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# **SUPRADRIVE 500XP HARDWARE OPERATOR'S MANUAL**

Congratulations on purchasing the high-performance SupraDrive 500XP™ for the Amiga® 500. The SupraDrive 500XP is a revolutionary hard disk system that adds significant power to your Amiga 500. Not only does it provide much faster data transfer speeds and substantially more storage space than floppy disks, it provides the ability to add up to 8MB of Fast RAM, up to 6 additional SCSI devices, and additional Amiga bus devices as well. Plus, you can easily re-configure your system to meet your specific needs — at the flip of a switch, you can disable or enable autobooting, change your drive's SCSI device number, use an external power source, or turn the drive off while leaving the RAM on (or vice versa). And all these features fit in a sturdy, compact case that attractively matches your Amiga's styling.

This manual replaces Chapters 1 and 2 of the *SupraDrive Operator's Manual* and provides a variety of additional information. Enjoy your drive!

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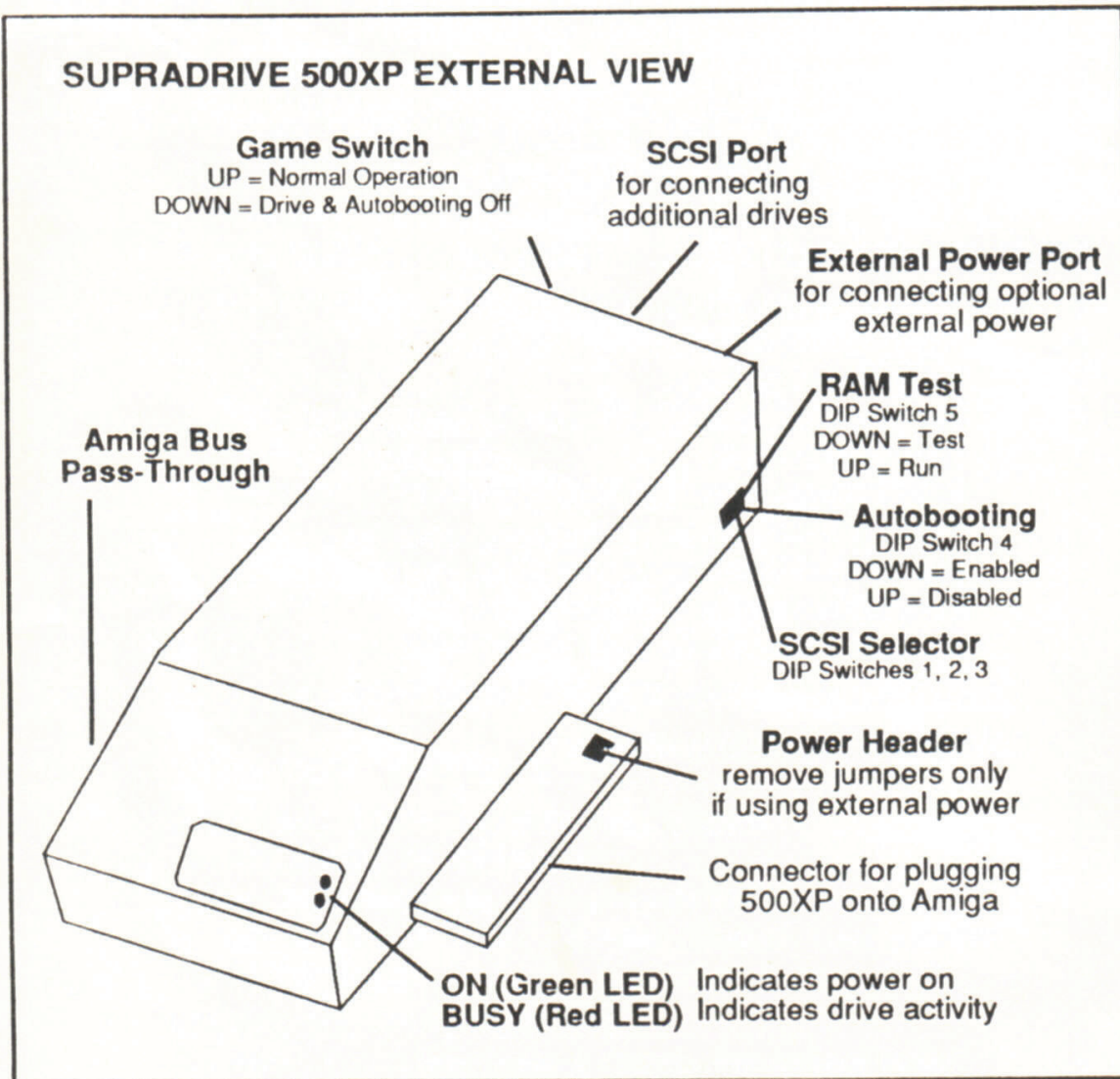
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# 1

