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INTRODUCTION

Please check the **WICE-M4** provided with above accessories.

If there's something missing, please contact the distributors you purchased the **WICE-M4** as soon as possible.



USB ROM
Emulator



USB cable



Reset signal line



S/W &
Operation CD-R

WICE-M4 is a ROM emulator with USB interface. It is very small, light, portable and power saving.

WICE-M4's GUI operation software is very simple but with powerful function. By the USB connecting to PC, provides prompt and smart response. It can connect to 4 pieces of **WICE-M4** to emulate 16M devices. Users can monitor 4 emulators simultaneously in the same operation window. It also able to plug directly in the IC socket, eliminating noise, fan out, and time delay caused from cable.

Specifications

Physical Dimension

Dimension: 4.5 x 4 x 2 cm

Weight: 30gs

Operative temperature: +5°C ~ 45°C

Operative humidity: up to 90% non-condensing

INTRODUCTION

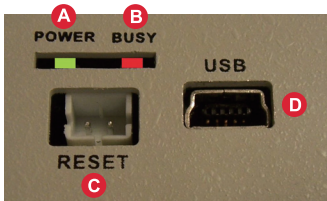
System requirements

Operating System: Windows 98(OSR2)/ME/2000/XP
Processor: above Pentium pro
Memory: 128MB RAM above
Hard disk: 128 MB above
Communication Interface: USB ver1.1

Supported Devices

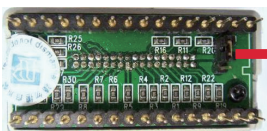
| Capacity | | | Device | Low voltage |
|----------|---|---|--------|-------------|
| 2K | x | 8 | 2716 | - |
| 4K | x | 8 | 2732 | - |
| 8K | x | 8 | 2764 | - |
| 16K | x | 8 | 27128 | 27LV128 |
| 32K | x | 8 | 27256 | 27LV256 |
| 64K | x | 8 | 27512 | 27LV512 |
| 128K | x | 8 | 27010 | 27LV010 |
| 256K | x | 8 | 27020 | 27LV020 |
| 512K | x | 8 | 27040 | 27LV040 |

Appearance of WICE-M4 (Front):



- A. POWER
- B. BUSY : Light when loading data or sending signal.
- C. RESET : After loading data, user can connect WICE-M4 with reset wire and send high or low signal to reset DUT.
- D. MINI USB : Connect WICE-M4 to PC

Appearance of WICE-M4 (Back):



Jumper for emulating 28PIN or 32PIN device.

