

## Brief introduction

The model TOP2003 programmer has the advantages of its small size, low-power and high reliability.

It is designed to specialize in developing computer on-chip and programming all sorts of memory.

TOP2003 uses USB interface to connect with PC computer. It has fine, anti-interference, high credibility and high transfer rate. It needs no connection with power supply especially suitable for notebook computer that is supplied with battery.

### Characteristic:

- Support 2.5~6.5V VCC device.
- By combining the universal interface with PC computer. Transfer speed 12MHz/s.
- Suitable for the notebook computer that is provided with battery and the table-styled computer.
- Effectively protect the programmer and its device against harm.
- Whether the self-testing component is inserted if wrong or not it will indicate.
- All-connector pin checking may check any touch status of every connector pin.
- 40-needle multi-connector may adapt to all sorts of adapters.
- Operate under the WINDOWS 98 SE/ME/2000.
- It is small-sized. Light and low power
- consuming with the plastic cover
- Auto-testing the factory and model.
- The speed of programming doesn't relate with the computer. when computer on-chip timing.

## Installation

Software of the model TOP 48 operates under windows 98 SE/ME/2000.

For windows98SE/ME/2000:

- 1.Take off TOP 48 (Do not connecting with TOP 48);
- 2.Run "setup.exe" from disk,and continue;
- 3.Finally press the button comfirm and start the computer again.
- 4.Aftor starting the windows. Use the wire to connect with TOP2003.The flat head of the wire connects to the USB interface of the PC computer.the square head to TOP2003.
5. After the red-light is on ,run "Start/programme/TOP2003/TOP2003.exe ".Wait for about five seconds,if the green LED light,every thing OK.

### **For windows XP:**

As the complexity of XP copy and the speciality of USB control,The procedune of installation isn't smooth like the WINDOWS98 SE/ME/2000.Sometimes.only through a few times can you sulleed. AS Cupress does not confirm that it supports xp, some of users can not operate wnder "XP". Most of them operate very well.

- 1.Remove TOP2003 programmer(Do not connecting with TOP2003).
- 2.Operate the "setup.exe"on the compact dis and.finish auoding to the instraction.
- 3.After starting windows xp again connect the TOP2003 to the USB ,the red LED light. Computer will found new hardware device and show message as follows:

XXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXX ... Cypress EZ-USB(2131Q/2131S/2135S)-EEPROM missing
---

"EEPROM missing" is a common information.

4.If finding the USB device drive file(.inf &.sys),display as follows.

```
XXXXXXXXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXXXXXXXXXXX
Cypress EZ-USB(2131Q/2131S/2135S)-EEPROM missing
XXXXXXXXXXXX(I)
XXXXXXXXXXXX(S)
```

Choose (I),and press the next step(N) to auto-installing software.

5.Now you can see message as follows:

```
XXXXXXXXXXXXXXXXXXXXXXXXXXXXX
Cypress EZ-USB Simple Device
XXXXXXXXXXXX
XXXXXXXXXXXX
```

press the next step(N) to continue;

6."Finding new hardware guide"The talk frame shows. "Finishing finding the new hardware guide"press"end"and installation is over.

7. start the WindowXP again.

8.Combine TOP2003 with usb connective mouth.Run TOP2003.exe.After TOP main window wait of about 5 secod, green LED is on. Every thing is OK,you may write and read the device normally.Take your attention!If the green LED light is out.you can't continue readding and writing, or show "Read USB bad!"

9.If you can't open the equipment it shows the driving grogram fails. Now need reinstall from step1 to step8.

Hard ware Installation.

1.The USB interface may insevt or pull with electricity first start the computer and then connect with TOP2003.

