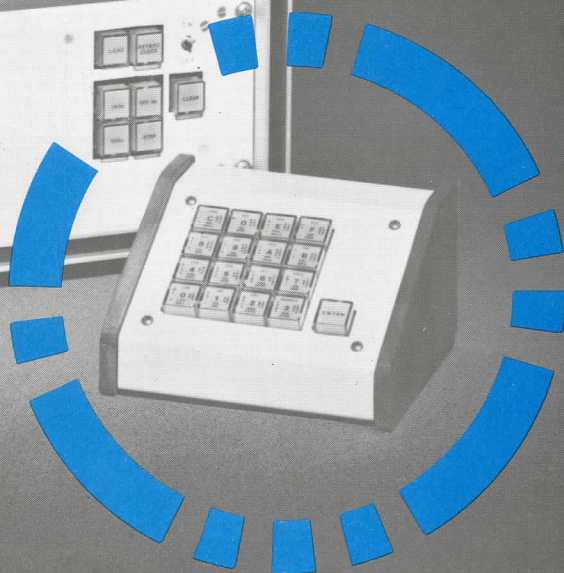
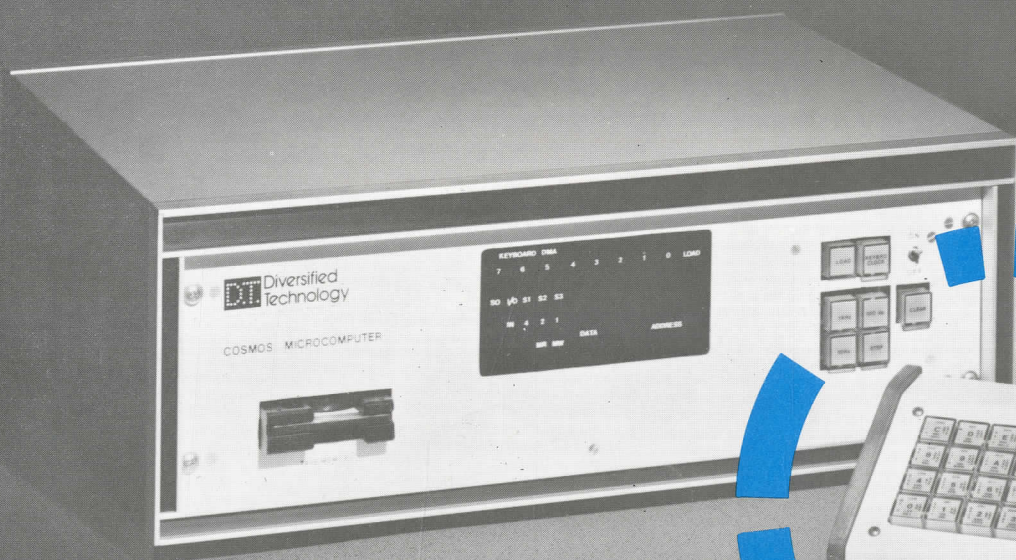


A superb new microcomputer from Diversified Technology

DT Cosmos

Low cost • Low power • Reliable • Versatile



With the exclusive Key-Top Assembler, DT COSMOS stands alone!

DT COSMOS

The DT Cosmos Microcomputer represents an important breakthrough in the field of computer design. It was developed by Diversified Technology in response to demands from engineers and educators for reliable, low cost, low power microcomputers which could be used in program development, classroom study of computer theory and operation, or as integral parts in instrumentation and control systems. *DT Cosmos, with its fully-integrated circuitry and micro-powered technology, performs beautifully in all of these situations!*

The heart of DT Cosmos is a RCA CDP1801(2) microprocessor which has 8 bit word length and 16 bit address length. Since the CDP1801(2) is static, the clock can be slowed down or even stopped without affecting data which has been entered into the computer. This allows the user to study the computer as it functions in "slow motion", and makes it easier for the programmer to find and correct program errors.

DT Cosmos utilizes bus design, which assures that any of the system's printed circuit boards can be plugged into any Mother Board socket. This provides maximum flexibility in the physical organization of the system.

DT COSMOS comes to you complete with all circuits necessary to load and execute programs. This stand-alone capability is made possible by the unique Key-Top Assembler and DMA.



For instrumentation and control systems, program development, and

classroom study of computers, DT Cosmos is the ideal microcomputer.

Instrumentation and Controls

Standby battery power: Low-power CMOS technology allows the DT Cosmos microcomputer to be operated from standby batteries when power is interrupted, or in remote locations where mains power is unavailable.

Noise immunity: An important characteristic of CMOS technology is its immunity to electrical noise.

Register-oriented assembly language: DT Cosmos' versatile register-oriented assembly language is ideal for use in instrumentation and control applications.

Program Development and Computer Education

Low cost: By using integrated circuitry and micro-powered CMOS technology, we've put a lot of computer for the money into DT Cosmos.

Easy to program: Direct Memory Access makes programming a snap with the Key-Top Assembler or other data input devices.

