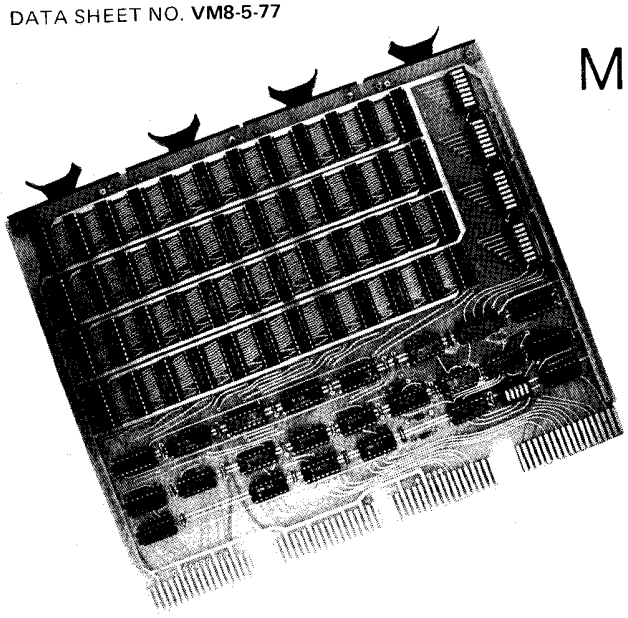
COMPUTER EXTENSION SYSTEMS, INC.

**VM816**

DATA SHEET NO. **VM8-5-77**



# PDP-8® Semiconductor Memory Extension System

Expand the memory of your PDP-8A, E, M, or F with this extremely reliable and economical add-in memory system. Designed for optimum flexibility, the VM816 packs up to 16K x 12 of memory – in four independent 4K increments – into one OMNIBUS® slot. All you need to take advantage of the VM816 is the DEC® Memory Extension, KM8E option or equivalent. This option is required for PDP-8's presently having only 4K of memory.

## SYSTEM FEATURES

**PDP-8 COMPATIBILITY**

The VM816 memory system is completely hardware and software compatible with the PDP-8 A, E, F, or M. It plugs directly into the OMNIBUS.

**HIGH MEMORY DENSITY**

The memory system offers 16K of memory on a single circuit board – occupying one slot on the OMNIBUS. Thickness of the memory board is less than 0.5 inch eliminating overhang and making every OMNIBUS slot available for use.

**FLEXIBILITY**

A series of four DIP switches on the board assign the operating field of each 4K memory block, thus permitting memory blocks to be swapped, added in, or taken out at the flip of a DIP switch.

**SPECIFICATIONS**

Capacity:

| | | | | | |
|---|---|---|---|---|---|
| Model No. | VM816-16 | 16384 words | X | 12 | bits/word |
| Model No. | VM816-12 | 12288 words | X | 12 | bits/word |
| Model No. | VM816-8 | 8192 words | X | 12 | bits/word |
| Model No. | VM816-4 | 4096 words | X | 12 | bits/word |

Power Requirements: 3.1 A @ +5VDC per 16K

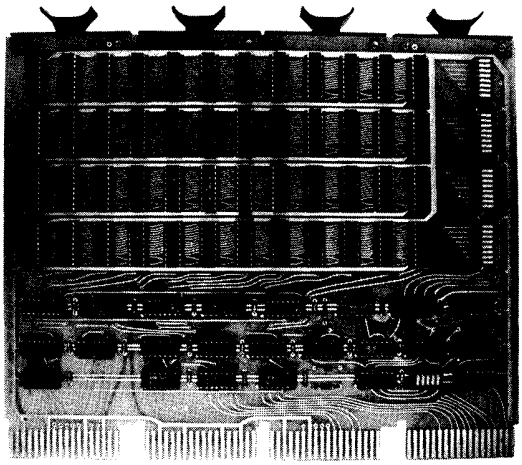
Dimensions: 10.5 in. X 8.5 in. (Standard quad board size)

