DediProg EEPROM Software User Manual EE100

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I. Introduction

This user manual illustrates the usage of Dediprog EE100 Software. To get more information on our DediProg products and how to use them, please refer to our products specification, presentation in our web site: **www.DediProg.com**

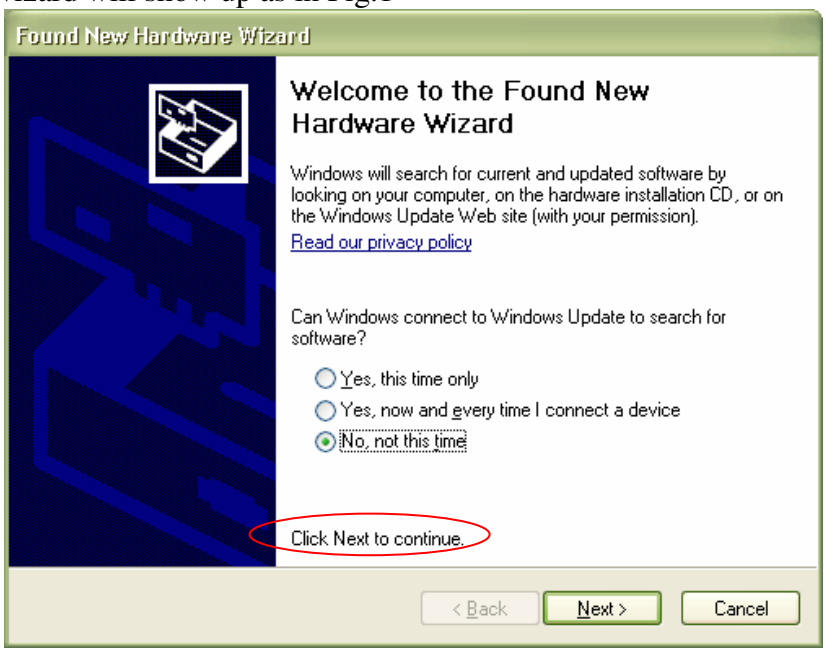
II. Software Installation Guide

A.Operating System Requirement

Windows 7
Windows Server® 2008
Windows Vista®
Windows XP
Support both 32bit or 64bit OS

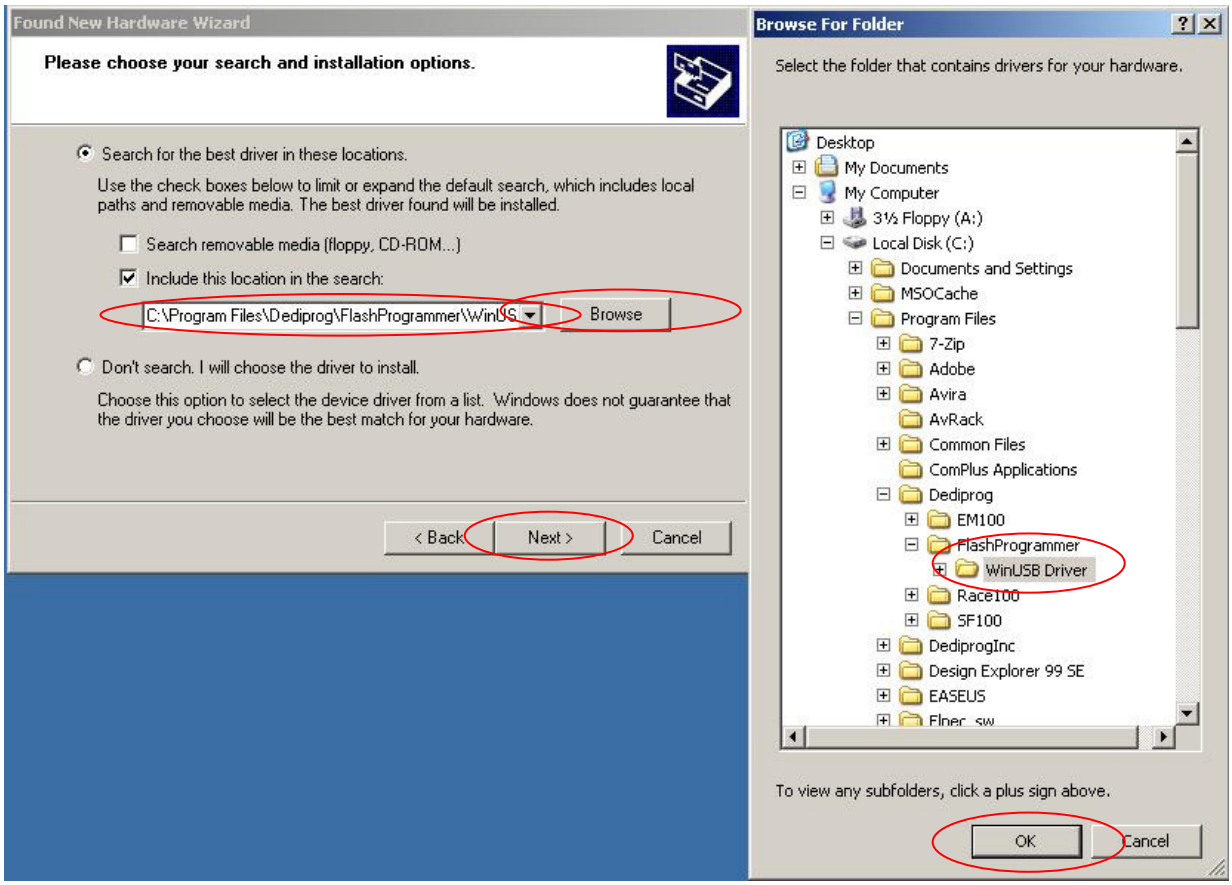
B.Installation Procedures

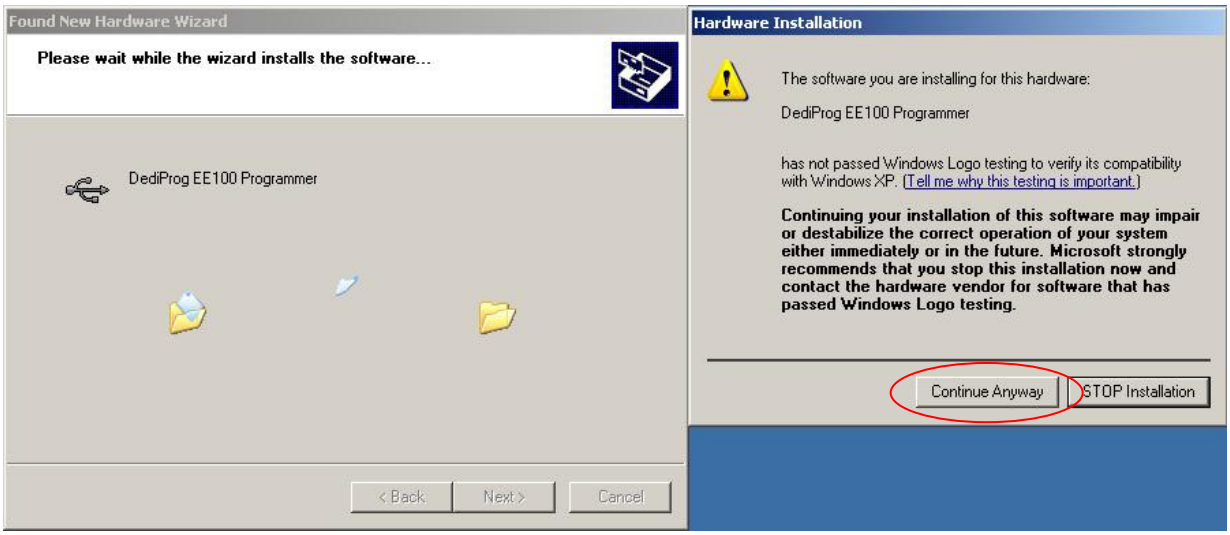
1. Insert the installation CD or download the installation software from **www.dediprog.com**
2. Execute FlashProg.msi file and click next until the installation is finished.
3. After step 2, plug in the USB cable to your computer and Dediprog programmer, A Hardware wizard will show up as in Fig.1



