General Information

Introduction

The DATAMAN-48XP is an intelligent high performance, PC-based universal programmer that works through your PC′s parallel port. It features a 48-pin ZIF socket and supports many of the programmable chips on the market. These include CPLD, EPROM, EEPOM, Serial EEPROM, Flash memory and MCU. The D48XP has an extremely high throughput, supports both 5V and 3V devices in both Vcc and I/O. Lower voltage chips (for example 1.8V Vcc and I/O) can also be programmed through a special adapter. Device insertion and continuity checks are also part of the PC-based design. Device support updates are issued through our software, giving our customers quick and easy access to new device support without hardware upgrades.

Features

Universal adapter up to 48 pin

The DATAMAN-48XP is designed to meet your future needs in high density Flash chips. Using the resources of your PC, it supports 32K bit up to over 1G bit memory chips without upgrading its hardware. The DATAMAN-48XP also has universal adapters that accommodate 48-pin TSOP, 44-pin PLCC, 40-pin TSOP or 32-pin TSOP packages. Each adaptor supports all the chips in a package regardless of pin swapping. This is possible due to the universal pin driver technology on the DATAMAN-48XP, eliminating the need to buy multiple adapters and saving you money.

Unbeatable speed

The DATAMAN-48XP′s on-board intelligence reduces system overhead to a minimum. It can program Flash devices within 2.5 seconds per Mbit (for example, AMD29DL323 can be

programmed by DATAMAN-48XP within 80 seconds). An experienced operator can program thousands of high-density chips per day.

Device-insertion and continuity checks – No mistakes!

The DATAMAN-48XP 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 prevents expensive chip damage caused by operator error.

Auto-sensing and self-programming

The DATAMAN-48XP has implemented patented technology to meet mass-production requirements. When a chip is inserted into the ZIF socket, the DATAMAN-48XP will start to program automatically, the operator just needs to follow the LEDs to know when to remove the chip and insert a new one without them needing to press any keys.

Project file "Save and Load"

You can save the program configuration project to a 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 DATAMAN-48XP allows users to select the verification voltage after 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 5000 devices are currently supported on the D48XP and you can increase the chip support by downloading software updates from *www.dataman.com*. Normally we add more than 100 new devices in each quarter's software update.

For details of updates and added device support, please visit our website: *www.dataman.com*

Using the DATAMAN-48XP 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 drop-down menu will appear, and you can select your desired option by clicking on it.

2. 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. 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.

Installation

Minimum PC System Requirements

Windows 95/98/ME/2000/XP/NT 4.0 or latest (NT, need System Admin privileges to install the software).

CPU: 486 and above.

RAM: 8MB minimum, 32 MB recommended.

HD: 16 MB of free hard disk space.

Interface: D-25 connector with standard parallel port, (ECP, EPP or Bi-directional).

CD ROM Drive.

Installing the DATAMAN-48XP Hardware

1. Connect the power cable to the DATAMAN-48XP power socket.
2. Connect the DATAMAN-48XP to a parallel port using the cable supplied.
3. Turn the DATAMAN-48XP on.
4. The DATAMAN-48XP will perform a self test, the green LED will be on (good) if the system has passed the self test.

Installing the DATAMAN-48XP Software

1. Go to 'My Computer' and double-click the CD-ROM drive containing the D48XP CD.
2. Double click the 'Setup' icon to begin installation.

3. Following installation, run the software by double-clicking the DATAMAN-48XP icon. The screen will display the DATAMAN-48XP firmware version and indicate which parallel port the DATAMAN-48XP has been discovered on.

Upgrading the DATAMAN-48XP Software

Dataman provide official quarterly releases of the DATAMAN-48XP software which are available on our website; please download all software updates from *www.dataman.com*

Command Hierarchy

File

Load	Alt+L
Save	Alt+S
Exit	Alt+X

C:\Temp\test.bin
C:\Tools\test.bin
C:\Tools\Nc202ew.zip
C:\Tools\NikonViewDx12.zip

Project

Save Project	Alt+F1
Load Project	Alt+F2

Device

Change	Alt+C
Auto Select EPROM	Alt+A
Mass Production Mode	
Edit	Alt+E
Read	Alt+R
Blank Check	Alt+B
Program/Auto	Alt+P
Verify	Alt+V
Memory Prot/Prog Config	
Erase	Ctrl+F1
Compare	Ctrl+F3
Configuration	Alt+G

Options

Parameters	F3
Operation	F4
Parallel Port	F5
Statistic	F6

Diagnostics

Self Test	F7
Special Test	F8

Help

Help Topics
About

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DATAMAN-48XP 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	

Operation

LED Display

The DATAMAN-48XP has a three LED display to indicate the status of the socket. Read this section carefully to avoid possible damage to chips.

Warning: Do not insert or remove a device from the socket while the yellow 'Busy' LED is on!

Green LED on (Good) the last operation was successful.

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

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

Flashing LED at 5Hz frequency. This only applies to mass production mode. The chip has passed the program and verify cycle and is waiting for the operator to remove it and insert a new one.
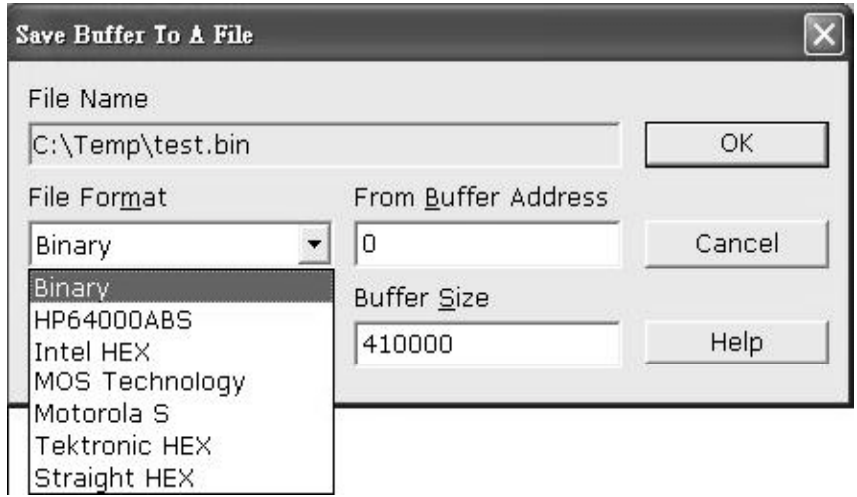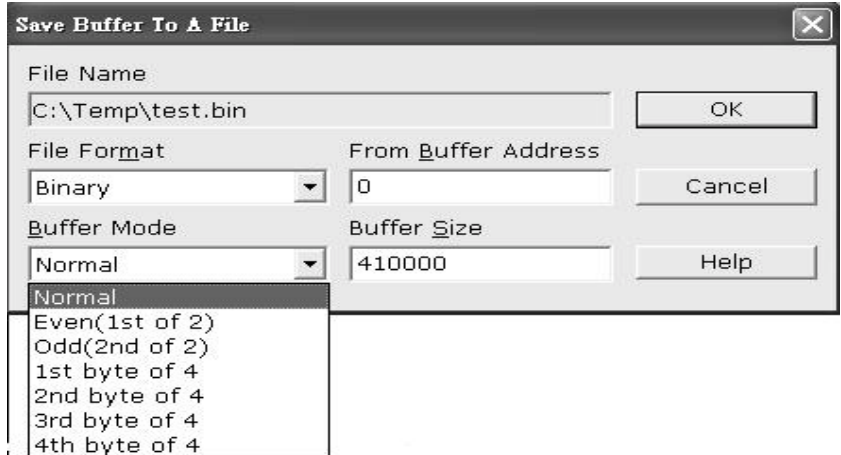

File Commands

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 using the mouse, or type a filename in the box provided. You can also type in a file extension. (e.g. *.hex) at the 'Name' prompt. This will display all the files of the specified type. You can then select the required file to overwrite.

