A3000 Fresh Install for 1.4 Beta Roms

Rev. 1.1 – 4/27/2025

Contents

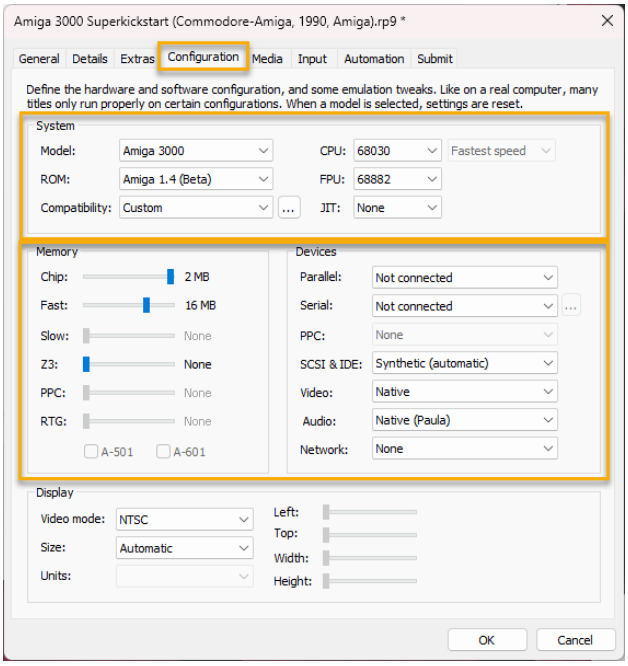
Installation from A3000 Install Disk on target machine

Create a new machine

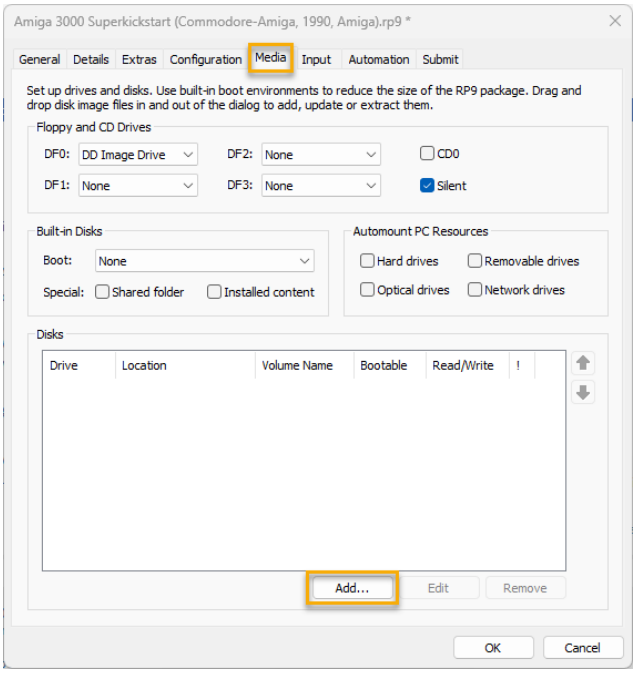
Use the following configuration in AF to create a new “Amiga 3000 Superkickstart” machine

The **Amiga 1.4 (Beta)** rom is the most important setting. That’s why you’re here!

I chose NTSC, but I don’t think that matters.

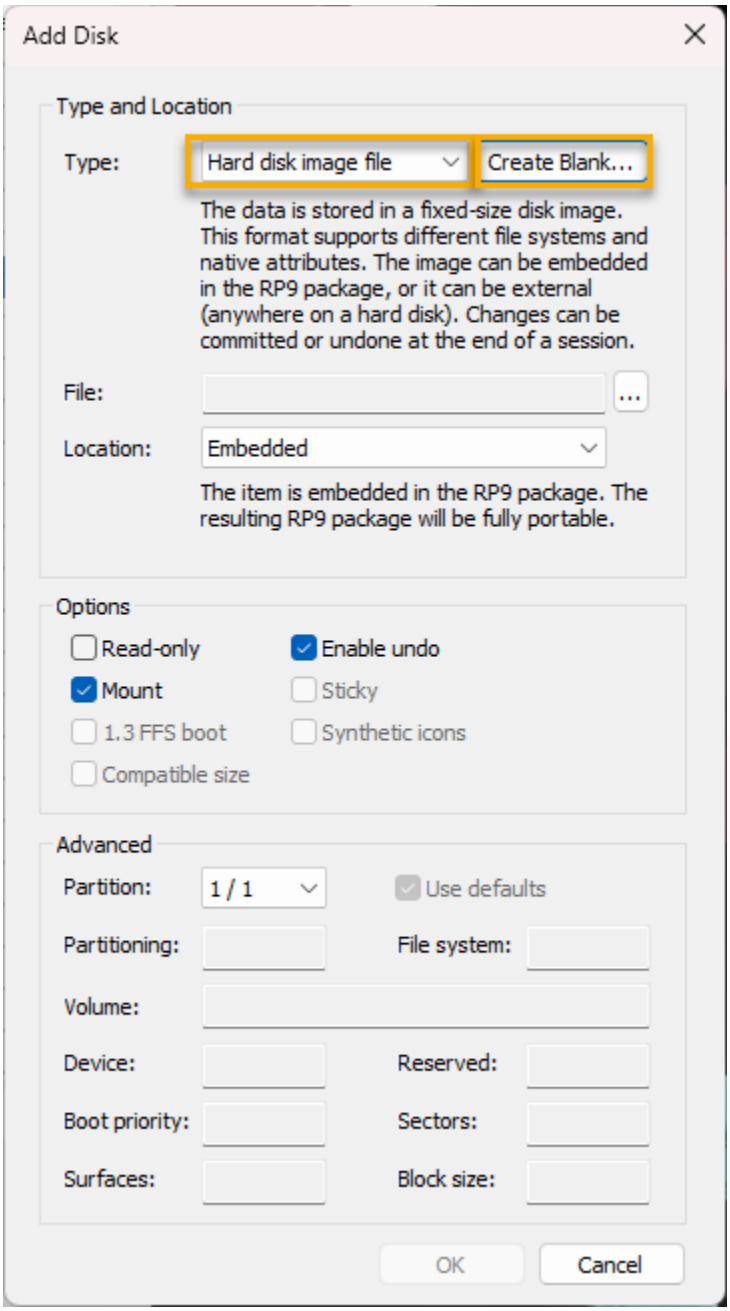


Create a Hard Drive File



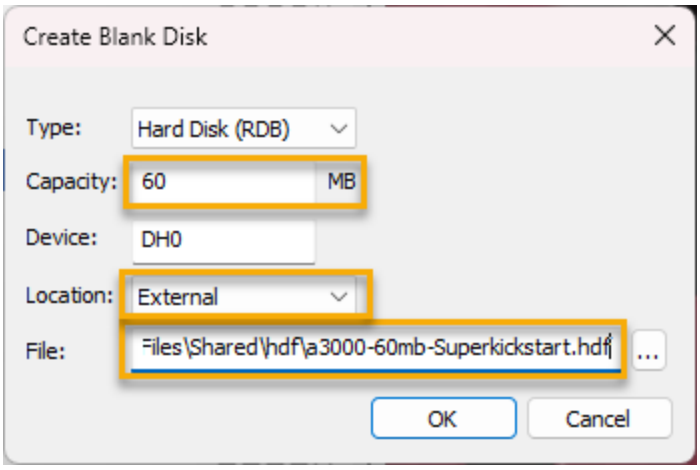
Select the **Media Tab**

Click **Add**

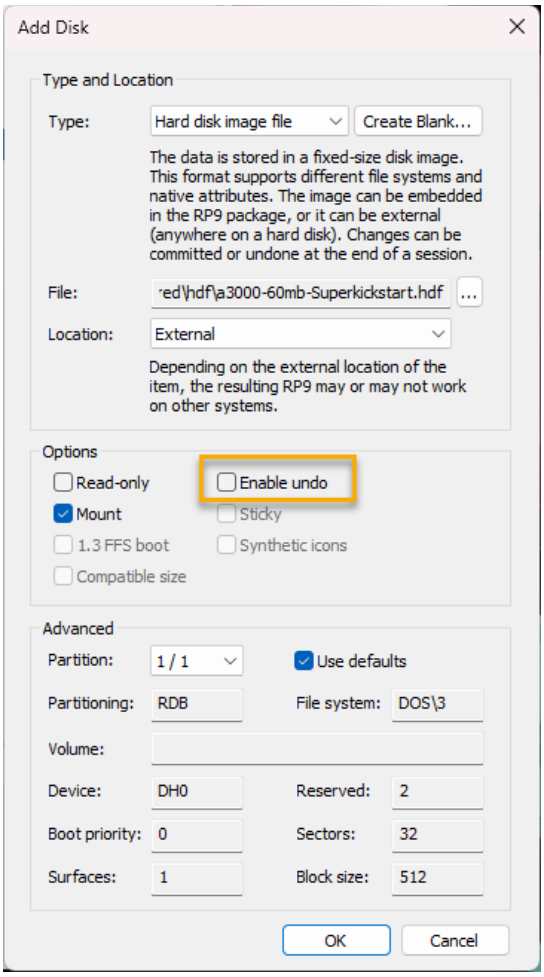


Select **Hard disk image file**

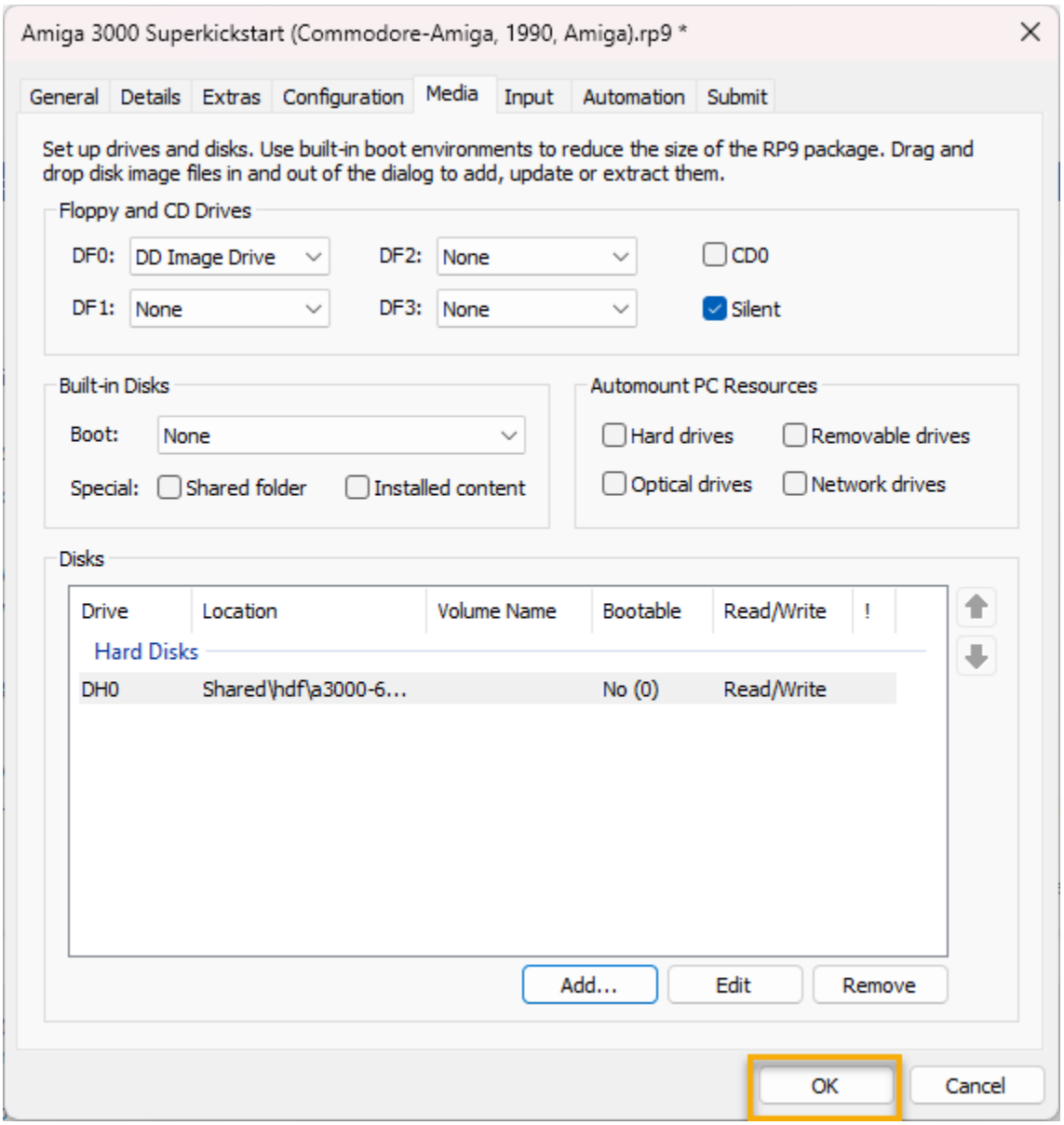
Click **Create Blank...**



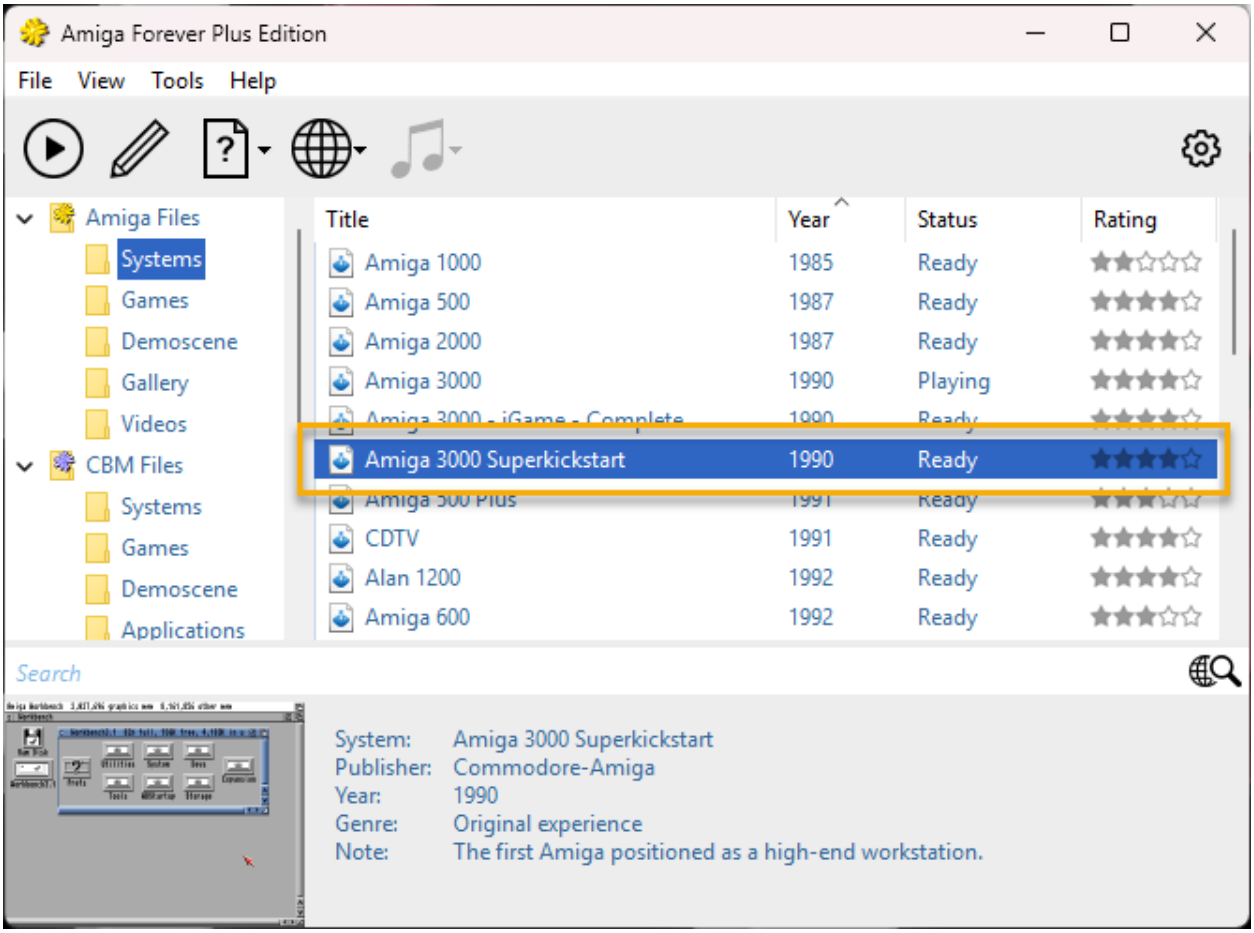
- Remember you are on a classic machine with classic hard drive size limitations. It's recommended to go modest here to ensure compatibility with original software. **60 MB** should be safe and fairly roomy for our 3 partitions.
- Select **External** under Location: NOTE: if you selected External on the previous screen, it will carry over to this screen.
- I like to name my .hdf file with something meaningful like **a3000-60mb-Superkickstart.hdf**
- Click **OK** to make the file



- Uncheck “Enable undo”. This saves a lot of time since we will be installing a lot of files and the undo feature adds time to committing changes to the drive. This can be re-enabled later after the build is complete if you want this feature.
- Click OK.

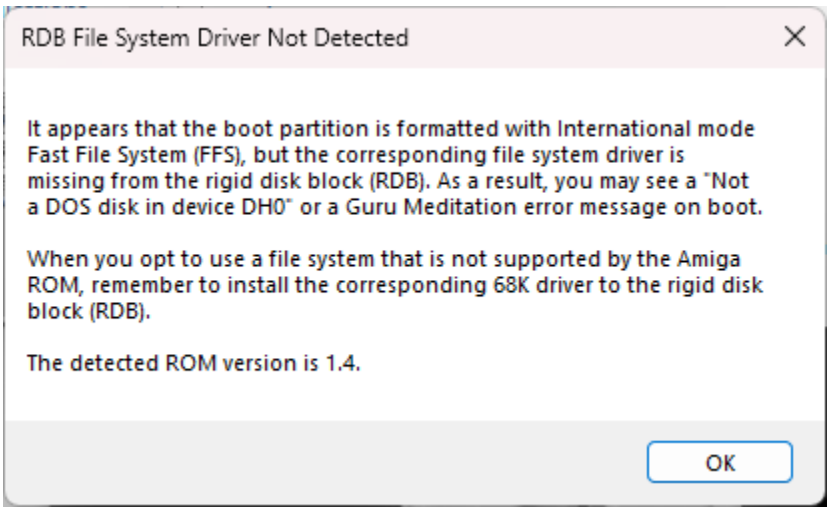


Click **OK** to save off our machine configuration. Congrats, you now own an Amiga 3000 with 1.4 Beta Rom and a blank hard drive!!



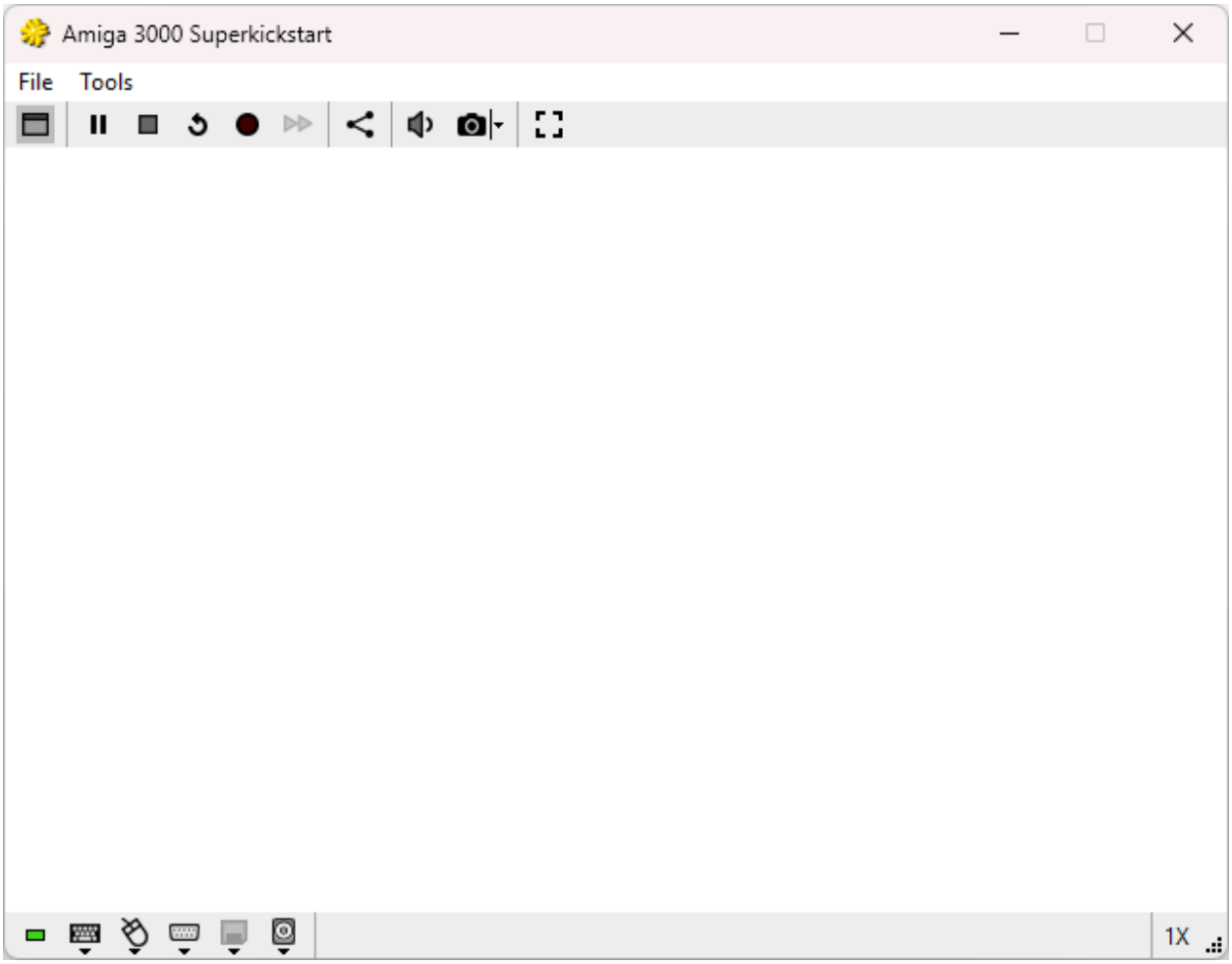
Back in Amiga Forever we can see our new machine. You can launch it by double clicking on the machine in the list.

