

Content

Introduction.....	1
Character.....	2
Technical function.....	3
Installation.....	4
Main window.....	5
Chapter 1 Software operation.....	5
ONE file operating and editing.....	5
1 File operating.....	5
2 Amending file data.....	6
3 Start address of position data.....	6
4 Editing and Amending menu.....	6
5 Filling in the data.....	7
6 Looking up.....	7
7 Replacement Character.....	8
8 Extended or abbreviated file buffer area.....	9
9 Pop-up menu.....	9
10 Editing Key.....	0
TWO. Choosing code.....	11
Chapter 2. Read and write EPROM EEPROM	12
ONE. Ordinary procedure.....	12
TWO. Reading and writing operation.....	12
1 Window.....	12
2 File start address.....	13
3 Device start address.....	13
4 Data length.....	13
5 Write device.....	13
6 Read device.....	13
7 Erasing.....	13
8 Detecting.....	13
9 Comparing.....	14
10 Protection.....	14
11 Unprotection.....	14
12 Reading factory.....	14
13 Writing speed.....	14
Chapter 3 Read and Write MPU.....	16
ONE. Ordinary procedure.....	16
TWO. Reading and writing operation.....	16
1 Window.....	16
2 Writing device.....	16
3 Reading device.....	16
4 Erasing.....	16
5 Blank.....	16

6	Verify.....	18
7	Reading factory.....	18
Chapter 4	Testing SRAM.....	19

Chapter 5	Reading and writing Serial in memory.....	20
ONE.	Ordinary procedure.....	20
TWO	Reading and writing operation.....	20
1	Choosing the writing speed.....	21
2	Reading device.....	21
3	Writing device.....	21
4	Operating data.....	21
Chapter 6	Reading and Writing PLD.....	22
ONE.	Ordinary procedure.....	22
TWO.	File form.....	22
THREE.	Reading and Writing operation.....	23
1	Reading device.....	23
2	Writing device.....	23
3	Comparing data.....	23
4	Erasing device.....	24
Chapter 7	Testing the Common integrated Circuit	
	25
TOP2000	Series.....	28

Brief introduction

TOP2000 Programmer of Model Top2000 combines its small-size with and write Low-power consuming and high quality it's designing specializes in developing computer on-slice and all sorts of memory.

Model TOP2000 use RS232 interface to connect with PC computer. It has fine anti-interfere. and high credibility, especially for all only-once OTP component.

Model TOP2000 is divided into A,B and BS etc and has the Different amounts of the components.

Characteristic:

- . 40-needle multi-connector, Even if the adapter isn't used, most of the computers on-slice and memories may be programmed,
- . By Combining the standard interface with RS232 Serial port and PC computer,
- . Windows 95/98/me with Chinese software, All are Chinese operation.
- . It is small-sized. Light-weighted and low power-consuming with the plastic cover. (Static < 50MA)
- . Auto-testing factory and model.
- . Auto-testing the speed of the computer.

The Speed of programming. doesn't at related with the computer. it fits for 486 (P-III)

Technology function.

1 programming

EPROM. All factories. 2716-27C080.

EEPROM . All the factories 28.29.39.49 Series flesh and EEPROM.

MPU/MCU: 51 Series (Intel,Atmel,LG,Philips,Winbond...)

PIC Series (12c,16c5x, 7x,8x,9x,)

Testing Static RAM 6264-628256

Testing 74,40,45 series Common Integrated Circuit.

Serial port memory: (24Cxxx, 93Cxx)

PLD (16v8x,20v8x,22v10A)

Installation

Model TOP2000 operates through the window 95/98.

Software Installation

Operate compact disk top 2000/Setup.exe

Hardware installation

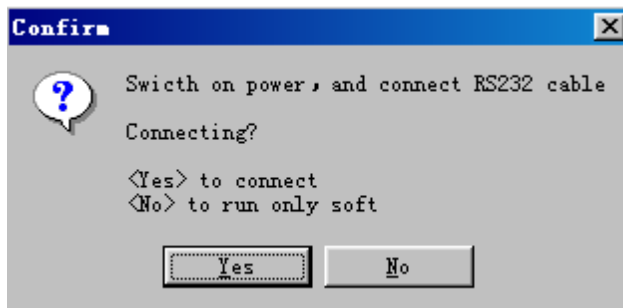
- 1 Shut up the computer
- 2 Connect the one end of the wire to the nine-need RS232 interface of the computer. And the other end links with the connector of the side of TOP2000. (the two ends are different, pay attention to the difference between them)
- 3 Link the random 9V. 400MA direct current with the out let of TOP2000 side, the center of electronic power connector is positive. Don't be negative. The computer shows. Well when the instruction light of power is shining and working instruction lamp flashes.
- 5 Turn on the computer. Then operate the program.