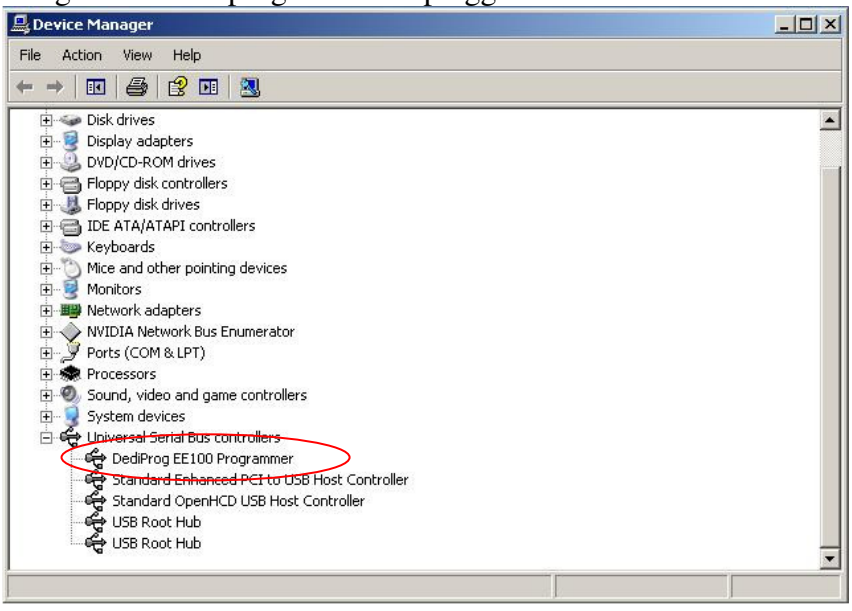
Follow the steps showed in the snap shots below to complete the installation

Found New Hardware Wizard
Welcome to the Found New Hardware Wizard
This wizard helps you install software for:
DediProg EE100 Programmer
If your hardware came with an installation CD or floppy disk, insert it now.
What do you want the wizard to do?
Install the software automatically (Recommended)
Install from a list or specific location (Advanced)
Click Next to continue.
< Back
Next >
Cancel


Found New Hardware Wizard
Please choose your search and installation options.
Search for the best driver in these locations.
Use the check boxes below to limit or expand the default search, which includes local paths and removable media. The best driver found will be installed.
Search removable media (floppy, CD-ROM...)
Include this location in the search:
C:\Program Files\Dediprog\FlashProgrammer\WinUS
Browse
Don't search. I will choose the driver to install.
Choose this option to select the device driver from a list. Windows does not guarantee that the driver you choose will be the best match for your hardware.
< Back
Next >
Cancel
Browse For Folder
Select the folder that contains drivers for your hardware.
Desktop
My Documents
My Computer
3½ Floppy (A:)
Local Disk (C:)
Documents and Settings
MSOCache
Program Files
7-Zip
Adobe
Avira
AvRack
Common Files
ComPlus Applications
Dediprog
EM100
FlashProgrammer
WinUSB Driver
Race100
SF100
DediprogInc
Design Explorer 99 SE
EASEUS
To view any subfolders, click a plus sign above.
OK
Cancel



If the USB driver is installed properly, users can find "Dediprog EE100 Programmer driver" under device manager when the programmer is plugged into the PC.

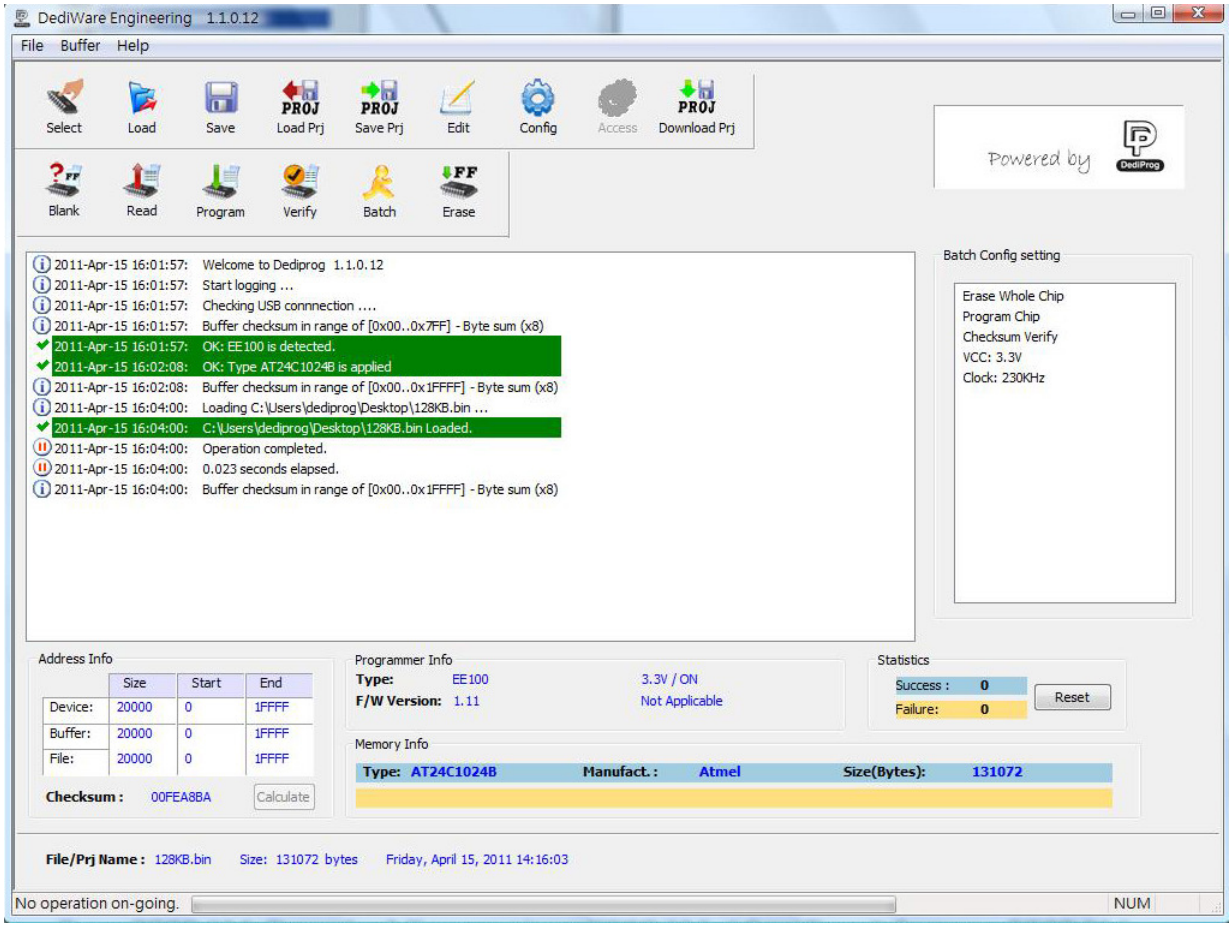


III. Dediprog EE100 Software Engineering GUI

After the software installation, there will be three software icons on your desktop. Icon "DediWare Engineer" is for the engineering GUI, Icon "DediWare Production" is for the production GUI, and Icon "DediWareCMD" is for the command line interface.

