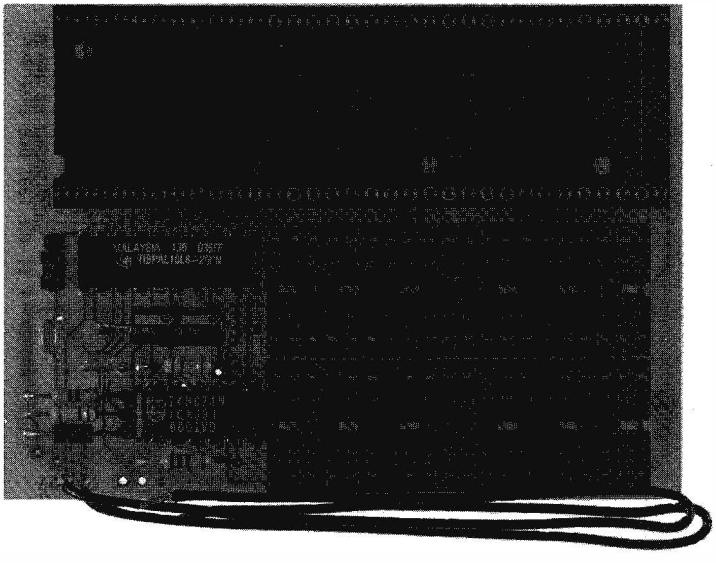
KwikStart II™
Kickstart Rom Expansion Board for the Amiga® 1000



Installation and User's Guide

by
DKB Software

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PN: 00300801-01

1. Introduction.

Congratulations on the purchase of your new KwikStart II™ ROM board for the Amiga® 1000 by DKB Software.The KwikStart II™ ROM board will provide you with many benefits.

KwikStart II™ is an add on board that puts the latest Amiga® KickStart™ permanently in ROM (Read Only Memory) like in the A500,A2000 and A3000.

This latest version of the KwikStart II™ provides you with the ability to install **Kickstart™ V2.0** as well as V1.3 or V1.2 in your Amiga® 1000. This is the easiest way for A1000 owners to upgrade to 2.0.

Now when you power up your Amiga® it is ready to read the Workbench™ disk without the delay that is normally associated with the disk based KickStart™ system. This allows faster startup time.
KwikStart II™ makes it easy to turn on your Amiga® and go.

Your KwikStart II™ Board can be powered up in the operating system of your choice! By selecting a jumper on the KwikStart II™ Board you can power up under ROM and be able to switch between two ROMs installed on the board or you can power up with the Amiga® able to switch between the Boot ROM and disk based Kickstart™.

When you do a quick reboot (also known as a warm boot) the Amiga® will stay in whatever operating system it was last in.
When you do a reboot and hold those keys for more than 5 seconds the KwikStart II™ will sense this change and toggle in the other operating system. Thereafter a quick reset will remain in the current operating system. Do a long reset and KwikStart II™ will switch again.

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2. Configuring the KwikStart II™.

NOTE:
We highly recommend that you take your Amiga® to your dealer or authorized service center for the installation of your KwikStart II™.
To remove the PAL chip out of your Amiga® requires a special desoldering tool. If you wish to do this yourself we recommend that you proceed very carefully and slowly.

Installing The Kickstart™ ROM

Step 1:
You need to install Kickstart™ ROM(s) in the 40 pin socket(s) on the KwikStart II™ board with the notch in the ROM in the same direction as the notch in the socket. The ROM that you want to boot up with needs to be placed in the center socket next to the 68000 socket with the keyboard selectable ROM placed in the socket on the left of the board. (See Figure 2 on page 11)

The PAL

This Pal is to be installed on the daughter board of your Amiga®. The PAL is labeled KwikStart™ V2.X. This Pal is for use with V2.0 and will also work with V1.3 or V1.2 Kickstart™. This Pal must be installed on the daughter board of your Amiga® for the KwikStart II™ to work.

Setting The Operating Mode Jumper

By selecting a jumper on the KwikStart II™ Board you can power up under ROM and switch to the alternate ROM or you can power up under ROM and switch to disk based KickStart™ with the keyboard.

Step 1:
Locate the three position jumper on the KwikStart II™ board above the PAL chip. It is set for a default of booting up in ROM mode and switching to the alternate ROM with the keyboard, jumpered to the left two pins.
(See Figure 2 on page 11)

Step 2:
With the jumper located on the right two pins (toward the 68000 chip) the KwikStart II™ will boot up in ROM mode and switch to disk based Kickstart™ .

