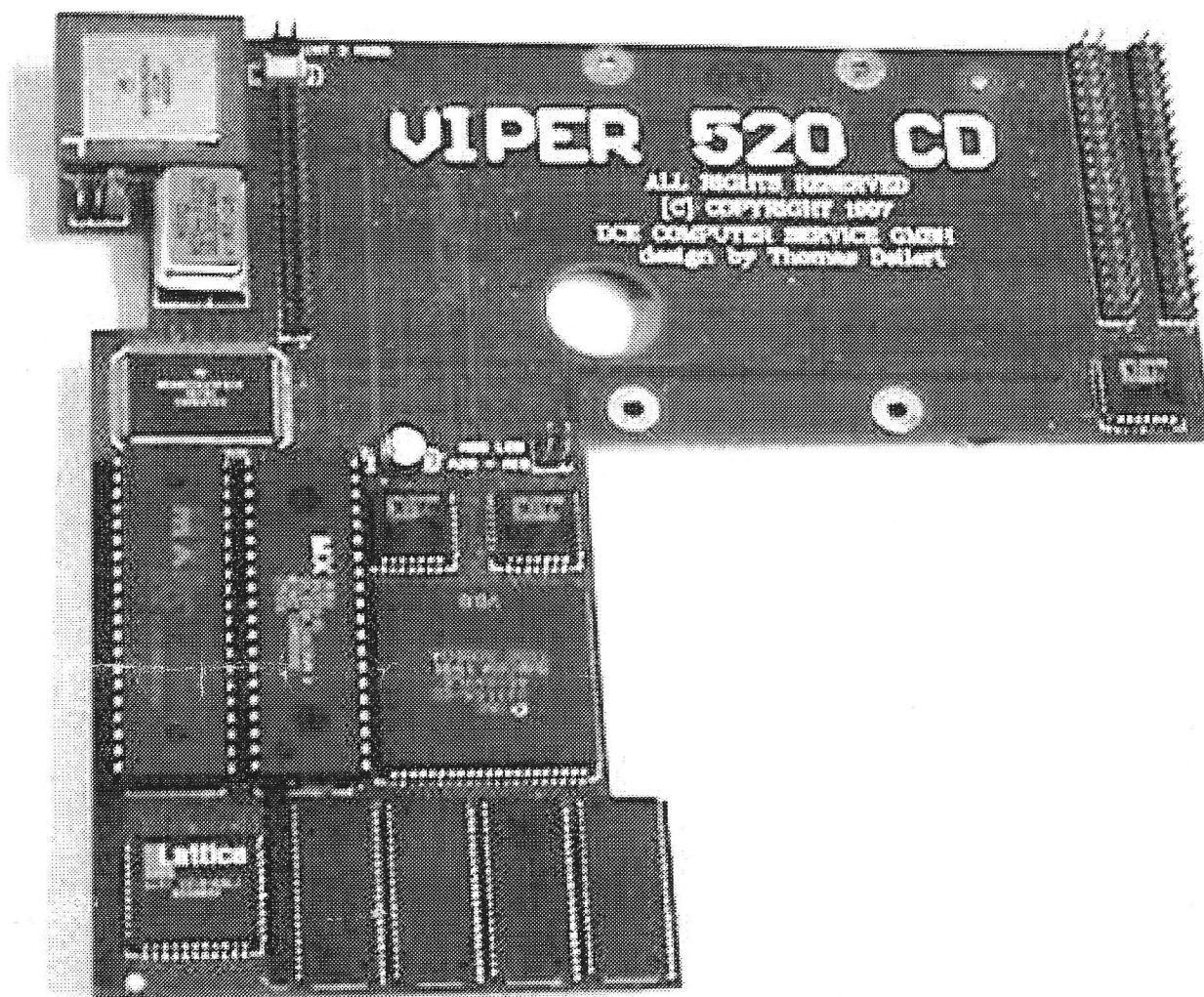


VIPER 520 CD Installation

Manual

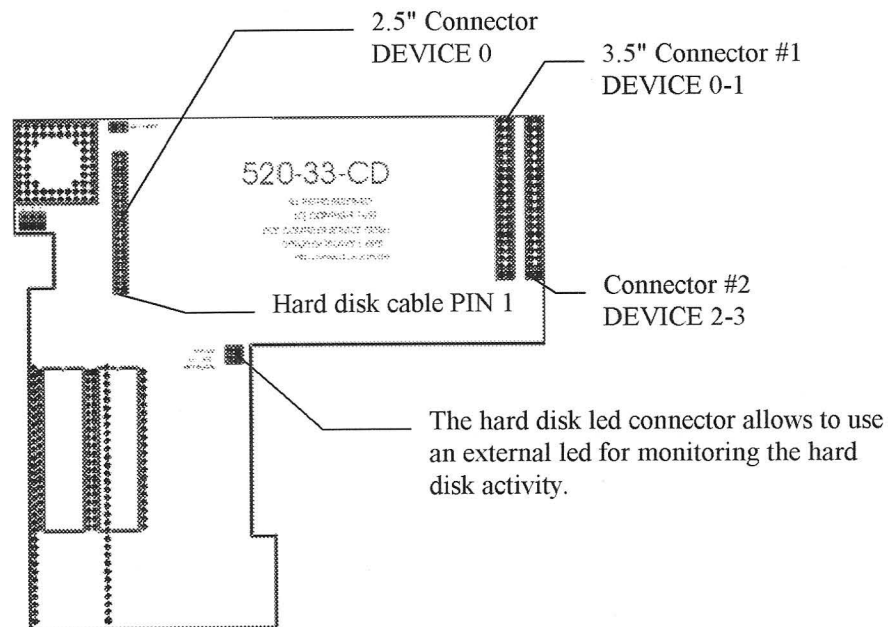


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1 Preparing the Viper 520 CD board for installation

1a: Installing a 2.5" hard disk

It is possible to mount an internal 2.5" hard disk directly on the Viper 520 CD card. The cable (and the screws needed for the hard disk installation) can be ordered separately. If you already have cable and screws, you can begin the hard disk installation. First connect the cable to the Viper connector. Connect the cable in a way that the red coloured wire of the cable matches the pin marked as PIN1 on the card connector. Now connect the cable on the hard disk, paying attention to insert it correctly. Now fix the hard disk with the four screws. The hard disk is now ready for use. In the picture you can see the description of the hard disk connectors available. For the software installation, you can use the included Workbench 3.0 set of disks.



1b Installation of an internal 2.5" hard disk and another external IDE device

The Viper 520 CD features a 4 units IDE adapter on board. Consequently, it is possible to connect more IDE devices to the Viper at the same time. You can connect, for example, a 2.5" hard disk and you still have two other 3.5" connectors free on the card. It is possible to connect up to 4 devices using the 3 connectors.

Let's see some configuration examples:

Example #1

- 1 Internal 2.5" hard disk on the 2.5" connector
- 1 External CD-ROM on the 3.5" connector #1

DEVICE 0 = MASTER
DEVICE 1 = SLAVE

Example #2

- 1 Internal 2.5" hard disk on the 2.5" connector
- 1 External 3.5" hard disk on the 3.5" connector #2
- 1 External CD-ROM on the 3.5" connector #1