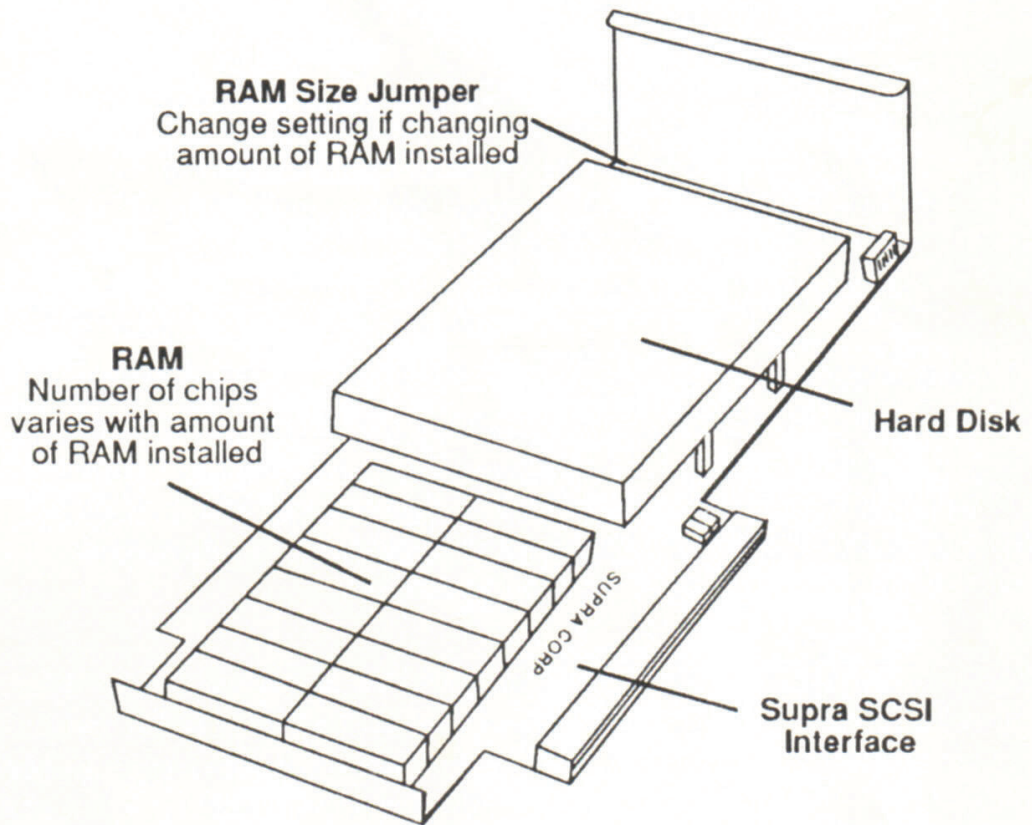
## SUPRADRIVE 500XP OVERVIEW

The following illustrations summarize SupraDrive 500XP features and settings.





### SUPRADRIVE 500XP INTERNAL VIEW



# 2

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## GETTING STARTED

### UNPACKING YOUR SUPRADRIVE 500XP

The following items should be in your 500XP package:

- SupraDrive 500XP
- software floppy disks
- manuals

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**CAUTION** — Like any hard disk, the 500XP is a very fragile piece of equipment. Be very careful when handling it. Mechanical shock, high or low temperature extremes, excessive moisture, and a sudden drop or jarring should all be avoided.

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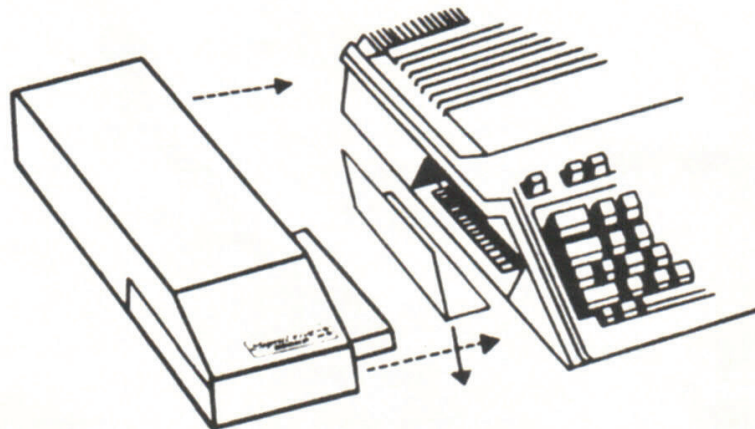
We recommend saving the 500XP's original packing materials in case you need to transport your drive.

Before using your 500XP, please make back-up copies of all the Supra program diskettes that came with your drive. For your convenience, none of these are copy protected.

## CONNECTING YOUR SUPRADRIVE 500XP

### Connecting Your Drive to Your Computer

To connect your SupraDrive 500XP, simply remove the cover from your Amiga 500's expansion slot (it's on the left side of your Amiga) and plug your 500XP onto the expansion slot, as shown below.



*Remove Expansion Port Cover*

### Adding RAM to Your System

The SupraDrive 500XP comes with 512K, or 1, 2, 4, or 8MB of RAM installed. If your 500XP contains less than 8MB of RAM, you can add more RAM when it's convenient for your needs or budget. If you want to add RAM to your SupraDrive, follow the instructions in Chapter 3, in the section called "Installing RAM in the SupraDrive 500XP."

In addition to the RAM installed in the SupraDrive 500XP, you can use other RAM boards that install in your computer. When adding RAM to your system, remember that the maximum amount of Fast RAM your system can use is 8MB.

## BOOTING YOUR SYSTEM

"Booting" means turning on a system's power and giving it the software it needs to operate. Supra offer two ways to boot your hard disk system:

- traditional booting from a floppy disk
- "autobooting," which causes your hard disk and computer to boot without a floppy disk

### Booting From Floppy Disk

To boot your system from a floppy disk, first insert the SupraBoot disk in your floppy disk drive. Then turn on your Amiga (unless your 500XP has an external power source).

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**NOTE** — *If your 500XP has an external power source: Turn on your 500XP, and then turn on your Amiga. (If both are connected to a power strip, you can turn on both simultaneously by flipping the power strip switch.) Do not turn on your Amiga before you turn on your 500XP, or you may damage your system.*

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After you turn on your Amiga, the Amiga start-up sequence will run. When it is completed, you'll see the Workbench screen, one icon for each SupraDrive partition, and the SupraBoot disk icon. If this fails to occur, refer to Chapter 4.

Once the Workbench and icons appear, your 500XP is completely functional and can be accessed just like a floppy drive. You can copy files to and from the drive, copy files between partitions, and access directories on individual partitions.



