you should get the message, "ProDrive and AppleWorks modified for Prodrive

partitioning."

Congratulations, you have just completed the first part in modifying AppleWorks to run on the RamWorks card. Part II of this series will show how to set-up the RamDisk and Part III will explain how to automate the whole process of putting your applications on the RamDisk. This AppleWorks will boot and have a small desktop. This is not much help as there is no RamDisk yet. The next part of this series will take care of setting up the RamDisk. The ProDrive program on the AppleWorks Super Desktop Expander disk has been modified (step 6). Put this disk in a safe place as we will be needing it for the further modifications of AppleWorks. Likewise the AppleWorks disk should be put where you can find it, as it will also be required for the next step.

AppleWorks and RamWorks--Part Two
by Danny Haynes

SETTING UP THE RAMDISK

In Part I, Appleworks was enhanced with AM2 Expander and modified by the Partition utility to have a smaller desktop. Part II will demonstrate how to set up and copy applications to the RamDisk. You will need the following software:

1. The COPY of AppleWorks that was enhanced and modified using Part I of this series.
2. A file copy utility such as Filer or Copy II Plus
3. A blank prodos formatted disk with the volume name of APPLE and create a subdirectory of AW on this disk.
4. AppleWorks Super Desktop Expander by Applied Eng.

First Step: Setting up the AppleWorks Startup disk

- A. Boot your favorite file copying program. I used Copy II Plus. Now find that blank prodos formatted disk with the name APPLE.
- B. Copy all of the following files from the modified AppleWorks Startup disk to the AW subdirectory on the APPLE disk.

CATALYSTDESKTOP
SEG.OO
SEG.XM
SEG.RM
SEG.EL
APLWORKS.SYSTEM

- C. Now copy the Prodos and from any disk that has this file to the root directory of the APPLE disk. The Super AppleWorks Desktop Expander has this file. However, we would like to get Prodos version 1.4 and the original Super AppleWorks Desktop Expander has Prodos version 1.1.1. This version (1.1.1) won't read the prodos clock correctly. Any of the TimeOut disks will have Prodos 1.4. I might add at this point that the "ROOT" directory and the Volume name are one and the same.

- D. Now copy the following files from the Super Appleworks Desktop Expander to the root directory of the APPLE disk.

BASIC.SYSTEM
PRODRIVE
AUTOCOPY
GET.LEN
SLOTCHANGER

Second Step: Modifying the boot files

A. Boot the AppleWorks Super Desktop Expander and choose option
"6. Exit to BASIC"

B. Remove the Super Desktop Expander and insert the APPLE disk.
At the Basic prompt type the following:

```
10 PRINT CHR$(4)"-PRODRIVE" (type quote marks)<RETURN>  
20 PRINT CHR$(4)"-SLOTCHANGER" (type quote marks)<RETURN>  
SAVE STARTUP <RETURN>
```

The disk drive light will come on for a few seconds and the Basic file
"STARTUP" will be saved to disk. Yes, you just wrote a Basic program.
Now that you are a programmer, we are going to modify some of the files
on the APPLE disk that is still in the drive. You should have the
basic prompt on your screen along with the program that you just wrote.

C. At the prompt type [LOAD SLOTCHANGER] (omit brackets) <PRESS
RETURN KEY>

At the prompt type [200 PRINT CHR\$(4) "PREFIX /APPLEWORKS" ;
PRINT CHR\$(4) "-AUTOCOPY"] (omit brackets) <PRESS THE RETURN KEY>

At the prompt type [SAVE SLOTCHANGER] (omit brackets) <PRESS
RETURN KEY>

WHEW! Go ahead! Boot your AppleWorks now. Prodos will load and
in turn load Basic.System which will in turn load and run the file
STARTUP which will in turn run the file ProDrive which will then pass
control back to STARTUP which will run the file SLOTCHANGER which will
then run the file AUTOCOPY.

The Slotchanger program will halt until a number from one to seven
is given for the slot and a number of 1 or 2 is given for the drive.
CAUTION! Do NOT press the Return key after typing in the slot number
and the drive number. If the Return key is pressed after the drive
number is entered, the Autocopy program will be aborted.

I included the SLOTCHANGER application because some of you might
want to use a slot other than 3 and a drive other than 2 (defaults of
ProDrive) for your RamDisk. I use Slot 2, Drive 1. I do this mainly
because Copy II Plus disconnects Slot 3, Drive 2. You can use any Slot
that does NOT have a Prodos Device connected to it. The Slot does NOT
have to be empty. I keep a SerialPro with my modem connected to it in
Slot 2. The Slotchanger program will NOT allow you to choose a slot
that is currently selected for a prodos device.

