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RAM-plus QL Memory Expansion.

CST are pleased to announce a RAM expansion unit that fully matches the QL's potential. The unit, the 'RAM-plus', contains the full complement of 512 Kbytes of full speed ram, which is housed in an aluminium extrusion which matches the end of the QL and also contains a connector and card guide to allow other (non-memory) expansion units such as floppy disc, winchester or modem to continue to be used with the QL.

Features.

* High reliability design-
  Fully buffered.
  Uses latest 256K DRAM technology.
  No marginal timings in design.
  Guaranteed to work with all CST periphals.
  May be used reliably in the Q+4 when 2 or more other periphals are required.

* Elegant styling-
  Matches QL.
  No bare boards.
  Aluminium housing minimises radio frequency interference.

* Expansion connector-
  Doesn't "waste" the QL's expansion slot.
  Allows use of further peripherals.

Reasons for installing additional memory.

* Performance-
  RAM-plus memory runs faster than internal QL memory, so programs run faster than on a standard QL. Also, because Qdos uses spare memory to keep a copy of data on microdrives (and discs), the more spare memory there is, on top of programs etc., the less often it is necessary to wait for data to be fetched from the microdrive.

* Data space available-
  SuperBASIC and Psion application packages are much less restricted in the amount of data they can handle. They also run quicker as it is not necessary for data to be "swapped" onto microdrive or disc when the data is larger than the memory available.

* Multitasking-
  Although the QL's operating system, Qdos, supports multitasking, many programs use nearly all of the basic QL's available memory, preventing more than one program being used at one time. With the RAM-plus, several large programs can be run simultaneously.

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VAT No. 385 9946 76

Installation of the RAM-plus.

1. DISCONNECT THE QL, ANY ATTACHED DISC DRIVES AND ANY OTHER DEVICES FROM THE POWER SUPPLY. DAMAGE MAY RESULT OTHERWISE.

2. Remove any disc drive interface etc. fitted in the left hand end of the QL, referring to the manufacturer's instructions.

   If there is no such interface, remove the small rectangular plastic panel which covers the QL's expansion bus slot. Remove this by the clip at the top of the panel away from the QL. The panel is often a very tight fit and may require some effort to remove.

3. Insert the circuit board of the RAM-plus into the QL's expansion slot under the retaining fixings and press firmly home. The RAM-plus should line up with the case of the QL.

4. If you have a disc drive interface or other peripheral card, insert it into the card guide at the left of the RAM-plus. The card should slide into the slot at the base of the guide and be pressed firmly home until you can feel it in place.

Testing the RAM-plus.

1. Apply power to the QL. The machine should power up normally, with the exception of the extra time taken to perform the power on ram check.

2. Press F1 or F2 to enter SuperBASIC.

3. Type the following:

   ```
   PRINT (RESPR(0)-131072)/1024
   ```

   This should display the amount of memory available in kilobytes, i.e. 640 which is the QL's internal 128K plus the newly fitted 512K.

Using the extra memory.