a. Jumper for emulating 28pin device

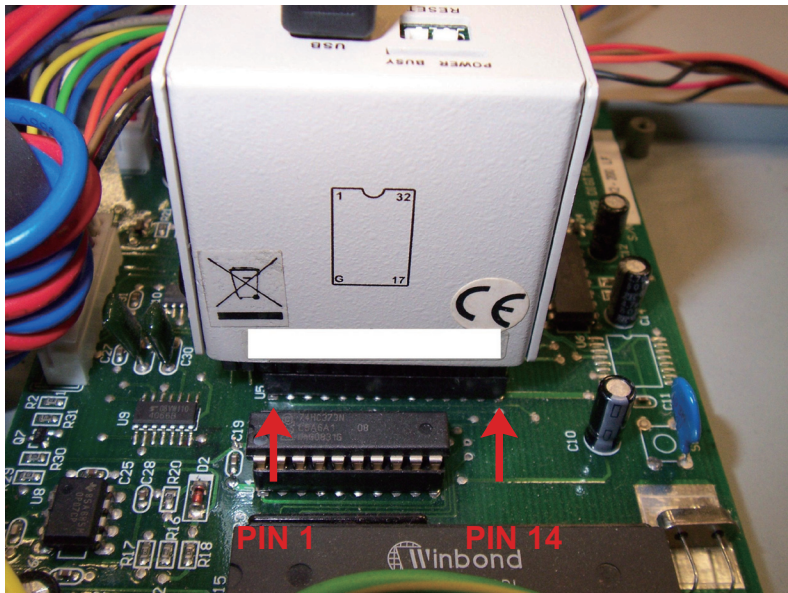
b. Jumper for emulating 32pin device

c. Pin definition for emulating 28pin device

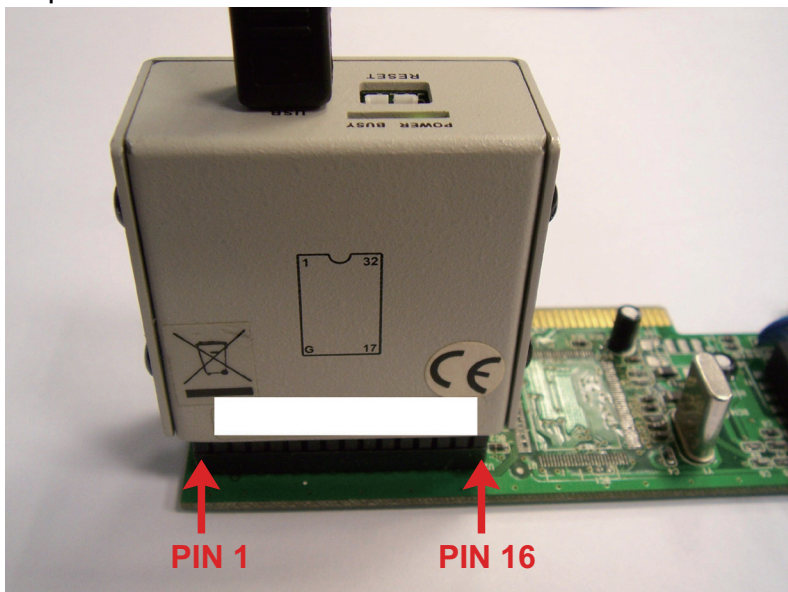
d. Pin definition for emulating 32pin device

INTRODUCTION

28 pin device



32 pin device



INTRODUCTION

- Before insert WICE-M4 to PCB, make sure the direction of the PIN assignment is correct. Otherwise, it may damage the PCB.

Data File Format

Binary, Motorola HEX, Intel HEX...

Precautions

- WICE-M4 is a 4M ROM emulator. Each can only emulate 4M but not above.
- The most suitable display of the USB ROM Emulator software is small font (96dpi). Please confirm the [Font Size] of Windows has been set as small fonts to bring you the optimal operation menu.
- Recommend using the computer with internal USB port built-in, but not external appended to. Because the external USB Card might cause problems on running WICE-M4. If there's any damage caused by users using external USB Card, LEAP Electronic Co., Ltd won't be responsible for the damages or losses.
- When connecting 4 WICE-M4 simultaneously, recommend to use USB HUB with power plugged in.
- If there's any problem on using WICE-M4 and the service persons can't help you to solve it on line, please send it back to LEAP or distributors worldwide you purchase it from for repairing. Do not try to disassemble and repair it by yourself. Otherwise, LEAP Electronic Co., Ltd won't be responsible for the damages or losses or offer the free products repair services.
- LEAP Electronic Co., Ltd won't be responsible for the damages or losses caused by user inappropriate using WICE-M4. Neither the free products repair services.

GETTING READY

This section contains information about things you need to know about and do before trying to use the **WICE-M4**. Includes the installation of USB ROM Emulator software and hardware USB driver.

Insert the s/w and manual CD-ROM attached into computer. Install the programming software first and then connect the writer to computer and start up the hardware USB driver.

Please follow below installation illustrations to install software and driver.

Install Programming Software

1. If your computer supports Auto-Run, it will start up the installation program when you insert the CD-R into it. Please follow the Wizard to complete programming software installation.
2. If your computer doesn't support Auto-Run, please click the installation program (Setup.EXE) in the CD-R or the subdirectory where the installation program is in.

Install Hardware USB Driver

1. Take out the WICE-M4 main unit from the cartoon. Check if the power switch is turn off.
2. Use the USB cable to establish the connection between the computer and the WICE-M4 .
3. Connect the power switching converter to the WICE-M4 . Then plug in the power converter (not to turn on the power yet). Check if the USB cable and power are connected correctly.
4. Now, turn on the power of the WICE-M4 . The green light on the converter and the power light on the WICE-M4 should be lighted up.