First Operate

TOP2000 can auto-test RS232 Communication interface

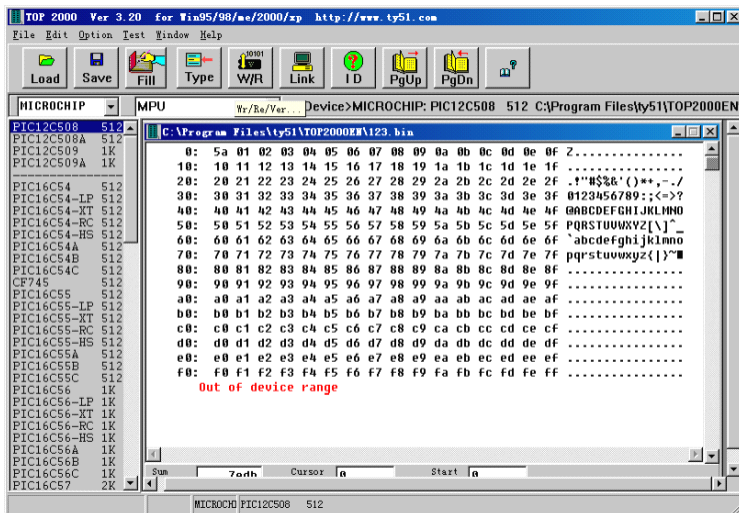
Soot. Setup it any longer Operate for the first time according to the following address:

- 1 Connect the cable and switch on power
The computer works well when the working instruction lamp flashes.
- 2 If your computer with PS/2 mouse. (5-pointer round connector) or USB mouse. (4-pointer connector)
Succeed in Operating TOP2000.exe only.
- 3 If your computer with RS232 mouse.(9-pointer connector) After Operating TOP2000en. exe, the mouse may get out of control you need restart the computer once more. The computer will work well as long as the out let isn't changed. If after Operating it again. It gets out of control. You may use the mouse interface to replace the interface of TOP2000.
- 4 Off-line operation you also operate computer without connecting TOP2000. If the tip appears. Please touch "NO".



Main Window.

Main window of TOP2000 as follows



Most of operations about TOP2000 can be carried out in the main menu. Some ordinary operation. Can be operated by directly touching “fast key”.

It can come up the same effete as the menu operating does. Even more quickly and convenient. Operating concerning the needing and writing is carried out in the related talk frame after choosing the model.

Notice

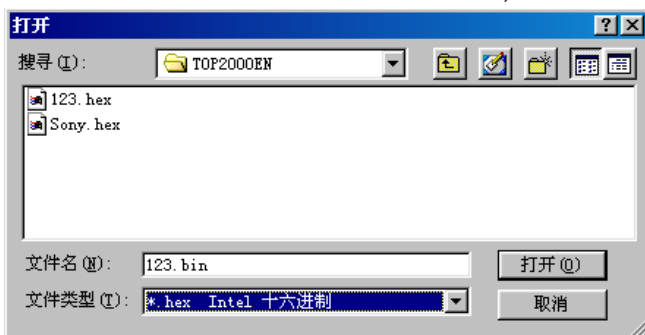
The file window displays the data being written into the component.

Chapter 1 Software operation

ONE. File operation and Edition.

1 File operation.

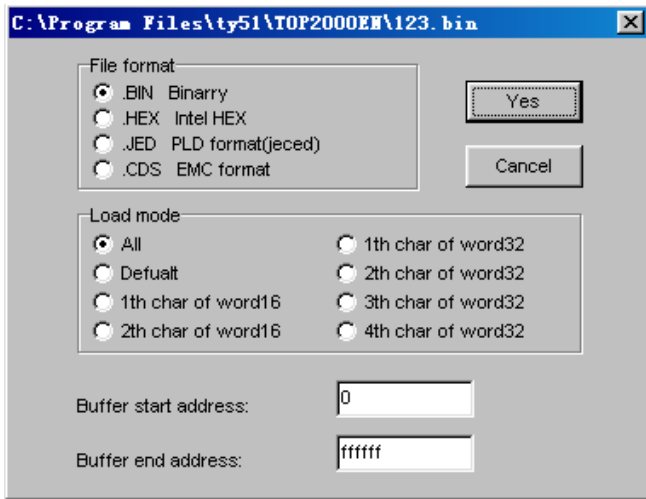
Choose “file” in the main menu, POP-UP as follows:



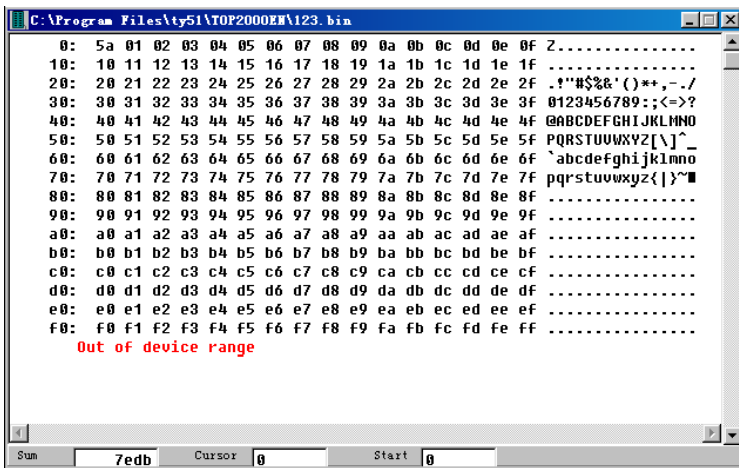
The file menu contains the memory operation of file.

It is divided into the binary system and the hexadecimal format

The choice is finished in the format talk after choosing the file name.



The data is loaded into the buffer area after confirming the file format. And start address. Display as follows.



2 Amending file data.

You can move the word. By mouse or touch if need to amend the data, after loading the file into the file window. Directly touch the key to enter the data. But it must be two-position hexadecimal.

File data window as follows:

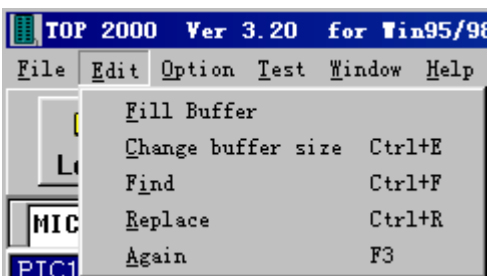
3 Positioning data start address:

If there are large amounts of data .It is hard to find the

Data you want. You may touch the “Enter key”. The window

Will move to the address.

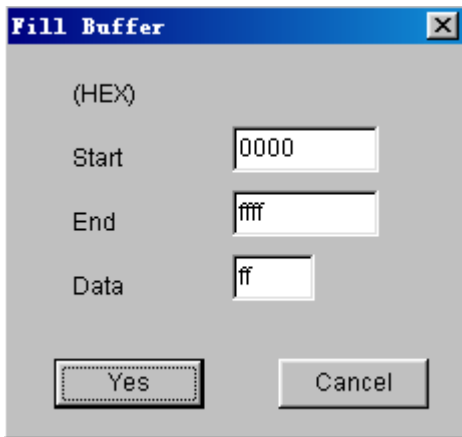
4 Edit and Amend the menu.



5 Fill in the data.

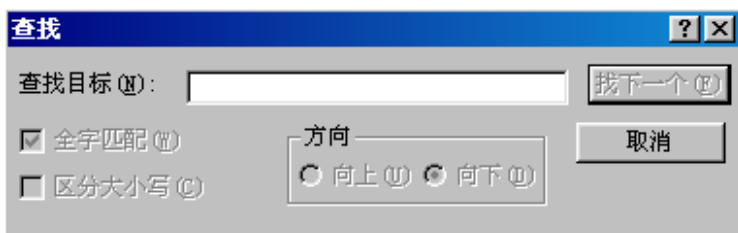
Choose mean, “amend and fill in data” pop-up talk frame.

Enter the address scope and the data that is filled up. Then touch the “Confirm” key.



6 Searching

The “searching” order is used to search the pointed hexadecimal number at the data window. Only input two Characters, after carrying out the order. POP-up talk frame as follows:

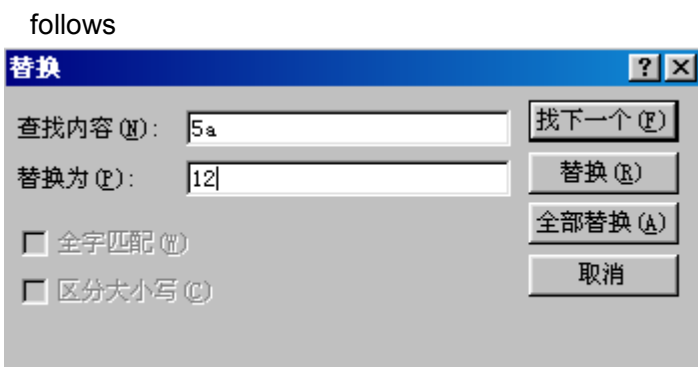


Touch “search for the next” and begin to search.

Continue to search again by touching “search for the next”.

7 Replace the character.

The order is used to replace the text character after carrying out the order. pop-up substituting talk frame as follows



Enter the text character substituted in the “search aim” frame also paste on the clip board.