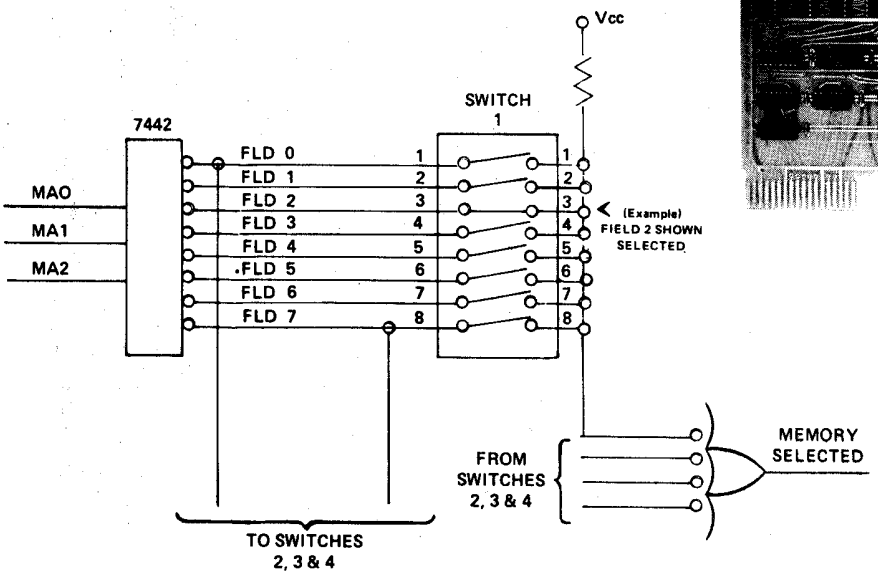
PDP-8, OMNIBUS, and DEC are trademarks of the Digital Equipment Corporation.

17511 El Camino Real • Houston, Texas 77058 • Telephone (713) 488-8830

# MEMORY FIELD ASSIGNMENT

The VM816 memory system is composed of four independent 4K memories — A, B, C, and D. To assign any one of the 4K memories to a particular field — they need not be contiguous — simply turn the desired FIELD switch on in the selected 4K memory bank DIP switch and ensure that all other switches are off in that memory bank. The FIELD assignment is shown schematically below.






**ONE YEAR WARRANTY** CES, Inc. unconditionally warrant our memory systems for one full year, and will immediately ship a replacement unit upon notification of malfunction.

