



MiDAS Family

Application Note #015 (AN015-V20)

AN

[MiDAS 2.0/2.1/AFCore1.0/RoboCore1.0] How to Use ISP with GenICE52

V2.0

January 2006

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- ◆ Introduction

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PART I : How to Use ISP (In-System Programming)

- ◆ Procedure

1. Procedure

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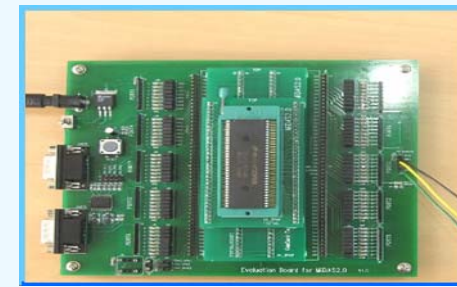
1. Set up the GenICE52 system, target system board and PC.
 - 1) ROM Writer Program on PC Host



[ROM Writer Program on PC Host]



[GenICE52 system]



[Target system board]

2. Set up Accessories

- 1) Serial cable
- 2) ISP connector
- 3) Power adaptor (5V~9V, 3A)

Serial Cable



ISP connector



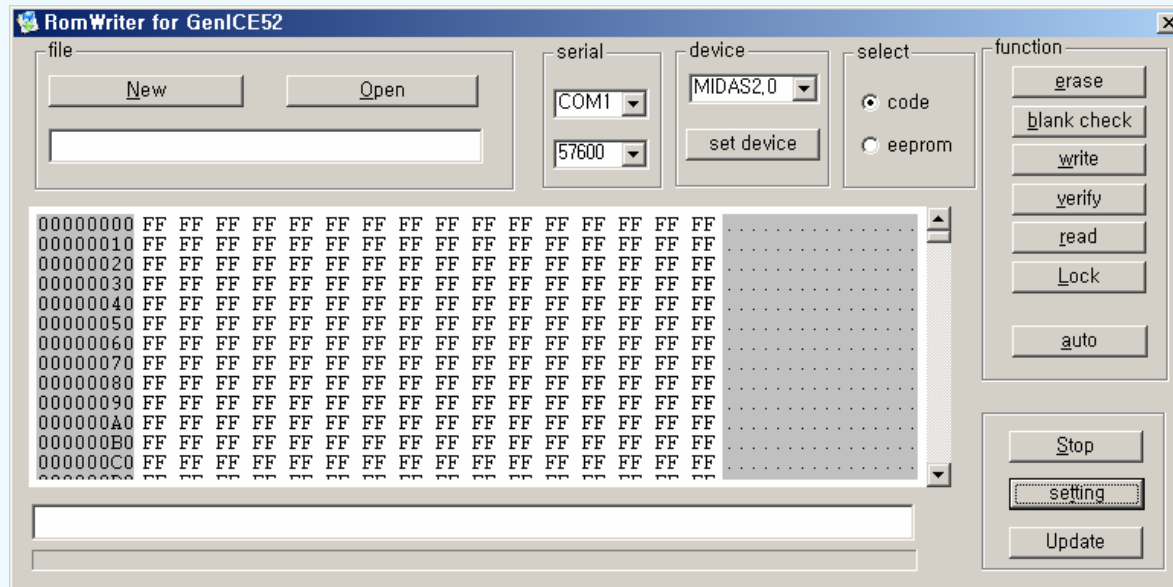
Power Adaptor
(SMPS, 5V~9V, 3A)



1. Procedure

(2 of 6)

3. Connect the GenICE52 system to host PC with serial cable
 - 1) Check that Power Switches of the GenICE52 systems are **OFF**.
4. Power on the GenICE52
5. Run the ROM Writer



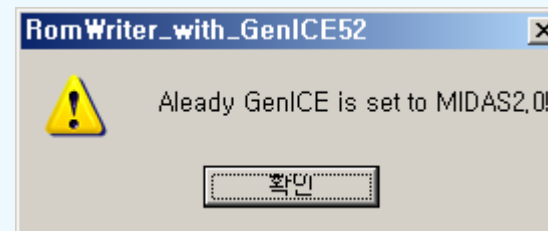
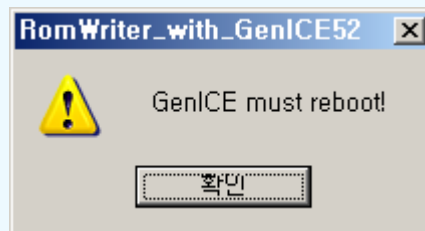
1. Procedure

(3 of 6)

6. set serial baud rate like below, and select which device you want to use.
serial = COM1, 57600 (default) device = what you want



- 1) push [device] button, and you can see the message "GenICE must reboot". if the GenICE has already selected with what you want, it says "already is set".