Save Buffer To A File

File Name

C:\Temp\test.bin

File Format	From Buffer Address
Binary	0
Buffer Mode	Buffer Size
Normal	410000

OK

Cancel

Help

Save Buffer To A File

File Name

C:\Temp\test.bin

File Format	From Buffer Address
Binary	0
Buffer Mode	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

OK

Cancel

Help

Save Buffer To A File

File Name

C:\Temp\test.bin

File Format

Binary

Binary
HP64000ABS
Intel HEX
MOS Technology
Motorola S
Tektronic HEX
Straight HEX

From Buffer Address

0

Buffer Size

410000

OK

Cancel

Help

File name   Specify the filename and destination you want to save to.

File format   Select the file format of your output file. To display a list of available file formats, click on the down arrow to the right of the text field. Supported file formats 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, details of the split function are explained below.

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 specifies the start address of the buffer you want to save to the file, default is from 0000h, any address (from 0h to the Max. of the buffer address can be selected)

Buffer size   The buffer size depends on the chip you select, for example if you select 29F010 (the buffer size will be 1Mbit which is 20000h)
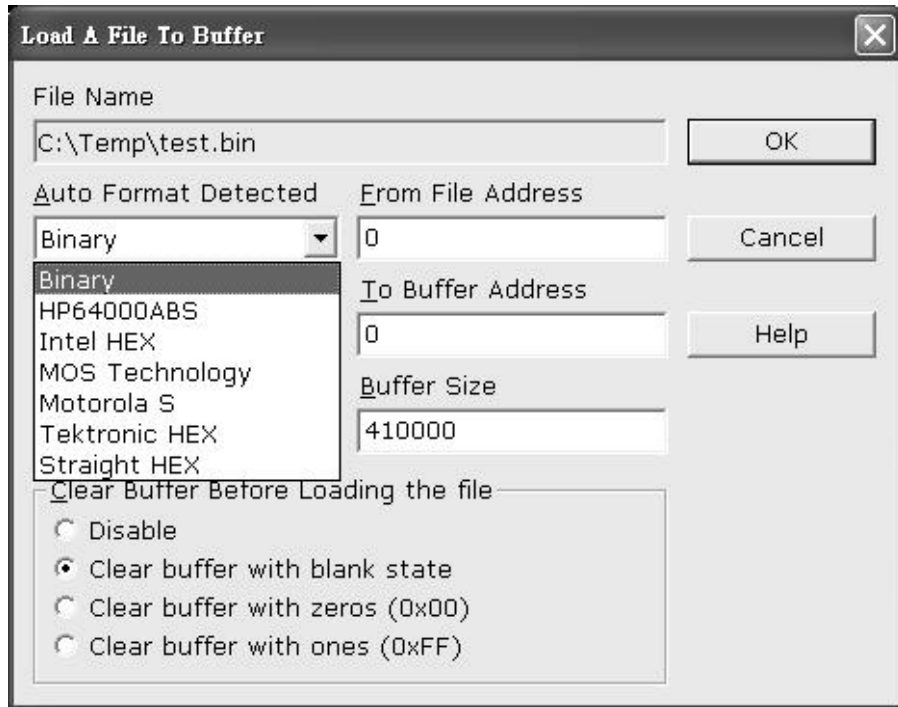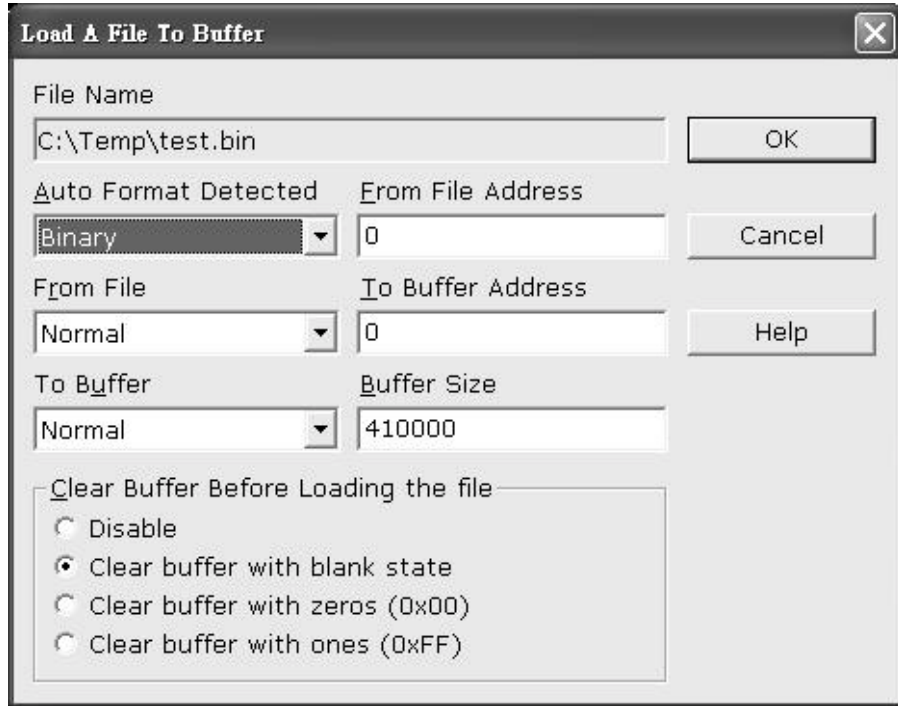
Load File to Buffer