**ORDERING** For current information on prices and delivery call (713) 488-8830, or write to our Marketing Department. Quantity discounts quoted upon request.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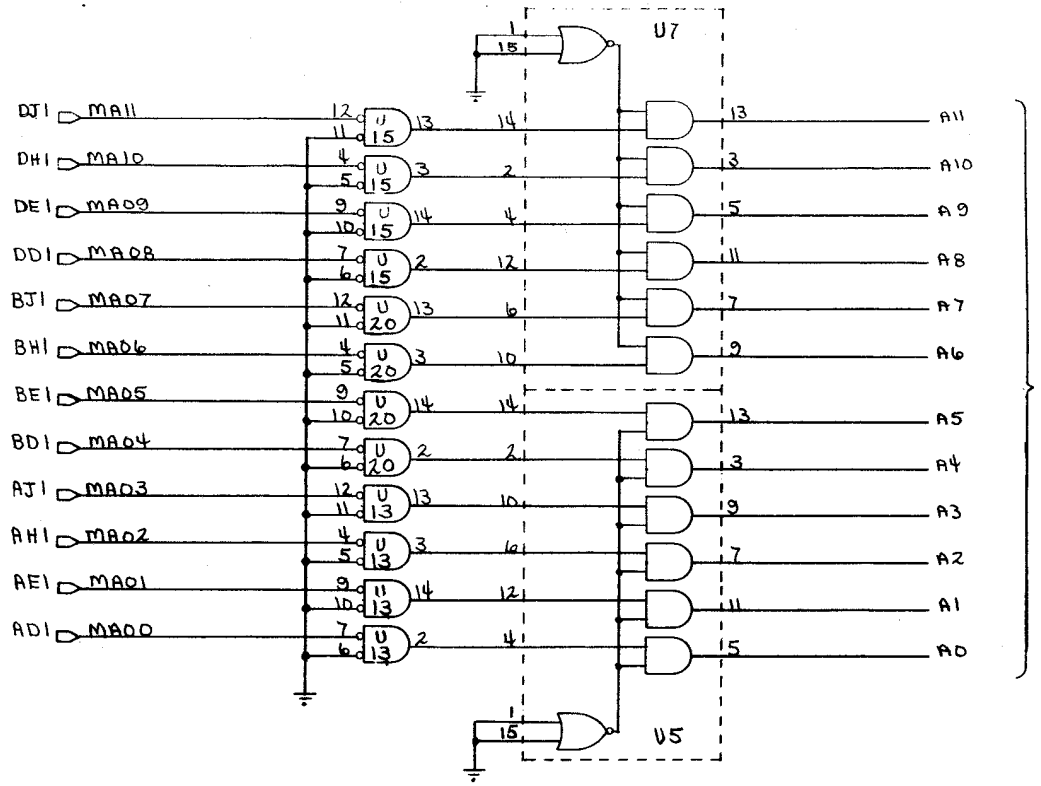
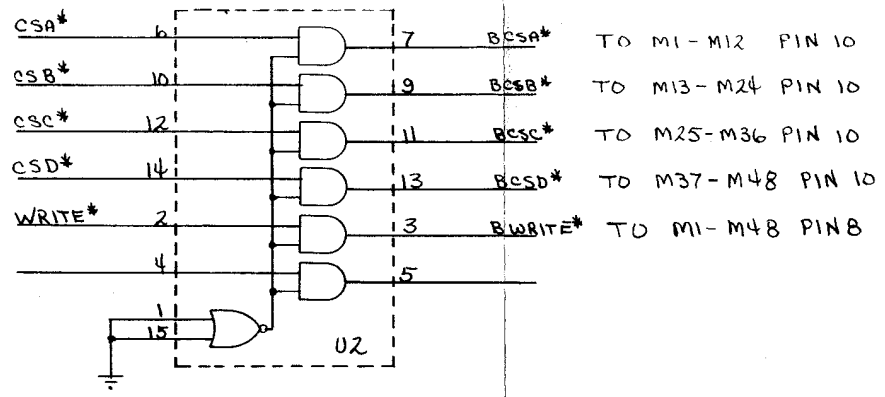
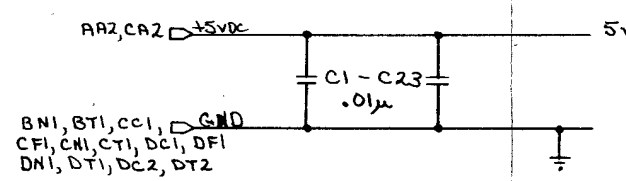
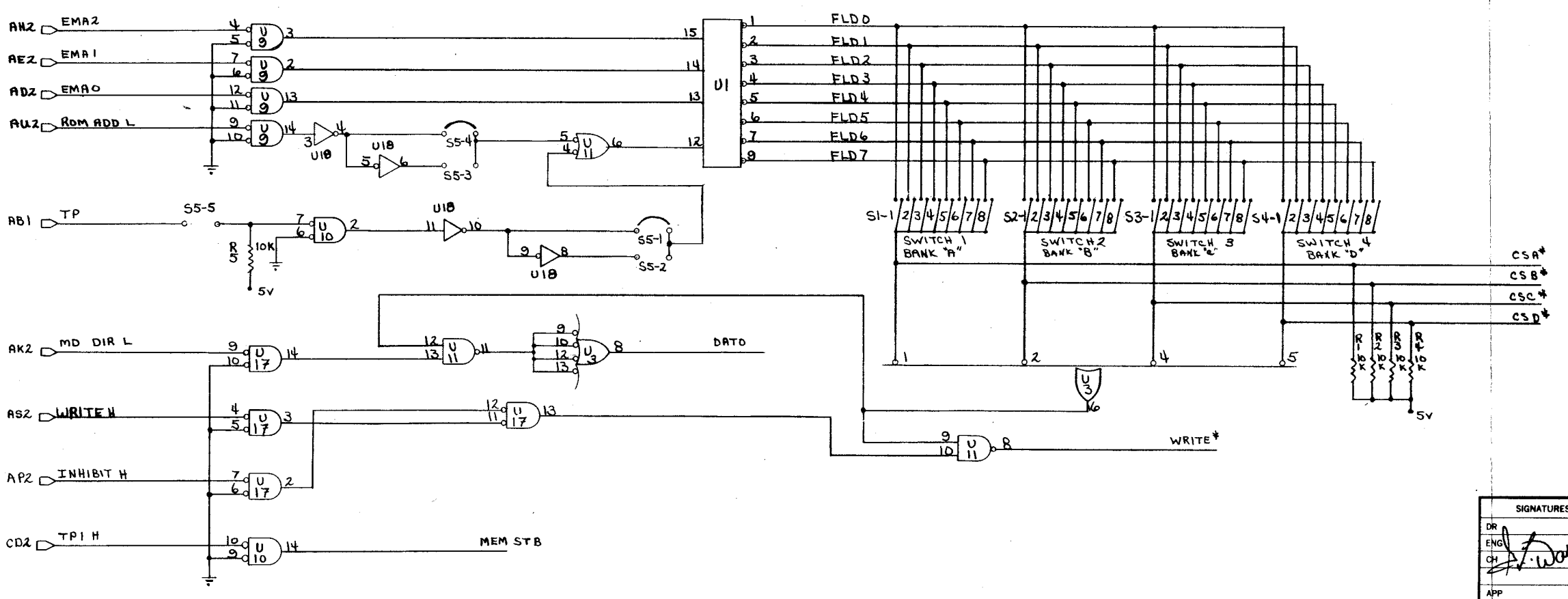