Complete status display: All active lines are displayed on the computer's readout board. This allows the user to quickly analyze the system's status.

Simple, uncluttered assembly: DT Cosmos is assembled in such a way that all components are readily accessible. This makes it easy for the operator to study the unit's hardware, and may facilitate more effective program planning.

An excellent teaching/learning tool: DT Cosmos' exclusive Key-Top Assembler permits the user to become familiar with machine language and how it relates to the function of the system. The Key-Top Assembler, the variable clock rate, component accessibility, and other features make DT Cosmos ideal for the study of computer theory and operation.

The following components are available: (More are under development.)

Central Processor Board 145-2014

The 145-2014 Central Processor Board contains the CDP1802 micro-processor, upper order address latches and state decoder. The CDP1802 has the capability of "on-chip" clock generation, and is supplied with 3.2 MHz crystal. Current requirement is 2 ma. By reversing an IC wiring board, the CPU board can be interfaced with the external clock board.

DAC Board 145-2020

Our DAC Board contains a 12 bit binary digital-to-analog converter

with selectable bipolar or unipolar analog output.

2K RAM Board 145-2013

This board has provisions for nicad batteries for non-destructive RAM memory. Retains data for two weeks.

1K RAM Board 145-2002

The Random Access Memory Board contains 8 Intersil IM6508 CMOS RAMS and CMOS support circuitry. The board is coded as 1 of 64 boards by a six position DIP switch. Current requirements are 4 ma. at 1MHz and 2 ma. static. 145-2002 can also be supplied with a RCA MW553001, SOS memory circuit which reduces power requirements by approximately one half.

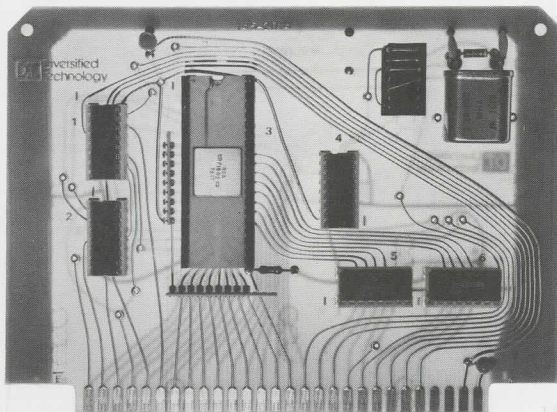
Clock Board 145-2005

The Clock Board provides a 1 MHz clock and a series of decade counters which divides the clock down to 1 Hz for use in real time applications. Clock rates of 1 KHz, 100 Hz and 10 Hz can be selected with the CPU keyboard. A single cycle step is also provided so the program can be slowed to an observable pace. This feature serves as a convenient program debugging aid.

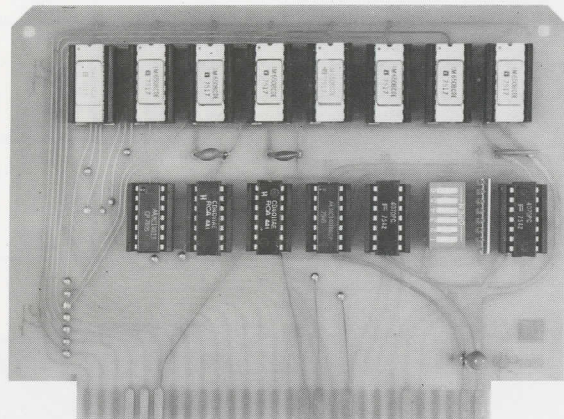
Current drain is 2.5 ma. plus 55 ma. for each illuminated bulb. (Typically, less than four bulbs are lighted at one time.)

EPROM Board 145-2009

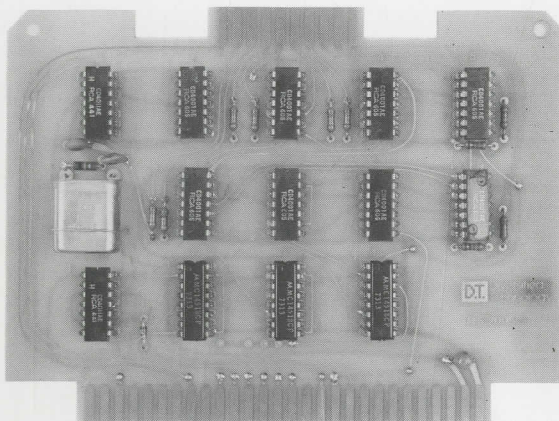
The EPROM Board is designed to accept 1702, 2702, and 4702 EPROMs,



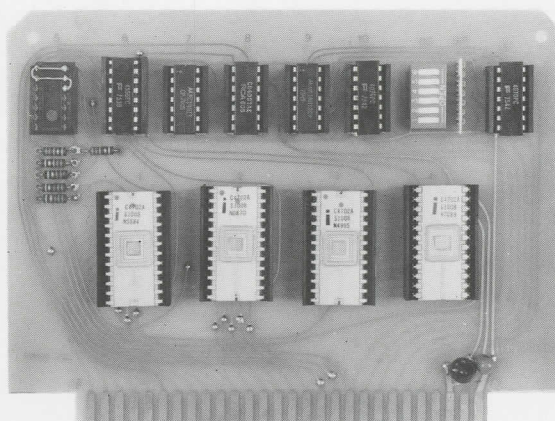
145-2014



145-2002



145-2005



145-2009

and has provisions for four. This gives the board 1K byte of memory. The board is coded with a six position DIP switch similar to the RAM Board's. Lower power operation can be provided by using a 1702 AL. This board also requires an additional negative 9 volt power supply. Current requirements are 40 ma. from each board. A Mother Board connection is provided for the negative supply.

