

FOR YOUR AMIGA

# ESCORT 2

2MB Ram Board With Expansion  
Slot And Bus Return

## Manual

**EXPANSION**  
**TECHNOLOGIES**

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## Escort 2 INSTRUCTION MANUAL

### INTRODUCTION

The Escort 2 with a single 2MB card installed allows you to increase the memory of your Amiga by a total of 2 megabytes. The 2MB will operate in configurations of .5, 1 or 2 megabytes using 256 x 1 dynamic RAM chips. The Escort 2 also has a second slot for future addition of cards that comply with the Amiga standard. For example, a 2MB upgrade installed in your Escort 2 will provide another 2 megabytes of memory for a total of 4 megabytes above the Amiga's internal memory. In addition the Escort 2 provides an 86 pin bus pass through for additional expansion.

It is important to note that ALL Amiga products from Expansion Technologies conform to Amiga's Auto-Configuration as well as Form Factor (Shape), guaranteeing compatibility with future Amiga releases.

Information about other Expansion Technologies products for the Amiga and the Escort 2 has been included in the shipping box.

WARNING: DO NOT OPERATE THE SECOND SLOT OR PASS THROUGH OF THE ESCORT 2 WITHOUT AN EXTERNAL POWER SOURCE. YOU WILL DAMAGE YOUR ESCORT 2. Expansion Technologies provides power supplies with all products to be used in the second slot. Power can be supplied to either/or the second slot or pass through via a jumper located on the PC board inside the expansion box.

### INSTALLATION

If you have purchased your Escort 2 and 2MB card with memory chips already installed, it needs only to be connected to your Amiga as follows:

## INSTALLATION (cont'd)

1. Make sure the power to your Amiga is OFF! CAUTION: Failure to turn power off may cause damage to your Amiga and or your Escort 2.
2. Remove the plastic panel covering the bus (edge card) on the right side of the Amiga (as you face the machine).
3. Line up the exposed connector on the Escort 2 with the bus. When you are sure the connector and bus are correctly positioned to mesh properly, push firmly on the right side of the Escort 2 until the edge card is seated in the connector and the side of the Escort 2 is flush with the Amiga.
4. Boot your Amiga in the usual manner, using Version 1.2 or later of Kickstart and Workbench. Version 1.2 contains all instruction necessary to automatically boot any expansion device.

If you do not have version 1.2, you may use the enclosed diskette labeled "Workbench 1.1". Use your 1.1 Kickstart with Workbench 1.1 and load your program as usual.

Some early versions of software were not written to recognize external memory and either cannot be loaded or will not function with ANY external memory present. In most cases, a telephone call to the Software manufacturer will resolve the problem.

## INSTALLING RANDOM ACCESS MEMORY (RAM)

If you plan to purchase and install RAM yourself, the chips must be properly prepared and inserted and

## INSTALLING RAM (cont'd)

DIP switches must be set properly to allow the Amiga to address the memory provided.

WARNING: BEFORE installing RAM chips in the printed circuit board, POWER DOWN the Amiga, DISCONNECT the Escort 2 box from it, and REMOVE the 2MB memory board from the box. If you try to install RAM chips without removing the board, you may damage the board.

To remove the P.C. board from the box:

1. Locate the two standoffs on the right side of the board (the side opposite the connector). The standoffs are white plastic with a slot in the top and extend through the P.C. board approximately 1/8 inch.
2. Squeeze the tip of each standoff and lift the P.C. board off the standoff. DO NOT lift higher than necessary to clear the standoff to avoid possible damage to the connector board at the other end.
3. Pull the P.C. board to the right and out of the connector board.