## Autobooting

### Do You Need to Turn Off Autobooting?

When shipped, all SupraDrives are set so your hard disk boots automatically (autoboots) when you turn on your computer.

If you have a **Kickstart 1.2** ROM in your computer, you need to disable autobooting or obtain the latest version **Kickstart** ROM from your computer dealer. You also might want to disable autobooting if you have a specific program that won't function when your system has been autobooted.

To determine if you have a **Kickstart 1.2** ROM, boot your Amiga without the 500XP installed and without a floppy disk in your floppy drive. If your Amiga asks for **Workbench 1.2**, you have a **Kickstart 1.2** ROM. Otherwise you have **Kickstart 1.3** or later (and you can skip this section).

To disable autobooting, move DIP switch #4 (on the side of the SupraDrive 500XP case) to the UP position. (To enable autobooting, simply move DIP switch #4 DOWN.) When autobooting is disabled, you can access your drive, but you must boot your system from a floppy disk as explained in the previous section.

### How to Autoboot

If you have a **Kickstart 1.3** or later ROM in your computer, you can autoboot your system by simply turning on your Amiga without a bootable floppy disk in **df0:** (unless your 500XP has an external power source).

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**NOTE** — *If your 500XP has an external power source: Turn on your 500XP, and then turn on your Amiga. (If both are connected to a power strip, you can turn on both simultaneously by flipping the power strip switch.) Do not turn on your Amiga before you turn on your 500XP, or you may damage your system.*

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After you turn on your Amiga, the Amiga start-up sequence will run. When it is completed, you'll see the **Workbench** screen and one icon for each SupraDrive partition. If this fails to occur, refer to Chapter 4.

Once the **Workbench** and icons appear, your 500XP is completely functional and can be accessed just like a floppy drive. You can copy files to and from the drive, copy files between partitions, and access directories on individual partitions.

### **Miscellaneous Booting Information**

Some program disks will not let you use the **SupraBoot** disk to boot your hard disk. These programs are usually copy-protected. To use one of these programs, you must boot using the program disk. Then, depending on the particular program, you may or may not be able to access the hard disk while using the program. The section in Chapter 3 called "Disabling 500XP Functions" provides more information on using these types of programs.

If you have more than one SupraDrive or more than one SCSI device connected to your system, the Supra booting software will start looking for the boot partition on SCSI device Ø, then will look on SCSI 1, and so on. The first boot partition found will be used to boot the system. Any other boot partitions will be mounted but not be used for autobooting.

## **RESETTING YOUR SYSTEM**

Occasionally, the 500XP manuals tell you to reset your system. Amiga computers offer two types of resets: hard and soft. If a reset type is not specified, either reset will work.

To perform a hard reset (also called a cold reboot), turn off your computer, wait approximately 30 seconds (to let the drive spin down and the RAM clear), and then turn your system on again.

A soft reset (also called a warm reboot) lets you reset your system without turning your computer off. To perform a soft reset, simultaneously hold down the **CONTROL** key and both large "AMIGA" keys (located at either side of the space bar).

## PARKING YOUR SUPRADRIVE 500XP

Every SupraDrive has an internal read/write head that skims along the surface of magnetic media. Sudden mechanical shocks or impact can cause this head to mar the surface of the disk, causing permanent damage. To prevent this from happening while the drive is being moved, the drive head must be "parked" in a special area of the drive to keep it secure.

The hard disk mechanisms used in SupraDrive 500XPs are "auto-parking," meaning the heads park automatically whenever the 500XP is powered down. However, if you have added non-Supra drives or older SupraDrives to your system, you need to use the **Park** program to "park" the drive heads in these drives.

Before parking a drive, *make sure that all other drive access has completed.* Then to park the drive, run the **Park** utility that came with your SupraDrive. (This will park all drives in your system.) Wait for the message that the hard disk is parked, and then turn off your system as described in the next section. The next time you use the drive, the head will automatically be "unparked."

If, after running **Park**, you don't wait for confirmation that your drive is parked, AmigaDOS™ may "validate" your hard disk the next time you boot up. This does not cause any damage, but it takes from 5 to 20 minutes and causes the system to appear to freeze up.

## TURNING OFF YOUR SYSTEM

Simply turn off your computer to turn off your entire system (unless your 500XP has an external power source).

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**NOTE** — *If your 500XP has an external power source: Turn off your Amiga, and then turn off your 500XP. (Or, if you have them both connected to a power strip, turn them both off at once by flipping the power strip switch.) Never turn off the 500XP before turning off the Amiga. If you turn off the 500XP first, you may damage your Amiga bus.*

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## READING UPDATES TO THIS MANUAL

Information on product features that change after this manual is printed are included in the **ReadMe** folder on **SupraTools**. The **ReadMe** folder also contains files that explain topics such as those listed below, which are particularly volatile or beyond the scope of this manual:

- connecting additional SCSI devices to your system (daisy-chaining)
- using **SupraRAMTest**
- using a file system other than the original Amiga file system or the **Fast File System**

