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ChipMaster-6000XP

Intelligent Universal Programmer

User′s Manual

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How to use this manual

Thank you for purchasing the ChipMaster-6000XP intelligent universal Programmer. We designed this manual to help you quickly and easily set up and use your ChipMaster-6000XP. You can use the manual in two ways:

Step by step:

The manual should be used in conjunction with the On-line help contained in the ChipMaster-6000XP software. Once you have installed the ChipMaster-6000XP hardware and the software, you should not need this manual again. You can just press ′Fl′ in the program and context sensitive help will guide you through the processes.

Quick start:

Our special Quick Start section gives experienced users the information they need to setup the ChipMaster-6000XP and software, and basic guidelines on using the ChipMaster-6000XP If you need more information, you can refer to the rest of the manual. If you have any problems, you can work through the manual step by step for easy troubleshooting. If you have any questions, feel free to call your local distributor or sales representative.

Software Updates:

Please visit our web at *www.logicaldevices.com* or *www.aec.com.tw* or *www.labtool.com* update the software periodical.

Packing List

Before you begin installing your ChipMaster-6000XP, please make sure that the following materials have been shipped:

1. ChipMaster-6000XP intelligent universal programmer.
2. Parallel cable (1.0 meter).
3. USB cable (1.8meter).
4. CD ROM containing the EPP interface software for Windows support Win 2000, Win 95/98/ME, Win XP and Win NT (NT 4.0 and latest version).
5. CD ROM containing the USB interface software for Windows support Win 98/ME, Win 2000, and Win XP.
6. Power cord.

Contents

Chapter 0 Quick Start 0-1
Quick Start 0-2
Chapter 1 General Information 1
Introduction 2
Features 2
Using the CHIPMASTER-6000XP Software 4
Chapter 2 Installation 5
Minimum PC System Requirements 6
Installing the ChipMaster-6000XP Hardware 6
Installing the ChipMaster-6000XP Software 6
Upgrading the ChipMaster-6000XP Software 7
Chapter 3 Command Hierarchy 8
ChipMaster-6000XP Command Hierarchy 9
Chapter 4 Operation 10
LED Display 11
File Commands 11
Save Buffer to File 11
Load File to Buffer 14
Exit 19
Project File Commands 20
Save Project 20
Load Project 20
Device Commands 20
Change Device 20
Auto Select EPROM 23
Mass-production Mode 24
Editing the Buffer 26
Modify Vector 30
Blank Checking a Device 33
Reading a Device 33

Programming a Device 33
Verifying a Device 34
Memory Protect/program configuration 35
Function Test 36
Erasing a Device 37
Compare 37
Device Configuration 38
Options 39
Modify Programming Parameters 39
Device Operation Options 39
Parallel Port Selection 44
Statistic 45
Chapter 5 Using Adapters 49
Adapter Requirements 50
Appendix A Error Messages 57
Error Messages 58

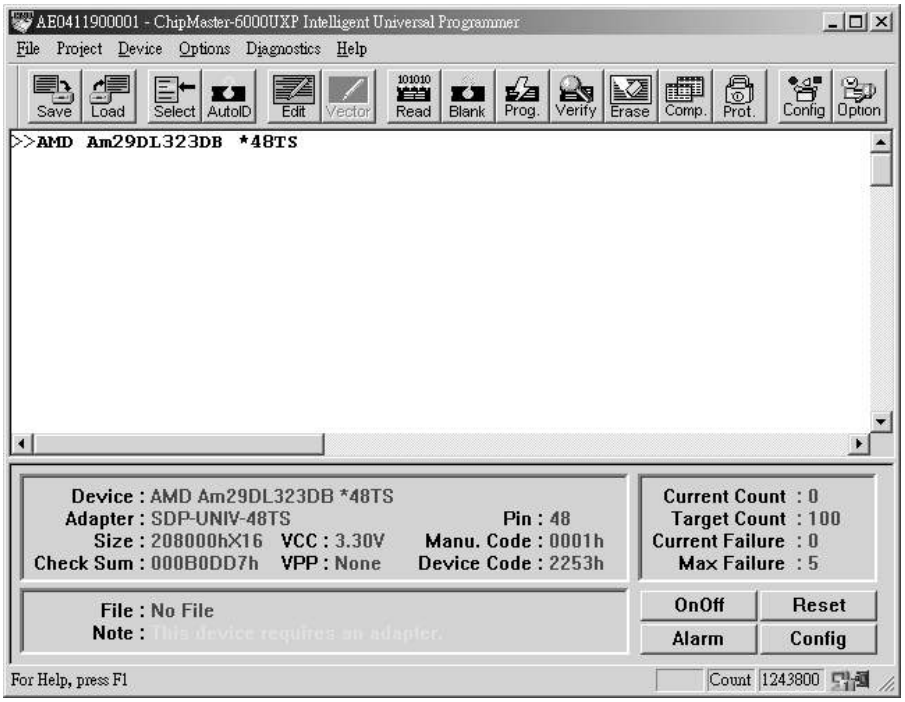
CHAPTER 0

Quick Start

This section is for experience user only, after install the ChipMaster-6000XP hardware and successfully install the system software in your PC, user can follow the quick start section start to program the device without go to the read this manual step by step.

Quick Start

After execution the ChipMaster-6000XP software, following ChipMaster-6000XP screen will display:



It shows the firmware version of ChipMaster-6000XP, the parallel port that connect to the ChipMaster-6000XP:

1) Select the chip to be programmed first.
   Use the Hot Key “ALT-C”, then type the complete part number of the chip to be programmed; or use the mouse to select the desired part number.
2) Load the design file into the buffer.
   Use the Hot Key “ALT-L”, then specify the origin of the file and load.
3) Alternatively, you can read a master chip into the buffer instead of a design file.
   Read operation (Hot Key ALT-R), you can transfer the chip′s

contents into the buffer.

4) Insert blank chip of the same type into the ZIF sockets, set the device operation option (Hot Key F4, detail of device option, reference to chapter 4 of this manual) then press program (Hot Key ALT-P).
5) To speed up throughput, user can change the mode to Mass production mode (move the mouse to device, click the left key of mouse moving the cursor to mass production mode and click the left key of mouse again). After entering this mode, the ChipMaster-6000XP will program chips automatically after the chip has properly inserted into the socket of the ChipMaster-6000XP.
6) If the chip has configuration byte for set up the oscillator type, watch dog, code protect, etc in the chip. User need to enable the configuration (Hot Key ALT-G) then edit the desired set up in to the configuration byte, then perform memory protect/program configuration in the SW to program the configuration byte of the chip, the configuration menu only available if the chip has this specific function.
7) Program the configuration byte or protect the chip can also be done in single key press or in mass production mode without need to press the memory protect separately, to achieve this user need to enable the memory protect in the device operation menu first then after perform program, the programmer will program the main buffer then program the configuration byte or protect the chip in sequence. For chip has memory protect function, after the code protect bit been set and perform protect, the chip will not allow to read back again and can not verify too.
8) For a detailed explanation of the device operation options, please refer to Chapter 3 and 4.

CHAPTER 1

General Information

Introduction

The ChipMaster-6000XP is a high performance intelligent PC-based universal programmer that works through your PC′s parallel port. It features 48-pin ZIF sockets, supports all kind of programmer chip in the market which include CPLD, EPROM, EEPOM, Serial EEPROM, Flash memory and MCU, extremely high throughput, 5V and 3V chip support in both Vcc and I/O, lower voltage chip (for example 1.8V Vcc and I/O support) also possible through special adapter, device insertion and continuity checks, all within a PC-based design. Device updates are disseminated through software, giving our customers quicker and more flexible access to new chip support.

Features

Universal adapter below 48 pin

The ChipMaster-6000XP is designed to meet you future needs in high density Flash chips. Using the resources of your PC, it supports 32K bit up to over G bit memory chips without upgrading its hardware. The ChipMaster-6000XP also has a universal adapter that accommodates 48-pin TSOP, 44-pin PLCC, 40-pin TSOP, and 32-pin TSOP that support all the chip in same adapter which eliminates the need to buy multiple adapters and saves you money.

Unbeatable speed

The ChipMaster-6000XP′s on-board intelligence reduces system overhead to a minimum. It can program Flash chips within 2.5 second per M bit (for example, AMD29DL323 can be programmed by ChipMaster-6000XP within 80 seconds). An experienced operator can program thousands of

high-density chips per day.

Device-insertion and continuity checks – No mistakes!

The ChipMaster-6000XP performs device-insertion and continuity checks before programming each device. It can detect poor pin contact, upside-down device insertion, incorrect position, and pin number mismatch. This function protects your pocketbook by preventing expensive chip damage caused by operator mistake.

Auto-sensing and self-programming

The ChipMaster-6000XP has implemented patented technology to meet mass-production requirements. When a chip insert into the ZIF socket, the ChipMaster-6000XP will start to program the chip automatically, operator just follow the LED to remove the chip and insert the chip without need to press any key.

Project file “Save and Load”

You can save the program configuration project file that contains the device selection, the buffer data, and all of the program setup options. This file can be recalled at any time for future use without having to go through the setup procedure again. This allows you to pass your design file to the production department without mistakes.

Variable VCC with one or two-pass verification

The ChipMaster-6000XP allows users to select the verification voltage after chip programming is complete, e.g., Vcc +/-5%, V_{cc}+/-10%, Vcc can range from 2V to 7.5V. Verification ensures that the chips have been properly programmed, with no data retention problems.

Device support summary

Over 6500 chips support and increase the chip support through

software update from www.logicaldevices.com. Normally we add More than 100 new chips in each quarter's software update.

Using the ChipMaster-6000XP Software

Menus

Accessing the menus can be done in two ways:

1. Use the mouse and click on the menu option displayed at the top of the screen. A pull-down menu will appear, and you can select the option you desire by clicking on that option. If you do not have a mouse available, you can also use the keyboard to access the menus. Press [F10] to activate the main menu bar.
2. Select the sub-menu that you want to use with the left and right arrow keys, and press <ENTER> to activate the sub-menu. Use the up and down arrows to select an option to execute. Press <ENTER> to execute the command.

Hot keys

Most of the options available on the menus can also be executed by pressing the hot key associated with that option. To see what the hot key is for a certain option, look on the menu where the option is located. If a hot key is available, it will be displayed next to the option name.

CHAPTER 2

Installation

Minimum PC System Requirements

Win 95/98/ME, Win 2000, Windows XP, Win NT 4.0 or latest (NT OS system, need NT System ADM).

CUP: PII 750 and above.

RAM: 64MB minimum, 128 MB recommended.

HD: 16 MB of free hard disk space.

Interface:

1. D-25 connector with parallel port ECP or EPP mode, EPP mode recommended.
2. USB device connector supports USB1.0/1.1/2.0.

CD ROM Driver.

Installing the ChipMaster-6000XP Hardware

1. Connect the power cord to the ChipMaster-6000XP power outlet.
2. Connect the ChipMaster-6000XP to a parallel port or USB port using the cable supplied.
3. Turn the ChipMaster-6000XP power on.
4. The ChipMaster-6000XP will perform self-test first, the green LED lamp will on (good) if the system pass self test.

Installing the ChipMaster-6000XP Software

1. Insert the CD ROM into CD driver of your PC, in my computer ICON, double click the E driver (CD ROM); this activates the E: Drive.
2. Double click the set up ‘setup.exe’ ICON will starting the

installation program.

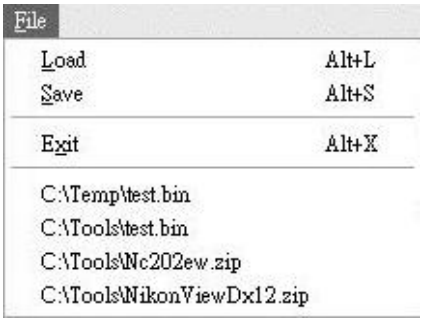
3. Following successful installation, run the software by executing ChipMaster-6000XP by double click the ChipMaster-6000XP ICON. The screen will display ChipMaster-6000XP firmware version and indicate which parallel port is attached to the ChipMaster-6000XP programmer.

