

Revision 1.1

# User's Manual

## GW-uni

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SAMSUNG MCU gang programmer

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Seminix Co., Ltd.

2ndFl. EGTel Building, #835-8

Yoksam-Dong, Kangnam-Gu, Seoul,

Korea (135-080)

Web Address : <http://www.seminix.com>

E-mail: [sales@seminix.com](mailto:sales@seminix.com)

Tel + 82-2-539-7891 Fax : + 82-2-539-7819

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## 1. Overview

GW-uni is the gang programmer for all SAMSUNG MCU with standard serial writing. The Gang programmer consists of a master unit (GW-uni) which connects to various programming adapter sockets for programming all devices with a different package. This gang programmer can program 8 devices with very fast programming speed once. It is good for mass production. A data is saved in GW-uni memory by PC so it works without PC (Stand-alone mode). User can easily set a device information by a device part number selection.

### 1.1 Features and Specifications

- 1) Support all SAMSUNG MCUs with Standard Serial Writing.
- 2) Internal Memory: 100Mbyte
- 3) GW-uni setup and initialize with PC application program.
- 4) Stand-alone operation mode without PC.  
(GW-uni should be setup by PC application program for the stand-alone mode in advance)
- 5) Program maximum 8 devices once.
- 6) Display a current state and a working state by LCD
- 7) Device selection can be set by a device part number.
- 8) Program : Data programming to a device.
  - Other functions can be worked with program option
- 9) Program Option
  - Auto Chip Erase : Erase before program.
  - Auto Verification : Verify after program
  - Read Protection : A device ROM data can't be read
  - LDC Protection : Programmed code in a device isn't read in user program mode.
  - Hard Lock : Can't program in a device and can't erase device ROM data.
  - SMART Option
- 10) Erase : Erase a device ROM data.
- 11) Verify : Compare a buffer memory data to a device data
- 12) Blank check: Check a device ROM data initialized (0xFF)
- 13) Device Checksum : Display a checksum of a device in the first socket.
- 14) Buffer Checksum : Display a checksum of GW-uni buffer memory data.
- 15) Dump : Display a device ROM data or a buffer memory data.
- 16) Read buffer : Save a buffer memory data as a PC file.(Intel hex format).
- 17) Read device : Save a device ROM data in buffer memory.
- 18) Program counter : Display the number of programmed device.
- 19) Key Lock : Restrict functions in stand-alone mode.
- 20) Password Change : Change a password
- 21) GW-uni setting information: Display GW-uni setting information

- 22) Socket State : Display each socket state
- 23) User can use the latest software with a simple upgrade.
- 24) Data download speed: 860Kbps
- 25) Program speed(average) : OTP = 2Kbps, MTP = 10Kbps
- 26) Power : 19VDC 500mA power adapter (110/220VAC[60HZ])
- 27) Operating system: Windows NT/2000/XP
- 28) Support Intel hex format, SAMSUNG hex format, Binary format.
- 29) Size: 350mm x 220mm x 35mm    Weight: 1.4kg

## 1.2 Packing Includes

- 1) GW-uni main body
- 2) USB Cable
- 3) Power adapter (19VDC)
- 4) PC Application program (CD)
- 5) User's manual (CD)
- 6) USB Driver file (CD)



**GW-uni main body**



**PC Application program  
USB Driver file  
User's Manual**



**Power Adapter and Cable**



**USB Cable**

## 2. Setup

### 2.1 Host system requirement

- 1) Over IBM Pentium PC.
- 2) Window 2000/XP/ NT OS
- 3) CD-ROM, USB port
- 4) Operating System with 20MB of free Hard disk space
- 5) Over RAM 64MB

### 2.2 To install PC application program

- 1) Insert the installation CD into CD-ROM drive on your PC or download software at SEMINIX web site. ([www.seminix.com](http://www.seminix.com)).
- 2) Execute the setup file in CD.
- 3) Install PC application program in order according to the instruction.
- 4) The program is installed at the folder "C:\Program Files\seminix\GW-uni" when the installation is finished.

### 2.3 To install USB driver

- 1) After restarting a host PC, connect GW-uni to USB port of the host PC  
Then, the PC displays " Found New hardware Wizard" dialog.
- 2) Select ' C:\Program Files\seminix\GW-uni\drives and finish the setup.

