

Version 1.1 USER'S GUIDE TO 8-UP! (DIP)

The Eight Megabyte Fast Memory Expansion

for the Amiga[®] 2000

from
MicroBotics, Inc.

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(214)-437-5330 (Central Time Zone, 1000 to 1800 hrs.)

"8UP!(DIP)" is MicroBotics' trade name for its 8 megabyte ram card for the Amiga 2000; "Amiga" and "Amiga 2000" are registered trademarks of Commodore / Amiga

STARTING INSTRUCTIONS

Unwrap your 8-UP! board and lay it on the pink, antistatic foam in which it was shipped (save this foam and other packing materials). Do NOT install the board in your computer before reading this entire booklet. Examine the board closely and familiarize yourself with its physical aspects before reading on. Always place the board on the foam when handling.

GENERAL DESCRIPTION AND ORGANIZATION

The 8-UP! RAM card for the Amiga 2000 is zero-wait state, autoconfiguring "fastRAM" memory peripheral capable of supporting as little as 2 megabytes or as much as 8 megabytes of DRAM (Dynamic Random Access Memory). 8-UP! uses 1 megabyte by 1, 150 ns or better, DIP RAM (standard RAM chips).

Since 8-UP! is organized into two separate "PICs" (Amiga-speak for individual peripheral cards), you can install 2 or 4 megabytes of memory in each PIC and have a total of 2, 4, 6, or 8 megabytes installed. The 6 megabyte installation is important to users who have the Commodore BridgeCard installed since that "steals" 2 megabytes of autoconfiguration space. We've named the PICs on 8-UP! with the arbitrary designations "A" and "Z". Look at your board and you will see the code letters A or Z written on the printed circuit board, to the right of each bank of 16 sockets. Notice that each bank of 16 sockets breaks across the entire width of the board from left to right, the first 8 sockets are horizontally oriented; the next 8 are each vertically oriented.

HOW TO FILL UP YOUR 8-UP!

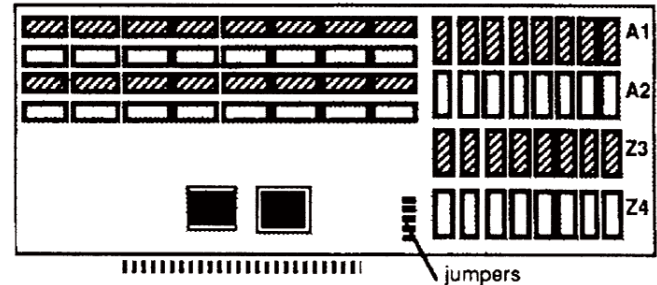
Installing RAM:

Unless you bought your card fully populated with eight megabytes of memory, you should become familiar with the proper installation of RAM on 8-UP!. Always handle RAM chips carefully; by their edges; and with proper attention to the dangers of static damage. RAM chips are "polarized" by the notch, you can see at one end, on the top surface of the chip. This notch is oriented to the "west" (left) in the first eight sockets of a bank, and to the "north" (up) in the next eight sockets of the bank.

Order of Installation of RAM:

Closely examine the RAM sockets on 8-UP! and you'll notice a series of silk-screened labels on the right side of the board identifying each each bank of sixteen sockets by its PIC and by its order within the PIC. RAM must be installed in complete banks of sixteen chips and in the following order: A1, A2; then Z3, Z4.

ARRANGEMENT OF SOCKETS ON 8-UP!



SETTING THE JUMPER BLOCKS ON 8-UP!

(See also the chart on this page.)

Located in the center of your 8-UP!, just to the right of the edgcard connector, is a set of seven JUMPER BLOCKS. These jumper blocks must be set correctly to tell the logic in 8-UP! how much memory you have installed.