- 3) Reboot the GenICE52 system
- 4) You should change the option whenever the target device has changed.

1. Procedure

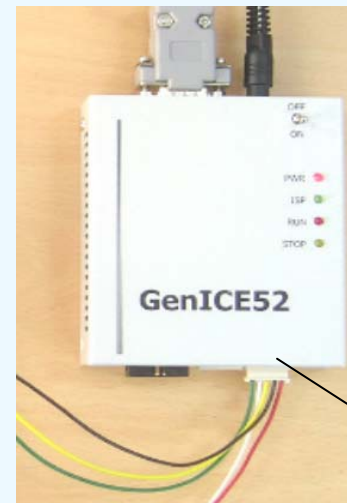
(4 of 6)

7. Connect the cable of GenICE52 system to ISP connector for MCU of target system.
 - 1) Check that Power Switches of two systems are **OFF**.
 - 2) Connect the 4 Signals : **GND**, **SCK**, **PSENB** and **SDA** except of **VDD(+3.3V)**

Target System Board



GenICE52 System



Program & Debugger Cable

[\[ISP Pin Configuration In GenICE52/MiDAS2.0\]](#)

- V_{DD} (+3.3V)
- V_{SS} (GND)
- SCK (P0.2)**
- PSEN (P1.2)**
- SDA (P2.1)**

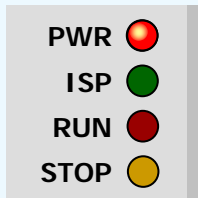
[\[ISP Pin Configuration In MiDAS2.1/AFCore1.0/RoboCore1.0\]](#)

- V_{DD} (+3.3V)
- V_{SS} (GND)
- MDS_SCL (P0.2)**
- RESETB (P1.2)**
- MDS_SDA (P2.1)**

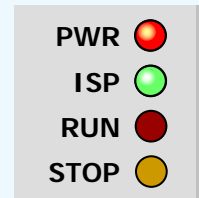
- In MiDAS2.1/AFCore1.0/RoboCore1.0 Ensure connect PSEN to RESETB pin and VDD.
- ✳ You should not connect VDD using MiDAS 2.0

8-1. First, power on the systems as below. (MiDAS 2.0 Family)

1) First, power on the GenICE52 system.



2) And power on the target system board.



3) Check the ISP ready is **ON**.
If not ON, please retry.
Or check the connection.

※ In case of MiDAS2.0, power on the GenICE52 before the target board does.

8-2. Power on the GenICE52 system. (MiDAS 2.1 / AFCore 1.0 / RoboCore 1.0)

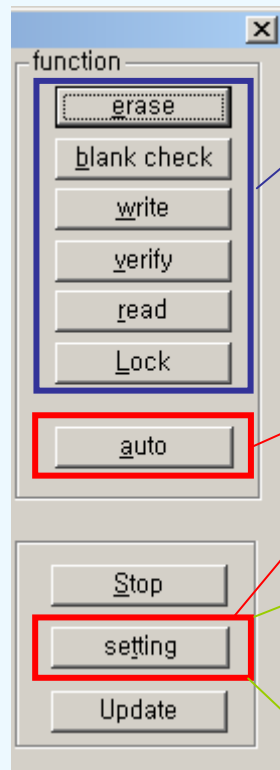
9. Load the HEX File using tool button “Open”.

