

INSTRUCTION MANUAL

E/EE PROM PROGRAMMER CARD

MODEL/ LEAP-101



LEAP ELECTRONIC CO., LTD.

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WARRANTEE

One year warrantee is hereby given to LEAP-101 E/EE PROM Programmer Card. Any services or parts changes will be provided free of charge, except for freight cost, which should be handle by the buyer themselves. Kindly return the damaged product to LEAP ELECTRONIC CO. LTD., No.3 Alley 2, Lane 410 Wen Hua Rd., Sec.2, Pan Chiao, Taipei Taiwan, R.O.C.

Leap Electronic Co. Ltd., assumes no responsiblity for any consequences or incidental damages created by user.

Leap Electronic Co. Ltd., reserves the right to revise the manual at any time and without prior notice.

2.0 Minimum computer system requirements

1. IBM PC/XT or compatible system requires with minimum 256K memory and one 360K or 1.2M byte floppy disk device.
2. PC-DOS / MS-DOS ver2.0(or greater) or compatible DOS.

3.0 Program starts execution

1. While computer power is off. Insert the LEAP-101 card supplied on any slot of the computer.
2. Booting your system with the DOS disk.
3. Put this disk at the default disk device, and key in:

A>EP [Return]

Note: If LEAP-101 card not on computer or card a damage the display:

LEAP-101 I/O Device error !

4. The on screen main manual be appeared, use [<-],[>-], [Return] or direct key in command key select function.

5. Press [ESC] key close this window return main manual,
or escape operation return DOS system.

4.0 Memory buffer

1. Once you execution LEAP-101 program, it will build up a
64k byte (512k bits) memory buffer for you to process
the data.
2. The buffer on memory address 2000:0000-FFFF(Hexadecimal).

5.0 Operating mode

1. Manual taoist breathing exercises operation.

Used [←],[→],[^],[v] key move cursor select function.
[Return] Open this window or execution function or
enter data.
[Esc] Close this window return main manual or
escape operation return DOS system.

2. Command taoist breathing exercises operation.
Direct press function key execution function.

6.0 Function description and control key

1. Select device type and programming voltage.

a) Description: This function is to select the EPROM or EEPROM type and programming voltage (Vpp). After selection of EPROM or EEPROM type, the programming voltage is set automatically.

b) Operation function:

[Alt][T]	Open 'TYPE SELECT' window. Use [^],[v] select type.[Return] Set this type. [Esc] escape second manual return main manual.
[F1]	EPROM 2716 2k x 8bit Vpp= 25v.
[F2]	EPROM 2732 4k x 8bit Vpp= 25v.
[F3]	EPROM 2732A 4k x 8bit Vpp= 21v.
[F4]	EPROM 2764 8k x 8bit Vpp= 21v.
[F5]	EPROM 2764A 8k x 8bit Vpp= 12.5v.

[F6]	EPROM	27128	16k x 8bit	Vpp= 21v.
[F7]	EPROM	27128A	16k x 8bit	Vpp= 12.5v.
[F8]	EPROM	27256	32k x 8bit	Vpp= 21v.
[F9]	EPROM	27256A	32k x 8bit	Vpp= 12.5v.
[F10]	EPROM	27512	64k x 8bit	Vpp= 21v.
[Shift][F1]	EPROM	27512A	64k x 8bit	Vpp= 12.5v.
[Shift][F2]	EEPROM	2804	512 x 8bit.	
[Shift][F3]	EEPROM	2816	2k x 8bit.	
[Shift][F4]	EEPROM	2864	8k x 8bit.	
[Shift][F5]	EEPROM	58064	8k x 8bit.	

2. Read device data into memory buffer.

- a) Description: Read the contents of EPROM or EEPROM located at master socket and these data will be stored in the internal buffer starting at any address.

b) Operation function:

[Alt][R] Open 'READ DATA' window.
Use [^],[v] select function.[Return] execution.
[Esc] escape second manual return main manual.

[R] Read socket 1 EPROM or EEPROM into buffer address 0000h.
To read the data on the device into memory buffer
starting at address 0000h.

[Cont] [R] Read socket 1 EPROM or EEPROM into buffer
any address. The same as function READ, but
the reading data can be placed into any
area specified by 'Buffer start address:'
to 'Buffer end address:' onto the device starting at
'Device start address:'.

[Shift][R] Read multi devices into buffer.(Max size:64k)
At the same time reading devices size:
2716,2732,2764,27128 X 4.
2804,2816,2864,58064 X 4.
27256 X 2.
27512 X 1.