Step 3:
With the jumper located on the left two pins the KwikStart II™ will boot up using the Boot ROM that is in the center socket of the board. You will now be able to switch between the ROM in the center socket and the ROM in the left socket on the KwikStart II™ Board.

3. Installation.

Disassembling Your Amiga®

TOOLS NEEDED

1 Medium Size Phillips Screwdriver
1 Small Flat Blade Screwdriver
1 Long Needle Nose Pliers
1 Medium Size Flat Blade Screwdriver
2 Suitable Cups or Containers for Screws
1 Flashlight or suitable work light
1 Small Wattage Soldering Iron (25watt or less)
1 Desoldering Tool (Radio Shack #64-2060 $6.95)
Length of Rosin Core Solder

WORK AREA

Clean off a good size work area. Put a soft cloth or towel down on the work area. This will prevent scratching or marring of the case cover.

In the following steps you will be removing the cover of the computer, the RF shield cover, the disk drive assembly and the daughter board of the A1000. You will also have to remove a PAL chip from the daughter board and replace it with one of the new PALs that come with the KwikStart II™.

Step 1:
Turn off the power to your computer and disconnect all power and peripheral cables, the keyboard and mouse from your computer. Remove any peripherals that are attached to your computer.

Step 2:
With the front of the computer facing you, remove the Ram expansion cover by applying light pressure on the top and bottom of the center panel and gently pull toward you. If the Ram expansion card is installed, loosen the screws that secure it (but don't remove them), now hold the expansion card on both sides and remove it by pulling toward you.

Removing The Cover

Step 3:
Now you need to remove the cover. Turn the computer upside down and remove the 5 screws from the holes in the bottom cover, and the two flush mounted screws near the front bezel. Now turn the computer back over.

Step 4:
There are small locking tabs that hold the top cover to the bottom at each corner. To remove the top cover you need to apply inward pressure to the bottom housing and outward pressure to the top cover at the rear corners of the computer and lift.

3. Installation.

Step 5:
With the top cover off, the front bezel can be removed by pulling it forward and away from the rest of the computer. There are two sets of LED wires connected to the front bezel. You can leave these connected and lay the front bezel down in front of the computer.

Step 6:
To remove the RF shield from the computer, you need to remove 8 screws at the rear of the shield, 3 screws along the top of the power supply, 1 screw on the top rear of the disk drive, and 2 screws in the front. There are also 2 tabs that need to be straightened, 1 at the rear left of the shield and 1 at the right side near the rear. Now pull the shield up and set it aside.

Daughter Board Removal

Step 7:
The daughter board sits to the left of the disk drive and is held in place by 3 screws. First you need to remove the screws from the daughter board.

Now, the daughter board is connected to the main mother board with sockets on the bottom of the board that are attached to extender pins from the mother board.

To remove the daughter board you will need to grasp it at the sides and pull up while gently rocking it from side to side until it is disconnected from the extender pins.

Removing The Pal Chip

Step 8:
Find Location 6J on the Daughter Board. The IC chip at this location is a PAL16L8x (the x is some letter or number). Other markings on the board itself are U6J and DAUGCAS. Verify these markings so that your sure you are looking at the correct location. You will need to remove this PAL and replace it with the 20 pin socket that is provided with this kit and then install the KwikStart PAL. (See Figure 1 on page 7)

NOTE: If you are having trouble with a hole (or a few of them) then heat up your soldering iron and add a little more solder to the hole. This will give a better transfer of heat to the solder still in the hole. Now use the desoldering bulb again to clear the hole.

When you have the chip out you should inspect around the holes and brush away any flakes of solder and check that no traces were broken or damaged. You have just completed the most difficult part for most people!

Step 9:
Find the 20 pin socket that was included with this kit. Install it at the 6J location with the notch in the socket facing the same direction as the notch in the PAL just next to the one you removed. You can bend one pin on each corner (just one or two, not every one of them!) over on the solder side so that the socket will stay in place while you solder it.

3. Installation.

Installing The New PAL

Step 10:

Install the PAL chip that was included with the KwikStart II™ into this socket. Orientate the notch in the chip so that it is facing the same direction as the PAL chip right next to the socket.

Note: Because the A1000 is known to have noise problems on the buss, you may want to solder a small wire from pin 7 of the F02 chip to the left of C31 on the daughter board. This procedure is not required for operation of the KwikStart II™.