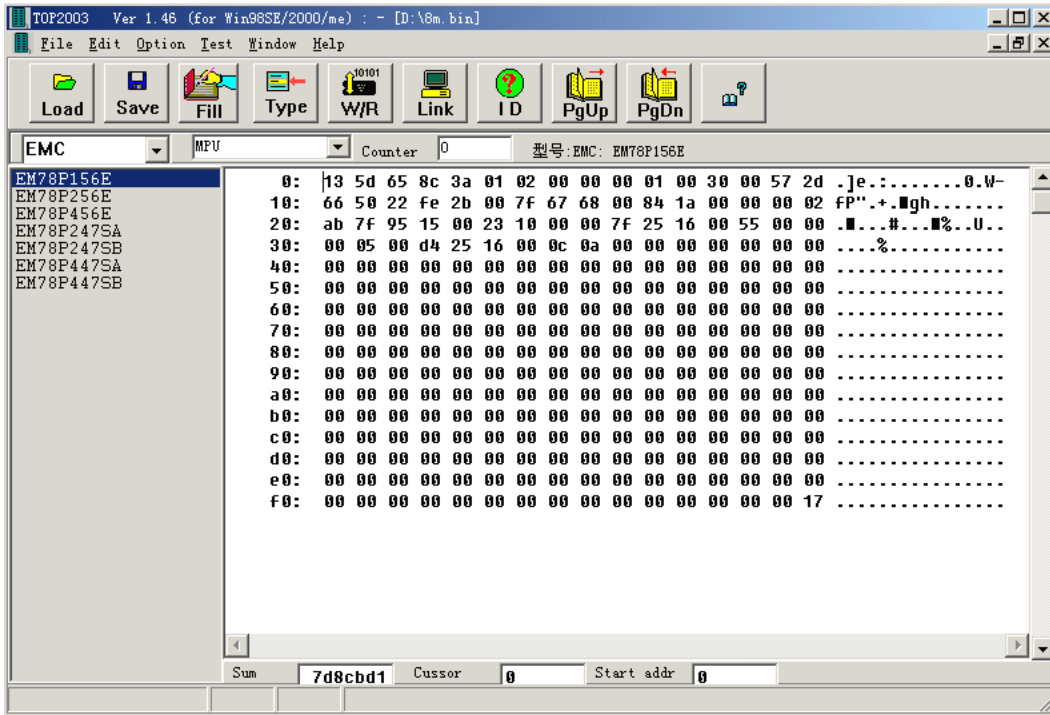
2.connect the flat head of the wire to the interface of USB,the square head of it to the outlet in the side of TOP2003(each end of the wire is different,you must distingnish one from another )The power LED(red) is on, Now the computer

has connected with the programm of TOP2003.After about five seconds later.The working LED of TOP2003 "READY"(green)is on.The computer is ready to operate now.

3.Run "Seting/system/"On the main menu, Click "Power status" to display power status.If show between 5 lever to 10 lever, power is OK.

Main Window.

Main window of TOP2003 as follows



Most of operations about TOP2003 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

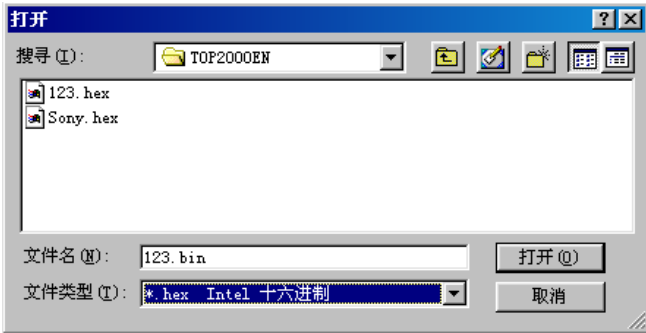
The file window displays the data being written into the component.

## Chapter 1 Software operation

ONE. File operation and Edition.