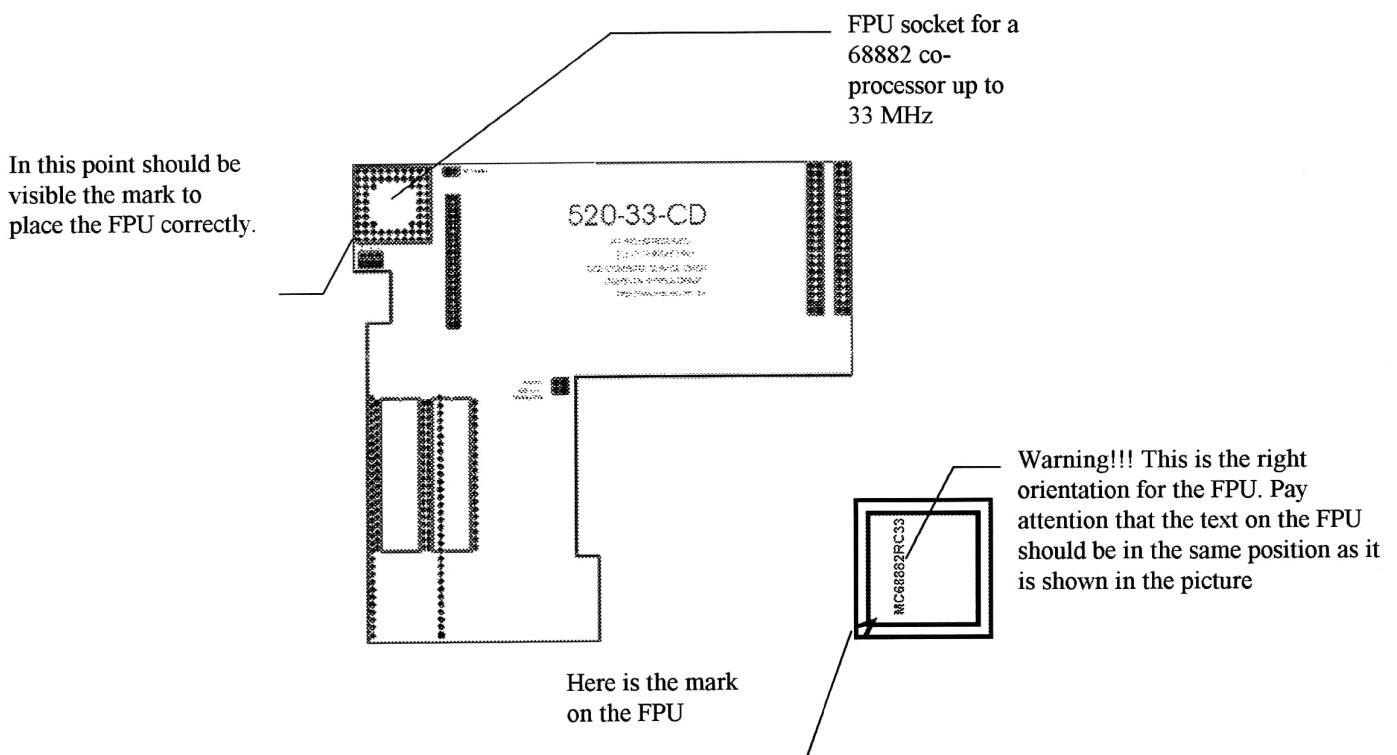
DEVICE 0 = MASTER
DEVICE 2 = MASTER
DEVICE 1=SLAVE

There is an infinite number of possible configurations. Just remember that if you want to use more than two IDE devices or a CD-ROM drive you will have to use a special driver software. We suggest you to use IDE FIX by Elaborate Bytes. This software is compatible with several devices.

1c Installation of a co-processor

The Viper 520 CD supports the installation of a 68882 math co-processor clocked at up to 33MHz (also called FPU), which will be automatically configured at start-up and will need no other software to be used. However, only FPU specifically written software will use the FPU, for example, the FPU version of ray tracing applications.

Now let's see how to install a 68882 co-processor. This is a critical operation, because the co-processor can be inserted wrongly. So be warned and follow the instructions on the picture.



1d Turning on and off Kickstart ROMs.

Your Viper 520 CD comes with the 3.0 version of the Amiga operating system on board. This OS is placed in two 16 bit ROMs like for an Amiga 1200. It will be read by your CPU as 32bit words, improving greatly the performance. That means that the ROMs does not rely on the slower Amiga 500 16-bit bus.

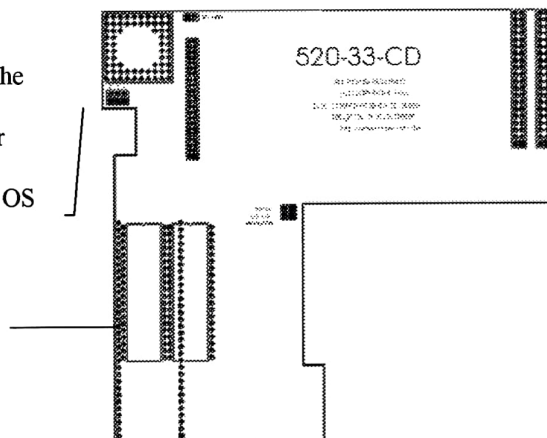
This version of the operating system contains some interesting new features that can be used with the included Workbench 3.0 Disk Set. If for any reason you want to use the original Kickstart on your A500, you can switch off the 3.0 ROMs on the Viper card by setting accordingly the ROM jumper. This jumper allows to choose the Kickstart ROM (the one on the motherboard or the one on the Viper card) your computer will use.