# 3

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## CONFIGURATION OPTIONS

### CONNECTING YOUR SUPRADRIVE 500XP AND ADDITIONAL PERIPHERALS

#### Using Other Amiga Bus Peripherals With Your 500XP

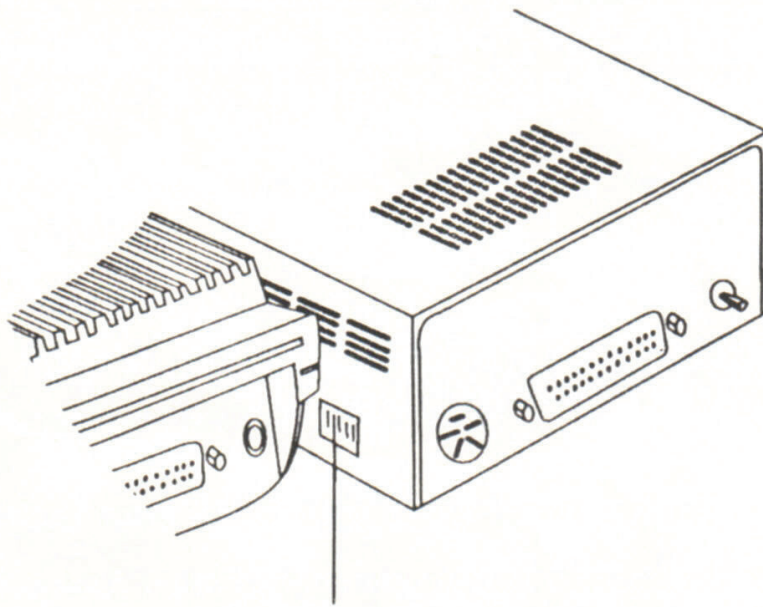
In addition to the SupraDrive, you can connect other Amiga bus peripherals to your Amiga's expansion bus (where the SupraDrive 500XP connects). If you choose to connect additional Amiga bus peripherals, you may need to experiment to determine the ideal order of peripherals so that each peripheral works properly. Peripherals that don't allow additional expansion devices to be attached must be connected to the 500XP's Amiga pass-through port.

#### Connecting More Than One Hard Drive to Your System (Daisy-Chaining)

The SCSI port on the back of the SupraDrive 500XP lets you connect up to six (6) additional SCSI devices to your system. For a complete explanation of daisy-chaining and SCSI device numbers, refer to the **ReadMe** folder on your hard disk or on the **SupraTools** floppy disk.

If you have more than one hard drive connected to your system, you need to make sure each drive has a different SCSI device number. When shipped, the SupraDrive 500XP is set to SCSI device number 0.

The SupraDrive 500XP makes it easy to change your drive's SCSI device number. First, turn off your system. Then find the DIP switches labeled 1, 2, and 3 on the side of the 500XP case, as shown.



**SCSI Selector**  
(DIP Switches 1, 2, 3)

To set the SupraDrive's SCSI number, simply move SCSI DIP switches 1, 2, and 3 as follows.

	SCSI #0	SCSI #1	SCSI #2	SCSI #3	SCSI #4	SCSI #5	SCSI #6	SCSI #7
DIP 1	DOWN	UP	DOWN	UP	DOWN	UP	DOWN	don't use this
DIP 2	DOWN	DOWN	UP	UP	DOWN	DOWN	UP	
DIP 3	DOWN	DOWN	DOWN	DOWN	UP	UP	UP	

After setting your SCSI number, turn your system on and it is ready to use.

## **DISABLING 500XP FUNCTIONS**

Unfortunately, some software (mostly games) doesn't work well when used with expansion devices on the Amiga. Most of the time, these problems occur because of the copy protection schemes that the software uses. The 500XP has been designed to let you get around most of these conflicts.

### **Disabling Your Hard Drive & Continuing to Use RAM**

Some software may not boot properly when used with a hard drive. (The manuals for such software should tell you this.) If you have this problem, you can easily disable your hard drive and continue to use the 500XP's expansion RAM.

To disable the drive, first turn off your system. Then flip the Game Switch (on the back of the 500XP) DOWN, put your program floppy disk in `df0:`, and turn on your system.

To enable the drive again, turn off your system, flip the Game Switch UP, and turn on your system.

### **Disabling Your RAM & Continuing to Use Your Hard Drive**

The other possible problem is software that works fine with a hard drive, but does not work with any additional RAM. (This also is fairly rare.) You can get around this problem by disabling the RAM.

To disable the RAM, move DIP switch #5 (on the side of the 500XP) DOWN and reboot your system. To use the RAM again, move DIP switch #5 UP, and reboot.

## ADDING RAM TO YOUR 500XP

The SupraDrive 500XP can be purchased with 512K, or 1, 2, 4, or 8MB of RAM installed. If your 500XP contains less than 8MB of RAM, you can add more RAM when it's convenient for your needs or budget.

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**CAUTION** — It is strongly recommended that only someone with electronics experience (i.e. your computer dealer) add the RAM chips to the SupraDrive. Improper installation can ruin the board and/or the chips.

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Before installing RAM, do all of the following:

1. Turn off and unplug your computer.
2. Unplug the 500XP from the computer.
3. Remove six (6) screws from your 500XP case: two from the front, two from the side, and two from the top. Don't remove any screws from the bottom of the case!
4. Remove your 500XP case top, being careful not to bend the ON and BUSY light (LED) wires.

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**CAUTION** — Make sure that you ground yourself (discharge static electricity) before touching the RAM or the 500XP interface. Then ground yourself several more times while installing the RAM.

The easiest way to ground yourself is to touch the 500XP case or some other grounded metal surface. Also, to avoid generating additional static electricity, do not perform the installation in a room with carpeted floors. If you must be in a carpeted room, don't move your feet much during the installation.