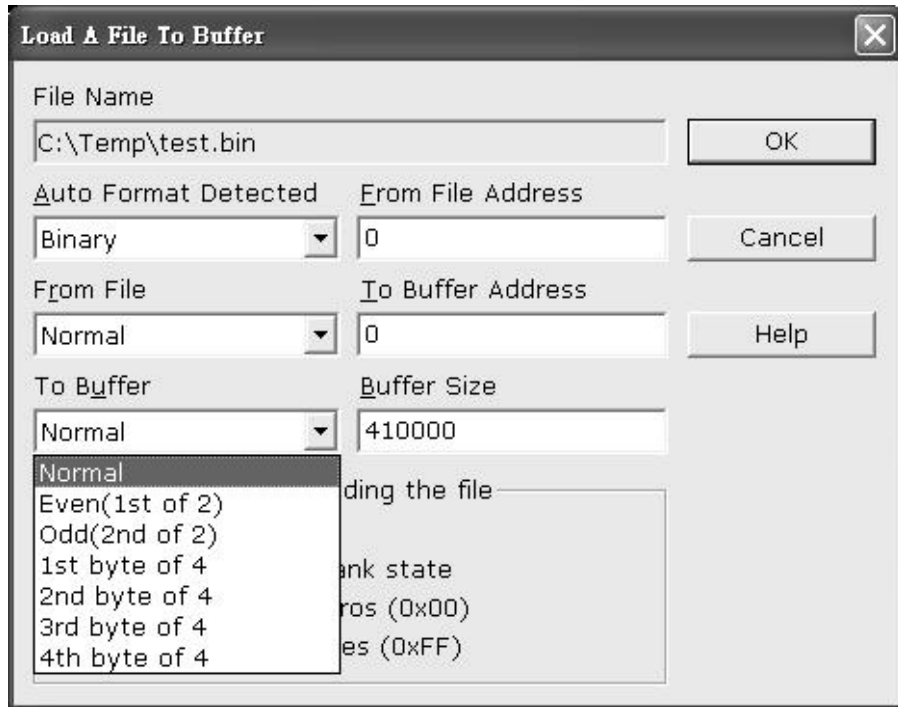*Menu*   *File / Load File*

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 extension. (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   To Buffer Address
Intel HEX
MOS Technology   0   Help
Motorola S
Tektronic HEX   Buffer Size
Straight HEX
                              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)

Filename   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 is different from the format detected, select the correct file format by moving the cursor to the selection menu and changing it to the desired file format. Available file formats 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 from the input file. By default it will load the entire file into the buffer. You can specify that the file be loaded in the following ways: Even (loads the even bytes into the buffer), Odd (loads the odd bytes into the buffer), also 1st byte of 4, 2nd byte of 4, 3rd byte of 4, 4th byte of 4. For details, see the "Save Buffer to File" section of this manual.

To Buffer

This option indicates where the previously read byte is to be written. This enables you to 'build' the memory buffer from several files. By default, the whole file will be loaded into the buffer. Even means the file will be loaded as every even byte in the buffer. Odd means the file will be loaded as every odd byte in the buffer. The other options are 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 the file will be loaded into the buffer, enter the address that contains the first byte into this box, this is the starting address of the section of the file to be loaded.

To Buffer Address

Starting address of the buffer to load the file into. If the data is to be copied into a specific area of the buffer, enter the starting address here.

Size

This box contains the buffer size. By default, it is the same size as the device selected on the DATAMAN-48XP main screen. If you want to download a file into the memory that is bigger than the active device, enter the size here (or in Options | Operation Options).

Clear Buffer Options

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

Disable

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

Blank state (default)

This option clears the buffer to the devices 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 overwrites 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 DATAMAN-48XP program

Project File Commands

Save Project

Menu   *Project / Save Project*

Hot key   *Alt-F1*

This option saves the current setup of the DATAMAN-48XP software into a project file. The file includes selected devices, buffer data, operation setup, and device configuration setup. You can also attach a footnote to the project file. The project file acts as a macro, eliminating the need to go through the whole setup 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 a device using the preset data and setup functions from the Project file.

Device Commands

Change Device

Menu   *Device / Change Device*

Hot key   *Alt-C*

This option is used to select a new 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:
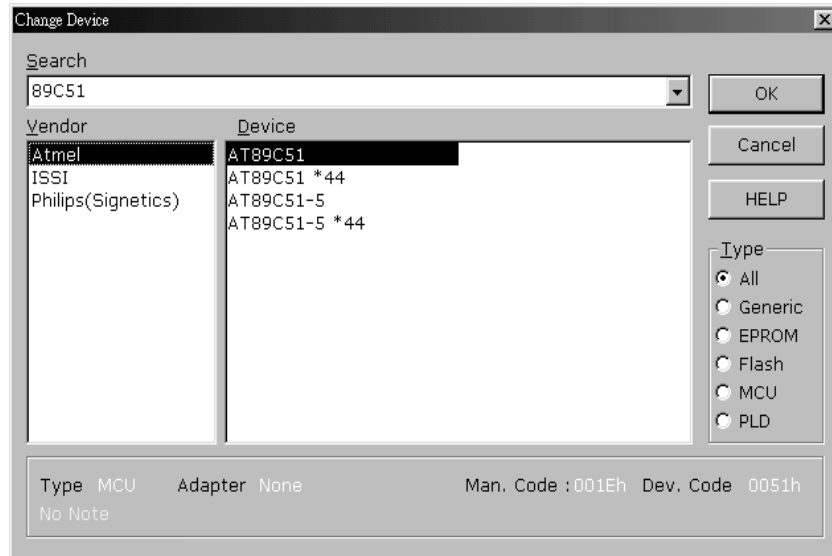
Figure 4.1 Screen for selecting Change Device

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 is required and 89C51*44 means the chip is 44 pin PLCC or QFP/TQFP, adaptor required. After selecting the 89C51*44, at the bottom of the software screen will be displayed chip information and the adapter requirement. In this example, it shows SDP-UNIV-44 as the recommend adapter, it means for a 44 pin PLCC chip, you need the 44 pin PLCC universal adapter, if your chip is 44 QFP or TQFP, you will need a 44pin QFP (SDP-UNIV-44TQ) or a 44pin TQFP (SDP-UNIV-44TQ) adapter.

If you have a 3rd party 44 pin PLCC adapter that swaps the 44

pin PLCC chip into a 40 pin DIP (emulate the 44 pin PLCC as a 40 pin DIP), you can select the 89C51 in device selection and use this 3rd party adapter.

Other useful examples in device, package and adapter.

1) For example a 1M bit flash (29F010), this chip has three kinds of package, 32 pin DIP, 32 pin PLCC and 32 pin TSOP, in the DATAMAN-48XP software, it is only available in DIP package under device 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), DATAMAN-48XP only shows 24 pin DIP in device selection, to program the 28 pin PLCC, a 28 pin PLCC to 24 pin DIP adapter to emulate the 24 pin DIP chip is required (PLCC 2824-04).

3) 27C128/256 EPROM chip, this chip is available in 28 pin DIP and 32 pin PLCC, to program the 32 pin PLCC, you need a 32 pin PLCC to 28 pin DIP adapter, it emulates the 32 pin PLCC as a 28 pin 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 which will program the SOIC chip (for example Pic16F73 with SDP-UNIV-28SO/300 adapter will program a 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 characters.

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 allows the user to detect which EPROM/Flash chip has been inserted in the DATAMAN-48XP ZIF socket, all the EPROM or Flash memory devices have a manufacturers ID and device ID in the chips (hardware ID). When performing this function, the DATAMAN-48XP applies a 12V high voltage to the A9 location on the chip, then reads back the chip's

hardware ID and compares it to the library then display the possible chip in the window.