1 File operation.

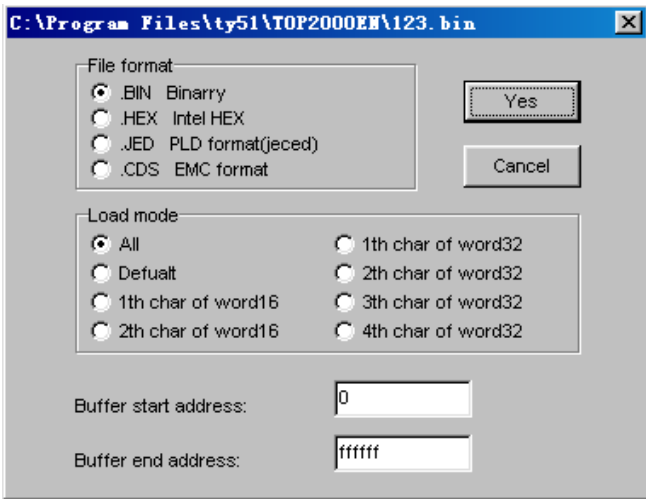
Choose "file" in the main menu, POP-UP as follows:



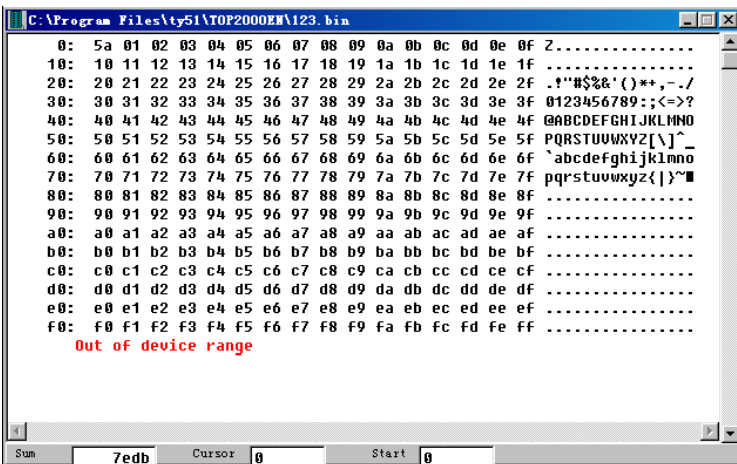
The file menu contains the memory operation of file.

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.

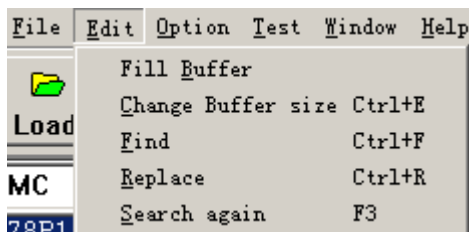
You can move the word. By mouse or touch if need to amend the data, after loading the file into the file window. Directly touch the key to enter the data. But it must be two-position hexadecimal.

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.

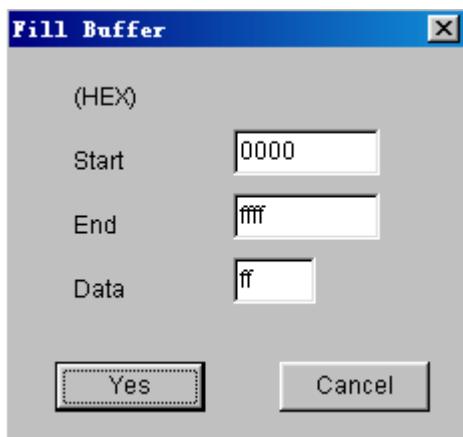
4 Edit menu.



5 Fill in the data.

Choose menu, "fill buffer" pop-up talk frame.

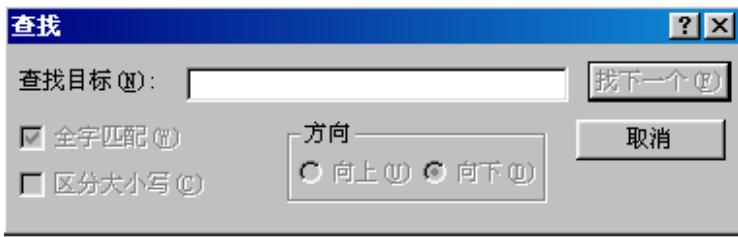
Enter the address scope and the data that is filled up. Then touch the "Confirm" key.