3. Check device blank.

a) Description: Check the EPROM or EEPROM locating at socket 1~4 to know it was programmed or not.

b) Operation function:

[Alt][C] Open 'BLANK CHECK' window.
Use [^],[v] select function.[Return] execution.
[Esc] escape second manual return main manual.

[C] Check blank.
To check whether the device is used or not.

[N] Display socket1 device data check sum.
Not read into buffer.

4. Programming device and EEPROM erase.

a) Description: Feed information into a EPROM/EEPROM.
First, check if the status of the EPROM/EEPROMs located at all sockets are blank, The data stored in the memory buffer starting from any address is programmed into all EPROM/EEPROMs. During this step, "DO NOT REMOVE OR

INSERT ANY EPROM/EEPROM DURING THIS TIME OR IT WILL
DAMAGE THE IC ! " Third, the data is read back from
each socket and verified with the internal memory
buffer to assure correct programming.

b) Operation function:

- [Alt][P] Open 'PROGRAMMING' window.
Use [^],[v] select function.[Return]
execution.
[Esc] escape second manual return main
manual.
- [P] Programming the device with the data form address 0000.
To program the data in the memory buffer starting
at address 0000h onto the device.
- [Cont] [P] Programming the device with the data form any address.
To program the data in the memory buffer ranged form
'Buffer start address:' to 'Buffer end address:' onto
the device starting at 'Device start address:'.
- [Cont] [E] The EEPROM offers a chip erase function. All memory are
returned to a logic 1(FFh) state.
- [A] Set 'Modify mode' effect turn-on or turn-off.

[T] Set programming delay time.
Use [<-],[>-] select speed.[Return] set speed.

5. Verify device data.

a) Description: Compares data within a EPROM or EEPROM
with those stored in the buffer memory for their identity.

b) Operation function:

[Alt][V] Open 'VERIFY DATA' window.
Use [^],[v] select function.[Return] execution.
[Esc] escape second manual return main manual.

[V] Verify device data with address 0000.
To verify the data in the memory buffer starting
at address 0000h onto the device.
The first error address will be display.

[Cont] [V] Verify device data with any address.
To verify the data in the memory buffer ranged form
'Buffer start address:' to 'Buffer end address:' into
the device starting at 'Device start address:'.

[E] Set 'Display verify error' effect turn-on or turn-off.

6. File operation.

a) Description: Load object data file or save memory buffer on disk.

b) Operation function:

[Alt][F] Open 'FILE OPERATION' window, and display work file name.
Use [^],[v] select function. [Return] execution.
[Esc] escape second manual return main manual.

[L] Load object data file in memory buffer.
To load object file into memory buffer. You may specify
the file name and the starting address to loaded.

[S] Save memory buffer data on disk.
To save data form memory buffer into disk file, form
'Start address:' to 'End address:'.

7. Help operation.

a) Description: Operation help and device information.

b) Operation function:

[Alt][H] Open 'HELP OPERATION' window.
 Use [^],[v] select function.[Return] execution.
 [Esc] escape second manual return main manual.

[H] Display LEAP-101 program operation explain.
 Use [Esc] escape second manual return main manual.

[I] Use [^],[v] select device.[F1] to [Shift][f5] direct
 select device.
 [Esc] escape second manual return main manual.

8. Memory buffer data process.

a) Description:Memory buffer data DEBUG and print data,fill data
 and display memory buffer used map.

b) Operation function:
 [Alt][O] Open 'DATA PROCESS' window.
 Use [^],[v] select function.[Return] execution.explain.
 [Esc] escape second manual return main manual.

[D] Into memory buffer DEBUG system Dump or
move, verify, edit, to printer process.
Use [Cont][H] Display DEBUG operation
[Esc] escape second manual return main manual.

[U] Display memory buffer used status map.
Use [Esc] escape used map display, return main manual.

[Shift][0] Fill a memory block(buffer block) with the '00'data.
Use [Space] start fill data.other key escape operation.

[Shift][9] Fill a memory block(buffer block) with the sequential
data.(0000:00 00 02 00 04 00 06 00 ...FC FF FE FF)
Use [Space] start fill data.other key escape operation.

[Cont] [F] Fill a memory block(buffer block) with the 'FF'data.
Use [Space] start fill data.other key escape operation.

[Cont] [K] Key board echoplexing turn ON or OFF.