### 2.4 GW-uni Configuration

- ① Socket connection port
- ② LCD panel
- ③ Touch Key
- ④ Power switch
- ⑤ Adapter connection port
- ⑥ USB connection port



Figure 2.4 GW-uni configuration (Front/Side)

### 3. PC Application Program

#### 3.1 PC application program

- 1) Selection a device for program and send information of device to GW-uni.
- 2) Download a data for program to GW-uni buffer memory.
- 3) Set Program Option.
- 4) Program count can be cleared.
- 5) Execute Erase, Write, Verify, Blank Check, Device Checksum, Buffer Checksum, Dump and Read Buffer
- 7) GW-uni software upgrade.

#### 3.2 Hardware setup

- 1) Connect a power adapter to GW-uni and turn on the power
- 2) Connect GW-uni to PC by USB cable.
- 3) Put a adapter socket in GW-uni.
- 4) Put a device chip in a socket adapter.



Figure 3.2 GW-uni Hardware setup

### 3.3 USB Connection

- 1) Execute the application program and click the USB connection icon.

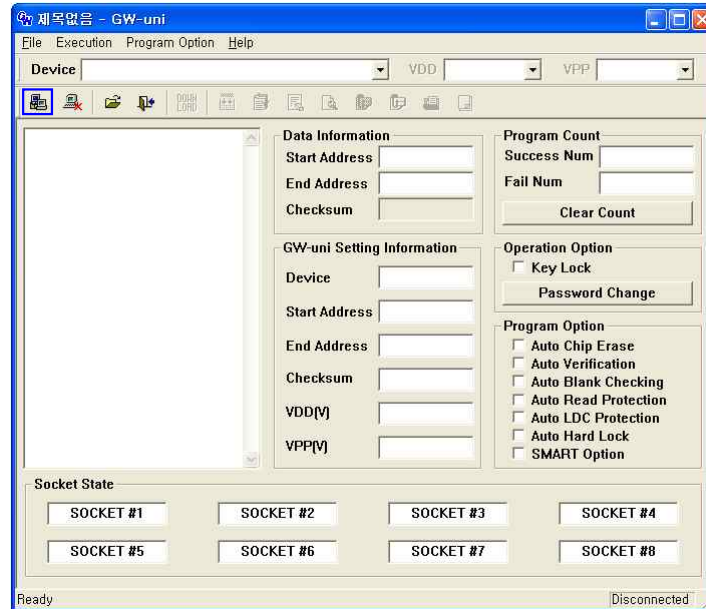


Figure 3.3.1 USB Connection

- 2) “\*\* GW-uni is connected \*\*” message and information of 'GW-uni setting', 'Program count' and 'Program Option setting' are displayed when GW-uni is connected by USB.

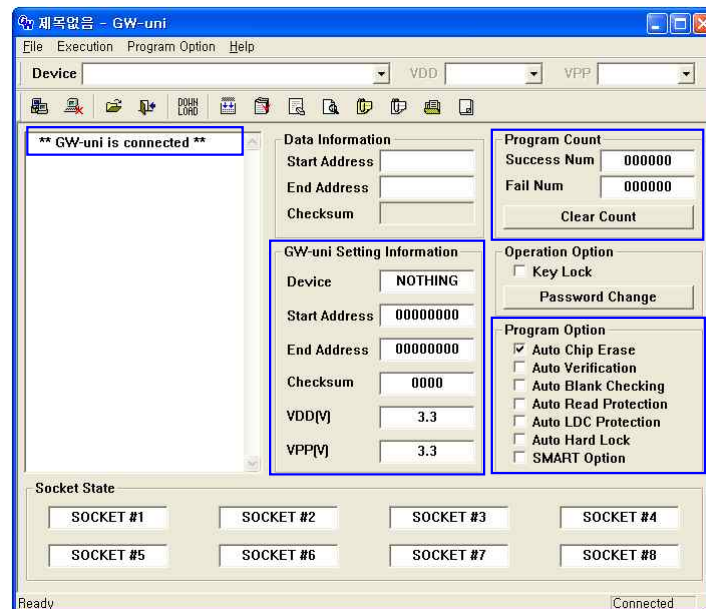


Figure 3.3.2 Finish USB connection

- \* Try from 1) again when USB connection is failed.

