StarBoard2 User Guide: version 1.2, PLEASE READ COMPLETELY

1. Preliminary Installation

a. Turn OFF your Amiga.

b. Clear the table space on the right side of your Amiga. Remove the plastic expansion port cover from the computer.

c. Remove the monitor and any other equipment from the top of your Amiga System Unit. Raise the right side of the System slightly by propping it up with a couple of magazines.

2 StarBoard2 Preparation

a. If you have a half or one megabyte StarBoard2, and wish to install more RAM, see Section 8, Adding RAM.

b. Examine both sides of StarBoard2; notice that one side has a protruding connector (which connects to the Amiga) and the other side has an opening through which you can see a printed-circuit edge card– this is the bus pass-through designed to allow you to connect a second StarBoard2 to your Amiga.

3. Connecting StarBoard2

a. Place StarBoard2 adjacent to the Amiga expansion port. Carefully line up the connector side of StarBoard2 with the Amiga system unit's edge card.

b. Slowly slide your StarBoard2 onto the edge card. Use both hands to wiggle it a little from side to side to make it begin to grab the edge card.

c. Now place your thumbs squarely on the edge connector just inside of StarBoard2's bus pass-through. With your thumbs still pressing on the edge card in your StarBoard2, reach under it to grab the right hand "leg" of the Amiga. Press StarBoard2 onto the Amiga with your thumbs. Do NOT attempt to mount StarBoard2 by pressing on its case: this may cause your circuit board to flex and become damaged! Use straight, FIRM pressure on the edge-card to totally push it onto the Amiga.

4. Under AmigaDOS 1.1

On the SETUP disk enclosed with your StarBoard2 is a file "StarBoard2.Readme" Go to the CLI from Workbench and type:

TYPE SETUP:STARBOARD2. READE

5. Under AmigaDOS 1.2

StarBoard2 autoconfigures under 1.2; no startup files are required. Boot normally and StarBoard2 will be autoconfigured. See "StarBoard2.Readme"on the Setup Disk.

6. Moving Your System

Always remove your StarBoard2 when moving your Amiga– do NOT try to move the two pieces of equipment connected. Always turn your Amiga OFF before removing StarBoard2. NEVER lift up the combined system by gripping the StarBoard2. When detaching StarBoard2 use a firm, two-handed pulling motion on StarBoard2's case.

7. Multiple Devices

StarBoard2 can hold ONE megabyte without the optional Upper Deck or TWO megabytes with the Upper Deck. As many as TWO filled StarBoard2's may be placed on the bus (i.e., connected to the Amiga in series) if there is no other device on the bus. It is good practice (and most economical) to fill out the first StarBoard2 to two megabytes before adding a second StarBoard2.

If you have a StarBoard2 on the bus with some *other* device, it is good practice to place StarBoard2 *first* on the bus: StarBoard2 is extremely "transparent" in its bus pass-through and uses very little power. This may not be true of other devices.

8. Adding RAM

StarBoard2 uses ordinary 256k by 1 by 150 nanosecond Dynamic RAM (DRAM). If you add memory, you must use one of the following brands to preserve your warranty: Texas Instruments; Micron; Intel; Samsung; Fujitsu; Hitachi; or Mitsubishi. Do NOT substitute other brands of RAM. If you are unaccustomed to handling electronic parts and boards, you may wish to have your dealer install additional RAM for you.

a. Remove StarBoard2 from the Amiga (see Section 6).

b. Turn the unit upside down and unscrew the two small screws using a Phillips head screw driver.

c. Grasp the upper half StarBoard2's case in one hand and the lower half in other and pull them straight apart. There may be some resistance due to the closeness of fit. If so, wiggle the case slightly.

d. Put aside the bottom part of the StarBoard2 case and lay the top portion (containing the electronics) on the table, connector side down. Look at the circuit board: on the extreme left and right sides, about one-third of the way up is a Phillips head screw. There are also two smaller Phillips head screws, one on each side of the bus pass through card. Remove all four of these screws and place them aside in a paper cup or other container.

e. Now carefully pick up StarBoard2 by the top of its case, holding the closed, curved metal in the palm of your left hand. With your right thumb on StarBoard2's bus pass through edge card and your fingers on the connector side, gently lift the board up and away from the metal, being very careful not to knock any of the parts against the metal. Be especially careful of the two metal tabs on the ends of the StarBoard2 case; lift the board over these tabs as you slowly draw it out of the case.

