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ACORN TECHNICAL MANUAL

Extension Memory Board 200,003

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INTRODUCTION

The Acorn Extension Memory board provides an extra 8K bytes of user R A M space and has sockets for two R.O.M.'s which may be 2, 4 or 8K devices providing 4 or 8K bytes of firm ware. The board connects to the Acorn computer bus via a 32 way Euro-connector and bus buffers ensure a low loading on the bus. A full set of integrated circuit sockets are supplied with each board even if the full memory option is not purchased.

The board operates from a single 5v supply on the Acorn bus and consumes not more than 1.6 amperes when a full compliment of 2114's is fitted.

A write protect switch may be fitted by breaking a track and fitting a single pole, single throw switch across the break, wiring to the two holes provided. Refer to P.C.B. layout on page 5.

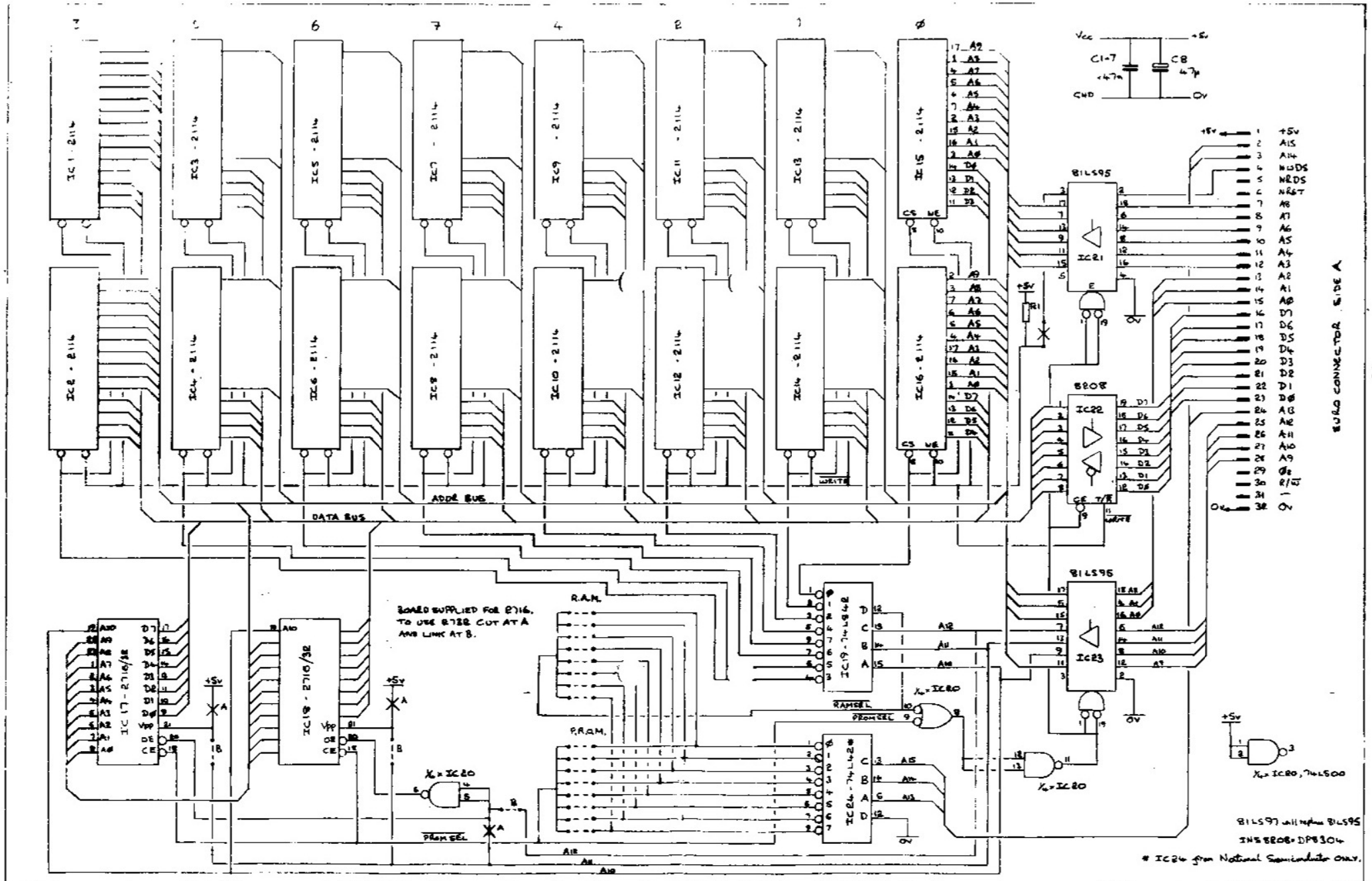
The RAM and ROM may each set to appear in any 2 out of 16 blocks in the address map by fitting wire links, see page 6. If the board is to be used either without any ROM or without any RAM then both the RAM and ROM address links should be fitted in the same positions ensuring that one input to IC 20 pins 9 or 10 is not left open circuit.