The first jumper on the left is the Kickstart switch

Open: Use OS 3.0 on the Viper card

Closed: Use original OS A500 OS

Here are both OS 3.0 ROMs



le Turning on and off FASTRAM

An important feature of any accelerator card is the FAST RAM. As the CPU can read 32 bit words, improvements in the computer performance are remarkable only when using FAST RAM. The Viper 520 CD comes with 4 or 8 MB of FAST RAM on board, which allows for a compact design. Moreover you will not have to buy memory chips separately, avoiding the troubles that many Amiga accelerator cards have with PS/2 memory modules that don't work.

You will have none of this problems, as the Viper is practically a "PLUG AND PLAY" card. The RAM chips that we mount on the Viper Card have been tested and are ready for use with no troubles.

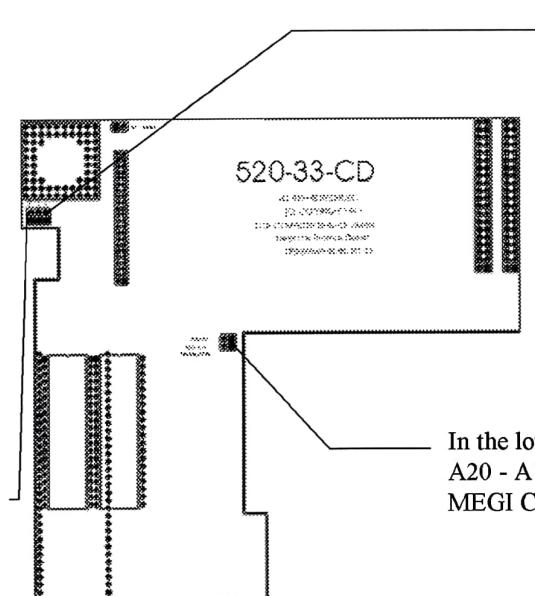
However it is possible that some old A500 software (especially games) will not handle correctly the on/board FAST RAM. In this case it is possible to switch the FAST RAM off with the FAST RAM jumper.

Modifying the setting of the FAST RAM jumper configuration and turning the computer on, you will notice that the FAST RAM is no more available and all of your old programmes should have no problems anymore.

The jumper in the middle is the FAST RAM jumper

Open= FAST RAM on

Closed = FAST RAM off



The jumper on the right allows to choose between 4 and 8 Mbytes configuration. On a 8 Mb Viper Card this jumper must always be on.

In the lower side there are the pins A20 - A19 to connect a MINI MEGI CHIP expansion

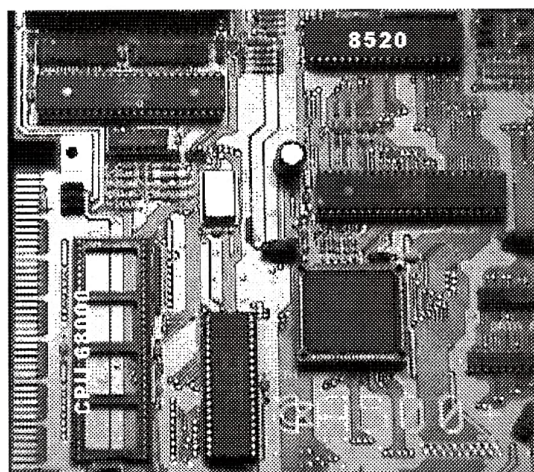
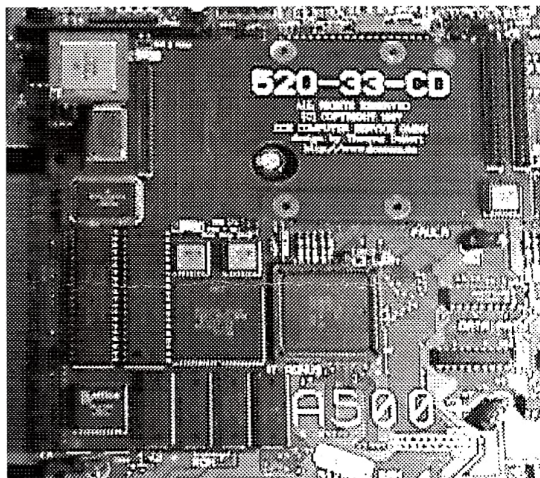
1e Using DCE Mini Megi Chip

Viper 520 CD has been optimised for using DCE MINI MEGI CHIP. It is possible to connect a Mini MEGI CHIP directly to the Viper. To do so, there is a connector with pins A-19 and A-20. However, it is not necessary to install the MINI MEGI CHIP directly on your Viper card. The only difference is that by installing the MINI MEGI CHIP to the Viper, you will not have to use the Gary socket on the A500's motherboard. If you don't already have a MINI MEGI CHIP, it is possible to order its Viper version. This will save you from a later installation.