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:



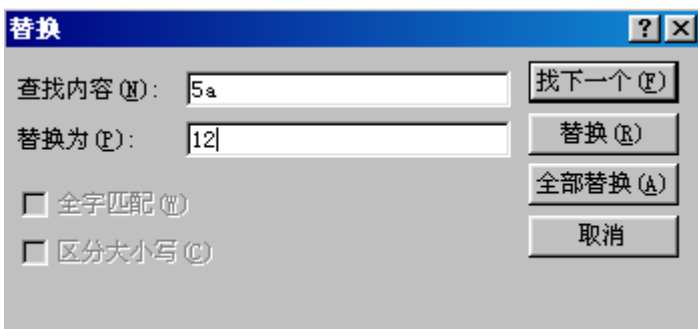
Touch "search for the next" and begin to search.

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.

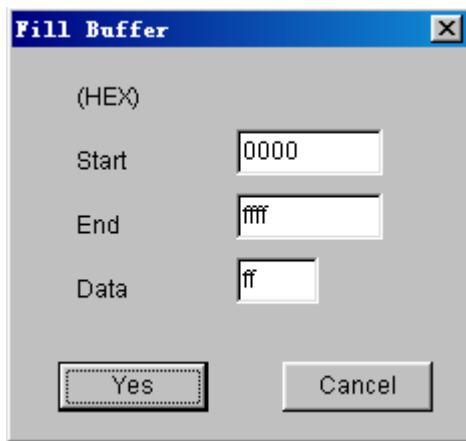
Be careful! First you have to touch the "search the next" key for the second time, touch the "replacement" key again.

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 expending 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

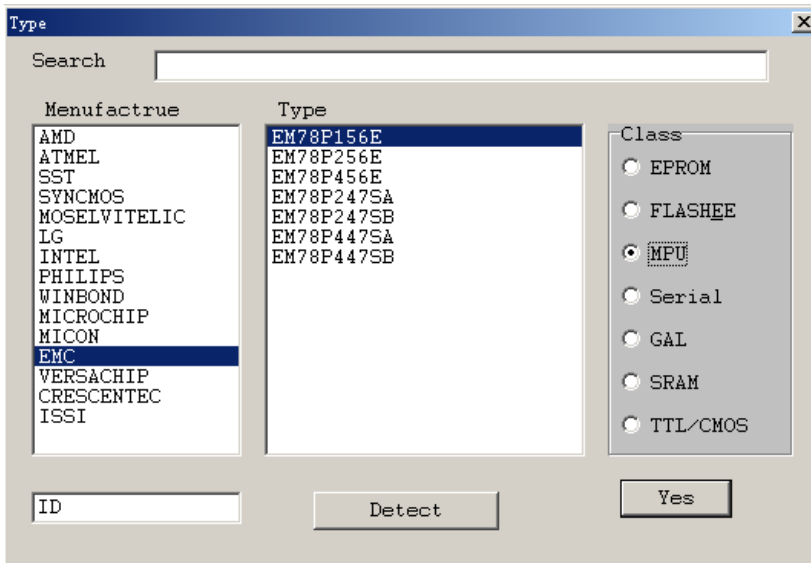
Home

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 "confirm" 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 TOP2003 well, Then Connect 9V. 400MA direct current into the right outlet then lamp lights.
- 2 Operate "TOP2003 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.

