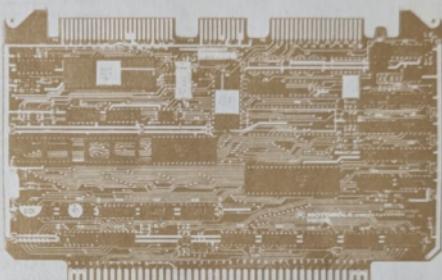




M68MM01B1A Monoboard Microcomputer Module

- Complete microcomputer on a single board
- MC6802 microprocessing unit with 128 bytes on chip static RAM
- On-board crystal controlled clock
- Sockets for up to 4K of erasable/programmable ROM
- 256 bytes of Read/Write static RAM
- Power-on reset
- 20 programmable I/O lines (MC6821 PIA)
- Three 16-bit binary programmable timers (MC6840 PTM)
- Serial I/O interface with RS-232C drivers/receivers and software programmable baud rate (110, 300, 1200, or 2400)
- Audio tape cassette interface circuitry
- Dynamic RAM refresh logic
- Buffered Address, Control, and Data Busses
- Full compatibility with MC6800 software, with micromodule family of parts, and with Motorola EXORciser



Monoboard Microcomputer 1B1A provides the user with a stand-alone microcomputer that has all the processing and control power of an MC6802 MPU with its self-contained clock circuit and 128 bytes of static RAM. The module contains sockets for up to 4K of EROM or ROM for programming, a Peripheral Interface Adapter (PIA) for parallel data transfers, and a Programmable Timer Module (PTM) which provides for such tasks as frequency measurements, event counting, interval measuring, square wave generation, gated delay signals, single pulses of controlled duration, pulse width modulation, and timed system interrupts. The module incorporates the necessary crystal clock circuits, the reset timer for power-on initialization, and address bus decoding for establishing the address of each part.

In addition to these features, the module has an additional 256 bytes of static RAM, provisions for off-board dynamic memory refresh, an Asynchronous Communications Interface Adapter (ACIA) with RS-232C interface circuits, and an audio tape cassette interface circuit.

The Micromodule 1B1A address bus is used to select each of the memory locations within a micro-module system. Micromodule 1B1A uses a partially decoded addressing scheme to uniquely address each on-board EROM/ROM, RAM, PIA, ACIA, and PTM. The address bus interface consists of three-state buffers.

The Micromodule 1B1A data bus is used to perform data transfers between the MPU and various devices (EROM/ROM, RAM, PIA, ACIA, and PTM). For greater memory and I/O capability, additional devices can be added external to the Monoboard.

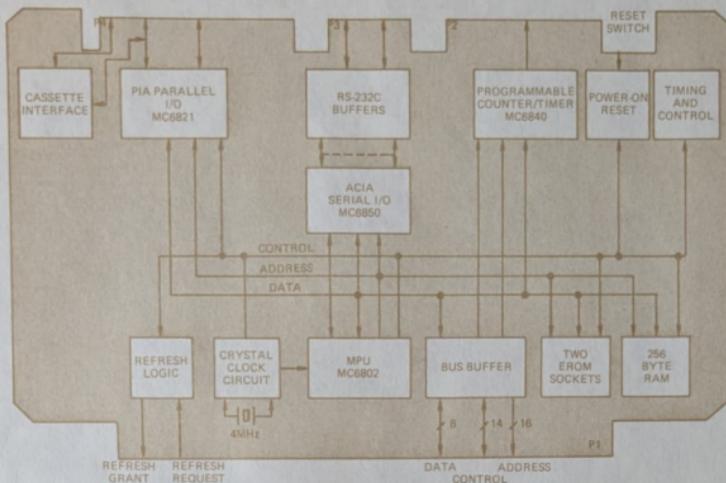
Monoboard Microcomputer 1B1A is also bus compatible with the M6800 EXORciser. This versatility provides the user with the means to develop and debug both his hardware and software, and to troubleshoot production hardware. Thus, the user can take advantage of the EXORciser's optional debug, memory, and I/O modules.

M68MM01B1A • Monoboard Microcomputer Module

Memory Map

FFFF F800	2K ROM (6846)	OR	2K ROM/ EROM	OR	AVAILABLE FOR EXTERNAL MEMORY	OR	EXORciser DEBUG MODULE	FFFF F000
F000	EXTERNAL MEMORY		2K ROM/ EROM		AVAILABLE FOR EXTERNAL MEMORY			F000
		EFFF E800			AVAILABLE FOR EXTERNAL MEMORY		EFFF E800	
					PTM = E410-E417			
					ACIA = E408, E409			
		E400			PIA = E400-E403		E400	
					RAM = E000-E0FF		E000	
		E000			AVAILABLE FOR EXTERNAL MEMORY		E000	
		D000					D000	
		C800		2K ROM/ (6846)	OR	2 K ROM/ EROM	C800	
				EXTERNAL MEMORY		2 K ROM/ EROM	C000	
		B000					B000	
		A000			AVAILABLE FOR EXTERNAL MEMORY		A000	
		9400			AVAILABLE FOR EXTERNAL MEMORY		9400	
					AVAILABLE FOR EXTERNAL MEMORY			
		9100			(6846 I/O = 9100-9107)		9100	
		9000					9000	
		8000					8000	
		7000					7000	
		6000			AVAILABLE FOR		6000	
		5000			EXTERNAL		5000	
		4000			MEMORY		4000	
		3000					3000	
		2000					2000	
		1000					1000	
		0400					0400	
		0080					0080	
		0000			6802 RAM = 0000-007F		0000	

M68MM01B1 A • Monoboard Microcomputer Module



Specifications

Power Requirements: +5 Vdc @ 550 mA
+12 Vdc @ 20 mA
-12 Vdc @ 25 mA

With EROMs +5 Vdc @ 650 mA
+12 Vdc @ 260 mA
-12 Vdc @ 180 mA

System Clock: 1 MHz \pm 0.1%

Word Size: Instruction — 8, 16, or 24 bits
Address — 16 bits
Data — 8 bits

Memory Addressing: RAM (128 bytes) — 0000-007F
RAM (256 bytes) — E000-E3FF
EROMs (sockets) — C000 to CFFF or F000 to FFFF or AMBIG C000/F000
PIA-ACIA-PTM — E400 to E7FF

Parallel I/O: 16 bidirectional programmable lines
4 I/O control lines and/or interrupts

Interrupts: Vectored through software

Timer Input Frequency: 1 MHz, internal or asynchronous external gate/trigger inputs

Timer Operating Modes: Continuous (square wave)
Single shot
Frequency comparison
Pulse/width comparison

Physical Characteristics (W \times H \times T): 9.75 \times 6.00 \times 0.062 in.

Connectors:
Microsystem Bus (P1); 86-Pin — Stanford Applied Engineering SAC-43D/1-2 or equivalent
Programmable Timers (P2); 40-Pin — 3M Type 3464-0001 or equivalent
Serial I/O Port (P3); 20-Pin — 3M Type 3461-0001 or equivalent
Parallel I/O Port (P4); 50-Pin — 3M Type 3415-0001 or equivalent

ORDERING INFORMATION

Use the following part numbers when ordering the Monoboard Microcomputer-Micromodule 1B1A and its associated technical manual. For further information, contact your local sales office.

Part Number	Description
M68MM01B1A	Monoboard Microcomputer 1B1A
M68MM01B1A(D1)	Monoboard Microcomputer 1B1A Manual

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