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Assembly Hints for the 'Video Upgrade' Kit

1) Check parts received against this parts list:-

IC 1	....	74LS30	R 1	....	10k	C 11	....	47nf
IC 2	....	74LS93	R 2	....	470ohms	C 3	....	100pf
IC 3	....	74LS00	R 3	....	1k	C 6	....	47pf
IC 4	....	74LS93	R 4	....	1k	C 7	....	47nf
IC 5	....	74LS32	R 5	....	1k	C 8	....	100pf
IC 6	....	74LS00	R 6	....	330ohms	C 12	....	47µf
IC 7	....	74LS00	D 1,2	...	1n4148	C 1, C 2, C 13	..0.1µf	
Q1	.....	2n2369 (marked 014-581-612)				C 4, C 5, C 9, C 10, C14		(NOT REQUIRED)

2m. of single core wire, double sided tape.

And of course, 1 printed circuit board.

2) There are no special considerations when building the 'Video Upgrade' itself, the interesting bit comes later. The suggested order in which the parts are assembled are:-

- (a) Integrated circuits (ensure correct orientation).
- (b) Resistors and diodes
- (c) The transistor, be sure to mount it as far down on the PCB as possible, without the can touching the PCB.
- (d) Capacitors
- (e) Mount all components as low as possible on the PCB.

3) Track cuts to be made on the Microace are between:-

- (a) IC13 pin 5 R33
- (b) IC14 pin 2 IC22 pin 3 + 4
- (c) IC14 pin 1 IC24 pin 1
- (d) IC13 pin 5 IC14 pin 1

4) Connections to be made on the Microace:-

Use the wire provided as it is single core and therefore (we feel) easier to use.

- (a) IC14 pin 1 R32+33
- (b) IC24 pin 1 IC13 pin 5
- (c) A R14 or IC1 pin 6 ; 3.25Mhz clock
- (d) B IC1 pin 31 ; A 1
- (e) C IC1 pin 30 ; AO
- (f) D R2 or IC1 pin 24 ; WAIT
- (g) E IC1 pin 17 ; NMI
- (h) F IC1 pin 18 ; HALT

4) Cont'd....

(i)	G	.....	IC14 pin 1	; char. line clock
(j)	H	.....	IC14 pin 2+3	; char. line reset
(k)	I	.....	IC13 pin 5	; software sync.
(l)	J	.....	IC22 pin 4 or IC23,6	;
(m)	K	.....	IC22 pin 5	; $\overline{IORQ} + \overline{WR}$
(n)	L	.....	+5 volts	
(o)	M	.....	0 volts	

5) Track cuts to be made on the ZX80 are between:-

(a)	IC21 pin 1	.....	IC19 pin 5
(b)	IC19 pin 5	.....	R32 + 35
(c)	IC21 pin 2	.....	IC11 pin 11

6) Connections to be made to the ZX80:-

(a)	IC21 pin 1	.....	R32 + 35	
(b)	A	.....	IC1 pin 6	; 3.25Mhz clock
(c)	B	.....	IC1 pin 31	; AI
(d)	C	.....	IC1 pin 30	; AO
(e)	D	.....	IC1 pin 24	; \overline{WAIT}
(f)	E	.....	IC1 pin 17	; \overline{NMI}
(g)	F	.....	IC1 pin 18	; \overline{HALT}
(h)	G	.....	IC21, 1	; char. line clock
(i)	H	.....	IC21 pin 2+3	; char. line reset
(j)	I	.....	IC19 pin 5	; software sync
(k)	J	.....	IC11 pin 10	;
(m)	K	.....	IC11 pin 9	; $\overline{IORQ} + \overline{WR}$
(n)	L	.....	+5 volts	
(o)	M	.....	0 volts	