When you launch the machine, you will see this message:



We'll take car of this later. Click OK.

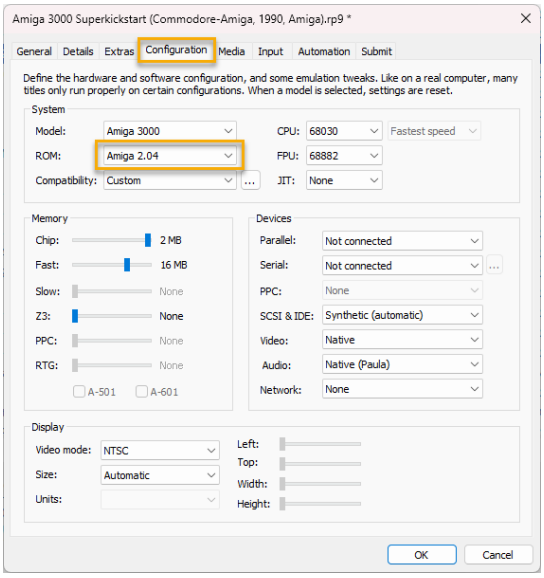
Your machine will come up and will probably be looping with a flashing white screen. What happened? The emulation is trying to load a Superkickstart off the hard drive. While you should be able to reboot to the early start menu (start/restart holding the 2 mouse buttons) to force a floppy boot to continue the build. If you are struggling with this, you can switch to using a 2.04 rom to complete the build. This has the advantage of bypassing the early start mentu and superkickstart load on subsequent reboots. This guide will use this "cheat".



Cheat – Use a 2.04 ROM for the build

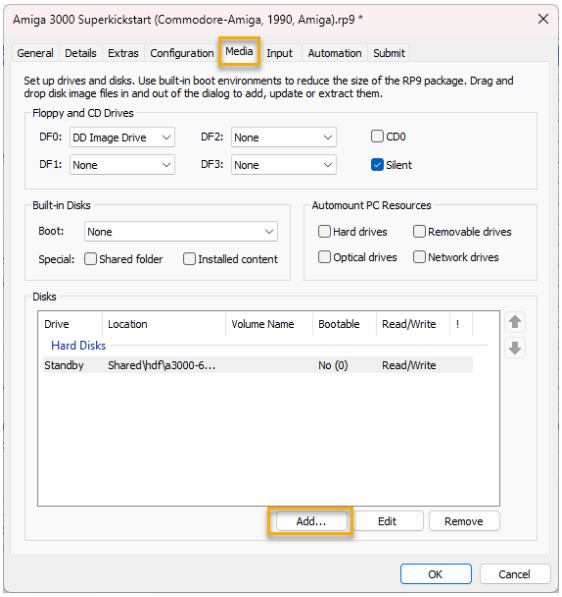
Stop your machine. You will need to hold the escape key for a second to get mouse control. Then you can use the window close "X" in the top right or the stop button on the Amiga Forever toolbar.

Go back to your machine config and change over to the **Amiga 2.04** kickstart rom.



While we are in configuration, we'll attach our Amiga 3000 Setup disk.

Click over to the media tab and click **add**



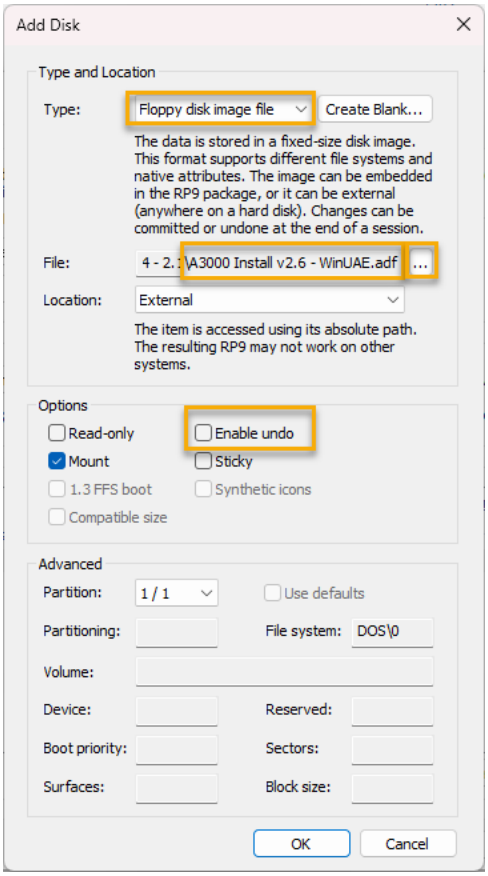
Floppy disk image file is usually the default here

Click the ellipses (**...**) to select your .adf

Mine is **A3000 Install v2.6 – WinUAE.adf**

And uncheck **Enable undo** (optional – we won't be making changes to this disk)

Click **OK**.



Click **OK** again on the machine config screen to save all changes.

PrepHD

Run the PrepHD script

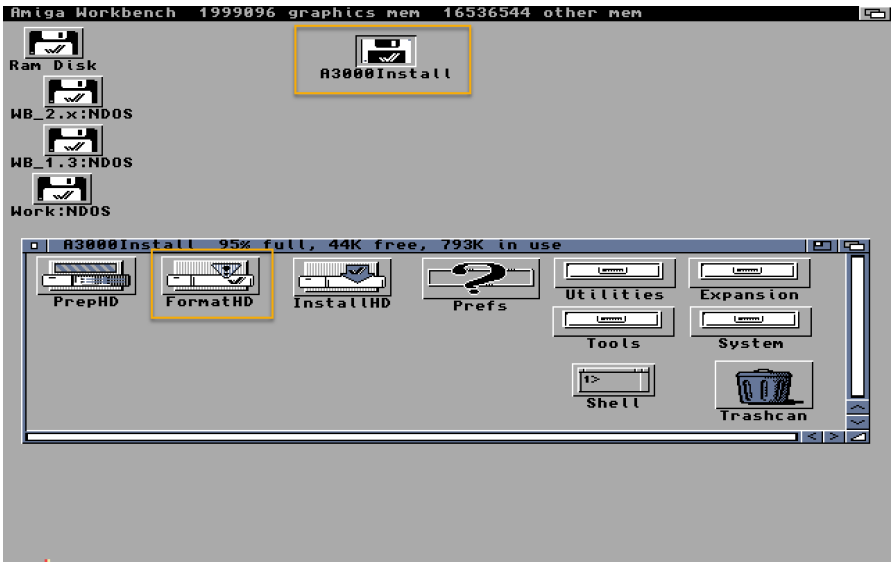
Format Drives

With the Prep completed in a fashion equivalent to running the PrepHD Process for physical disks, we can proceed with using the scripts to FormatHD and Install HD.

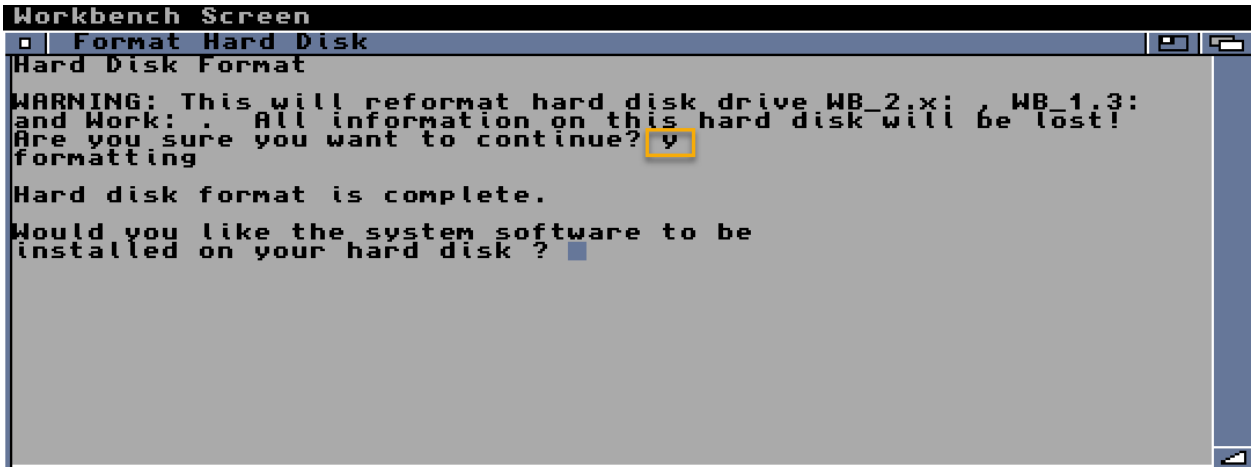
You can also read this script. For those who are interested, these are the format commands from the script. Note, the partition names (WB_2.x/WB_1.3) are used here:

format <NIL: >NIL: drive WB_2.x: name System2.0 quick
format <NIL: >NIL: drive WB_1.3: name System1.3 quick
format <NIL: >NIL: drive Work: name Work quick

Click on **FormatHD**.



A window comes up asking you to verify you want to continue since Format will erase data. Type **y** and press **enter**.



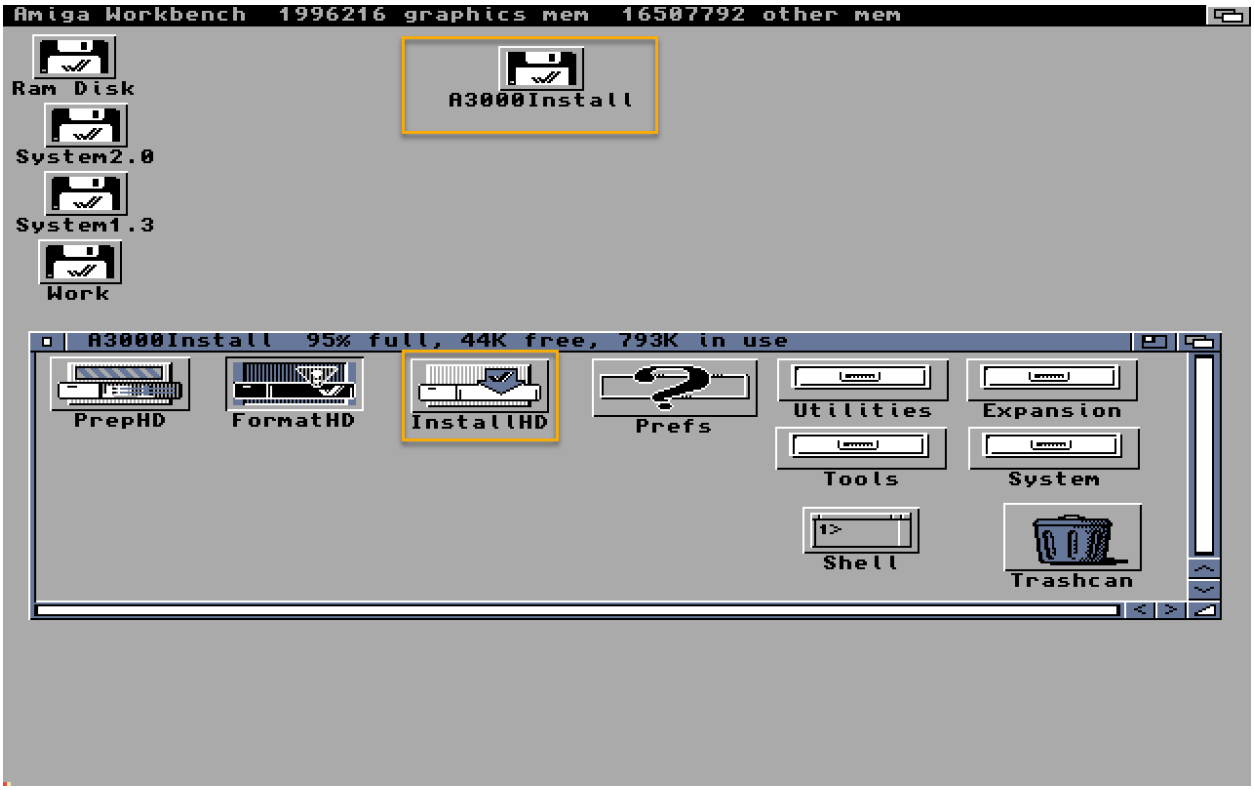
You now have the option to start the InstallHD immediately. Or you can say no and run InstallHD yourself later. I will type **n** here, press enter, and run InstallHD manually.

Install the A3000 system software

You will need the following disks to perform the installation

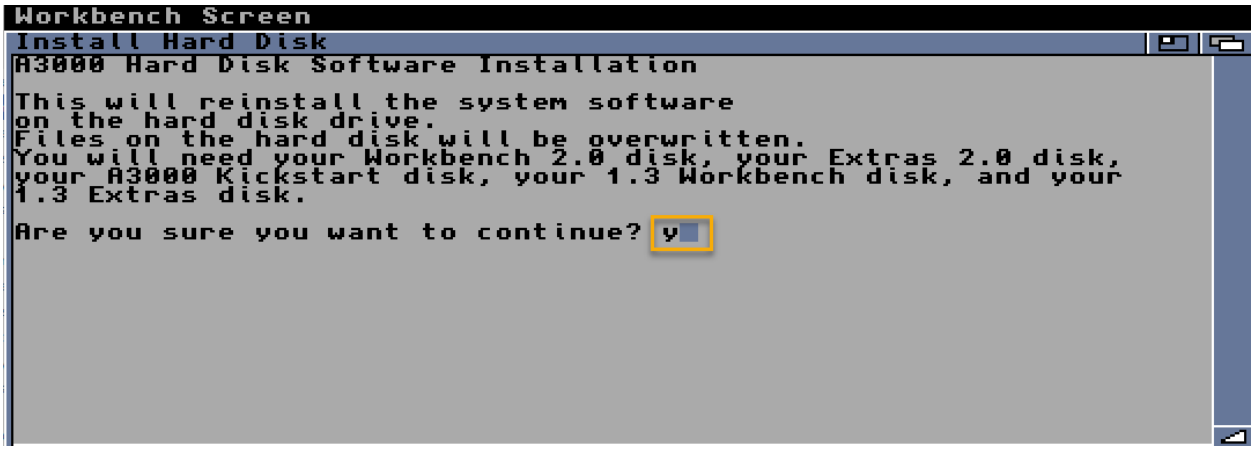
- A3000 Install
- A3000 SuperKickstart
- Workbench 2.x
- Extras 2.x
- Workbench 1.3
- Extras 1.3

From the install disk, click on **InstallHD**



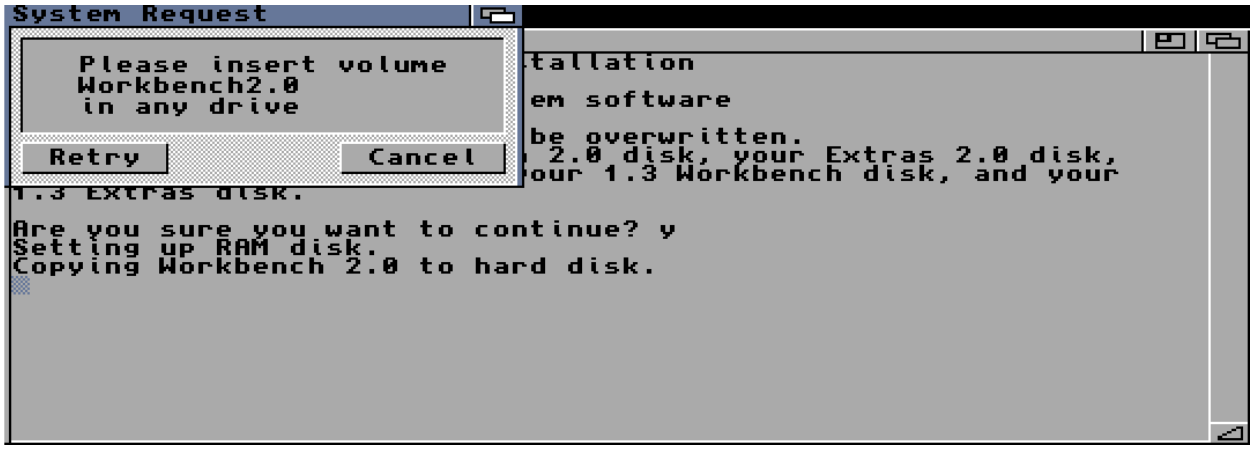
When the utility starts, it also lists the disks you will need.

Type **Y** and **enter** to continue

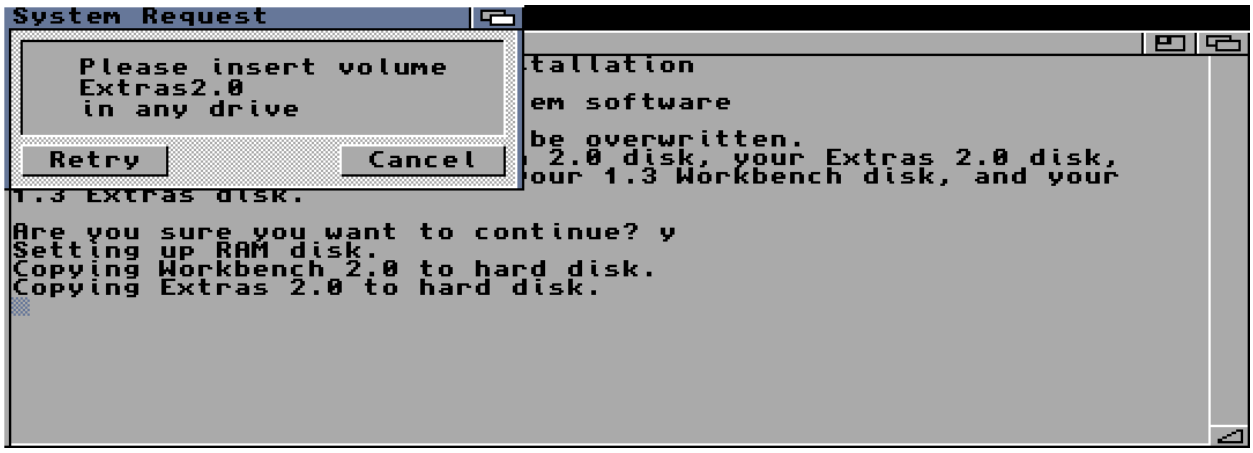


INSTALL NOTE: The disks used MUST be **labelled** to match the disk being prompted.