You are over the hurdle of choosing the slot and drive and the
next surprise pops up. This is the Autocopy program asking for a
volume name. This utility is configured to copy ALL the files from
whatever volume you specify to your new RamDisk. Now the reason for
the AW subdirectory will become apparent. At the "/" prompt type:

1. APPLE/AW and press the RETURN key.
2. Press the RETURN key to accept the default of "/RAM/" (this is the volume name of your RamDisk).
3. At the next prompt, press RETURN, the APPLE/AW disk is already in the drive. When the Autocopy program is finished, you will be prompted for another volume name. This time at the "/" prompt type:
 1. APPLEWORKS and press RETURN.
 2. At the next prompt, just press RETURN to accept the default of "/RAM/".
 3. At the next prompt, remove the APPLE disk and place APPLEWORKS Program disk in the drive and press RETURN.

All of AppleWorks is now on your RamDisk and you can continue to copy files from any other prodos disk to the RamDisk by supplying the AutoCopy program with the volume name. If you want to put Copy II Plus on the RamDisk, just type the volume name (usually "C2PLUS" or CopyIIPUS) and accept the default of /RAM/. Copy II Plus will be copied to the RamDisk.

Once all the files have been copied to the RamDisk, simply press RETURN without typing in any volume name. You will be greeted with COPY COMPLETE and the basic prompt. For AppleWorks, type - APLWORKS.SYSTEM; for Copy II Plus, type -UTIL.SYSTEM.

WARNING: The RamDisk and all its contents will be completely destroyed by a loss of power, Control-0A-RESET, rebooting of Prodos or a Control-RESET. You must switch between applications using a program selector or by exiting through the quit commands and options of your software or by the use of pathnames.

EXAMPLE: You are using AppleWorks and wish to use Copy II Plus which is also on the RamDisk. Choose option #6 from the Main Menu and follow the prompts to quit. When the message, ENTER PREFIX (PRESS "RETURN" TO ACCEPT), appears with the default of /RAM/, press RETURN. The next message, ENTER PATHNAME OF NEXT APPLICATION, will appear. At this prompt type in UTIL.SYSTEM for Copy II Plus or APLWORKS.SYSTEM to return to AppleWorks. If you are using Prodos with Bird's Better Bye, a menu will appear. Make your selection and press Return.

AppleWorks and RamWorks--Part Three by Danny Haynes

In Part One, AppleWorks was enhanced and modified so that the desktop would not consume all of the available ram. In Part Two, the boot disk, APPLE was created. The setting up and copying files to the RamDisk was partially automated. In Part Three, I will show how to completely automate the copying of files to the RamDisk and then automatically run the application of your choice. Floppy drive owners will have to insert the different disks to be copied, 3.5 UniDisk and Hard disk owners will simply boot their disk. Also a patch will be made to AppleWorks to load automatically, skipping the Press the Space Bar and Press Return at the date prompt.

Slotchanger is the first thing that we are going to fix. I got tired of typing in the Slot and then the Drive number when Slotchanger ran. This can be easily fixed. Boot the AppleWorks Super Desktop Expander or any other program that will load Prodos and Basic.System

and then let you exit to Basic. Exit to Basic. Insert the APPLE disk that was created in Part Two of this series. At the Basic prompt type:

```
J LOAD SLOTCHANGER <PRESS RETURN>
J 2000 SLOT = 2 <PRESS RETURN>
J 2030 DRIVE = 1 <PRESS RETURN>
J SAVE SLOTCHANGER <PRESS RETURN>
```

The SLOT can equal any number from 1 to 7 that does NOT have a prodos device connected to it. The DRIVE can equal either 1 or 2. The example above will create the RamDisk in slot 2, drive 1.

With the Slotchanger fixed, we can next tackle the Autocopy program. If you are still with me and you have not done anything since saving the Slotchanger file, then you should have the Basic prompt on your screen. Otherwise, you will have to load Prodos and Basic.system and put your APPLE disk back in the drive. At the Basic prompt type:

```
LOAD AUTOCOPY <PRESS RETURN>
LIST 40,49 <PRESS RETURN>
```

The following should appear on your screen:

```
40 PROMPT = YES
41 ASKFILE = NO
42 EXITFILE$ = "/"
44 MULTIVOL = NO
45 MV$(0) = "/?":MU$(0) = "/"
46 MV$(1) = "/?":MU$(1) = "/"
47 MV$(2) = "/?":MU$(2) = "/"
48 MV$(3) = "/?":MU$(3) = "/"
49 MV$(4) = "/"
```

These are the program lines that control Autocopy and make it very easy to modify and automate. Line 40 will prompt you for the next disk to copy to your RamDisk. If you have more than one disk to copy, leave this line set to "YES". If this line is set to "NO" Autocopy will scan your system for the volume names to copy to ram. You will not be prompted to insert the disk and press return. Leave this line set to "YES".