f. Place the uncased StarBoard2 on the soft, pink, antistatic, packing material in which it was wrapped. *You should always handle StarBoard2 by its edges whenever possible and take every precaution to guard against damaging your board with static electricity.* Your StarBoard2 is a very sophisticated, low-power device –because of this, when uncased, it is much more subject to damage by the static charges in your hands and clothing. This requires you to handle the de-mounted board with great care. *Touch StarBoard2's chips as little as possible.*

Put a thin book or a couple of magazines under the pink wrapper to support StarBoard2 to the depth of its connector.

g. Orient StarBoard2 so that the field of RAM sockets is at the top. On the StarBoard2 main deck, there are four open sockets at the extreme right which are for PARITY DRAM: these should ONLY be filled if the optional MultiFunction Module is installed and you desire parity checking.

h. A very careful and deliberate technique must be employed to insert DRAM successfully without damaging your StarBoard2. Take each chip and holding it lengthwise, lightly press its "legs" against the hard surface of the tabletop to slightly squeeze them together (so that looking down the chip's length , the pins are parallel, not spread out).

i. Insert the DRAM chips one at a time with the little notch on each chip oriented towards the top of StarBoard2. BE VERY CAREFUL THAT ALL THE PINS GO INTO THE HOLES IN THE SOCKET. Be careful not to bend or break any pins. Press the chips in evenly and firmly. Be careful to orient all the chips with their notches pointed "north".

j. The first 512k of DRAM goes in the TOP row of sockets, 16 across, left to right. The next 512k of DRAM goes in the row directly under the first 512k. You must have the optional Upper Deck to install the second megabyte. There are only THREE legitimate memory sizes for StarBoard2: 512k, one megabyte, and (with the Upper Deck) two megabytes. No other memory sizes are permitted.

k. For each of the three memory sizes, two sets of jumpers must be set by resort to so-called "jumper blocks" which bridge two adjacent pins together. These jumper blocks should be installed by using a needle nosed pliers or flat screwdriver (SEE DIAGRAM on other side).

9. Reassembly

Reassemble StarBoard2 carefully. As a guide to insure correct alignment of the board, insert the two small screws through the board first and screw them to the case before screwing the two larger screws.

10. Troubleshooting

Test software and troubleshooting guidelines can be found on the Setup Disk; see the "StarBoard2.Readme" file.

Warranty Note:

StarBoard2 warranty and technical support *requires* that one of the following brands of RAM be used in StarBoard2:
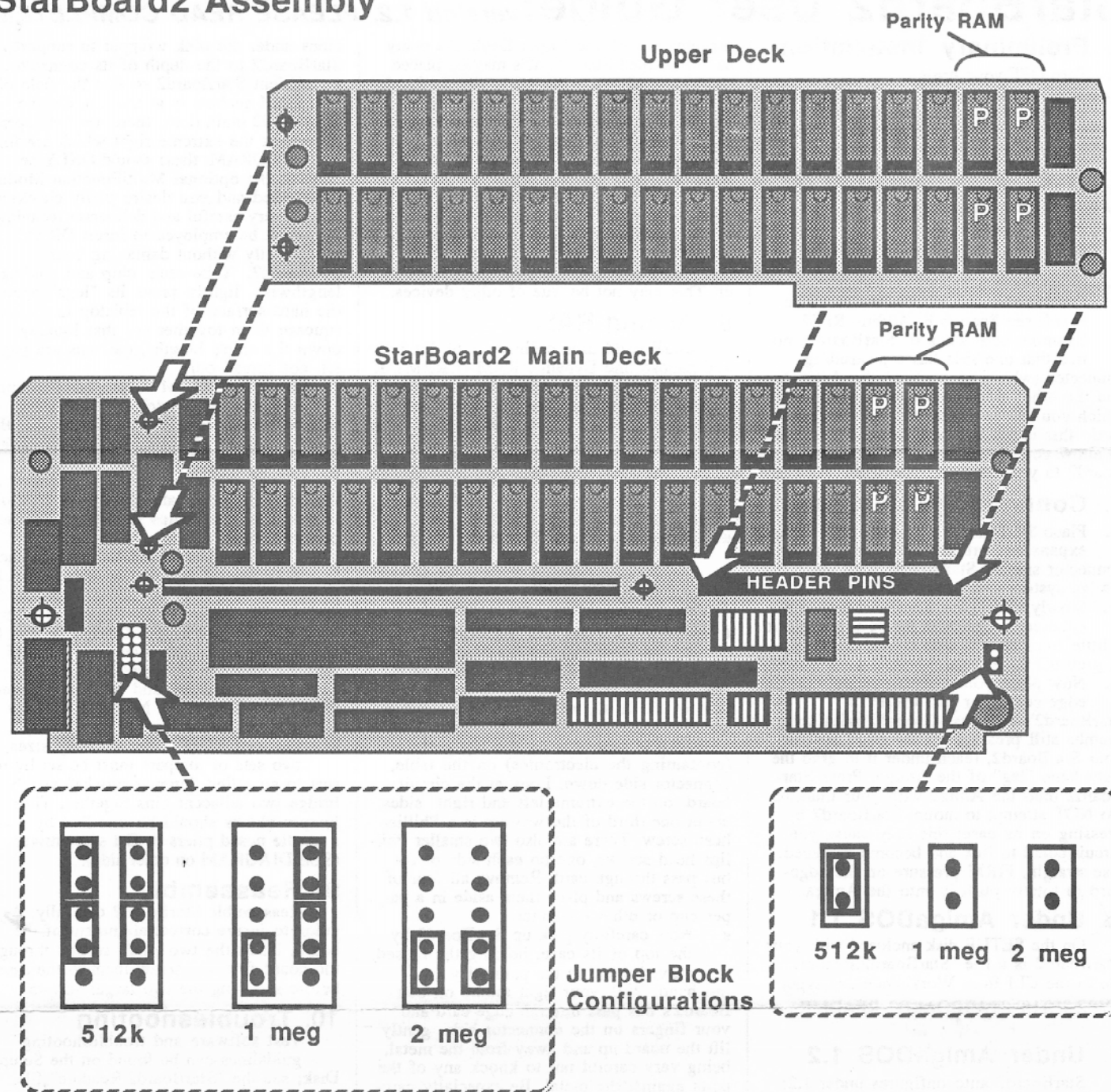
Texas Instruments
Micron
Intel
Samsung
Fujitsu
Mitsubishi
Hitachi

No other brands may be used!

StarBoard2 Assembly

Upper Deck

Parity RAM

Parity RAM

StarBoard2 Main Deck

HEADER PINS

512k   **1 meg**   **2 meg**

Jumper Block Configurations

512k   **1 meg**   **2 meg**

Jumper Block Configuration:

As you can see in the above drawing of StarBoard2, there are two sets of jumper pins which must be set in order to "tell" Star-Board2 how much memory it has installed on it. On the right side of the board is the simplest jumper: if you have more than 512k installed, just remove the jumper block. The ten pin jumper on the left hand side is more complex: study the exploded drawing carefully and make sure your arrangement of the jumper blocks conforms to that of the memory size you have installed. To move jumper blocks, a needle nose pliers is an effective tool.

Installing the Upper Deck Option

The one megabyte "daughter" board known as the Upper Deck, is the means by which the StarBoard2 memory space can be filled out to its full two megabyte potential. Before attaching the Upper Deck, it must be filled with memory (except for the optional Parity Memory sockets). The Main Deck must also have its full megabyte installed. The Upper Deck attaches to your Star-Board2 via a long row of "header pins" as shown in the above diagram (NOTE: there is another, smaller row of header pins on your StarBoard2 –these are for the optional Multifunction Module).

On the lefthand edge of the Upper Deck are also two white plastic standoff legs which click into the matching holes on the Main Deck (do this last). Carefully mate the header pins on Star-Board2 with the connector receptacles on the underside of the Upper Deck. Make sure all the pins are going into the holes, then use both thumbs and moderate pressure to push the Upper Deck down onto the pins. The connector will NOT go all the way down on the pins (there should be about 1/8th of an inch of the pins left showing). Now click in the plastic standoffs and reassemble your StarBoard2.