In systems with a Valid Memory Address signal on the backplane a 64 way Euro-connector may be fitted and the VMA link on the P.C.B. may be cut allowing the signal to be fed to the board.

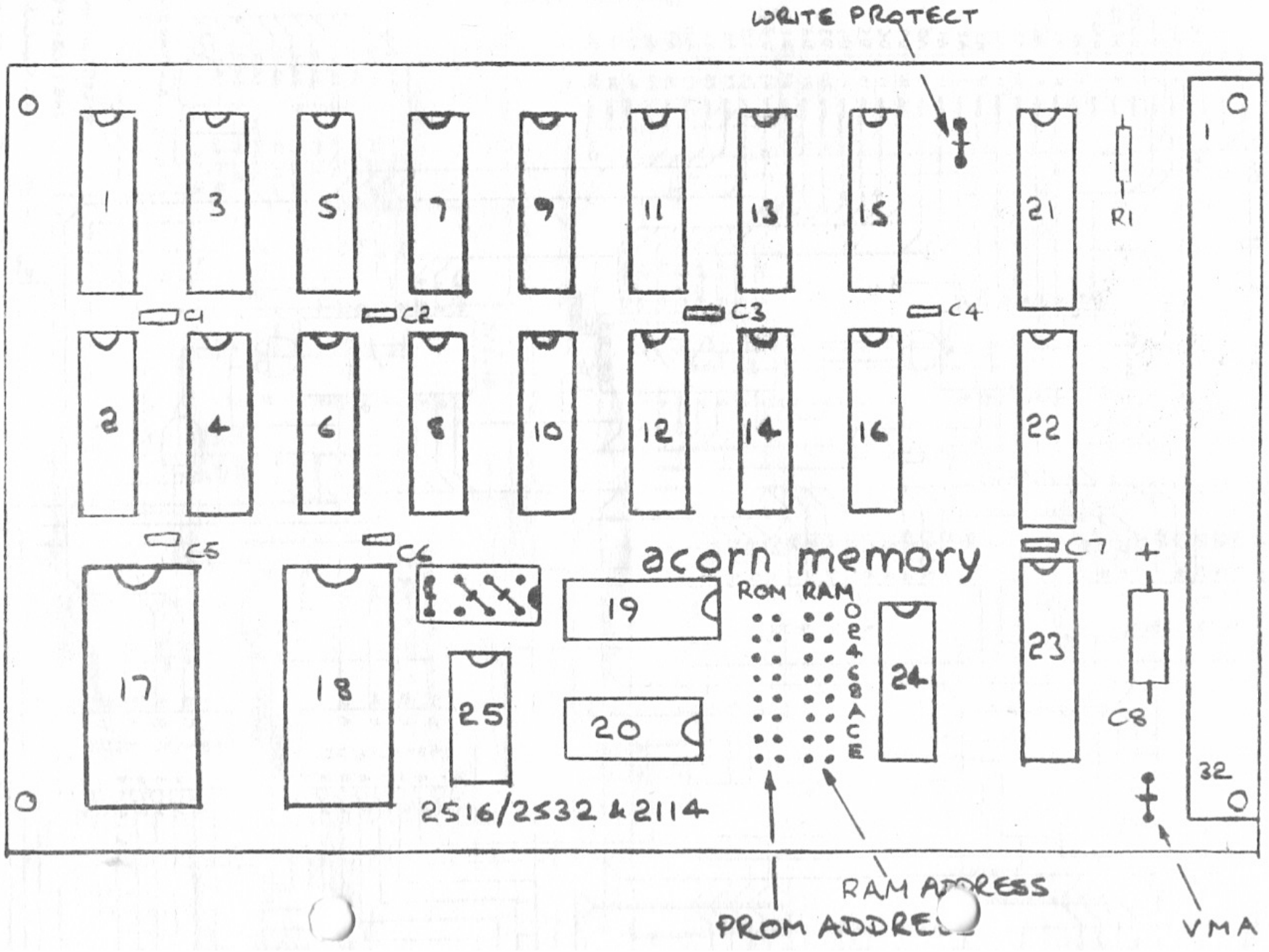
PARTS LIST FOR ACORN MEMORY BOARD

P.C.B.	Acorn Computers Ltd Pt. No. 200,003	
IC 1-16	2114 Random Access Memory	and 18 pin sockets
IC 17-18	ROM or EPROM of 2516 or 2532 style	& 24 pin sockets
	or	
IC 17 only	ROM or EPROM of 2564 style	and 24 pin socket
IC 19	74LS42 Decoder	and 16 pin socket
IC 20	74LS00 NAND gate	and 14 pin socket
IC 21, 23	81LS95 or 97 Bus buffer	and 20 pin sockets
IC 22	INS 8208 Bus Buffer	and 20 pin socket
IC 24	74LS42 Decoder from National Semiconductor	and 16 pin socket
IC 25	74LS00 NAND gate	and 14 pin socket
CI-7	47 nF or 100 nF Capacitor	
C 8	10, 15 or 47 uF Electrolytic Capacitor	
R1	1K Resistor	

nb. INS 8208 is equivalent to DP8304



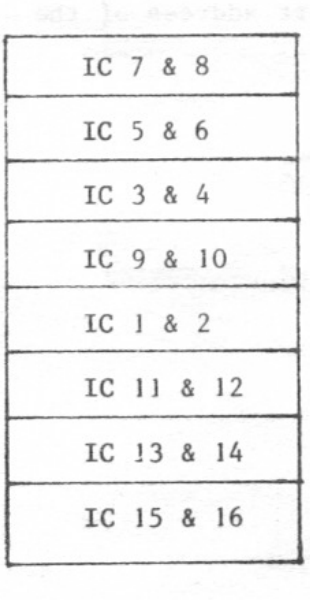
ISSUE	2	CBT	8K RAM + 8K PROM P.C.B. CIRCUIT DIAGRAM	200.003/C
DATE	21-05-79	21-05-79		ACORN COMPUTERS LTD.


WRITE PROTECT
1
3
5
7
9
11
13
15
21
R1
C1
C2
C3