GETTING READY

5. Installing hardware USB driver is different according to the OS of the computer is Windows 98, ME, 2000 or XP.

The driver for **WICE-M4** is enclosed in the CD-R. The subdirectory is:

[CD-R: \USB_Driver\USBWrite.inf]

If you have installed the programming software, you can also find the USB driver in following subdirectory where you the software installed.

[C:\Program Files\Wice_M4\USB_Driver\USBWrite.inf]

- If you are running Windows 98 or ME...
 - Follow Step 6 to install USB driver.
 - Note that the example installation presented here uses Windows 98.
- If you are running Windows XP, you do not need to install the USB driver manually.
 - Follow Step 7 to install USB driver.
 - Note that the example installation presented here uses Windows 2000.

6. Install USB drive on Windows 98 or ME

Please get into **[Control Panel]** to open **[Add New Hardware Wizard]** to install manually.

- Click **[Add New Hardware]**. Follow the **Hardware Add Wizard** (Search the most suitable driver) to complete installing **WICE-M4**.
- If Windows can't find the driver in last step, please select the second option to find out the driver by yourself. The driver is in the subdirectory

[CD-R: \USB_Driver\USBWrite.inf]

GETTING READY

- If Windows still can't find the driver in designate location, please click **[System]** and check if there's any new USB device (**WICE-M4**) in **[Device Manager]**.
 - If there's a question mark or exclamation mark in front of **WICE-M4**, that means the computer can't find its driver. Please double click the left button on it. Select Reinstall Driver in **General** label to install USB driver. The driver is in the subdirectory **[CD-R: \USB_Driver\USBWrite.inf]**
 - If there's nothing in front of **WICE-M4**, that means the emulator has been drove. You can start to use it.
- You need to perform this step only once, the first time you connect the **WICE-M4** to your computer.

7. Install USB driver on Windows XP

When you turn on the power of the **WICE-M4**, there's message window showing that the computer has found a new USB Plug-and-Play hardware and starts to install the USB driver.

- **Add New Hardware Wizard** will ask you how to search the driver. Please select the auto search (default).
- Where to find the driver? Please select the CD-ROM Drives.
[CD-R: \USB_Driver\USBWrite.inf]
If you had installed the programming software, you can also find the driver in subdirectory where the software installed.
[..\Wice_M4\USB_Driver\USBWrite.inf]
- Please make sure the version of Windows XP had been updated and newer than Service Pack 1 above. Otherwise, it may not be able to work successfully with WICE-M4.
- You need to perform this step only once, the first time you connect the WICE-M4 to your computer.

8. Why I can't find the emulator hardware?

- Check if the light on the emulator is lit on.
- Please confirm if your Windows version supports USB Plug-and Play device.

GETTING READY

- Please check if the USB cable has established the connection between the **WICE-M4** and the computer correctly.
- If auto searching still can't find the driver, please go to the subdirectory [USB_Driver] in CD-R to install driver manually.

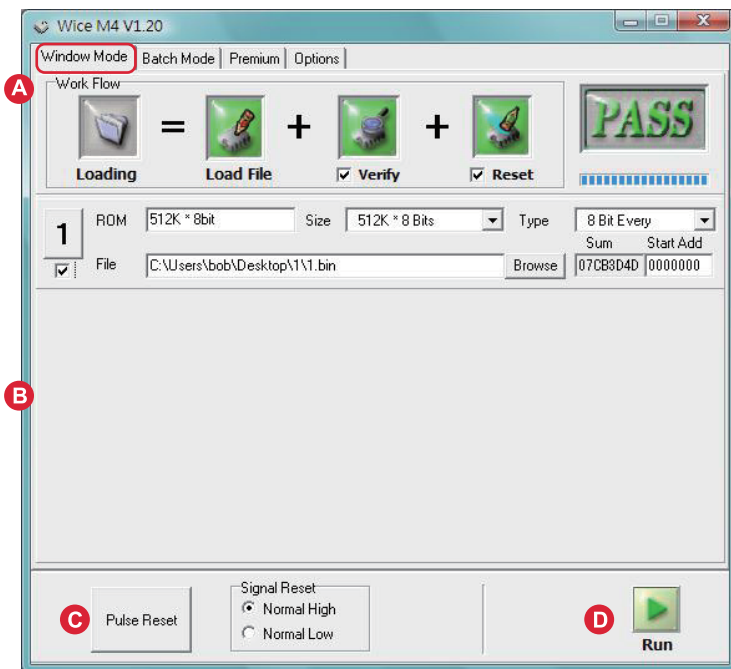
Complete installing hardware USB driver and **WICE-M4** software, you may start to use **WICE-M4**.

