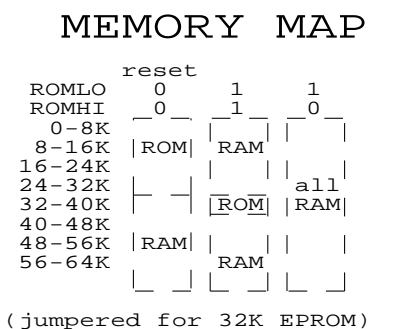


- Notes:
- Bus connectors JP1-2 pinouts same as Z80 and 8080 MC boards.
 - I/O jumpers W11 can change port#s to avoid conflicts.
 - 2K-512K ROM. Jumpers W1-3 set size. Enabled in 8K-32K banks by W7-10. Default configuration: ROM at 0-8K after RESET (ROMLO=0). Set ROMLO=1 to disable ROM at 0-8K. Set ROMHI=1 to enable ROM at 32K-64K. Output bits B15-B18 select 32K banks.
 - 2K-512K byte-wide RAM. RAM fills memory wherever ROM is not enabled. Writes always go to RAM even when ROM is enabled at that address.
 - 64K bank size for 128K or 512K RAMs! To move data between RAM banks, use a program in ROM to a) read from source RAM bank to a register, b) switch to destination RAM bank, c) write register to RAM bank. Tedious; but it minimizes hardware. :-/
 - Provides RS-232/TTL serial port using bit-banging software. Use wire jumpers W12, W13 to configure TTL or RS-232 levels.
 - Audio I/O simulates cassette storage (or use PC sound card etc.) Bit-bang audio tones like RCA VIP and other classic computers.
 - Power: Needs regulated +5vdc at about 0.5 amps. Use P1 to provide both power and serial I/O. Can use Sparkfun FTDI USB-serial cable.
 - One jumper is required (under U5; marked JUMPER on the board).
 - Rev.B: re-arranged memory map jumpers on U3. Add D3.

U1 ROM part#, size, and type				Jumpers		
28-pin ICs						
27512	64K EPROM	A15	A11	A13	A14	--W1-- --W2-- --W3--
27256	32K EPROM	VCC	A11	A13	A14	3-4 1-2,4-5 1-2
27128	16K EPROM	VCC	A11	A13	VCC	3-4 1-2,3-4 1-2
2764	8K EPROM	VCC	A11	x	VCC	1-2,3-4 1-2 3-4
28C256	32K EEPROM	A14	A11	A13	/WE	2-3,4-5 1-2 1-2
28C64	8K EEPROM	x	A11	x	/WE	2-3 1-2
24-pin ICs						
2732	4K EPROM	A11	VCC			4-5 2-3
2716	2K EPROM	VCC	VCC			3-4 2-3
28C16	2K EEPROM	/WE	VCC			1-2 2-3
U2 RAM part# and size				Jumpers		
32-pin socket & ICs						
628512	512K RAM	A14	A11	A13	A17	W4 W5 W6
628128	128K RAM	A14	A11	A13	VCC	B B A
28-pin ICs						
62256	32K RAM	A14	A11	A13	VCC	B B A
6264	8K RAM	x	A11	VCC	VCC	B A A
24-pin ICs						
6116	2K RAM	/WE	VCC			A A



- 8-bit Input port (40-5F)
 IN0-3 8080 Front Panel switches
 IN4 = (spare)
 IN5 = Timer Interrupt flag
 IN6 = Audio Earphone input
 IN7 = Serial bit-banger input
- 8-bit Output port (C0-DF)
 OUT0-3 8080 Front Panel LEDs
 OUT4-6 8080 Front Panel LED/switch sel
 OUT7 Serial bit-banger output
- 8-bit Control port (4x-5x)
 x=0 ROMHI: D0=1 enables ROM bank at 32-64K
 x=1 ROMLO: D0=0 enables ROM at 0-32K
 x=2 B16: D0 controls RAM address A16
 x=3 B18: D0 controls RAM address A18
 x=4 Audio Mic Out: D0 sets level
 x=5 B15: D0 controls ROM/RAM address A15
 x=6 2msec Timer: D0=0 STOP/RESET, D0=1 RUN
 x=7 B17: D0 controls RAM address A17

TMSI c/o Lee Hart		
Title		
8080 Memory/I/O Card		
Size	Document Number	REV
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