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To install RAM in the SupraDrive 500XP, you'll perform three basic steps:

1. Insert the RAM chips.
2. Set the RAM size jumpers.
3. Test the RAM.



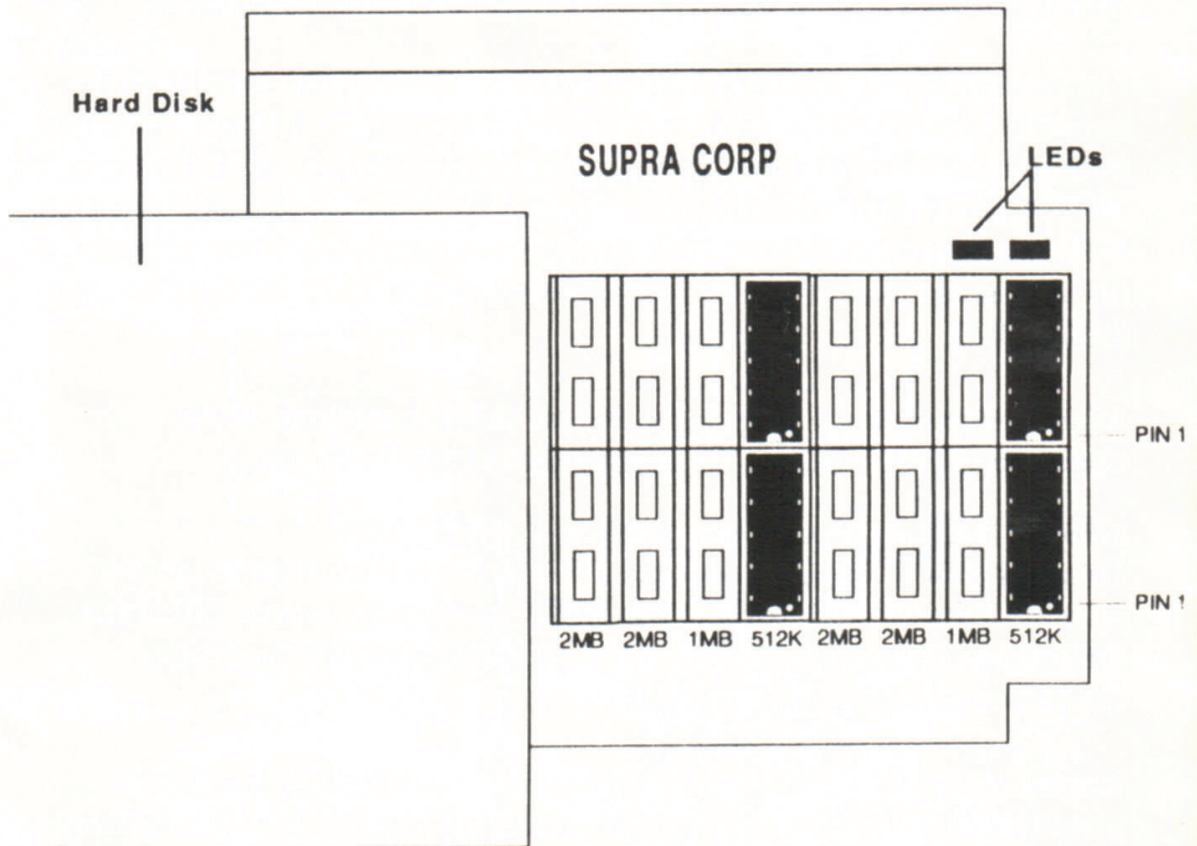
## Inserting the RAM Chips

The SupraDrive 500XP is designed to use two different kinds of memory chips for expansion. Using 256K x 4 DRAMs (1 megabit), you can configure the 500XP with 512K, 1MB, or 2MB of RAM. For expansion above 2MB, you must use all 1Mbit x 4 DRAMs (4 megabit) on the 500XP board. These DRAMs allow 2MB, 4MB, and 8MB configurations.

### Up to 2MB with 256K x 4 DRAM DIPs

The RAM used for 512K, 1MB, and 2MB configurations must be 256 Kbit x 4 DRAM (DIP) chips, 120 nanoseconds or faster. For 512K, you'll need 4 chips; for 1MB, you'll need 8 chips; and for 2MB, you'll need 16 chips. If you need assistance obtaining RAM chips, please contact Supra Corporation Sales or your local computer dealer.

The RAM chips are inserted in the sockets toward the front of the 500XP. (Be sure to place each RAM chip so that its notched or indented end (pin 1) is away from the LEDs.) To install 512K, insert the four chips in the sockets next to the 512K labels, as shown.



To install 1MB, fill all 8 sockets next to the 512K labels and the 1MB labels. To install 2MB, fill all 16 sockets.

After inserting the RAM chips, follow the instructions in the upcoming section called "Setting the RAM Size Jumpers."

#### **2MB or More with 1Mbit x 4 DRAM DIPs**

For 2, 4, or 8MB RAM configurations, the 500XP is designed to accept — directly on the board — 1 Mbit x 4 DRAM chips (4 megabit) in a 300 mil DIP package. At the time this manual was written, however, 1Mbit x 4 DRAMs were mainly available in the ZIP package. These instructions are provided for a time when these DIP chips become commonly available.

The DIP RAM used for 2MB, 4MB, or 8MB configurations must be 1 megabit x 4 DRAM (DIP) chips, 120 nanoseconds or faster. For 2MB, you'll need 4 chips; for 4MB, you'll need 8 chips; and for 8MB, you'll need 16 chips. If you need assistance obtaining RAM chips, please contact Supra Corporation Sales or your local computer dealer.

The RAM chips are inserted in the sockets toward the front of the SupraDrive. (Be sure to place each RAM chip so that its notched or indented end (pin 1) is away from the LEDs.) To install 2MB, insert the four chips in the sockets next to the 512K labels, just like the 1MB configuration shown in the previous section. To install 4MB, fill all 8 sockets next to the 512K labels and the 1MB labels. To install 8MB, fill all 16 sockets.

After inserting the RAM chips, follow the instructions in the upcoming section called "Setting the RAM Size Jumpers."

#### **2MB of RAM or More with 1Mbit x 4 DRAM ZIPs**

To allow you to use ZIP package DRAM, we have designed an add-on board that simply adapts the 500XP sockets to accept ZIP chips. To get this board, please contact your local dealer or the Supra Corporation Sales Department.