| SIGNATURES | DATE |
|---|---|
| DR | |
| ENG | |
| CH | 5-14-77 |
| APP | |
| AUTH | |

REV A 8-22-77

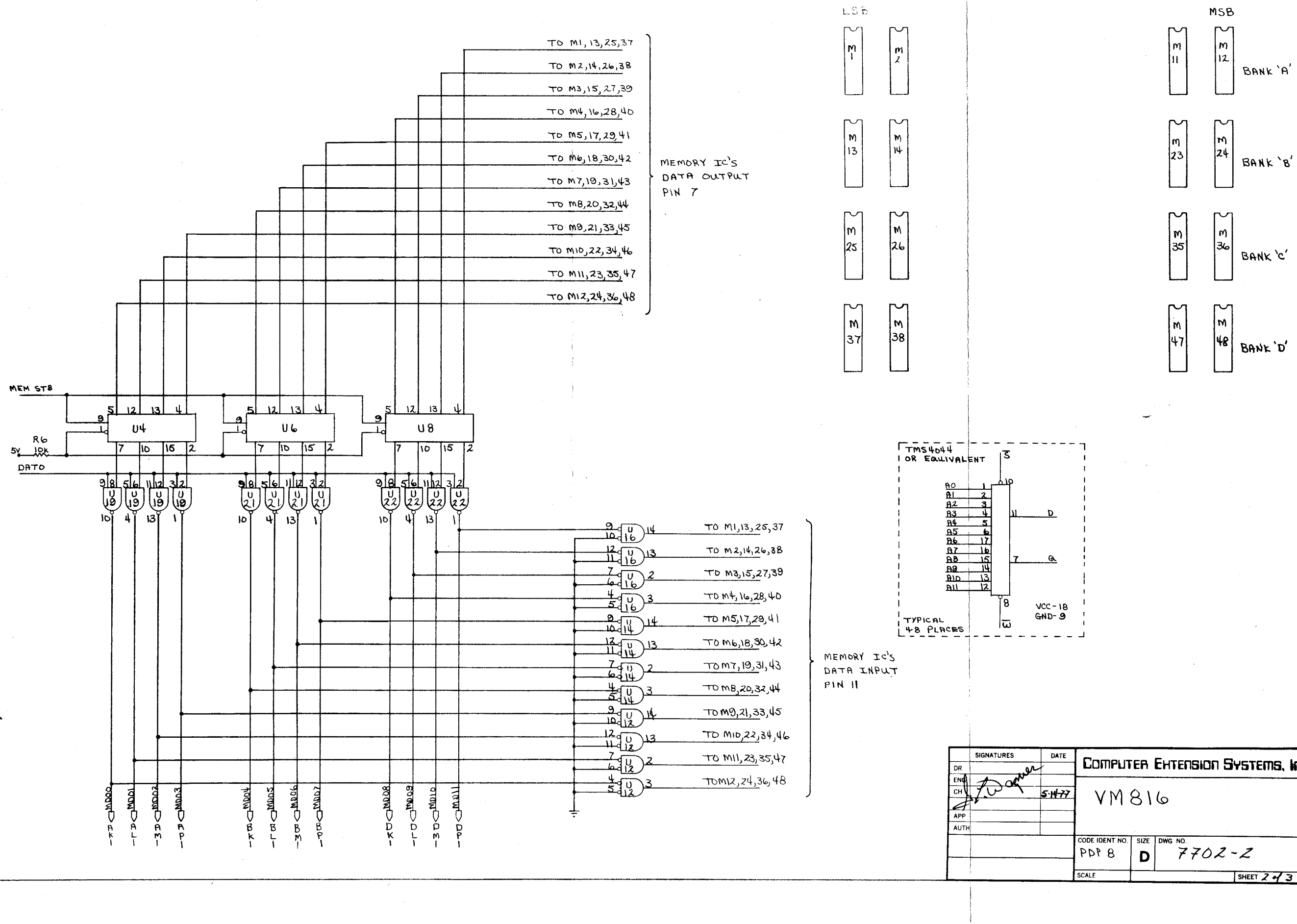
**COMPUTER EXTENSION SYSTEMS, INC.**

VM816

| CODE IDENT NO. | SIZE | DWG NO. |
|---|---|---|
| PDP8 | D | 7702-1 |

SCALE

SHEET 1 of 3




| | SIGNATURES | DATE |
|---|---|---|
| DR | | |
| ENG | | |
| CH | | 5-14-77 |
| APP | | |
| AUTH | | |

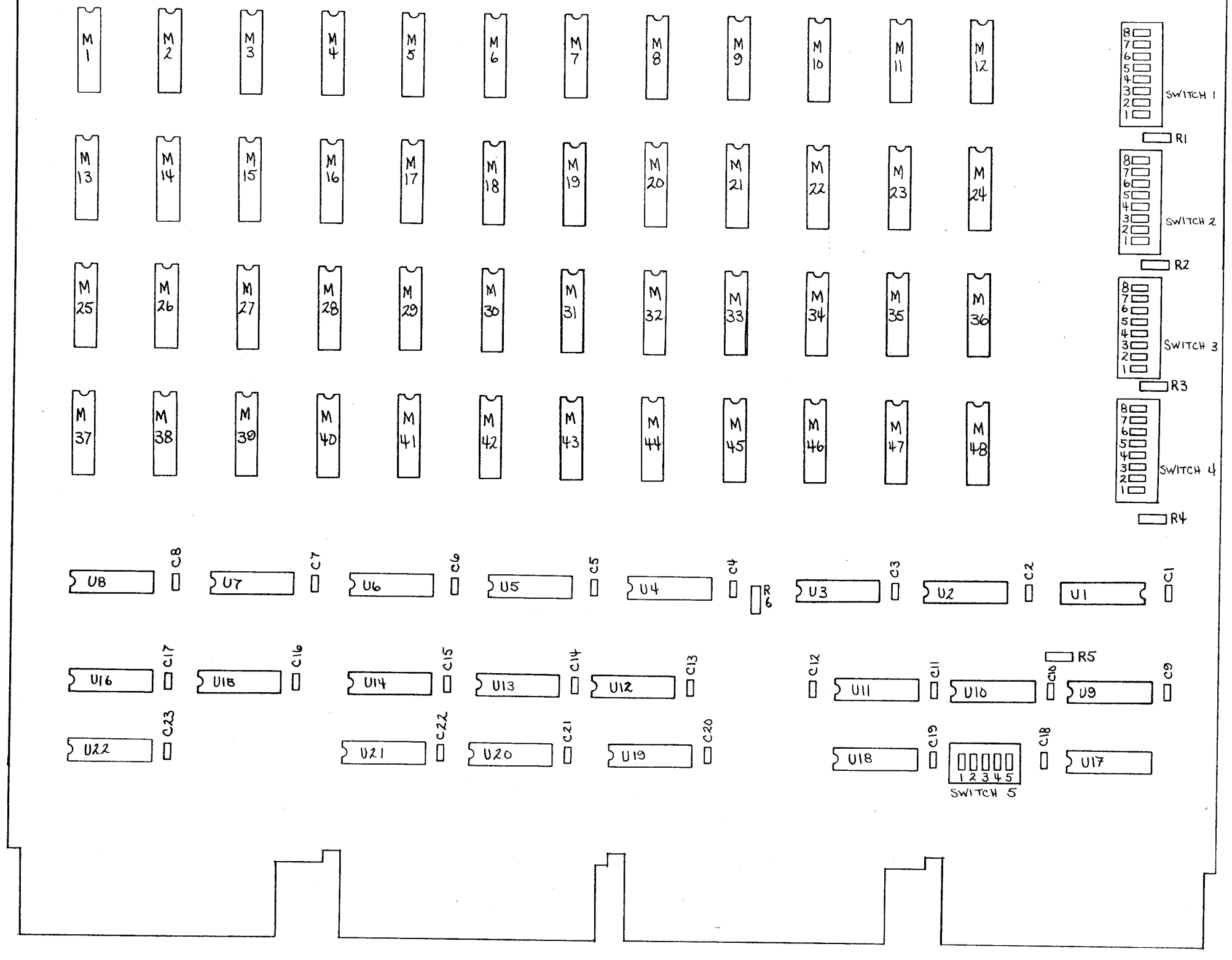
COMPUTER EXTENSION SYSTEMS, INC.

VM816

| CODE IDENT NO. | SIZE | DWG NO. |
|---|---|---|
| PDP 8 | D | 7702-2 |

SCALE

SHEET 2 of 3




| DESIG. | TYPE | MFR. |
|---|---|---|
| C1-C23 | .01μf | USCC C43C103Z |
| C24-C25 | 39pf | KEMET C114 |
| M1-M48 | TMS4044 | T.I. |
| U1 | 7442 | T.I. |
