Marpet
DEVELOPMENTS

XTRA-RAM +8

Atari Mega ST Version

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Disclaimer. Marpet Developments do not assume any liability for any consequential damage caused by the use of the Xᴛʀᴀ-RAM +8 upgrade. Marpet Developments also do not assume any liability for any damages caused during or as a result of installing the Xᴛʀᴀ-RAM +8 upgrade, or resulting from parts not supplied by Marpet Developments.

Ten Day Money Back Guarantee. The Xᴛʀᴀ-RAM +8 upgrade is covered by a ten day money back guarantee. (Participating resellers only.) This means that if the Xᴛʀᴀ-RAM +8 upgrade (including ALL circuit board[s] and all other items which may be supplied with the Xᴛʀᴀ-RAM +8 upgrade) are returned to the supplier in their original saleable condition then the supplier will offer a full refund on the purchase price. In no way will Marpet Developments, or its dealers and stockists, accept the return of items for refund under the ten day money back guarantee if any soldering or other electronic changes have been made to any circuit board, unless written permission has been granted directly by Marpet Developments.

Guarantee. Marpet Developments guarantee the Xᴛʀᴀ-RAM +8 upgrade to be free from defects in materials and workmanship for a period of twelve months from the date of purchase by the user. If any parts or equipment becomes defective during this period Marpet Developments will repair or replace them without any charge. If it is deemed by Marpet Developments that the part(s) are defective through misuse, neglect or accident, then the repair or replacement will be undertaken at normal repair charges for materials and labour. The guarantee is held by Marpet Developments and is effective on a 'return to base' basis. Consequently, any claim under the guarantee necessitates the user returning the product in the first instance to the supplier. If the product was purchased directly from Marpet Developments, the owner is responsible for paying for any postal or delivery charges incurred in the return of the part(s) to Marpet Developments in Harrogate. A Returns Authorisation Number must be obtained to avoid the refusal of returned goods at the sender's expense!

Technical Support

Technical Support is available from your dealer or direct from Marpet Developments. Please ring 0423 712600 during office hours (answerphone outside of office hours), or FAX 0423 712601 available 24 hours. Overseas customers telephone +44 423 712600, or FAX +44 423 712601. We can also be contacted on CIX. 081 390 1255 MARPET (+44 81 390 1255 MARPET).

Testing the Xtra-RAM +8

After installation of TOS 2.06, check your system before installing the Xtra-RAM +8. After installing the Xtra-RAM+8 boot TOS 2.06, run XTRA.PRG, and examine the display. XTRA.PRG executes a fast memory test procedure each time it is loaded as it installs the additional memory. If all is OK, from the desktop run XTRATEST.PRG. This executes a more thorough RAM testing procedure and reports errors. If you experience difficulties contact our technical department. If all is OK, use and enjoy! The daily procedure is simply Boot TOS2.06 and execute XTRA.PRG .

Atari Mega ST Power Supply Units

It is an unfortunate fact that the quality of Atari supplied Power Supply Units (PSUs) is not what it ought to be. Particularly if the Xtra-RAM +8 board is used in an Atari Mega ST containing a conventional memory expansion product, together with an internal hard disk drive or other Atari powered peripheral, it may be that a high quality high power PSU will be required for reliable operation. If you measure below 4.6 to 4.7 volts D.C. on your mother board after installing the upgrade, you will likely experience occasional bombing and resets until the PSU is exchanged for a higher power unit.

Marpet Developments use and recommend the Best Electronics top rated heavy duty internal power supply, part number CB101638, 115 or 230 AC volt, 50/60 Hz user switchable. Available from Marpet Developments or directly from Best Electronics. Best Electronics may be contacted on (from the United Kingdom) 010 1 408 243 6950, FAX: 0101 408 243 8274. Best Electronics are in San Jose, California.

Customer Feedback

Once you have your 12Mb system up and running please do take the time to write to Marpet Developments advising us of the applications you use with the additional RAM - together with details of those programs which are successfully modified by USEXTRA.PRG . (See overleaf.)

The supplied 3.5" diskette should contain at least the following files. Their useage is generally self explanatory but where necessary additional documentation may have been supplied as an ASCII file on the diskette. The contents of the diskette are copyright and not for distribution!