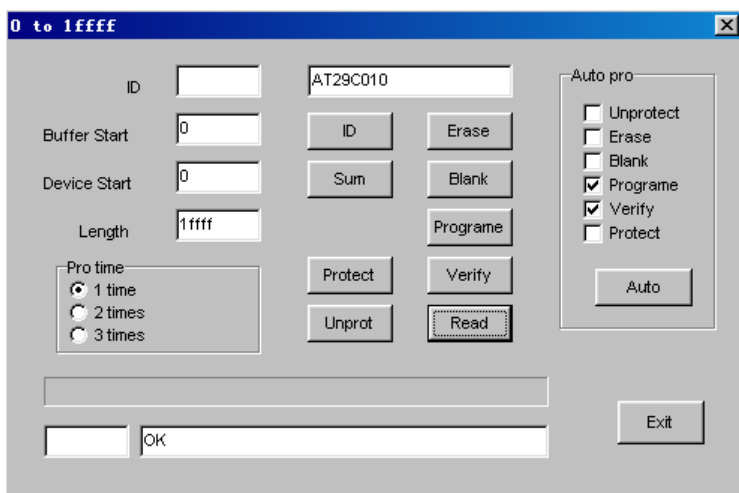
TWO. Read and write operation.

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 daring 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 programming speed from the different factory product is almost different even from the product of the same factory.

Its different model has the different programming speed. 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 TOP2003 well, Insert the random 9V. direct current into the right outlet the power lamp lights.
- 2 Operate "TOP2003, 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.

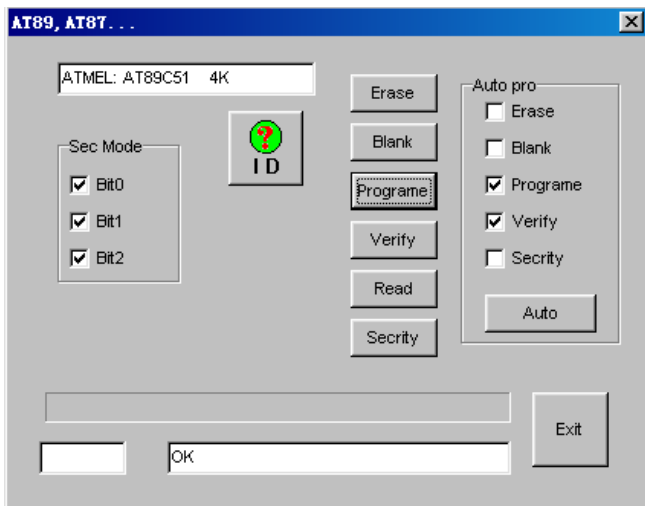
All sorts of model operation are almost the same . Take

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 slat.

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 EPROM 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.

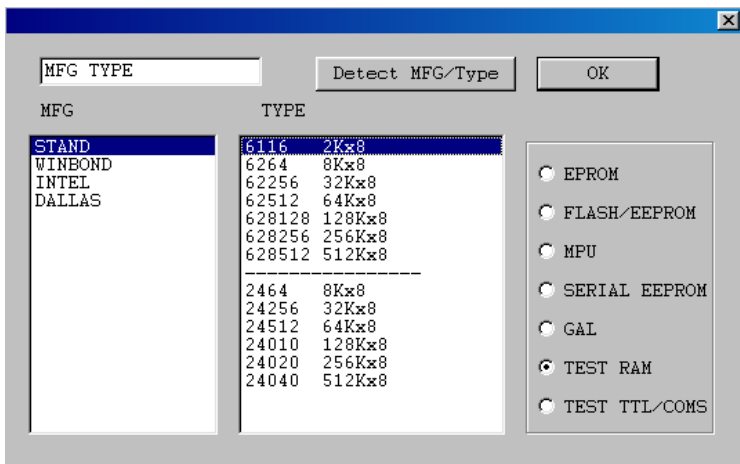
In order to protect the producers benefits only after erasing can it be write again.

