

# ***DKB 3128***<sup>TM</sup>

**Memory Expansion Board**

**for the**

**Amiga® 3000/3000T**

**Amiga® 4000/4000T**

**Installation  
and  
User's Guide**

**by  
DKB**

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## **I. Introduction**

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Thank you for purchasing the DKB 3128 memory expansion board—The board that breaks the 18-megabyte limit, and allows you to expand the 32-bit memory in your Amiga 3000, 3000T, 4000 or 4000T all the way to 146 megabytes. That's enough memory to store and manipulate an hour of CD-quality audio, hundreds of frames of full-color animation, or a full page 24-bit color images at 1200 dpi. With the DKB 3128, you can have a RAM disk that's larger than your hard drive!

The DKB 3128 provides convenience along with power. Not only does the board accept a wide variety of industry-standard 4 MB, 8 MB, 16 MB and 32 MB memory modules (SIMMs), but it can use modules of varying sizes at the same time. If you start out with a couple of 16 MB and 43 MB memory modules, you'll be able to add one or two 32 MB modules later on, without removing the original SIMMs. Special right-angle SIMM sockets give the board the lowest possible profile, allowing you to install it in any slot, with any other boards.

The DKB 3128 is easy to configure and install. Just plug in one or more SIMM modules, set the configuration jumpers (If necessary), remove the cover from your computer, and plug it in. As simple and trouble-free as this product is, however, it is not exempt from Murphy's Law ("If anything can go wrong, it will"). In order to avoid any possible problems, we hope that you'll take a few minutes to look through this manual before installing the board.



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Please Note after December 1, 1993, the 313 area code will change to 810

## **II. Adding Memory to the DKB 3128**

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### **Purchasing Memory Modules (SIMMs)**

If your DKB 3128 board did not come with any memory installed, you will need to purchase and install one or more memory modules before plugging the board into your Amiga 3000 or 4000. The DKB 3128 uses Single In-line Memory Modules (SIMMs) in the same package as those used in the Amiga 4000, so you may be able to purchase them from your Amiga dealer, or from one of the companies who advertise in Amiga-specific computer magazines like AmigaWorld or Amazing Computing. Note, however, that unlike the Amiga 4000, the DKB 3128 can not use 1 MB or 2 MB SIMMs. Only 4 MB, 8 MB, 16 MB, and 32 MB modules are acceptable.

If you wish to buy these SIMMs from a dealer who is not familiar with the Amiga, you should ask for 72-pin SIMMs with a speed of 80 nanoseconds or faster, in one of following sizes; "1 megabit by 32" (for the 4-megabyte modules), "2 megabit by 32" (for the 8-megabyte modules), "4 megabit by 32" (for the 16-megabyte modules), or "8 megabit by 32" (for the 32-megabyte modules). In a pinch, you can even use the 72-pin SIMMs that go in IBM's new PS/ValuePoint computers and some PS/2 models. Although these are 36-bit SIMMs, the Amiga will just ignore the extra parity bits.

In addition to having the proper electronic characteristics, the SIMM modules you choose must meet certain size requirements in order to fit the sockets on the DKB 3128 board. SIMMs must be no taller than 1.25", and no wider than 4.6", centered on the modules alignment notch. Although most common SIMMs fit, you should be careful when ordering 16 MB modules which use 4 megabit DRAMs, since these are the modules most likely to exceed the required dimensions. If you are unable to find the proper SIMMs, please contact DKB for information on where to obtain them.

### **Installing the SIMMs**

SIMM modules were designed to be easily installed. Place the DKB 3128 board in front of you, face up on the anti-static bag in which it was packed, with the SIMM sockets at the top of the board. Holding the module so that the notch at the connector edge is to the right, tilt the front edge of the memory module down at a 45 degree angle and insert it into the socket. Be sure to push the module in as far as it will go. With your thumbs at either side of the module, push the top edge of the module down until the plastic guide pins come through the holes at the sides, and the metal retaining clips next to these guide pins latch firmly. At this point, the SIMM module should be lying flat on the memory board.

You may install one, two, three or four SIMMs, of varying memory capacities. The first SIMM must be installed in the socket labelled U201 (the one nearest to the center of the board), and each additional SIMM should be installed in the empty socket adjacent to the last module that was installed. You should not "skip" a socket, and, for instance, install

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one module in the first socket and one in the third. If you are using modules of varying sizes, you should insert the SIMM with the largest memory capacity in the second socket, etc.

### Configuring the Memory

If you are installing SIMM modules which are larger than 4 megabytes, you'll need to change the jumper settings on the DKB 3128 board in order for it to properly recognize the memory. You'll find jumpers J1-J3 located at the top left side of the board (the side opposite the SIMM sockets, and opposite the edge connector that plugs into the expansion slot). **Note that changes to the jumpers are made according to the size of individual modules used, not to the total amount of memory installed.**

There are four simple rules to follow in setting the jumpers:

- 1.) If you are using no other size of SIMM except for 4 megabyte modules, you should leave J1 and J2 in the default position, with the shorting block covering the two pins on each jumper.
- 2.) If you use one or more 16 MB SIMMs or one or more 32 MB SIMMs, remove the shorting block from J2 (or move it so that it only covers one of the pins).
- 3.) If you use one or more 16 MB SIMMs or one or more 32 MB SIMMs, remove the shorting block from J2 (or move it that it only covers one of the pins).
- 4.) J3 is reserved for future use and should **always** be left off.