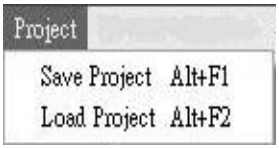
Upgrading the ChipMaster-6000XP Software

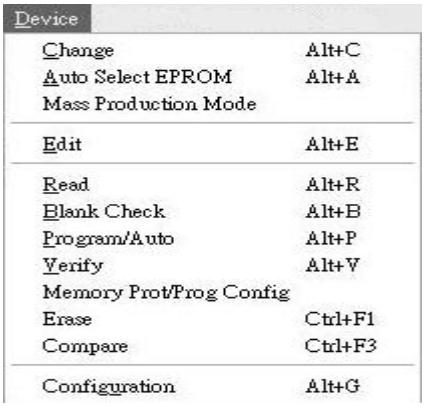
Forchip/Logical Devices provide quarterly formal releases of the ChipMaster-6000XP software on web, please download software from web at *www.logicaldevices.com* *or* *www.aec.com.tw* or *www.labtool.com*.

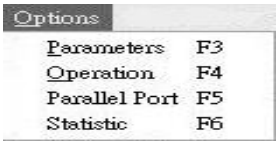
CHAPTER 3

Command Hierarchy













ChipMaster-6000XP Command Hierarchy

System command	Operation command	Hot Key
File (ALT-F)	Save Buffer	ALT-S
	Load File	ALT-L
	Exit	ALT-X
Project (ALT-J)	Save Project	ALT-F1
	Load Project	ALT-F2
Device (ALT-D)	Change	ALT-C
	Edit	ALT-E
	Read	ALT-R
	Blank Check	ALT-B
	Program/Auto	ALT-P
	Verify	ALT-V
	Erase	Ctrl-F1
	Compare	Ctrl-F3
	Configuration	ALT-G
Options (ALT-O)	Modify Programming Parameter	F3
	Device Operation Options	F4
	Parallel Port Selection	F5
	Statistics	F6
Diagnostic	Self Test	F7
Help (ALT-H)	Help Topic	
	About	

CHAPTER 4

Operation

LED Display

The ChipMaster-6000XP has a three LED display to indicate the status of the socket. Read this section carefully to avoid damage to chips.

Warning: Do not insert or remove a chip from a socket while the yellow LED is on (Busy)!

Green LED on (Good) The last operation result passed.

Yellow LED on (Busy) The socket is busy; do not remove or insert the chip on the ZIF socket before green LED or red LED on.

Red LED on (Error) The last operation resulted in failure.

Flashing LED, 5Hz frequency. This only applies to mass production mode, the chip pass the program and verify cycle and waiting for operator to remove the chip and insert a new chip.

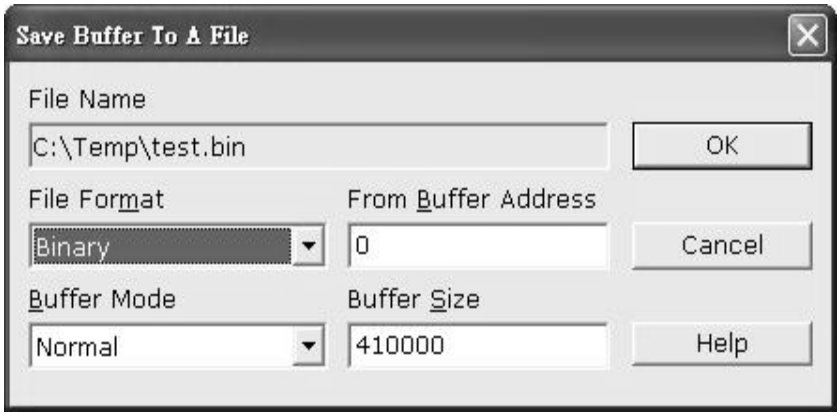
File Commands

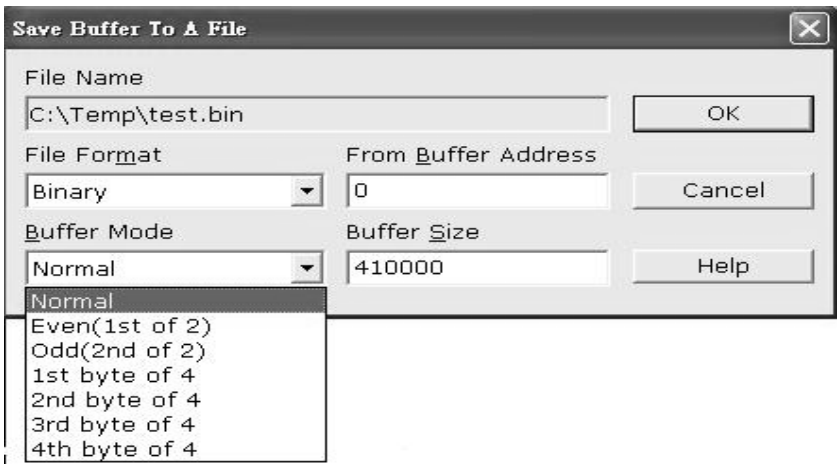
Save Buffer to File

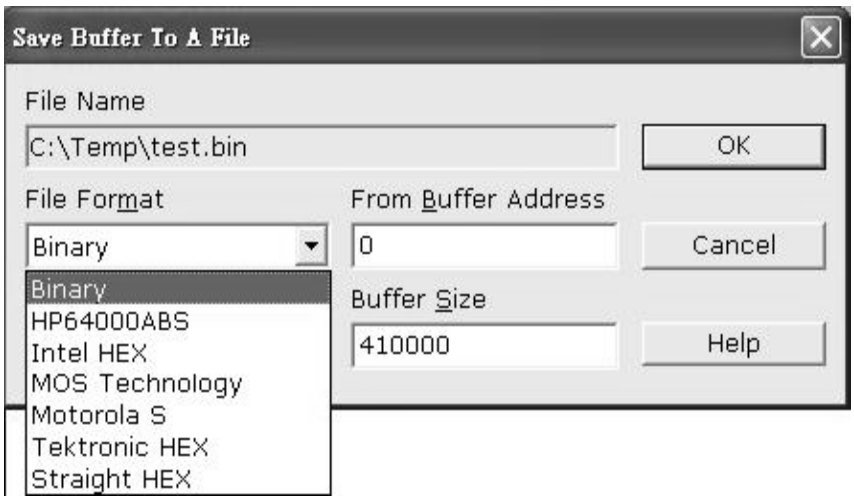
Menu *File / Save Buffer*

Hot key *Alt-S*

This option is used to save the memory buffer to a file on the hard disk. Select a file (to overwrite!) using the mouse, or type the file name in the box provided. You can also type in a file spec. (e.g. *.hex) at the Name prompt. This will display all the files of the specified type, and you can then select the required file to overwrite.


Save Buffer To A File
File Name
C:\Temp\test.bin
OK
File Format
From Buffer Address
Binary
0
Cancel
Buffer Mode
Buffer Size
Normal
410000
Help


Save Buffer To A File
File Name
C:\Temp\test.bin
OK
File Format
From Buffer Address
Binary
0
Cancel
Buffer Mode
Buffer Size
Normal
410000
Help
Normal
Even(1st of 2)
Odd(2nd of 2)
1st byte of 4
2nd byte of 4
3rd byte of 4
4th byte of 4


Save Buffer To A File
File Name
C:\Temp\test.bin
OK
File Format
From Buffer Address
Binary
0
Cancel
Buffer Size
410000
Help
Binary
HP64000ABS
Intel HEX
MOS Technology
Motorola S
Tektronic HEX
Straight HEX

File name Specify the destination and file name which you want to save to.

File format Select the file format of your output file, click the right key of mouse, all available file format will display, move the mouse to the select file format and click the right key of the mouse will select the file, available file format include Binary, HP64000ABS, Intel Hex, MOS Technology Hex, Motorola S format, Tektronic Hex, and Straight Hex.

Buffer mode This Buffer mode is to split your buffer according to the mode selection, detail of the split function as following explains.

Normal (default)
Every byte is written to the output file.

Odd
Every Odd byte is written to the output file.

Even
Every Even byte is written to the output file.
The following four options are used to write the buffer into four different files:

1st byte of 4
This writes the bytes 1,5,9,13, … into the output file.

2nd byte of 4
This writes the bytes 2,6,10,14, ... into the output file.

3rd byte of 4

This writes the bytes 3,7,11,15, ... into the output file.

4th byte of 4
This writes the bytes 4,8,12,16, … into the output file.

From Buffer address This specify the start address of the buffer you want to save the file, default from 0000h, any address (0h to Max. of the buffer address can be edit)

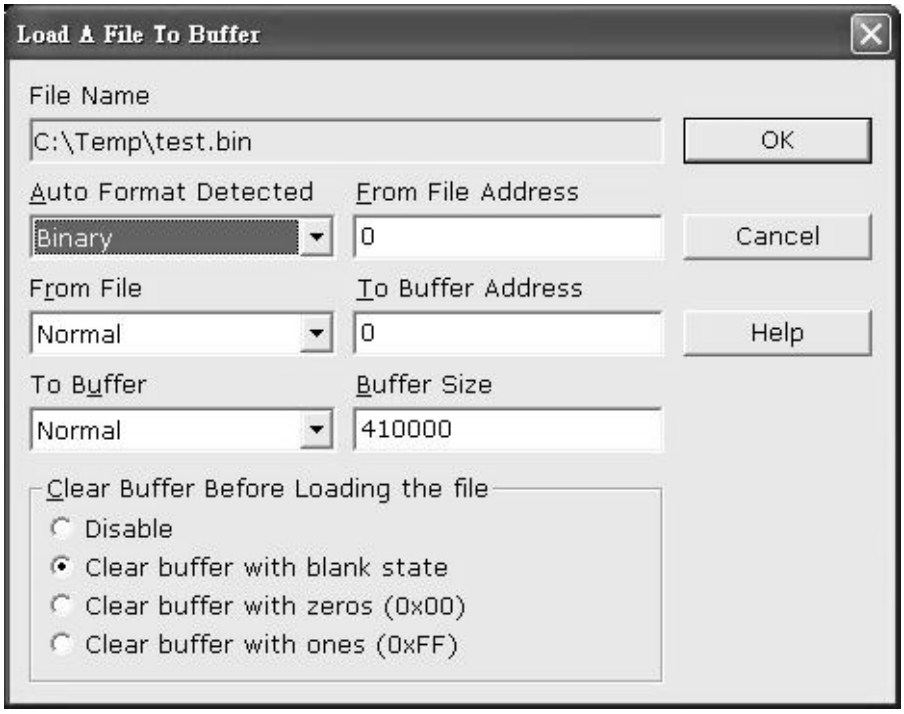
Buffer size The buffer size is depend on the chip you select for example when select 29F010 (the buffer size will be 1Mbit which is 20000h)