This Auto ID is only available for 32 pin or 28 pin EPROM and Flash memory chips, it can not be applied to MCU, PLD or other serial PROM, EPROM/Flash. Chips with over 40 pins do not have this function since the A9 location is not standardized for chips over 40 pins, using such a function may damage the chip since a 12V high voltage is applied to the chip which can cause damage to the chip by accident.

Mass-production Mode

Menu   *Device / Mass Produce*

The DATAMAN-48XP can be used as a mass-production programmer for manufacturing. When in 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 flashes, remove the programmed chip and insert a new chip. Anyone can do the job 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 DATAMAN-48XP first performs an insertion test and an ID check on a 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 entering mass production mode a series of screens will

display asking the user to complete the set up and confirm it, first you need to fill out the operation set up menu (for operation set up, please reference to the device operation option section) then the configuration set up menu (this configuration set up menu is device specific, only chips with a configuration register have this menu and the contents are different from chip to chip), reference to device configuration section. The last set up menu is statistic configuration, for set up details of the statistics please refer to the statistics section of this manual.

Mass Production Mode

After the user has completed the setup above, the Mass Production screen (figure 4.2) will be displayed. When the user inserts a device into the ZIF socket, the white segments on the diagram of the ZIF will change to green. If a segment remains white, this indicates poor or no contact on the corresponding pin.

Once contact is established on all pins the device can be programmed. When programming is complete the green LED on the programmer will flash and the PC will generate an audible alert. The operator can then remove the device and insert a new one into the ZIF.

Any error in programming will be signified by the contact segments on the diagram of the ZIF turning red and the PC generating a two tone alert. Once the error has been resolved, programming will continue until either the target quantity or the maximum failure rate (set in the Statistic Setup) has been reached.
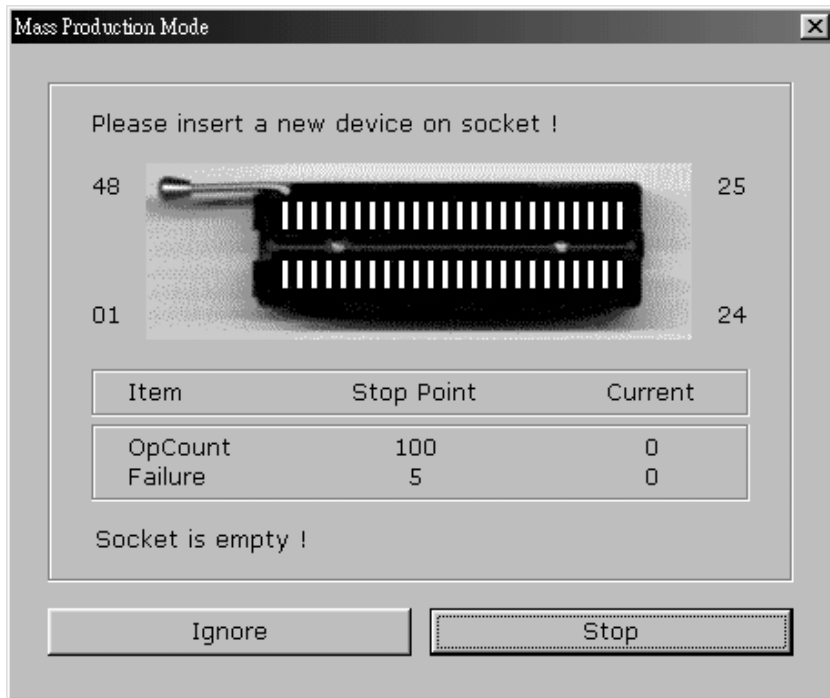
Figure 4.2 mass production mode screen

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 DATAMAN-48XP was switched on, the memory buffer will contain random data or the previous contents from when you last exited the software.

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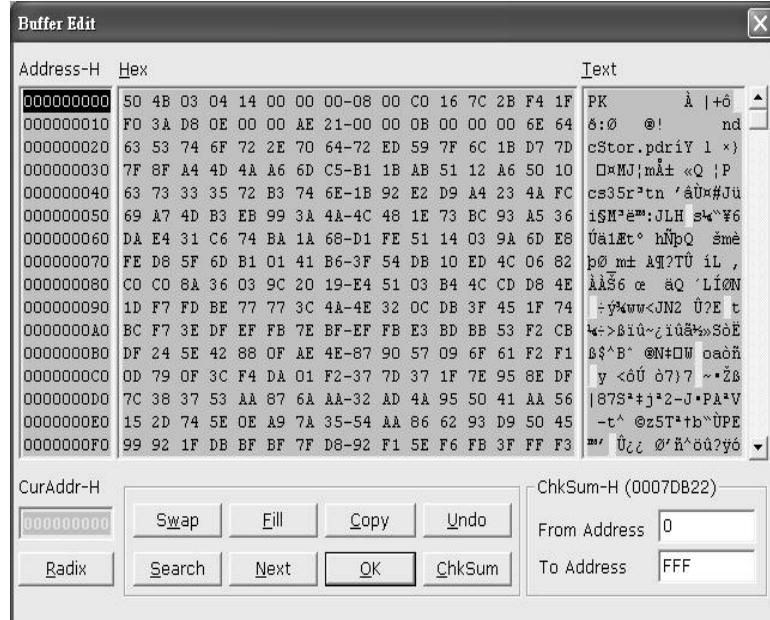
Radix

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, the user can change the word width from 1/2/3/4 etc, following is the example of the original file and the result after swapping to a different word width.

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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 "string". The search string can be text code or hex code, it can search forwards from the cursor position or backwards from the cursor position.

Next

This command is to find the next string that matches 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 no longer undo the changes.
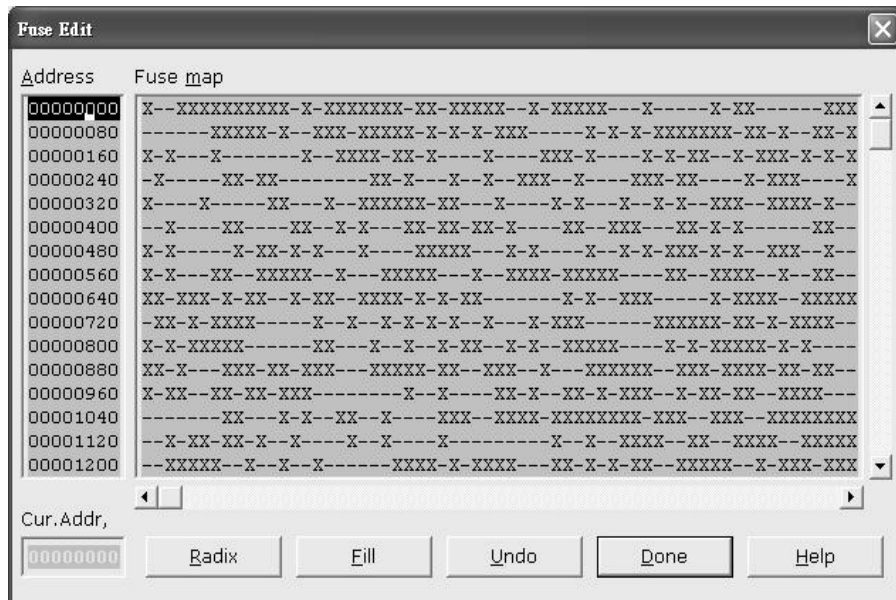
Check Sum

This function allows you to calculate the checksum of a specific range of data in the buffer, you can enter the from and to address then click **Checksum,** the checksum will be shown in the display.

