



EPROM WRITER
MODEL:LEAPER-3

User's Manual

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I . INTRODUCTION

LEAP Electronic Co., Ltd. is very proud of their LEAPER-3 programmer, which is a highly precise and convenient EPROM programmer. It is equipped with two operation modes.

(1) Stand alone mode

- . FUNCTIONS SET
- . IC TYPE SELECT
- . BLANK CHECK
- . VERIFY AND CHECK SUM
- . PROGRAM

(2) Remote control mode

- . TYPE
- . READ
- . PROGRAM
- . VERIFY
- . DISK
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This manual includes some simple operation. As to the detailed operation, it is described in the "HELP" of the software.

II .STANDARD ACCESSORIES :

1. LEAPER-3 main unit x 1.
2. 26 Pins Printer connection cable x 1.
3. DC12V/500mA adaptor x 1.
4. Software with Windows and DOS version

III. INSTALLATION

(1)Stand alone mode

Put one or two 9V alkaline batteries into the back of LEAPER-3 or plug in DC12V/500mA adaptor to work.

(2)Remote control mode

1. Connect the 26 Pins Printer cable with the Printer Interface of PC and with the main unit LEAPER-3.
2. Plug DC12V Adaptor in LEAPER-3.
3. Switch on the power of LEAPER-3.
4. It can work with PC after installing the system software and execute 'LP3.BAT'.

IV. STAND ALONE MODE

(1) Functions

A. Process device type :

EPROM 2732 - 27080 (including 21V & 25V devices)

FLASH 28F256 - 28F020 , MX28F4000 (Vpp 12V)

FLASH AT29C256 - ATC29020 (Vpp 5V)

EEPROM 2817, 2864, 28256, 28010

SRAM 6264 - 628512

FLASH AM29F010 ~ AM29F040

B. Function keys :

[1] Device select

[2] Algorithm set

[3] Blank check

[4] Verify & checksum

[5] Program

[6] Erase FLASH & EEPROM

[7] SRAM test

C. Programming mode selection :

[1] Program + Verify (P + V)

[2] Blank check + Program + Verify (C + P + V)

D. Programming algorithm setting :

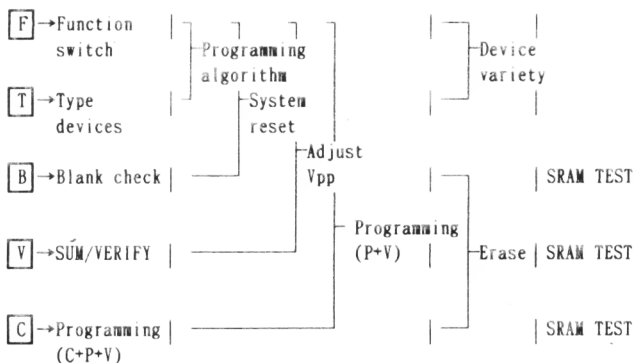
- | | |
|----------------------|----------------------|
| [1]Quick pulse 50uS | [6]Interactive 500uS |
| [2]Quick pulse 100uS | [7]Interactive 1mS |
| [3]Snap 100uS | [8]Standard 5mS |
| [4]Intelligent 500uS | [9]Standard 10mS |
| [5]Intelligent 1mS | [0]Standard 50mS |

E. Programming Vpp setting :

- | | |
|-----------------|-----------------|
| [1]Vpp = 12.00V | [5]Vpp = 13.00V |
| [2]Vpp = 12.25V | [6]Vpp = 13.25V |
| [3]Vpp = 12.50V | [7]Vpp = 21.00V |
| [4]Vpp = 12.75V | [8]Vpp = 25.00V |

(2) THE TABLE OF THE KEYS :

(Please make reference to the five keys on LEAPER-3)



(3) DESCRIPTION OF FUNCTION KEYS

OPERATION INSTRUCTION :Function is distinguished by the KEY
[FUNC] whether it is pressed or not.

1. When [FUNC] key isn't pressed :

- [TYPE] :To set up the device type (EPROM ->FLASH ->EEPROM
->SRAM ->back to EPROM) the range is from 2732 to
628512.
- [BLANK] :To check if the device of SLAVE on the TEXTTOOL is
blank or not, The result will be displayed by
PASS/FAIL.
- [SUM/VER] :The key has two functions at this time. One is for
getting the CHECKSUM of MASTER, and the SUM will be
displayed directly on the right top of the LCD.
The other function is to verify the data of SLAVE
with the date of MASTER. The result will be
displayed by PASS/FAIL on the right bottom of the
LCD.
- [COPY] :To copy the data from MASTER to SLAVE. Before the
process, it will check if the device of SLAVE is
blank or not (C+P+V).
-

2. When [FUNC] key is pressed with following keys at the same time:

[TYPE] : To set up one of the ten programming algorithm for the devices, the result will be displayed as follows:

Display of LCD	Programming algorithm
----------------	-----------------------

Q - 50uS	Quick pulse 50uS
Q - 100uS	Quick pulse 100uS
N - 100uS	Snap 100uS
I - 500uS	Intelligent 500uS
I - 1mS	Intelligent 1mS
A - 500uS	Interactive 500uS
A - 1mS	Interactive 1mS
S - 5mS	Standard 5mS
S - 10mS	Standard 10mS
S - 50mS	Standard 50mS

[BLANK] : To reset the system. If users press [FUNC] and [BLANK] at the same time about two seconds, then system will reset.

