

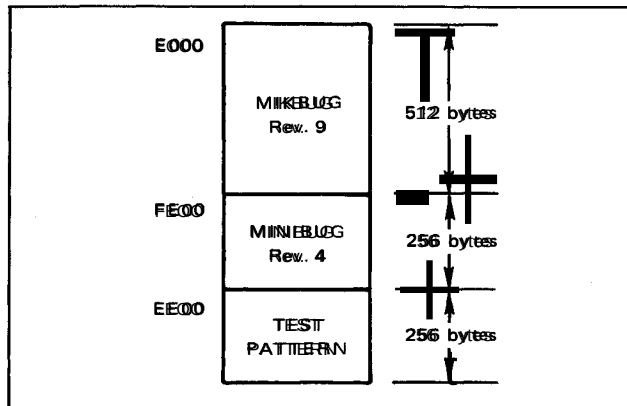
**MCM683017 MIKBUG//**  
**MINIBUG ROM**

## 1.0 SYSTEMS OVERVIEW

The MIKBUG/MINIBUG ROM provides the user with three separate firmware programs to interface with a serial asynchronous (start/stop) data communications device. They are:

- 1) MIKBUG Rev.. 99
- 2) MINIBUG Rev.. 44
- 3) Test Pattern

The map of the programs is shown in Figure 11-11.



**FIGURE 1-1. MIKBUG/MINIBUG ROM Memory Map**

## NOTE

**All enables for the ROM are active high.**

## 2.0 FEATURES

**The more important features of these programs are:**

**MIKBUG Rev. 9**

- A. Memory Loader
- B. Print Registers of Target Program
- C. Print/Punch Dump
- D. Memory Change
- E. Go to Target Program
- F. Operates with PIA for the Parallel to Serial Interface
- G. Restart/NMI/SWI Interrupt Vectors

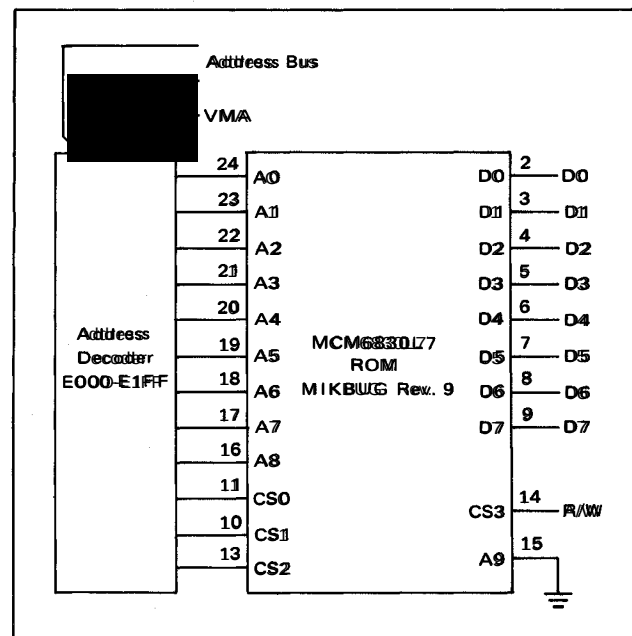
**MINIBUG Rev. 4**

- A. Memory Loader**  
**B. Memory Change**  
**C. Print Registers of Target Program**  
**D. Go to Target Program**  
**E. Assumes a UART for the Parallel-to-Serial Interface**

### 3.0 HARDWARE CONFIGURATION

### 3.1 MIKBUG Hardware

The MIKBUG/MINIBUG ROM is intended for use with the MC6800 Microprocessing Unit in an MC6800 Microcomputer system. This ROM, using the MIKBUG Firmware, should be connected into the system as illustrated in Figure 3-1. As shown, all of the enable inputs are high levels and the address line A9 or pin 15 is grounded. The MIKBUG Firmware in this ROM uses addresses E000 through E1FF. The ROM should be connected into a system so that its two top MIKBUG Firmware addresses also will respond to addresses FFFE and FFFF. This is required for the system to restart properly. There should not be any devices in the system at a higher address than this ROM's addresses. Figure 3-2 depicts a memory map for a system using the MIKBUG Firmware and Figure 3-3 depicts this system's block diagram.



**FIGURE 3-1. MCM6830L7 MIKEBUG ROM Schematic**

The MIKBUG Firmware operates with an MC6820 Peripheral Interface Adapter (PIA) as shown in Figure 3-4. The MC14536 device is used as the interface timer. This timer's interval is set by adjusting the 50k ohm resistor and monitoring the output signal on pin 13 of the MC14536 device. The zero level of the timing pulse should be 9.1 ms