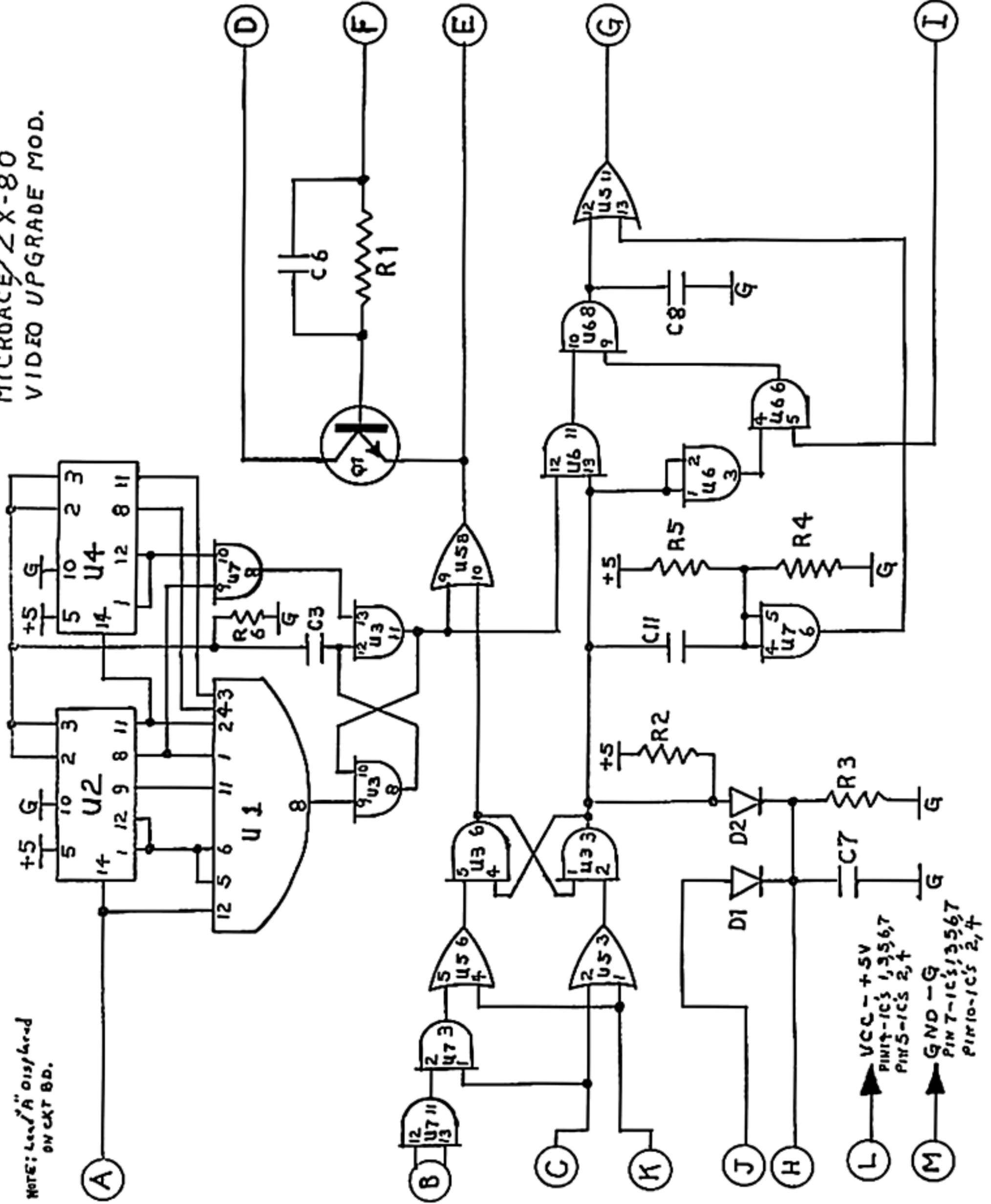
7) There are a couple of funnys with this add on, in particular the top line of the display slants to the right slightly and R3 (1k) sometimes needs to be 470ohms to centralize the characters in their field! To rid the board of these funnys, a total redesign would be needed, maybe later, but for now we wish you many hours of flicker free fun!

8) All kits that fail to function, for whatever reason, may be returned to us along with a cheque for £5.00 whereupon Compshop will either put the upgrade into working order or replace it with a fresh kit, whichever our engineer feels most appropriate. If you feel this arrangement is unsatisfactory or you find the kit unsatisfactory, you may return it, unassembled and in its original form, within 14 days for a refund.

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MICROACE/ZX-80
VIDEO UPGRADE MOD.

NOTE: Lead "A" displayed
on EXT BD.



BY _____ DATE _____

CHKD. BY _____ DATE _____

SUBJECT _____

SHEET NO. _____ OF _____

JOB NO. _____