If you remove any of the shorting blocks, be sure to store it in a safe place in case you need it in the future.

The following table summarizes the jumper settings:

Sizes of Modules Used	Jumper Settings			Notes
	J1	J2	J3	
Only 4 megabytes modules used	ON	ON	OFF	If any two modules of differing sizes are installed at the same time, the 3128 program must be used to properly configure the memory.
Any 8 or 32 MB modules is used	OFF	?	OFF	
Any 16 or 32 MB module is used	?	ON	OFF	

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The question marks indicate that the settings of J1 and J2 are totally independent of one another. They mean that the shorting block should be left on that jumper unless you are using a module whose size dictates that you remove it.

### **III. Installing the DKB 3128 Board in your Computer**

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Refer to the instructions below when installing the DKB 3128 board in your Amiga 3000 or Amiga 4000. Amiga 3000T or 4000T owners should also consult the User's Guide that comes with the computer for additional information on removing and replacing the cover on those machines.

#### **A.) Installing the DKB 3128 Board in the Amiga 4000**

- (1) Make sure your computer is turned off, and all cables are disconnected from the back.
- (2) Using a small Phillips-head (cross-point) screwdriver, remove the two screws located at either side of the top, rear panel of the computer.
- (3) Holding the beige metal cover at either side, slide it back and up. Note that the white plastic face plate does not move.
- (4) Locate the four expansion slots that are stacked horizontally on the daughtercard that runs from the front to the back of the left-middle part of the computer. Select any empty slot in which to insert the DKB 3128 board. If all are open, use the top slot. Since the bottom slot is a special video/Zorro III Slot, you will probably want to leave that slot open, unless all of your other slots are in use. Remove the cover plate from the slot you've chosen, retaining both the screw and the plate.
- (5) If you have an Amiga 4000/040, you may wish to check the revision number on the CPU board, located just to the right of the expansion slot daughtercard, at the front of the computer. This revision number should be located near the socket where the CPU card plugs into the motherboard. If you have a revision 3.1 or higher card in order to use any Zorro III device (such as the DKB 3128 board, or Commodore's 4091 SCSI host adapter). See "SPECIAL NOTE ON 4000/040 COMPATIBILITY", below.
- (6) Slide the DKB 3128 board into the slot, making sure that the front of the board is in the proper plastic guide groove, that the rear bracket is sliding into the opening you've created by removing the cover plate, and that the card edge is aligned with socket edge connector. Press firmly on the back of the card to set the card into the socket, but do not use excessive force if the card does not go in smoothly. You may have to bend the narrow end of the metal bracket on the proper slot on the chassis. Once the board is seated correctly, use the screw from the cover plate to fasten the board's metal end bracket down to the chassis.
- (7) Replace the metal cover on the computer, fasten the two screws at the top rear, and reconnect all cables.
- (8) Turn the computer on. If the power light does not come on, or the A4000 does not seem to start normally, turn the power off immediately, and re-check you connections.



## **Special Note on 4000/040 Compatibility**

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If your Amiga 4000/040 computer seems to act erratically after you install the DKB 3128, or gives you a “Software Error” alert as soon as the memory on the board is accessed, your computer may have an early version of the CPU card which does not work correctly when Zorro III expansion devices (such as the DKB 3128, or Commodore’s 4091 SCSI host adapter) are installed. The procedure for identifying the revision number is outlined in step 5 of the installation instructions above. If you have a revision 3.0 68040 CPU card, you will need to exchange it for a revision 3.1 or higher card in order to use the DKB 3128. Please contact your authorized Commodore repair center for information about warranty exchanges of this part.

### **B.) Installing the DKB 3128 in the Amiga 3000**

- (1) Make sure your computer is turned off, and all cables are disconnected from the back and from the side.
- (2) Using a small Phillips (cross-point) screwdriver, remove the five screws that hold the metal case on: two screws along the bottom edge of each side, and one at the top center of the rear panel of the computer.
- (3) Remove the beige metal cover by sliding it forwards, toward the front of the computer. Note that you will not be able to remove this cover until you have unplugged the mouse and keyboard connectors from the right side of the computer.
- (4) Locate the four expansion slots that are stacked horizontally on the daughtercard that runs from the front to the back of the left-middle part of the computer. Select any empty slot in which to insert the DKB 3128 board. If all are open, use the bottom slot. Since the top slot is a special video/Zorro III slot, you will probably want to leave that position slot open, unless all of your other slots are in use. Remove the cover plate from the slot you’ve chosen, retaining both the screw and the plate.
- (5) Slide the DKB 3128 board into the slot, making sure that the front of the board is in the proper plastic guide groove, that the rear bracket is sliding into the opening you’ve created by removing the cover plate, and that the card edge is aligned with the socket edge connector. Press firmly on the back of the card to set the card into the socket, but do not use excessive force if the card does not go in smoothly. You may have to bend the narrow end of the metal bracket on the rear of the card slightly to make sure that it slides into the proper slot on the chassis. Once the board is seated correctly, use the screw from the cover plate to fasten the board’s metal end bracket down to the chassis.
- (6) Replace the metal cover on the computer, fasten the five screws at the side and the rear, and reconnect all cables.
- (7) Turn the computer on. If the power light does not come on, or the A3000 does not seem to start normally, turn the power off immediately, and re-check your connections.