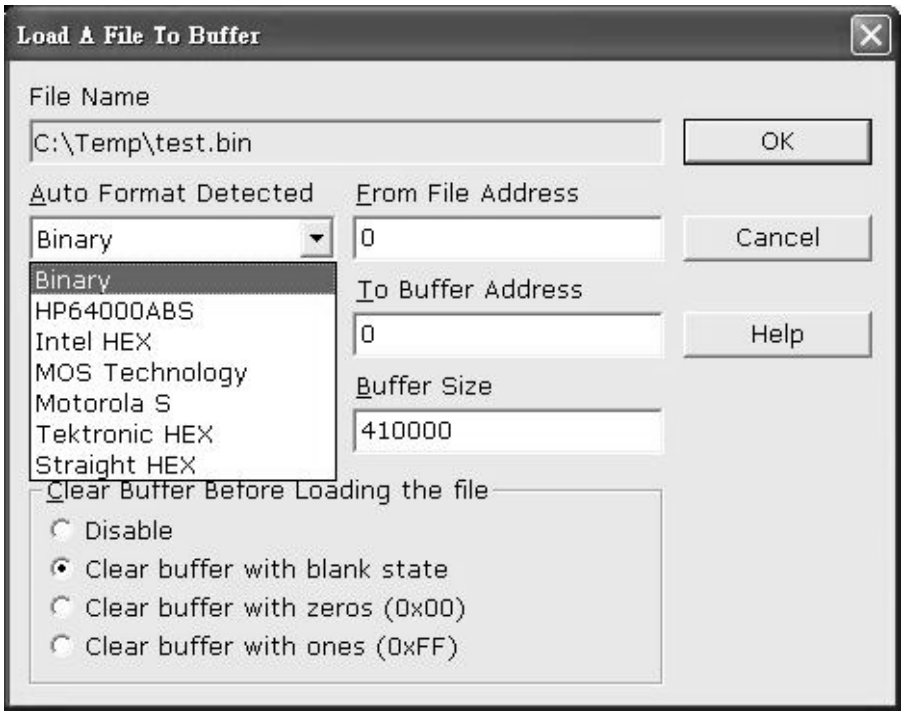
Load File to Buffer

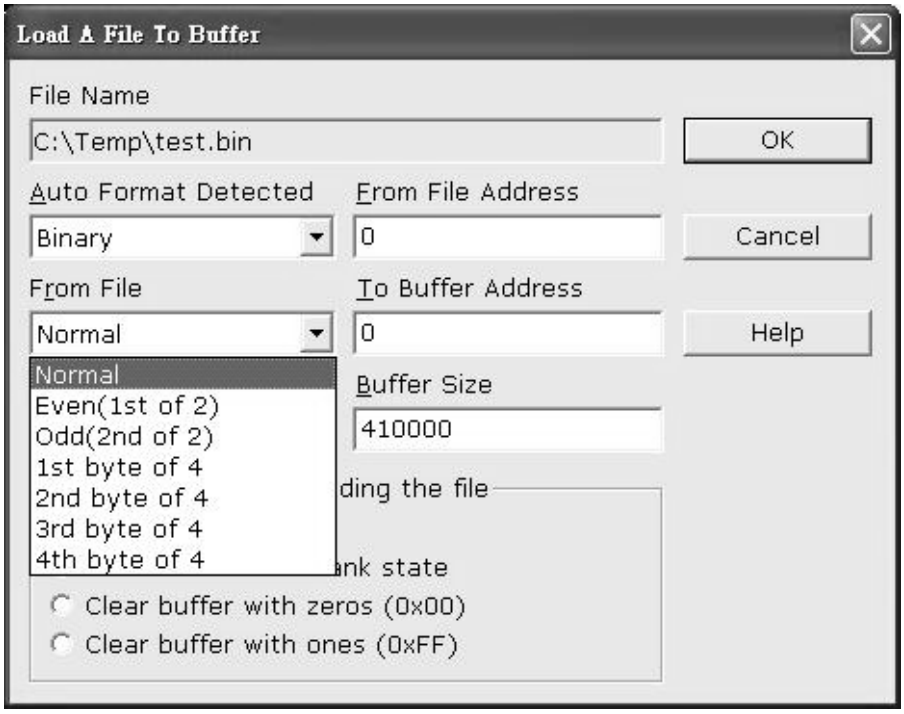
Menu *File / Load File*
Hot key *Alt-L*

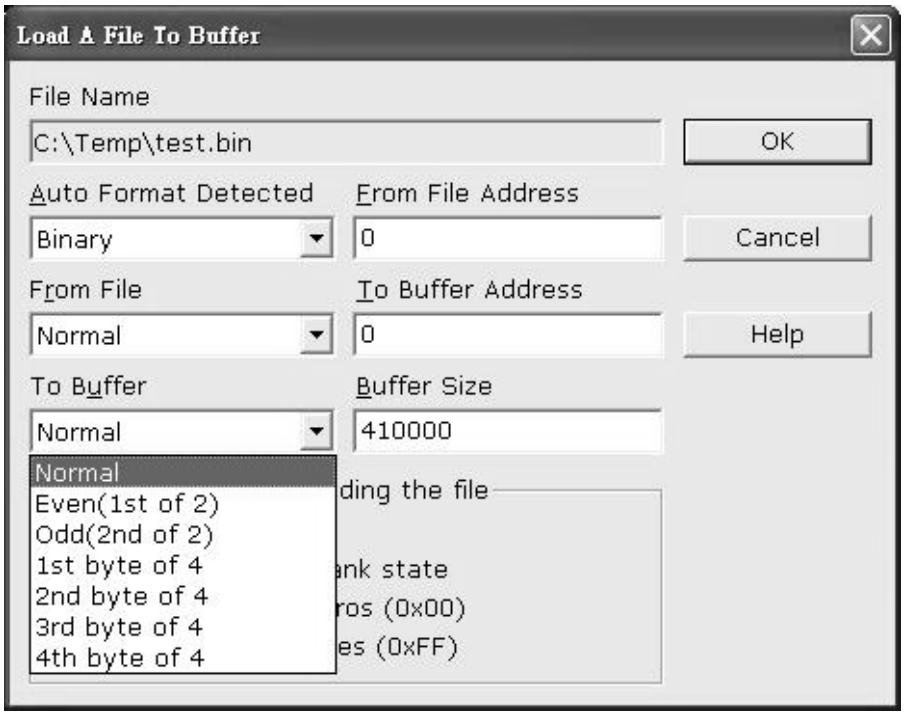
This option loads a file from disk into the memory buffer. The type of files that can be loaded for a device depends on the device type.

Select a file to load using the mouse, or type the filename in the box provided. You can also type in a file spec. (e.g. *.hex) at the name prompt. This will display all the files of the specified type, and you can then select the required file to load.


Load A File To Buffer
File Name
C:\Temp\test.bin
OK
Auto Format Detected
From File Address
Binary
0
Cancel
From File
To Buffer Address
Normal
0
Help
To Buffer
Buffer Size
Normal
410000
Clear Buffer Before Loading the file
Disable
Clear buffer with blank state
Clear buffer with zeros (0x00)
Clear buffer with ones (0xFF)


Load A File To Buffer
File Name
C:\Temp\test.bin
OK
Auto Format Detected
From File Address
Binary
0
Cancel
Binary
HP64000ABS
Intel HEX
MOS Technology
Motorola S
Tektronic HEX
Straight HEX
To Buffer Address
0
Help
Buffer Size
410000
Clear Buffer Before Loading the file
Disable
Clear buffer with blank state
Clear buffer with zeros (0x00)
Clear buffer with ones (0xFF)


Load A File To Buffer
File Name
C:\Temp\test.bin
OK
Auto Format Detected
From File Address
Binary
0
Cancel
From File
To Buffer Address
Normal
0
Help
Normal
Even(1st of 2)
Odd(2nd of 2)
1st byte of 4
2nd byte of 4
3rd byte of 4
4th byte of 4
Buffer Size
410000
ding the file
nk state
Clear buffer with zeros (0x00)
Clear buffer with ones (0xFF)


Load A File To Buffer
File Name
C:\Temp\test.bin
OK
Auto Format Detected
From File Address
Binary
0
Cancel
From File
To Buffer Address
Normal
0
Help
To Buffer
Buffer Size
Normal
410000
Normal
Even(1st of 2)
Odd(2nd of 2)
1st byte of 4
2nd byte of 4
3rd byte of 4
4th byte of 4
ding the file
nk state
ros (0x00)
es (0xFF)

File name This specifies the file name and its destination

Auto Format Detected

The software automatically detects the format of the file that is to be loaded. If the desired format of the file different from the format detected, select the correct file format by move the cursor to the selection position, click the right bottom of the mouse, move it to desired file format and click the right mouse bottom, available file format include: Binary, HP64000ABS, Intel Hex, MOS Tech Hex, Motorola S format, TEK Hex, and Straight Hex.

From File to buffer

This option indicates which bytes must be read in the input file. Select the required choice, default with normal selection, this load all the file into the buffer, also available in Even (only even byte load into the buffer), Odd (load the odd byte to the buffer), also available in 1st byte of 4, 2nd byte of 4, 3rd byte of 4, 4th byte of 4. Details of the selection, reference “save buffer to file” section.

To Buffer

This option indicates where the byte previously read is to be written. This enables you to ‘build’ the memory buffer from several files, default section with normal (load all the file to the buffer), Even means load the file to even byte of the buffer, Odd means load the file into the odd byte of the buffer, other selection include 1st of 4 byte, 2nd of 4 byte, 3rd of the 4 byte, and 4th of the 4 byte.

From File Address

Only a selected range of file to be load input buffer, fill in the address that will contain the first byte into this box, this is the starting address of the file to be load.

To Buffer Address

Starting address of the buffer to load the file into, if the data read is to be copy into a specific area of the buffer, fill in the starting address here.

Size

This box contains the buffer size. By default, it is the same size as the device selection in the ChipMaster-6000XP screen. If you want to download a file into memory that is bigger than the active device, insert the size here (or in Options | Operation Options).

Clear Buffer Options

Four options are available during memory buffer data loading. The default option is to clear the buffer to its blank state prior to data loading.

Disable

This option leaves the original buffer data unchanged, but then overwrites it with the contents of the newly loaded file.

Blank state

This option clears the buffer to the device blank state, (using command 00 or FF, depending on device selection), then overwrites the buffer during file loading.

0x00

First clears the buffer of its contents using command 00, then over-writes the buffer with the new file contents

0xFF

First clears the buffer of its contents using command FF, then over-writes the buffer with the new file contents.

Exit

Menu *File / Exit*

Hot key *Alt-X*

Quit the ChipMaster-6000XP program

Project File Commands

Save Project

Menu *Project / Save Project*

Hot key *Alt-F1*

This option saves the current setup of the ChipMaster-6000XP software into a project file. The file includes devices selected, buffer data, operation options setup, and device configuration setup. You can also attach a footnote to this project file. The project file acts as macro, eliminating the need to go through each procedure during future programming sessions.

Load Project

Menu *Project / Load Project File*

Hot key *Alt-F2*

This option loads the desired project file. After the project file has been loaded, you can immediately program the chip using the data and setup functions selected.