FREEMEM.ACC (1269) or FREEMEM.PRG (1267)

A simple utility to display the amount of original RAM installed within the computer, together with the amount of RAM installed on the XTRA-RAM +8 board - provided the XTRA.PRG has been executed.

README.1ST

An ASCII text file containing any essential information to be read before installation begins. This file may be empty.

USEXTRA.PRG (17423) & USEXTRA.RSC (1506)

The utility and resource file for modifying the File Header of a GEM Application in an attempt to enable it to recognise and use the TT compatible RAM on the XTRA-RAM +8 board. Only use this utility on a back-up of the application.

XTRA.PRG (11237)

The essential program for enabling the Xtra-RAM +8 and for modifying the computer's operating system. It must be executed after TOS 2.06 has been booted. It can be run from an AUTO Folder - but it must be after any TOS 2.06 boot utility.

XTRATEST.PRG & XTRATEST.RSC

The memory testing utility. This tests both the original Atari 4Mb and also the RAM installed on the XTRA-RAM +8 board. After using this utility you are advised to re-boot the system.
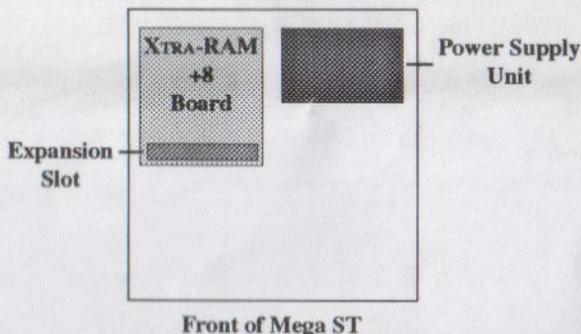
COMPAT.LST Folder

A folder containing the latest information available to us regarding the software which can be successfully used with the XTRA-RAM +8 board; and also those applications which can be successfully modified by using the USEXTRA.PRG . We request as much feedback from the user as possible regarding compatibility issues.
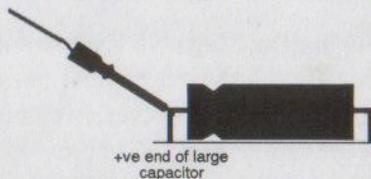
Installation

Thank you for purchasing the XTRA-RAM +8 product for your Atari Mega ST system. This product is exceptionally easy to install and no soldering whatsoever is required for its installation. However, it is VITAL that you have TOS 2.06 available to the system - and many boards providing this facility do require soldering during installation.

To install the XTRA-RAM +8 board you have to remove the top from your Mega ST. If you have previously upgraded your Mega ST, for example when installing TOS 2.06, this will be familiar to you. You will need a pair of straight nosed pliers and a 'Phillips' type screwdriver. Once the plastic top has been removed the shielding needs to be unfastened - it is both screwed and clamped into position. shielding may have sharp edges - please take care.

On the Mega ST mother board there is one expansion slot towards the rear left corner. Our XTRA-RAM +8 product will only install one way into this slot ... with our product taking up space in the rear left corner of the mother board ... that is to say, from the expansion slot to the rear of the mother board.

Front of Mega ST

From the XTRA-RAM +8 board you will see one flying lead terminating in a small micro-probe. This is for powering the XTRA-RAM +8 board - the probe needs connecting to the +5v end of a component on the mother board, for example a capacitor, resistor or coil. On many models a suitable component is the coil (or resistor) just to the left of the floppy disk drive mother board cable connector ... L50. The probe requires connecting to the left of this component (nearest the XTRA-RAM +8 board). If in doubt please do ring or fax for further clarification!