If there's showing a message window as follows when you run the **WICE-M4** software, that might has several reasons. Such like the USB driver hasn't been installed, the power isn't turned on or the USB cable or power cord doesn't connect properly. Then the software will only be ran in DEMO mode.

WINDOW MODE

This section describes operation menu and option function.


If you have connected a WICE-M4 to PC and open the WICE-M4 operation software, you can see below display. The status column on the top-right shows **[PASS]**. And you can see the information of emulator 1 (2, 3, 4).



But if you haven't connected WICE-M4 to PC, the status column will show **[FAIL]**. And you can't see any emulator.

The operation software can detect WICE-M4 hardware automatically.

(A) Work Flow

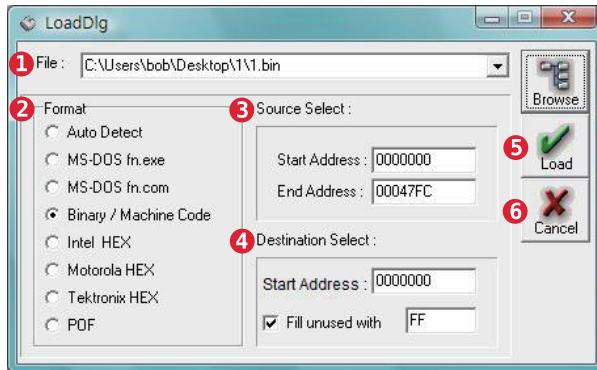
1. **Loading**: the action will be done when users click **[Run]** 
2. **Load File**: to load file from the location users select in **[Work File]** of Emulator #1 (2, 3, 4)
3. **Verify**: to verify the selected **Work File** with data loaded in buffer area
4. **Reset**: to reset the DUT


WINDOW MODE

(B) Emulators #1 (2, 3, 4)

1. **ROM:** memory size of emulator
2. **Data Size:** the size of the **Work File**
3. **Even / Odd:** the mode to load the Work File
4. **Work File:** the location of the file which is being loaded to emulate

Browse



- ① **File:** the filename and location of the **Work File**, you can just input the source filename and exactly location to load the data. Or you can click  to find the file.
 - ② **Format:** the format of the **Work File**, the emulating system supports 7 kinds of format. If you are not sure the format of the file, you can just select [**Auto Detect**] to detect it automatically by system.
 - ③ **Source Select:** set the range of the **Work File**, You can set the start and end address to limit the file area.
 - ④ **Destination Select:** set the start address of the buffer and emulator, the file loaded will be wrote from the start address
Fill unused with [XX] fill the empty space with xx, you can define [xx] (any value) to fill the empty space while loading file. The default value is FF (blank)
 - ⑤ **Load:** confirm to load file into buffer area with selected settings
 - ⑥ **Cancel:** abandon loading file
- ※ Item ② 、 ③ 、 ④ depends on user's demand but not necessary.