[SUM/VER] : To adjust Vpp when it is programming. The range is from 12.00V to 13.25V, and every 0.25V is one section. There are six sections, another two sections are 21.00V and 25.00V.

[COPY] : To copy the data of the MASTER to SLAVE, Before the process, it will not check if the device of SLAVE is blank or not for the SLAVE (P+V).

3. When the programmed device is FLASH 28F256 - MX 28F4000, AT 29C256-AT 2229C020 or EEPROM 2817-28010, please keep pressing [BLANK] and then press [COPY]. The device put on SLAVE will be erased to blank.

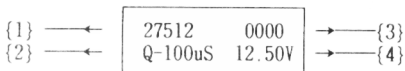
4. When the device is SRAM 6264 - 628512, press one of the keys [BLANK], [SUM/VER] [COPY] to test if the SRAM put on SLAVE is effective or not.

(4) EXAMPLE OF LCD DISPLAY

A. When system is booting or rebooting, it will display the first screen as follows :

EPROM (COPY) WRITER VERSION 3.00

B. The explanation of general operation :



{1} : The type of the device.

{2} : The programming algorithm for the device.

{3} : The CHECKSUM of last MASTER device.

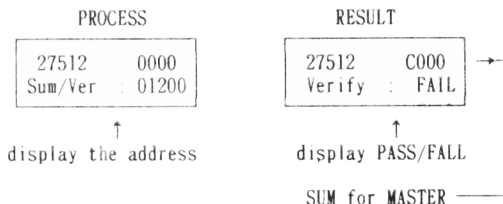
{4} : The programming Vpp of the SLAVE.

C. Example of the active screen :

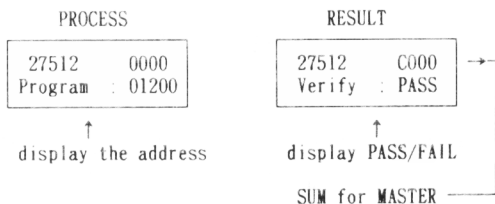
[1] Check blank :



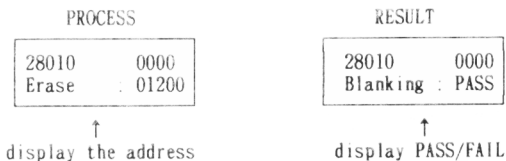
[2] Verify devices and display CHECKSUM :



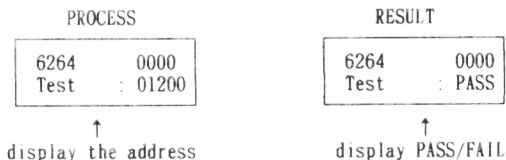
[3] The screen for programming the device :



[4] The screen for erasing devices :



[5] The screen for testing SRAM :



V. REMOTE CONTROL MODE

(1) LEAPER-3 EXECUTION PROGRAM

LP3.BAT LEAPER-3 main execution program..(executive)

MAIN.EXE System support program

README.CHI File of Chinese Operation Instruction..
(textual data)

README.ENG File of English Operation Instruction..
(textual data)

(2) INTRODUCTION FOR SOFTWARE VIEW (As following figure)

- A. The description and model of the product
- B. The existing OVL and version of the current system
- C. The meaning of the function keys
- D. The check sum of memory buffer
- E. The check sum of the device
- F. Function keys
- G. Display the data of buffer (fast turnkey)
- H. After setting the vendor and type, it will display the parameter data of the device as follows automatically

DEVICE : the variety of device
VENDOR : the brand of device
TYPE : the type of device
MODE : the mode of programming
Tpw : the programming pulse width
Vcc : the voltage of Vcc
Vpp : the voltage of programming Vpp
SIZE : the capacity of IC memory
PROC : the procedure of programming
FILE : the name of file
FORMAT : the format of transmitting file

(3) SCREEN

(All the functions shown below is for reference only, the detail functions should be referred to the software.)

E/EPROM PROGRAMMER		MODEL : LEAPER - 3	
E/EPROM Program	V5.0	Select device type	MENSUM:00000000
Type	Read	Check	Disk
		Program	Help
		Verify	parameter

DEVICE DEFINITION	MODE: Quick pulse	BUFFER: 0000 - 7FFF
DEVICE : 8 bit EPROM	Tvp : 100us	SIZE : 512K x 8 bits(7FFFFh)
VENDER : General type	Vccp: 6.25v	PROC : Check+Program+Verify
TYPE : 27C040	Vpp : 12.75v	FILE : \EDIT\ATEST.HEX
DATA : 8bit BUS	AREA: ALL address	FORMAT: Intel HEX format

[←] Move cursor. [Tab] Automated. [Esc] Master menu. [H] Help. MAIN MENU

(4) OPERATION DESCRIPTION

T Y P E

(1) [T] Set IC Vendor/Type

After setting the vendor, choose the IC type. Confirm and then press [Enter]. After selection, the bottom of screen will display all parameter set by system automatically.