Status Display Board 145-2008

The Status Display Board should be immediately behind the front panel, plugged into the front connector on the Mother Board. The display board provides an indication of CPU state, I/O conditions, memory activity, CPU data and address bus contents. Bus contents are displayed on hexadecimal readouts in the "A" version (shown), or discrete LED's in the more economical "B" configuration. Typical current drain for the "A" version is 550 ma.

The 145-2008 Display Board is not required for system operation, but it is very valuable as a program debugging aid and as a tool for observing computer operation.

Mother Board 141-2003

The Mother Board provides a variable number of connectors for the microcomputer's printed circuit board set. A six pin edge card connector is provided for power connections.

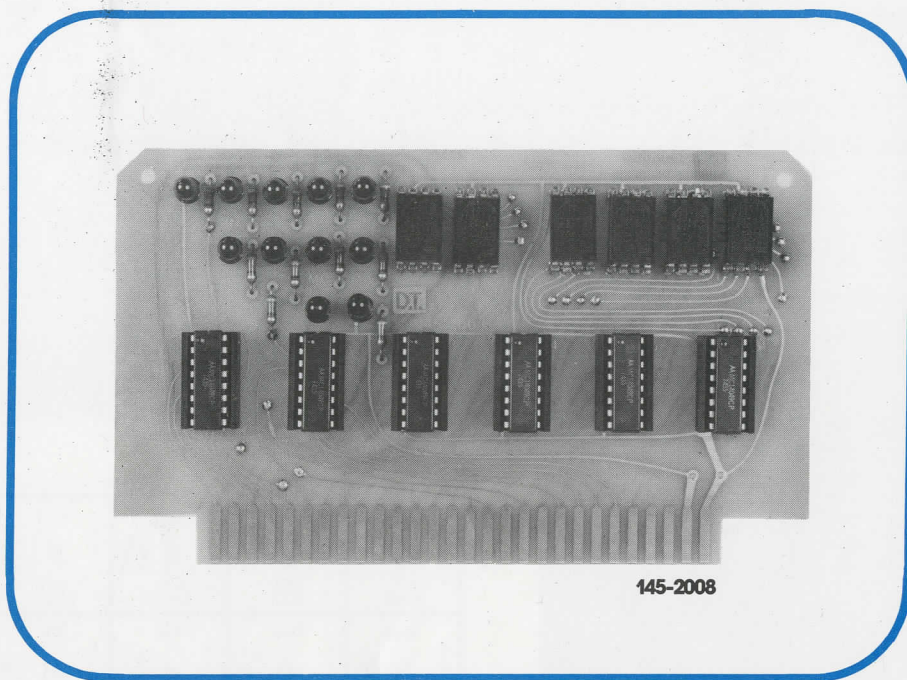
Input Board 145-2006

The Input Board provides 4 eight bit input ports, access to the four \overline{EF} (serial input) lines and the interrupt. The board is coded either to upper or lower order according to connector wiring.

Input impedance is approximately 20K ohms. With all inputs low, the typical current drain is 8 ma.

Output Board 145-2007

This board provides four 8 bit output ports, all of which can be tristated. The Output Board is encoded either upper or lower order by con-



connector wiring. Output drive current is typically .8 ma. Maximum allowable current drain is 26 ma.

Keyboard DMA Control Board 145-2004 and Data Keyboard 145-2012

These two boards provide a convenient method for programming the microcomputer. The control board accepts data in 4 bit nibbles and converts successive entries into 8 bit bytes. A LED display allows the user to see the content of each 8 bit word. An Enter Control on the control board requests a DMA-In cycle from the processor which will store the data in memory.

Data is entered through a hexadecimal keyboard (Key-Top Assembler) which has assembly language and upper case ASCII printed on the keytops. Printed characters are arranged on the Key-Top keys in a logical, carefully-planned sequence.

BUS Extender Card 145-2900

UART Board 145-2015

The UART Board transmits and receives 5-8 bit serial data, and can be used for party-line applications.

The following items are available on special order:

Alpha-numeric Printer

Our 20 column electric discharge printer prints all upper case ASCII characters.

16 Channel Multiplex A/D Converter Board

CRT Display

RS232 Interface

Tape Interface

Various basic component packages are available from Diversified Technology.

Your sales representative is:



P. O. Box 465
Ridgeland, Mississippi 39157
(601) 856-4121 (2)