9. Set at work textool quantity.

- a) Description: Select at once work textool quantity 1 - 4.
Preset only textool #1 at work.

b) Operation function:

[Alt][Q] Open 'SELECT QUANTITY' window.
Use [^],[v] select function.[Return] execution.explain.
[Esc] escape second manual return main manual.

[1] Set 'only texttool #1 at work'.

[2] Set 'Texttool #1 - #2 at work'.

[3] Set 'Texttool #1 - #3 at work'.

[4] Set 'Texttool #1 - #4 at work'.

10. DEBUG system operation function.

a) Display and cursor control function key:

[<-] Move cursor to before byte.

[->] Move cursor to next byte.

[^] Move cursor to before line.

[v] Move cursor to next line.

[Home] Move cursor to page start address.
[End] Move cursor to page end address.
[PgUp] Move display to before page.
[PgDn] Move display to next page.
[Ctrl][Home] Move display to buffer start address.(0000h).
[Ctrl][End] Move display to buffer end address.(FF00h).
[Ctrl][I] Set work index point.
[Ctrl][J] Move display to index point.
[Ctrl][S] Verify error data display stop.(any key to continue)
[Ctrl][C] Verify error data display end,return DEBUG system.

b) Data process control function key:

[Ctrl][D] Dump data for any address.

[Ctrl][P] Dump data block to printer.
 [Ctrl][M] Move data block to any address.
 [Ctrl][V] Verify data block data, and display error address.
 [Ctrl][E] Edit Hexadecimal data buffer mode ON/OFF.
 [Ctrl][A] Edit ASCII data into buffer mode ON/OFF.
 [Ctrl][B] Enter memory buffer Segment (1000h - 8000h).
 [Cont] [F] Fill a memory block(buffer block) with the 'FF'data.
 Use [Space] start fill data. other key escape operation.
 [Shift][0] Fill a memory block(buffer block) with the '00'data.
 Use [Space] start fill data. other key escape operation.
 [Shift][9] Fill a memory block(buffer block) with the any data(HEX)
 [Cont] [U] Display memory buffer used status map.
 Use [Esc] escape map display, return DEBUG system.
 [Cont] [H] Display DEBUG operation explain.
 Use [Esc] escape help display, return DEBUG system.

[Cont] [K] Key board echoplexing turn ON or OFF.

[Esc] Escape DEBUG operation, return main manual.

7.0 OPERATION EXAMPLES

Example 1. Read a 27256A EPROM.

Step	Depressed Key	Explain
1a.	[Alt][T]	Into TYPE SELECT second manual window.
	[v] or [^] and [Return]	Move cursor to 'EPROM 27256A' and set type.
1b.	[F9]	Or direct select 'EPROM 27256A'.
2.		Put master EPROM on socket #1.
3.	[R]	Reading EPROM into memory buffer address 0000
4.	[V]	Verify Read into data all accurate.

- 5a. if Verify all OK
- 5b. if Verify ERROR

Tack out the master EPROM.end read work.
Check EPROM device, and repeat step 3.

Example 2. Check a Xicor x2816 EEPROM for blank status.

Step	Depressed Key	Explain
1.	[Shift][F4]	Direct select 'EEPROM 2816'.
2.		Put master EEPROM on socket #1.
3.	[C]	Start check blank. This one is not blank.The first unblank byte's address is stored in the: 'TEXTTOOL #1 ERROR AT 0100'
4.		Tack out the master EEPROM.end check work.

Example 3. Compare two 27512A EPROMs.

Step	Depressed Key	Explain
1.	[Shift][F1]	Direct select 'EPROM 27512A'.
2.		Put master EEPROM on socket #1.
3.	[R]	Reading EPROM into memory buffer address 0000.
4.		Tack out the master EPROM.
5.		Put test EPROM on socket #1.
6.	[V]	Start verify data.
	if Verify all OK	Tack out the master EPROM.end read work.
	if Verify ERROR	Check EPROM device.and repeat step 3.

Example 4. Make two copies of a master 27128 EPROM (with an unblank EPROM error example).

Step	Depressed Key	Explain
1.	[F6]	Direct select 'EPROM 27128'.
2.		Put master EPROM on socket #1.
3.	[R]	Reading EPROM into memory buffer address 0000.
4.		Tack out the master EPROM.
5.	[2]	Set textool #1-#2 at work.
6.		Insert two 27128 EPROMs into #1 - #2.
7.	[P]	Start programming work.
8.		If 'Modify mode' on then not check blank to step 9 start programming device.

if check ERROR	Operation return main manual. Check EPROM device.and repet step 6.
9.	LEAP-101 card start programming device. DO NOT REMOVE OR INSERT ANY EPROM/EEPROM DURING THIS TIME OR IT WILL DAMAGE THE IC !
if programming OK	To next step.start verify device.
if device badly	Display +-----+ ERROR! Device is badly or device type error. or have not work device Any key return manual. +-----+
[any key]	Operation return main manual. Check EPROM device. and repeat step 6.
10.	LEAP-101 card start verify device.
if Verify all OK	Tack out the master EPROM.end programming work.
if Verify ERROR	Check EPROM device.and press [A] key set 'Modify mode' ON and repeat step 3.