### 3.4 Device selection

- 1) Click the 'Device' icon.

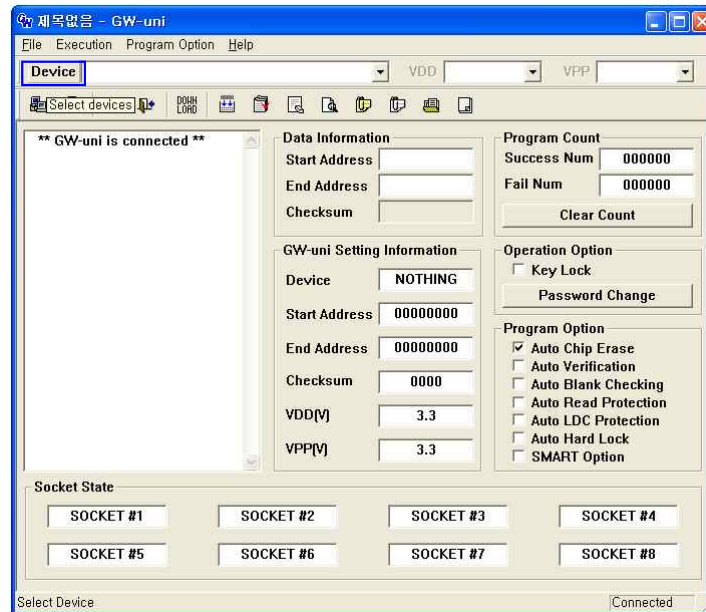


Figure 3.4.1 Device selection

- 2) 'Select Device' Window is displayed.

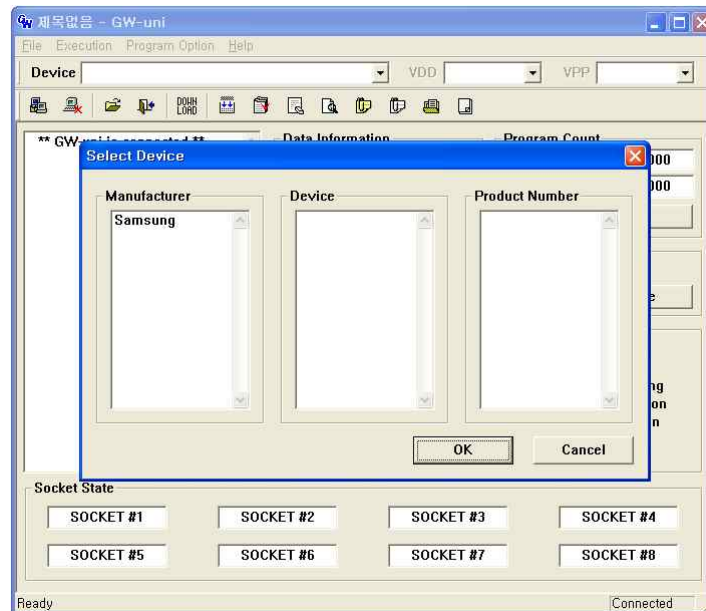


Figure 3.4.2 'Select Device' Window

- 3) Select a manufacturer, a device and a product number.

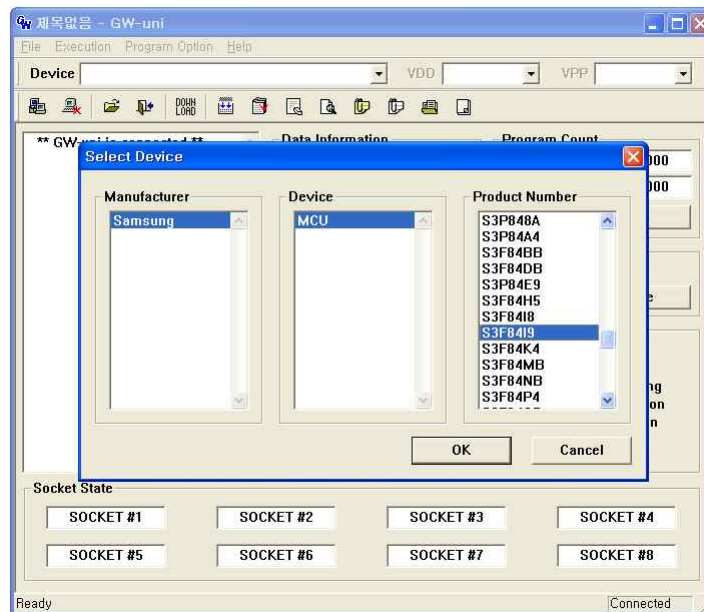


Figure 3.4.3 Device selection

- 4) A device information is showed when click the 'OK' icon.