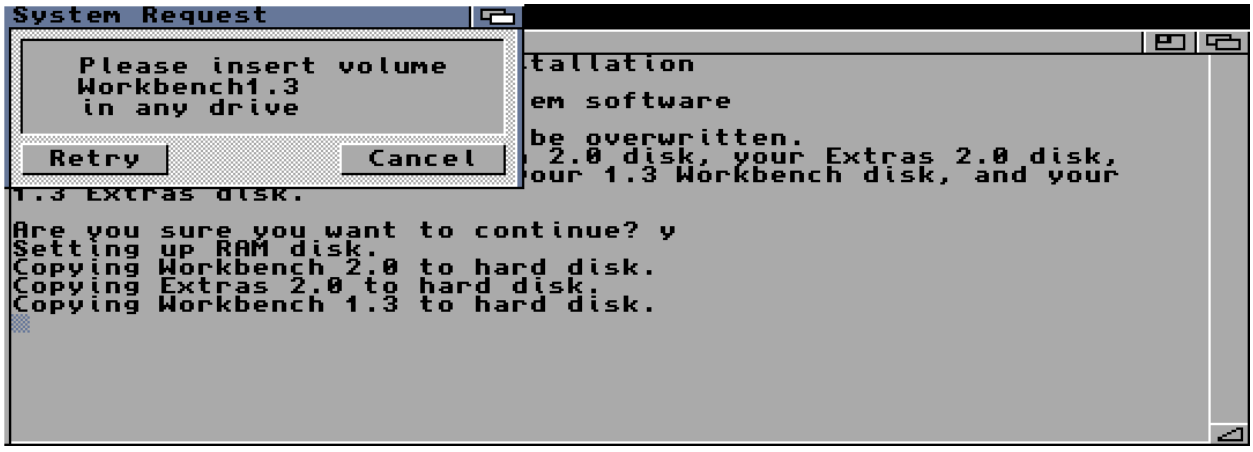
Insert your Workbench 2.0 disk (Workbench 2.04 (37.67) - Boot.adf)



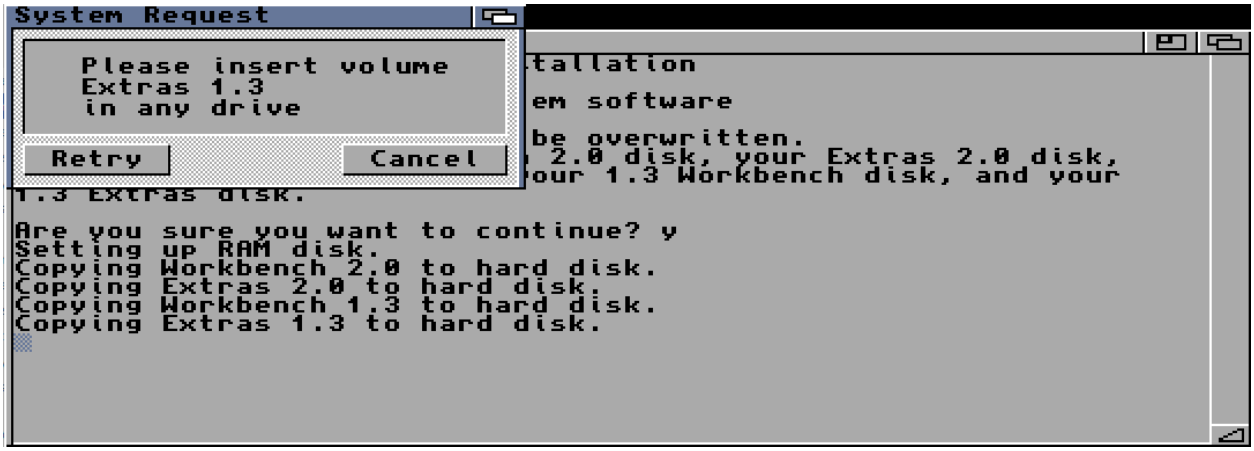
Insert your Extras 2.0 disk(Workbench 2.04 (37.67) – Extras.adf)



Insert your Workbench 1.3 disk(Workbench 1.3 (34.20) - Boot (Commodore) (1988) [m].adf)

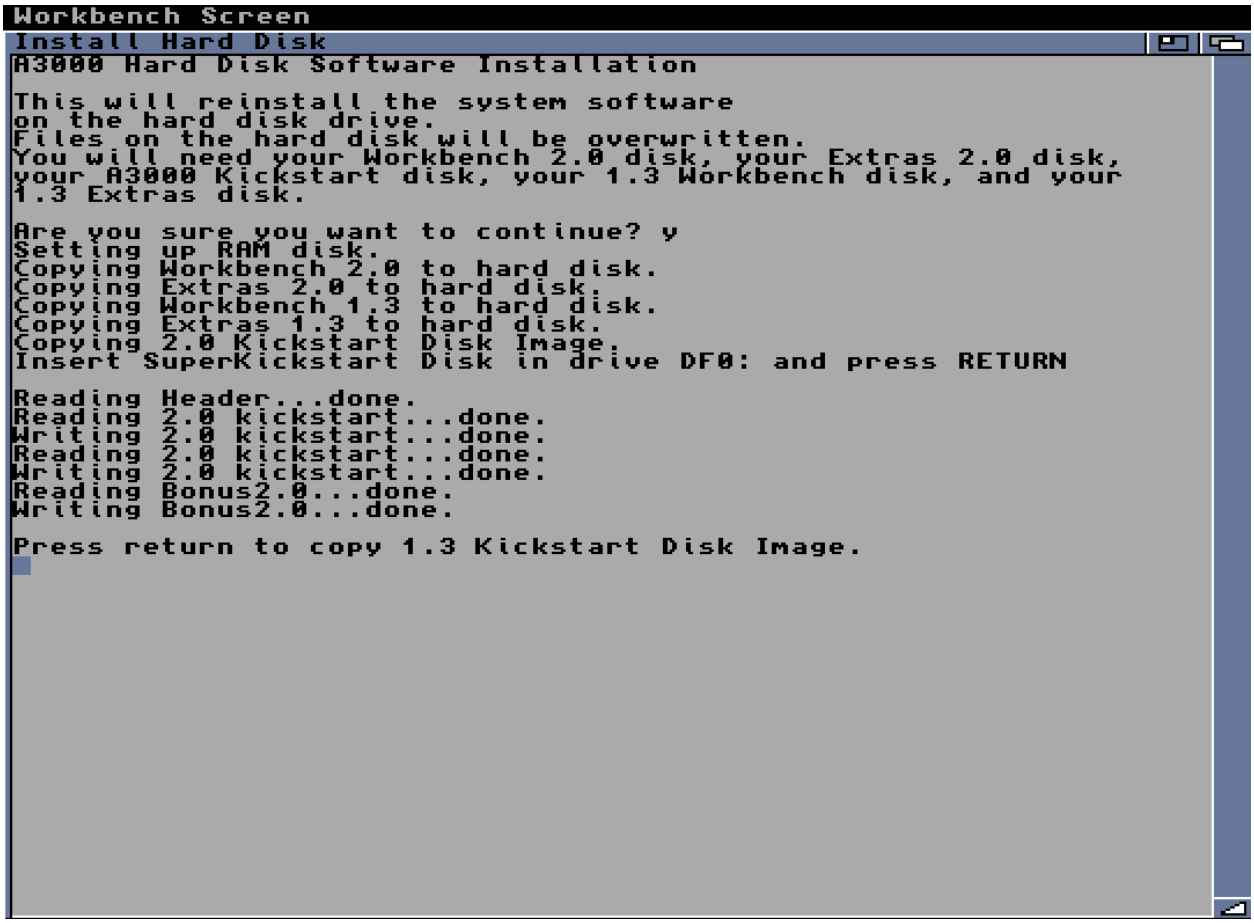


Insert your Extras 1.3 disk(A3000 Amiga Extras v1.3 for 500-1000-2000 - disk 1 of 1.adf)



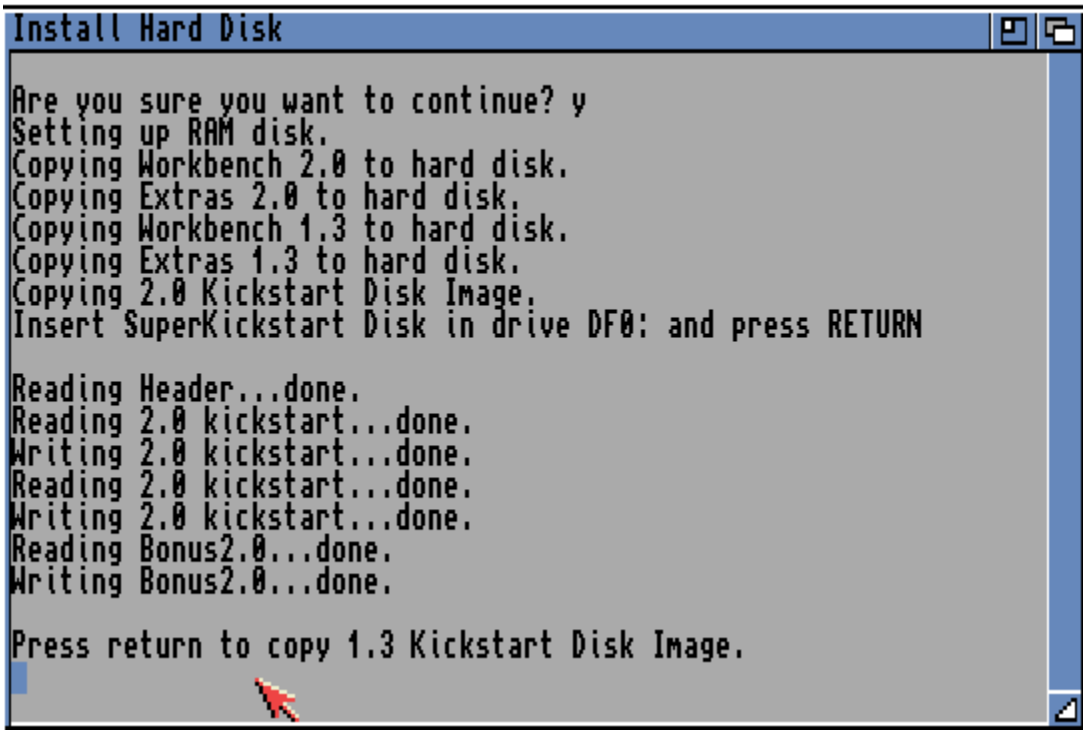
Insert the SuperKickstart Disk (A3000 Superkickstart 1.3 - 2.04.adf)

This disk is not auto-recognized, so you have to press **Enter** after inserting it.

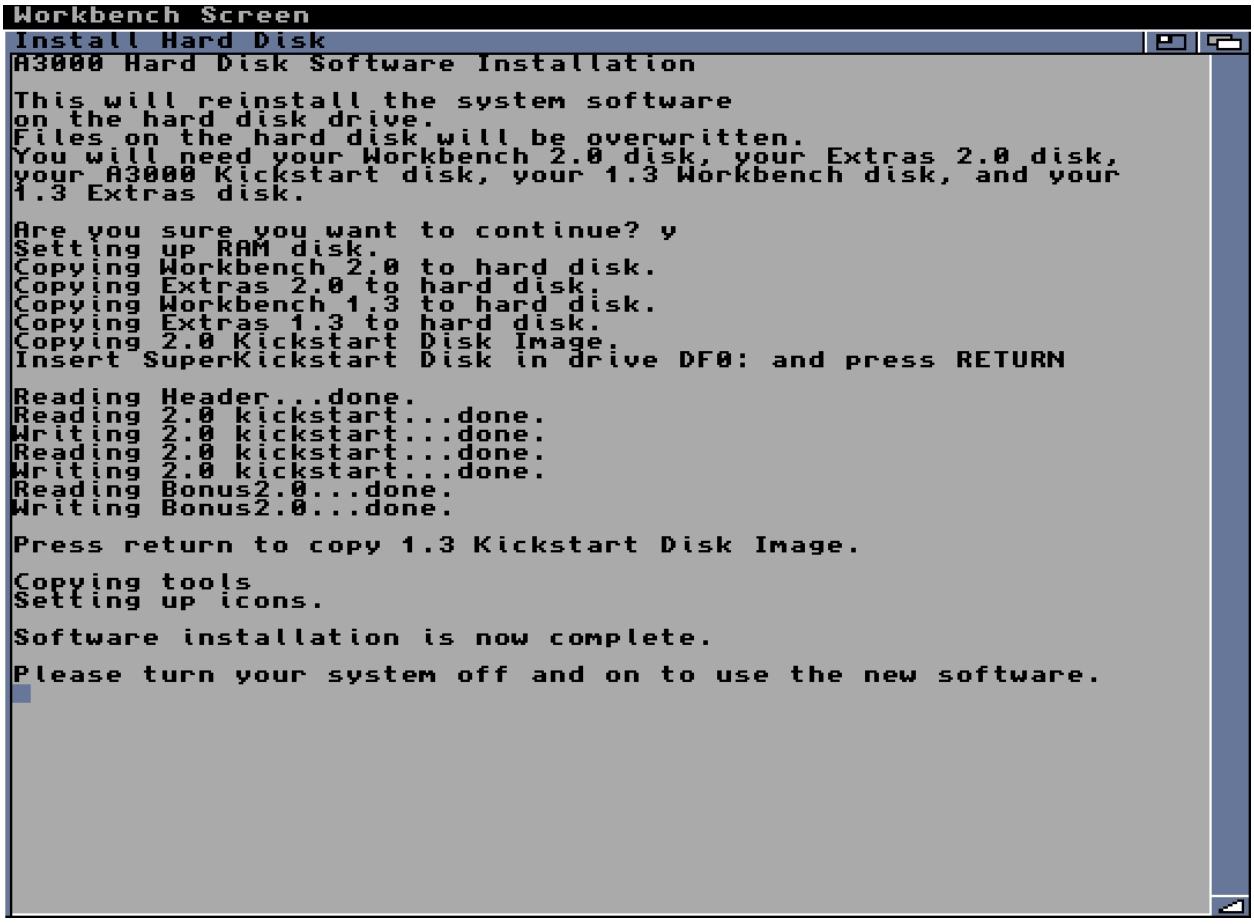


Press return a second time to copy the 1.3 Kickstart Disk Image

Workbench Screen



The install finishes, and you are instructed to reboot to use the new setup.



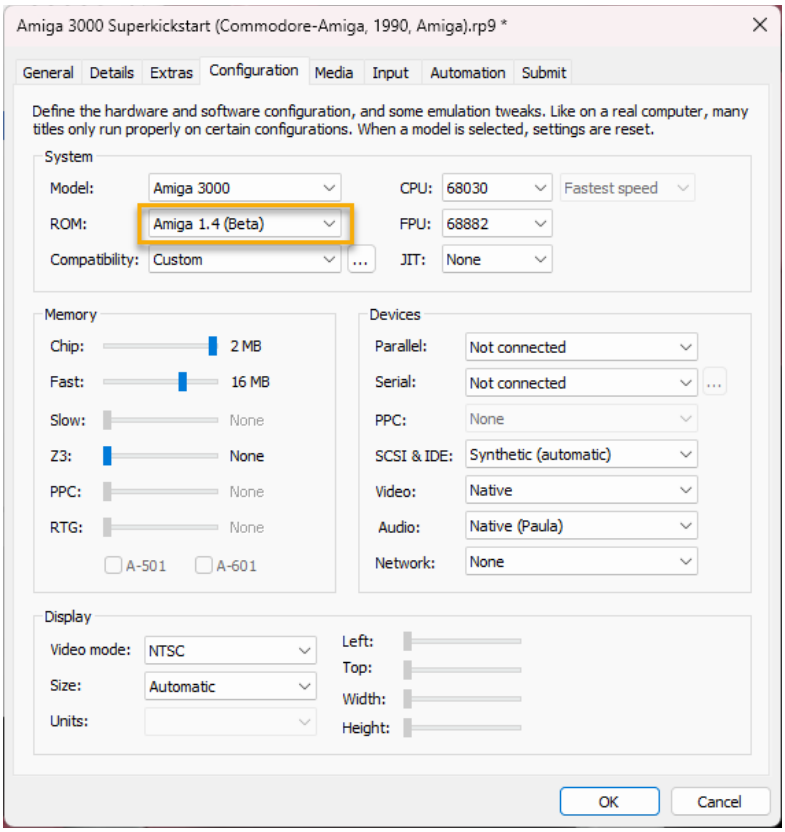
Eject the disk from the emulator

Turn off the machine to ensure anything loaded to memory is wiped.

Edit the machine config.

Remove the A3000 install ADF from the media

CHANGE THE KICKSTART BACK TO 1.4



Testing the Install

When you start the machine, you should boot automatically into 2.04. The first boot will prompt you for keyboard mapping, which you may complete or pass.

After successful boot, restart the machine and enter the early boot menu (hold both mouse buttons) and select to boot from the 1.3 Hard drive. 1.3 should boot with no issues.

Appendix A – Prerequisites

Disk Set Needed

The following disks (adfs) are needed to perform the installation.

- A3000 Install – Created using Kryoflux of physical disk
- A3000 SuperKickstart – Created using Kryoflux of physical disk
- Workbench 2.x (or 2.1) – From Amiga Forever
- Extras 2.x (or 2.1) – From Amiga Forever
- Workbench 1.34 – From Amiga Forever
- Extras 1.34 – From Amiga Forever

I used the Amiga Forever 2.04 / 2.1 disks for the 2.x partition and the 1.34 disks for the 1.3 partition. Note, if you want to use 2.1, there are additional changes needed in the scripts in the A3000 Install disk to accommodate the disk label change from 2.0 to 2.1 (IE. Workbench2.0 / Workbench2.1)

The Super Kickstart disk can also be hard to find. The Amiga Forever Support disk package has one, but I have not used it. I had a Super Kickstart with 2.01 and 1.3 and used that to create a new Super Kickstart disk with 2.04 and 1.3 which works with 2.04/2.1 and 1.34.

A3000 Install Disk / SuperKickstart Disk version Compatibility Chart

I have two versions of the A3000 Install disk and two versions of the Super Kickstart disk. I was having issues earlier due to the fact that the newer install disk isn't compatible with the Beta Super Kickstart disk. So I started a table, but that one incompatibility is all I've uncovered.

Super Kickstart	Install - 1.01	Install Disk - 2.6
Beta	Yes	No
36.141 (v2.01)	Yes	Yes
37.175 (V2.04 - Home Made)	Not Tested	Yes

Turbo Disk Speed can be used in any configuration

Modifying the A3000 Install disk scripts to run under emulation

Tools on the Install Disk

PrepHD (Per ChatGPT - Only works on physical disks. Not HDF/SD/CF cards. . .)

- **Prod_prep** – Binary utility called from PrepHD. Appears Unit 6 is hard coded in to the PrepHD script. Tried Changing that to 1, the unit our new HDF appeared to be under in AmigaForever/WinUAE, but that didn't work.
    - **PrepScript** – This script is passed to Prod_prep and has the partitioning information!! This is exciting. If I learned how to properly use Prod_pres, I may be able to create my own script that supports partitioning the way I want if for different systems.

FormatHD – Performs the proper formatting of the 3 standard partitions.

InstallHD – Install script to copy all the data and SuperKickstarts to the 2.x and 1.3 partitions.

HDToolbox – Standard Amiga HD partitioning tool.

Note: Need to update Icon Information – Tool Types: on the Install disk for this to function under emulators.

- SCSI_DEVICE_NAME=uaehf.device
- SCSI_MAX_ADDRESS=6
- SCSI_MAX_LUN=7
- XT_NAME= XT

Update1.3 – Have not investigated

Update2.x - Have not investigated

PrepHD edits to run under emulation

The underlying problem with the PrepHD script is the Prod_prep utility is looking for the physical scsi device, in much the same way that HDToolbox is by default. The fix for this is very similar, with instructing the utility to use the uaehf.device. This also is hard coded to use Unit 6. Our hard drive is Unit 0, so that must also be updated. The line highlighted below should be updated with:

:Prod_prep device uaehf.device Unit 0 layout :PrepScript

Script Listing:

```
.key drive
.bra {
.ket }
.def drive 6
failat 30
echo "Hard Disk Prep"
echo "*NThis will low-level format your hard disk (SCSI unit 6)."
echo "The drive will be re-partitioned to the standard configuration."
echo "This operation can take up to half an hour."
echo "Any information on the hard disk will be lost!"
ask "Are you sure you want to continue ?"
if warn
:Prod_prep Unit 6 layout :PrepScript
;if fail
;echo "*NAttempting to prep the hard disk failed."
;echo "Check your hardware and try again."
;else
echo "*NHard disk prep completed."
echo "*NPlease reboot the machine and run the FormatHD utility."
;endif
endcli >NIL:
```

PrepScript (passed to prod_prep util) defines the partition sizes (Optional edit)

Below is a listing of the PrepScript. This script will work as originally written. However, you may want to make the partitions a little larger to allow some modern headroom. Keep the legacy partition size restrictions in mind.

It's also interesting to note the "readfs" line that sets the fast file system on the rigid disk block.

Script listing:

```
addpart WB_2.x: 6M bootable 1 dostype 0x444f5301 buffers 30 mask 0xFFFFFFFc
addpart WB_1.3: 2M bootable 0 dostype 0x444f5301 buffers 30 mask 0xFFFFFFFc
addpart Work: rest dostype 0x444f5301 buffers 30 mask 0xFFFFFFFc
readfs l:fastfilesystem version 2 dostype 0x444f5301
reselect off
writerdb
quit
```

FormatHD (Optional edit)

The format script will work just fine without edits. However, if you are opting to install OS 2.1 on the 2.x partition, you can update the script to name the drive System2.1 in the script.

Script listing:

```
.key ""
.bra {
.ket }
echo "Hard Disk Format"
assign >NIL: WB_2.x: exists
if warn
  echo "*NWARNING:  Hard disk drive WB_2.x: cannot be found!"
  echo "        Make sure the drive is properly connected and prepped."
  wait 5
  endcli >NIL:
endif
;
echo "*NWARNING: This will reformat hard disk drive WB_2.x: , WB_1.3:"
echo "and Work: .  All information on this hard disk will be lost!"
ask "Are you sure you want to continue?"
if not warn
  echo "Format canceled."
  wait 5
  endcli >NIL:
endif
;
path sys:system add
echo "formatting"
format <NIL: >NIL: drive WB_2.x: name System2.0 quick
format <NIL: >NIL: drive WB_1.3: name System1.3 quick
format <NIL: >NIL: drive Work: name Work quick
if fail
  echo "Format failed"
  ask "*NPress Return to exit:"
  endcli >NIL:
endif
```

```
;
echo "*NHard disk format is complete."
ask "*NWould you like the system software to be*Ninstalled on your hard disk ?"
if warn
  execute :InstallHD
endif
wait 5
endcli >NIL:
```

InstallHD (Optional edits)

There are 2 optional updates that can be made to the InstallHD script

First, the “resident” commands assume booting from the Disk. These will not provide the desired result if you run this after booting from another hard drive.