Example 5. EEPROM x2816 erase device.

Step	Depressed Key	Explain
1.	[Shift][F4]	Direct select 'EEPROM 2816'.
2.		Put master EEPROM on socket #1.
3.	[Cont] [E]	Into EEPROM erase function. Display 'Are you sure erase chip?(Y)'
4.	[Y]	Start erase EEPROM. DO NOT REMOVE OR INSERT ANY EEPROM DURING THIS TIME OR IT WILL DAMAGE THE IC !
	if key in other keys	Escape erase function.return main manual.
8.		Erase work end then start check device blank.
	if check all OK	Return main manual.
	if check ERROR	Operation return main manual. Check EPROM device.and repeat step 2.

Example 6. Combine two 2732A EPROM's into one 2764A EPROMs.

Step	Depressed Key	Explain
1.	[F3]	Direct select 'EPROM 2732A'.
2.		Put first master 2732A on socket #1.
3.	[Shift] [R]	Read multi devices into memory buffer. Display 'Read device quantity?(1-4):'
4.	[2]	Start read EEPROMs into memory buffer. First 2732A data into buffer address 0000-0FFFh Second 2732A data into buffer address 1000-1FFFh
5.		Tack out the master EPROMs.
6.	[F5]	Direct select 'EPROM 2764A'.
7.		Insert one 2764A EPROM into textool #1.

8. [P] Start programming work.
9. If 'Modify mode' off, then check device blank.
If 'Modify mode' on, then do not
check blank and proceed to step 10 start
programming device.
- if check all OK To next step.start programming device.
- if check ERROR Operation return main manual.
Check EPROM device.and repet step 7.
10. LEAP-101 card start programming device.
DO NOT REMOVE OR INSERT ANY EPROM/EEPROM DURING
THIS TIME OR IT WILL DAMAGE THE IC !
- if programming OK To next step.start verify device.
- if device badly Display
- ERROR! Device is badly
or device type error.
or have not work device
Any key return manual.

[any key]

Operation return main manual.
Check EPROM device.and repet step 7.

11.

LEAP-101 card start verify device.

if Verify all OK

Tack out the master EPROM.end programming work.

if Verify ERROR

Check EPROM device.and press [A] key set
'Modify mode' ON and repet step 7.

Example 7. Read 27256A EPROM data and save into disk.

Step	Depressed Key	Explain
1.	[F9]	Direct select 'EPROM 27256A'.
2.		Put master EEPROM on socket #1.
3.	[R]	Reading EPROM into memory buffer address 0000 to 7FFFh.

4. Tack out the master EPROM.
5. [S] Into File save process, screen display:

+-----FILE BOX-----+

Save file name:
 Start address:
 End address:
6. [T],[E],[S],[T],[.]
 [D],[A],[T],[Return] Set file name equal 'TEST.DAT'
7. [0],[Return] Set data start address 0000h.
8. [7],[F],[F],[F],[Return] Set data end address 7FFFh.
9. Data start save into disk.

If file save Ok display

```
+-----FILE BOX-----+
| Save file name: TEST.DAT |
| Start  address: 0000    |
| End    address: 7FFF    |
|                           |
|   - DATA FILE SAVE OK -   |
|                           |
+-----+-----+-----+

```

Example 8. Load object data file(name=test.dat) in memory buffer.

Step	Depressed Key	Explain
1.		Insert your data disk into disk drive.
2.	[L]	Into File load process,screen display:

```

+-----FILE BOX-----+
|
|   Load file name:
|   Start  address:
|
+-----+

```

3. [T],[E],[S],[T],[.]
 [D],[A],[T],[Return] Set file name equal 'TEST.DAT'
4. [0],[Return] Set data start address 0000h.
5. Data start load into memory buffer.

If file load Ok display

```

+-----FILE BOX-----+
|
|   Load file name: TEST.DAT
|   Start  address: 0000
|
|   - DATA FILE LOAD OK -
|
+-----+

```



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