Device Commands

Change Device

Menu *Device / Change Device*

Hot key *Alt-C*

This option is used to select a new device as the active device. It is important to select the correct device, as the algorithms used to program devices are device-specific. The following screen will appear:

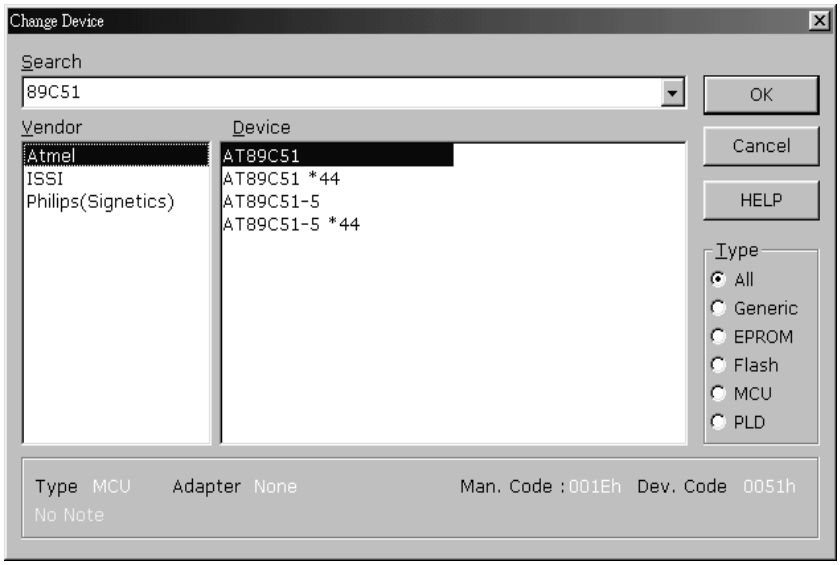


Figure 4.1 Screen for selecting Change Device

Special note in device package and its selection

In the above screen, you can find both AT89C51 and AT89C51*44 selections, the AT89C51 means this is a 40 pin DIP chip, no adapter request and 89C51*44 means the chip is 44 pin PLCC or QFP/TQFP, after select the 89C51*44, in the bottom of the software screen will display chip information and the adapter requirement. In this example, it shows SDP-UNIV-44 as recommend adapter, it means for 44 PLCC chip, you need the 44 pin PLCC universal adapter, if your chip is 44 QFP or TQFP, you will need a 44 QFP (SDP-UNIV-44TQ) or 44 TQFP (SDP-UNIV-44TQ) adapter.

If you have a 3rd party 44 PLCC adapter that swap the 44 pin PLCC chip into a 40 pin DIP chip (emulated the 44 PLCC as 40 pin DIP), you can select the 89C51 in software selection

and using this 3rd party adapter.

Other useful example in device, package and adapter.

1) For example a 1M bit flash (29F010), this chip has three kind of packages, 32 pin DIP, 32 pin PLCC and 32 pin TSOP, in ChipMaster-6000XP software, it only available in DIP package as selection, to program a 32 PLCC chip, you will need a 32 pin DIP to 32 pin PLCC one to one pin swap adapter (PLCC 3232-11), for 32 pin TSOP, you will need a SDP-UNIV-32TS.
2) For example, a GAL22V10 chip, this chip has two packages (24 pin DIP or 28 pin PLCC), ChipMaster-6000XP only shows 24 pin DIP in device selection, to program the 28 pin PLCC, a 28 pin PLCC to 24 DIP adapter to emulated the 24 pin DIP chip is required (PLCC 2824-04).
3) 27C128/256 EPROM chip, the chip available in 28 pin DIP and 32 pin PLCC, to program the 32 pin PLCC, customer needs a 32 pin PLCC to 28 pin DIP adapter, it emulated the 32 pin PLCC as 28 DIP, this adapter is PLCC 3228-11.
4) Other SOIC chips may have the DIP/SOIC package, if the chip has the same pin out and pin count in DIP and SOIC, select the DIP with universal SOIC adapter will program the SOIC chip (for example Pic16F73 with SDP-UNIV-28SO/300 adapter will program 16F73 SOIC chip).

1. Select the type of device that will be the active device.

   Mouse

   Click on “All”, “EPROM” or “MPU”.

Keyboard

Press TAB until the cursor is flashing in the “Type” box. Use the up and down arrows to go to the appropriate type. Press the space bar to select the type.

2. Enter the part number, the manufacturer number, or parts of both in the “Search” box.

Mouse

Click on “Search”. Type in the character.

Keyboard

Press TAB until the cursor flashes in the “Search” box. Type in the known characters. All the devices that satisfy this partial information will be displayed. Use the mouse to select a device, and click “OK”. If you are not using a mouse, use the TAB key to skip between the various screens, and use the arrow keys to move around in each screen.

Auto Select EPROM

Menu *Device/ Auto Select EPROM*

Hot key *Alt-A*

This function allow the user to detect which EPROM/Flash chip has been inserted in the ChipMaster-6000XP ZIF socket, all the EPROM or Flash memory chip has manufacture ID and device ID in the chip (hardware ID), when perform this function, the ChipMaster-6000XP applied a 12V high voltage to the A9 location of the chip, then read out the chip’s hardware ID and compare to library then display the possible chip in the screen.

This Auto ID only available for 32 pin or 28 pin EPOM and Flash memory chip, it can not applied to MCU, PLD or other serial PROM, EPROM/Flash chip with over 40 pin do not have

such a function since the A9 location do not standardize for chip over 40 pin, using such a function may damage the chip since a 12V high voltage will applied to the chip and cause the damage of the chip by accident.

Mass-production Mode

Menu *Device / Mass Produce*

The ChipMaster-6000XP can be use as a mass-production programmer for manufacturing. When enter mass production mode, all keyboard and mouse functions are disabled. The operator needs only to insert the chip into the ZIF socket, wait until the green LED next to the socket flash, remove the programmed chip and insert new chip. Anyone can do the job well without special training or skills. Since all keyboard and mouse functions are disabled, the possibility of errors being caused by pressing the wrong keys or changing the buffer′s contents are eliminated.

In mass production mode, the ChipMaster-6000XP first performs an insertion test and an ID check on newly inserted chip. It then automatically programs the chip.

Note: *The insertion test must be enabled in operation option set up in mass-production mode to ensure yield rate of programming.*

Necessary set up in mass production mode.

After enter mass production mode a series screen will display and asking the user to fill the set up and confirm it, first you need to fill the operation set up menu (for operation set up, please reference to the device operation option section) then configuration set up menu (this configuration set up menu is device specific, only chip with configuration register has this

menu and the contents is different from chip to chip), reference to device configuration section. The last set up menu is statistic configuration set up, detail of the statistic please reference to statistic section of this manual.

Start the mass production mode

After fill and confirm all the above set up, the figure 4.2 screen will display, inset the chip in the ZIF socket and the screen of the ZIF socket will change color showing the chip insert into the ZIF socket, green color indicate the pin has contact with the ZIF socket properly.

No any error occur, the programmer will perform all the job define by the operation option, after complete the programming a beep will generated by PC and the good LED lamp will flash indicate program chip successfully. Operator just remove the chip and insert a new chip in the socket the programming process will continuous till next error occur or the target quantity / failure rate hit the statistic set up. No change in color means no contact, red color shows program error when attempt to program the chip, PC will generated two tone to notice the operator.

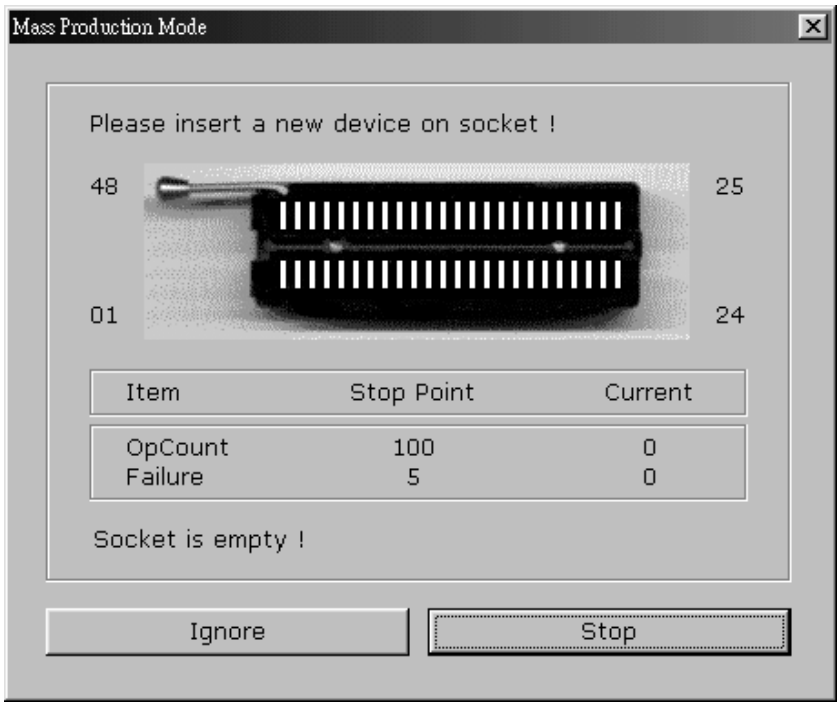


Figure 4.2 mass production mode screen

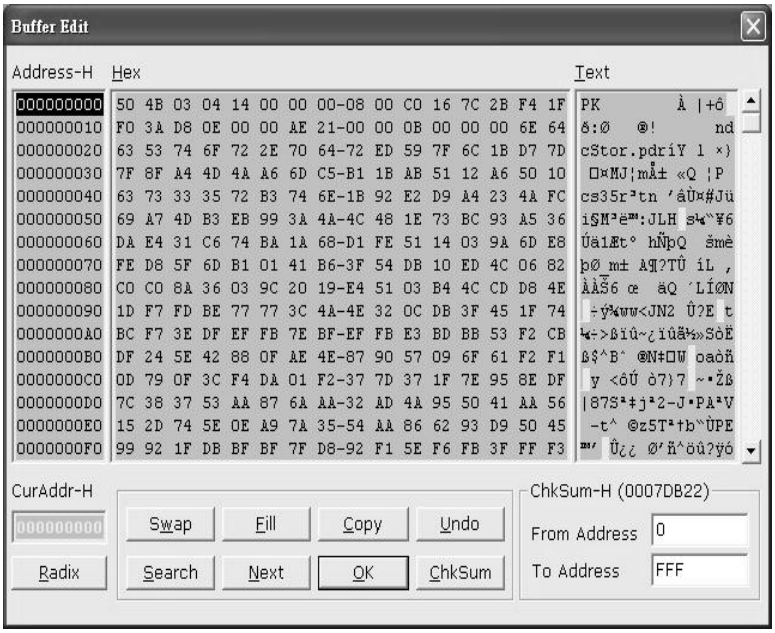
Editing the Buffer (memory device)

Menu *Device / Edit*

Hot key *Alt-E*

This function is used to edit the memory buffer. The memory buffer contains the last file downloaded from disk into memory. If no file has been downloaded from disk into memory since the ChipMaster-6000XP was switched on, the memory buffer will contain “garbage” or last time contents when exit the software.

The screen that is displayed is dependent on the type of device that is currently active.



Radix

This button controls the display of the memory address in Hex/Decimal format. If the address is currently displayed in decimal format, clicking this button will convert and display the address in Hex.

Swap

This allow the user to swap the buffer contents of high byte and low byte, the default of word width is 1, user can change the word with from 1/2/3/4 etc, following is the example of the original file and the result after swap with different word width.



Original file

01 23 45 67 89 AB CD EF after swap with word width 2.

23 01 67 45 AB 89 EF CD

Original file

01 23 45 67 89 AB CD EF after swap with word width 3.

45 23 01 AB 89 67 FF EF

Original file

01 23 45 67 89 AB CD EF after swap with word width 4.

67 45 23 01 EF CD AB 89

Fill

This option is used to fill a block of memory with a specified value. It needs the starting address, the ending address and the value to be copied into this block of memory.

Copy

This function copies a block in memory to a new address. It requires the starting address, the ending address and the address the block must be copied to.

Search

This function searches for a specified ″search-string″. The search string can be text code or hex code, it can search forward from cursor position or backward from cursor position.

Next

This commend is to find the next string that fit the search string in the buffer.

Undo

As you make changes to the memory buffer, the changes on the current page are highlighted. If you choose this option, it will reverse all changes made to the highlighted areas.

As soon as the changed memory positions move off the screen, or get deselected by another command, the Undo command will not undo the changes.