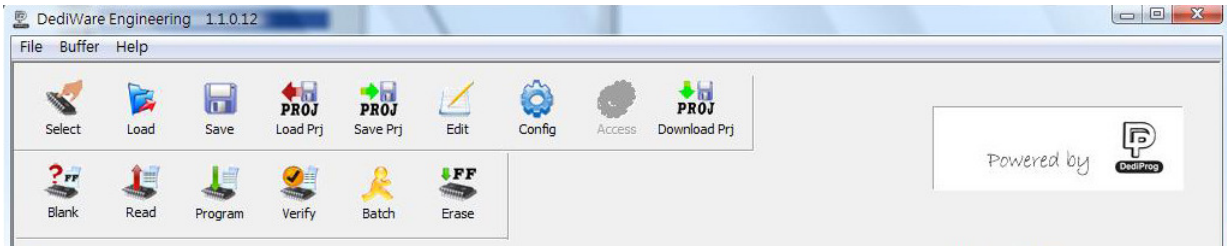
A. Prepare the Environment

1. Connect the programmer to the PC through a USB cable.
2. Connect the ICP cable to your application board (EE100 pin out need to match with EEPROM pin out from your application) or connect the appropriate socket adaptor to the EE100 bottom board and insert an EEPROM in the socket.
3. Double click on the DediWare software icon on your desktop.



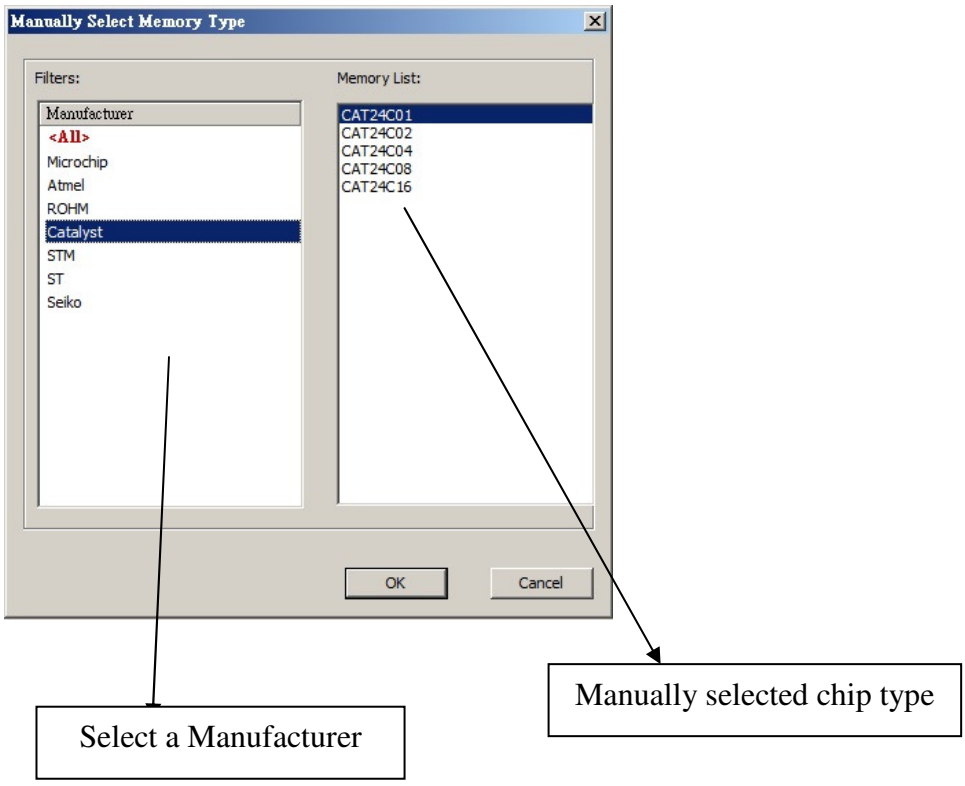
B.Tool Bar Description

The tool bar provides all programming operation option for a single chip.



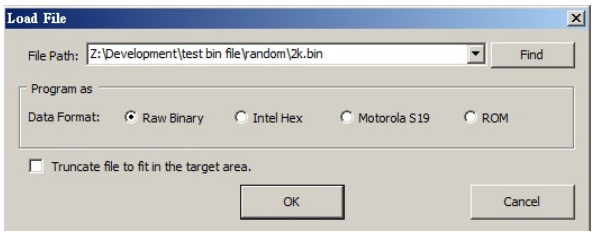
Select

Select Chip: when a new EEPROM is placed, user has to click on this button to select the chip part number and perform operations. The selected chip type will be displayed on the right side of the screen.



Load

Select image: load the file you intend to program. The loaded file size can not be larger the application EEPROM size.



Blank

Blank check: check the target EEPROM is Blank (the contents are all “FF”)

Erase

Erase EEPROM: Erase the full content in an EEPROM. After “Erase” the target EEPROM shall be blank.

Program

Program: Program the selected image into the EEPROM.

Verify
Verify the checksum value of the selected image and the programmed contents

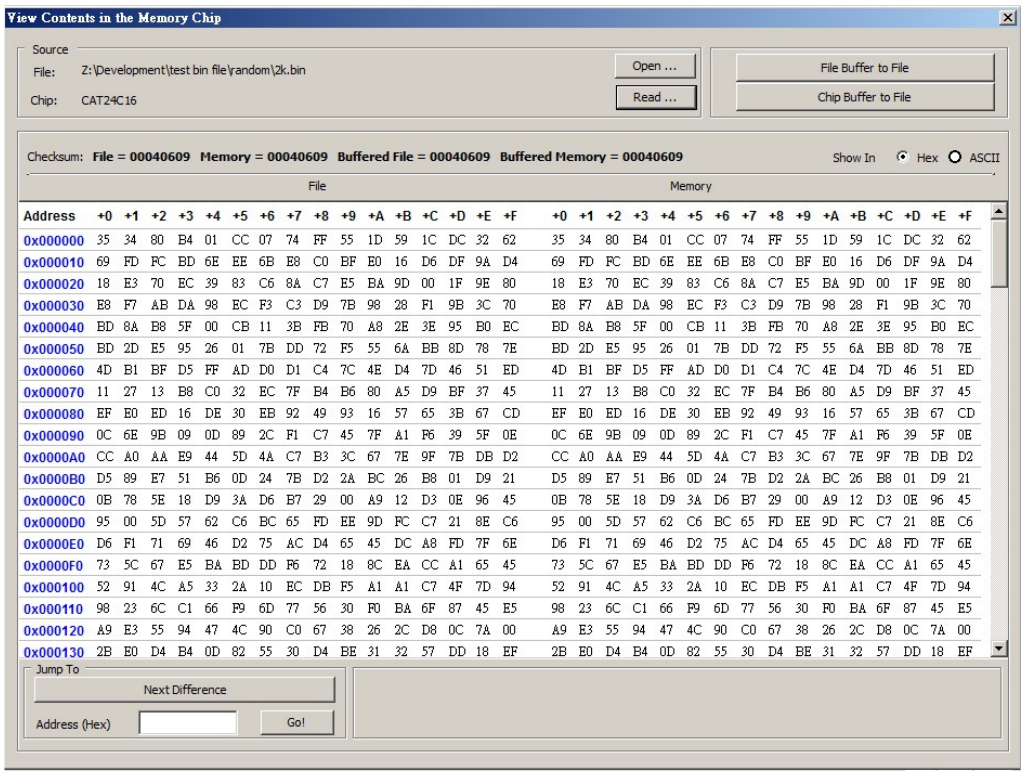
Batch
Batch operation: The programmer will perform a pre-configured set of operations such as (erase + program + verify) all together in one click. The configuration can be set by clicking on the “Config” button. The configuration will not be changed until it is re-configured.