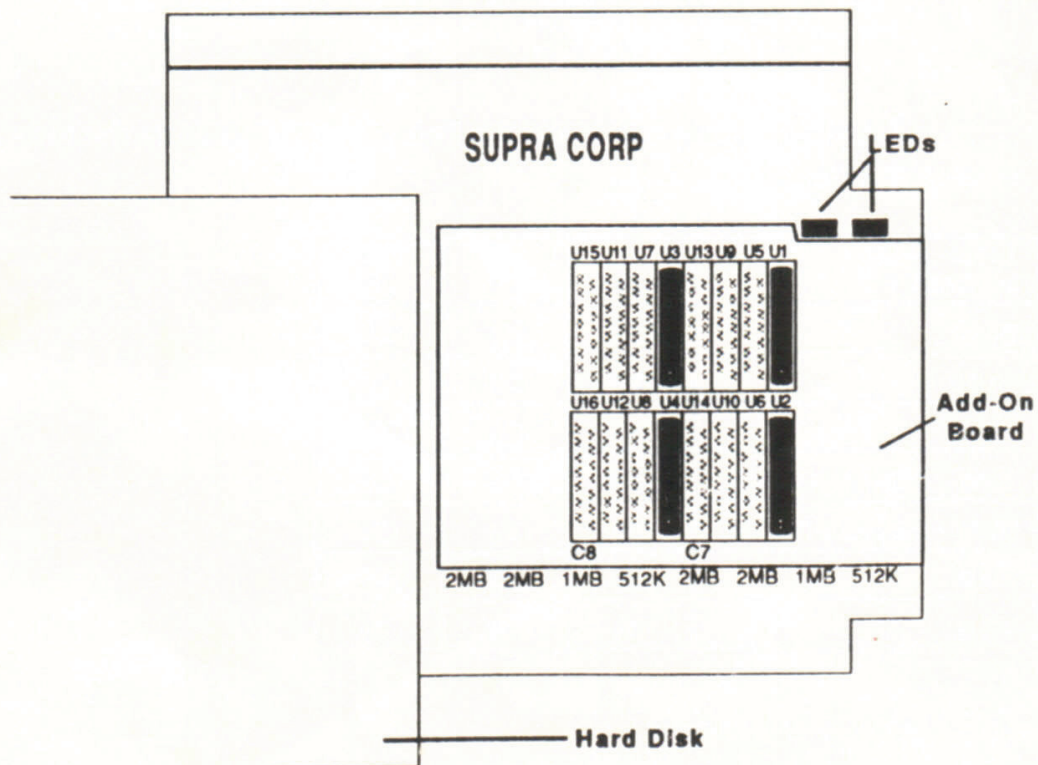
Installing 2, 4, or 8MB of RAM in your system involves four steps: installing the RAM add-on board, inserting the RAM chips, setting the RAM size jumpers, and testing the RAM.

To install the add-on board, follow these steps:

1. Remove all RAM already installed on the Supra SCSI Interface.
2. Orient the board over the interface's built-in RAM sockets so that the "notched" corner of the add-on board is near the 500XP LEDs and the add-on board's C7 and C8 labels line up with the interface's 2MB and 1MB labels, respectively.
3. Gently, but firmly, press down the add-on board until it fits snugly onto the interface. You may find it helpful to look at the board from the side to verify that the add-on board is parallel to the interface and pushed down into place correctly.

Before inserting the RAM chips, make sure you have what you need. The ZIP RAM used for 2MB, 4MB, or 8MB configurations must be 1 megabit x 4 DRAM (ZIP) chips, 120 nanoseconds or faster. For 2MB, you'll need 4 chips; for 4MB, you'll need 8 chips; and for 8MB, you'll need 16 chips. If you need assistance obtaining RAM chips, please contact Supra Corporation Sales or your local computer dealer.

The RAM chips are inserted in the sockets toward the front of the SupraDrive. (Be sure to place each RAM chip so that its notched or indented end (pin 1) is away from the LEDs.) To install 2MB, insert the four chips in the sockets next to the U1, U2, U3, and U4 labels, as shown below.