First touch “search the next” to find position of the character substituted

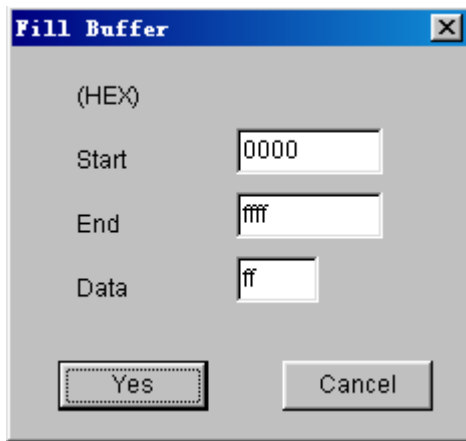
Touch the “Replace” key again.

Be careful! First you have to touch the “search the next” key for the second time, touch the “replacement”

key again.

8 Expand or Contract the file buffer zone.

The area of the file buffer zone is usually as large as the file. If you add the data, you must first expand the largest address of buffer area, Choose the menu “amend and expend or contract the file buffer area” pop-up talk frame: Input the largest address or the right of the end address. Then touch the “Yes” key.



9 POP-UP format menu.

Filling up and expanding or contracting file buffer area may be carried out by pop-up menu.

Single-touch the right key of mouse on the file window and pop-up the following menu.

```
! 30 30 30 5c 73 65 6c 74 79 70
! 00 [ 44 3a
: 44 [ Fill buffer 4c 55
! 6e [ Change buffer size 00 e9
! 3a 5c 43 42 55 49 4c 44 45 52
! 55 00 05 5c 60 6f 73 2e 68 00
```

10 Edition Key

Page up

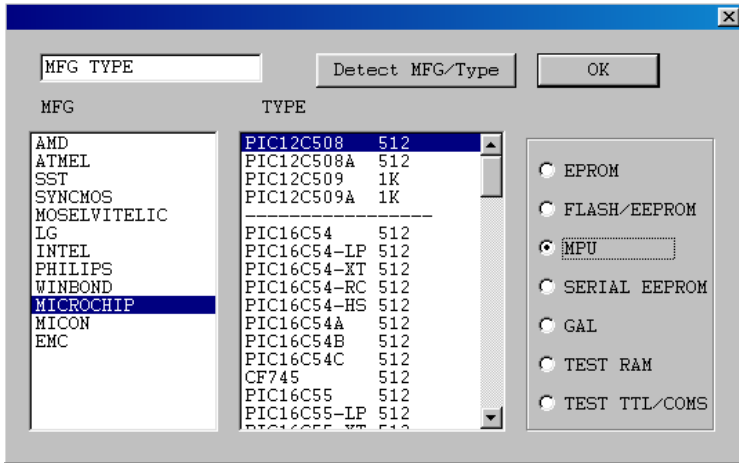
Home

Page down

End

Two. Choose model.

1 Choose the menu “operate and choice model” pop-up window as follows.



2 Choose the memory or computer on slice in the “category” frame or other category.

3 Choose the producer in the “manufacturer” list frame.

Example: Choose “Atmel”.

4 Choose the model in the “Component model” list frame.

For example, choose “89c51”.

5 Touch the “conform” to enter the reading and writing operation.

6 After choosing the category, also touch the “Testing

Factory code” to get the two-word code .

The first-word standards for the manufactory. The second-word Standards for the type.

Chapter 2 Read and Write EPROM, EEPROM.

ONE. Ordinary procedure.

- 1 Connect the TOP2000 well, Then Connect 9V. 400MA direct current into the right outlet then lamp lights.
- 2 Operate "TOP2000 exe"
- 3 Choose the "file" in the main menu and load the data in the File buffer area
- 4 Insert the chip into the outlet and lock tightly
- 5 Choose model, pop-up operation window after confirming. reading and writing operation is carried out.

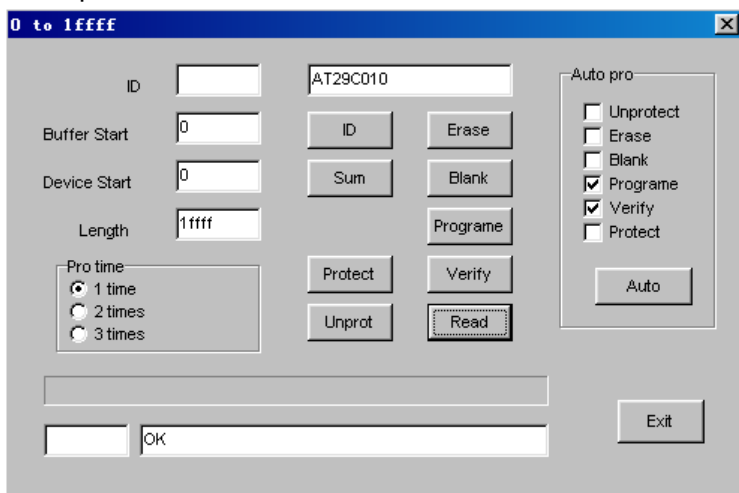
TWO. Read and write operation.