C4
2
4
6
8
10
12
14
16
22
C5
C6
C7
acorn memory
ROM RAM
17
18
19
20
25
24
23
C8
32
2516/2532 & 2114
PROM ADDRESS
RAM ADDRESS
VMA

PCB LAYOUT.

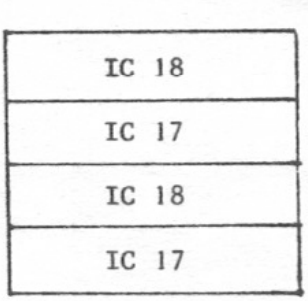
ADDRESS SELECTION

Wire links must be fitted to the board to determine where the ROM and RAM exist in the address map. The RAM map for one board is shown:

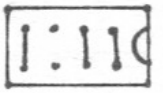


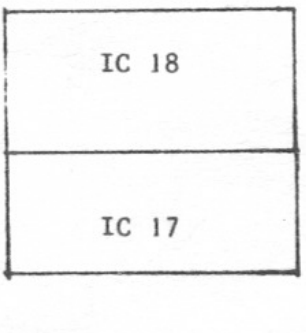
This may be positioned to start at ØØØØ, 2ØØØ, 4ØØØ etc by linking in position 0, 2, 4 etc on the board.

Three ROM maps are possible.

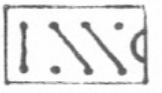


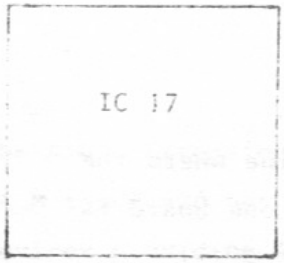
Using 2516's or 2716's which appear twice in the 8K byte space. Wire links as shown:-





Using 2532's. This is the standard configuration for the board and these links are tracked on the P.C.B. and must be cut if one of the other schemes is required:-

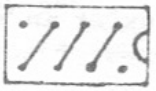




IFFF

9000

Using one 2564 only.
Wire links as shown:-



Again links in 0, 2, 4 etc will set the start address of the ROM space to be 0000, 2000, 4000 etc.