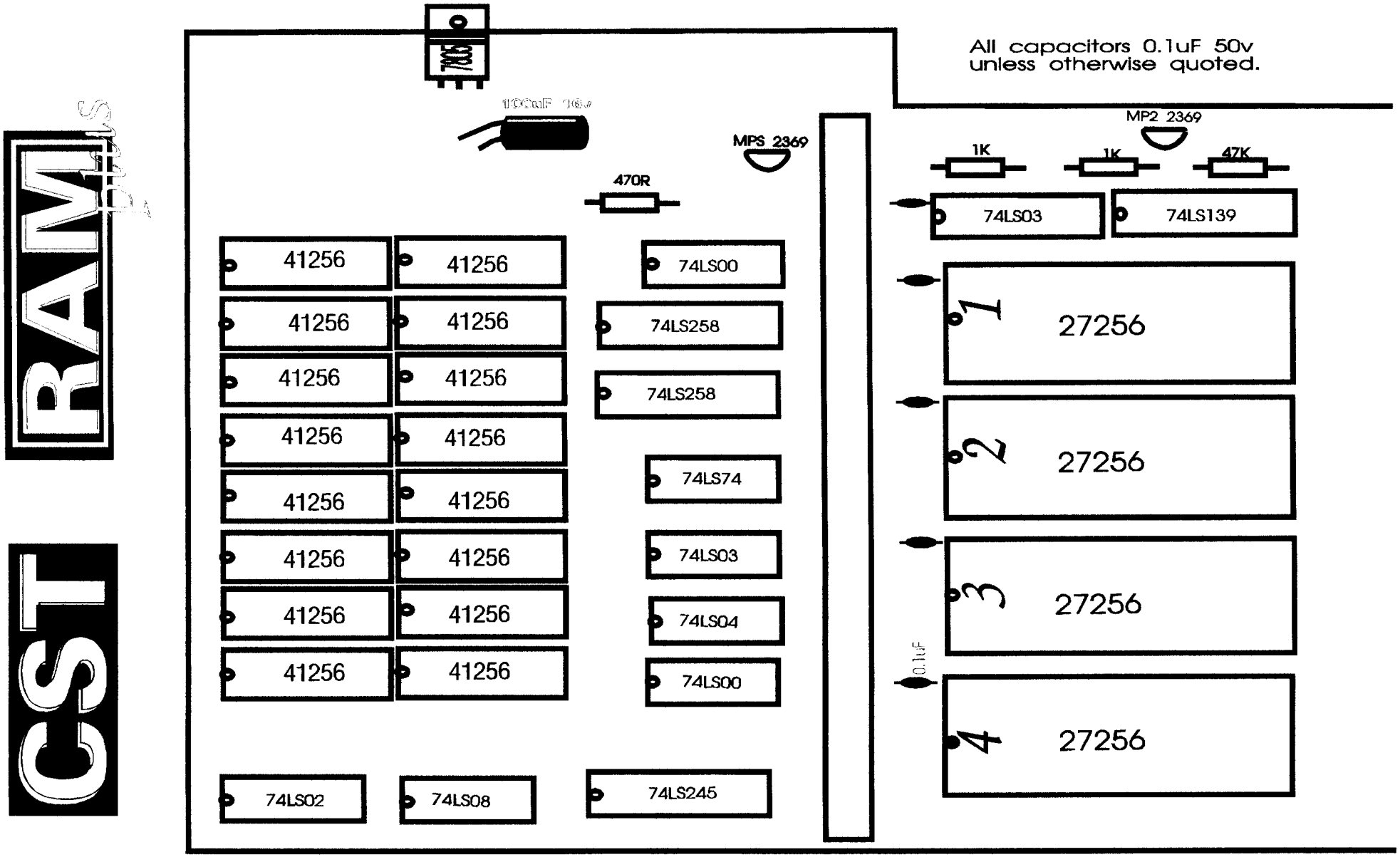
QDOS, SuperBASIC, the Psion packages and nearly all other software for the QL automatically make use of all the memory fitted. Refer to the instructions supplied with Ram device drivers for the way to allocate memory to them.

There are a few programs, mostly games, which make the unwarranted assumption that there is exactly 128K memory available. To allow these to be used, first remove the extra memory by typing:

```
x = RESPR(524288)
```

Using the Eprom ports.

If your QL has an operating system version JS or MG, eprom software may be used in the right hand end of the RAM-plus, allowing more than one extra eprom on the QL. Each eprom fitted must be fully position independent code; check with the software supplier. Currently, the Care/QJump Toolkit is known to be suitable, freeing the back slot for e.g. the Eidersoft mouse. CST can upgrade a RAM-plus for £25 inc. VAT and p&p; alternatively, we can supply a kit for competent solderers at £10 (with a "get it going" service at £20 if needed). Before ordering, please ensure that your QL is a JS or MG and the software is suitable for use in an expansion eprom slot.


CST
RAM
7805
100uF 16v
MPS 2369
470R
All capacitors 0.1uF 50v
unless otherwise quoted.
MP2 2369
1K
1K
47K
74LS03
74LS139
41256
74LS00
74LS258
74LS258
74LS74
74LS03
74LS04
74LS00
74LS02
74LS08
74LS245
1
27256
2
27256
3
27256
4
27256
0.1uF