Edit
When click on Edit, the programmer will by default display the selected file content. User can click on “read” to read and display the chip contents. See “Edit window description” for more details.

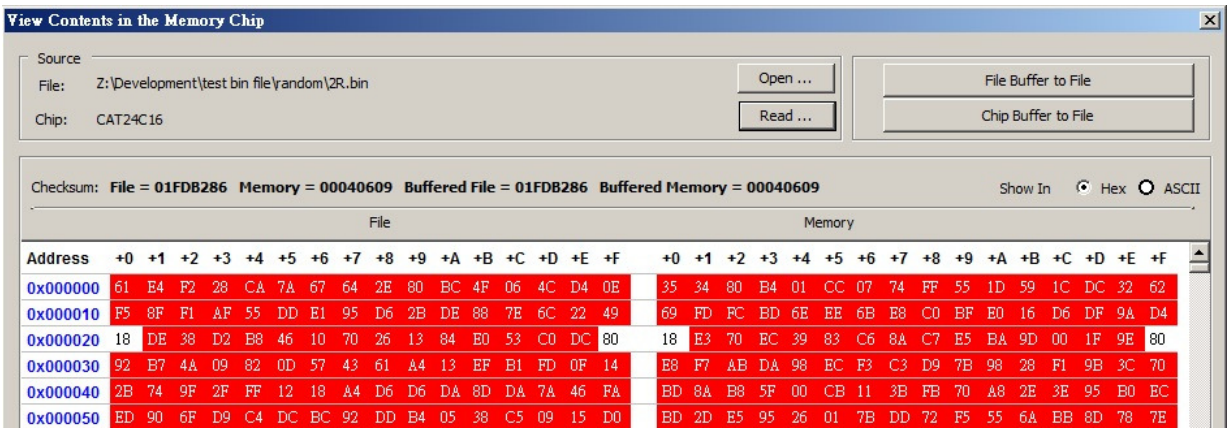
Config
This allows users to configure advanced settings.
See “advanced settings window description” for more details

C. Edit Window Description

EEPROM content display:
In the edit window, file contents and chip contents can be displayed in the same time so that user can make the comparisons. By default the selected file contents are displayed once the user enters into the edit window.
The user can click on “Open” if another file contents are to be shown.
The user can click on “Read” in order to read the chip contents are display them on the edit window as well. Checksum of file contents and chip contents are displayed.



The difference between file contents and chip contents are highlighted with the “Red Fonts”. User can click on the “next difference” button to search for the next different content between the chip and the file contents.



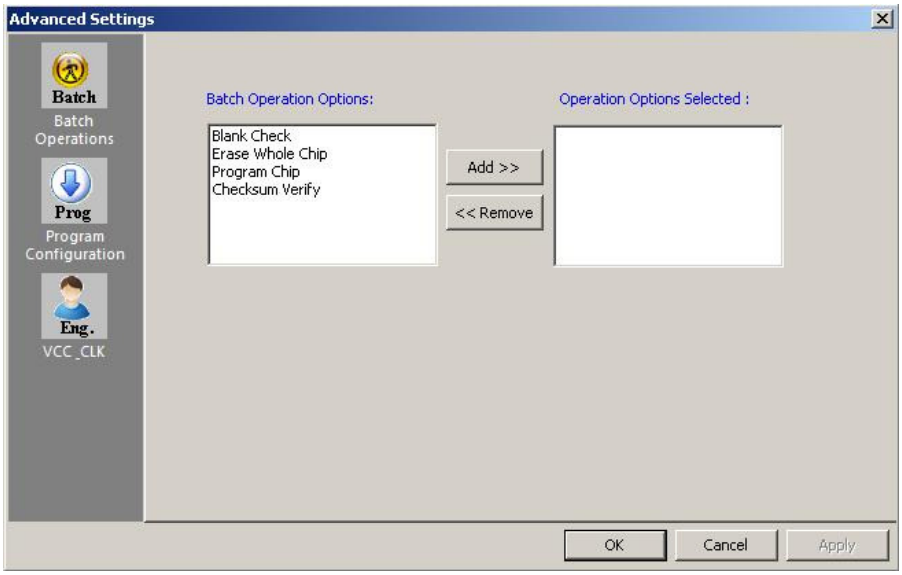
Chip buffer to file
This will save the chip contents into a user named binary file.

File buffer to file
File buffer can be modified in real time. This button will save the file buffer contents into a user named binary file.

D. Configuration Window Description

This feature allows users to configure advanced settings.

1. Batch Operation Option



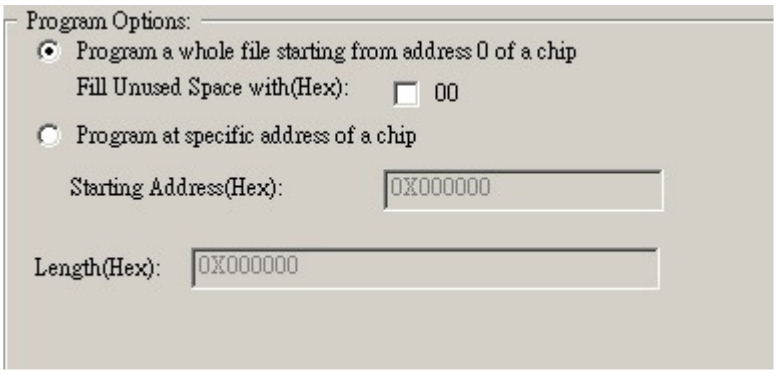
Use “Add” and “Remove” buttons to add or remove the operations in a batch.

2. Program Configurations

1. program a whole file starting from address 0 of a chip
2. program at specific address of a chip

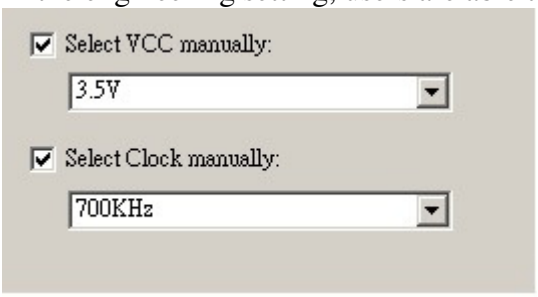
If the file is smaller than the target EEPROM, user can define how to fill the rest of the EEPROM.