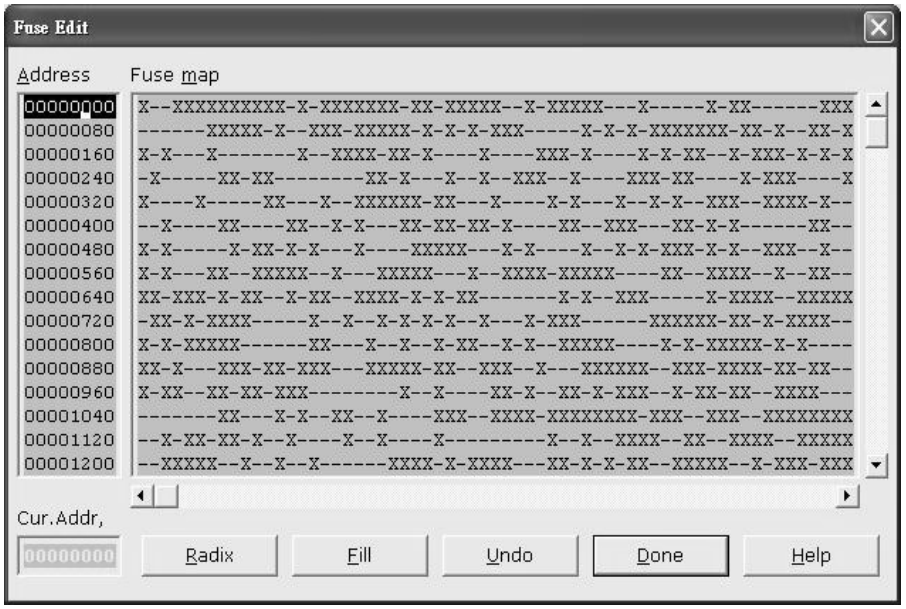
Check Sum

This function allow you to calculated the check sum of the specific range buffer data, enter the From address and To address then click **Check Sum,** the check sum will display in the display.

Edit the buffer (logical device only)

When GAL, PALCE and other logical devices are selected as active device, the main memory buffer will contain a fuse map instead of hexadecimal value.

The screen will appear as following:



In the mode, “X” refers to blown fuse, and “-“ refers to an intact fuse. The purpose of the buttons is as follows:

Radix

This button control the display of the memory address in Hex/Decimal format, If the address is currently displayed in decimal format, clicking this button will covert and display the address in Hex.

Fill

This option is used to fill a block of memory with fuse value. It needs the starting address, ending address and the value to be copied into this Block of memory.

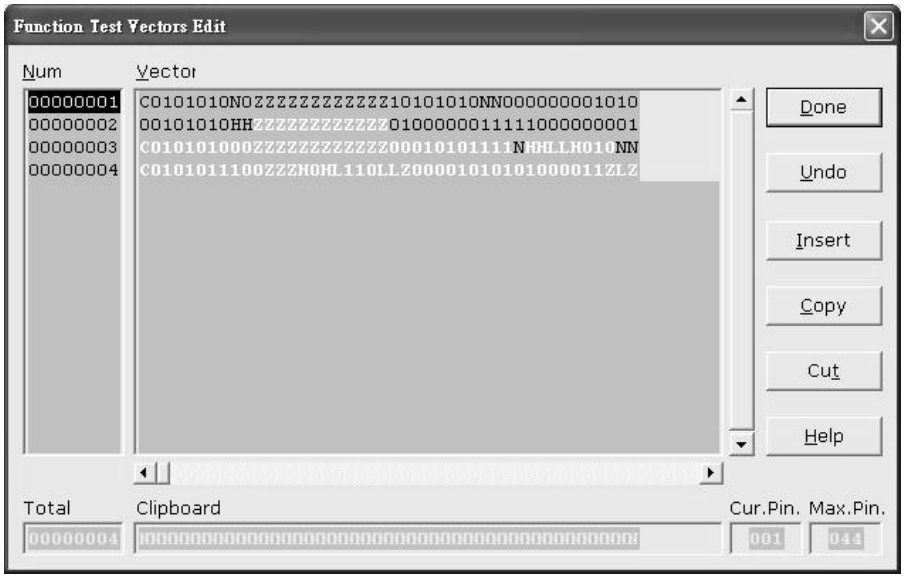
Modify Vector (only available when select PLD)

Menu *Device / Modify vector*

Hot Key *Alt-V*

This command only available for PLD been select as an active devices, the option is used to modify the vectors that will be

used to test a device after the logical chip has been program, this test vector is usually generated by other PLD design tool when the circuit diagram and layout for chip is done. The JEDEC file is downloaded into the ChipMaster-6000XP, and it also contains the test vector that will be used to test the device for correct programming and function. The follow screen will be displayed when enable the Modify Vector:



The purpose of the buttons are as following:

Undo

When the changes are made, the changed areas are highlighted. If you wish to undo this change, just can click this button. It will restore the value prior to the editing done. When a position that is highlight scrolls off the screen, the changed made become permanent and you cannot reverse these changes by clicking this button.

Insert

You can insert a line of vectors by clicking this button.

The position where the line will be inserted depends on the position of the cursor. The line will be inserted before the cursor is on. The contents of the “editing clipboard” are shown at the button of the editing screen. The contents of the clipboard will be inserted when this button is click.

Copy

This button copies the line the cursor is on to the editor clipboard.

Cut

This button copies the current line to the clipboard, and also removes it from the memory. Use this button in conjunction with “insert” to move the contents of a line to another position.

Edit the test vector

Vectors are input in standard JEDEC format. The vector buffer is arranged in rows and columns. Following test condition code can be use as a test vector.

0	Driver input low
1	Driver input high
C	Driver input low, high, low (clock)
F	Float input or output
H	Test output high
K	Driver input high, low, high (clock)
L	Test output low
N	Power pin and the outputs not test
X	Output not tested, input default level
Z	Test input/output with high impedance

Blank Checking a Device

Menu *Device / Blank Check*

Hot key *Alt-B*

This option checks if the active device is in its erased state. It will return a message stating “Device not blank!” at the first occurrence of data in the device. The address where the data is found will also be displayed.

Reading a Device

Menu *Device / Read*

Hot key *Alt-R*

This option reads a master chip into the memory buffer for duplication of the master chip. Prior to executing this command, chip must be selected in the software, and then a corresponding chip should inserted into the socket.

Programming a Device

Menu *Device / Program / Auto*

Hot key *Alt-P*

This option programs the active device with the contents of the memory buffer, when the programming is complete, verification will take place. The type of verification depends on the “verification options” set in the options | Operation options menu.

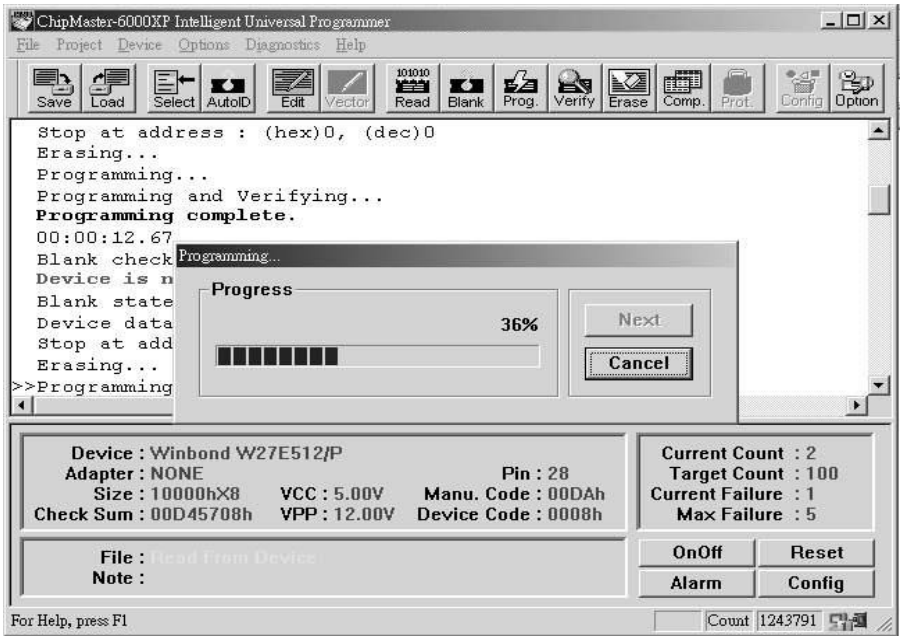


Figure 4-4 Programming progress screen

Verifying a Device

Menu *Device / Verify*

Hot key *Alt- V*

This function compares the contents of the active device with the contents of the memory buffer. It will display an error message and the address if it finds an address where the data differs. It will also abort the process when this happens.

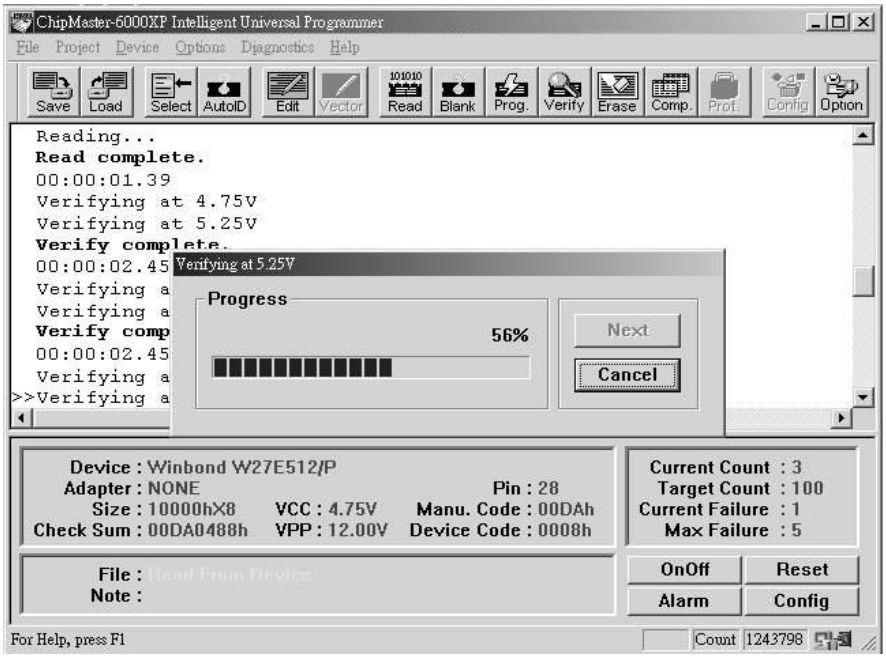


Figure 4-5 Device verification screen

Memory Protect/program configuration

Menu *Device / Memory Protect*

Hot key *ALT-U (PLD only)*

This function is a device-specific command; it appears on the main menu only after chips been selected have this capability.

For example GAL, CEPAL, Microprocessor, and some Flash memory, the function must be configured before use. When properly edit the configuration byte by enable the configuration (ALT-G), set the desired value and status in the buffer then perform this command will program the configuration data of chips, most user will program the main memory first then program the configuration (two step). However in Mass production mode, user can enable the memory protect /program configuration in the device operation menu, after the main memory buffer has been loaded and configuration byte data has set to desired value, perform program will automatically

program the main memory and program the configuration byte in a single command (program or mass production mode program).

Special note for program configuration/ memory protect

Press this key do not means the chip will be memory protect (protect or secure the chip from read), if in device configuration menu the chip do not enable the lock bit or protect enable, this commend really means is to write the configuration into the chip.

Function Test (only available for logic chip)

Menu *Device/ Function test*

Hot key *Alt-T*

This function only available when a logical device has been selected it applied the test vector to the device and compare the outputs with the expected outputs. It tests if the logical chip has been programmed correctly after the chip has been secured and the fuse map is not readable again. It displays a message indicating success or failure, once failure it display the vector number and which pin is not match the expect result.

Before perform memory test, you can modify the vector and set up the options operation screen.

First	Enable the function test or function test after secure in options.
Second	Select the function test voltage with twice or once.
Third	Define the “X” don’t care state in the vector; High/Low or high impedance
Fourth	Select the error display format.