## V. The 3128 Program

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If you are using two or more SIMMs of differing memory capacities (e.g. a 4-meg SIMM and a 16-meg SIMM), you must install the 3128 program, and run it as the first program that executes on startup. If you don't, the system will assume that every module is as large as the largest one, and add "phantom" memory that isn't actually there. When the system tries to use this non-existent memory, unpredictable (and usually unpleasant) things will happen. Even if you are currently using SIMM's that are all the same size, exit immediately if it is not needed.

To install the program, insert the floppy disk in the internal drive, open the disk icon (by double click the icon marked "install\_3128". This runs an installation program which will copy the 3128 program to c directory of your Workbench partition, and add a line to the beginning of the "S.Startup-Sequence" file that automatically runs the 3128 program whenever you boot your computer from the hard drive.

If you install the 3128 program manually, or edit the "S:Startup-Sequence" file yourself, remember that the command that runs the 3128 program **must** be the first line in your Startup-Sequence. Always boot from your hard drive, rather than a floppy disk, to insure that your memory is added correctly. If you use a program that must be started from a floppy disk (like a self-booting game), your memory won't be added properly, but this should not pose a problem, since such a program is unlikely to make use of any of the expansion RAM.

## **VI. Trouble Shooting**

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The DKB 3128 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 supply properly connected to the 4000, and to the wall outlet?. Plug in a lamp to make sure that there is power coming from the wall outlet.
- (2) Are all expansion devices and cables correctly and firmly attached to the computer?
- (3) Are the SIMM modules correctly seated in their sockets and locked into place? Is the DKB 3128 board itself seated firmly in its expansion slot?
- (4) If the computer does not show the correct amount of memory, are jumpers J1, J2, and J3 set correctly?
- (5) If you are using simms of differing memory sizes, is the 3128 program installed? If the Workbench memory display shows more memory than is plugged in, you need to install this program.

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

Our Technical Support number is (313) 960-8750. Please note that after December 1, 1993, the 313 area code will change to 810.

## NOTES

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# **Products By DKB**

## ***KwickStart II™***

### ***Install Kickstart™ V2.0 and V1.3 ROMs In your Amiga® 1000***

Allows A1000 owners to install Kickstart™ V2.0 and V1.3 ROMs. Keyboard switchable between the two ROMs or between one ROM and disk based Kickstart™. Upgrade to the latest operating system and still be able to use your older software. The best way to upgrade to Workbench™ V2.0 for the Amiga® A1000.

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A built-in, REALTIME clock

Two SIMM sockets for greater flexibility

Up to 5.5 megs of 32 bit Fast Ram using PCMCIA expansion card

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Easily installed without taking your computer apart.

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All Products come with a  
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### ***MegAChip 2000/500™*** ***2 Megs of Chip RAM for the A2000***

If you use your Amiga® for Desktop Video, 3D Rendering & Animation, Multimedia or Desktop Publishing. Then you need the MegAChip 2000/500™.

The MegAChip doubles the amount of memory accessible to the custom chips. The MegAChip uses the 2 Megabyte Agnus that's in the Amiga® A3000, which greatly enhances the multitasking capabilities. Fully compatible with Workbench 2.0, and the ECS Denise chip. Fully compatible with the Video Toaster and other genlocks and framebuffers.

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Allows A500 and A2000 owners to install Kickstart V1.3 and V2.0 ROMs and switch between them with the keyboard. Can also install a third ROM. Lets you stay compatible with your software. No external wires or switches required.

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All Products come with a  
**FULL TWO YEAR WARRANTY**  
Contact you local dealer for more information

## Customer Service

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for the Amiga® 1000 to the MegAChip 2000/500™.

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# WARRANTY

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For a period of Two Years from the date of purchase to the original purchaser, DKB Software warrants that the equipment shall remain free of manufacturing defects.

The equipment, when possible, is tested in all its normal operating modes prior to delivery or shipment.

If a defect should occur during the first Two Years, the unit must be returned to DKB Software along with a sales receipt for repair.

The purchaser's sole and exclusive remedy in the event of a defect is limited to the correction of the defect by adjustment, repair, or replacement at DKB Software's discretion and expense.

DKB Software shall have no responsibility for shipping expenses to or from the repair station.

This warranty is voided if the equipment has been altered or modified, or if the equipment is subjected to improper or abnormal use.

We are not responsible for any damage caused by or derived from the installation of this hardware product.

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