Modifying the commands to be more explicit, just like the copy commands that follow in the script, corrects this. It could be argued that updating this code is a bug fix. Update the code to be

```
resident A3000Install:c/Copy add force
resident A3000Install:c/Delete add force
resident A3000Install:c/Wait add force
resident A3000Install:c/IconPos add force
resident A3000Install:c/Makedir add force
```

Second, if you are installing System 2.1, then the copy commands need to be updated to look for the Workbench2.1 and Extras2.1 disks.

```
echo "Copying Workbench 2.1 to hard disk."
cd WB_2.x:
copy >NIL: Workbench2.1: to WB_2.x: all clone
echo "Copying Extras 2.1 to hard disk."
copy >NIL: Extras2.1: to WB_2.x: all clone
```

Script listing:

```
.bra {
.ket }
```

```
echo "A3000 Hard Disk Software Installation"
assign >NIL: WB_2.x: exists
if warn
echo "*NWARNING:  The hard disk cannot be found."
echo "        Make sure the drive is properly prepped and formatted."
wait 5
endcli
endif
echo "*NThis will reinstall the system software*Non the hard disk drive."
echo "Files on the hard disk will be overwritten."
echo "You will need your Workbench 2.0 disk, your Extras 2.0 disk,"
echo "your A3000 Kickstart disk, your 1.3 Workbench disk, and your"
echo "1.3 Extras disk.*N"
ask "Are you sure you want to continue?"
if warn
path :tools add
stack 20000
echo "Setting up RAM disk."
resident c:Copy add force
resident c:Delete add force
resident c:Wait add force
resident c:IconPos add force
resident c:Makedir add force
copy >NIL: A3000Install:Copy2WB2 ram:Copy2WB2 all clone
copy >NIL: A3000Install:l/FastFileSystem ram:Copy2WB2/l clone
copy >NIL: A3000Install:Copy2WB1 ram:Copy2WB1 all clone
copy >NIL: A3000Install:tools ram:tools all clone
;
cd ram:
echo "Copying Workbench 2.0 to hard disk."
cd WB_2.x:
copy >NIL: Workbench2.0: to WB_2.x: all clone
echo "Copying Extras 2.0 to hard disk."
copy >NIL: Extras2.0: to WB_2.x: all clone
;
echo "Copying Workbench 1.3 to hard disk."
cd WB_1.3:
copy >NIL: Workbench1.3: to WB_1.3: all clone
```

```
echo "Copying Extras 1.3 to hard disk."
copy >NIL: "Extras 1.3:" to WB_1.3: all clone
;
echo "Copying 2.0 Kickstart Disk Image."
ram:tools/MakeFiles df0: 2.0 WB_2.x:devs/kickstart
echo "*NPress return to copy 1.3 Kickstart Disk Image."
ram:tools/MakeFiles >NIL: df0: 1.3 WB_1.3:devs/kickstart
;
echo "Copying tools"
copy >NIL: ram:tools wb_2.x:tools all clone
delete >NIL: wb_2.x:tools/Update1.3#?
copy >NIL: ram:tools wb_1.3:tools all clone
delete >NIL: wb_1.3:tools/Update2.x#?
;
echo "Setting up icons."
copy >NIL: ram:Copy2WB2 WB_2.x: all quiet clone
if not error
makedir >NIL: WB_2.x:Monitors
copy WB_2.x:Monitorstore.info WB_2.x:Monitors.info
iconpos >NIL: WB_2.x:tools 5 82
iconpos >NIL: WB_2.x:monitors 100 82
iconpos >NIL: WB_2.x:monitorstore 200 82
endif
copy >NIL: ram:Copy2WB2/wDisk.info Work:Disk.info quiet clone
delete >NIL: WB_2.x:wdisk.info quiet
delete >NIL: ram:Copy2WB2 all quiet
;
copy ram:Copy2WB1 WB_1.3: all quiet clone
if not error
iconpos >NIL: WB_1.3:Prefs type=DRAWER 189 4
iconpos >NIL: WB_1.3:System type=DRAWER 97 39
iconpos >NIL: WB_1.3:Empty type=DRAWER 281 39
iconpos >NIL: WB_1.3:Tools type=DRAWER 281 4
iconpos >NIL: WB_1.3:PCUtil type=DRAWER 373 4
iconpos >NIL: WB_1.3:Trashcan type=GARBAGE 380 39
iconpos >NIL: WB_1.3:Utilities type=DRAWER 5 39
iconpos >NIL: WB_1.3:Shell type=PROJECT 15 4
iconpos >NIL: WB_1.3:Utilities type=DRAWER 5 39
```

```
iconpos >NIL: WB_1.3:Expansion type=DRAWER 189 39
iconpos >NIL: WB_1.3:FD1.3 type=DRAWER 97 4
iconpos >NIL: WB_1.3:Utilities/ClockPtr type=TOOL 316 9
iconpos >NIL: WB_1.3:Utilities/InstallPrinter type=PROJECT 275 62
iconpos >NIL: WB_1.3:Utilities/Calculator type=TOOL 149 32
iconpos >NIL: WB_1.3:Utilities/PrintFiles type=TOOL 143 58
iconpos >NIL: WB_1.3:Utilities/Cmd type=TOOL 263 34
iconpos >NIL: WB_1.3:Utilities/Notepad type=TOOL 31 3
iconpos >NIL: WB_1.3:Utilities/More type=TOOL 120 4
iconpos >NIL: WB_1.3:Utilities/Clock type=TOOL 217 1
iconpos >NIL: WB_1.3:Utilities/Say type=TOOL 25 32
iconpos >NIL: WB_1.3:Utilities/GraphicDump type=TOOL 18 58
iconpos >NIL: WB_1.3:System/InitPrinter type=TOOL 221 34
iconpos >NIL: WB_1.3:System/DiskCopy type=TOOL 107 1
iconpos >NIL: WB_1.3:System/FastMemFirst type=TOOL 20 30
iconpos >NIL: WB_1.3:System/CLI type=TOOL 21 0
iconpos >NIL: WB_1.3:System/SetMap type=TOOL 126 29
iconpos >NIL: WB_1.3:System/FixFonts type=TOOL 234 72
iconpos >NIL: WB_1.3:System/NoFastMem type=TOOL 20 71
iconpos >NIL: WB_1.3:System/MergeMem type=TOOL 126 68
iconpos >NIL: WB_1.3:System/Format type=TOOL 222 0

iconpos >NIL: WB_1.3:tools/Update1.3 type=PROJECT -1 -1
iconpos >NIL: WB_1.3:tools/MEmacs type=TOOL -1 -1
iconpos >NIL: WB_1.3:tools/Palette type=TOOL -1 -1
iconpos >NIL: WB_1.3:tools/KeyToy2000 type=TOOL -1 -1
iconpos >NIL: WB_1.3:tools/Fed type=TOOL -1 -1
iconpos >NIL: WB_1.3:tools/PerfMon type=TOOL -1 -1
iconpos >NIL: WB_1.3:tools/IconMerge type=TOOL -1 -1
iconpos >NIL: WB_1.3:tools/IconEd type=TOOL -1 -1
iconpos >NIL: WB_1.3:tools/HDToolbox type=TOOL -1 -1
iconpos >NIL: WB_1.3:tools/FreeMap type=TOOL -1 -1

iconpos >NIL: WB_1.3:prefs/Printer type=PROJECT 113 38
iconpos >NIL: WB_1.3:prefs/Preferences type=TOOL 116 2
iconpos >NIL: WB_1.3:prefs/Pointer type=PROJECT 26 32
iconpos >NIL: WB_1.3:prefs/CopyPrefs type=PROJECT 284 3
iconpos >NIL: WB_1.3:prefs/Serial type=PROJECT 203 37
```

```
endif
;
delete >NIL: ram:Copy2WB1 all quiet
delete >NIL: ram:tools all
;
delete >NIL: devs.info fonts.info
cd ram:
echo "*NSoftware installation is now complete."
echo "*NPlease turn your system off and on to use the new software."
endif
wait 5
```

Creating SuperKickstart rom files

Credit for this technique goes to Michael Rupp from his post to Epsilon's Blog, June 3, 2020

A SuperKickstart file is a standard Kickstart rom file with "bonus code" appended to the end of the file. The 1.3 and 2.x kickstarts have different bonus code attached.

The 1.3 SuperKickstart is less interesting. I assume most will want to run version 1.3 on the WB1.3 partition.

The 2.x partition can run different versions of 2.x, or you may want to try upgrading to 3.x. Creating a SuperKickstart may be needed for this partition. In my case, the SuperKickstart disks I had contained a Beta 2.x kickstart and a 2.01, but I wanted to explore installs with 2.04, 2.1, and 3.1

I was able to obtain the initial Super Kickstart file from an installation of 2.x.

To split the bonus code, use FSplit from Aminet found here:

http://aminet.net/disk/misc/FSplit.lha

The shell command I used:

fsplit <Super Kickstart> to parts cs=512

This creates 2 files: parts-001.splt (size = 524.288 B) and parts-002.splt (size = 2.560 B), so I could simply rename parts-002.splt bonuscode and there I was with my 'bonuscode' file.

To join the files to create a new Super Kickstart, I simply used the default 'join' shell command: (using Kickstarts from the Amiga Forever package)

join amiga-os-204-a3000.rom bonuscode to Superkick-2.04

join amiga-os-310-a3000.rom bonuscode to Superkick-3.1

Aminet has great documentation on the utility, but its usage is very straightforward. Enter a blank adf in the emulator and issue the following command (Assuming files in Devs: and named the same)

MakeSuperDisk 2.x=Devs:kickstart 1.3=Devs:Kickstart-1.3

Appendix B – Manually Prep the Hard drive (.hdf)

Background: The A3000 Install disk includes a script, PrepHD, which performs the partitioning of the disk. PrepHD invokes the Prod_prep utility and passes in the partition information in the form of a configuration file named PrepScript. It's the information in PrepScript that dictates the parameters we use for when manually partitioning the disk. The full scripts are including in an Appendix below, but for convenience the partition information is also here (with modified partition sizes)

- WB_2.x: 20M bootable 1 dostype 0x444f5301 buffers 30 mask 0xFFFFFFFc
- WB_1.3: 10M bootable 0 dostype 0x444f5301 buffers 30 mask 0xFFFFFFFc
- Work: rest dostype 0x444f5301 buffers 30 mask 0xFFFFFFFc

If you are reading this, then you have either decided to skip updating you A3000 Install disk or wish to learn more about how these scripts/utility works.

It's important to take note of the device names (WB_2.x/WB_1.3) as the 1.4 Kickstarts and future scripts rely on finding partitions with those names. Also, it appears that the partition order must also be 2.x followed by 1.3 (future testing could be in order.)

IMPORTANT NOTE: Partition 2.x is a higher priority (1) than 1.3 (0). In my experience, this makes the 1.3 partition unreachable from the early start menu. I change them both to priority 0.

Using the A3000 Install disk from a fresh system with an empty hard drive

This section covers setting up the hard drive partitions manually using HDToolbox from the A3000 Install disk v2.6.

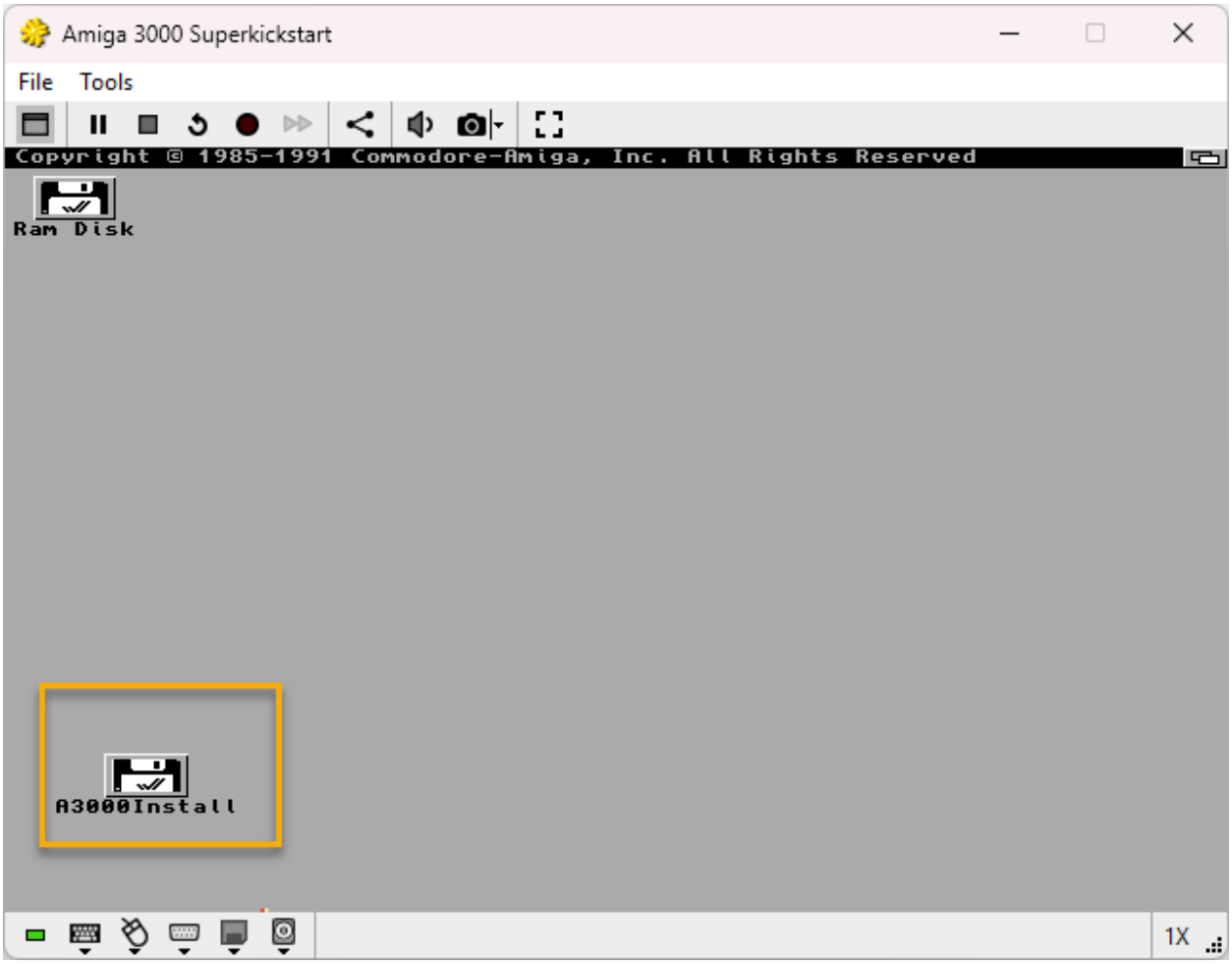
NOTE: I don't know if the HDPrep utility can be configured to operate on a ZuluSCSI in a real A3000. Setup in emulation is the goal, so I won't go into this caveat.

Run your machine again from the Amiga Forever menu.

Enter the early start menu by holding the two mouse buttons on boot (repeat if your timing is off and you don't get the menu)

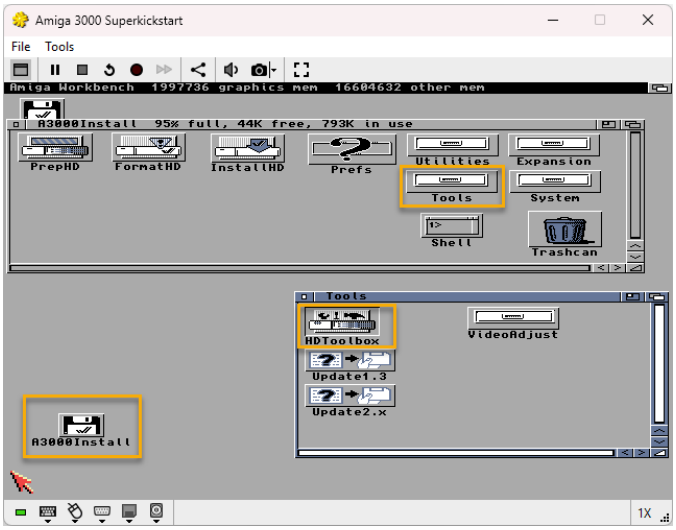
Select to boot 2.x from floppy and insert your Super Kickstart disk.

When you reach the kickstart screen, switch to the A3000 Install disk to boot into the installation workbench.



Partition the Hard Drive - Setup the 2.x partition

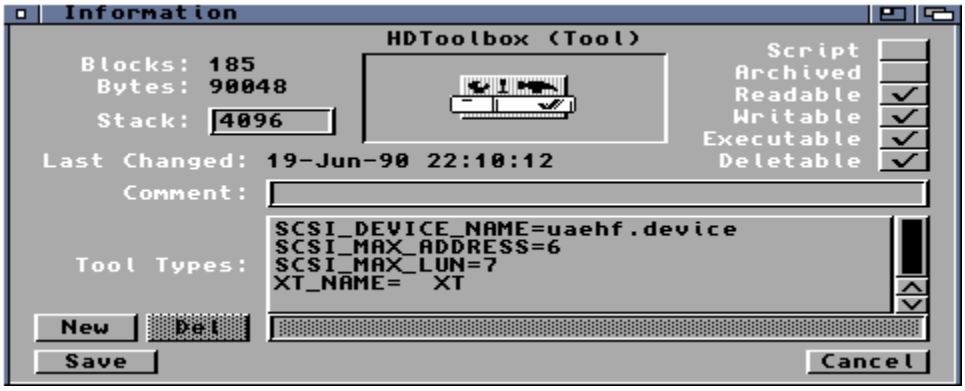
Launch **HDToolBox** from the Tools drawer on the setup disk to do the partitioning.



Reminder, we need to create the following partitions:

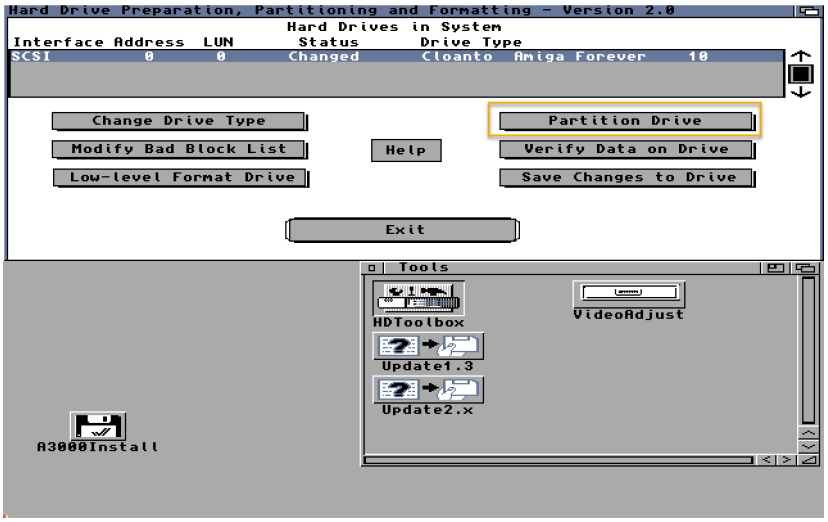
- WB_2.x: 20M bootable 0 dostype 0x444f5301 buffers 30 mask 0xFFFFFFFc
- WB_1.3: 10M bootable 0 dostype 0x444f5301 buffers 30 mask 0xFFFFFFFc
- Work: rest dostype 0x444f5301 buffers 30 mask 0xFFFFFFFc

NOTE: If HDToolbox does not see your hard drive, you still need to adjust its tool types for emulation.

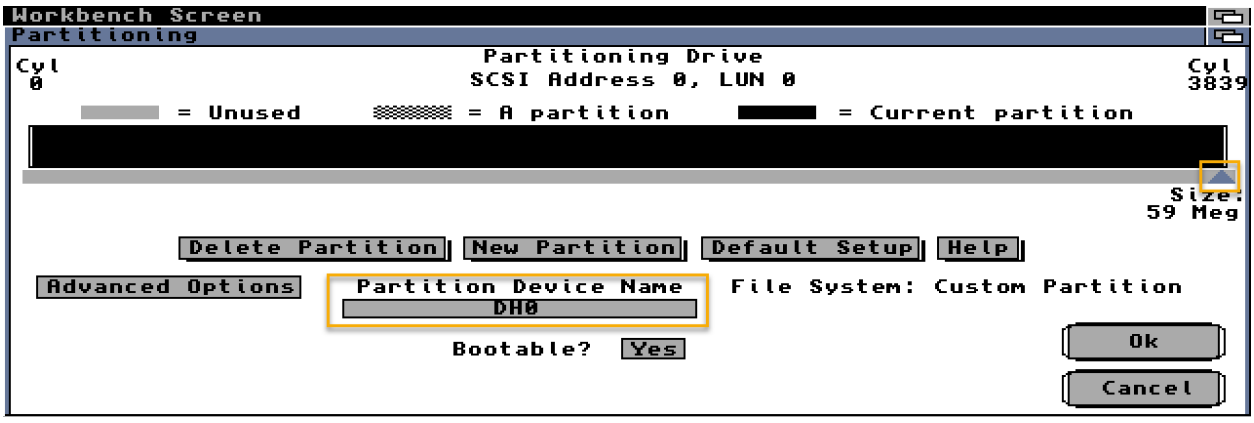


When launching HDToolbox, you will see a message, click **Continue**.