10. Select the buffer mode for Commands (Blank, Write, Verify, Read, Lock, and Auto)

- ✓ Code (62K : 0000h ~ F7FFh)
- ✓ EEPROM (2K : F800h ~ FFFFh)

11. User can modify the HEX code.

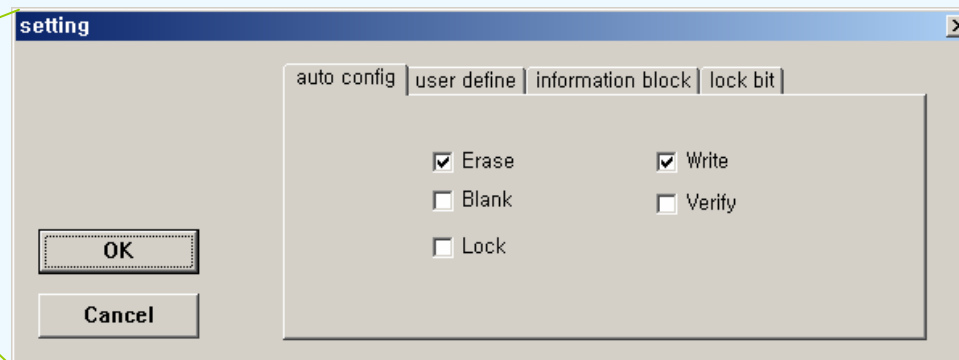
11. How to Program the MCU Device : Total 2 Methods

**[Method 1] step by step using "Tool Buttons"**

- 1) Press the button "Erase", and check the result.
(User Must execute "Erase" Command before "Write" Command.)
- 2) Press the button "Blank", and check the result.
- 3) Press the button "Write", and check the result.
- 4) Press the button "Verify", and check the result.
- 5) Press the button "Lock", and check the result.

[Method 2] using "Auto Burning"

- 1) Set the "Auto" burning options using tool button "Setting/Auto Config".
- 2) Press the button "Auto", and check the result.

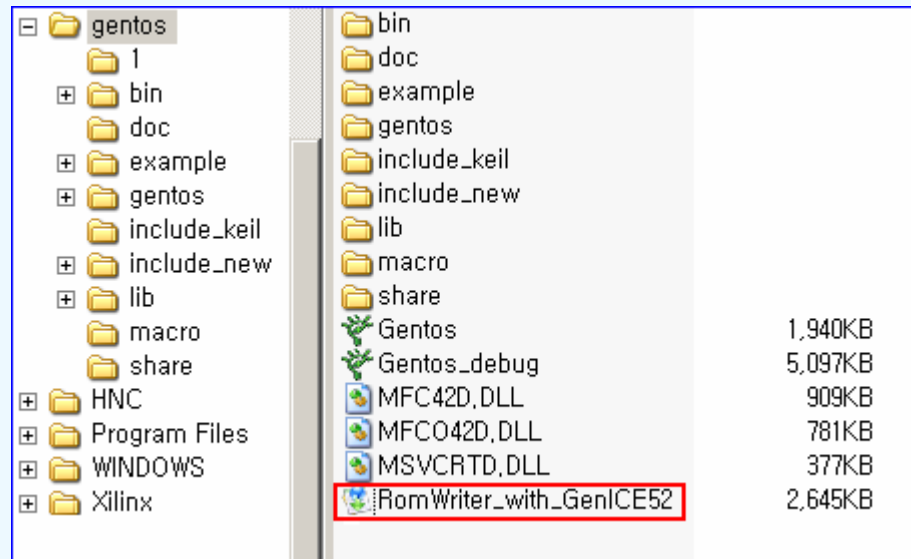


PART II : ROM Writer S/W

- ◆ How to Download the Program
- ◆ Introduction : Program & Toolbar

1. How to Download the Program

1. Download the program "GENTOS" from the "Support/Download Page" of CoreRiver Homepage (www.coreriver.com).
2. Install the program "GENTOS". (Default Directory : C:\gentos)
3. ROM Writer Program
 - ✓ ROM Writer S/W : RomWriter_with_GenICE52.exe
 - ✓ ROM Writer H/W : GenICE52 MDS Equipment



Note : ROM Writer Program for MIDAS2.0 is appended to GENTOS V2.5 (or upper version).

