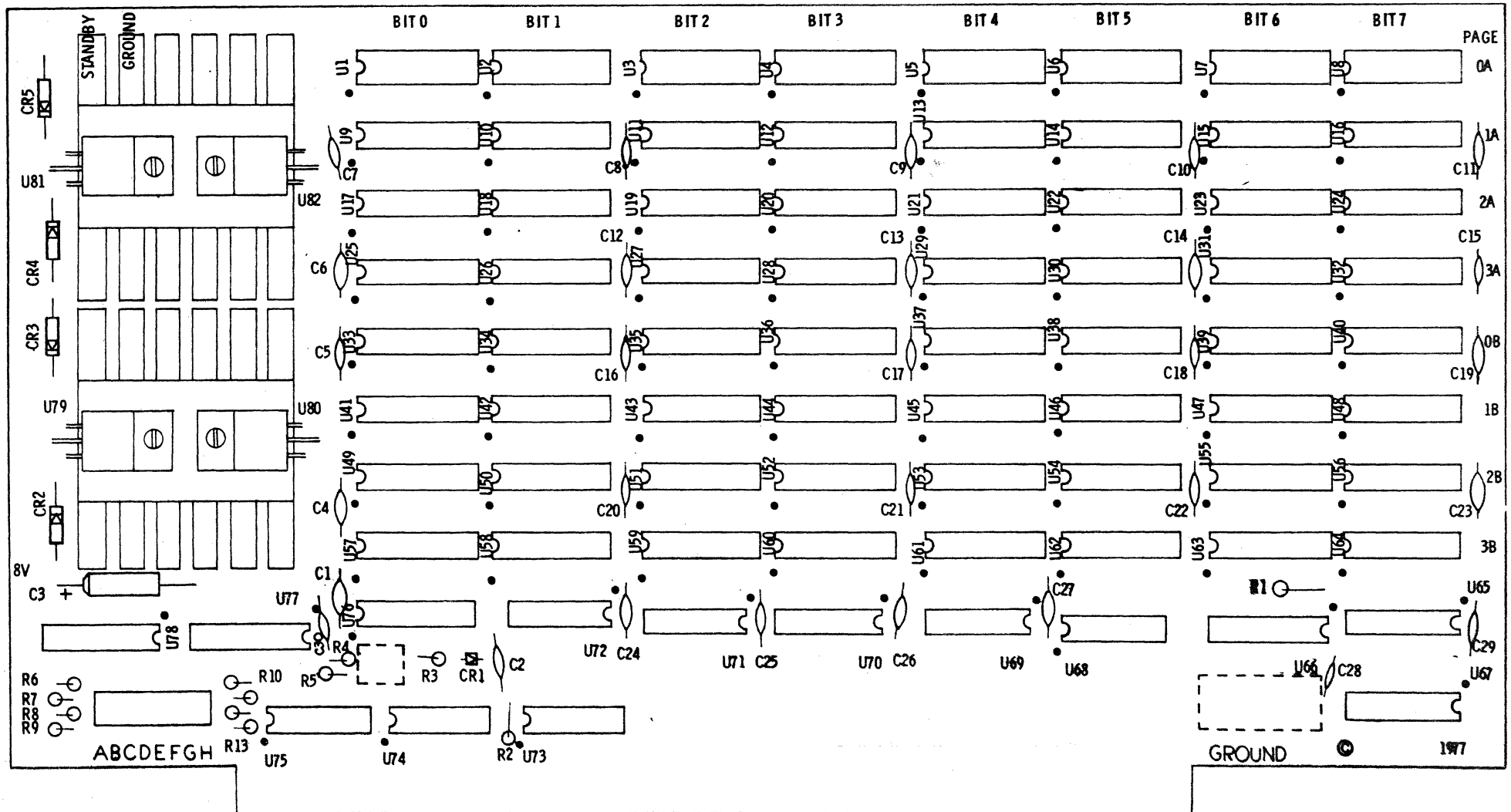


U1-U64 2102 TYPE MEMORY
 U65,66 8098 OR 74LS368
 U67 74175
 U68 74LS32
 U69-72 74LS04
 U73 74LS02
 U74 74LS08

U75 74LS74
 U76 74LS138
 U77,78 74LS85
 U79-82 340T-5
 R1 560, 1/4W
 R2 470, 1/4W
 R3 4.7K, 1/4W

R4-13 2.4K 1/4W
 C1,2 0.001uF
 C3 1uF 10V OR BETTER
 C4-7 0.1uF
 C8-30 0.01uF OR 0.1uF
 CR1 IN4148
 CR2-5 1 Amp DIODE
 6072 HEATSINK