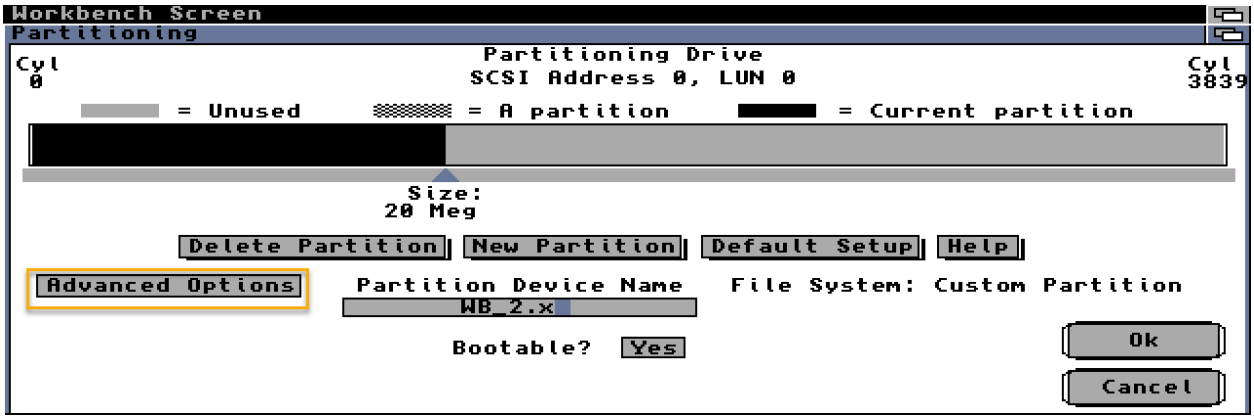
Click on **Partition Drive**.



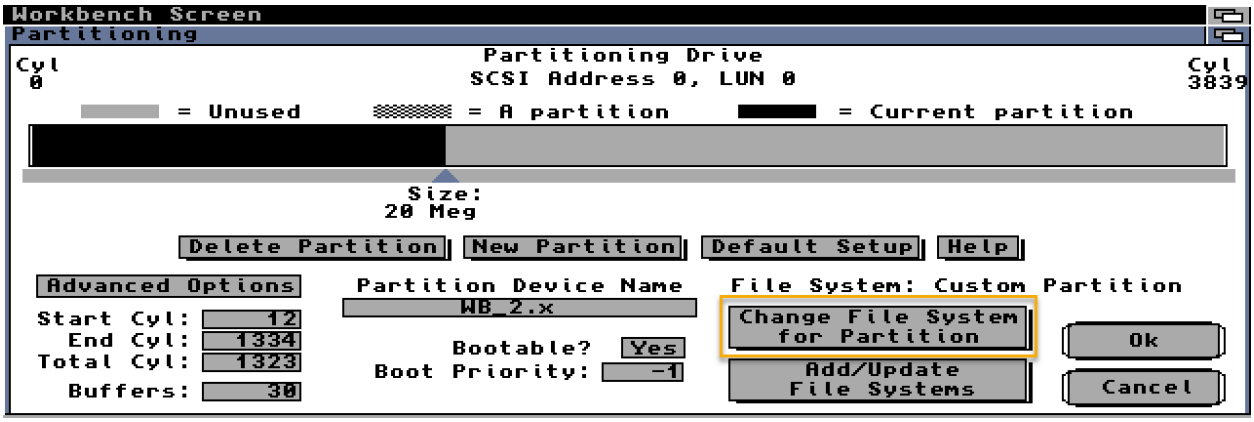
We will make the 2.04 partition first. Use the slider to reduce the size to **20 meg** and change the device name to **WB_2.x.**



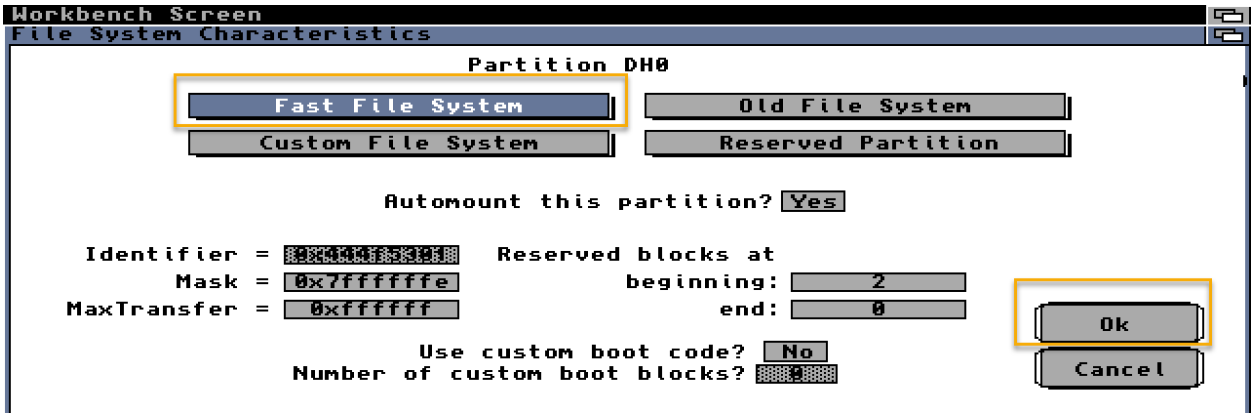
Then select **Advanced Options**



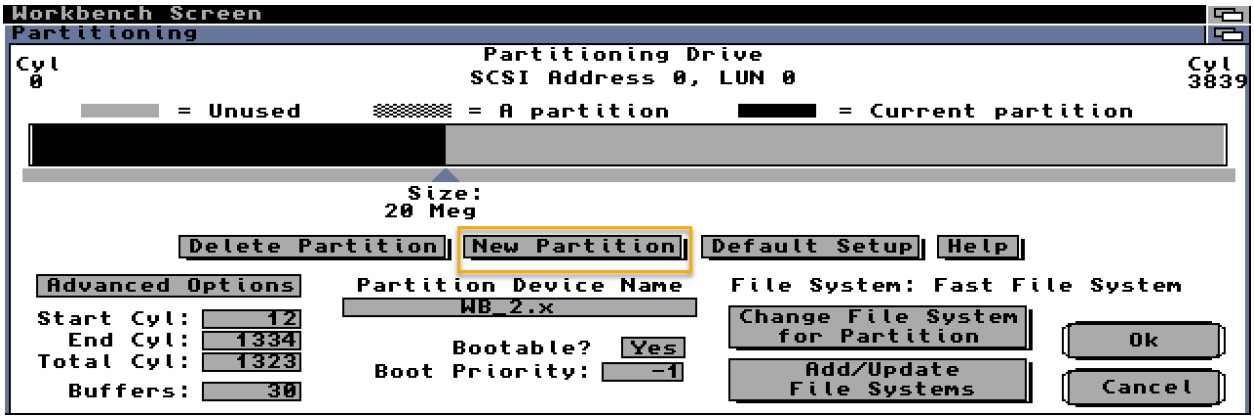
Now click on the button to **Change File System for Partition**



Select **Fast File System** and click **OK.**



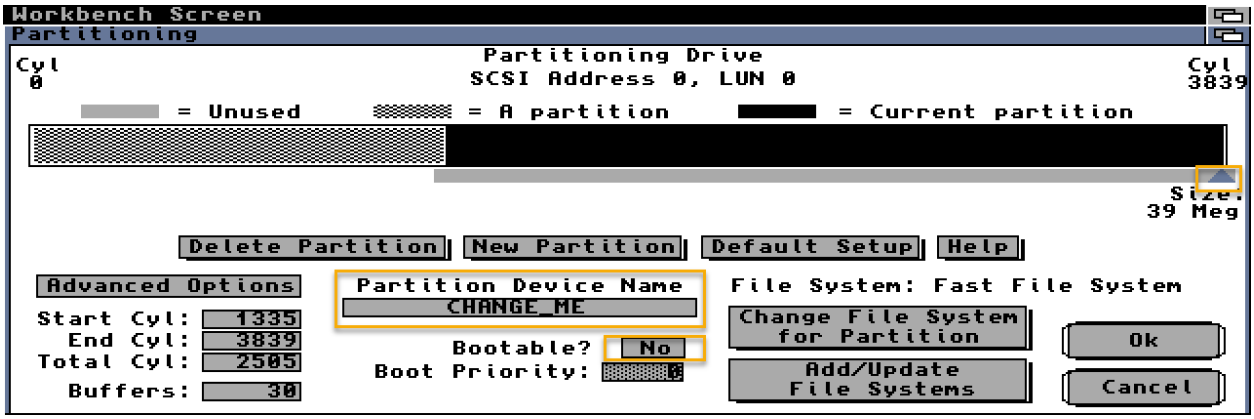
Click the **New Partition** button to save those settings.



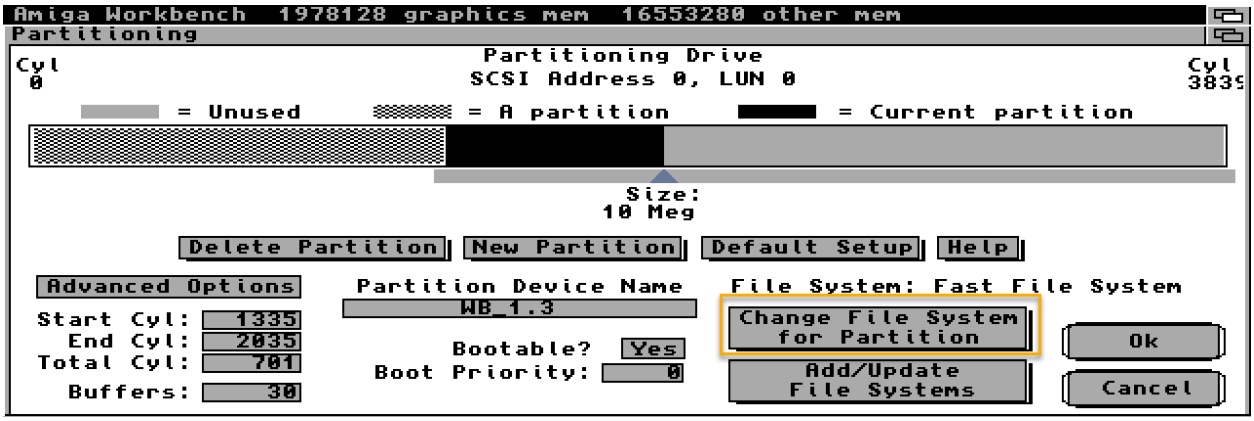
***NOTE** – I set the boot priority to 0 after making the screenshot. Oops!

Setup the 1.3 partition

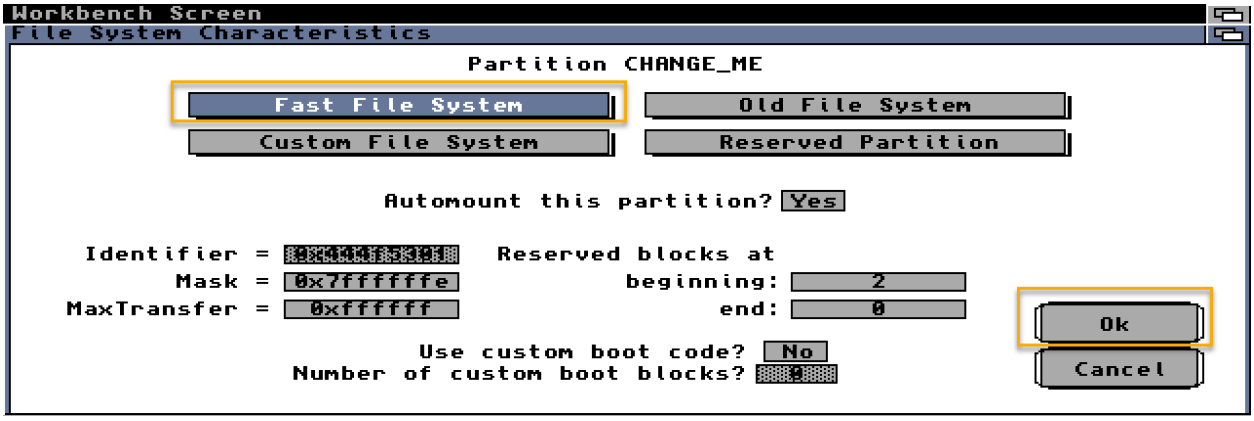
Now we will create the 1.3 partition. Use the slider to reduce the size to 1**0 meg**, change the device name to **WB_1.3,** and change "Bootable?" To **Yes**.



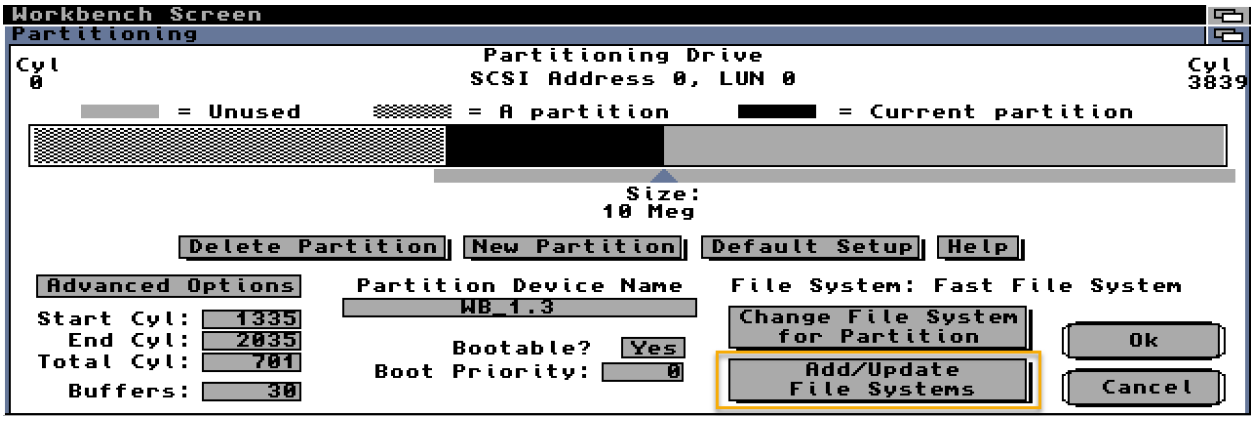
Advanced option is still open from creating the 2.x partition, so we can go directly to clicking **Chang File System for Partition**. If this is not visible, just click Advanced Options first.



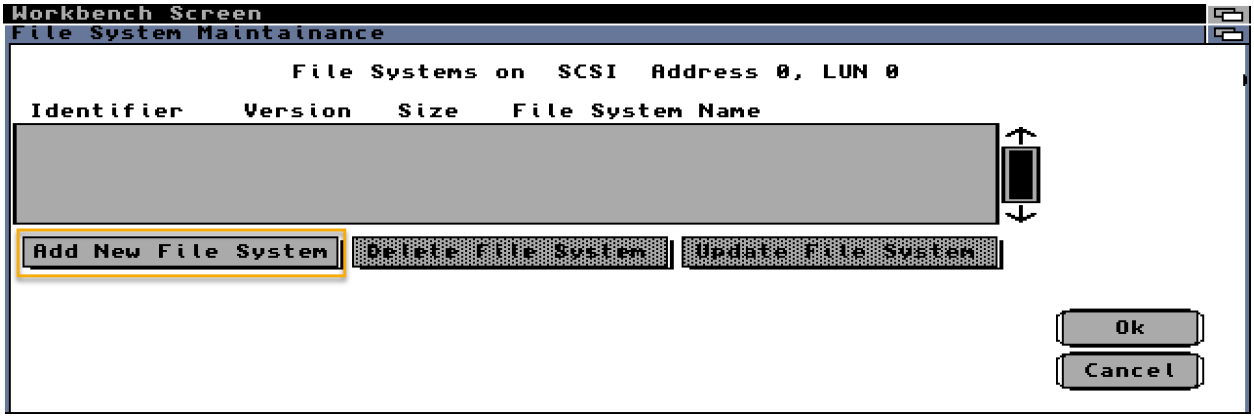
Fast File System should be slected (it remembers it from the 2.x partition). But I like to check it and click **OK** just to make sure.



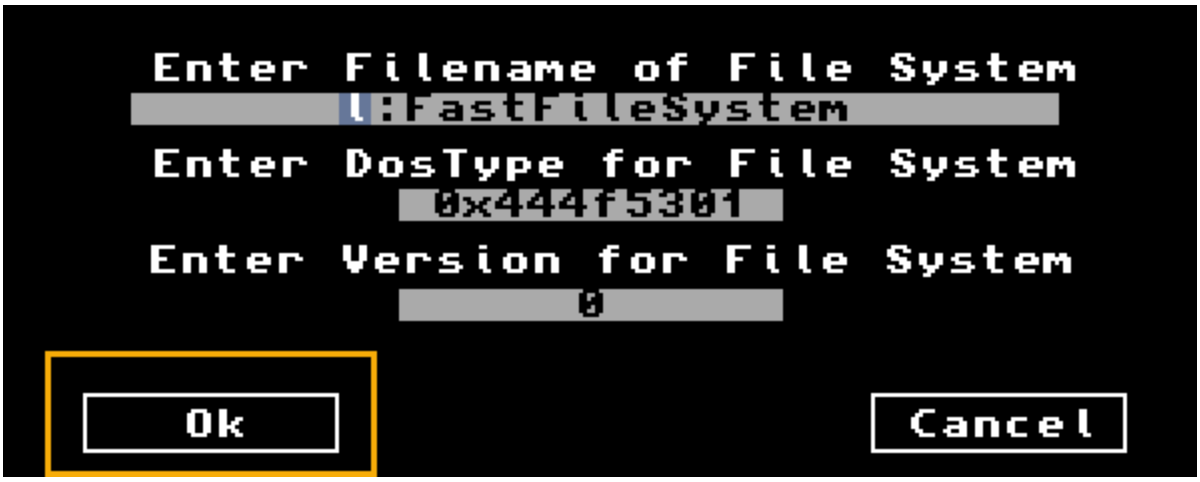
For our 1.3 partition we need to make one more change. The Fast File System must be installed on the RDB (Rigid Disk Block) for the installation to boot properly. Click on **Add/Update File Systems**.



Click on **Add New File System**

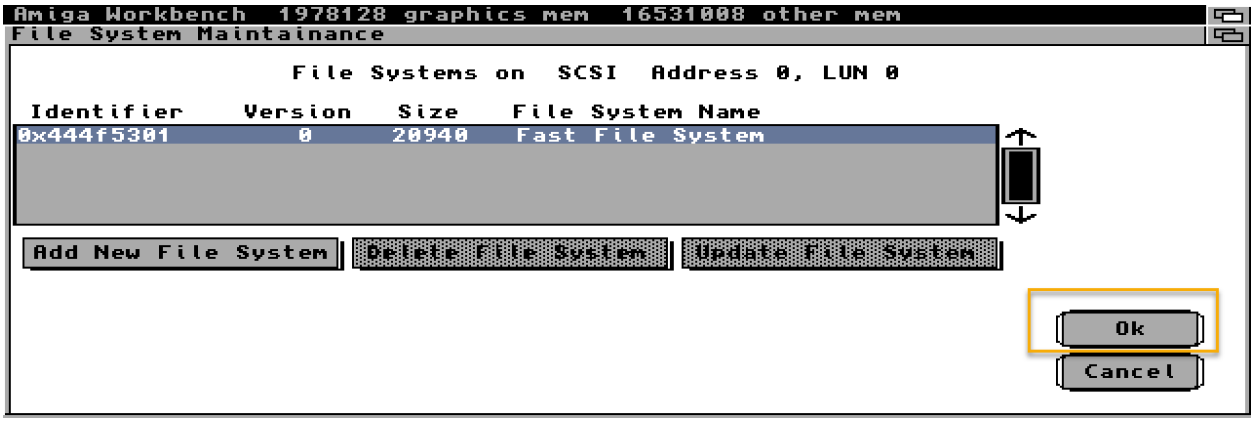


A dialog will pop up to allow us to enter some information. Thankfully, it has the defaults we need. The Fast File System Library is on our A3000 install disk in the l: drawer. The DosType magic number is correct. And we are using version 0! Click on **OK**



Note, with the partitioning completed successfully, we should no longer see the message when starting the machine about the RDB…

You will see the File System is now listed. Click **OK** to move on.

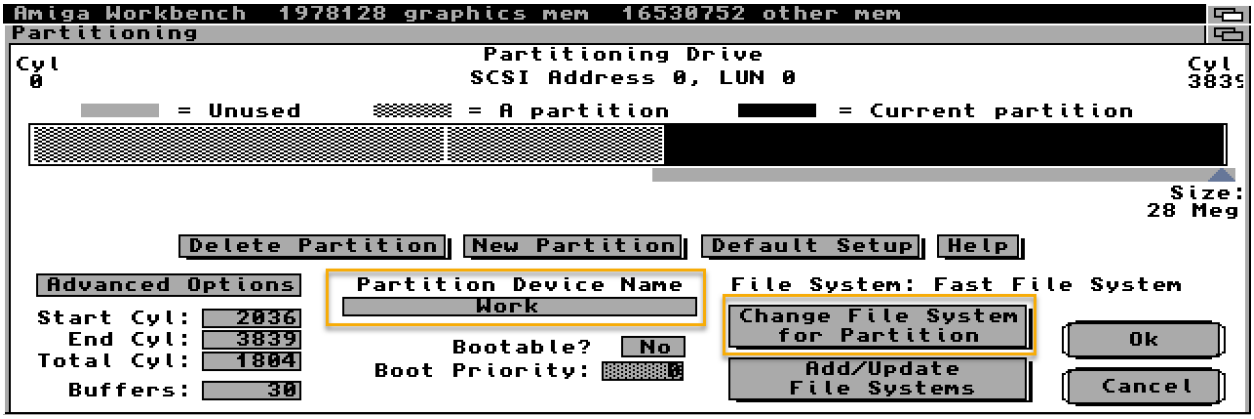


Remember to click the **New Partition** button to save that partition information!