By default FFh or 00h if selected in the interface.



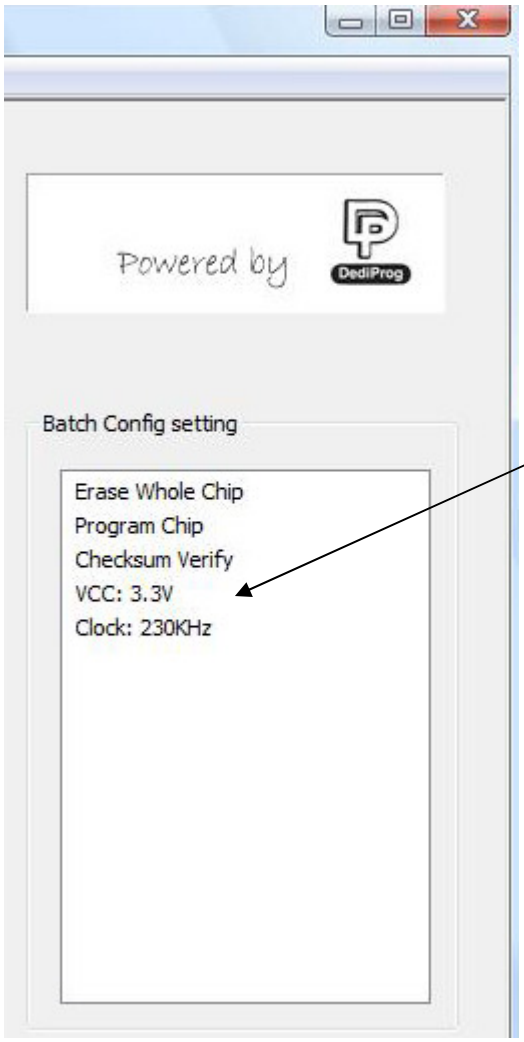
3. Engineering Mode

In the engineering setting, users are able to set the Vcc value and clock value.



a) VCC Option

EE100 supports 5V, 3.5V, and 1.8V Vcc. Default of 3.5V Vcc is applied after the software installation. User is able to change the Vcc configuration here and the Vcc setting will be changed and saved until next modification.



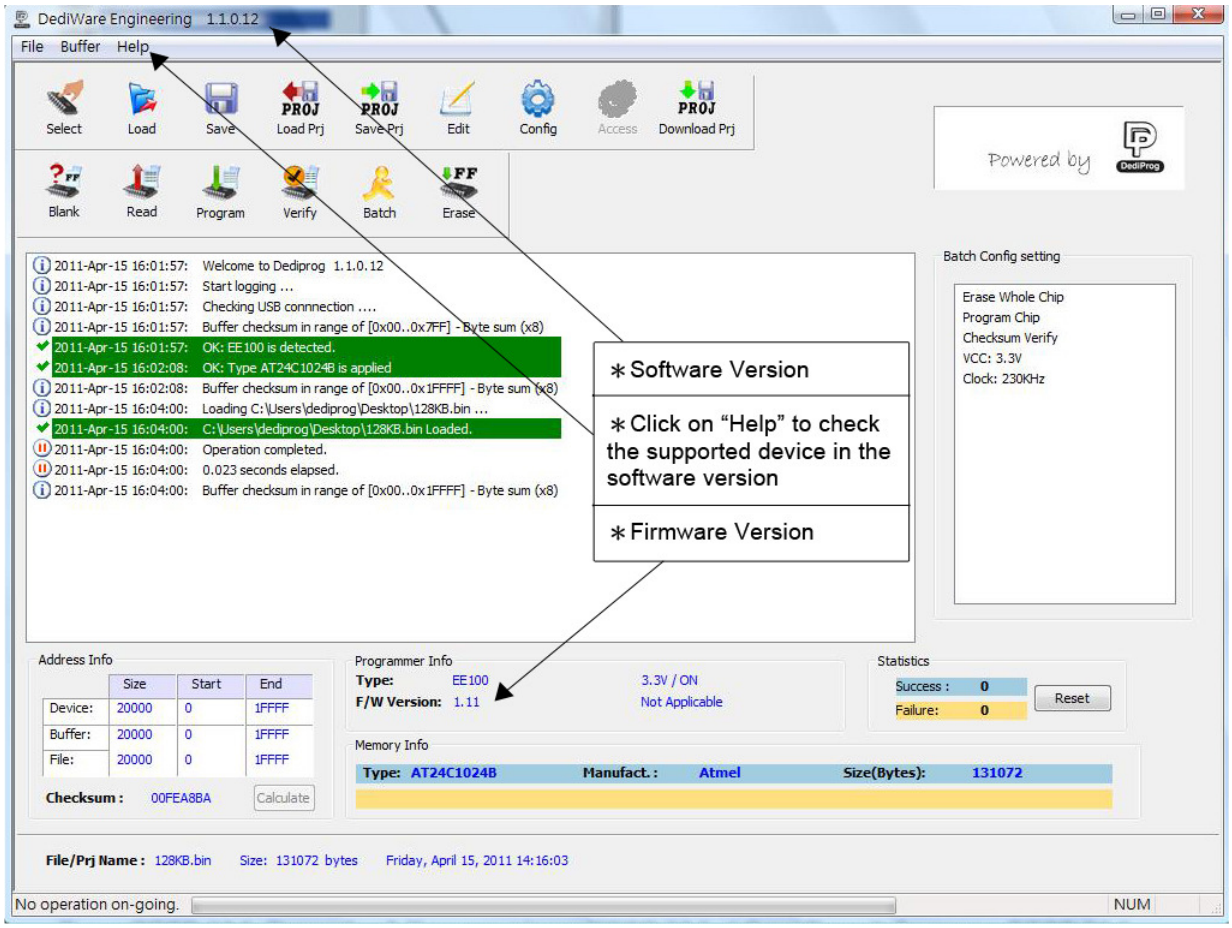
3.3V is applied by default. The value will be changed if the user changes the setting in the VCC option.

b) SPI Clock Setting

EE100 supports 100KHz, 300KHz, and 700KHz for I2C EEPROM. For SPI EEPROM, users have two additional selections of 1 MHz and 1.2 MHz. For I2C EEPROM, the default setting is 300 KHz. For SPI EEPROM, it is 700KHz. User is able to change the clock configuration, and it will be saved until next modification.