(2) [Space] Set IC type only

Set IC type only.

R E A D

(1) [R] Read into address 0000

Read the data of MASTER IC into address 0000 in the buffer of computer.

(2) [Ctrl] [R] Read into any address

Read the data of MASTER IC into any appointed address in the buffer.

(3) [Shift] [R] Read into the next address

Read the data of MASTER IC into the next appointed address in the buffer.

C H E C K

- (1) [C] Device blank check

Check if there is any data in the SLAVE IC.

- (2) [N] Check device data sum

Check the data sum of MASTER IC, but won't read the data into the buffer.

P R O G R A M

- (1) [P] Program from address 0000

Program the data of buffer address 0000 to SLAVE IC.

- (2) [Ctrl] [P] Program from any address

Program the data of buffer from any appointed address to SLAVE IC.

- (3) [Shift][P] Program from the next address.

Program the data of buffer from the next appointed address to SLAVE IC.

- (4) [B] Erase EEPROM and FLASH EPROM device.

Erase EEPROM and FLASH EPROM electrically.

- (5) [Ctrl] [A] Auto blank check...ON

Check blank automatically before program.

V E R I F Y

- (1) [V] Verify from address 0000

Verify device data from address 0000.(able to appoint MASTER or SLAVE)

- (2) [Ctrl] [V] Verify from any address

Verify device data with buffer from any appointed address.
(able to appoint MASTER or SLAVE)

- (3) [Shift] [V] Verify with the next address

Verify device data with buffer from the next appointed address.(able to appoint MASTER or SLAVE)

- (4) [E] Display verify error...ON

List the difference between device data and buffer.

D I S K

- (1) [Ctrl] [D] List disk directory

List disk directory.

- (2) [L] Load disk data file to buffer

Down load the disk data file to buffer of computer.

- (3) [S] Save buffer data to disk

Save buffer data to floppy disk or hard disk.

- (4) [Ctrl] [M] Define macro key
After the users finish defining the macro key in buffer, end it by [Ctrl] [M].
- (5) [Ctrl] [E] Erase macro key
Erase the defined macro key data.
- (6) [Ctrl] [T] List macro key
List the defined macro key and note.
- (7) [Ctrl] [L] Load macro key file
Load macro key file to the buffer. When entering the system, it will load to the macro key file "UNIV. KEY" automatically.
- (8) [Ctrl] [S] Save macro key file to disk
Save the macro key file to floppy disk or hard disk.
- (9) [Shift] [T] View the text file
View the text file.
- (10) [Ctrl] [I] Rest time, system lock.
- (11) [W] Select mega buffer file.
- (12) [Shift] [I] Initialize mega buffer on disk.
- (13) [Z] Change the size of buffer
- (14) [Ctrl] [Q] Exit
Exit the system.

H E L P

(1) [H] Help

Support the explanation of instruction for operation software. Use [Pgup] [Pgdn] keys to look up.

(2) [I] Device information

Support the pin out map of devices.

P R O C E S S

(1) [D] Dump buffer HEX data

Display the data in the buffer, which contains HEX/ASCII and can edit the HEX/ASCII. When the cursor moves, the data of this address will be displayed with BIN, HEX and ASCII Code.

[Ctrl] [E] Command to edit HEX.

[Ctrl] [A] Command to edit ASCII.

(2) [U] Display buffer used map

Display the used address of buffer in order to let users understand and analyze.

(3) [Shift] [D] Edit encryption table

Supply an additional buffer to input Password.

(4) [Ctrl] [X] Compile 16/32/64 bit data to 8 bit data.

(5) [Shift] [X] Combine 8 bit data to 16/32/64 bit data.

- (6) [Shift] [C] Buffer data lock/unlock
Lock or unlock the buffer data.
- (7) [Ctrl] [N] Read memory check sum
Read the check sum of buffer.
- (8) [Ctrl] [F] Buffer fill (FF)h data
Fill in FFh in the buffer data.
- (9) Fill sequential word in buffer.
- (10) Fill sequential byte in buffer.

P A R A M E T E R

- (1) [M] Programming flow chart
Set the mode of programming.
- (2) [Ctrl] [C] Programming Vcc voltage
Set the programming voltage (Vcc).
- (3) [Ctrl] [B] Programming Vpp voltage
Set the programming voltage (Vpp).
- (4) [Ctrl] [O] Printer port NO...LPT1
Set the address of printer port.

(5) THE LIST OF SUPPORT DEVICES:

EPROM : 2732 - 27080(Vpp 12.0V-25.0V)
 EEPROM : 2817, 2864, 28256, 28010
 FLASH EPROM : 28F256 - 28F020, 28F4000, AT29C256-ATC020
 SRAM : 6264 - 628512
 FLASH AM29F010 ~ AM29F040