2: Viper card Installation

To install the card it is necessary to disassemble your A500, by removing the screws on the bottom. Then it is possible to remove the plastic cover and pull up the keyboard. The keyboard is not fixed and is connected to the motherboard only by a cable. Remove this cable, paying attention to take note of the colour order of the wires, in order to replace it in the right direction when mounting it back.

Remove the keyboard. Now you will have to remove the metallic shield, by removing the screws which keep the shield in its position. On the left there is another little metallic shield which protects the expansion port; it has to be removed, too. Now, after having removed the metallic shields the A500's motherboard is completely free. With the help of the picture, localise the 68000 CPU. Pull up gently the 68000 with a not too small screwdriver, trying not to damage the chip pins. In the picture you can see the empty socket. The Viper board will be inserted in this socket. Now remove the 8520 ODD chip. This chip is marked in the picture, too. Now insert the 8520 in the 40-pin socket of the Viper card. The Chip must be inserted with the reference mark to the right. The cable of the 40-pin socket must go to the left. Now insert the IC 8520 of the Viper socket in the empty 8520 socket on the motherboard. Remember that if the 8520 has been installed correctly the mark must be on the right and the 40-pin cable on the left. Now you can let free, gently and slowly, the Viper connector from its protection. Insert the Viper connector in the empty 68000 socket. This operation requires a certain skill, but don't be afraid, the connector that we use for the Viper card is practically indestructible. You can adjust any slightly bent pins with a sharp screwdriver. After you have inserted the Viper Card in the 68000 connector, insert the cable coming from the 8520 socket on the INT2 connector on the Viper Card. The cable direction has no meaning here. Now the Viper is ready for use. You can do a short test to check if everything is working. This test can be performed without connecting the keyboard. After turning the computer on, it should show the typical flashing screen of the Amiga and after a while the Kickstart screen should appear. If the computer



doesn't work properly, check that the Viper card has been inserted properly in the 68000 socket. After the test it is possible to begin the installation of the devices.

The metallic shield can be put back. The Viper is designed to fit completely under the metallic shield. Screw back both, the main metallic shield and the expansion slot shield. These shields reduce greatly the interference generated by the computer and its internal devices. Now you can put back the keyboard in its place; remember to insert the keyboard connector in its original orientation. The last operation you have to do is to close the computer with its plastic cover. When you finish, your Amiga 500 is ready for use. We hope that you will enjoy the increased performance of your "new" computer.

3: *Viper 520 CD technical data*

- Compact board with a mounting bay for an internal 2.5" hard disk.
- 68EC020 33 MHz CPU
- 32 Bit OS 3.0 ROM ver 39.106
- 32 Bit 4-8 Mbytes FASTRAM starting from address 0x200000
- Integrated 4 units IDE adapter
- 3 IDE connectors: 1 x 2.5", 2 x 3.5" for up to 4 devices, ATAPI devices available when optional ATAPI software is used
- Socket for a 68882 co-processor up to 33 MHz
- Both FASTRAM and ROM can be switched off.

4: *Compatibility with other devices*

Unfortunately when we designed the Viper CD board we had to make some restrictions. Because the older Commodore devices use mostly DMA, it is possible that some will be incompatible with the Viper.

The A 590 and the A570 will not work for example, as DMA is not possible on the Viper, but the many features of the Viper (FASTRAM, hard disks and CD ROM drives with higher transfer rates) make the A590 or A570 an obsolete piece of hardware, good for a museum!

The Alfa Power Controller was tested and worked correctly.

Should you have any question or doubt about compatibility with other devices, contact us by mail or e-mail.

Our e-mail address is DCE@RUHR-NET.DE

5: *Warranty*

The Viper 520 CD has a 6-month warranty by DCE.