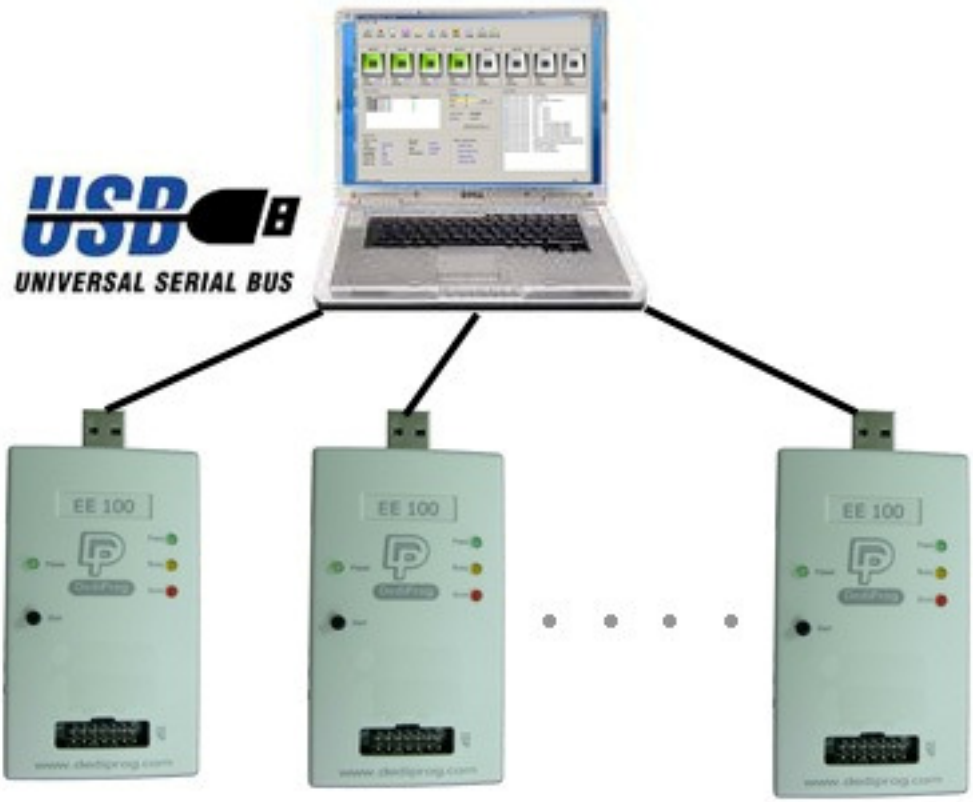
E. Supported Devices, Software Version, Firmware Version

User can find EE100 support list by clicking on “help” on the software menu. This support list is valid for the last software and firmware so user will have to check the current software and firmware version he is using and update it if necessary.


DediWare Engineering 1.1.0.12
File Buffer Help
Select
Load
Save
Load Prj
Save Prj
Edit
Config
Access
Download Prj
Blank
Read
Program
Verify
Batch
Erase
Powered by DediProg
2011-Apr-15 16:01:57: Welcome to Dediprog 1.1.0.12
2011-Apr-15 16:01:57: Start logging ...
2011-Apr-15 16:01:57: Checking USB connnection ....
2011-Apr-15 16:01:57: Buffer checksum in range of [0x00..0x7FF] - Byte sum (x8)
2011-Apr-15 16:01:57: OK: EE100 is detected.
2011-Apr-15 16:02:08: OK: Type AT24C1024B is applied
2011-Apr-15 16:02:08: Buffer checksum in range of [0x00..0x1FFFF] - Byte sum (x8)
2011-Apr-15 16:04:00: Loading C:\Users\dediprog\Desktop\128KB.bin ...
2011-Apr-15 16:04:00: C:\Users\dediprog\Desktop\128KB.bin Loaded.
2011-Apr-15 16:04:00: Operation completed.
2011-Apr-15 16:04:00: 0.023 seconds elapsed.
2011-Apr-15 16:04:00: Buffer checksum in range of [0x00..0x1FFFF] - Byte sum (x8)
∗Software Version
∗Click on “Help” to check the supported device in the software version
∗Firmware Version
Batch Config setting
Erase Whole Chip
Program Chip
Checksum Verify
VCC: 3.3V
Clock: 230KHz
Address Info
Size Start End
Device: 20000 0 1FFFF
Buffer: 20000 0 1FFFF
File: 20000 0 1FFFF
Checksum : 00FEA8BA
Calculate
Programmer Info
Type: EE100 3.3V / ON
F/W Version: 1.11 Not Applicable
Statistics
Success : 0
Failure: 0
Reset
Memory Info
Type: AT24C1024B Manufact.: Atmel Size(Bytes): 131072
File/Prj Name : 128KB.bin Size: 131072 bytes Friday, April 15, 2011 14:16:03
No operation on-going.
NUM

IV. Dediprog EEPROM Software Production GUI

In order to run more than one EE100 in the same time reliably, USB hub with individual power supply is highly recommended.



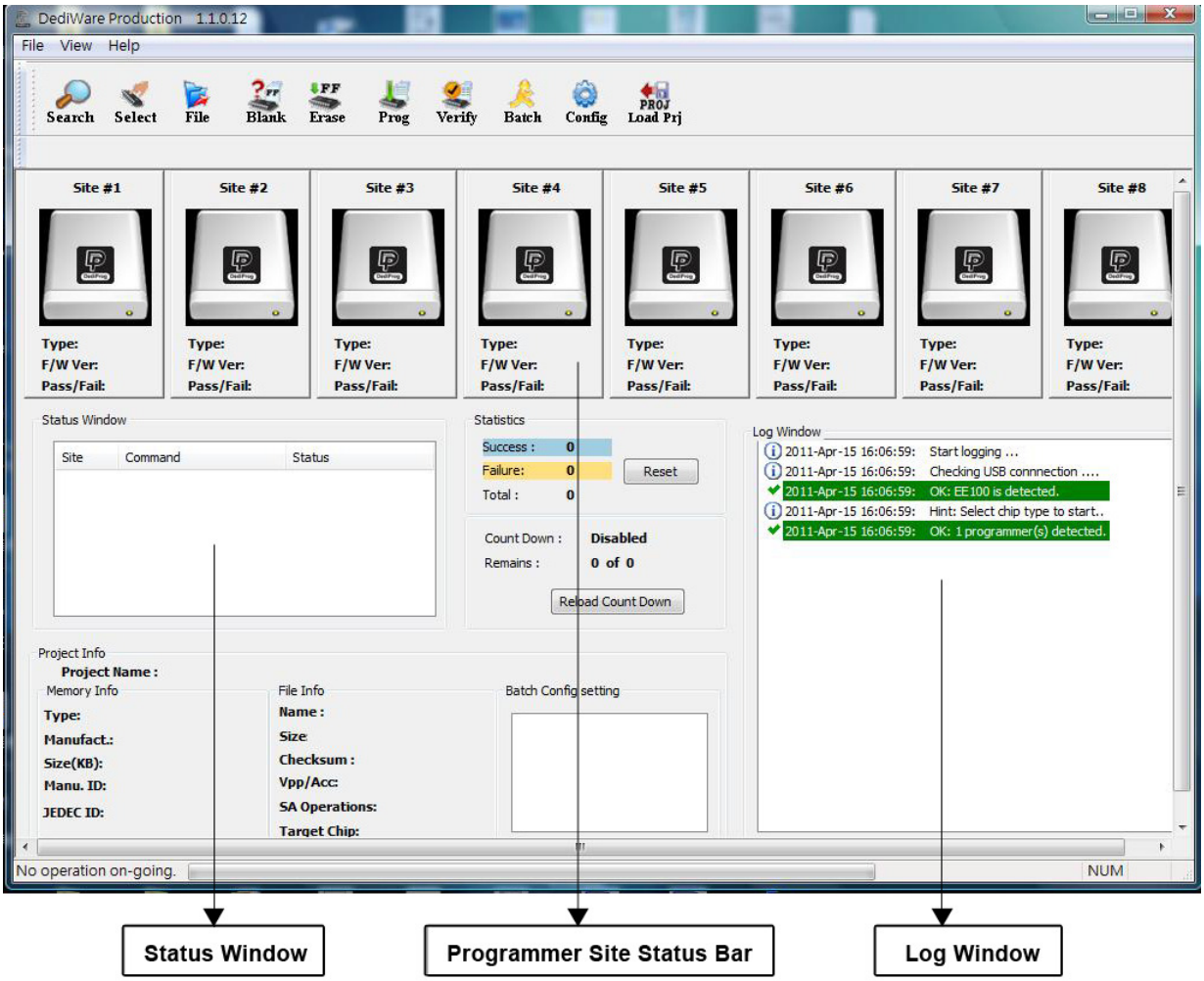
Multi-Programmers Capability

A. Main GUI

In order to run production GUI, USB plug in of all the intended programmers is required prior to opening the software. It is not recommended to add (plug in) or reduce (unplug) any number of programmers when the software is already opened.