Because of the flexibility of 8-UP!, there are six possible jumper combinations. The chart below presents them all. Just look down the left side of the chart and find the row which corresponds to the amount of memory installed in PIC "A" (the banks marked "A" on your 8-UP!); then look across the top of the chart to find the amount of memory in-

8-UP! MEMORY CONFIGURING & JUMPER BLOCKS

AMOUNT OF MEMORY IN PIC "A" (A1-A2)	NO Memory Installed	TWO Megabytes (16 Chips) Bank Z3	FOUR Megabytes (32 Chips) Banks Z3, Z4
TWO Megabytes (16 Chips) IN PIC "A" (Bank A1)	*k.(2m) .. 7 ■ ■ 6 ■ ■ 5 ■ ■ 4 ■ ■ 3 ■ ■ 2 ■ ■ 1	*n.(4m) .. 7 ■ ■ 6 .. 5 ■ ■ 4 .. 3 ■ ■ 2 ■ ■ 1	o.(6m) .. 7 ■ ■ 6 ■ ■ 5 .. 4 .. 3 ■ ■ 2 ■ ■ 1
FOUR Megabytes (32 Chips) IN PIC "A" (Banks A1,A2)	*p.(4m) .. 7 ■ ■ 5 ■ ■ 4 ■ ■ 3 ■ ■ 2 ■ ■ 1	*s.(6m) .. 7 .. 6 .. 5 .. 4 .. 3 ■ ■ 2 ■ ■ 1	*t.(8m) .. 7 .. 6 .. 5 .. 4 .. 3 ■ ■ 2 ■ ■ 1

■ ■ = Jumper block installed .. = leave open
* = Preferred memory installation (for contiguous memory)

stalled in PIC "Z" (the banks marked "Z"). Cross index the row and column to find the picture of the jumper setting you need. Note that your dealer may have already set your jumpers properly.

EXAMPLE: with 32 chips in "A" and 16 chips in "Z", would use jumper setting "S".

HANDLING THE JUMPER BLOCKS: Use a needle nosed pliers or a small flat blade screwdriver to grab or pry up the small plastic clad jumper blocks. Instead of totally removing unused jumper blocks (since they are easily lost) simply mount them on one pin and let them hang off to the side. NEVER install a jumper block so as to connect two pins in the same vertical column.

JUMPERS 1 and 2 enable autoconfiguration of your memory. Usually they are always left in place, PIC "A"=1; PIC"Z"=2.

[DESIGN NOTE: we used jumpers instead of dip switches because jumpers are more reliable than switches and cost less; we avoided using memory size detection logic because it would have added at least 20 to 30 dollars to the price of the board -and we didn't feel you'd want to pay 30 dollars extra for something you'll be dealing with only once or twice in your ownership of the board. We realized jumper blocks are a little inconvenient, but we feel that their reliability and cost effectiveness more than make up for a one-time inconvenience.]

INSTALLING THE 8-UP! CARD IN THE AMIGA 2000

Once your RAM has been installed and your jumper blocks set, you can place the 8-UP! card in any one of the five Amiga, 100-pin slots available. Make sure your Amiga 2000 is turned OFF.

Handle your 8-UP! by its edges and slide it slowly and carefully into the edge connector socket, placing the front edge of the 8-UP! in the plastic card guide mounted on the inside front wall of your Amiga 2000. Before you press the card down into the socket all the way, make sure that it is properly lined up with the socket throat. Use firm, even pressure to press the edge card into the slot.

SOFTWARE CONSIDERATIONS

8-UP! needs no software; it is completely autoconfiguring under AmigaDOS 1.2 and later. Note that certain software (particularly some older games) has compatibility problems with any fastRAM on the bus. This is NOT a problem with 8-UP! but rather a bug in that software. Try running NoFastMem before running such software in order to avoid the problem.

TROUBLESHOOTING

Even the most reliable devices can have problems occasionally. If your 8-UP! should appear to not function properly, consider the following checklist:

1. Are your jumpers properly set for your memory size?
2. Is the RAM correctly installed and seated in its sockets?
3. Is the 8-UP! board firmly seated in the Amiga 2000?
4. Does your 8-UP! work without other boards in the 2000?
5. If there are other boards in your 2000 have you tried changing the order of those boards?
6. If you have problems with a particular piece of software,

have you discussed it with the software publisher? Have you tried running NoFastMem in order to run the software?

7. Have you tried running your system without background utility software (i.e., running from an "out-of-the-box" WorkBench disk without any modifications)?
8. Have you run the memory test included with 8-UP!?

If you have worked your way through the above checklist and are still experiencing problems, see your 8-UP! dealer. Alternatively, you may call MicroBotics Technical Support, but only after working through the checklist.

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