

**RapidFire  
SCSI II  
and  
RAM Expansion**

**Installation and  
User Guide**

by DKB

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# Installation and User's Guide

## I. Introduction

Thank you for purchasing the DKB RapidFire expansion board, the easy and economical way to add RAM expansion and SCSI compatibility to your Amiga 2000, 3000, or 4000. The RapidFire has the features you want:

- SIMM sockets that make it a snap to add from 1 to 8 megabytes of RAM. Since the RapidFire uses industry-standard 72-pin memory modules, you'll be able to take this memory with you WHEN you upgrade, whether you go to an Amiga 4000, or even an IBM or Mac computer.
- The on-board SCSI controller allows you to add the full array of SCSI devices, including massive hard drives, CD-ROM drives, removable media drives, etc. The RapidFire's hard-card design allows you to mount a standard 3.5" drive directly to the card, without using one of the computer's drive bays.
- Every board is backed by DKB's famous customer service. When you call our technical support line, you'll talk to a real person who will help you solve your problem.

Installing the RapidFire is as easy as removing your computer's cover, plugging the board in, and replacing the cover. Adding memory and preparing a SCSI drive requires a few additional steps, however, so we hope you'll look through this manual first, in order to familiarize yourself with the board's operation.

## II. Adding Memory to the DKB RapidFire

### A. Purchasing a Memory Module (SIMM)

If your DKB RapidFire board didn't come with any memory, you may want to buy and install a module or two before plugging the board into your computer. The DKB RapidFire uses the same industry-standard Single In-line Memory Module (SIMM) as the Amiga 4000, and most IBM and Macintosh computers. These SIMMs are available from Amiga dealers, as well as chain stores such as Computer City and CompUSA. If you are unable to find the proper SIMMs, please contact DKB for information on where to obtain them.

If you buy your SIMM from a dealer who is not familiar with the Amiga, ask for "a 72-pin SIMM that is 32 bits wide". For example, a four-megabyte module would be a "72-pin 1 Meg by 32 SIMM." You can use

any of the 1, 2, 4 or 8 megabyte modules with a speed of 80 nanoseconds or less. If you're thinking of buying some memory now, and adding some later, keep in mind that only certain combinations are permitted: two 2MB SIMMs, two 4MB SIMMs, or one 2MB and one 4MB SIMM. In order to maintain compatibility with the Amiga 2000, the RapidFire is limited to 8 megabytes of RAM expansion, total (6 megabytes if you have a Bridgeboard installed).

## B. Installing SIMMs and Configuring the Board

SIMM modules were designed for easy installation. Place the DKB RapidFire board in front of you, face up on the anti-static wrapper in which it was packed. Holding the module so that the side with the chips on it is facing up, tilt the front edge of the memory module down at a 45 degree angle and insert it into the socket (see Figure 1). With your thumbs at either side of the board, push the top edge of the module back until the plastic guide pins come through the holes at the sides, and the plastic retaining clips next to these guide pins latch firmly. If you ever need to remove the module, use your thumbs to push both clips away from the sides of the module, and it will swing free, making it easy for you to pull it out.

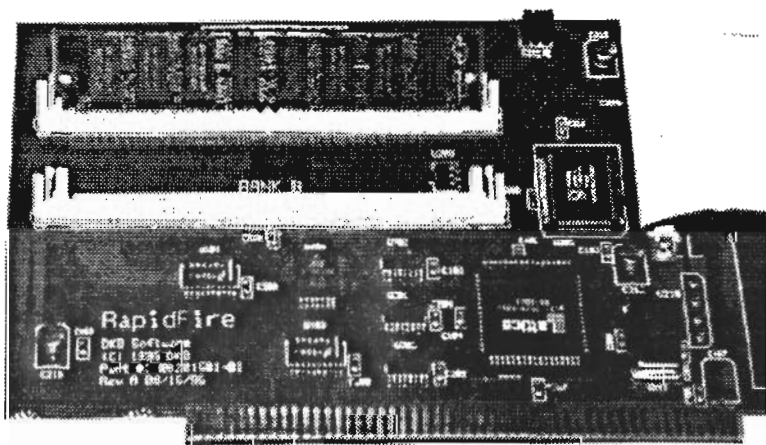


Figure 1

After you have installed the memory, you'll need to set jumpers J0, J1, and J2, in order to indicate how much RAM you have installed. The following table, which is also printed on the board itself, shows how to configure the board for every combination of SIMM modules.

