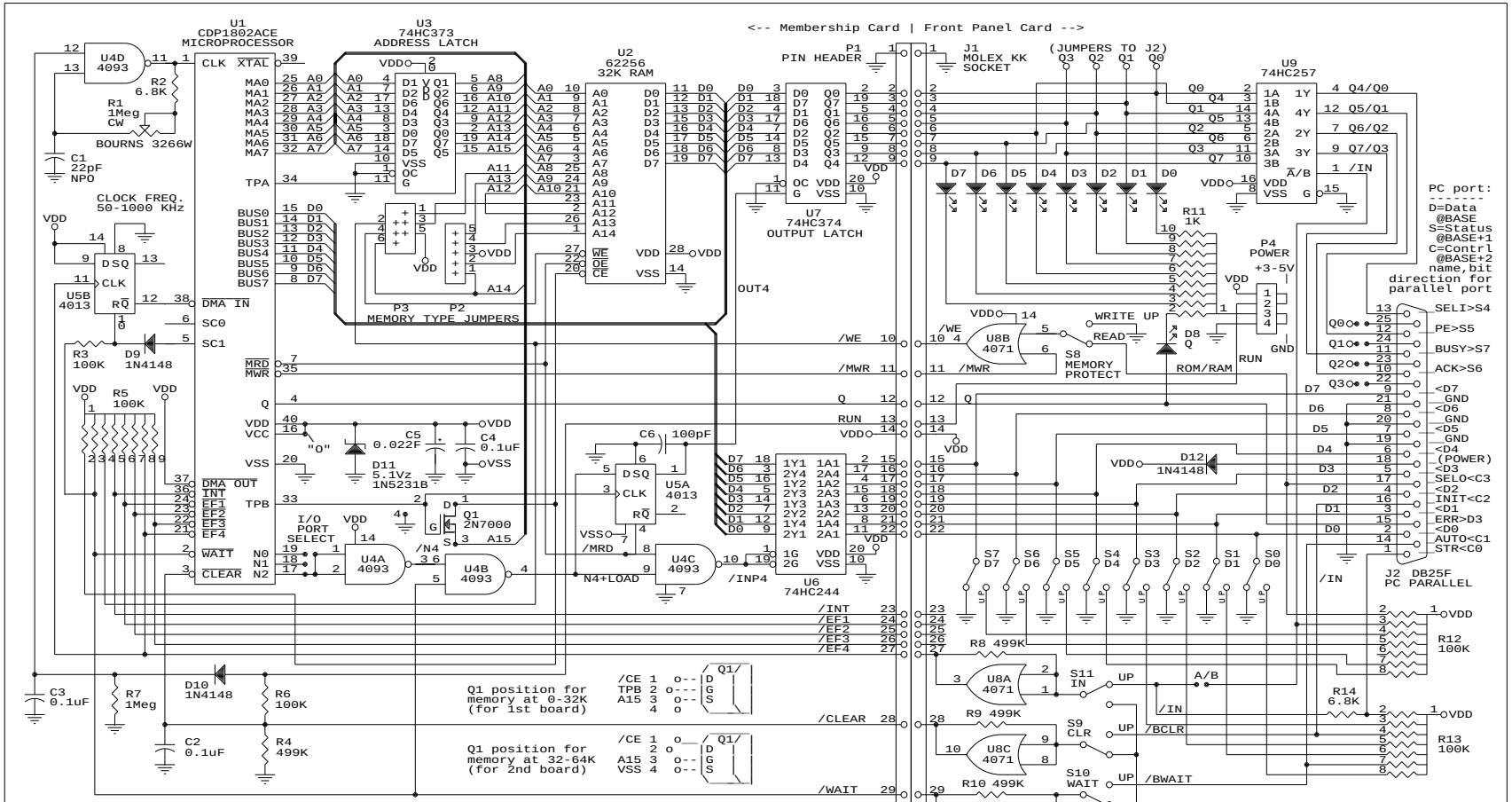

U2 part#	pin#s:	1	23	26	27	P2	Jumpers	P3
43256,62256	32K RAM	A14	A11	A13	/WE	1-2,4-5		1-3,2-4
6264	8K RAM		A11	VCC	/WE	3-4		1-3,2-4
* 6116	2K RAM		/WE	VCC		3-4		2-3
27256	32K ROM	VCC	A11	A13	A14	2-3,4-5		1-3,4-6
27128	16K ROM	VCC	A11	A13	VCC	2-3,4-5		1-3,4-5
2764	8K ROM	VCC	A11	NC	VCC	2-3		1-3,4-5
* 2732	4K ROM		A11	VCC		3-4		1-3
* 2716	2K ROM		VCC	VCC		3-4		3-5

* is a 24-pin chip: put its pin 1 into socket pin 3.

P4 power connector
- pin 1 VDD: +3 to +5 VDC (3 AA cells etc.)
- pin 2 RUN: to pin 1 to run, open to stop osc.
- pin 3 LED: to pin 4 enables LEDs, open is off
- pin 4 COMMON for power (GND, VSS)

Notes:
1. Uses C1-7 D0-12 J1-2 P1-4 Q1 R1-14 S0-11 U1-9. P1-P4 are 0.025" pins on 0.1" centers.
2. Boards stack; Front Panel on top, Membership Card on bottom, both component side up.
3. For 1804, drill feedthru "O" to open VCC.
4. To use J2, set S0-7, S9-11 UP, and S8 DOWN.
5. Rev.B: Add Q1 to gate U2 /CE with TPB & A15. R8-10 was 100K, now 470K. Add C6=82pF. Route RUN to P4. Add feedthru "O". Change I/O port from 5/7 to 4/5/6/7 (but silkscreen wrong).
6. Rev.C: R4 and R8-10 were 470K, now 499K. C6 was 82pF, now 100pF.
7. Rev.D: R2 was 15K, now 6.8K. Add R14 for RS-232 input. Add D12. Add J2 signal names. Swap P1-J1 designators. Add jumpers A/B, Q0-Q3 for 8 outputs on J2. Add N0-N2 & Q1 options to stack 2 Membership Cards w/o memory or I/O conflict.

TMSI c/o Lee Hart
814 8th Ave N
Sartell MN 56377
leeahart@earthlink.net

Title
COSMAC ELF Membership Card (1 and 2 of 2)

Size	Document Number	REV
B	C:\ORCAD\SHEET\1802\DEV4.SCH	D

Date: August 31, 2012 Sheet 1 of 1