5. **Sum:** Check Sum value of the Work File, is showed after clicking **RUN**
6. **Start Add:** shows the start address when loading the **Work File**

WINDOW MODE

(C) **Pulse Reset** reset by sending high or low pulse signal (depends on what the **Signal Rest** selected)

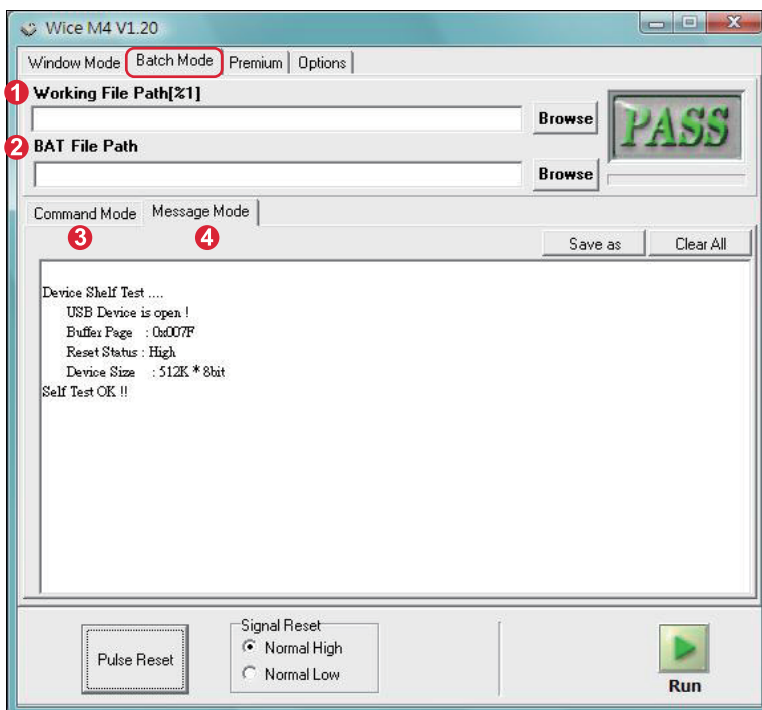
Signal Reset: to reset by sending high or low signal continually, when ever click the circle, it acts immediately

(D) **RUN**

To execute loading procedure in **Work Flow**

BATCH MODE

You can also operate WICE-M4 in Batch Mode with batch commands.



1. **Working File Path[%1]**: the location of the **Working File**.

2. **BAT File Path**: the location of the **Batch File**.

3. **Command Mode**: shows the content of the **BAT File** loaded. Users also can input batch commands here directly or revise the **BAT File**.

Save as: save the batch commands

Clear All: clear all commands displayed on the command window
× About WICE-M4 commands see section **[Batch Commands]**.

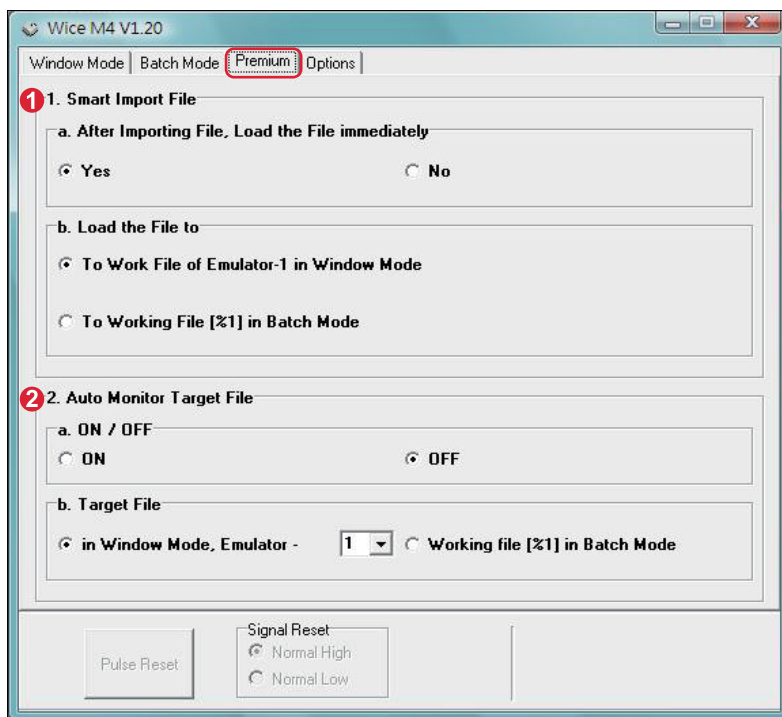
4. **Message Mode**: shows the information of WICE-M4, includes connecting status, settings and self test the hardware status

Save as: save the messages as a new file

Clear All: clear all messages displayed on the message window

PREMIUM FUNCTIONS

Premium functions for users to load files and emulate ROM conveniently.