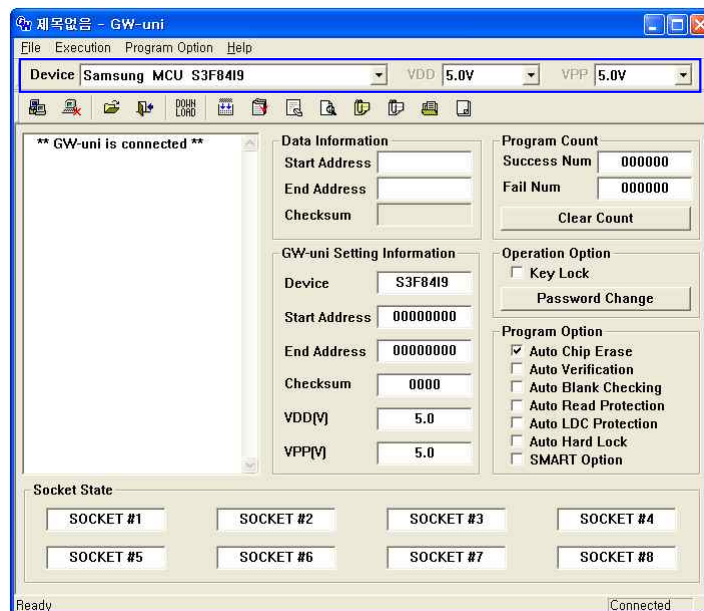


Figure 3.4.4 Display a device information

### 3.5. File open

- 1) Click the file open icon.

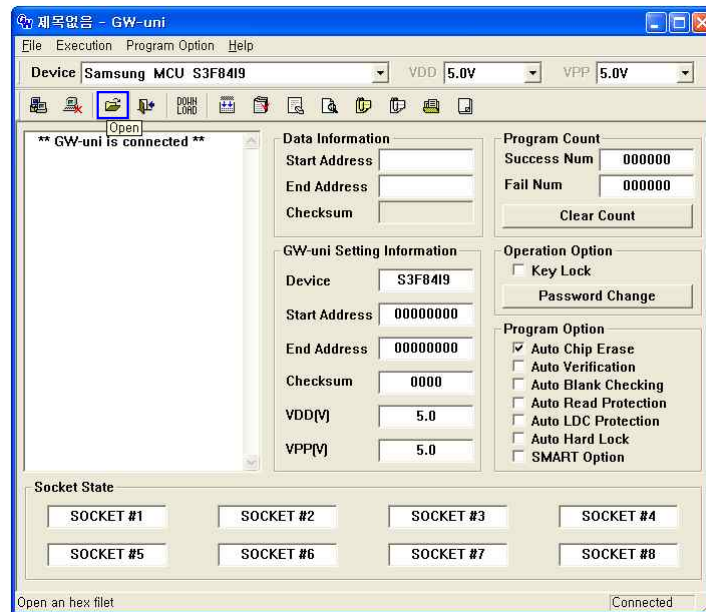


Figure 3.5.1 File open

- 2) Select a file(\*.hex or \*.bin).