The production software does not provide auto chip detect feature and therefore “programmer search” and “chip select” are required prior to any other operations.

The production GUI manual will only illustrate the items not covered by the engineering GUI. Therefore function explanations such as Program, Erase, Blank check, etc will not be repeated here.

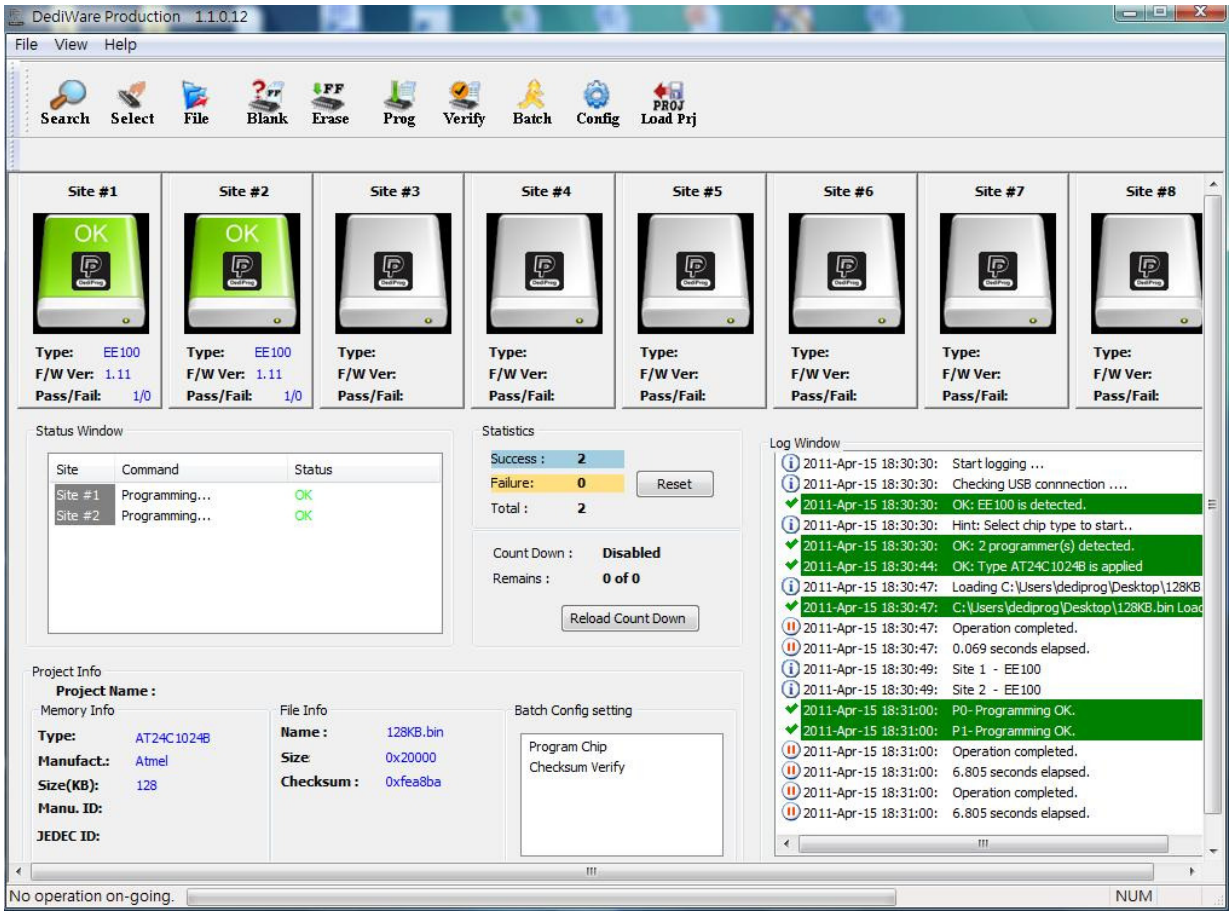


1. Search and Select

When click on “search”, the software will try to detect all the connected EE100 by default. Users have option to search other programmer models if the plugged-in programmers are not EE100.

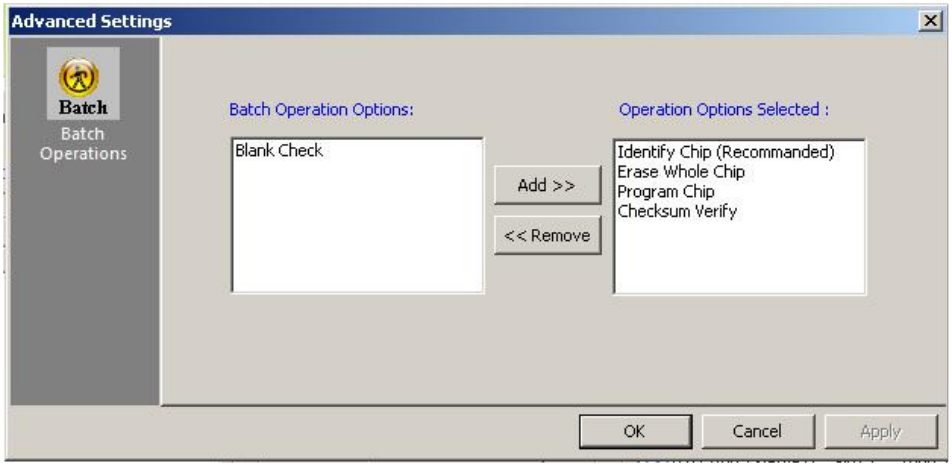
The searched programmers will be listed along with site number. The site number is given by the Window OS randomly and therefore users can use the “blink” and “up” and “down” button to adjust the real sequence of the connected programmer. When click on “blink”, the connected programmer will blink on its green LED once. Users can use this feature to locate the programmer associated with its site number. Dediprog will write a serial number in the hardware before shipping out and the serial number will be displayed in the following screen snapshot.

After the search step and the to-be-programmed chip is selected, the main GUI will have updated information on the Programmer SITE Status bar, the status window and the log window.