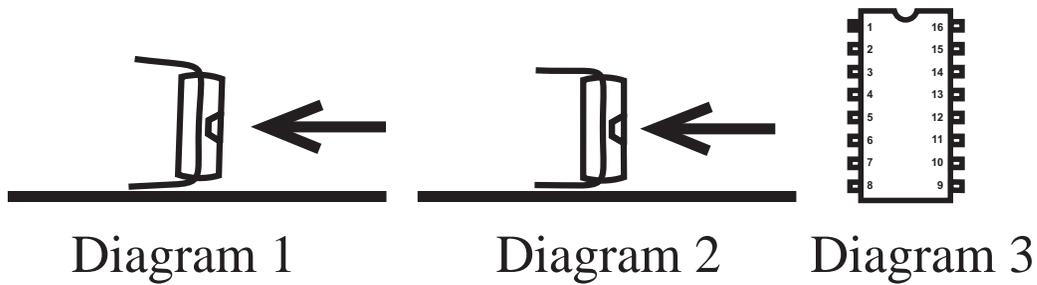
The RAM chips used on the 2MB memory board are 256K x 1 dynamic RAM. These must be 150 nSec or faster devices. We have tried most major manufacturers' devices in both NMOS and CMOS and have experienced no problems.

The RAM on the 2MB memory board is organized into four(4) rows of 16 chips. You may install 1 row, 2 rows or 4 rows. You may NOT install 3 rows (1.5MB) because the Auto Configuration specification

only allows even powers of two. The rows are numbered Row 0 to Row 3, with 0 being on the top (i.e., farthest away from the Amiga and closest to the outside edge of the board. See Diagram 4).

## INSTALLING RAM (cont'd.)

When you purchase RAM chips, the leads will be slightly wider than can be inserted and must be bent to be perpendicular to the body of the chip. One method of doing this is to lay the chip on its side on a hard surface and gently push the body of the chip into a vertical position. See Diagram 1. Turn the chip over and repeat the process on the opposite leads. Make sure that the end view of the finished chip appears as it does in Diagram 2.



CAUTION; When handling the memory chips, you should take precautions against static discharge and make sure you don't bend any pins. Bent pins can be very hard to spot in a dense IC array.

Pin 1 of the memory chips should be oriented toward the upper left corner of the board. Position chips so the leads rest "inside the socket openings" and press down firmly on each chip until all chips are fully seated. See Diagram 3.

## SETTING THE DIP SWITCHES

After you have installed the RAM chips, the two DIP switches must be set so that the Amiga knows how much memory it has to work with. The two switches should be set as shown on the following page.

## SETTING DIP SWITCHES (cont'd.)

	512K	Fill Row 0
	1MB	Fill Rows 0 and 1
	2MB	Fill Rows 0, 1, 2, and 3

CAUTION: If you set the dip switches for more memory than you have on this board, the Amiga will CRASH (cease operating) when it tries to access it. If you set the switches for less memory than is actually on the board, it will not negatively affect the performance of the Amiga; however, you will be wasting the additional RAM as the Amiga will be unable to access it.

You may now reinstall the 2MB memory board in the Escort 2 box and connect it to the Amiga per instructions under INSTALLATION in this manual.

### INSTALLING THE 2MB UPGRADE

To install a second memory board in the Escort 2, follow the steps below:

1. Turn off the power to the Amiga and unplug the Escort 2 box.
2. Remove the top cover of the box by taking out the four (4) screws (two on top and two on the back).
3. Verify that the three (3) traces in the jumper area have been "cut" on the board you are going to install. (See Diagram 4.

WARNING; Failure to do this will cause two outputs to be connected together which could permanently damage both boards!

INSTALLING A SECOND MEMORY BOARD (cont'd.)