All sorts of model operation are almost the same.

Take an example for the 29c010 as follows:

- 1 Window.

Choose the "operation\read and write component". pop-up the operation window.



- 2 The file start address.

Generally, begin with the zero address and enter the data.

but also change address. enter the data into any possible beginning address Enter the HEX number.

The biggest number may be the six –position. the biggest address, 8M, default "0".

- 3 The component start address.

Insert the data into the possible start address. operating is the same with 1 default zero.

- 4 The data length.

HEX system address length.

- 5 Write the component.

Before writing the component, pay attention to the

Component model. Don't make a mistake about the programmer voltage. or destroy the component or equipment after conforming all devices is right. Put the component programming into the component outlet and lock the slab.

After writing, the programmer auto-checks, if any errors.

the wrong address and content will be shown at the window, during the writing touch the "Ctrl" and stop

operating.

6 Read the component

Insert the content of the chip into the buffer area

7 Erase

Erase the whose content, then display the "FF".

As long as the electric erase may use the order,

EPROM should be erased in ultraviolet radiation erasing.

8 Blank

Before enter the component, Check if empty,

Every word of the empty is "FF" (HEX system)

If finding the blank word during the searching the wrong address and content will be shown at the window and stop searching

Check the all address space of EPROM when searching the blank .It has nothing to do with the beginning address and length set up.

9 Verify

In order to be same that the data writing into the component is right. Compare the content of the component with the file.

If different the address and content of this word will be shown at the window.

Read operation includes the comparison not re-operation.

10 Protect

Many EEPROM and FLASH came protection function.

Protected the component only read not write

Only after protecting can you rewrite.

11 Unprotection.

It is contrary with the protection.

12 Read ID

Get the two-word code the first-word

Standards for the manufacturer and the second-word the Model.

13 Write speed

The programmingspeed from the different factory product is almost different even from the product of the same factory.

Its different model has the different programmingspeed. Generally the standard speed is sep up.

Check if it is blank before writing the component.

Every word of the blank is all "FF"(HEX system)

Or. It isn't allowed to enter the new content.

ultraviolet lamp may be used to check after if not.. the component is spoiled.

If finding won-blank word. When checking.

The wrong address and content will be shown at the window port and stop checking

Chapter 3 Read and write MCU

ONE Ordinary steps.

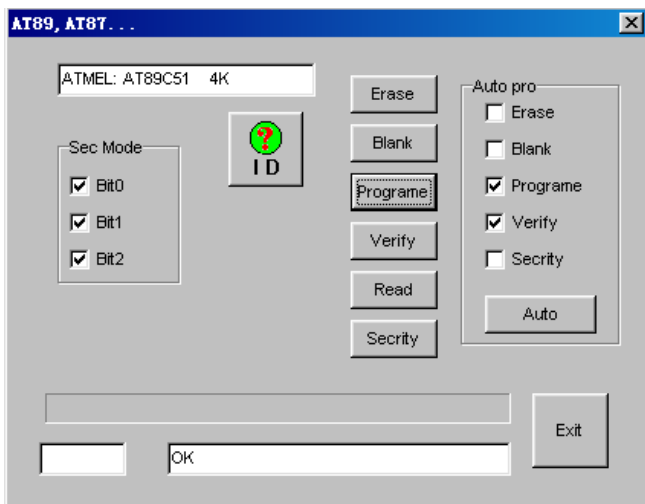
- 1 Connect TOP2000 well, Insert the random 9V. direct current into the right outlet the power lamp lights.
- 2 Operate "TOP2000, exe" ;
- 3 Choose the file in the main menu and load the data in the file buffer area.
- 4 Insert the chip into the outlet and lock tightly.
- 5 Choose model. pop-up operation window.
Reading and writing operation is carried out.

TWO. Read and write operation.

All sorts of model operation are almost the same . Take

An example for the 89c51 as follows.

- 1 Window
Choose the "operation\read and write component"
POP-UP the operation window.



- 2 Write the component, Especially pay attention to the component model, before writing the component.
After no mistake is confirmed in all device. Put the programming component on the outlet lock slot.

The programming is auto-checked after writing if any errors, the wrong address and content will be shown at the window.

- 3 Read the component.
Read the content of the chip into the file buffer area.
- 4 Erase
Erasing the whole content it will be shown "FF", Only by the electric erasing can this order be used. EPROM needs ultraviolet radiation erasing.

- 5 Blank
Before enter the component. Check if empty. Every word of the blank is "FF". (HEX system)
If finding the won blank, when searching the wrong address and content will be shown at the window and stop searching.

Check the all address space of ERROM when searching the Blank. If has nothing to do with the start address and length set up.

6 Verify

In order to be sure that the data writing into the component is right. compare the content of the component with file, If different the address and content of this word will be shown at the window.

Read operation includes the comparison not operate it again.