Important notice in function test

To perform function test after program the PLD chip, the input

file must contents the test vector or customer has to create the vector by himself, in options of operation menu, function test is enable as default, which means after program the PLD, the ChipMaster-6000XP will perform function test automatically, if no vector in the buffer, the ChipMaster-6000XP will report “no test vector in buffer”, if test vector do not match the behavior of the chip after vector test, error will report with vector no and which pin expect low/high but received high/low. For PLD with PLCC in package (GAL 20V8 as example), the ChipMaster-6000XP software only supports 24 pin in DIP if you need to program a 28 PLCC chip with PLCC adapter, the ChipMaster-6000XP will program the chip but the function test will be failure since the pin can not mismatch with the chip (the chip is 28 pin but it emulated as a 24 pin chip with the adapter), the vector data will not match the device data in pin out.

Erasing a Device

Menu *Device / Erase*

Hot key *Ctrl-F1*

This function is a device-specific command; it appears on the main menu only after electronically erasable chips have been selected. The function can be used to erase a desired memory range from a chip.

Compare

Menu *Device/compare*

Hot Key *Ctrl-F3*

This command only available for memory device, the compare commend is to compare the buffer data with the device data, when the first data difference founded, the software will stop and report the buffer address and data difference in buffer

/device, press next key in the software screen will continue the compare process.

Device Configuration

Menu *Device / Configuration*

Hot key *Alt-G*

This function is a device-specific command for device with configuration register available in the chip, configuration register is use as special function register for the chip, it changes the behavior of the chip such as, OSC type, watch dog enable, code protection, and other functions. To write the configuration register into the chip, edit the configuration menu to your desired value then perform memory protect/ programming configuration.

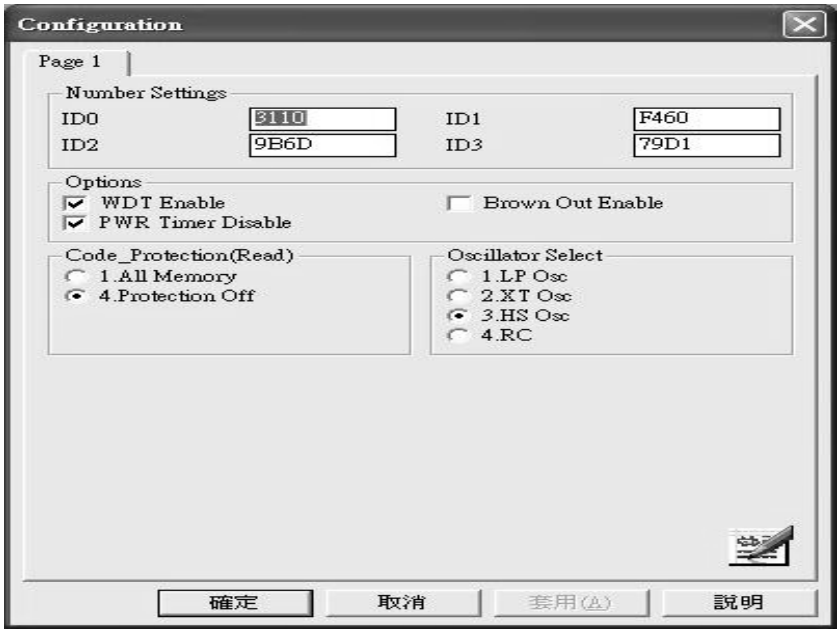


Figure 4-6 Example of device-specific configuration screen

Options

Modify Programming Parameters

Menu *Options / parameters modify*

Hot key *F3*

This function allows a user to modify the programming parameters of the chip being programmed. With the programming parameters for the selected chip appearing on screen, the user activates the “modify algorithm screen” and changes the parameters by moving the cursor to the corresponding field and changing the value to the desired value. If a value entered exceeds the allowable limits for a given parameter, a warning will be flashed, together with allowable limits, after the user attempts to confirm the setting by pressing “OK”.

Warning: Only experienced users should use this option, as it can damage the device if the voltage exceeds the Max tolerance of the device.

As the programming parameters are for temporary use only, they cannot be saved. After you select a new device or exit the ChipMaster-6000XP software the original parameters will automatically be restored.

Device Operation Options

Menu *Options / Operation options*

Hot key *F4*

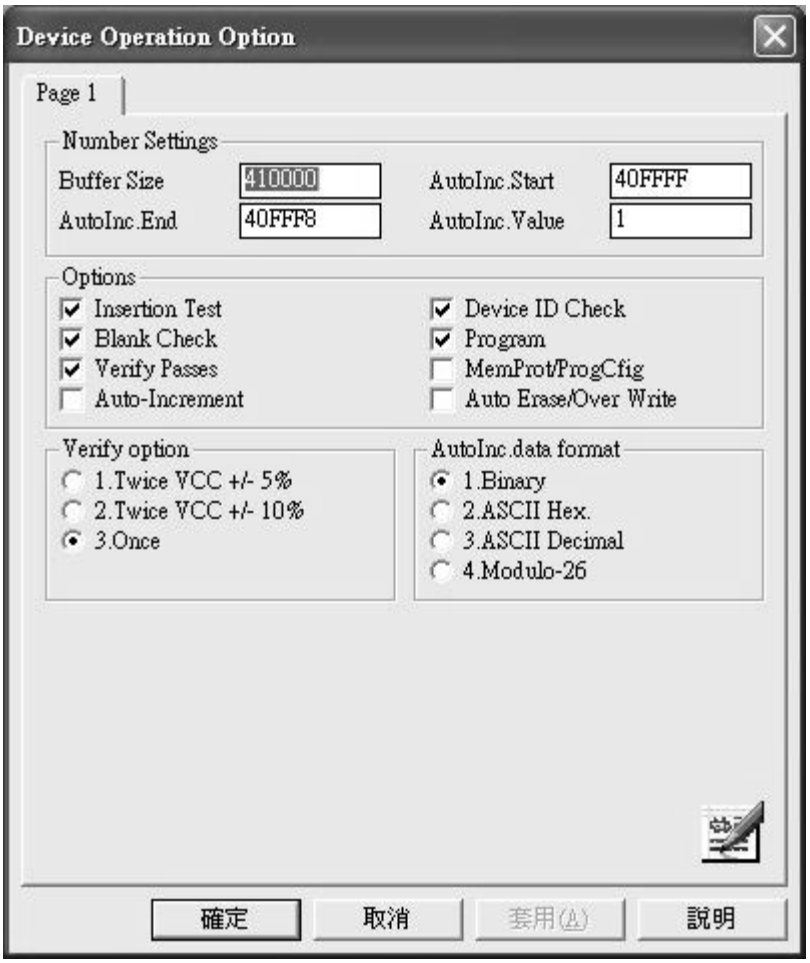


Figure 4-8 Example screen: Device-specific operation options

The following options can be set:

Start address, End address

This is the start and the end address of the edit buffer. If you want to program a certain area of a device, you can change the start and end addresses accordingly.

This option is only displayed when the device can be programmed in this way.

When the end address is calculated, it divides the buffer size by (device-bits/8-bits). A 16-bit device, of which the

buffer size is 80 (Hex), will therefore an end address of 3F.

When selecting a start or an end-address, you should align the buffer on the right boundary: single-word for 8-bit devices, double word for 16-bit devices, etc.

Buffer size

This is the memory buffer in the ChipMaster-6000XP software, once the chip is select, the software open the buffer to match the chip size, user can edit this buffer size to enlarge it size to 256 M bit Max (4000000h) shuffler the file.

Auto increment start/end address

This function allow customer to program memory chips with different serial number on specific location without go to edit the buffer one by one. Specify the serial number location by editing auto increment start address and auto increment end address, edit the initial contents with buffer edit and set the increment value by edit the auto increment value and select the increment format.

Auto increment value

This set each increment value after initial value.

Auto increment data format selection

Binary increment format example
0, 1, 10,11,100, 101,110,111, 1000,1001,1010,1011,1100
ASCII Hex format example
0,1,2,3,4,5,6,7,8,9,A,B,C,D,E,F,10,11,12, …
ASCII Decimal Hex format example
0,1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17, …
Modulo-26 format example
A,B,C,D,E,F, … ,Z,AA,AB,AC, ….

Insertion Test

This option performs the device-insertion check of the chips in the sockets. The insertion check includes poor pin contact, pin count mismatch (the pin count of the chip designated in the software does not match the pin count of the actual chip in the socket), device in wrong position, device upside-down; short-circuit between pins, and chip damage. Result is displayed at the socket′s LED.

Device ID Check

This option performs a device signature and manufacturer match test. With the chip selected and plugged into a socket, ChipMaster-6000XP checks the device ID and displays the results of each check on the LED display.

Verify Passes

Checking this option will instruct the ChipMaster-6000XP to perform device verification with the buffer data when programming is complete. When verify passes is enabled, one of the three verify options (as described below) must be set.

Verifying Options

The following three options are available for verification of data retention following programming: verify twice with V_{cc} ±5%, verify twice with V_{cc} ± 10% , and verify once with V_{cc}. These options will only be enabled if the ‘Verify passes’ option (see above) is enabled.

(.) Twice V_{cc} ±5%

When this option is selected, the ChipMaster-6000XP will do two verify passes on the device: one using V_{cc}+5%, the other V_{cc}-5%.

Example:

If V_{cc} is 5.0 V, the ChipMaster-6000XP will do one verify pass using a V_{cc} of 4.75 V, and one using a V_{cc} of 5.25 V.

(．)Twice V_{cc} ±10%

When this option is selected, the ChipMaster-6000XP will do two verify passes on the device: one using V_{cc}+10%, the other V_{cc} –10%.

Example:

If V_{cc} is 5.0 V, the ChipMaster-6000XP will do one verify pass using a V_{cc} of 4.5 V, and one using a V_{cc} of 5.5 V.

(．)Once

If this option is selected, the ChipMaster-6000XP will do one verify pass-using V_{cc}.

Blank Check

This option performs a device blank check test before programming. This option can be disabled for brand new chips to save time. For electronically erasable chips, enabling the auto-erase/overwrite option will allow the ChipMaster-6000XP to automatically erase the chips if they are not blank initially.

Program configuration/memory protect

This option only applied to device with configuration register or has read protect function on it, enable this option will automatically program the main buffer into the chip then program the configuration sets up without need to perform memory protect separately. Enable this option not means protect the chip always if the configuration set up menu do not set the lock bit or protect bit enable.

Auto-Erase/Overwrite Option

This option only applies to chip, which is electronically erasable for example Flash memory, Flash based MCU or GAL and so on. It causes ChipMaster-6000XP to automatically perform erase to erase a non-blank chip prior to programming (no warning message “Device is non blank, are you going to program”).

Auto increment (only available to memory device)

This enables the auto increment function that allows user to program different serial number into the chip without editing the buffer one by one, detail set up of auto increment, please reference to the auto increment start address /end address, increment value and increment data format section.