Reinstalling The Daughter Board

Note the positions of the extended pins on the Main Mother Board. So that you can exert pressure at these points when you reinstall the daughter board.

WARNING:

Use care when installing on the daughter board. Make sure that all of the extender pins are going into the sockets on the daughter board before you fully install the daughter board

Step 11:

Reinstall the daughter board back on top of the extender pins. Fist line up the holes, when you are sure that you are on the pins correctly then push down in the area over the extender pins and the daughter board will seat itself down.

Reinstall the 3 (three) screws that you removed from the daughter board and secure them back in place.

Drive Removal

Step 12:

Now you need to remove the disk drive so that you can remove the 68000 chip without damaging it. Remove the 2 Phillips head screws on both the right and left side of the drive (for a total of 4) using a medium size Phillips screwdriver. Remove the 4 Brass standoffs located at the right hand side of the disk drive.

Gently lift the drive away from the Main PCB and disconnect the green ground strap from the Main PCB by removing it from the spade lug, **do not** try to remove the screw in the mother board.

Unplug the gray drive cable from the the Main PCB by grasping the black connector and gently wiggle from side to side.

Unplug the disk drive power cable from the Main PCB.

NOTE:

You will want to remember the orientation of these cables when it comes time to reinstall them.

Set the drive off to the side for now.

3. Installation.

68000 Removal

WARNING: When removing the 68000 chip do not pry up with the screwdriver, instead use a twisting motion to pop the chip up. You will damage traces (thin wires) running under the 68000 if you stick the screw drive under the 68000 and pry it against the PCB. Be sure that you are prying between the socket and the chip and not prying the socket! When the chip starts to giveway you'll hear a crunching sound, this is normal and its just the pins rubbing against the pins in the socket. Work slowly by alternating from end to end.

Step 13:

Locate the 68000 chip at location 6S.
Using a small flat blade screwdriver gently pry up slightly on one end of the 68000. (Be sure you are prying between the socket and the chip and not prying the socket!) Now do the same to the other end and slightly pry up. Using this back and forth motion to lift the chip from its socket. Be careful not to bend or break any pins off, take your time.

Inspect the 68000 for any bent or missing pins. Use needle nose pliers to straighten any bent pins.

Step 14:

Now you need to install the 68000 chip in the socket on the KwikStart II™. Align all pins on both sides of the 68000 and press the chip down into the socket, be careful not to bend any pins.

Reinstalling The Disk Drive

Step 15:

Look at the end of the disk drive and make sure that all wires that are plugged into the back are securely plugged in. Place the disk drive into its proper place. Attach the green wire to the spade lug first.; do not install the screws yet!

Now plug in the gray cable, make sure the wires are coming out toward the front of the computer. And that you did not mis-align the plugs.

You may have to bend the gray cable to make it fit around the 68000 connector so it won't be in the way.

Plug the 4 conductor power cable from the disk drive back into its socket. Be sure to plug it in the same way it came out!

Installing The KwikStart II™

Step 16:

Now you can install the KwikStart II™ in the 68000 socket on the Amiga® motherboard. Align the pins and visually inspect it on both sides to be sure that they make contact. You will have to exert a lot of pressure on the KwikStart II™ so that it plugs all the way in.

3. Installation.

Step 17:

Next we will connect the two wires attached to the KwikStart II™ board to the daughter board. These wires are signal wires and must be on the correct pin in order for the Amiga® to work properly. (See Figure 1)

Find location K6 on the daughter board, the wire that is at the top of the board is to be connected to Pin 7 of the I.C. chip at Location K6. Attach this wire to Pin 7of chip K6. If you need to add a tiny amount of solder then do so, but keep it to a minimum.

Now find location J6 on the daughter board, the wire that is next to the three empty holes just below the first wire is to be connected to Pin 1 of the I.C. Chip at location J6. Attach the this wire to Pin 1 of chip J6. If you need to add a tiny amount of solder then do so, but keep it to a minimum.

Step 18:

Check over your work!

Is the 68000 notch pointing towards the rear of the computer?
Are all of the chips that you installed in the correct orientation ?
Are all of the pins on the chips in the socket correctly ?
Do you have the wires from the KwikStart II™ attached to the right pins ?
Is the KwikStart II™ board firmly in its socket with all the pins in correctly ?