7 Protect

Don't read after the programming protection.

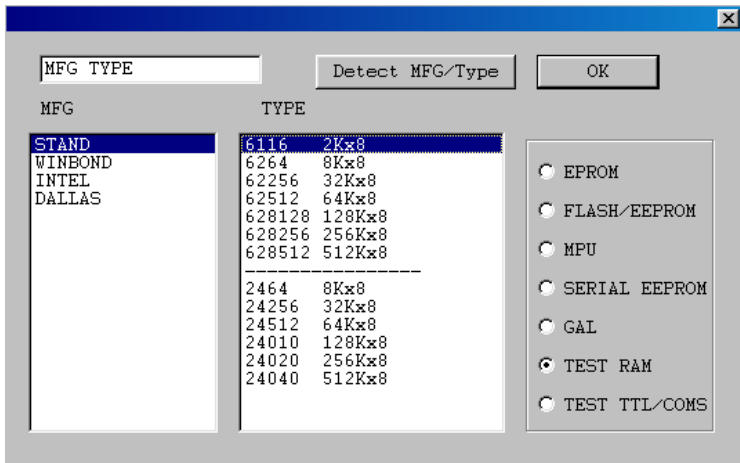
In order to protect the producers benefits only after erasing can it be write again.

8 M.F.G.

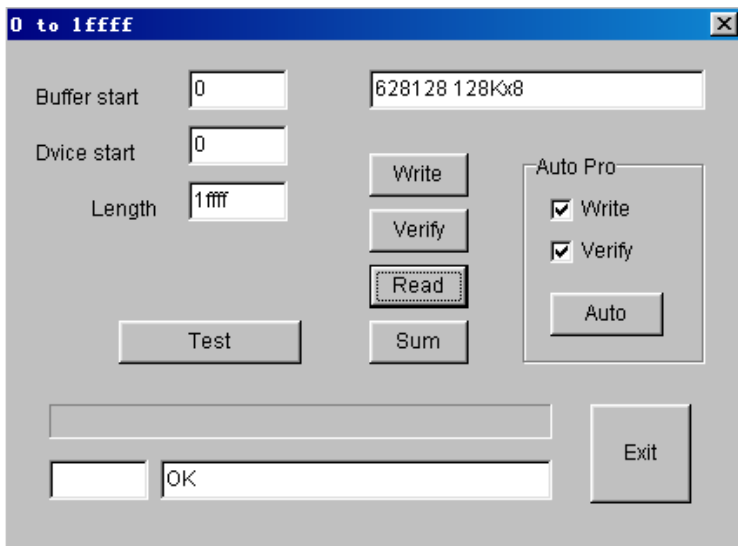
Get the two-word cold, the first-word standards for the Factory, and the second, the model.

Chapter 4 Testing SRAM

- 1 Choose the menu order. “operate/choosingmodel” pop-up the talk frame as follows:



Choose “Testing static RAM” pop-up the following window.



- 2 Choose the model (by) with a mouse.
- 3 Touch the “fast test” or “all-test” and begin to check.

Chapter 5 Read and Write serial port memory.

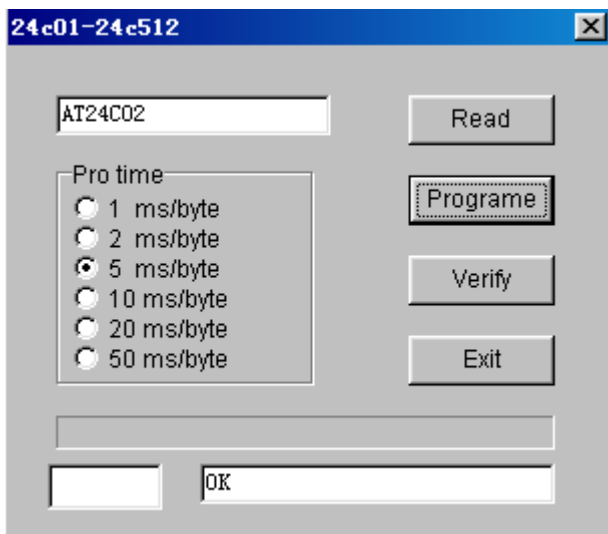
ONE ordinary procedure

- 1 Connect the TOP2000. Insert the 9V direct current into the right power outlet the power lamp lights.
- 2 Operate "TOP2000, exe"
- 3 Choose the "file" in the buffer area menu and load the data in the file buffer area.
- 4 Insert the chip into the outlet and lock tightly.
- 5 Choose model, pop-up the operate window after confirming

Read and write operation of the component is carried out.

TWO. Read and write operation.

Window: Choose the operation\ read write Component: in the main menu and pop-up the operate window.



- 1 Choose the writing speed.