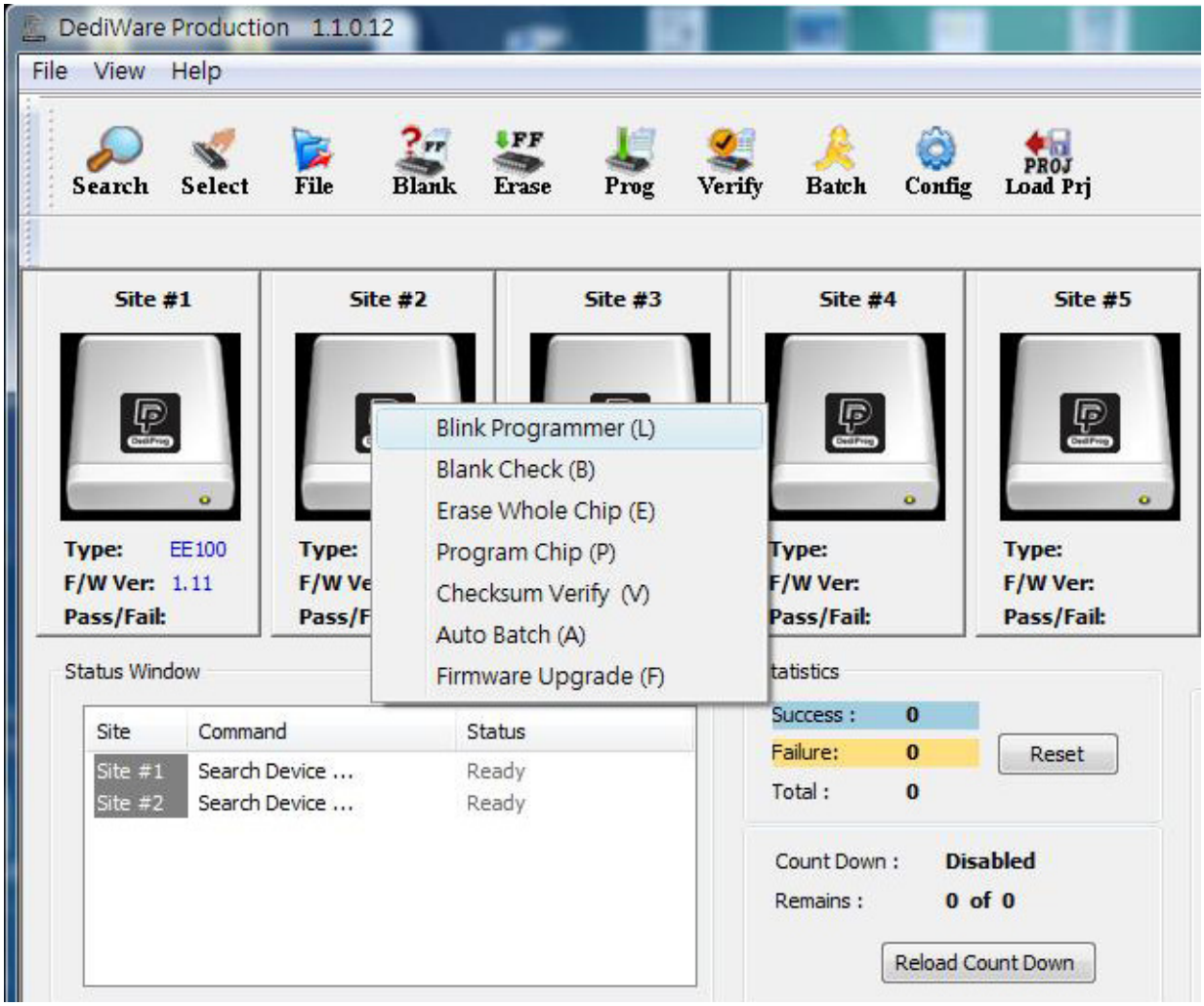
2. Batch Config

By clicking on the “config” icon, users will have access to configure the batch setting.



3. Single Site Programming

By click on the right mouse button after pointing to a specific Programmer Site number, users will have the access of programming options to the pointed programmer site.



V. Dediprog Window DOS Command Line

A. Introduction

The window command line has been designed to control our programmer from another software. This feature will be convenient to synchronize the two software in development or control the chip programming in production line via the testing software (ICT test).
To get more information about these methods please contact DediProg.

Window DOS command

B. How to Start

Dediprog window dos command line software is executed by the file "DWCMD.exe." There are three different ways to run the dos command line.

1. Double click on the "DWCmd" icon on your desktop and type in DWCmd and enter.
2. Change your dos directory to the same location where "DWCmd.exe" is located. C:\program files\dediprog\FlashProgrammer

3. Type in the following command to auto direct the DWCmd command to the "DWCmd.exe" location.
   Set path=%path%;"c:\program files\dediprog\FlashProgrammer"

C. Basic Usages

DWCmd --type 93LC56B --wf bio.bin

D.Basic Switches

-? [--help]	show this help message
--list	print supported chip list
--type arg	Specify a chip type - use --list argument to look up supported type.
-b [--blank]	blank check
-e [--erase]	erase entire chip
-r [--read] arg	read chip contents and save to a bin/hex/s19 file - use STDOUT for the console.
-p [--wf] arg	write chip with file
--wd arg	write chip with input data
-s [--sum]	display chip content checksum
-f [--fsum] arg	display the file checksum - needs to work with a file
--blink arg	- 0 : Blink green LED 3 times from USB1 to USBn (Default)
--device arg	(work with all Basic Switchs) - 1: activate only the programmer connected to USB1 - n: activate only the programmer connected to USBn note: if "--device" is not used, the command will be executed on all connected programmer.
--fix-device arg	Fix programmer serial number with programmer sequence. - instructions must be enclosed in double quotation marks("") Example: dwcmd --fix-device "1 DP000001"

E. Optional Switches

(specify the following switches to change default values):

-i [--silent]	supress the display of real-time timer counting - used when integrating with 3rd-party tools(e.g. IDE)
-v [--verify]	verify checksum file and chip - works with --wf only
-a [--addr] arg	starting address(e.g. 0x1000), - works with --wf/wd/read/sum only - defaults to 0, if omitted.
-l [--length] arg	length to read/write in bytes, - works with --wf/read/sum only - defaults to whole file if omitted

-t [--timeout] arg	(=300) Timeout value in seconds
--vcc arg	specify vcc 3, 5V 2, 3.5V (Default) 1, 1.8V
--clk arg	specify frequeny 4, 1.2 MHz (SPI EEPROM Only) 3, 1MHz (SPI EEPROM Only) 2, 700KHz 1, 300KHz 0, 100KHz clk setting must follow with --type. clk setting is optional.
--log	write operation result into file "%appdata%\dedip rog\log.txt"

F. Programmer order setting

EE100 Successively order setting
dwcmd△--fix-device△"1△dpxxxx"
dwcmd△--fix-device△"2△dpxxxx"
(dpxxxx is the programmer serial number printed on the back side of the programmer)

Check the setting
dwcmd△--blink△1
dwcmd△--blink△2

Multi programmers with ONE programming file set up method
dwcmd△--type△cat24c16△–p△d:\123.bin△–v

Multi programmers with MULTI programming files set up method
dwcmd△--device△1△--type△cat24c16 △–p△d:\123.bin△–v
dwcmd△--device△2△--type△cat24c16△–p△d:\456.bin△–v

※△ represent SPACE

VI. Revision History

Date	Version	Changes
2010/02/4	V 1.0	First released

For more information please contact us or your motherboard suppliers.

We also recommend motherboard makers to enter in contact with our technical team to create a dedicated document that will take into consideration all your motherboard updating constraints and references. This documentation will then be very helpful to simplify the Bios update and avoid any mistake in the field.

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