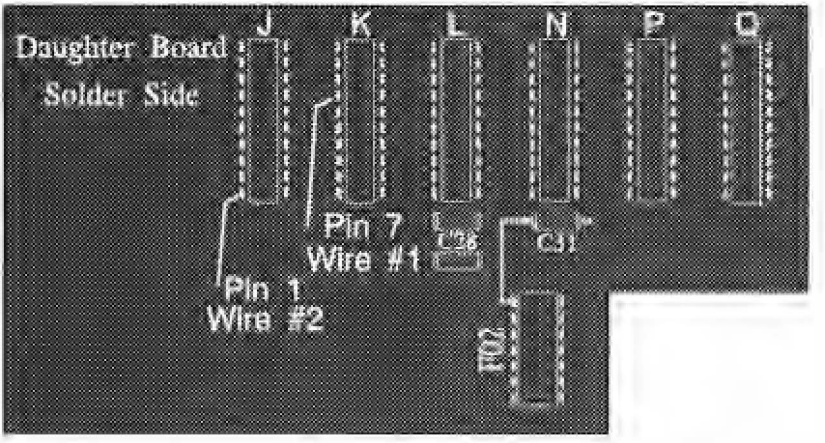


Figure 1.

3. Installation.

Testing Your Amiga®

KwikStart II™ Set to Boot in ROM Mode - Jumper Set to Left Posiiton

Turn the computer on while watching the left LED, it should come on dim at first then go bright and stay on.

NOTE: If it did not blink or even come on then turn off the power, now recheck all connections. You may have to remove the KwikStart II™ board and check for bent or missing pins. Do not proceed until you get the blink. It's most likely something easy to fix.

In a second or two you should see the message on the screen asking for the Workbench™ disk.

Now reboot the Amiga® by pressing the control amiga/amiga keys quickly (for less than 3 seconds). The left LED will go dim and then bright, in a second or two you should see a message on the screen asking for the same version of Workbench™ .

Now reboot the Amiga® by pressing CONTROL AMIGA/AMIGA, but this time hold the keys down and keep them pressed for at least 5 to 6 seconds, then release them. Now the Amiga® should boot up using the alternate ROM on the on the KwikStart II™.

Now reboot the Amiga® by pressing control amiga/amiga quickly (for less than 3 seconds), The Amiga® should reboot using the same KickStart™ ROM again.

KwikStart II™ Set to Boot in Disk Mode - Jumper Set to Right Posiiton

Turn the computer on while watching the left LED, it should come on dim at first then go bright and stay on.

NOTE: If it did not blink or even come on then turn off the power, now recheck all connections. You may have to remove the KwikStart II™ board and check for bent or missing pins. Do not proceed until you get the blink.

In a second or two you should see the message on the screen asking for the Workbench™ disk.

Now reboot the Amiga® by pressing the control amiga/amiga keys quickly (for less than 3 seconds). The left LED will go dim and then bright, in a second or two you should see a message on the screen asking for the same version of Workbench™ .

Now reboot the Amiga® by pressing the control amiga/amiga keys, but this time hold the keys down and keep them pressed for at least 5 to 6 seconds, then release them. Now the left LED should blink and in about fourty seconds you should see the message on the screen now asking for the Kickstart™ disk.

3. Installation.

Now reboot the Amiga® by pressing the control amiga/amiga keys quickly (for less than 3 seconds), The left LED will turn bright and stay on. You should see the message on the screen now asking for WorkBench™.

Reassembling Your Computer

Step 1:
Remove any disks from the computer and turn the machine off. Remove the monitor cable, power cord, mouse and keyboard.

Step 2:
Install the 4 brass standoffs along the right side of the disk drive, and 2 other screws on both the left and right side of the drive. (For a total of 4)

Step 3:
Reassemble the RF shield back into place and screw the shield down using 3 short screws along the power supply, 1 flat head at the rear of the disk drive, 8 along the back side of the computer and two in the front. Twist the 2 shield tabs again with the needle nose pliers.

Step 4:
Lift the front bezel back into place. Take care not to disconnect the LED wires. Keep the drive LED wire clear of the drive opening and ejection button, now place the top cover into the recesses and snap it into place.

Step 5:
Turn the unit over and install the 5 screws into the hollows.
Install the two flat head screws into the front bezel, tighten only until seated, do not over tighten!

Step 6:
Reinstall the front ram card if you have one, and place the plastic cover over the ram card.

Step 7:
Set your system back up and plug in all your add on equipment, keyboard, mouse, monitor and power cable. Install all other accessories that you may have.

Your installation is now complete.

4. Operation.

Switching Between The ROM and Disk based Kickstart.