Edit the buffer (logical device only)

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

The screen will appear as the following:

```
Fuse Edit                                                        X
Address    Fuse map
┌──────────┐ ┌──────────────────────────────────────────────────┐ ▲
│00000000 │ │X--XXXXXXXXX-X-XXXXXXX-XX-XXXXX--X-XXXXX---X-----X-XX------XXX│
│00000080 │ │------XXXXX-X--XXX-XXXXX-X-X-X-XXX-----X-X-X-XXXXXXX-XX-X--XX-X│
│00000160 │ │X-X---X-------X--XXXX-XX-X----X----XXX-X----X-X-XX--X-XXX-X-X-X│
│00000240 │ │-X-----XX-XX--------XX-X---X--X--XXX--X----XXX-XX----X-XXX----X│
│00000320 │ │X----X-----XX---X--XXXXX-XX---X----X-X---X--X-X-X-XXX--XXXX-X--│
│00000400 │ │--X----XX----XX--X-X---XX-XX-XX-X----XX--XXX---XX-X-X------XX--│
│00000480 │ │X-X-----X-XX-X-X---X-----XXXXX---X-X----X--X-X-XXX-X-X--XXX--X--│
│00000560 │ │X-X---XX--XXXXX--X---XXXXX---X--XXXX-XXXXX----XX--XXXX--X--XX--│
│00000640 │ │XX-XXX-X-XX--X-XX--XXXX-X-X-XX-------X-X--XXX-----X-XXXX--XXXXX│
│00000720 │ │-XX-X-XXXX-----X--X--X-X-X-X--X---X-XXX------XXXXX-XX-X-XXXX--│
│00000800 │ │X-X-XXXXX------XX---X--X--X-XX--X-X-XXXXX----X-X-XXXXX-X-X----│
│00000880 │ │XX-X---XXX-XX-XXX---XXXXX-XX--XXX--X---XXXXXX--XXX-XXXX-XX-XX--│
│00000960 │ │X-XX--XX-XX-XXX-------X--X----XX-X--XX-X-XXX--X-XX-XX--XXXX---│
│00001040 │ │-------XX---X-X--XX--X----XXX--XXXX-XXXXXXX-XXX--XXX--XXXXXXXX│
│00001120 │ │--X-XX-XX-X--X----X--X----X--------X--X--XXXX--XX--XXXX--XXXXX│
│00001200 │ │--XXXXX--X--X--X------XXXX-X-XXXX---XX-X-X-XX--XXXXX--X-XXX-XXX│ ▼
└──────────┘ └──────────────────────────────────────────────────┘
             ◄│ │                                                  ►│
Cur.Addr,
┌──────────┐   ┌─────────┐ ┌─────────┐ ┌─────────┐ ┌─────────┐ ┌─────────┐
│00000000 │   │ Radix   │ │ Fill    │ │ Undo    │ │ Done    │ │ Help    │
└──────────┘   └─────────┘ └─────────┘ └─────────┘ └─────────┘ └─────────┘
```

In this mode, "X" refers to a blown fuse, and "-" refers to an intact fuse. The purpose of the buttons are as follows:

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.

Fill

This option is used to fill a block of memory with a 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 selecting PLD)

Menu   *Device / Modify vector*
Hot Key   *Alt-V*

This command is only available when a PLD has been selected as the active device, the option is used to modify the vectors

that will be used to test a device after the logical chip has been programmed, this test vector is usually generated by 3rd party PLD design tools when the circuit diagram and layout for the chip is done. The JEDEC file is downloaded into the DATAMAN-48XP, and it also contains the test vector that will be used to test the device for correct programming and function. The following screen will be displayed when you are viewing the Vectors:
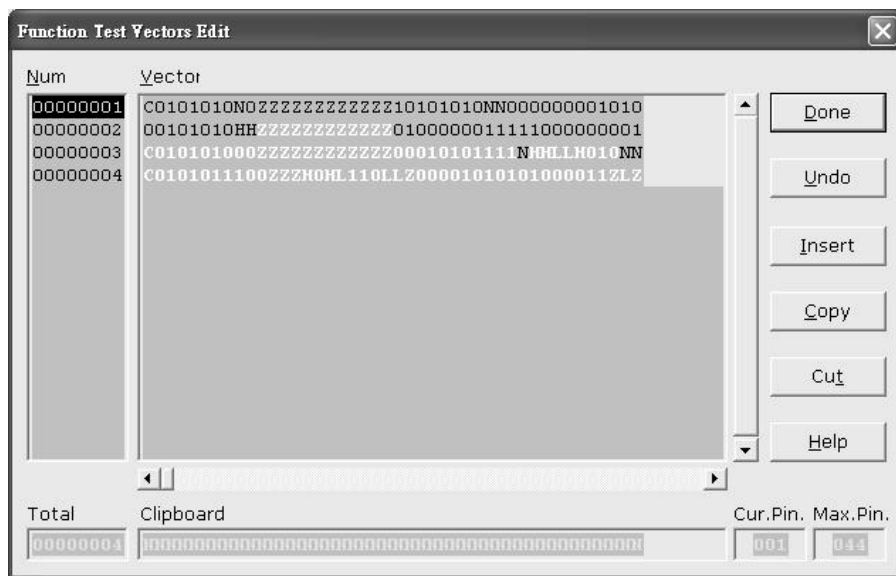
The purpose of the buttons are as follows:

Undo
When the changes are made, the changed areas are highlighted. If you wish to undo this change, just click this button. It will restore the value prior to editing. When a position that is highlighted scrolls off the screen the changes made become permanent and you cannot reverse them 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 line the cursor is on. The contents of the "editing clipboard" are shown at the bottom of the editing screen. The contents of the clipboard will be inserted when this button is clicked.

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. The following test condition codes can be use as the test vector/s.

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 a master chip. Prior to executing this command, the chip must be selected in the software, and then a corresponding chip should be inserted into the socket to be programmed.