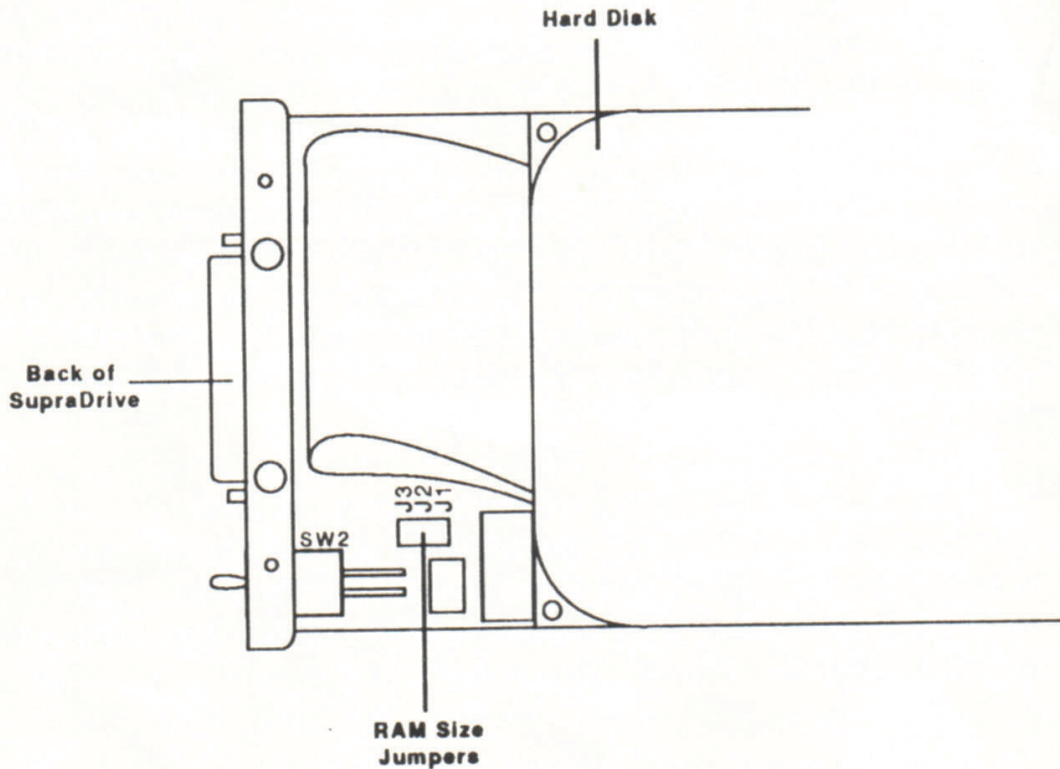


To install 4MB, fill all 8 sockets next to the U1, U2, U3, U4, U5, U6, U7, and U8 labels. To install 8MB, fill all 16 sockets.

After inserting the RAM chips, follow the instructions in the next section, "Setting the RAM Size Jumpers."

### Setting the RAM Size Jumpers

After installing RAM, you need to set the J1, J2, and J3 jumpers appropriately. These jumpers are near the back of the SupraDrive, under the hard disk's ribbon cable, as shown below:



Set the RAM size jumpers as shown below. "ON" means the jumper is on the header.

Total RAM In 500XP	J1	J2	J3
Ø	OFF	OFF	OFF
512K	OFF	ON	ON
1MB	OFF	ON	OFF
2MB (256K x 1 DRAM)	OFF	OFF	ON
2MB (1Mbit x 4 DRAM)	ON	OFF	ON
4MB	ON	OFF	OFF
8MB	ON	ON	ON

## Testing RAM

After installing the RAM, test it by following the steps below.

1. Locate DIP switch #5, which is used to switch the RAM between Test Mode and Run Mode. Push DIP switch #5 DOWN (putting the RAM in Test Mode).
2. Without replacing the 500XP case top, connect your 500XP to your Amiga 500, make sure that nothing is touching the inside of the interface, and power up your system.
3. Run **SupraRAMTest** from Workbench by clicking on its icon (it's on the **SupraTools** disk) or from CLI (it's in the `c:` directory of the **SupraBoot** disk). Let the RAM test program run for at least one pass, which takes from 2 to 32 minutes, depending on how much RAM is installed. If you need more information, refer to the **SupraRAMTest** documentation that is in the **ReadMe** folder on your hard disk or on the **SupraTools** floppy disk.

If **SupraRAM Test** reports a problem with your RAM, refer to Chapter 4 for information on correcting the problem.

4. When you are done testing the RAM, turn off your system.
5. Disconnect the 500XP from your computer.
6. Move DIP switch #5 UP, so the RAM is in Run Mode.
7. Replace the 500XP case top — carefully lining up the LEDs in their holes — and replace the screws that hold the case together.
8. Connect the 500XP to your computer, and your RAM is ready to use.

# 4

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## TROUBLESHOOTING

### SOLVING PROBLEMS YOURSELF

If you have trouble connecting or using your SupraDrive 500XP and you have followed the instructions in this manual, please try the potential solutions in this section. The "Troubleshooting" chapter in the *SupraDrive Operator's Manual* may also be helpful. In situations where that manual and this one conflict, rely on this manual for more current and accurate information.

If you still have trouble after trying the suggestions in this section, please refer to the section called "Contacting Supra Technical Support" toward the end of this chapter.

#### Do This First

*Before trying any other idea, make sure your 500XP is securely connected to the Amiga. Also verify that the 500XP connector that attaches to the Amiga is clean (ensuring a complete connection) and that there is ample airflow around the SupraDrive.*

#### Drive Won't Spin Up

If you can't hear your drive "spin up," first make sure your game switch is up, so the drive is on. If the drive still won't spin up, you might need an external power supply for your SupraDrive. The Commodore A590 power supply (or equivalent) can be used to power the SupraDrive. To get an external power supply, please contact your local dealer or Supra Corporation's Sales Department.

## **System Won't Autoboot, and Computer Prompts for Workbench Disk**

If your computer prompts you for the Workbench disk, you might have autobooting disabled, or, if you have multiple drives connected to your system, your drive's SCSI device number might be set incorrectly. To enable autobooting, move DIP switch #4 down. To learn how to set SCSI device numbers, refer to the section called "Connecting More Than One Hard Drive to Your System (Daisy Chaining)" in Chapter 3.

## **Screen Is Blank When Trying to Boot**

If you try to boot your system and your screen is blank (without even the request for the Workbench disk), one of the following is probably the problem:

- You have version 1.2 Kickstart ROMs in your computer, and autobooting is enabled on your SupraDrive 500XP (DIP switch #4 is down). Unless you get Kickstart 1.3 or later ROMs, autobooting *must* be disabled (DIP switch #4 up) on your 500XP before you can use your system. Contact your dealer to get the latest version Kickstart ROM, or disable autobooting by moving DIP switch #4 up. The "Booting" section in Chapter 2 provides more information.
- You have a problem with your Kickstart 1.3 or later ROMs. Contact your dealer for assistance.
- You have RAM or autoboot file problems as described in the section "System Won't Boot, or System Locks Up."

## **System Won't Boot, or System Locks Up**

If you are using other Amiga bus peripherals in addition to your 500XP, and your system is not working properly, try the suggestions in the section in Chapter 3 called "Using Other Amiga Bus Peripherals With Your SupraDrive."