1. Smart Import File

WICE-M4 offers 2 smart ways to load **Work File** and run quickly.

After installed WICE-M4 software, you can find

- In File Manager, you can select one file and click the right button. You can see there's a new item on the SendTo menu bar-WICE-M4. You can click on it to send the file selected to WICE-M4 and the path of the file will be recorded in operation software.
- There'll be a WICE-M4 icon on the Windows desktop. Users can just select any file which is also on the desktop and pull it to WICE-M4 icon. Then the file selected will be sent to WICE-M4 and be recorded.

PREMIUM FUNCTIONS

a. After Importing File, Load the File immediately:

While WICE-M4 is importing **Work File** by above smart ways, whether it should load the file immediately?

Yes: load it into buffer area in **Window Mode/Batch Mode**.

No: just show the filename and path of the **Work File** but not to load it now.

b. Load the File to

After smart importing file, put it to...

To Work File in Window Mode Emulator-[1, 2, 3, or 4]

To Working File [%1] in Batch Mode

2. Auto Monitor target file

When the target file changed, whether WICE-M4 should notice users? But if the target file deleted or the filename changed, it will show err message.

a. ON / OFF

ON: notice and ask if it should reload the file

OFF: do not notice

b. Target File (Working / Work File)

Because users can load different file in **Window Mode** and **Batch Mode**, you need to assign which one is the target file that is be monitored.

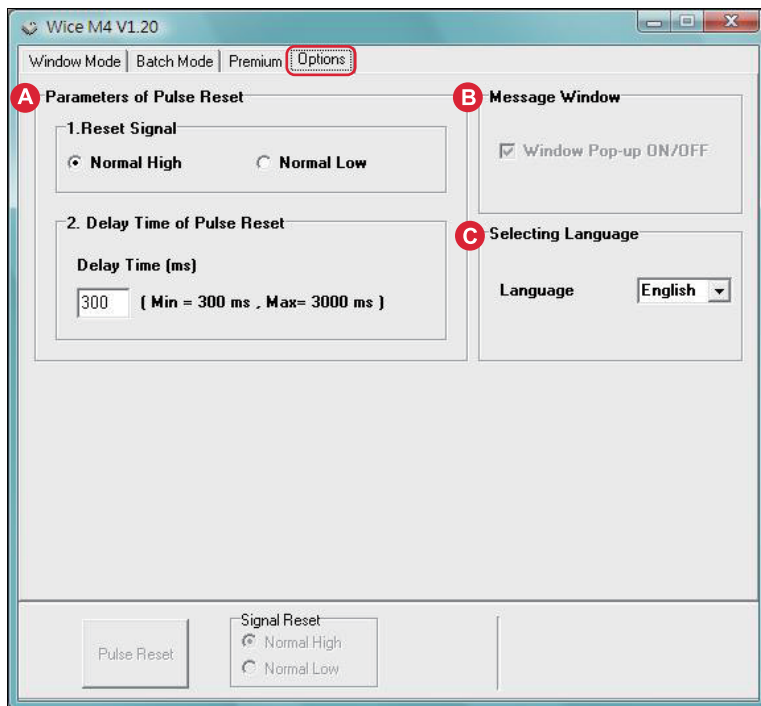
in Window Mode Emulator – [1, 2, 3, 4]:

assign the **Work File** in **Window Mode** as the target file

Working file [%1] in Batch Mode:

assign the **Working File** in **Batch Mode** as the target file

OPTIONS



A. Parameters of Pulse Reset

1. Reset Signal

Normal High: reset by sending high signal continually

Normal Low: reset by sending low signal continually

2. Delay Time of Pulse Reset

Users can set the delay time of **Pulse Reset**

(Min = 300 ms, Max = 3000 ms)

B. Message Window

When the target file changed, or find a new USB emulator, there'll show up a message window at the bottom-right to notice users.