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 menu.
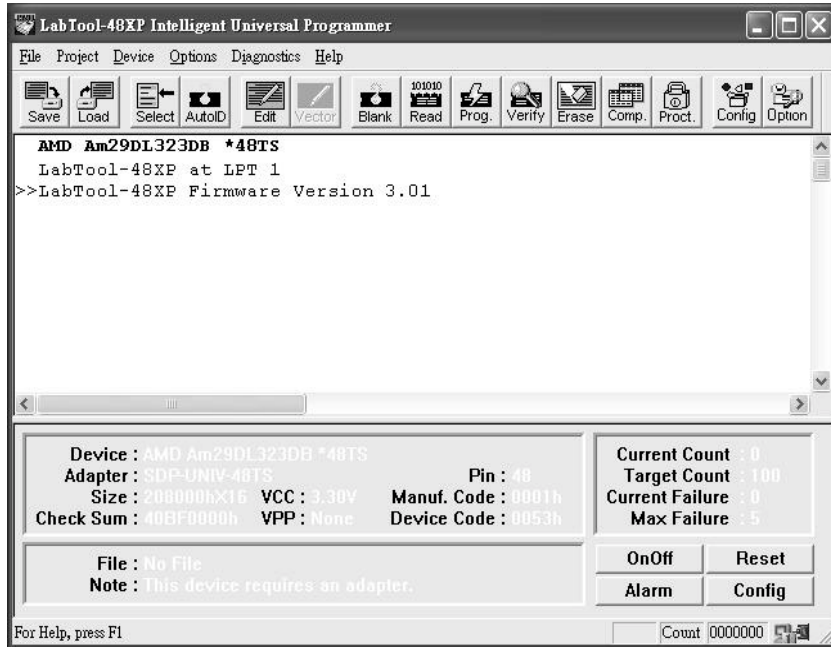
Figure 4-4 Programming progress screen

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.
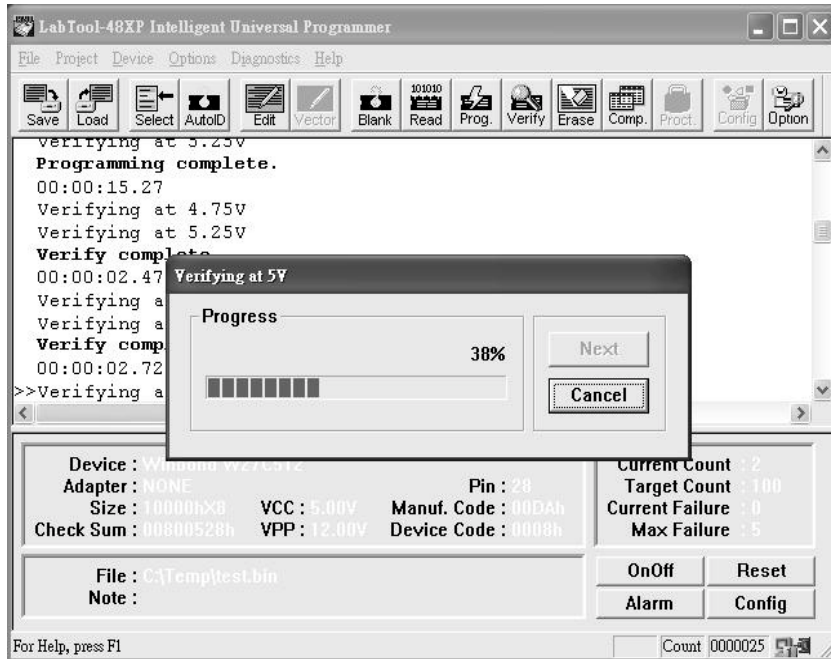
Figure 4-5 Device verification screen

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 when chips that have this capability are selected.

For example GAL, CEPAL, Microprocessor, and some Flash memory, this function must be configured before use. When you have enabled the configuration (ALT-G), you can set the desired value and status in the buffer then performing this command will program the configuration data into the chips, most users will program the main memory first then program the configuration (two steps). However in Mass production mode, the 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

been set to the desired value, the programmer will automatically program the main memory and set the configuration byte in a single command (program or mass production mode program).

Special note for program configuration/ memory protect

This option only applies to devices with configuration registers or if it has a read protect function on it. Enabling this option will automatically program the main buffer into the chip without the need to perform memory protect separately. Enabling this option only protects the chip if you have set the lock bit to enabled in the configuration setup menu.

Function Test (only available for logic chip)

Menu   Device/ Function test

Hot key   Alt-T

This function is only available when a logical device has been selected, it applies the test vector to the device and compares 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, if there is a failure it displays the vector number and which pin did not match the expect result.

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

First   Enable the function test or function test after secure in options.

Second   Select the function test voltage with once or twice.

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 programming a PLD chip, the input file must contain the test vectors or the user has to have created the vectors by himself, in the options under the operation menu, function test is enabled by default, which means after programming the PLD, the DATAMAN-48XP will perform the function test automatically, if no vector is in the buffer, the DATAMAN-48XP will report "no test vector in buffer", if the test vector does not match the behavior of the chip after the vector test, an error will be displayed along with vector number and which pin expected low/high but received high/low. For PLD devices in PLCC packages (GAL 20V8 as example), the DATAMAN-48XP software only supports 24 pin in DIP if you need to program a 28 PLCC chip with a PLCC adapter, the DATAMAN-48XP will program the chip but the function test will fail since the pin is mismatched with the chip (the chip is 28 pin but is 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 specific memory range from a chip.

Compare

Menu   *Device/compare*

Hot Key   *Ctrl-F3*

This command is only available for memory devices, the

compare command is to compare the buffer data with the device data, when the first data difference is found, the software will stop and report the difference between the data in the buffer and the data in the device, pressing the next button 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 devices with configuration registers available in the chip, a configuration register is used as a 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/ program configuration.
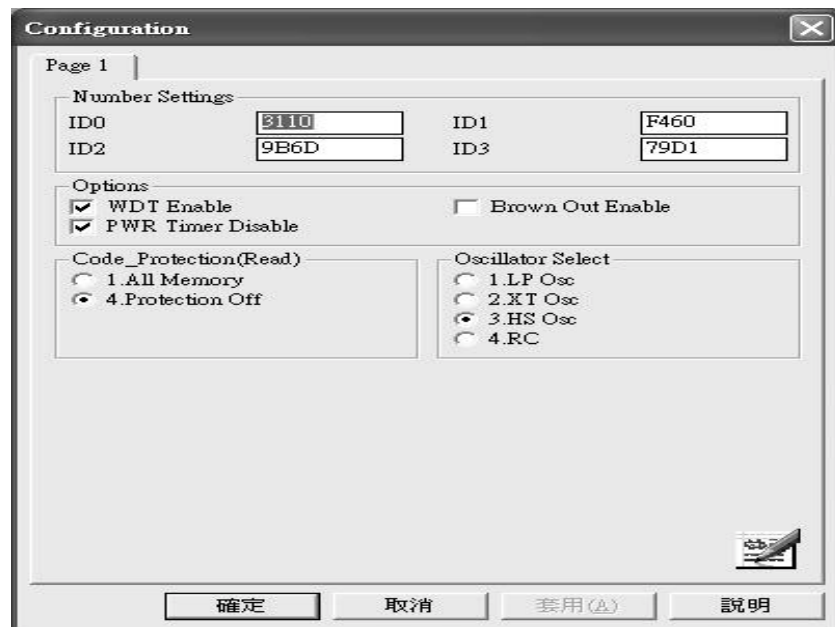
Figure 4-6 Example of device-specific configuration screen

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 displayed, 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 DATAMAN-48XP software the original parameters will automatically be restored.