KwikStart II's™ operating system is a toggle action type. You can toggle back and forth between the Boot ROM and your selected alternate based Kickstart™.

To switch between the Boot Rom and the Alternate based Kickstart™ you reset the computer with the control, Amiga and Amiga keys and hold the keys down for at least five seconds. This will tell the KwikStart II™ to switch the operating systems.

To reboot the computer and stay in the operating mode that you are currently in you just reset the Amiga as you would normally by holding the keys down for only a second or two.

When you do a reboot and hold those keys for more than 5 seconds the circuits on the KwikStart II™ will sense this change and toggle in the other operating system.

There after a quick reset will remain in that current operating system. A long reset and the KwikStart II™ will switch again.

This makes KwikStart II™ extremely easy to use.

Enjoy your new KwikStart II™ Board!

5. Troubleshooting.

The biggest cause of non working machines is mis- alignment of the connectors or pins in some manner.

If the Machine does not boot at all, no LED on the left or it does not startup in the fashion we described then something is possibly mis-aligned, or there might be broken, missing or bent pins.

Also check to be sure that the wires are in their correct place and are not shorted to any other device. Re-check the things outlined in the installation instructions.

Also check the traces running under the 68000 chip on the mother board. You may have damaged one by accident when removingthe 68000 chip itself.

We are available for any technical help if you should need it.

If you experience any other problems then call us at (313) 685-2383 and we'll try to determine what the problem is and a solution for it.

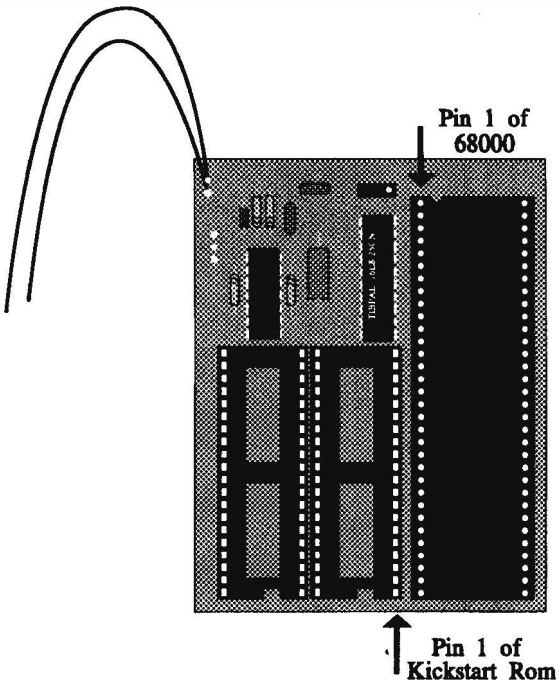
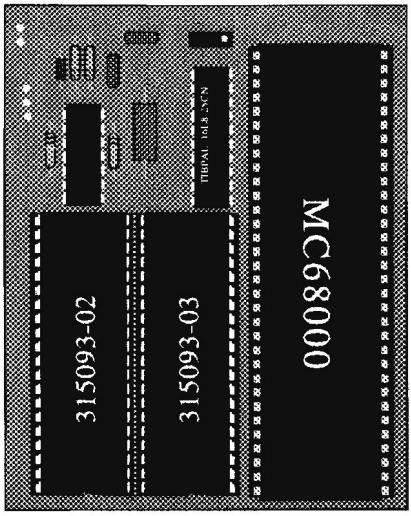


Figure 2.

5. Troubleshooting.



KwikStart II™ with both ROMs and the 68000 chip installed.

Figure 3.

Connects to resistor R9	1	KwikStart PAL	20	Pin 20 of U6L
Pin 2 of Connector J3	2		19	Pin 9 of U6Q
Pin 3 of U1H	3		18	Pin 19 of U4J
Pin 4 of U6K	4		17	Pin 1 of U4K
Pin 5 of U6K	5		16	Pin 15 of U1H
Pin 6 of U6K	6		15	Pin 1 of U1H
Pin 13 of U6L	7		14	Connects to resistor R3
Pin 6 of Connector J1	8		13	No connection
Pin 7 of U6K	9		12	No connection
Pin 10 of U6L	10		11	Pin 13 of U6K

Checking For Broken Traces on The PAL

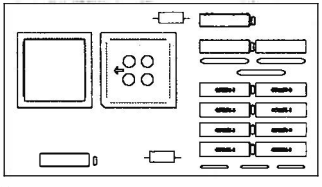
If you have trouble getting this KwikStart II™ to work then, use this diagram, along with an ohm meter and trace each pin to its connecting pin. They must be connected to the above points for proper operation.