BANK A	BANK B	J2	J1	J0
-----	-----	ON	ON	ON
1 MEG	-----	ON	ON	OFF
2 MEG	-----	ON	OFF	OFF
2 MEG	2 MEG	ON	OFF	ON
4 MEG	-----	OFF	ON	ON
4 MEG	2 MEG	OFF	ON	OFF
4 MEG	4 MEG	OFF	OFF	ON
8 MEG	-----	OFF	OFF	OFF

Entries in the first two columns, such as **4 MEG**, refer to the size of the SIMM module that is installed in that socket. A row of dashes means that no SIMM module is installed in the socket. To set a jumper **ON**, as indicated in columns 3-5 of the chart, cover both pins with a black plastic shorting block. To set the jumper **OFF**, move the shorting block so that it only covers one pin.

### III. Installing a SCSI Drive

The RapidFire board allows you to install a SCSI drive in any of three ways:

- 1) You can install either a 5.25" or 3.5" drive in an empty drive bay inside of your computer.
- 2) You can install a 3.5" drive directly on the RapidFire card, "hardcard" style.
- 3) You can connect an external drive of any size to the external 25-pin connector on your RapidFire card's end bracket.

There are three steps to installing a drive:

- A) Physically mount the drive in your system.
- B) Plug in the logic cables and power cables that connect the drive to your RapidFire board and to the system.
- C) Partition and format the drive, using the included RapidSet software. You'll find all of the details for this procedure in the RapidSet installation guide, and on-line manual.

#### A1. Mounting a Drive in an Internal Drive Bay

- 1) Position the drive inside of your computer. The Amiga 2000 has two open drive bays, a 5.25" inch opening below the floppy drive, and a 3.5" bay to the side of the floppy drive. The Amiga 3000 has one open 3.5" bay, to the side of the floppy drive. The Amiga 4000 has

one open 5.25" bay, on top of the floppy drive. You may also be able to stack a second thin hard drive on top of the existing hard drive in the Amiga 3000 or 4000. Place the drive in the bay with its smooth side up, and its component side down.

- 2) Attach the drive to the bay with screws that either go through the side of the drive bay, into the side of the drive, or that go through the bottom plate of the drive cage, into the bottom screw holes on the drive. If you're installing a 3.5" inch drive in a 5.25" bay, you'll need to buy an adapter kit at your local computer store.

## **A2. Mounting a drive to the RapidFire card**

If you don't have an empty drive bay, or you want to save your empty bay for another drive, you can mount a 3.5" drive directly to the RapidFire card. This option gives you a very portable hard drive. You can unplug the card and drive together, plug them into any other Amiga system, and immediately start using all of your programs and data. There is one drawback, however. If the drive is fairly thick, it may overhang another expansion slot and make that slot inaccessible.

- 1) Place the drive on the RapidFire card. Make sure that the holes in the RapidFire board line up with the mounting holes in the bottom of the drive, and that the power and logic cable connectors on the back of the drive are accessible (See Figure 2).
- 2) When the drive is properly positioned, thread the screws through the holes in the board, and into the mounting holes on the drive. Tighten these screws until the drive is securely fastened to the board.

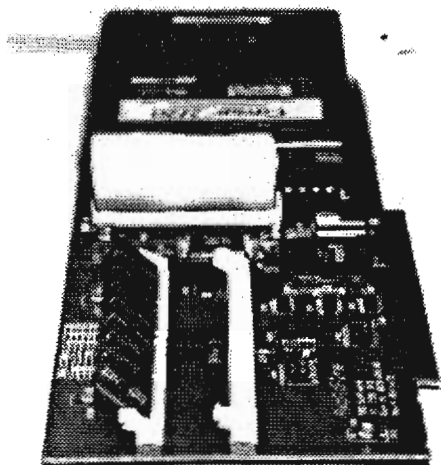


Figure 2

## B. Connecting the Logic and Power Cables

Once you've physically installed the drive, you need to connect it to the RapidFire card, and to your system:

- 1) **Hook the drive up to your computer's power supply.** You should find one or more free power cables (with a large 4-pin connector at the end) coming from the power supply. Plug this cable into the power socket on the back of the drive (the plug is keyed, so it will only fit one way). If none of the power connectors are free, you'll need to buy a "Y" cable that splits one power plug into two.
- 2) **Connect the drive to the RapidFire board with the 50-pin SCSI ribbon cable.** Plug the ribbon cable in so that the side with the red stripe is connected to pin one of the drive, and pin one of the RapidFire SCSI connector. The RapidFire board has the numeral "1" printed near pin one of the SCSI connector. Most SCSI drives have similar markings.
- 3) **If you are connecting more than one device to the RapidFire board, make sure that the SCSI chain is properly terminated.** A terminator is a device that stops the signals at the end of the SCSI bus, and prevents them from being reflected back down the cable. Without proper termination, your SCSI devices may function erratically, or may not work at all. You can connect up to seven SCSI devices to the RapidFire board, but only the last device on the chain (the one with the longest run of cable between it and the RapidFire card) should be terminated.

Most internal SCSI drives come with a terminator pack installed. This terminator usually looks like a black chip, with a single row of legs. You must remove the terminator pack from all but the last drive on the chain.

**NOTE:** The RapidFire board uses passive termination. Some of the newer SCSI drives, such as the Quantum Trailblazer series, include an active terminator, which should not be used with the RapidFire. If your drive uses active termination, consult the drive manual for information on how to disable it.

- 4). **If you are using an external SCSI device, you'll follow slightly different procedures:**
  - a) External drives usually come with their own power supply, which you plug in separately from the computer. Remember to turn on this power supply before you turn on your computer. This enables the computer to recognize the SCSI drive at power on time.
  - b) Connect the drive to the RapidFire card with an external SCSI cable. This cable has a 50-pin Centronics connector on the side that plugs

into the drive, and a 25-pin D-shell connector that mates with the plug on the RapidFire board's end bracket.

- c) External drives often use an external terminator. This is a 50-pin Centronics plug that goes in a second SCSI connector on the back of the drive. Some external drives, however, use a switch to turn termination on or off. Check your drive to see how it is terminated.

#### **IV. Installing the DKB RapidFire Board in your Amiga**

- (1) Make sure your computer is turned off. Make a note of where all cables are plugged in, and then disconnect them.
- (2) Remove the computer's metal cover.
- (3) Install any internal SCSI drives, as explained in section III, above.
- (4) Select an empty Zorro slot, and insert the RapidFire board into that slot. When considering which slot to use, keep in mind that some slots have more than one function. On the 3000 and 4000, for example, one Zorro slot overlaps the video slot (it's the bottom slot on the 3000, and the top slot on the 4000). Try to keep these dual-function slots free, in case you want to add a 24-bit graphics card, a Video Toaster, or similar device later on.
- (5) Replace the cover on your computer. Connect just the power, keyboard, mouse, and monitor cables, and turn the computer on. If your system boots normally, continue to the next step. If the computer fails to boot properly, turn it off at once, and consult the Troubleshooting section, below.
- (6) If you've connected a SCSI device either to the internal 50-pin header or the external 25-pin plug, you must configure the device before using it, with the included RapidSet software. See the separate RapidSet installation guide and on-line manual for more details.

#### **V. Trouble Shooting**

The DKB RapidFire is easy to use, and normally its operation should be trouble free. If you are having a problem, however, we suggest that you check the following:

- (1) Is the power cable firmly connected to the computer, and to the wall outlet?. Make sure that there is power coming from the wall outlet.
- (2) Are the SIMM modules (if used) correctly seated in the socket and locked into place? Are the memory configuration jumpers set properly?
- (3) Is the DKB RapidFire board itself seated firmly in the expansion socket? You may want to try installing the board in another slot, to rule out possible problems with the slot that you've chosen.



(4) Are all expansion devices and cables correctly and firmly attached to the computer? If you're using a SCSI drive, make certain that the logic cable is plugged in firmly at both ends, with pin 1 of the drive connected to pin 1 of the RapidFire board. Also, make sure that the cable from the power supply is plugged firmly into the drive, and that the drive is actually getting power (you should hear the sound of the drive spinning up when you turn on the computer).

If you are unable to get your computer working properly, or are experiencing any difficulty in any step of the installation process, please do not hesitate to call us.

Our Technical Support number is (810) 348-3755.

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