ROM AUTOMATIC PROGRAMMER 1702A

THE MD-2044

A fully automatic logic controlled system for programming ultra violet light erasable prom's. All outputs are burned simultaneously.

A simple software routine addresses and sets data inputs ready for burning. The programmer does the rest. Once a location is burned the host computer reads data and compares with data sent. If correct, next address and data is transmitted, etc.

The MD-2044 is a complete programmer with power supply logic circuitry and TTY and RS232 interface. Contained in a handsome housing. Easy to use and fast.

The programming procedure is as follows:

1. Connect TTY or RS-232 connector.
2. With all power turned off, install chip.
3. Turn on -5V power switch.
4. Turn on programmer power.
5. Start computer.
6. After last address, turn off programmer power.
7. Turn off -5V power supply — remove chip. Contents of ROM can be read with computer by using same procedure without turning on programmer power.

Kit contains all materials and components for easy assembly. Instructions are complete and concise, no adjustments are required except for TTY osc. when used.

Kit Price: $149.50
Assembled Price: $169.50

ROM PROGRAMMER FOR 1702, 5203

THE MD-2040

A semi automatic logic controlled system for programming ULTRA-VIOLET LIGHT erasable PROMs. All outputs are burned simultaneously. Address and data bits are set by switches. The self contained power supply is logic controlled to provide the correct voltage levels and timing for safe, fast and reliable programming.

Data recorded at each address location may be checked before and after each burning operation, to ensure correct data entry.

The programming procedure is as follows:

1. With all power off set data and address switches to "0".
2. Install chip to be programmed.
3. Turn on +5 volt power.
4. Turn on programmer power.
5. Set address switches.
6. Set data switches.
7. Press burn switch.
8. Check LED indicators for correct data.
9. Repeat steps 5, 6, 7 and 8 for each address location.
10. Turn off programmer power and remove chip.

The kit contains all materials and components for easy assembly. Instruction set is complete and concise, adjustments are minimal, and easily accomplished.

KIT-Price $139.50   **ASSEMBLED-Price $159.50**

<u>MD-2044 OPERATING PROCEDURE</u>

<u>1702-A</u>

Warning about the 1702-A;

First-<u>do not</u> plug in or remove chip with power on.

Second-internal power supplies are +5, +12, +80 and
        -12, -9 volts; all are controlled by two power
        switches marked P1 and P2. Instructions for
        operating are marked on the front panel and
        should be adhered to.

Input to and output from programmer is accomplished
thru serial line either EIA RS-232 or 20ma current
loop.

EIA RS-232 operation (connections to "D" connector)
        Jumper - pins 21 - 24
                 pins 12 - 13
        Output - pin   2
        Input - pin   3
        Gnd.   - pin   7

Current loop (connections to "D" connector)
        Outputs - pin 23 positive
        Output - pin 20 negative

        Input   - pin 14 positive
        Input   - pin 15 negative

CANNOT DO 1702 STD

MD-2044 (1702-A) PROGRAMMING PROCEDURE

Two Bytes of data must be transmitted for each word
programmed into 1702-A. First Byte must allways be
address location, second Byte must always be data word.
This sequence is critical, no deviation is allowed.

Timing is not critcal as interfacing is accomplished
thru UART at a baud rate of 110 - which may be changed
to suit by adjusting timing components of the 555 timer.

TRANSMITTED DATA

START	D I	D 2	D 3	D 4	D 5	D 6	D 7	D 8	STOP	STOP		START	D I	D 2	D 3

A program routine should be written to send over serial
line two words of data as described above. The first
word being the address location - second word the data
to be stored at that location.

When the two words have been sent the routine should
scan the data available line. The data that appears will
be the stored data. A comparison should be made with
data sent, if correct go on to next address. If compari-
son shows an error repeat same address and data. If chip
cannot be programmed within 10 times it is probably
faulty. Each of 256 addresses is programmed in the same
fashion. Routine should stop after 256 addresses.

To read only - the same routine applies, do not turn on
P2 and data word should be all zeroes.

All timing and pulse generation is performed by MD-2044
and need not be programmed in software.

The programmer zipset 32 times of 3msk each