Device Operation Options

Menu   *Options / Operation options*

Hot key   *F4*
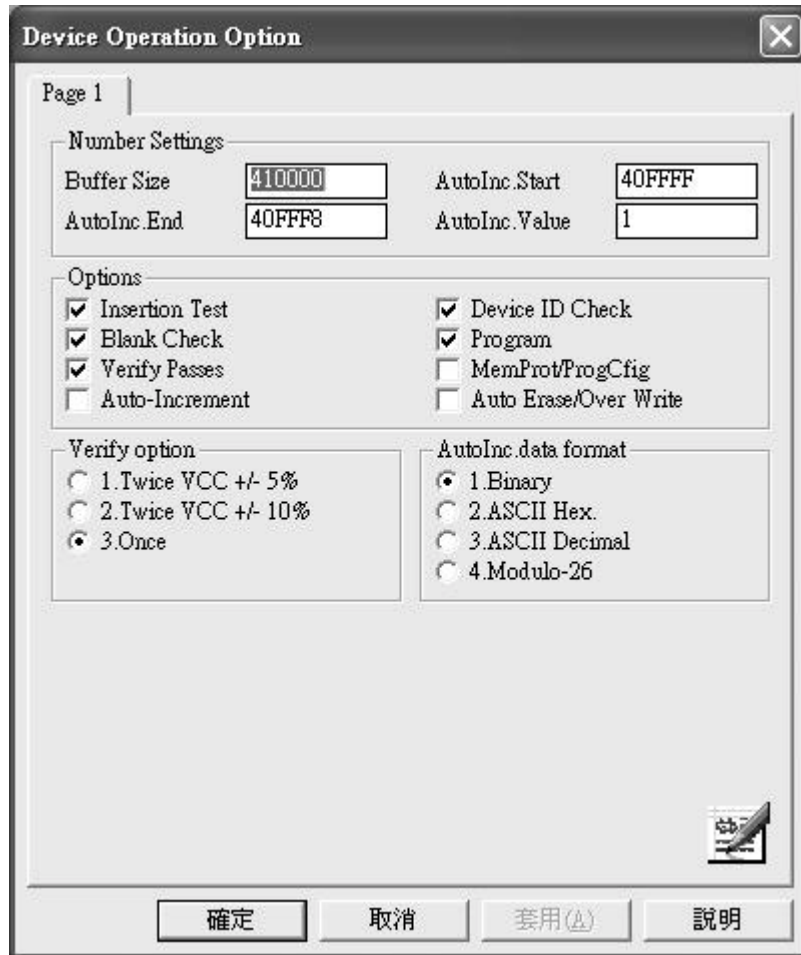
Figure 4-8 Example screen: Device-specific operation options

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 have 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 DATAMAN-48XP software, once the chip is selected, the software opens the buffer to match the chip size, the user can edit this buffer size to enlarge it to 256 M bit Max (4000000h).

Auto increment start/end address
This function allows the user to program memory chips with different serial numbers in specific locations without having to edit the buffer each time. Specifying the serial number location is done by editing the auto increment start address and auto increment end address, editing the initial contents with buffer edit and setting up the increment value and format is done through this menu.

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 a device-insertion check of the chip in the socket. 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's.

Device ID Check

This option performs a device signature and manufacturer match test. With the chip selected and plugged into the socket, DATAMAN-48XP checks the device ID and displays the results of each check on the LED display.

Verify Passes

Checking this option will instruct the DATAMAN-48XP 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} $\pm5\%$, verify twice with V_{cc} $\pm10\%$, and verify once with V_{cc}.

These options will only be enabled if the 'Verify passes' option (see above) is enabled.

(.) Twice V_{cc} $\pm5\%$

When this option is selected, the DATAMAN-48XP 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 DATAMAN-48XP 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 DATAMAN-48XP 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 DATAMAN-48XP 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 DATAMAN-48XP 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 DATAMAN-48XP to automatically erase the chips if they are not blank initially.

Program configuration/memory protect

This option only applies to devices with configuration registers or if it has a read protect function on it, enabling this option will automatically program the main buffer into the chip then program the configuration set up without the need to perform memory protect separately. Enabling this option only protects the chip if in the configuration set up menu, you have set the lock bit to enabled.

Auto-Erase/Overwrite Option

This option only applies to chips, which are electronically erasable for example Flash memory, Flash based MCU or GAL and so on. It causes the DATAMAN-48XP to automatically erase a non-blank chip prior to programming (there will be no warning message "Device is not blank, are you going to program").

Auto increment (only available to memory device)

This enables the auto increment function that allows a user to program different serial numbers into the chip without editing the buffer each time, for setup of auto increment, please refer to the auto increment start address /end address, increment value and format section.

Parallel Port Selection

Menu   *options / parallel port*

Hotkey   *F5*

This command allows the user to select which parallel port the DATAMAN-48XP device programmer is connected to. Default setting is auto search, after executing the DATAMAN-48XP software, it auto detects which LPT port the DATAMAN-48XP programmer is connected to, the user can select the LPT port manually by specifying LPT port to avoid possible conflict with drivers of another LPT device that is attached to the PC.
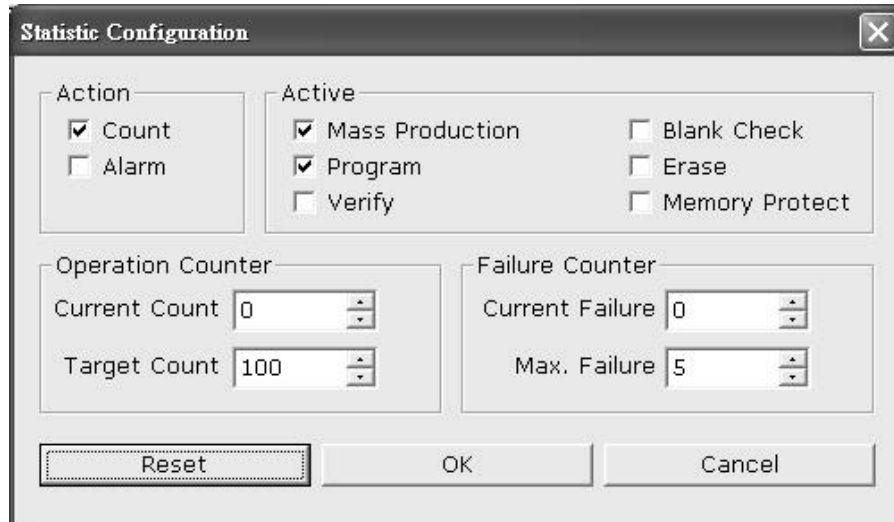
Statistic

Menu   *Options / Statistics*

Hot key   *F6*

Action

Enables either the counter or alarm when the target count or maximum failure count reaches the preset limit.