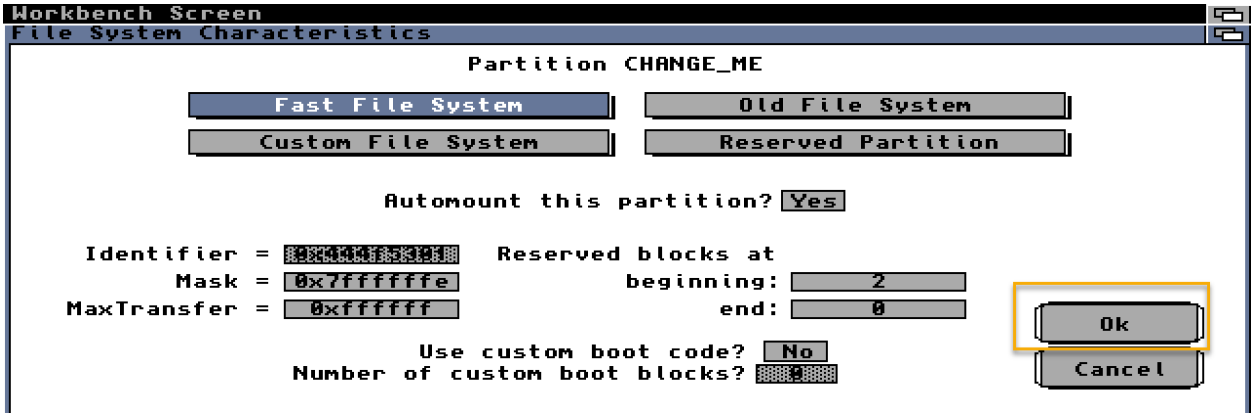
Setup the Work partition

Now we will partition the remaining space for our Work partition.

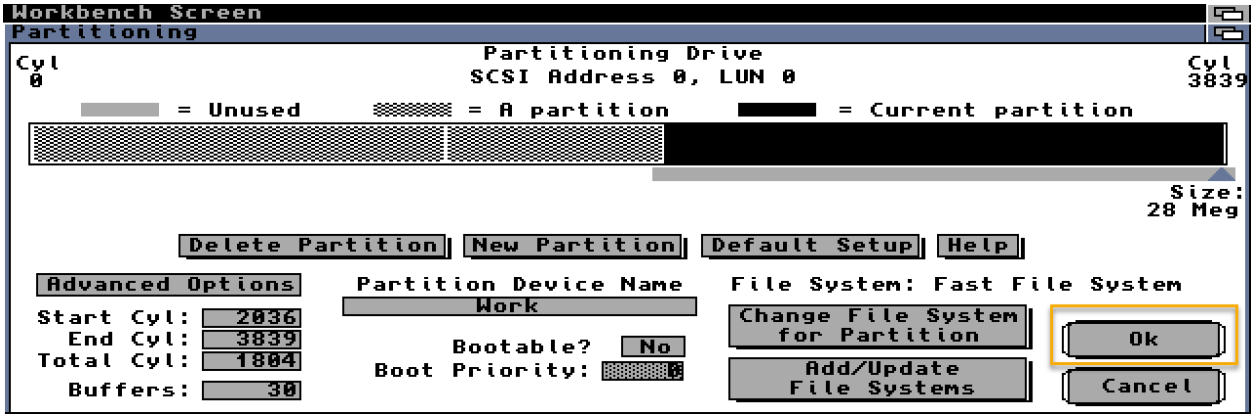
No need to resize this time. Change the Partition Device Name to **Work**.And double check the file system by clicking the **Change File System for Partition** button.



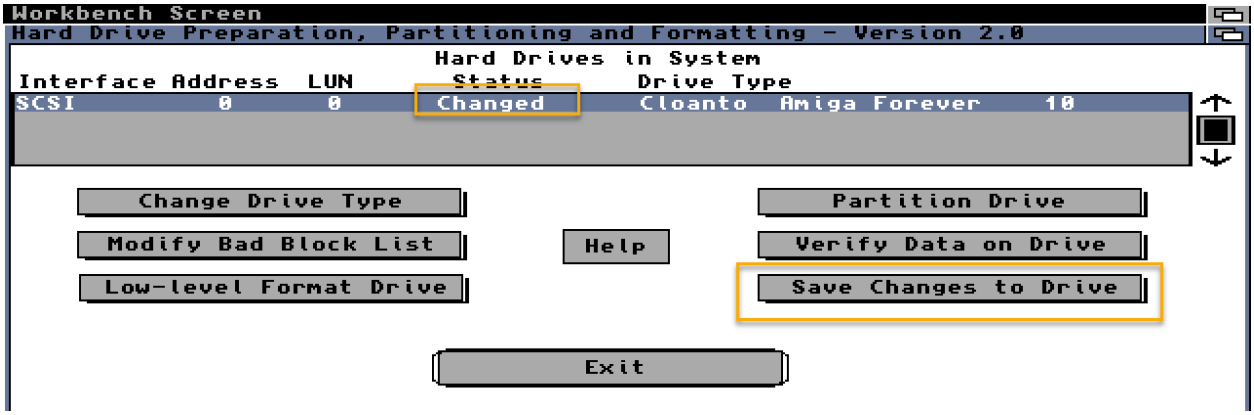
Click on **Fast File System** if it's not already selected and click on **OK**.



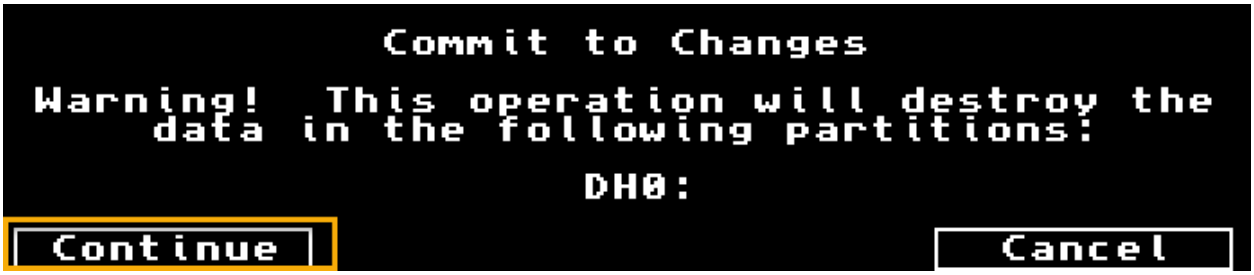
Click on **OK**



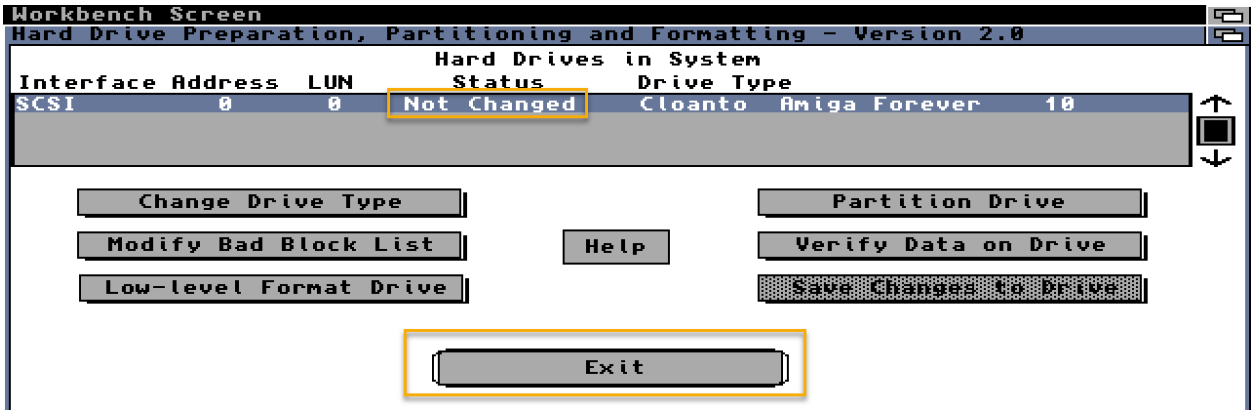
You will see in the list the Hard Drive status is Changed. Click on **Save Changes to Drive** to perform the actual partitioning! If you forget this, you get to do all those steps again.



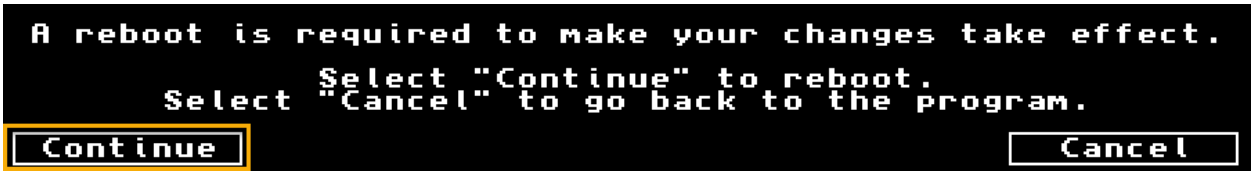
You will get a message to make sure you really want to save this, as these changes will detroy any existing data. 😊 Click **Continue**.



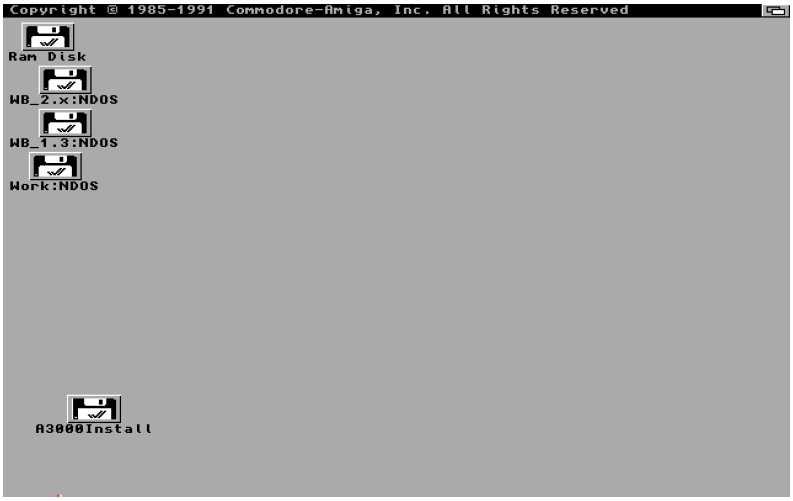
Back on the first screen of HDToolbox you will see that the drive now says Not Changed, meaning all your work has been saved. You can now click **Exit**.



The machine will need to be rebooted in order for the partitioning to be recognized. Click on **Continue**.



If the partitinoing has been successful, you machine should look similart to below **after the reboot**.



You may now continue to format the drives.

Note, if you manually format the drives using the GUI, the “quick” option is not available. I have read in the past that this practice is not good for emulation/SD cards but it does not seem to prevent the process from working.

However, with the partitions properly named, you can safely use the **FormatHD** script and save some time. This script uses the command line format which allows for a quick format. You can read the script below.

Once drives are formatted, you can install the software with the InstallHD script.

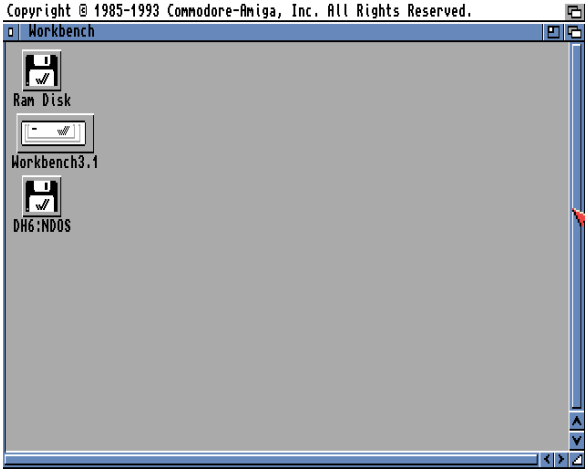
Using a functional 3.1 installation to prep a secondary drive (.hdf)

NOTE: This is a mostly complete guide, but is missing the step to install the Fast File System on the Rigid Disk Block on the WB_1.3 partition. Also missing a screen shot.

Attach a new HDF file to machine and boot (It's assumed you have enough knowledge of AmigaForever to accomplish this task)

It's assumed that the primary disk will be SCSI Unit 0 and the new disk will be Unit 1. This can be confirmed in HDToolbox.

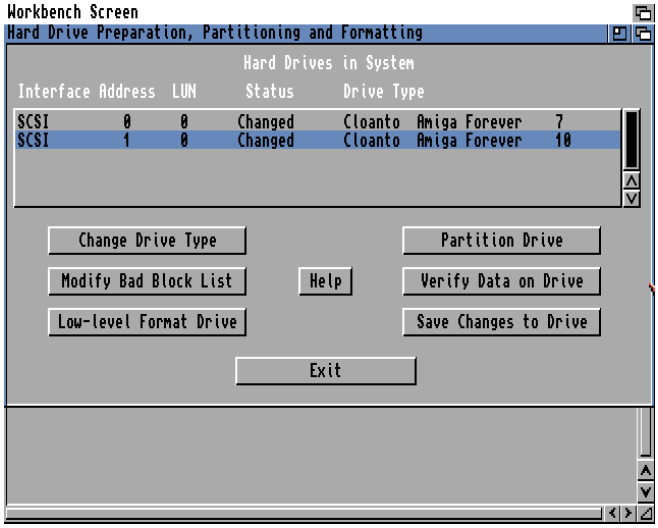
Partition the Hard Drive



Use HDToolBox from Tools on the Workbence3.1 drive to do the partitioning. Assuming the 3.1 partition is one included with Amiga Forever, the Tool Types settings will be set properly to work on the hard disks.

Select the correct drive. If you are unsure, the next screen has the total hard drive size you can use to verify you are on the correct drive.

Click on Partition Drive.


Workbench Screen
Hard Drive Preparation, Partitioning and Formatting
Hard Drives in System
Interface Address LUN Status Drive Type
SCSI 0 0 Changed Cloanto Amiga Forever 7
SCSI 1 0 Changed Cloanto Amiga Forever 10
Change Drive Type
Partition Drive
Modify Bad Block List
Help
Verify Data on Drive
Low-level Format Drive
Save Changes to Drive
Exit

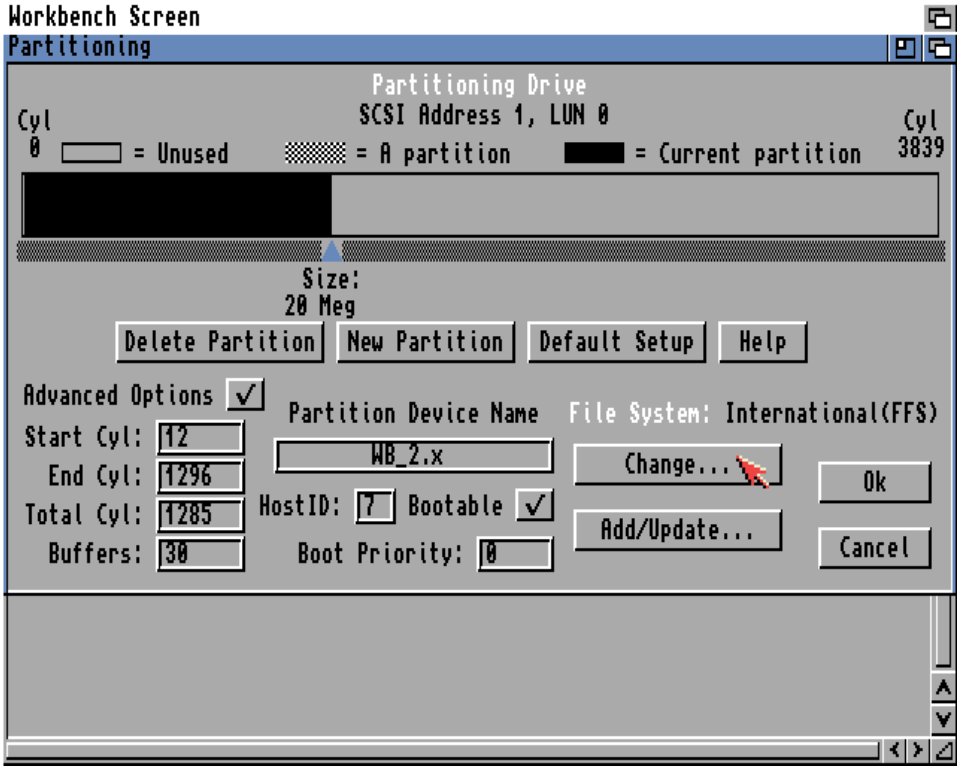
WB 2.x Partition Setup

Select the partition size you want. 20 Meg for our first one.

30 buffers is the default, which matches the recommendation.

Click on Advanced options, you will see International FFS is the default, we change that by clicking the Change button.

Name our patition WB_2.x. This is very important as the installer looks for this partition name.



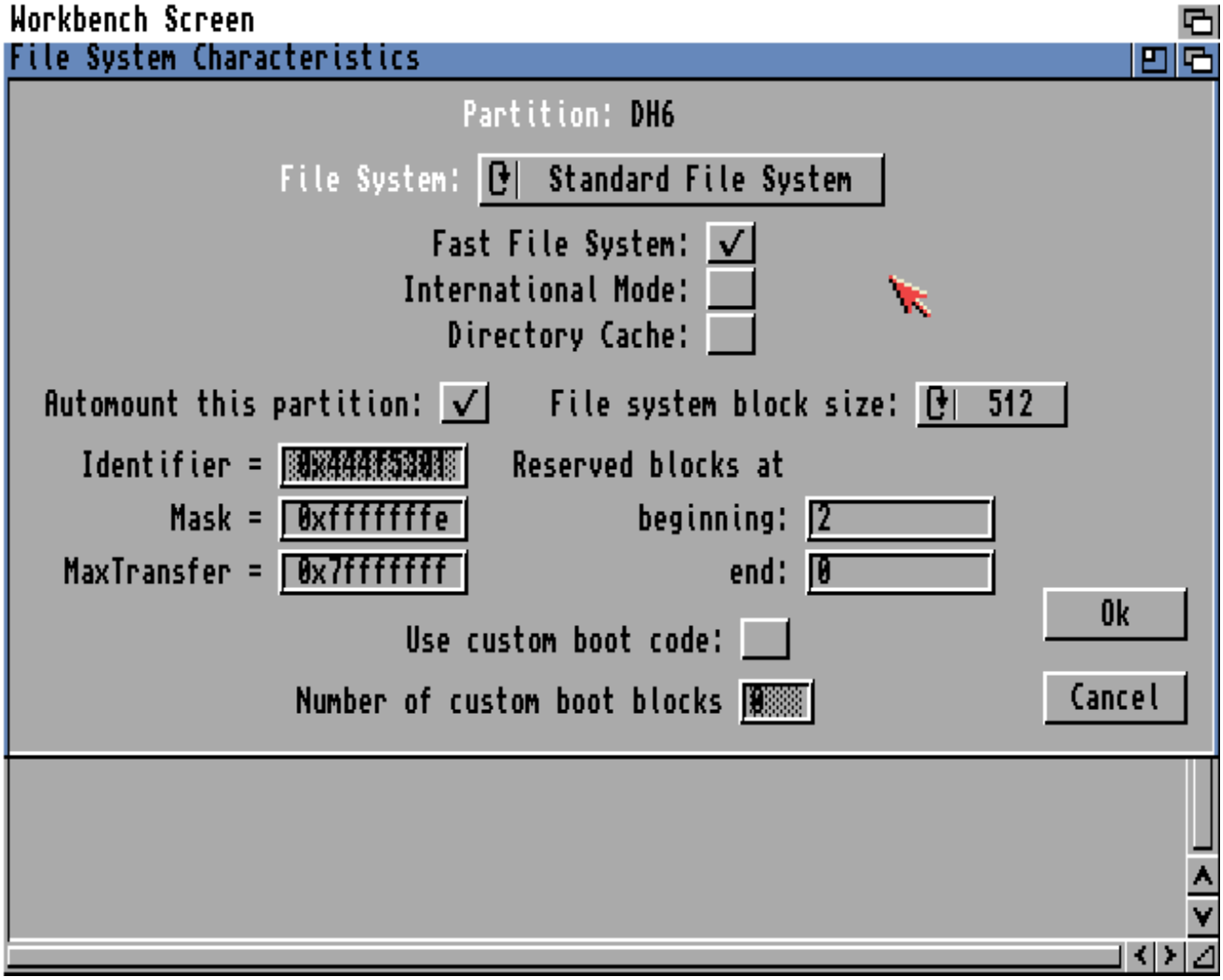
Changing Advanced Partition information (repeat for all partitions)

Fast File System is checked by default, which is what we want.

Uncheck International Mode

The identifier is correct by default

The Mask is different, but I leave the default. Need to research this more.



Click OK to return to the partition screen.

Remember to click “New Partition” to save that partition information!!