A StarBoard2 Service Checklist Before Calling or Making a Return to Your Dealer:

Dear MicroBotics Customer:
Your hardware has been thoroughly tested before sale. If you have a repeatable problem, please go through this checklist and carefully reread the product documentation before resorting to a phone call to us or your dealer. Careful and consistent use of this checklist will save you repair fees and time as well as help us to serve you better. Be aware that a very many of the service returns we get are not defects but simple mis-settings or software errors that the user could have fixed or corrected himself and saved the expense of service. So take a little time to go through the checklist before taking any other action. Thanks for your cooperation. And thanks for buying our products.

1. Simplify your software and hardware environment: "tear down" your system to include only StarBoard2 and a fresh, standard copy of WorkBench and KickStart as your environment. Remove all other third party hardware and software. Many times the problem you may be experiencing has nothing to do with StarBoard2 but is rather a defective startup file or a piece of erratic utility software.

2. Verify that the equipment is truly defective or otherwise not operational by testing it on an Amiga other than your own. Sometimes it is the system itself which is at fault.

3. Check all socketed RAM chips. Make sure they are fully seated; make sure there are no bent pins or reversed chips. Reversed chips are likely to be destroyed by operation. If you find any, replace them before continued testing. Be careful about static. Read your documentation.

4. Make *sure* any and all jumpers are properly set; read the documentation packed with the product.

5. Be certain that the Upper Deck (if any) has not been installed without being filled with a full megabyte of DRAM. Make sure that the DRAM is in the correct sockets (if Parity DRAM is yet to be installed). MAKE CERTAIN RAM IS OF APPROVED BRAND .

6. Make certain that StarBoard2 daughterboards are properly seated on their header pins and that no header pins have been bent or missed.

7. If a MultiFunction Module is installed, make sure that the U19B PAL has been installed on the Main Deck and make sure it is installed "notch-upwards".

8. If any case-screws have been replaced make sure that they are the correct type and are not so long as to short out the pc board.

9. Be sure to run the newest version of the memory test (under AmigaDOS Kickstart 1.1).

10. Check that the bus edge card is free of corrosion and the connectors are clean. A nylon eraser is a good tool for gently cleaning the bus for more reliable operation.

11. Assure that StarBoard2 has been properly seated on the bus on the edge card of the computer. For A1000 StarBoard2, this means placing firm pressure on the StarBoard2 pass-through edge card.

12. If StarBoard2 is on the A1000, make sure that nothing else is on the bus when testing. Some few A1000's are unreliable with two or more devices connected. Verify results on a second machine.

13. If you find that some programs don't run with FASTRAM (StarBoard2 is a FASTRAM memory product), make certain that the software will run with any FASTRAM present. Reports of problems with games, TextCraft, some graphics software etc. are because the software itself does not behave well with FASTRAM present. This is NOT a hardware fault. Call the Software Publisher. You may also be able to use the public domain program FIXHUNK to solve your problem with such software. Always work on a COPY of your software if you do.

14. If you are having problems with specific commercial software or shareware, and not with other software, don't presume that there's something wrong with your hardware. Call the software publisher. We cannot be responsible for faulty software.

...IF YOU'RE STILL HAVING PROBLEMS:

A. Call your original Dealer and ask for help. If you must have your equipment serviced, do so through your Dealer.

B. If you have to make a warranty return of equipment, READ YOUR WARRANTY. You are responsible for certain facets of warranty service (such as shipping fees both ways). If you send an item to us, return shipping will be charged on a COD basis.

C. NO-DEFECT CHARGE: If you return equipment that has no defects but is simply malfunctioning because of poor installation, you may be assessed a $25 NO DEFECT charge.

D. Prove that the return is warranteed (if it is) by returning your original proof of purchase (dated sales receipt).

E. Returned items MUST be carefully packed in their original shipping materials and packaging.

F. If your Dealer is unavailable or uncooperative, you may be asked to make a return directly to MicroBotics. In such a case, make certain that you've called for a MicroBotics Returned Materials Authorization Number (RMA#) and make certain that this number appears on the outside of the shipping materials and at the head of your enclosed explanation. MicroBotics will not accept direct returns without an RMA number.

G. OUT OF WARRANTY: There is a $50 minimum Service Charge for such repairs. This is in addition to shipping charges.

You may call MicroBotics Technical Support between the hours: 10 am to 6pm, Central Time. Please call only AFTER you've gone through this checklist (inform the Technician that you've done so and be prepared to indicate the results of your testing.)