The serial port memory, its "write speed" is of great Difference. if slow, no mistake is made , but it takes long to write. if fast, you'd better choose the different speed by experiment, move over, the near data may overlap to make a mistake. Generally. 2-20ms

- 2 Read the component

Only once read the data of the component into the file buffer area then "Storage file" menu order preserves the data in order to be used in the future

- 3 Write the component.

Write the data of the file window into the component.

You must prepare for the data at the file window in advance

Write into the component of this series by covering way .That is to say. Don't erase.

- 4 Comparing the data.

"Write" operation contains comparison. usually you needn't compare again but compare with file separately to confirm if the file is the same with the data of the component.

Chapter 6 Read and Write PLD

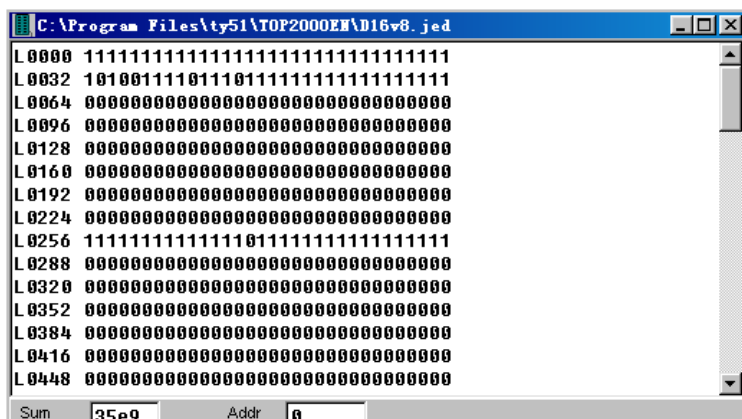
ONE. ordinary procedure.

1. Connect “TOP2000” well. Insert the 9v direct current connector into the right power outlet then the instruction lamp light;
2. Operate on the main menu the “TOP2000, exe”;
3. Choose the “file /transferring the file into the buffer area /PLD file {JED}” and load the data in the file buffer area;
4. Insert the chip into the outlet and lock tightly;
5. Choose the model, pop-up the operation window after confirming then read and write the component.

TWO. File format

All the PLD files take the “melting silk file” in the shape of JECED, its expending name is “JED” choose the file in the main menu and transfer the file into the buffer area /PLD File (JED) then load the data into the file buffer area.

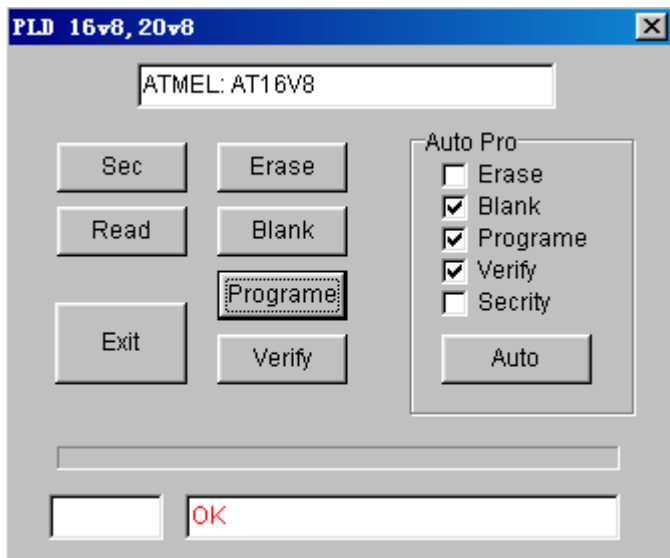
Shown as follows.



```
C:\Program Files\ty51\TOP2000EX\16v8.jed
L0000 11111111111111111111111111111111
L0032 10100111101110111111111111111111
L0064 00000000000000000000000000000000
L0096 00000000000000000000000000000000
L0128 00000000000000000000000000000000
L0160 00000000000000000000000000000000
L0192 00000000000000000000000000000000
L0224 00000000000000000000000000000000
L0256 11111111111111101111111111111111
L0288 00000000000000000000000000000000
L0320 00000000000000000000000000000000
L0352 00000000000000000000000000000000
L0384 00000000000000000000000000000000
L0416 00000000000000000000000000000000
L0448 00000000000000000000000000000000
Sum 35e9 Addr 0
```

THREE Read and write operation.

Window: Choose the “operate\read and write component” on the main menu then pop-up the operate window.



1 Read the component

Only once read the data of the component into the "File window".

2 Write the component

Write the data of the file window into the component, The data of the file window need be prepared in advance and only after the component must be blank can it be written.

3 Compare the data.

"Writing" operation includes comparison.

Generally, not comparing, but it can be compared with the file separately. Be sure that the file is the same with the data of the component.