1. How to Download the Program

4. ROM Writer S/W using GenICE52 system supports MiDAS 2.0 Family.

- ✓ 44-PLCC & TQFP : GC89C591G0-PL44C / TQ44C (MiDAS2.0 – G Type)
GC89C591A0-PL44C / TQ44C (MiDAS2.0 – A Type)
- ✓ 64-SPIDP & TQFP : GC89C591A0-SP64C / TQ64C (MiDAS2.0 – G Type)
- ✓ 80-TQFP : GC89C591A0-TQ80C (MiDAS2.0 – G Type)
- ✓ 100-TQFP : GC89C591A0-TQ100C (MiDAS2.0 – G Type)

5. ROM Writer S/W using GenICE52 system supports MiDAS 2.1 Family.

- ✓ 32-LQFP : GC89C520A0-LQ32I

6. ROM Writer S/W using GenICE52 system supports AFCore 1.0

- ✓ 32-LQFP : AFCore1.0-LQ32I

7. ROM Writer S/W using GenICE52 system supports RoboCore1.0

- ✓ 32-LQFP : RoboCore1.0-LQ32I
- ✓ 32-MLF : RoboCore1.0-MLF32I

2. Introduction : Program & Toolbar (1 of 3)

The screenshot shows the RomWriter for GenICE52 software interface. The window title is "RomWriter for GenICE52". The interface is divided into several sections:

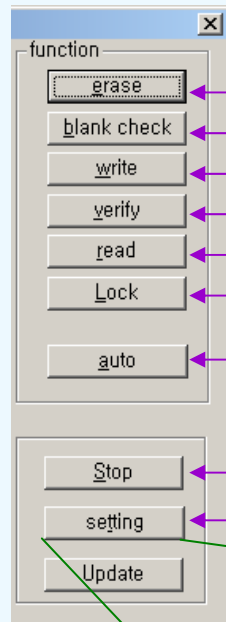
- file:** Contains "New" and "Open" buttons.
- serial:** Contains a dropdown menu set to "COM1" and a text box containing "57600".
- device:** Contains a dropdown menu set to "MIDAS2.0" and a "set device" button.
- select:** Contains two radio buttons: "code" (selected) and "eeprom".
- function:** Contains a vertical stack of buttons: "erase", "blank check", "write", "verify", "read", "Lock", "auto", "Stop", "setting", and "Update".
- Main Area:** A large text area displaying a grid of hexadecimal data. The first column shows addresses from 00000000 to 000000C0. The second column shows the value "FF" repeated for each address. The rest of the grid is filled with dots.
- Status Bar:** A green-bordered text box at the bottom of the window.

Annotations with arrows point to various parts of the interface:

- Title :** Version information (points to the window title bar)
- Initialize the buffer** (points to the "New" button)
- Load the HEX file(*.ihex; *.hex) to the buffer** (points to the "Open" button)
- Serial port setting** (points to the "serial" section)
- Set Device** (points to the "device" section)
- Select Mode :** Refer to next Slide 15. (points to the "select" section)
- Function :** Refer to next Slide 14. (points to the "function" section)
- Check or modify the buffer's data of MCU ROM** (points to the main data grid)
- See the status for checking the progression.** (points to the status bar)

2. Introduction : Program & Toolbar (2 of 3)

(2 of 3)



[Function]

Erase : Erase the buffer's data (all 64KB ROM)

Blank : Check if the MCU ROM is blank status

Write : Program the MCU ROM using HEX code in the Buffer

Verify : Verify between the MCU ROM and HEX Code in the Buffer

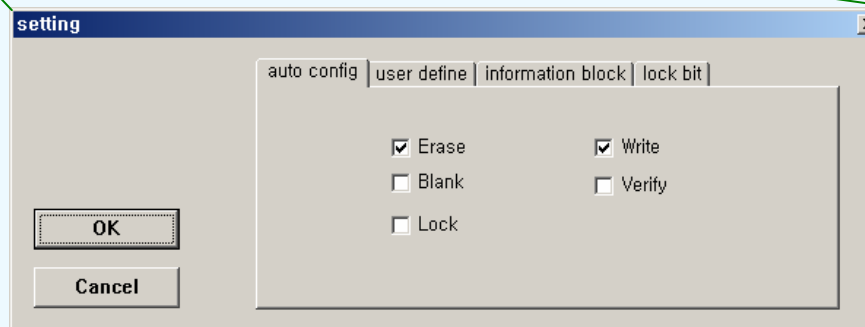
Read : Read HEX code from MCU ROM to the buffer

Lock

Auto : Auto burning according to below "Setting/Auto Config"

Stop : Stop the current progressing function

Setting : Set the "Auto Config" Option, "User Define", and "Information Block"