### 8 M.F.G.

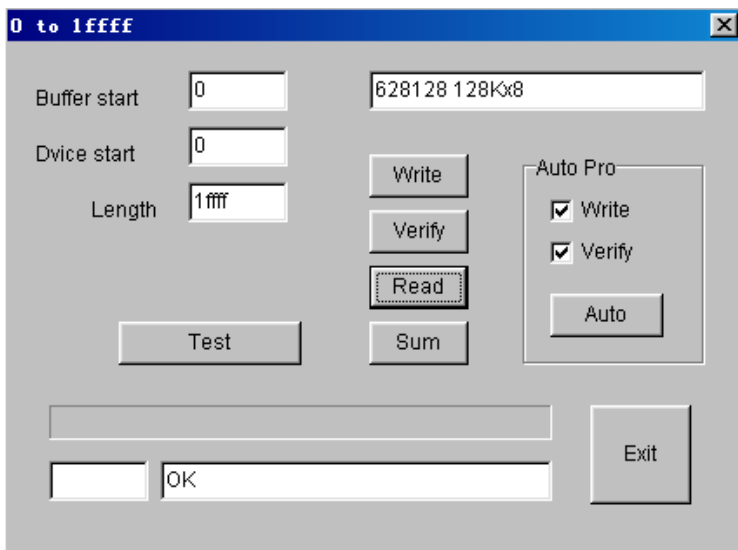
Get the two-word code, the first-word standards for the Factory, and the second, the model.

## Chapter 4 Testing SRAM

- 1 Choose the menu order. "operate/choosing model" 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.

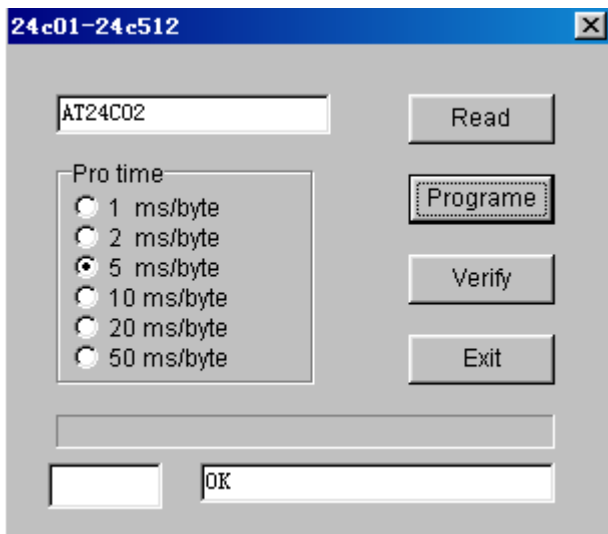
ONE ordinary procedure

- 1 Connect the TOP2003. Insert the 9V direct current into the right power outlet the power lamp lights.
- 2 Operate "TOP2003, 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

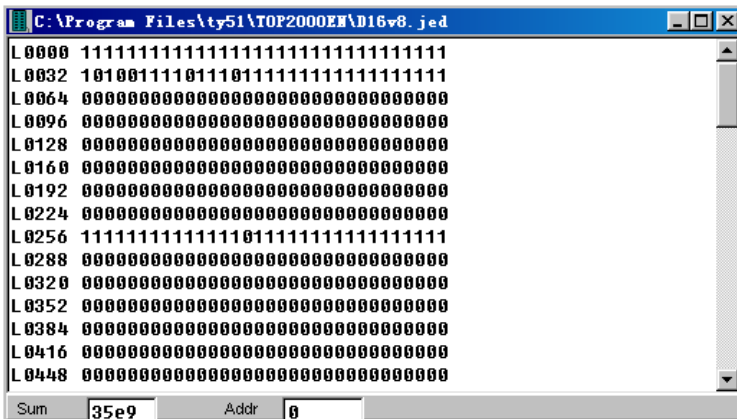
ONE. ordinary procedure.

1. Connect "TOP2003" well. Insert the 9v direct current connector into the right power outlet then the instruction lamp light;
2. Operate on the main menu the "TOP2003, 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.