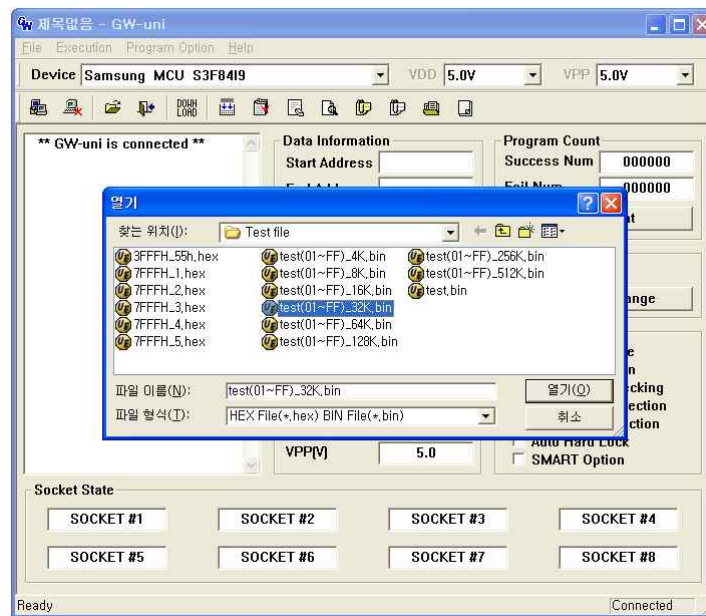


Figure 3.5.2 File selection.

3) Check the end address and checksum.

\* It can take a little time for checksum depending on a file size.

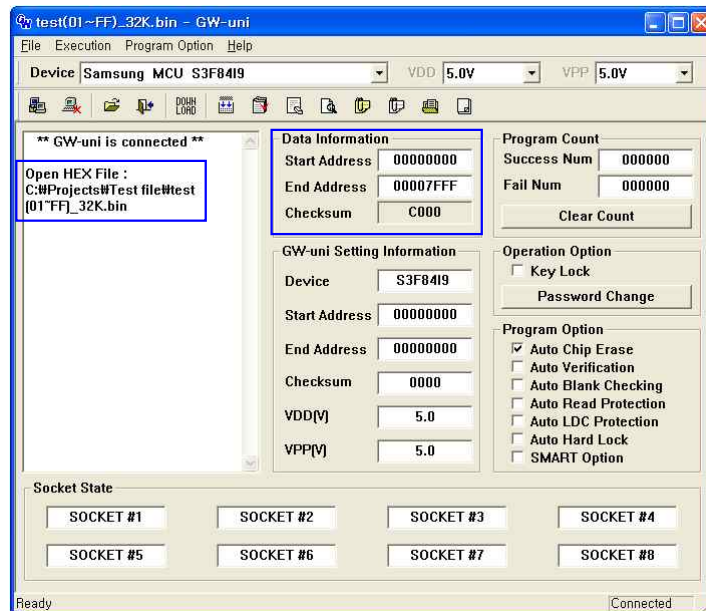


Figure 3.5.3 Finish the file selection

### 3.6 Program option

1) Select program option.

- (1) Auto Chip Erase
- (2) Auto Verification
- (3) Auto Blank Checking : Check a device ROM data initialized(0xFF)
- (4) Auto Read Protection : Device ROM data is read as '0'
- (5) Auto LDC(Load Code) Protection :  
Programmed code in a device isn't read in user program mode.
- (6) Auto HardLock : Can't program in a device and can't erase device ROM data  
in user program mode.
- (7) SMART Option

2) Process of program option.

- (1) Chip Erase (Auto Chip Erase)
- (2) Blank Check (Auto Blank Checking)
- (3) Data Write
- (4) SMART Option Write (SMART Option)
- (5) Verify (Auto Verification)
- (6) SMART Option Verify (SMART Option)
- (7) Read Protection (Auto Read Protection)
- (8) LDC Protection (Auto LDC Protection)
- (9) Hard Lock (Auto Hard Lock)

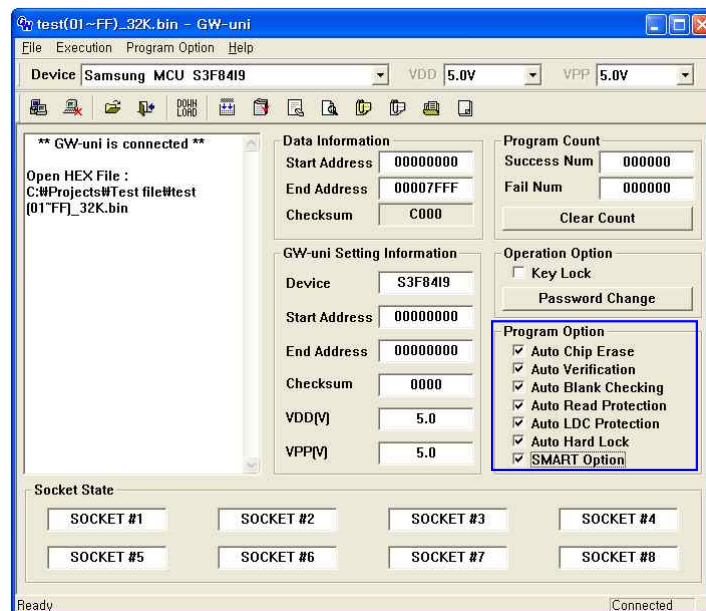


Figure 3.6.1 Program Option

3) There is an unavailable option depending on a selected device.