Active

Specifies the action you want to count in the statistics function.

Mass production enable:

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

Program enable:

Counts the program activities into the statistic display.

Verify enable:

Counts the number of verify operations into the display.

Blank check enable:

Counts the blank check activities into the statistic display

Erase enable:

Counts the erase activities into the statistic display.

Memory protect enable:

Count the memory protect activities into the statistic display.

Operation count

Counts the total number of operations and sets the target quantities.

Failure count

Counts the total chip failure and sets the max chip failure allowed. When the operation exceeds the maximum failure count or reaches the target count an alarm or warning message is displayed on the screen (depending on the action set in this page).

Diagnostic
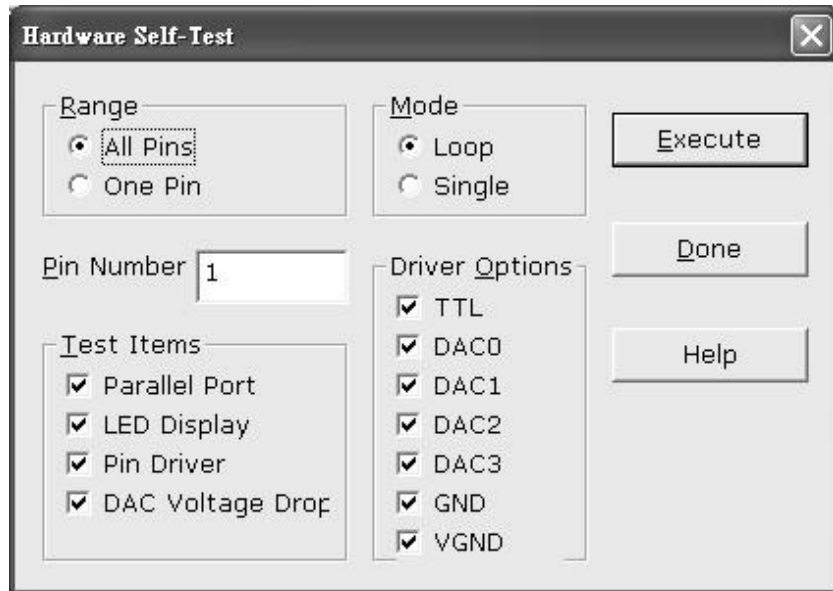
Dataman recommends that the user runs the self-test feature of the Dataman-48XP prior to each day's operation. The self-test routine including testing the parallel port, LED display, Pin driver, TTL driver, relay, D/A converter's voltage drop and other parameters, the following is an example test results screen.

```
LabTool-48XP at LPT 1
LabTool-48XP Firmware Version 3.01
Hardware self-testing...
Testing parallel port...
       LabTool-48XP at LPT 1
Testing LED...
Test pin driver switching...
Set pin 22 to HIGH and get HIGH at pin 24
Set pin 23 to HIGH and get HIGH at pin 24
Set pin 24 to HIGH and get HIGH at pin 21
Set pin 25 to HIGH and get HIGH at pin 21
Set pin 26 to HIGH and get HIGH at pin 24
Set pin 27 to HIGH and get HIGH at pin 21
Set pin 28 to HIGH and get HIGH at pin 24
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
20 20 20 20 20 21 20 20 20 20 21 20 20 20 20 20 20 20 20 20 20 20 20 20
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
22 22 21 22 22 21 22 21 22 21 22 21 22 22 22 22 22 22 22 22 21 22 22
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
>>Hardware self-testing complete !
```

Any unexpected states are displayed with a purple color and any error messages are reported at the end of the self-test, if an error is highlighted you will need to return your DATAMAN-48XP programmer to your distributor for repair.

The DAC (four DAC in DATAMAN-48XP) 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 output high level for individual DAC units, does not affect the overall performance of the unit.

Help

Help Topics   Click this ICON and selecting a topic will display the on-line help for the topic.

About   Clicking this ICON will display the current DATAMAN-48XP software revision.

Using Adapters

Adapter Requirements

DATAMAN-48XP 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 list of adapters available to fit your needs. More new adapters will become available when new chips are release. Please contact your local distributor for the latest adapter availability.

Users can build adaptors themselves; details of adapter pin swapping can be downloaded from our website:
www.dataman.com

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

Error Messages

Error Messages

Could not open file – nnnn!

The file does not exist. You might have typed the wrong filename or you might be in 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 if one of the data-files used by the DATAMAN-48XP software is of the wrong version.

This error occurs if Dataman-48XP.exe is updated, and the data files are not updated. This might happen if the installation procedure did not complete.

Re-install the latest release of the DATAMAN-48XP software.

Device Code unmatched!

This error message is returned when the DATAMAN-48XP does a device ID check.

The device code found on the device is not as expected. You might have selected an incorrect device as the active device, or the device is an older/newer version than the device supported by the DATAMAN-48XP. Disable the ID check in device operation option can be a temporary solution to the programming the chip if the chip ID is missing. Select the correct device as the active device.

If the error still occurs, download the latest release of software from our website. 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 the active device. You can then disable device code checking by setting the Operating Options.

Device inserted backwards or damaged already!

The DATAMAN-48XP 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 DATAMAN-48XP has detected that the device has been inserted incorrectly. Remove the device and insert it correctly.

Device insertion error or damaged already!

The DATAMAN-48XP 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 DATAMAN-48XP 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. We suggest a re-install of the DATAMAN-48XP software and removal of all the DATAMAN-48XP files on your hard disk before installation.

DATAMAN-48XP not found!

The DATAMAN-48XP software does not detect the DATAMAN-48XP on any of the parallel ports, or the DATAMAN-48XP may have failed and requires to be repair.

Make sure the power on the DATAMAN-48XP is on. Also check the parallel connection between the PC and the DATAMAN-48XP. If the DATAMAN-48XP shares the parallel port with another device, remove the other device or move the DATAMAN-48XP to its own port.

DATAMAN-48XP power off or disconnected from PC!

The DATAMAN-48XP software has not detected the DATAMAN-48XP on any of the parallel ports.

Make sure the power on the DATAMAN-48XP is on. Also check the parallel connection between the PC and the DATAMAN-48XP. If the DATAMAN-48XP shares the parallel port with another device, remove the other device or move the DATAMAN-48XP 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 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 DATAMAN-48XP 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 DATAMAN-48XP.

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

No device on socket!
The DATAMAN-48XP has not detected 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 DATAMAN-48XP tries to verify/function test a PLD, it 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 in short-circuit.

Check the socket or replace the device.

Poor contact at pin %s!

The DATAMAN-48XP 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 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 the 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 DATAMAN-48XP 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.

This function is not supported in demo mode!
The DATAMAN-48XP 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 DATAMAN-48XP has not responded to a request for a long time. This error may also happen when performing an erase on a flash memory chip, when the chip does not erase successfully within the time period, this message will be display, it means your chip can not be erased, try 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. Select the right format for the input file.