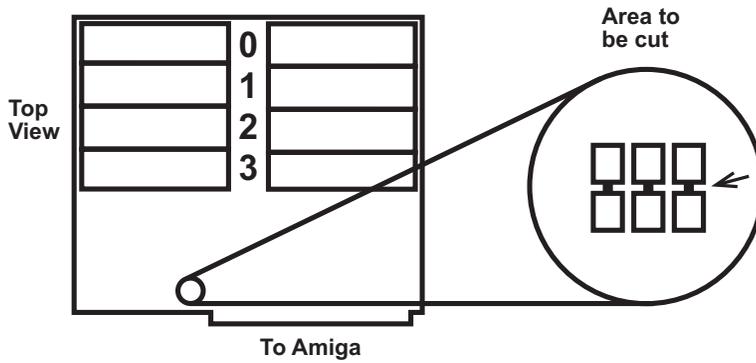


Diagram 4

4. Install the desired amount of RAM on the second board and set DIP switches accordingly per instructions under INSTALLING RAM and SETTING THE DIP SWITCHES in this manual.
5. Install standoffs for second board as shown in Diagram 5, on the following page.
6. Plug the second board into the top slot of the Escort 2, making sure that the connector pins line up properly.
7. Plug the external power supply into the jack on the expansion board mounted vertically on the back of the Escort 2 box.
8. Replace the top cover of the Escort 2. Note that the screws are self-tapping and should not be forced in.
9. Plug the unit into the Amiga expansion port and plug the power supply into an A.C. source.

NOTE; The external power supply should be powered up at the same time as the Amiga. This is best done by putting them on the same power strip.

INSTALLING A SECOND MEMORY BOARD (cont'd)

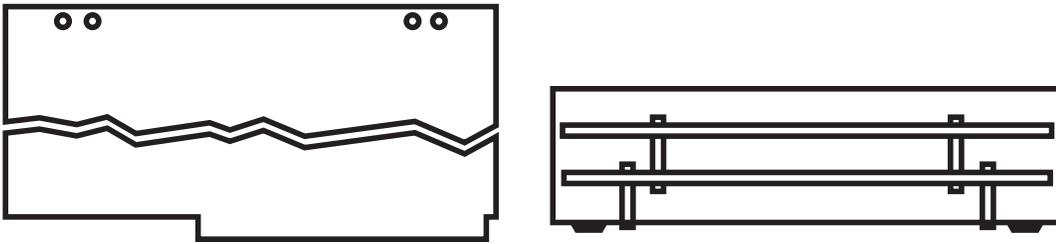


Diagram 5

JUMPER SELECTION

The Commodore-Amiga expansion architecture defines three pins on the 100-pin connector specification for signals that are to be generated by an expansion box. These signals are DBOE\* (93) 7 MHz (92) and RESETB\* (94). The 2MB memory board generates these signals for its own use, and also feeds them back to the 100-pin edge connector in the event that another board that expects to see these signals is plugged into the second slot.

A jumper area has been provided for those situations where these signals must be removed from the bus. (See Diagram 4.) The Escort 2MB memory system is shipped with these jumpers connected. If the second memory board is purchased, these jumpers will be cut. The jumper area has been laid out so that these signals can easily be reconnected if necessary.

## WARRANTY

EXPANSION TECHNOLOGIES, INC. warrants this product against defects for a period of NINETY (90) DAYS from the date of original (retail) purchase. EXPANSION TECHNOLOGIES will repair or (at its option) replace this product during warranty period provided the product has not been damaged by accident, abuse or misuse.

The foregoing constitutes the sole warranty of EXPANSION TECHNOLOGIES and all warranties of merchantability and fitness, are hereby excluded to the extent permissible by law; or if such exclusion is prohibited by any federal, state, or municipal law which cannot be preempted, are hereby limited to NINETY (90) DAYS from original retail purchase of this product. Incidental or consequential damages resulting from a breach of any applicable express or implied warranties are hereby excluded.

This warranty gives you specific legal rights. You may also have other rights which vary from state to state.

To obtain warranty service, this product may be returned to the dealer from whom it was purchased or directly to EXPANSION TECHNOLOGIES. Should you need to return the product directly to EXPANSION TECHNOLOGIES, you must first call customer service at (415) 656-2890 to obtain a Return Authorization (RA) Number. All returns must be accompanied by proof of date of original sale and the warranty card must be on file with EXPANSION TECHNOLOGIES.

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