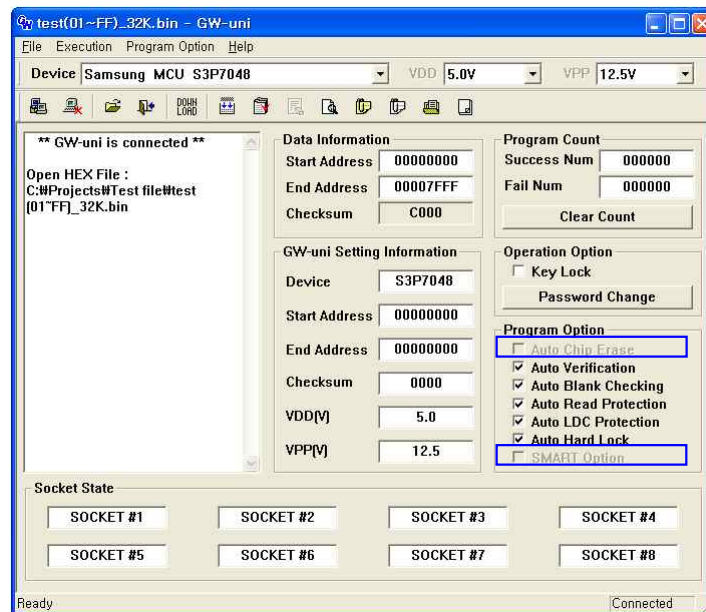


Figure 3.6.2 Program Option - unavailable Option

### 3.7 System Power(VDD), Program Power(VPP)

- 1) VDD : System power setting - User can set 3.3V or 5.0V.

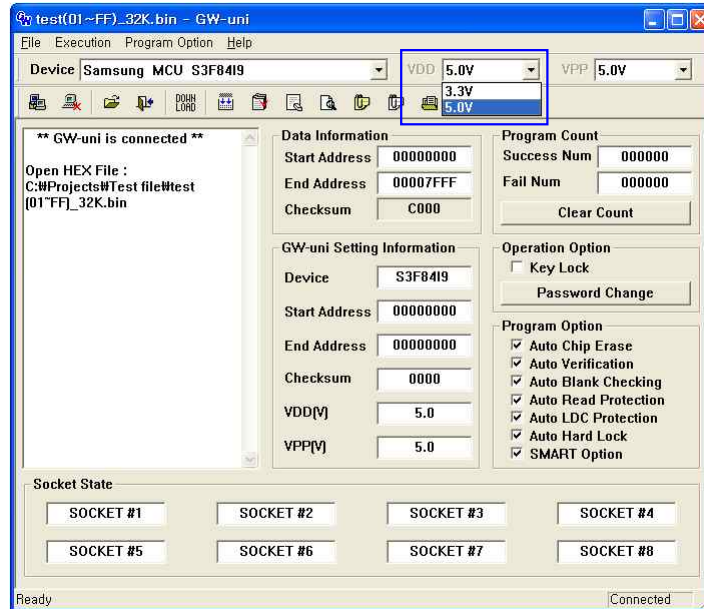


Figure 3.7.1 VDD setting

- 2) VPP : Program power setting - User can set VPP from 3.3V to 12.5V in the unit of 0.1V