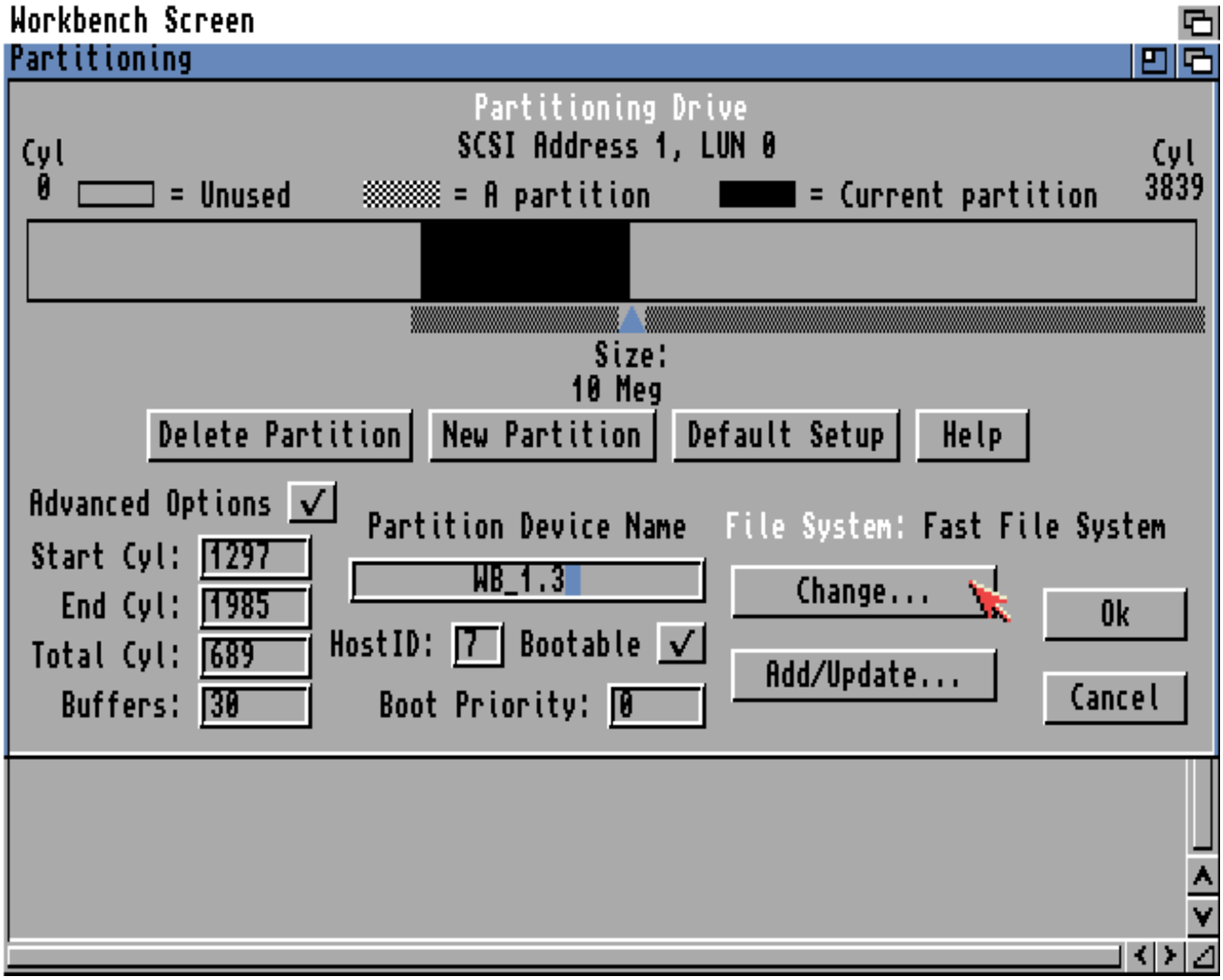
WB 1.3 Partition Setup

Select the partition size you want. 10 Meg for my 1.3.

30 buffers is the default, which matches the recommendation.

Click on Advanced options, you will see International FFS is the default, we change that by clicking the Change button.

Name our patition WB_1.3. This is very important as the installer looks for this partition name.



Click change and repeat the Changing Advanced Partition information section above.

NOTE: Click on Add/Update and add the Fast File System from the A3000 Install Disk (l:) to the Rigid Disk Block (RDB).

<add screen shots>

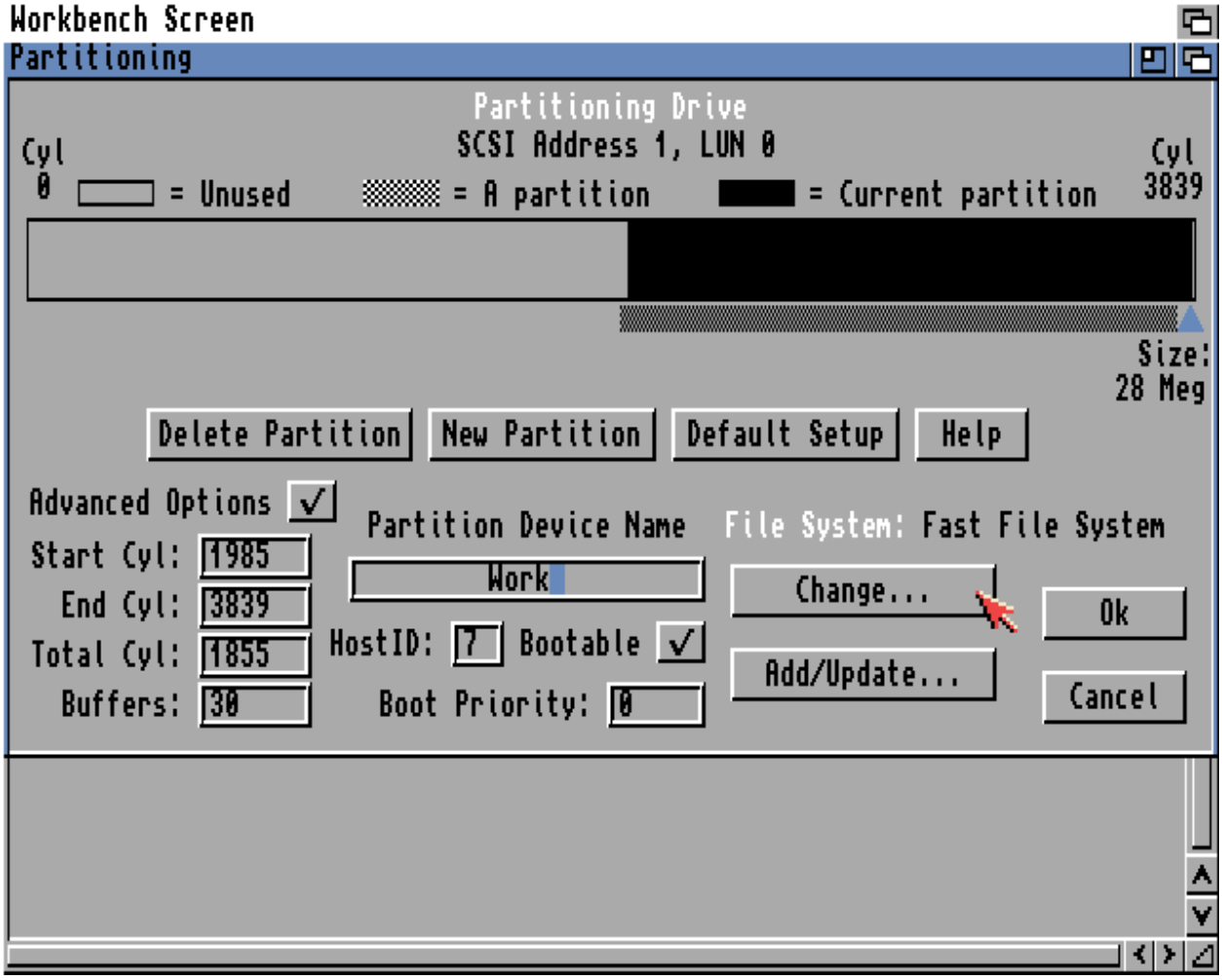
Setup the Work partition

Select the remaining disk space.

30 buffers is the default, which matches the recommendation.

Click on Advanced options, you will see International FFS is the default, we change that by clicking the Change button.

Name our patition WB_1.3. This is very important as the installer looks for this partition name.



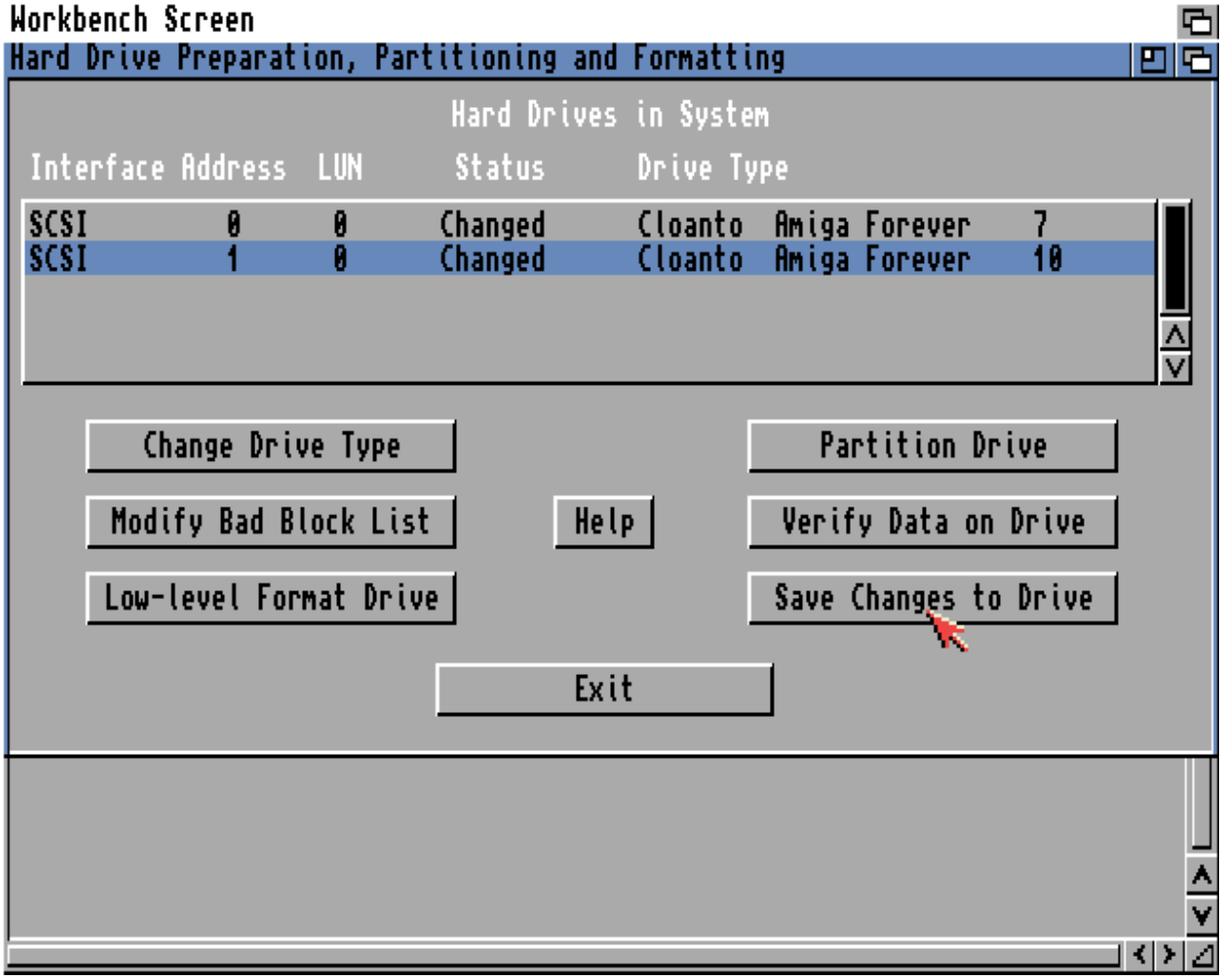
Click change and repeat the Changing Advanced Partition information section above.

Finish the partitioning

Click “Save Changes to Drive” to commit these partitions to the disk.

You can always click on “Partition Drive” to verify settings and make changes, but most changes will affect any data on the partition you update, so plan on re-installing or restoring if you make changes in this utility.

When you exit, you need to reboot for the new partitions to be seen on the Amiga.



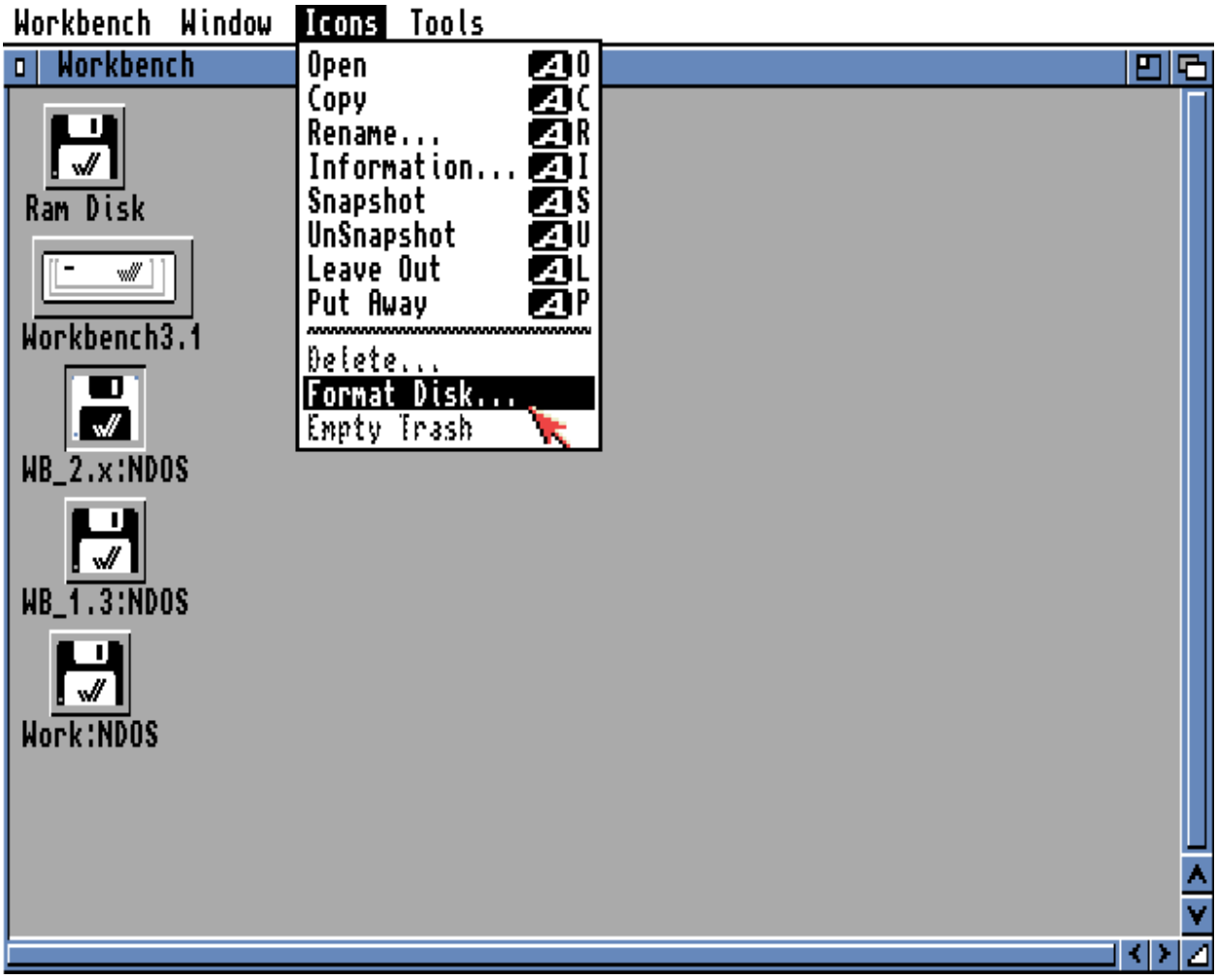
Format Drives

Before I realized we can just use the FormatHD script at this point, I manually formatted the partitions with documentation.

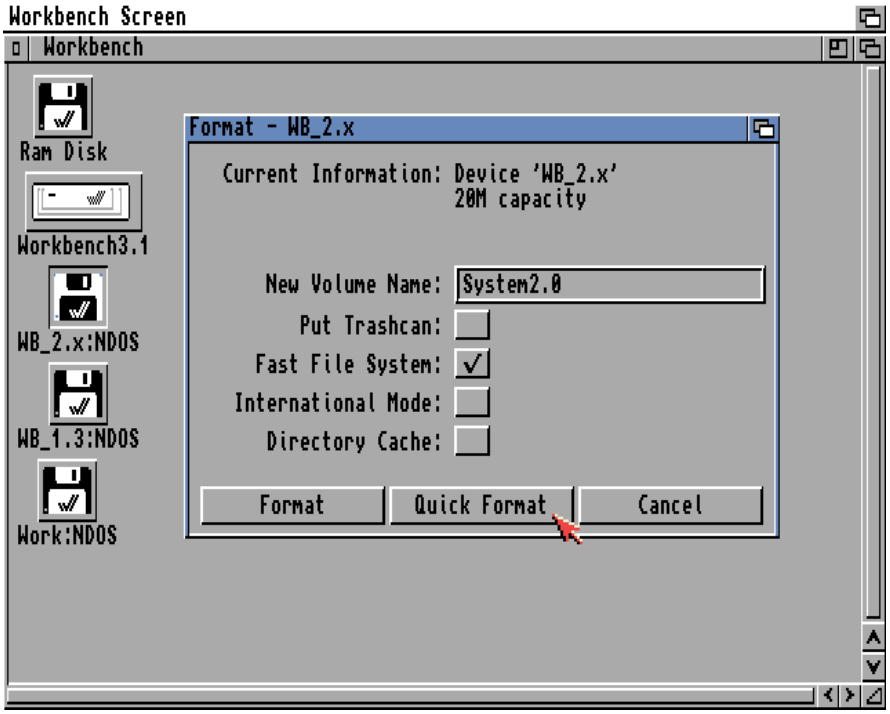
You will need to format each drive using the format options.

Format options – No Trash, Yes FFS, No International
WB_2.x: name System2.0 quick
WB_1.3: name System1.3 quick
Work: name Work quick

- To format the disk from workbench, you will need to
- Select the icon for the disk.
- Right click on the icon to bring up the Icons Menu
- Select Format Disk from the Icons Menu.

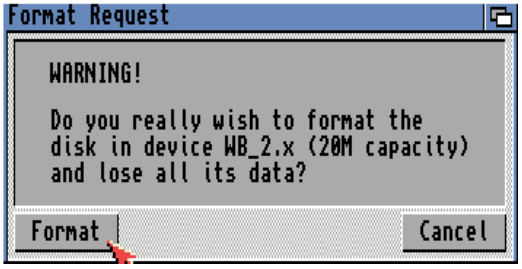


Format WB_2.x



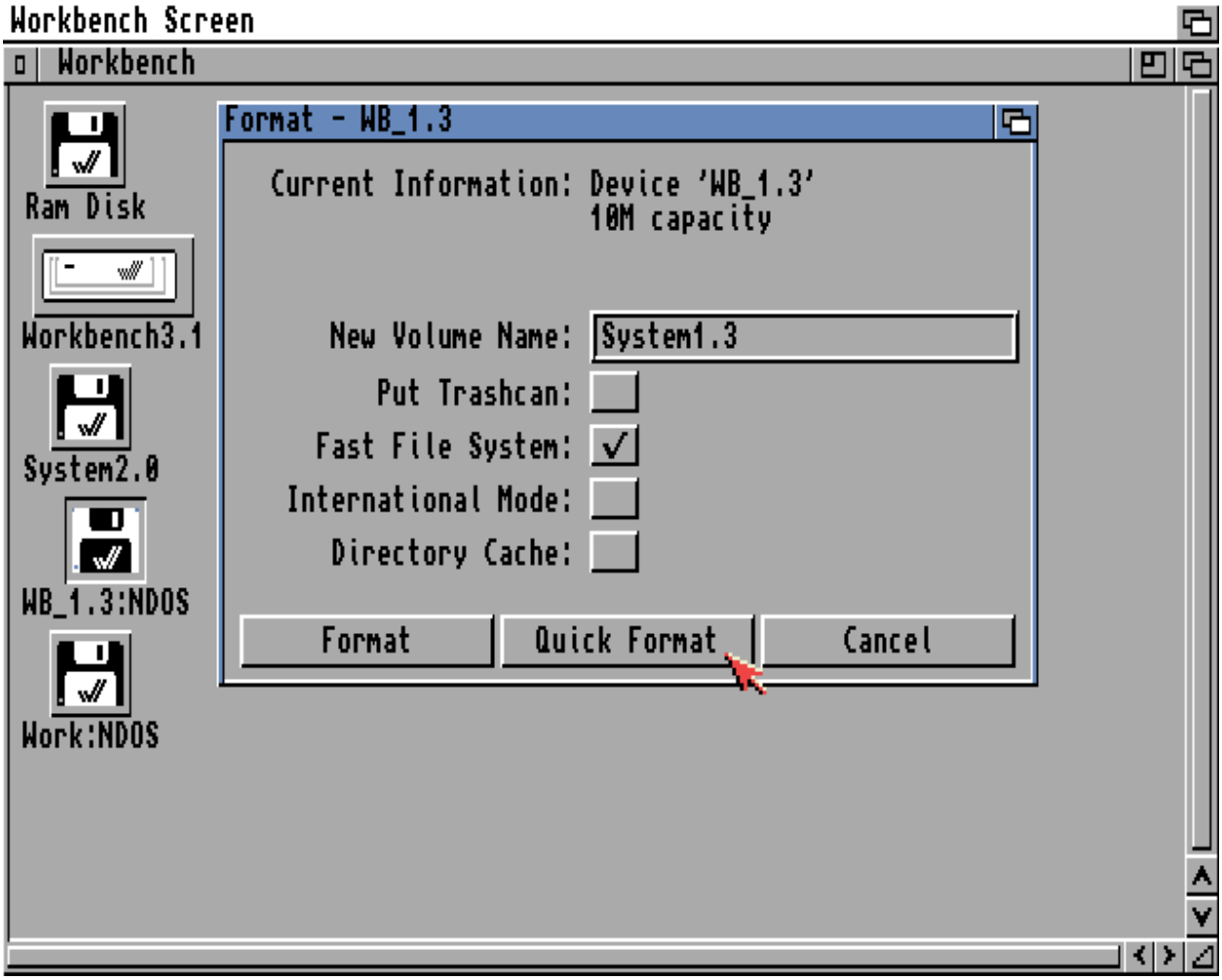
Click Quick Format

Click Format



Click Format again!!