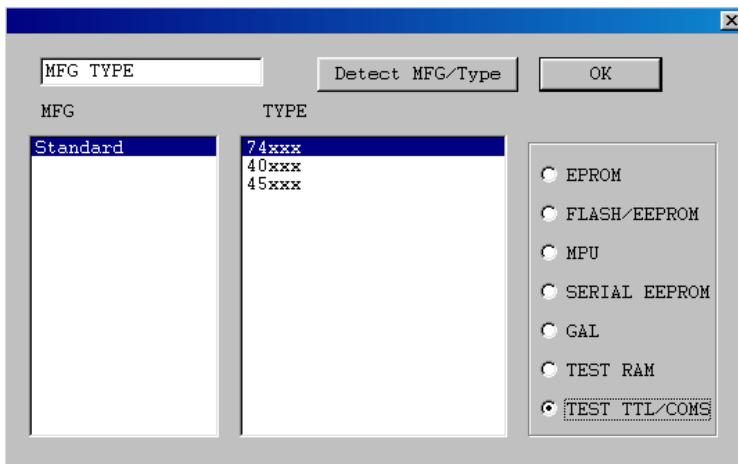
4 Erase

Eraser is used to erase the original contents including the array fuse constructing control field and flag field etc.

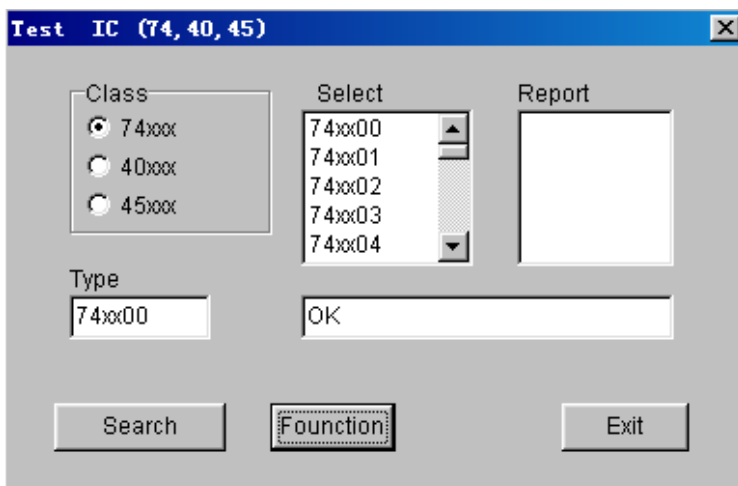
Chapter 7 Testing the common integrated Circuit.

Choose the “operate/ choice model” on the main menu.

Choose the 7th item of the “category to test TTL/CMOS”



Return to the testing window as follows.



1 Choose the type

Use the TOP to test thousands of types with the 74.45.40 series components. Every item corresponds with a bank file.

2 Type-choosing.

After conforming the family bank you can choose in the list frame to test the certain type.

3 Testing

Testing the logic function of the component to judge whether The component is good or not. If good, the speaker rings down only once or three times.

4 Auto-test the type.

You can find out its type by this function if its type is unknown.

The component with the same logic function may have several different types. They will be shown at the window.

5 The list for testing type.

74xxx

00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 20 21 22 25 26
27 28 30 32 33 37 38 40 42 43 45 46 47 48 50 51 52 53 54 55 60 70 72
74 85 86 95 107 108 109 110 111 112 113 114 116 123 125 126 128 132 133
136 137 138 139 145 147 148 150 151 152 153 154 155 156 157 158 159 160
161 162 163 164 165 166 168 170 173 174 175 180 183 189 190 191 192 193
194 195 240 241 242 243 244 245 247 248 249 251 253 257 258 259 260 266
273 276 279 280 283 290 293 295 298 299 322 323 352 353 365 366 367 368
373 374 375 377 378 386 390 393 465 540 541 573 574 590 640 641 643 644
645 670 688 804 805 870

40xxx

00 01 02 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25
26 27 28 29 30 32 33 35 38 40 41 42 43 44 48 49 50 51 52 53 54 55
56 60 63 66 67 68 69 70 71 72 73 75 76 77 78 81 82 85 86 93 94 95
96 97 99 101 102 103 105 106 108 109 160 161 162 163 174 175 192 193
194

45xxx

01 02 03 04 06 08 10 11 12 14 15 16 17 18
19 20 29 32 38 43 53 55 56 72 84 85 103 105 106 108 109 160 161 162
163 174 175 192 193 194

45xxx

01 02 03 04 05 06 07 08 10 11 12 14 15 16 17 18 19 20 29 32 38 43 53
55 56 72 84 85

TOP2000 Series parts

- 1 A. main frame
- 2 Interface (RS232) connecting cable with 9 needles
- 3 A direct power with 9v/400MA
- 4 <<TOP2000 common programmer>>.Users book.
- 5 Series software

Notice

- 1 The power is 9v/400MA the center of the connector is positive
- 2 The lock is easy to spoil without free amendment.