PARTS LIST FOR THE 8KS STATIC RAM KIT

		<u>POSITION</u>
<u>BAG #1</u>		
71	16 pin IC sockets	U1 - U67, U76 - U78
<u>BAG #2</u>		
8	14 pin IC sockets	U68 - U75
<u>BAG #3</u>		
27	.1 uf disk ceramic capacitors	C4 - C30
<u>BAG #4</u>		
1	560 ohm $\frac{1}{4}$ w carbon resistor	R1
1	470 ohm $\frac{1}{4}$ w carbon resistor	R2
1	4.7K ohm $\frac{1}{4}$ w carbon resistor	R3
10	2.4K ohm $\frac{1}{4}$ w carbon resistor	R4 - R13
2	.001 uf disk ceramic capacitors	C1, C2
1	1 uf electrolytic capacitor	C3
1	1N4148 diode	CR1
4	1N4005 diodes	CR2 - CR5
1	8 position DIP switch	
<u>BAG #5</u>		
2	6072 heat sinks	
4	7805 regulators	U79 - U82
4	screws, nuts, washers	
<u>BAG #6</u>		
2	74LS368	U65, U66
1	74175	U67
1	74LS32	U68
4	74LS04	U69 - U72
1	74LS02	U73
1	74LS08	U74
1	74LS74	U75
1	74LS138	U76
1	74LS85	U77, U78
<u>BAG #7</u>		
64	2102 / 21F02 static RAM IC's	U1 - U64

STATIC HANDLING REQUIRED

STATIC HANDLING REQUIRED

DESIRED MEMORY ADDRESS RANGE

ADDRESS SWITCH POSITION

K	DECIMAL	HEX	SPLIT OCTAL	ADDRESS SWITCH POSITION							
				A	B	C	D	E	F	G	H
1- 8	1- 8194	0000-1FFF	000 000-037 377	C	C	C	C	0	C	C	C
5-12	4097-12288	1000-2FFF	023 000-057 377	0	C	C	C	C	0	C	C
9-16	8193-16384	2000-3FFF	040 000-077 377	C	0	C	C	0	0	C	C
13-20	12289-20480	3000-4FFF	060 000-117 377	0	0	C	C	C	C	0	C
17-24	16385-24576	4000-5FFF	100 000-137 377	C	C	0	C	0	C	0	C
21-28	20481-28672	5000-6FFF	120 000-157 377	0	C	0	C	C	0	0	C
25-32	24577-32768	6000-7FFF	140 000-177 377	C	0	0	C	0	0	0	C
29-36	28673-36864	7000-8FFF	160 000-217 377	0	0	0	C	C	C	C	0
33-40	32768-40960	8000-9FFF	200 000-237 377	C	C	C	0	0	C	C	0
37-44	36864-45056	9000-AFFF	220 000-257 377	0	C	C	0	C	0	C	0
41-48	40961-49152	A000-BFFF	240 000-277 377	C	0	C	0	0	0	C	0
45-52	45057-53248	B000-CFFF	260 000-317 377	0	0	C	0	C	C	0	0
49-56	49153-57344	C000-DFFF	300 000-337 377	C	C	0	0	0	C	0	0
53-60	53248-61440	D000-EFFF	320 000-357 377	0	C	0	0	C	0	0	0
57-64	57345-65536	E000-FFFF	340 000-377 377	C	0	0	0	0	0	0	0

NOMENCLATURE: C = Closed (On) Address line Low
 0 = Open (Off) Address line High

In order to address your board, first determine the address space desired. Then set the select switches from the ADDRESS SWITCH POSITION Table.

If, however, you choose to use the Standby Data Retention feature the "Protect" mode is best. This will automatically put the memory in write protect when power is applied so that the processor may not erase memory before you have programmed it. After power is up you may then reset it to unprotect and use it as you desire. Make the jumper selection for the mode you want to use.

STANDBY VOLTAGE

The standby voltage is used to retain memory data while the rest of the system is off. The voltage can be generated for your system by the use of two NI-CAD batteries. This voltage may be applied to the unit either on the board area marked "Standby" and "Ground" or on the S-100 buss pins 13 and 14. The positive voltage should be applied to the pin marked "Standby" or Pins 12 and 14. The negative return should then be connected to Ground.

If Pins 13 and 14 are used for some other purpose in your system, you may select to cut the trace on the PCB in order to disconnect them.

WAIT STATE SELECTION

If you have purchased the 8KS-B and are using an 8080 CPU, you will need zero wait states. If you then go to a faster CPU you may have to include a wait state.

Alternately, if you purchased the 8KS-E, your unit is suitable for use with the 250ns Zilog CPU (or slower CPU's) with zero wait states. The jumper to "0" must be inserted, even though no wait states are necessary.

BOARD CONSTRUCTION

Begin construction of the 8K memory board by first examining it for obvious shorts. Measure with an ohm meter between all address lines, data lines and the ground and +5 volt lines for possible shorts. The sockets are the first items that should be soldered into the PCB. Notice the orientation of the IC's against the layout and the silkscreen. The memory chips are orientated with the Pin 1 on the left side of the IC. The support IC's are orientated oppositely with the exceptions of U68, U73, U75, and U76 which have their Pin 1 on the left side.

After installing the sockets, the capacitors may be soldered in next. Begin with C1, C2 .001 uF and C3. Then C4 - C7 .1uF and the remaining caps C8 - C30 .1 uF. The DIP switch should be installed after the caps.

Now the board should be checked with an ohm meter for possible solder bridges and shorts again as before. If none are found you may proceed.

Install the resistors, diodes and the four regulators. Heatsink compound is not required. Be cautious for the correct orientation of the diodes, especially CR2 - CR5.

POWER ON CLEAR

The area marked "POC" is for Power on Clear initialization of memory protect. With this selection you may choose for the memory protect feature of this board to be initialized in either the "Protect" or "Unprotect" mode of operation. If no standby voltage is used to retain memory data when the power is down then "Unprotect" is the best choice. This will allow immediate use of the memory when power is first applied.