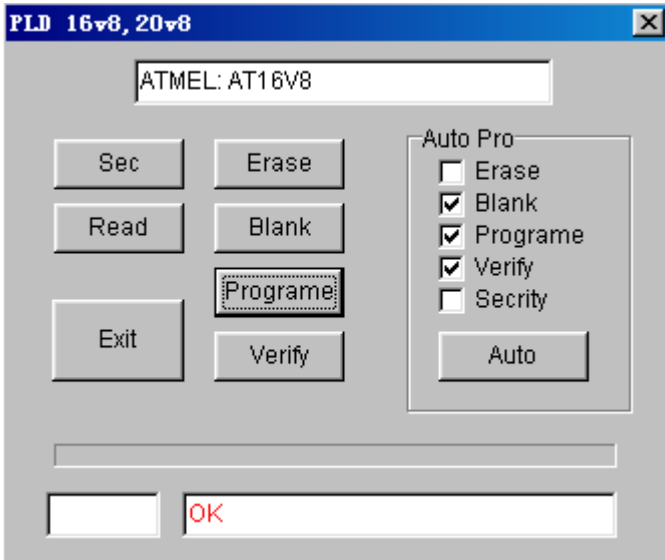
Shown as follows.



```
C:\Program Files\ty51\TOP2000EN\DI6v8.jed
L0000 11111111111111111111111111111111
L0032 10100111101110111111111111111111
L0064 00000000000000000000000000000000
L0096 00000000000000000000000000000000
L0128 00000000000000000000000000000000
L0160 00000000000000000000000000000000
L0192 00000000000000000000000000000000
L0224 00000000000000000000000000000000
L0256 11111111111111011111111111111111
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.

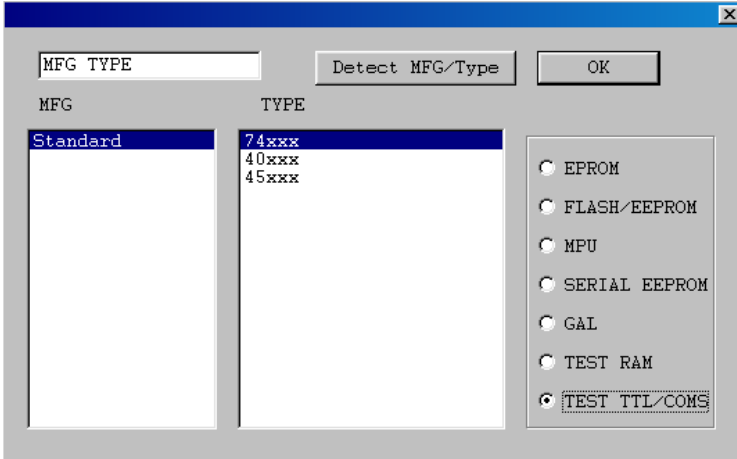
4 Erase

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

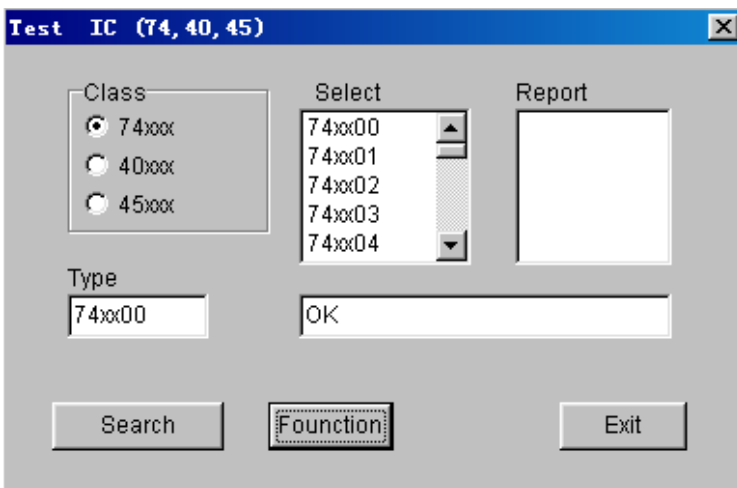
## Chapter 7 Testing the common integrated Circuit.

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 2122 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 109160 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

02 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



TVP2003 Parts.

1.Main frame of TOP2003.

2.A standave wine for USB1.1

3.A hard book about TOP2003 universal programmer

4.A softwave disc.