Parallel Port Selection

Menu *options / parallel port*

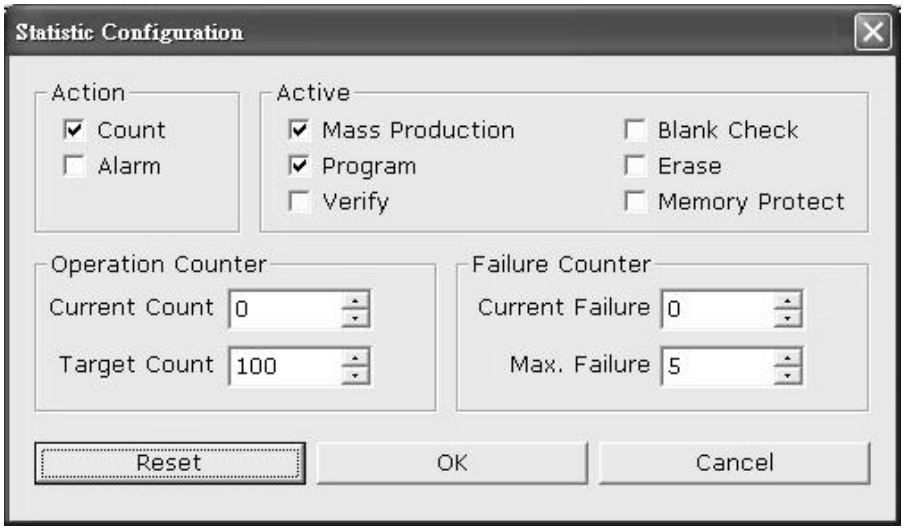
Hotkey *F5*

This commend allows the user to select the parallel port to connect the ChipMaster-6000XP device programmer. Default setting with auto search, after executing the ChipMaster-6000XP software, it auto detect which LPT connects the ChipMaster-6000XP programmer, user can assign the LPT manually by select the LPT position to avoid possible conflict in driver if other LPT device has been attached to the PC.

Statistic

Menu *Options / Statistics*

Hot key *F6*



Action

Enable the counter or alarm when target count or maximum failure counter reach the limit.

Active

Describe what the action you want to count in this statistic function.

Mass production enable:

Count the mass production quantity (chips) into the statistic display.

Program enable:

Count how many program activities into the statistic display.

Verify enable:

Count how many verify operations into the display.

Blank check enable:

Count how many blank check activities into the statistic display

Erase enable:

Count how many erase activities into the statistic display.

Memory protect enable:

Count how many memory protect activities into the statistic display.

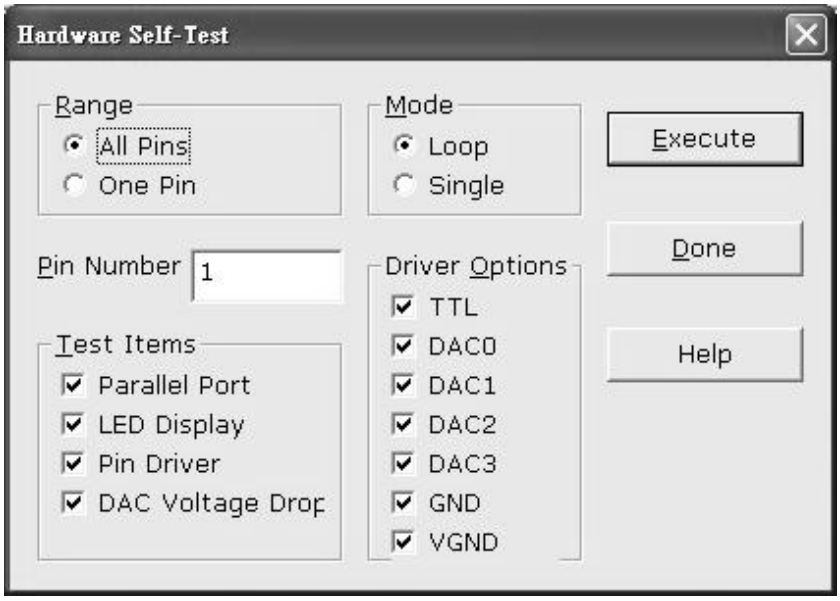
Operation count

Count the total operations and set the target quantities.

Failure count

Count the total failure chips and set the Max failure chips allow. With the operation, exceed the maximum failure count or reach the target count will result alarm or warning message display in the screen (depend on the action set in this page).

Diagnostic



Manufacture recommend the user can run self-test of ChipMaster-6000XP prior to each day's operation. The self-test routine including testing the parallel port, LED display, Pin driver, TTL driver, relay, D/A converter's voltage drop and other parameter, following is the example test result screen.

```
USB communication Spec : USB 2.00
Testing LED...
Test pin driver switching...
Test output volt drop...
DAC0
25 34 36 38 40 44 46
27 27 27 27 27 27 27
DAC1
02 04 06 08 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48
21 21 21 21 21 21 21 21 21 21 21 21 21 21 21 21 21 21 21 21 21 21 21 21
DAC2
01 03 05 07 09 11 13 15 17 19 21 23 25 27 29 31 33 35 37 39 41 43 45 47
21 21 21 21 21 21 21 21 21 21 21 21 21 21 21 21 21 21 21 21 21 21 21 21
DAC3
01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
28 28 28 28 28 28 28 28 28 28 28 28 28 28 28 28 28 28 28 28 28 28 28 28
DAC3
25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
28 28 28 28 28 28 28 28 28 28 28 28 28 28 28 28 28 28 28 28 28 28 28 28
Serial Number:AE0411900001
Hardware self-testing complete !
```

If any of unexpected state display with purple color has been display or any error message report after the self-test, your ChipMaster-6000XP programmer need to return to your distributor for repair.

The DAC (four DAC in ChipMaster-6000XP) test result and its meaning

DAC0

25 34 36 38 40 44 46 (this is the out put pin for DAC 0)

27 27 27 27 27 27 27 this means the DAC0 output level (0-255 in 8 bit DAC) to reach logic high for the input circuit to detect the high.

Rest of DAC 1/2/3 has the same meaning, the out put high

level for individual unit, do not affect the performance of the unit.

Help

Help Topics Click this ICON and select the topic will display the on-line help of the topic.

About Click this ICON will display the current ChipMaster-6000XP software revision.

CHAPTER 5

Using Adapters

Adapter Requirements

ChipMaster-6000XP supports universal 48-pin TSOP, 44-pin PLCC, 44 pin QFP, 44 pin TQFP, 44 pin SOP, 40-pin TSOP and 32-pin TSOP pin packages and more. You will need to order an adapter for non-DIL chip packages. Following is the adapters available to fit your need. More new adapters will available when a new chip release. Please contact your local distributor for update adapter available.

User can build the adapter by himself; detail adapter pin swap table can be down load from web:
www.aec.com.tw/products/adapter.pdf

PLCC2020-01	20 pin PLCC adapter for 20 pin PLCC GAL/PAL
PLCC2824-04	28 pin PLCC adapter (NC =1, 8,15,22) for 28 pin PLCC GAL/PAL
PLCC3228-11	32 pin PLCC adapter (NC= 1,12,17,26) for E/EEPROM below 512 K
PLCC3232-11	32 pin PLCC adapter for E/EEPROM with 1M and up
PLCC4440-01	44 pin PLCC adapter (NC= 1,13,23,33) for 44 pin PLCC 16 bit EPROM
PLCC4440-02	44 pin PLCC adapter (NC= 1,12,23,34) for 44 pin PLCC 875X processor
SDP-UNIV-16/TS	16 pin TSOP universal adapter for 8-16 pin TSOP
SDP-UNIV-16SO	16 pin SOIC (150mil) universal adapter for 8-16 pin SOIC

SDP-UNIV-16SO/170	16 pin SOIC (173 mil) universal adapter 1.27m pitch
SDP-UNIV-20SO/200	20 pin SOIC (207mil) universal adapter for 8-20 pin SOIC
SDP-UNIV-20SO	20 pin SOIC (300mil) universal adapter for 16-20 pin SOIC
SDP-UNIV-28SO/300	28 pin SOIC (300mil) universal adapter for 24-28 pin SOIC
SDP-UNIV-28SS/200	28 pin SSOP universal adapters for 200mil x 0.65mm pitch
SDP-PIC-20SS/200	20pin SSOP universal adapter for PIC MCU 200mil x 0.65mm pitch
SDP-UNIV-24SS/150	24 pin SSOP universal adapter for 150mil x 0.635mm pitch
SDP-UNIV-48SS/300	48 pin SSOP universal adapter for 300mil x 0.635mm pitch
SDP-UNIV-28TS	28 pin TSOP (8mm x 14mm) universal adapter for 28 pin TSOP Flash memory
SDP-UNIV-28TSS/170	28 pin TSSOP (173 mil) universal adapter pitch 0.65mm
SDP-UNIV-32TS	32 pin TSOP (8mm x 20mm) universal adapter for 32 pin TSOP Flash memory
SDP-UNIV-32TS/W	32 pin TSOP (8mm x 14mm) universal adapter for 32 pin TSOP Flash memory
SDP-UNIV-32TQ	32 pin TQFP universal adapter
SDP-UNIV-40TS	40 pin TSOP (10mm x 20mm) universal adapter for 40 pin TSOP Flash memory

SDP-UNIV-40TS/W	40 pin TSOP (10mm x 14mm) universal adapter for 40 pin TSOP Flash memory
SDP-UNIV-40TSS	40 pin TSSOP universal adapter for 40 pin TSSOP Flash memory
SDP-UNIV-44TS	44 pin TSOP universal adapter for Samsung /Toshiba 44pin TSOP NAND Flash memory
SDP-UNIV-44	44 pin PLCC universal adapter
SDP-UNIV-44TQ	44 pin TQFP universal adapter
SDP-UNIV-44PSO	44 pin PSOP universal adapter for 44 pin PSOP Flash memory
SDP-UNIV-44Q	44 pin PQFP universal adapter
SDP-UNIV-48TS	48 pin TSOP (12mm x 20mm) universal adapter for 48 pin TSOP Flash memory
SDP-UNIV-48TS/W	48 pin TSOP (12mm x 14mm) universal adapter for 48 pin TSOP Flash memory
SDP-UNIV-48TSS	48 pin TSSOP (10mm x 14mm) with 0.4mm pitch universal adapter for Flash memory
SDP-UNIV-44C	44 pin PLCC (clamshell socket) universal adapter
SDP-UNIV-42SD	42 pin Shrink DIP universal adapter
SDP-5128-68	68 pin PLCC adapter for ALTERA 5128/A
SDP-7064-68	68 pin PLCC adapter for ALTERA 7064/7096
SDP-5192-84	84 pin PLCC adapter for ALTERA 5192/A
SDP-7064-84	84 pin PLCC adapter for ALTERA 7064/7096
SDP-7128-84	84 pin PLCC adapter for ALTERA 7128/E
SDP-7160-84	84 pin PLCC adapter for ALTERA 7160/E
SDP-7064-100Q	100 pin QFP adapter for ALTERA 7064

SDP-7096-100Q	100 pin QFP adapter for ALTERA 7096
SDP-7128-100Q	100 pin QFP adapter for ALTERA 7128/E
SDP-7160-100Q	100 pin QFP adapter for ALTERA 7160/E
SDP-M120-68	68 pin PLCC adapter for AMD MACH 12X/22X
SDP-M130-84	84 pin PLCC adapter for AMD MACH 13X/23X/435 and M4/128
SDP-M131-100Q	100 pin QFP adapter for AMD MACH 131/231SP
SDP-9572-84	84 pin PLCC adapter for XILINX XC9572
SDP-95108-84	84 pin PLCC adapter for XILINX XC95108
SDP-95108-100Q	100 pin QFP adapter for XILINX XC95108
SDP-6811-52B	52 pin PLCC adapter for Motorola 68 HC11 A1/E9/E1/E2, 68 HC711E9/E20
SDP-908AS-52	52 pin PLCC adapter for Motorola 68HC908AS
SDP-705B-52	52 pin PLCC adapter for Motorola 68705B5/B16/B32
SDP-C530-52	52 pin PLCC adapter for Dallas 87C530
SDP-7552-68	68 pin PLCC adapter for Philips 87C552
SDP-7592-68	68 pin PLCC adapter for Philips 87C592
SDP-11L6-68	68 pin PLCC adapter for Motorola MC68HC711L6
SDP-11F1-68	68 pin PLCC adapter for Motorola 68HC11F1
SDP-196K-68	68 pin PLCC adapter for Intel 87C196KB/KD/KC
SDP-196J-68	68 pin PLCC adapter for Intel 87C196KR/KQ/JR
SDP-320E-68	68 pin PLCC adapter for TI TMS320E25
SDP-C752-68	68 pin PLCC PIC 17C752/6 adapter