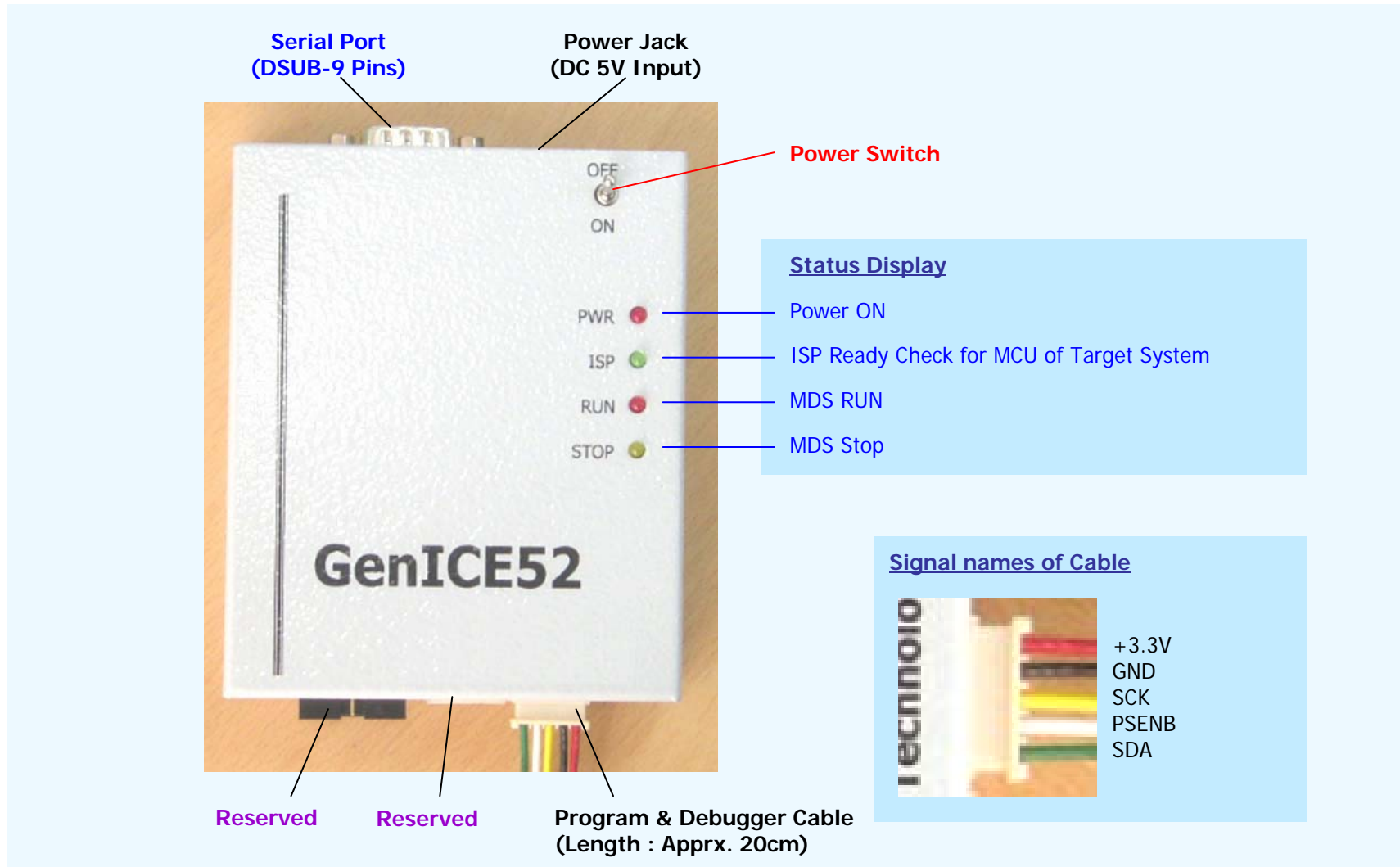


- ◆ User can set the wanted option for MCU
- ◆ Don't change the default setting of "User Define" and "Information Block" of tab menus.

PART III : GenICE52 H/W Equipment

- ◆ Introduction
- ◆ Configuration

1. Introduction



2. Configuration

- ◆ Configuration for MiDAS2.0 ISP Programming Environment



[ROM Writer Program on PC Host]

Cable
Assembly



[GenICE52 System]

- ◆ GenICE52 System supports both of debugger and ROM Downloader.

- ◆ Accessories

Serial Cable
(1.5 meter)



ISP connector



Power Adaptor
(SMPS, 5~9V, 3Ah)