Line 41 if set to "NO" will automatically copy ALL the files that are contained under the pathname supplied by the program or by the user from the keyboard. Since we are automating the boot procedure as much as possible, leave this line set to "NO". If this line is set to "YES" then the copy procedure will stop on each file and ask if you wish to copy this file to ram.

Line 42 will automatically run any system type file that you specify. Replace the "?" in this line with the complete pathname of whatever application that you wish to run after Autocopy is complete. We are going to put "RAM/APLWORKS.SYSTEM" in place of the "?". This will cause AppleWorks to run automatically after the copy process has been completed.

Line 44 should be set to "YES". This will cause Autocopy to use lines 45,46,47,48,49,50,51,52,53 and 54 if they exist. By setting line

44 to "YES", Autocopy will use the above mentioned lines to prompt (we left line 40 set to "YES") you to insert the volumes listed in these lines.

In line 45, we will replace the first "?" with "APPLE/AW" and the second "?" with "RAM". This will load the Startup side of AppleWorks to the RamDisk.

In line 46 we will replace the first "?" with "APPLEWORKS" and the second "?" with "RAM". This will load the Program side of AppleWorks to the RamDisk.

In line 47 we will replace the first "?" with "C2PLUS" and the second "?" with "RAM". This will load Copy II Plus in its entirety to the RamDisk.

This process is repeated until all the applications that you wish load to the RamDisk are named. You are limited to ten disks using this procedure. You can continue on with applications like Quicksell's dictionary or the Thesaurus. Remember that you are limited also by the size of your RamDisk. Lines 50-54 do not exist. You must create them if you have more than five disks to copy to the RamDisk. On the other hand, if you have less than five disks to copy to the RamDisk, then you must delete any lines from 45-49 that are not needed. You do this by typing the line number by itself and pressing the RETURN key.

Lines 40-49 are on your screen and the Basic prompt is also on your screen just below line 49. Autocopy is still in memory. We are ready to start. Type the following:

```
142 EXITFILE$ = "/RAM/APLWORKS.SYSTEM" <RETURN>
144 MULTIVOL = YES <RETURN>
145 MV$(0) = "/APPLE/AW":MU$(0) = "/RAM" <RETURN>
146 MV$(1) = "/APPLEWORKS":MU$(1) = "/RAM" <RETURN>
147 MV$(2) = "/C2PLUS":MU$(2) = "/RAM" <RETURN>
148 <RETURN>
149 <RETURN>
150 SAVE AUTOCOPY <RETURN>
```

Do not type the <RETURN> at the end of each line but just press the RETURN key. The disk drive should whirl for a few seconds as the modified Autocopy is saved to disk.

Now when you boot your AppleWorks, the ProDrive will install a RamDisk and then the Slotchanger will move the RamDisk to whatever slot and drive that was inserted into the program and then the Autocopy program will copy whatever volumes that were inserted into that program and finally line 42 of the Autocopy program will execute whatever pathname that was inserted. Try booting your AppleWorks now.

There is one more thing to fix. We will now patch AppleWorks to skip the space bar and date prompt while loading. This patch should be made only if you have a prodos compatible clock or you do not care to date stamp

your files created with AppleWorks. Again we must load Prodos and Basic.system and exit to Basic. With the Basic prompt on your screen, put your highly modified copy of AppleWorks Startup disk in the drive. This patch is for AppleWorks 2.0. Type the following:


```
J BLOAD /APPLEWORKS/AW/APLWORKS.SYSTEM,TSYS,A#2000
J POKE 14468,44
J POKE 14148,208
J POKE 14149,19
J BSAVE /APPLEWORKS/AW/APLWORKS.SYSTEM,TSYS,A#2000
```

The first line loads Aplworks.system to memory, the second line gets rid of the space bar prompt, the third and fourth lines get rid the date prompt and the fifth line saves the modified Aplworks.system file back to disk.

That is the end of this series. I hope that this has shed some light on AppleWorks 2.0 and RamWorks. The series was written for floppy users but can be interpreted easily for 3.5" and hard disk users.

I didn't delve into the enhancing of AppleWorks with TimeOut or PinPoint. If there is enough interest in this area a column or two will be forth coming.