| U2,5,7 | 74365 | T.I |
| U3 | 7440 | T.I. |
| U4,6,8 | 74175 | T.I. |
| U9,10,13-17,20 | SP380 | SIG |
| U11 | 7400 | T.I. |
| | | |
| U18 | 7404 | T.I. |
| U19,21-22 | 7439 | T.I. |
| R1-6 | 10K ¼W 5% | |
| | | |
| SW1-4 | PIP8 | RCL |
| * SW5 * | PIP5 | RCL |
| 14 PIN SOCKET | C84-14-02 | T.I. |
| 16 PIN SOCKET | C84-16-02 | T.I. |
| 18 PIN SOCKET | C84-18-02 | T.I. |
| ** HANDLES | 6200 | SAE |

* SWITCH 5 MAY BE REPLACED WITH PRWIRED HARDWARE JUMPERS.
** NOT SHOWN

| SIGNATURES | DATE |
|---|---|
| DR | |
| ENG | |
| CH | 5-16-77 |
| APP | |
| AUTH | |
| REV A 8-22-77 | |

COMPUTER EXTENSION SYSTEMS, INC.

VM816

| CODE IDENT NO. | SIZE | DWG NO. |
|---|---|---|
| PDP8 | D | 7702-3 |

SCALE

SHEET 3 of 3