NOTES

Products By DKB Software

MegAChip 2000 ™
2 Meg 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 ™. Doubles the amount of memory accessable to the custom chips. Uses the 2 Megabyte Agnus that's in the Amiga ® A3000. Greatly enhances multitasking capabilities. Fully compatible with Workbench 2.0, and the ECS Denise chip. Lets you stay current with the latest technology. Fully compatible with the **Video Toaster** and other genlocks and framebuffers. Fully compatible with GVP's and Commodore's 68030 accelerators. Why upgrade to 1Meg of Chip Ram when you can have 2Meg of Chip Ram like the A3000?

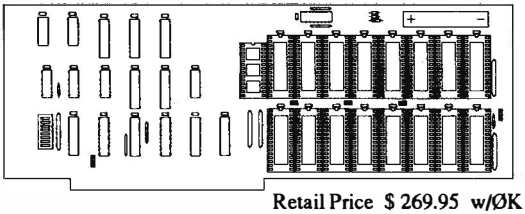


Retail Price $ 299.95
w/Memory w/o 2Meg Agnus

Coming Soon for the Amiga ® A500.

The BattDisk ™
Battery Backed Static RamDisk

Super fast Static Ram Disk for the A2000 & A3000. Operates as a silicon hard disk. The BattDisk ™ will survive a warm boot or power down. Anything that you have saved on your BattDisk ™ will still be there when you power up. Can be used to autoboot your system. Allows you to have up to a 2Meg RamDisk without using any of your Fast Ram. Easily expandable in 64K or 256K increments to 2 Meg. Excellent for working with Multimedia or Video Graphics where you need fast access to files. Data transfer rates up to 2.7 Meg per second. Also can be hardware or software write protected. Programmers - Keep your source code in a fast, guru safe, Static Ram.



Retail Price $ 269.95 w/ØK

SecureKey ™
System Security for Your Amiga ® A2000 and A3000

Do you need to keep your system safe from unauthorized use ? Want to make sure that no one can delete your files from your harddrive or steal your work ? Then you need the SecureKey, a hardware security device that you have one security code for. The SecureKey will not allow access to your computer without the right security code, period. You can't boot off of a floppy or bypass it in any manner. This means that if your system has files such as animations, documents, presentations, C-code, or any type of confidential information you can be assured that your harddrive is safe from those that may otherwise unknowingly destroy your information.

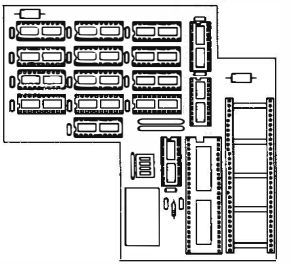
Contact your local dealer or call for more information.

All Products come with a Full One Year Warranty.

Products By DKB Software

Insider II ™
1.5 Meg in the A1000

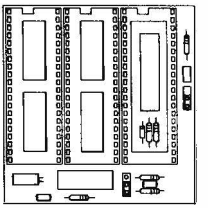
From the maker of the first internal Ram board for the Amiga 1000, the original Insider™ by DKB Software. Allows A1000 owners to add up to 1.5 Meg of Fast Ram internally. User expandable in 512K increments using 256K x 4 Drams. Includes battery backed clock calendar. Comes with software for the clock and testing ram. Simple installation, no soldering required. The Insider II™ is compatible with the KwikStart™ Rom board. The Insider II™ is also compatible with the AdSpeed board.



Retail Price $ 249.95 w/ØK

MultiStart II for the A500 and A2000
Install Kickstart V2.0 & V1.3 ROMs

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.



Retail Price $ 99.95 w/o Roms

A1000 Keyboard Adaptor

Allows Amiga 1000 owners to upgrade to the Amiga 2000 keyboard. Simply plug adaptor into the keyboard connector in the back of the A1000 and you can install the Amiga 2000 keyboard.

Retail Price $ 19.95

All Products come with a Full One Year Warranty.

Contact your local dealer or call for more information.

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WARRANTY

For a period of One Year 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 year, 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 discrection 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.

Except as specifically provided in this warranty there are no other warranties, express or implied, including, but not limited to, any implied warranties or merchantability or fitness for a particular purpose. In no event shall DKB Software be liable for loss of profits or benefits, indirect, special, consequential or other similar damages arising out of any breach of this warranty or otherwise.

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