+ve end of large capacitor
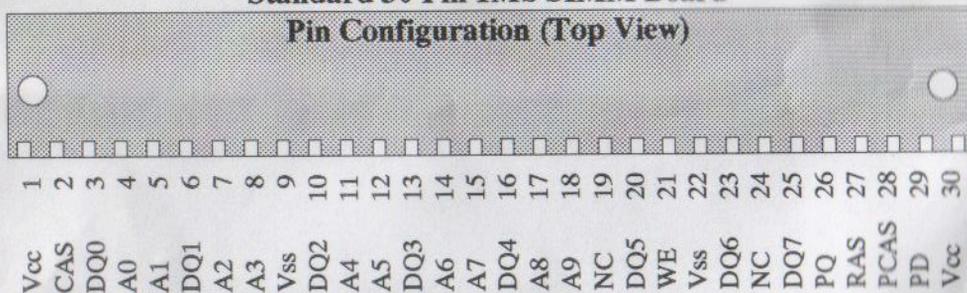
Installation of SIMMs on the Xtra-RAM+8

You may have purchased the Xtra-RAM +8 unpopulated. You will need to install either four or eight industry standard 1Mb SIMMs. These can be either 8 or 9 bit wide. They can only be positioned on the Xtra-RAM +8 board in one way. The 'chips' on each SIMM board MUST face the front of the Xtra-RAM +8 board (and so the front of the Mega ST). If installed incorrectly you may damage the Xtra-RAM +8, the SIMMs, and your Mega ST! Check and double check. Contact us for clarification if necessary! It is best to begin populating the Xtra-RAM +8 board from SIMM socket number eight (at the front) back to SIMM socket number 1 (at the rear).

If you wish to install only four megabytes (4Mb) on the Xtra-RAM +8 board, you must use the four SIMM sockets marked numbers 5 to 8.

For those users who may wish to check their 1Mb SIMMs for compatibility, the following pin allocations may be of value.

Standard 30 Pin 1Mb SIMM Board
Pin Configuration (Top View)

Pin	Label
1	Vcc
2	CAS
3	DQ0
4	A0
5	A1
6	DQ1
7	A2
8	A3
9	Vss
10	DQ2
11	A4
12	A5
13	DQ3
14	A6
15	A7
16	DQ4
17	A8
18	A9
19	NC
20	DQ5
21	WE
22	Vss
23	DQ6
24	NC
25	DQ7
26	PQ
27	RAS
28	PCAS
29	PD
30	Vcc

Xtra-RAM +8 Jumper Settings

There is one jumper on the Xtra-RAM +8 board for selection of 0 or 1 Wait State. As a general rule, try the 0 Wait State setting but if difficulties are encountered change the setting to 1 Wait State. Generally SIMMs rated at 120ns or faster should support the 0 Wait State setting.

Sharing the Mega ST Expansion Slot

The Xtra-RAM +8 has not been designed to specifically share the Mega ST's expansion slot. However, in many instances it may do this. The Xtra-RAM +8 has exceptionally long pins to provide a pass-thru facility - at the user's risk! Please read the warning paragraph inside the rear covering before proceeding further.

WARNING

The XTRA-RAM +8 product features extended length expansion bus connector pins. These are both sharp and liable to be bent under impact. Upon receipt of the product visually check that these pins have not been bent in damage and that they are not touching one another. Remove any anti-static sponge packaging from the pins.

Please also be warned that the expansion connector within the Atari Mega ST does not facilitate a secure physical connection for an expansion product such as the XTRA-RAM +8. Consequently, if you frequently move your Atari Mega ST from one location to another, you MUST check, before power-up, that the XTRA-RAM +8 board has not become loose during transit.

Technical Information

This information is not required for the daily use of the product, nor is it required during installation. It is presented as a service for the small number of individuals who will wish to have the knowledge to access the memory from their own programming routines.

The XTRA-RAM +8 product makes use of the cookie jar. The cookie name is **Xram** (upper case 'X' and lower case 'ram').

The high word is a combination of the start address and the total amount of memory on the XTRA-RAM +8 product.

The top three (3) nibbles of this word is the address the memory starts at. For example, **004** means the memory starts at **$00400000**.

The bottom nibble of this word is the length in megabytes of the memory on the XTRA-RAM +8 product. For example, **4** or **8**.

The low word is the software revision number and internal flags.

If you have specific technical questions we will do our best to promptly deal with them. The provision of a Stamped Addressed envelope greatly helps us!

THE GUILD OF MASTER CRAFTSMEN

CORPORATE MEMBER