C. Selecting Language

WICE-M4 currently offers 2 languages (English & Traditional Chinese) to choice.

BATCH COMMANDS

WE [d:] [File Path] [FileName]

[/ File Format]

[/ Type]

[/ Nn]

[/ # 1] [/ # 2] [/ # 3] [/ # 4]

[/ EVEN] [/ ODD]

[/ RESET]

[/ Snnnnnnnn]

[/ V]

※ Both capital and small letters are allowed.

| |
|--|
| WE |
| The prepositive command of WICE-M4 commands. |

When users operate WICE-M4 in **Batch Mode**, there're some WICE-M4 commands cab be used. The “**WE**” is the prepositive word of any command.

| |
|--|
| [d:] [File Path] [FileName] |
| The filename and location of the Working File . |

Users can also use %1 to substitute for the filename of the **Work File**.
When import file by pulling file icon or clicking right button (see **PREMIUM FUNCTIONS**), users can write %1 in batch file for convenience.

If you never load file to WICE-M4, there'll show error message.

BATCH COMMANDS

[/ File Format]

The format of the **Working File**.

Default is Auto Detect.

WICE-M4 currently supports 6 kinds of format.

[/MS_DOS_FN.EXE]

[/MS_DOS_FN.COM]

[/BIN]

[/INTEL_HEX]

[/MOTOROLA_HEX]

[/TEKTLONIX_HEX]

[/ Type]

The type of the devices being emulated with.

Default is Auto Detect. According to the file size of **Working File**, system selects the suitable type.

WICE-M4 supports 10 types of IC.

| | | | | | | |
|----------|----|------------|---|-------|---|-------|
| [/16] | or | [/2716] | = | 2K | x | 8Bits |
| [/32] | or | [/2732] | = | 4K | x | 8Bits |
| [/64] | or | [/2764] | = | 8K | x | 8Bits |
| [/128] | or | [/27128] | = | 16K | x | 8Bits |
| [/256] | or | [/27256] | = | 32K | x | 8Bits |
| [/512] | or | [/27512] | = | 64K | x | 8Bits |
| [/010] | or | [/27010] | = | 128K | x | 8Bits |
| [/020] | or | [/27020] | = | 256K | x | 8Bits |
| [/040] | or | [/27040] | = | 512K | x | 8Bits |
| [/080] | or | [/27080] | = | 1024K | x | 8Bits |

[/ Nn]

Load assigned block of **Working File** to.WICE-M4.

If the file size exceeds IC type, the file will be cut into several block (block size=IC size). [/ Nn] is used to load the number **n** block to WICE-M4.

BATCH COMMANDS

| |
|---|
| [/ # 1] [/ # 2] [/ # 3] [/ # 4] |
|---|

| |
|---------------------------------------|
| Load Working File to emulator. |
|---------------------------------------|

Default is emulator #1.

WICE-M4 can connect 4 emulators at the same time. So users can choose to load **Working File** to emulator #1, 2, 3 or 4..

| |
|----------------------|
| [/ EVEN] [/ ODD] |
|----------------------|

| |
|---|
| The method of loading Working File . |
|---|

Default is 8 Bit Every.

Users can change different cutting method of loading **Working File**. So, if the file is over size of the emulator, users still can emulate it.

[/ 16BIT_EVEN]

[/ 16BIT_ODD]

[/ 32BIT_1ST]

[/ 32BIT_2ND]

[/ 32BIT_3RD]

[/ 32BIT_4TH]

| |
|-------------|
| [/ RESET] |
|-------------|

| |
|--------------------------------------|
| Send the reset signal after loading. |
|--------------------------------------|

Users can select the **Normal High** or **Normal Low** as reset signal.

| |
|-----------------|
| [/ Snnnnnnnn] |
|-----------------|

| |
|-----------------------------------|
| Start Address of the source file. |
|-----------------------------------|

Decide to load file from assigned address.

The start address can't exceed IC size.

| |
|---------|
| [/ V] |
|---------|

| |
|---|
| Verify Working File with buffer. |
|---|

After loading, users can check if the data in buffer area is the same with **Working File**.