If you are trying to use a game (or other program) and your system won't autoboot, or if your system starts to autoboot and then locks up, the game won't work with autobooting. To overcome this problem, flip the game switch on the back of the SupraDrive, and then boot your system from your game disk.

If your computer's ON light blinks but your system does not come up, put the Game Switch (on the back of the 500XP) in the UP position, put the RAM in Test Mode (DIP switch #5 DOWN), and disable autobooting (DIP switch #4 UP). Then try to reboot your system.

- If your system doesn't boot, contact your local dealer or Supra Technical Support for assistance.
- If your system boots, the problem is your RAM or an autoboot file. Move DIP switch #5 UP (putting the RAM in Run Mode), but leave DIP switch #4 UP (leaving autobooting disabled). Then try to boot again.
  - If your system boots, your RAM is fine, and the problem is an autoboot file. Boot your system from **SupraBoot**, and run **SupraAutoInstall** as described in the *SupraDrive Operator's Manual*. If this does not solve the problem, contact Supra Technical Support for further assistance.
  - If your system doesn't boot, the problem is the RAM. Put your RAM in Test Mode (by setting DIP switch #5 DOWN), and then run **SupraRAMTest** as described in the "Testing RAM" section of Chapter 3. If **SupraRAMTest** reports errors, refer to the list in the section in this chapter called "SupraRAMTest Errors and RAM Problems."

You may also be draining too much power from your Amiga 500. In this case, you need to add an external power supply to one or more of your expansion devices. The Commodore A590 power supply (or equivalent) can be used to power the SupraDrive 500XP. To get an external power supply, please contact your local dealer or Supra Corporation's Sales Department.



## **SupraRAMTest Errors and RAM Problems**

If you get errors when you run **SupraRAMTest**, check all of the possibilities listed below. If you still have problems, contact your local computer dealer or Supra Technical Support.

The most likely cause of RAM problems are:

- RAM chip orientation. Refer to the "Adding RAM to Your SupraDrive 500XP" section in Chapter 3 to learn proper chip orientation.
- Bent under RAM chip pins. VERY carefully straighten the pins and place the chips in the sockets.
- Chips that were "zapped" by static electricity during handling. Contact your local dealer to obtain new RAM chips.
- RAM size jumpers set incorrectly. Refer to the "Adding RAM to Your SupraDrive 500XP" section in Chapter 3 for the correct settings.

## **System Not Using Available Memory**

If you have a different amount of RAM installed than your computer recognizes, your RAM might be set to Test Mode, or your RAM size jumpers might be set incorrectly. The RAM must be set to Run Mode for your system to take advantage of it. When DIP switch #5 is UP, the RAM is in Run Mode. The section called "Setting the RAM Size Jumpers" in Chapter 3 explains how to set these jumpers correctly.

## **Guru or Computer's Red Light Blinks**

If your system "Guru"s frequently or your computer's red light blinks (rather than staying solid), your RAM size jumpers may be set incorrectly, or you may have problems with your RAM. To learn the correct jumper settings, refer to the "Adding RAM to Your SupraDrive" section in Chapter 3. To test your RAM, run **SupraRAMTest** as described in the "Testing RAM" section in Chapter 3. If **SupraRAMTest** reports errors, refer to the list in the section in this chapter called "SupraRAMTest Errors and RAM Problems."

## CONTACTING SUPRA TECHNICAL SUPPORT

If you have tried the suggestions in this chapter and still cannot get your 500XP to work, please contact your local dealer, or call Supra Technical Support at (503) 967-9081 between 9 a.m. and 4 p.m. PST, Monday through Friday.

Before you call, have a pencil and paper ready to take notes, and if possible, be next to your computer when you call. Also, if possible note the version number of your hard disk utility software, and give this number to the service representative you talk to.

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**NOTE** — Do not return any equipment for service without first contacting us and obtaining a Return Materials Authorization (RMA).

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In most cases, your problem can be solved over the telephone. However, if you do need to send your 500XP to us, be sure to pack it in both the original packing materials (if available) and a *second, sturdier* box. The original 500XP packing materials are not adequate to protect your drive during shipping, and if you neglect to put your drive in a sturdier box, *you risk damaging the drive.*

Please note that you are responsible for paying shipping charges to and from Supra Corporation.

## ONE YEAR LIMITED WARRANTY

### **Our Warranty to you:**

Supra Corporation (Supra) warrants that for a period of one year from the date of **original** retail purchase, our products will be free from defects in material and workmanship. If you discover a defect covered by this warranty, we will repair or replace the product at our option using new or remanufactured components. **Supra's liability is limited solely to the repair of the defective product.**

**How to obtain repairs under this warranty:**

To obtain free repairs under this warranty you must deliver the product and the original sales receipt to the dealer you purchased this product from or to Supra Corporation. If you decide to return the product to Supra, you must first call Supra's technical support department and obtain a return materials authorization number (RMA), as explained in the previous section. You are responsible for paying shipping costs to and from Supra.

**Product failures not covered by this warranty:**

This warranty covers defects in manufacture that arise from correct use in a home or office environment. It does not cover damage caused by abuse, misuse, improper modification or repair, moisture, corrosive environments, shipping, or high voltage surges from external sources such as power line, telephone line, or connected equipment. This warranty also does not apply to any product with an altered or defaced serial number.

**Limits of Supra's liability:**

We are only responsible for the repair of this product. We will not be liable to you or anyone else for any damages that result from the failure of this product or from the breach of any express or implied warranties. These include damage to other equipment, lost data, lost profits, or any consequential, incidental, or punitive damages. **IN NO EVENT WILL SUPRA BE LIABLE FOR ANY AMOUNT GREATER THAN THE CURRENTLY SUGGESTED RETAIL PRICE OF THIS PRODUCT.**

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