Format WB_1.3

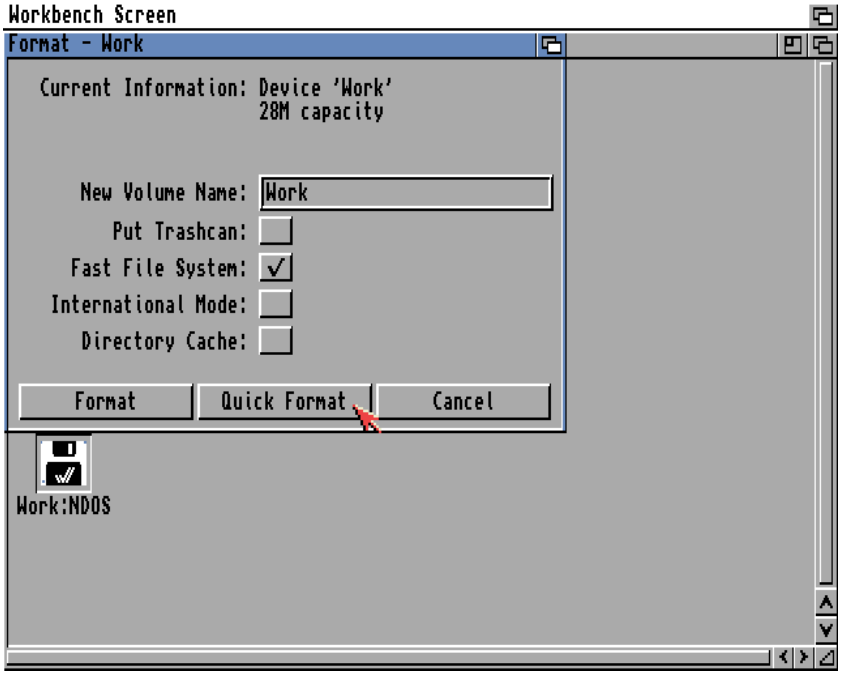


Click Quick Format

Click Format (as pictured above)

Click Format (as pictured above)

Format Work

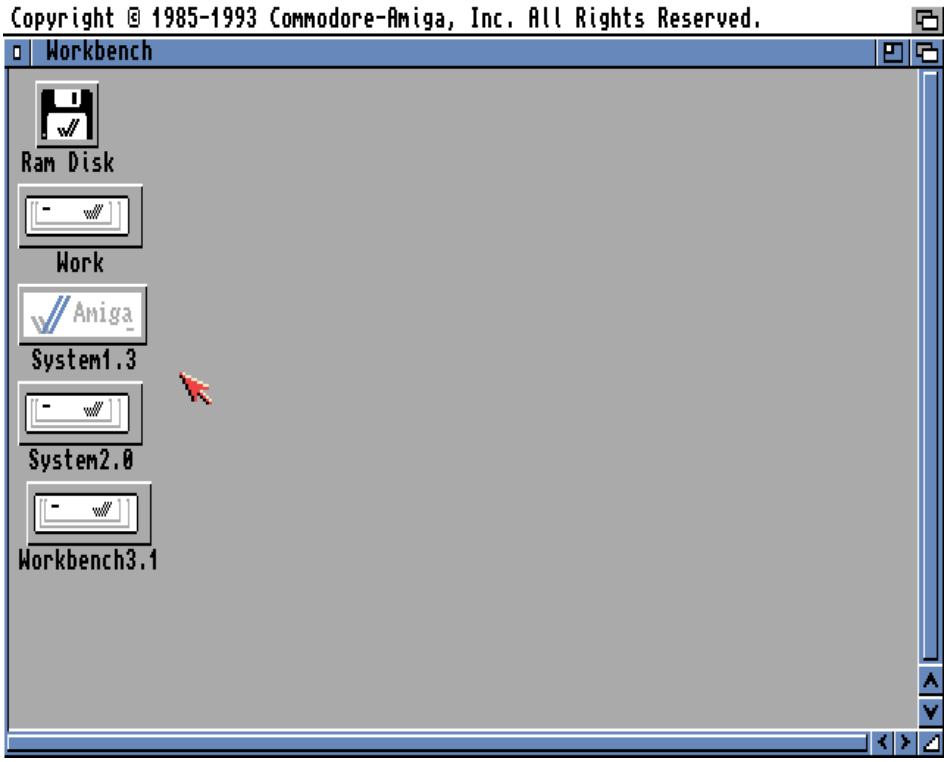


Click Quick Format

Click Format (as pictured above)

Click Format (as pictured above)

Rebooting the 3.1 system will show the drives and you can explore them to see the files have been copied over.



Appendix D - Problems and fixes

Software Error – Program Stopped

Error: When booting the Amiga on the WB_2.x partition under the 1.4 rom there is a "Software Error".
Problem: The (Super)kickstart installed on the Devs folder is not the proper version for the Amiga OS version installed. The kickstart used must match up to the OS installed. It's hard to tell before installation what version of kickstart in included on the disk until you test it.

Fix: You can boot from the Super Kickstart floppy from the early startup menu and take note of the version loaded on the kickstart screen. You can then select the correct version of the OS to install with the Super Kickstart disk you own.

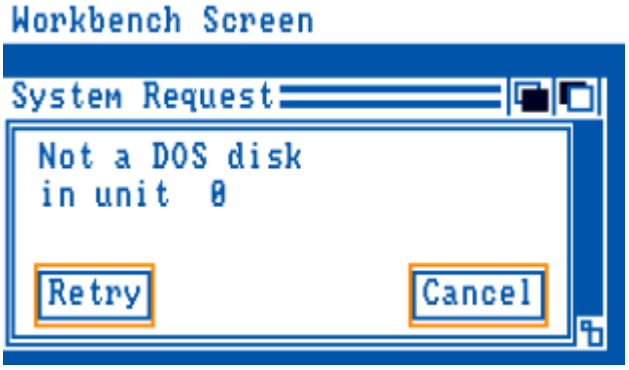
Alternatively, you can create a proper Super Kickstart to match your installed Amiga OS (in my case a v2.04, V2.01 was on my Super Kickstart disk) and manually copy it to

System2.0:devs. Bonus: you can make a new Super Kickstart disk with the version you need and use that during installation.

Finally, this isn't a big problem with the 1.3 side, as you should just use a current 1.3 disk set which will match up to the current 1.3 Super Kickstart rom.

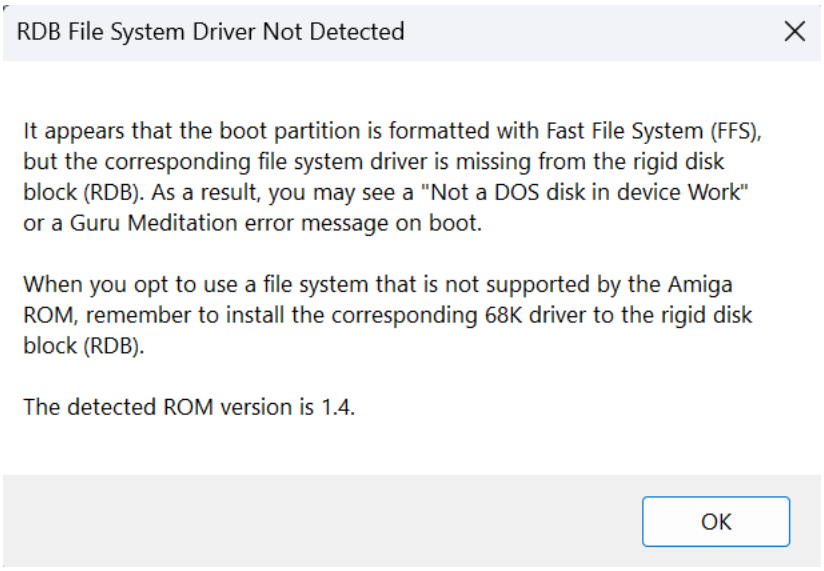
Not a DOS disk error

Error: When booting to 1.3, I get a not a DOS disk error.
Problem: Amiga OS 1.3 needs extra help to support the Fast File System
Fix: Adding l:fastfilesystem (from the A3000 Install disk) to the RDB using HDToolbox. This is now part of the manual HD prep instructions at the top of the document.



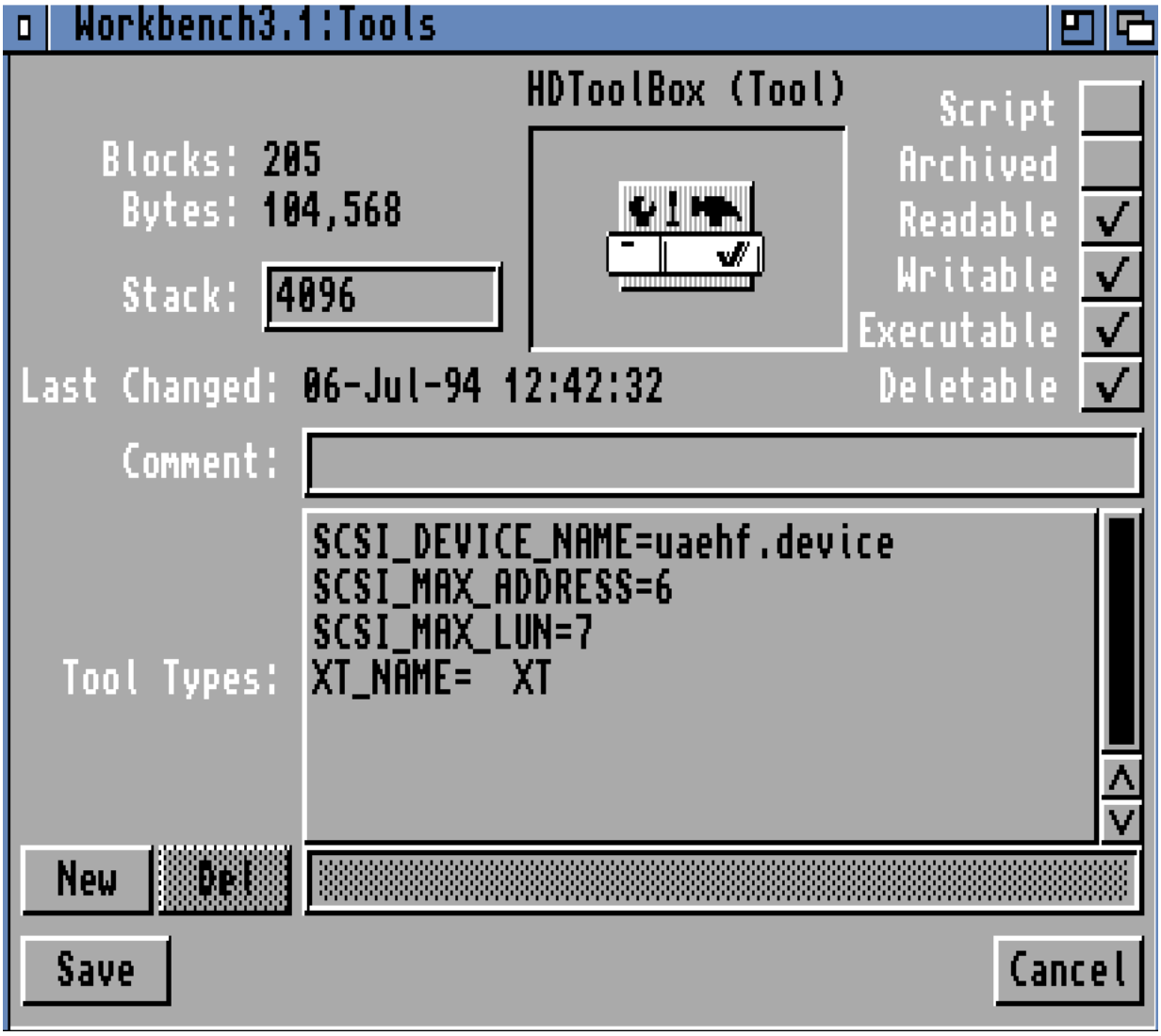
RDB File System Driver Not Detected

Error: When booting the A3000 under the 1.4 Rom and the new hard drive, AmigaForever displays this message.
Problem: This is related to the above issue with FFS not being detected on the RDB
Fix: Adding l:fastfilesystem (from the A3000 Install disk) to the RDB using HDToolbox. This is now part of the manual HD prep instructions at the top of the document.



Appendix E – Setup the HDToolbox to see your HDF under Amiga Forever Emulation

Enter the Tool Type settings for HDToolbox to see the HDF.



Appendix F - Resources

Epsilon's Blog – Amiga 3000 Build

- https://www.epsilonsworld.com/2019/08/my-amiga-3000-build-part-1.html
- https://www.epsilonsworld.com/2019/09/my-amiga-3000-build-part-2.html
- https://www.epsilonsworld.com/2019/10/my-amiga-3000-build-part-3.html

Amiga 3000 Hard Disk Setup

- https://forum.amiga.org/index.php?topic=64255.0

Prod_Prep

- Hyperion announces OS 3.1 update - Page 13

Appendix G – Prod_Prep docs from Amiga.org forums

I decided to write some preliminary documentation about Prod_Prep for those of you who would like to tinker with it, since it seems from previous posts of this thread, it is widely unknown.
This documentation is full of inacuracies, incomplete, and prone to explode :D

Prod_Prep v39.1
=========
WARNING: This is an advanced partitioning and format tool. Incorrect usage will definately damage your harddisk structure. You have been warned!
Prod_Prep is the ugly but otherwise powerful brother of HDToolBox. It comes hidden, and is never installed by default. Can be located in the 3.1 floppy disk "Install3.1", inside the C: drawer. It is a very comfortable tool for automatically deploying an entire Amiga system from within a script. It lets you partition and format harddrives in a non interactive manner by feeding the program the proper instructions from a shell/script.
It is still bound to the same limitations that the 3.1 HDToolbox has. All the same warnings about HDToolBox from 3.1 apply to Prod_Prep.

TEMPLATE:
? - list all template commands
Prod_Prep [|-] [device] [unit]
  [layout] [badfile] [formatonly] [noverify] [verifyonly] [slowdown]

quit - exit this program
addpart M|K|C|%|rest
[bootable] [dostype 0x]
[buffers] [mask 0x]
[maxtransfer 0x] [customboot]
[nomount]
deletepart [noerror]- delete a partition
writerdb [force] - write out rigid disk block
format [force] - format drive
verify- check for bad sectors and map out
readfs [] [version] [dostype 0x] -read FFS from file (default l:fastfilesystem)
synch [on|off] - turn synchronous mode on or off
reselect [on|off] - turn reselect mode on or off
readrdb - reads rigid disk block from drive

Examples:

Prod_Prep layout.script device scsi.device unit 0
; In here, layout.script is a file that should only contain the list of instructions that will alter the drive 0 structure that is connected to scsi.device

; layout.script file contents example:

addpart Workbench: 200M bootable 1 dostype 0x444f5303 buffers 300
addpart Work: rest dostype 0x444f5303 buffers 300
format force
readfs Install3.1:L/FastFileSystem dostype 0x444f5303
reselect on
writerdb force
quit

; End of sample layout.script file (do not add any comments to your script file!).

; This will create 1 bootable, already formatted partition named Workbench: using FFS intl/nodircache of 200MB in size.
; Will also create another non-bootable partition called Work: using FFS intl/nodircache using the rest of the drive remaining space.
; The filesystem used will come from Install3.1:L/FastFileSystem

It is important for the correct use of this tool to understand that each single filesystem buffer will take away 1KB of ram from your system, so if you analyze the example above, you will realize, it will cost you 600KB of ram. The more buffers the faster your system will be able to handle big files, always at the cost of precious ram. As a suggestion, never go too low, to avoid potential issues, and if your system can handle the loss of 2MB of ram, just go nuts, and go for up to 2000 buffers. An average between 90 and 300 is what I would consider a good compromise between speed and ram usage. But the choice is yours, and it may largely depend on how your system is setup/used.

ADDENDUM: AMIGA FILESYSTEM DOSTYPES

FILESYSTEM, DOSTYPE, COMMENTS, LIMITS
PFS3_aio, 0x50465303, Amiga PFS file system 3. Even runs on a 68000 with kickstart v1.3!, Filename 107 chars/filesize 2GB/partition 104GB.
PFS3_aio, 0x50445303, Amiga PFS file system 3 SCSIdirect. Even runs on a 68000 with kickstart v1.3!, Filename 107 chars/filesize 2GB/partition 104GB.
SFS0, 0x53465300, Amiga Smart File System V1, Filename 107 chars/filesize 2GB/partition 128GB.
SFS2, 0x53465302 Amiga Smart File System V2, Filename 107 chars/filesize 2GB/partition 1TB.
FFS Intl+noDirCache, 0x444f5303, This is the most commonly used and compatible one. Came with AmigaOS >= 2.0., Filename 30 chars/filesize 2GB/partition 2GB.
FFS2, 0x444f5307, This is the one that comes with OS4. Also supports DOS 8., Filename 107 chars/filesize 2GB/partition 128TB.
FFSAIO, 0x444f5308, DOS 8. Beta status. It comes as a patch for FFS v45.13 (FFS 45.20r1)., Filename 54 chars/filesize 2GB/partition 2GB.

The scsi.device (or whatever name the harddrive interface driver has on your expanded system), has limitations of its own, and those will be imposed first, before, the ones the filesystem of your choice has.

There are many other Amiga filesystems. This does not pretend to be a complete list. Most of the missing ones, are not worth mentioning since they are not common, too old, or buggy for the average user.
« Last Edit: December 28, 2017, 01:11:06 PM by Gulliver »

Appendix Z – Notes on possible Drive/Partition Configurations

Required Dual Boot HD Setup for Amiga3000

Setup Primary drive as a real A3000 system from the install disks.
HD0 will be small to help avoid any issues with drive size for 1.3

SCSI ID0:HD0 - 60mb drive (Keep under 512mb to avoid issues)

Workbench 1_3	10mb (Boot Priority 0)
Workbench 2_x	20mb (Boot Priority 0)
Work (shared)	30mb (Not Bootable)

To Be tested. I would like to extend the default setup with dedicated drives for WB 1.3, 2.0, and WHD Load

SCSI ID1:HD1 - 60mb (Keep under 512mb to avoid issues)

Productivity 1_3	20mb (Not Bootable)
Work 1_3	20mb (Not Bootable)
Games 1_3	20mb (Not Bootable)

SCSI ID2:HD2 - 500mb (4gb theoretical limit - Max Transfer 0x1FE00 - PFS3 or AIO)

Productivity 2_x	200mb (Not Bootable)
Work 2_x	100mb (Not Bootable)
Games 2_x	200mb (Not Bootable)

SCSI ID3:HD3

WHDLoad	16GB (Not Bootable)

SCSI ID7:HD7 reserved for SCSI controller

Appendix ZZ – Upgrading 2.x to 3.1 and beyond

Options to try.

NOTE: Options 1 and 2 work great in emulation. However, I find in the real Amiga the 3.1 Superkickstart loads but the OS doesn't load. . . Not sure what's going on here. Do I need to do something with the UAEHF.device settings? Is this a device number issue? If I make the 3.1 device 5 but have 1.3 as device 1, I can only load 1.3. The early boot doesn't work.

1) Using Zebs distribution
    a. Try renaming the 3.1 partition to WB_2.x and put the 3.1 superkickstart in the Devs: folder. No WB_1.3 partition. Just try to get a bootable working Zeb dist.
        i. WORKS in emulation!!!
        ii. NOTE: I initially forgot to rename the partition Workbench partition to WB_2.x and upon boot I got a "c:loadmodule failed" error. The error is "V37 required" I'm surprised I got this far with the wrong partition name.
2) Using the Zeb HDF, can I use another HDF with just the 1.3 system? YES!!!
    a. When I have the 3.1 (WB_2.x) drive listed first (in FS-UAE) and the WB_1.3 drive listed second. The system seems to operate the same way it does with those two partitions are on the same drive.
    b. If the WB_1.3 drive is listed first, it boots into 1.3 but I seem to have trouble getting the system to boot into the WB_2.x partition on the second drive.
3) MORE OPTIONS TO TRY FOR FUN LATER.
4) Can we add WB_1.3 to the Zeb HDF?
5) Copy the 3.1 partition to a working WB_2.x/2.04 partition, with a superkickstart in the 3.1 Devs: folder.
6) Install a fresh 3.1 install into a WB_2.x partition on a fresh complete build and add the superkickstart manually.
7) Copy a classic WB partition on top of the WB_2.x partition and add the superkickstart. (Same as 1B?)
8) Create a new A3000 Install disk that will copy the 3.1 files and SuperKickstart into the WB_2.x partition during installation?
9) Use Epsilons method to "transition" the WB_2.x boot to another partition/drive