SDP-C923-68	68 pin PLCC adapter for Microchip PIC 16C923/924
SDP-11K1-84	84 pin PLCC adapter for Motorola XC68HC11K1/K4
SDP-96MH-84	84 pin PLCC adapter for Intel 87C196MH/MC
SDP-AD816-52Q	52 pin QFP adapter for Analog device AduC812/816 MCU
SDP-705X-64Q	64 pin QFP adapter for Motorola 68HC705X32
SDP-C923-64TQ	64 pin TQFP adapter for PIC 16C923/4
SDP-C508-64Q	64 QFP adapter for Infineon C508-4E
SDP-C515-80Q	80pin QFP adapter for Infineon C515/C505L
SDP-908AZ-64Q	64QFP adapter for Motorola 68HC908AZ60
SDP-1024-68	68 pin PLCC adapter for LATTICE PLSI1024
SDP-1032-84	84 pin PLCC adapter for LATTICE PLSI1032/2064
SDP-i320-48U	48 pin uBGA adapter for Intel 28F320B3/C3, 28F160B3/C3 (0.75mm pitch)
SDP-i320-48VF	48 pin VFBGA adapter for Intel 28F320B3C, 28F320C3C, 28F160C3C
SDP-i640-48VF	48 ball VFBGA adapter for Intel GE28F640C3
SDP-S160-48U	48 pin UBGA adapter for SHARP 28F160BJE
SDP-ST320-48U	48 pin UBGA (0.75mm pitch) adapter for ST28W320CT
LVT-320D18-56U	uBGA adapter for Intel 28F320D18 (1.8Vcc,I/O)
LVT-128W18-56U	56 ball VFBGA adapter for Intel GE28F128W18
LVT-128W30-56U	56 ball VFBGA adapter for Intel GE28F128W30
LVT-128K3-56U	56 ball VFBGA adapter for Intel GE28F128K3

LVT-640W18-56U	uBGA adapter for Intel 28F320/640/128W18 (1.8Vcc, I/O)
LVT-640W30-56U	uBGA adapter for Intel 28F320/640W30 (1.8Vcc, 3V I/O)
LVT-6408W30-80F	80 pin uBGA adapter for Intel 28F6408W18 CSP Flash
SDP-F256-80F	80 ball VFBGA adapter for Intel RD28F256SJ3AM, D28F192SJ3AM, RD28F128SJ3AM
SDP-EBGA-001	72 pin EBGA (1.0mm pitch) adapter for Intel 28F800/160/320F3/C3
SDP-EBGA-002	72 pin Easy BGA (1.0mm pitch) adapter for Intel28F320/640/128J3A
SDP-F1316-64F	72 pin FBGA (0.8mm pitch) adapter for SHARP LRS1306/1316A
SDP-1329-64F	72 pin CSP (8mm x11mm) adapter for SHARP LRS1329/1340/1349/1356
SDP-1331-64F	72 pin CSP (8mm x 11mm) adapter for SHARP LRS1331/37/41/42,LRS1357/58,LRS1362/63/ 64/65
SDP-1826-64F	64 ball FBGA adapter for SHARP LRS1826 and ATMEL AT52BR3244/3248
SDP-3204-64F	72 pin CSP adapter for Intel RD28F1604/RD28F3204
SDP-3208-64F	64 pin uBGA adapter for Intel RD28F3208
SDP-A320-48F	48 pin uBGA adapter for AMD 29DL32X (6x12mm size)

SDP-A320-63F	63 pin uBGA adapter for AMD29DL32X (8x14mm size)
SDP-41DL16-69F	69 ball FBGA adapter for AMD 41DL16xxMCP
SDP-42DL32-73F	73 ball FBGA adapter for AMD 41DL32xxMCP
SDP-ST064-56TS	56 pin TSOP adapter for ST 58LW064A
SDP-F400-56TS	56 pin TSOP adapter for Intel 28F400/28F200
SDP-F160-56SS	56 PIN SSOP adapter for Intel 28F160F3
SDP-F320-56SS	56 PIN SSOP adapter for Intel 28F160/320S3/S5
SDP-BL802-56SS	56 PIN SSOP adapter for AMD29BL802C/1602C
SDP-A160-48F	FBGA adapter for AMD 29LV160 (0.8mm pitch)
SDP-A640-48F	FBGA adapter (0.8mm pitch) adapter for AMD 29DL640D
SDP-A800-48F	FBGA adapter for AMD 29LV800 (0.8mm pitch)
SDP-FU160-46SON	46 SON adapter for Fujitsu 29LV800/160
LVT-ADS323-48TS	1.8V low voltage adapter for AMD 29DS32X (48TSOP)
GDP-1305-48TSS	48 pin TSSOP adapter for SHARP LRS1305
GDP-130X-48TSS	48 pin TSSOP adapter for SHARP LRS 1306/8
GDP-F016-56TS	56 pin TSOP adapter for Intel 28F016/032S3/S5
GDP-F320-56SS	56 pin SSOP adapter for Intel 28F320/640/128J5/J3
GDP-F640-56TS	56 pin TSOP adapter for Intel 28F320/640J5/J3
SDP-3224-100Q	100 pin QFP adapter for STV0680

APPENDIX A

Error Messages

Error Messages

Cold not open file – nnnn!

This file does not exist. You might have typed the wrong filename or you might be logged to a different directory.

Verify the filename and the directory, and change to the correct directory before typing in the filename.

Data file version unmatched!

This message will be displayed one of the data-files of the ChipMaster-6000XP software is of the wrong version.

This error occurs if ChipMaster-6000XP.exe is updated, and the data files not updated. This might happen if the installation procedure did not complete.

Re-install the latest release of the ChipMaster-6000XP software.

Device Code unmatched!

This error message is returned when the ChipMaster-6000XP does a device ID check.

The device code found on the device is not as expected. You might have selected an incorrect device as active device, or the device is an older/newer version than the device supported by the ChipMaster-6000XP. Disable the ID check in device operation option can be a temporary solution to program the chip if the chip ID is missing. Select the correct device as active device.

If the error still occurs, download the latest release of software from our web. If you are sure that the device you are using uses the same programming algorithm as a device that is supported, you can use this device as active device. You can then disable device code checking by setting the Operating Options.

Device inserted backwards or damaged already!

The ChipMaster-6000XP detected that the device has been inserted the wrong way round, or that the device has been damaged.

Verify that the device has been inserted correctly. If not, try another device to verify that you are using the correct algorithm etc. to program the device.

Device inserted upwards %d slot(s)!

The ChipMaster-6000XP has detected that the device has been inserted incorrectly. Remove the device and insert it correctly.

Device insertion error or damaged already!

The ChipMaster-6000XP detected a device in socket, but several pins do not respond as expected (poor contact). This indicates that a device has been inserted incorrectly or that the device has been damaged. Verify that the device has been inserted correctly. If not, try another device to verify that you are using the correct algorithm etc. to program the device.

File write error!

The ChipMaster-6000XP detected an error when writing a file to disk.

Check that there is enough space on the disk to hold the file. Also check that the disk is not write-protected.

This might happen on a network if you are a user that does not have rights to the directory you want to save the file to. Use another directory or disk.

Function code has not been initialized yet!

This message indicates that the data file is corrupt. Suggest re-install the ChipMaster-6000XP software and remove all the

ChipMaster-6000XP old file in your disk before installation.

ChipMaster-6000XP not found!

The ChipMaster-6000XP software does not detect the ChipMaster-6000XP on of the parallel ports, or the ChipMaster-6000XP may be failure and need to repair.

Make sure the power on the ChipMaster-6000XP is on. Also check the parallel connection between the PC and the ChipMaster-6000XP. If the ChipMaster-6000XP shares the parallel port with another device, remove the other device or move the ChipMaster-6000XP to its own port.

ChipMaster-6000XP power off or disconnected from PC!

The ChipMaster-6000XP software does not detect the ChipMaster-6000XP on one of the parallel ports.

Make sure the power on the ChipMaster-6000XP is on. Also check the parallel connection between the PC and the ChipMaster-6000XP. If the ChipMaster-6000XP shares the parallel port with another device, remove the other device or move the ChipMaster-6000XP to its own port.

MOS Technology hex file can be 64KB maximum!

This error is displayed when you want to save the buffer to a disk file, and the buffer is bigger than 64KB.

The buffer can still be saved to disk, but only the first 64 KB will be saved. The rest will be lost. Choose another file format if you need to save the whole buffer.

Manufacturer's Code unmatched!

This error message is returned when the ChipMaster-6000XP does a device ID check.

The device code found on the device is not as expected. You might have selected an incorrect device as active device, or the device is an older/newer version than the device supported by the ChipMaster-6000XP.

Select the correct device as active device. If the error still occurs, download the latest release of software from our web. If you are sure that the device you are using uses the same programming algorithm as a device that is supported, you can use device as active device. You can then disable device code checking by setting the *Operating Options*.

No device on socket!

The ChipMaster-6000XP does not detect a device in the socket.

The inserted device may be damaged. Replace it with a similar device and try again.

No test version in the buffer!

The memory buffer does not contain any test vectors. When the ChipMaster-6000XP tries to verify/function test a PLD, is displays this message.

Download a file that contains test vectors before doing a function test. Test vectors are usually included in JEDEC files.

Not enough memory available to complete operation!

There isn’t enough memory available to complete the requested operation. Free some memory and retry the operation.

Over current detected!

A current higher than expected was found. This might indicate that the device has been damaged or is short-circuit.

Check the socket or replace the device.

Poor contact at pin %s!

The ChipMaster-6000XP does an insertion test before programming/erasing etc. any device.

This message indicates that the socket may be dirty, the device may have been damaged etc. Clean the socket or replace the device with another.

Record checksum/length error!

Usually this error indicates that a wrong file format has been selected. It could also indicate that the input file has a record that has been corrupted.

Selected the correct file format, or obtain a new copy of the input file.

Tektronic hex file can be 64KB maximum!

This error is displayed when you want to save the buffer to a disk file, and the buffer is bigger than 64KB.

The buffer can still be saved to disk, but only the first 64KB will be saved. The rest will be lost.

Choose another file format if you need to save the whole buffer.

The pin number of test vectors in the buffer unmatched!

This message indicates that the test vectors in the buffer indicate a different number of pins than actually found on the device.

This is caused when the wrong device is selected as active device, or the wrong file with test vectors is loaded into memory.

This error is also caused when an adapter is required for devices with more than 48-pins. The test vectors try to drive the pins directly, and this causes an error. Make sure that the file and device

correspond, and do not use test vectors on devices that need adapters.

The system is in demo mode!

The ChipMaster-6000XP was not found when the software was started up, and went into “Demo mode”. You can still run the program (some of it) but you cannot execute any hardware functions. Your ChipMaster-6000XP hardware may be failure and need to repair.

This function is not supported in demo mode!

The ChipMaster-6000XP was not found when the software was started up, and went into “Demo mode”. This function is not supported in Demo Mode.

Time-out error!

The ChipMaster-6000XP has not responded to a request for a long time. This error may also happen when perform erase a flash memory chip, when the chip can not erase successfully within the time period, this message will display, it means your chip can not erase any more, change a new chip.

Unexpected code/data/end-of-file/run-time instruction reached!

The input file is corrupt or of the wrong format.

User break!

This message is displayed whenever you “cancel” an operation.

Wrong file format or file is corrupt!

An input file with the wrong format was selected. Selected the right format for the input file.

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