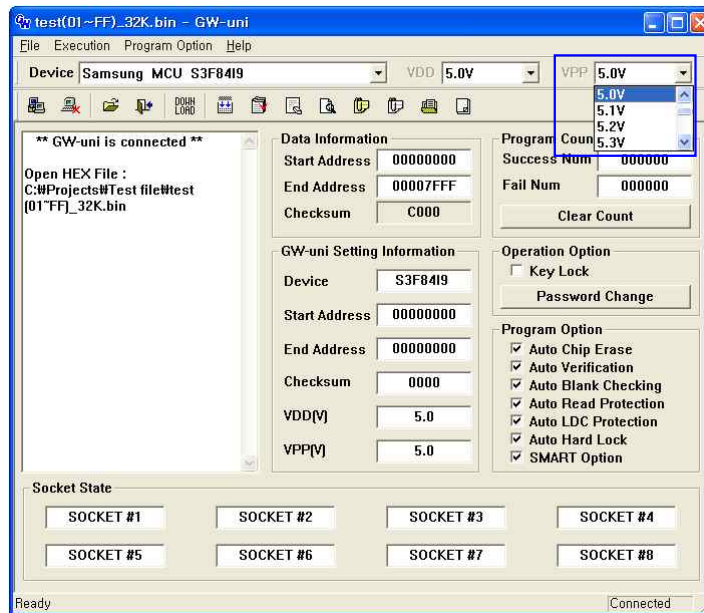


Figure 3.7.2 VPP setting

### 3.8 Program count

- 1) Success Num : Display the number of program success
- 2) Fail Num : Display the number of program fail

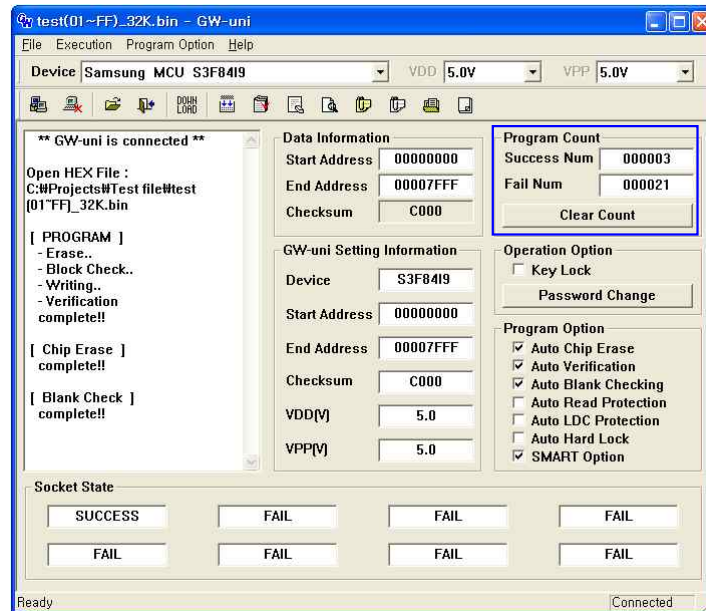


Figure 3.8.1 Program Count

- 3) The initialization window of 'Success Num' and 'Fail Num' is showed after click the 'Clear Count' button.
- 4) The count is initialized when user puts a password on 'Password' blank in 'Clear count' and clicks 'Clear Count' button.

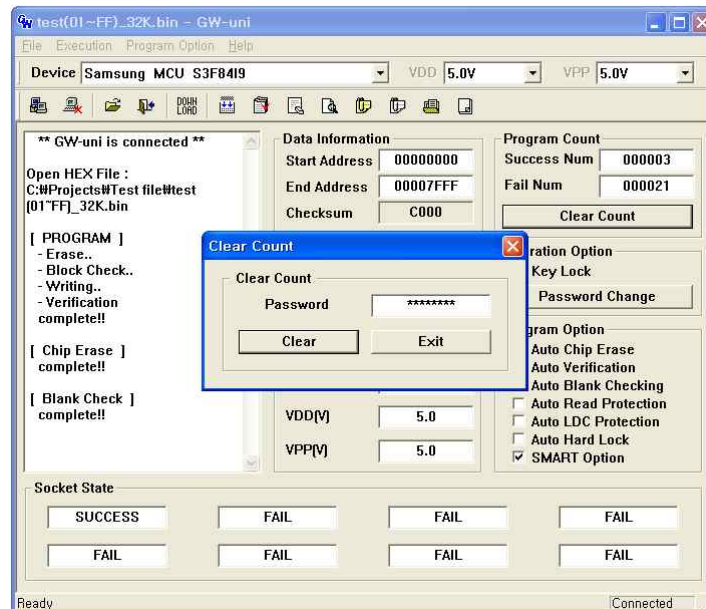


Figure 3.8.2 Clear Count

- 5) The 'Success: Count Cleared!' message window is shown when the initialization is normally finished.

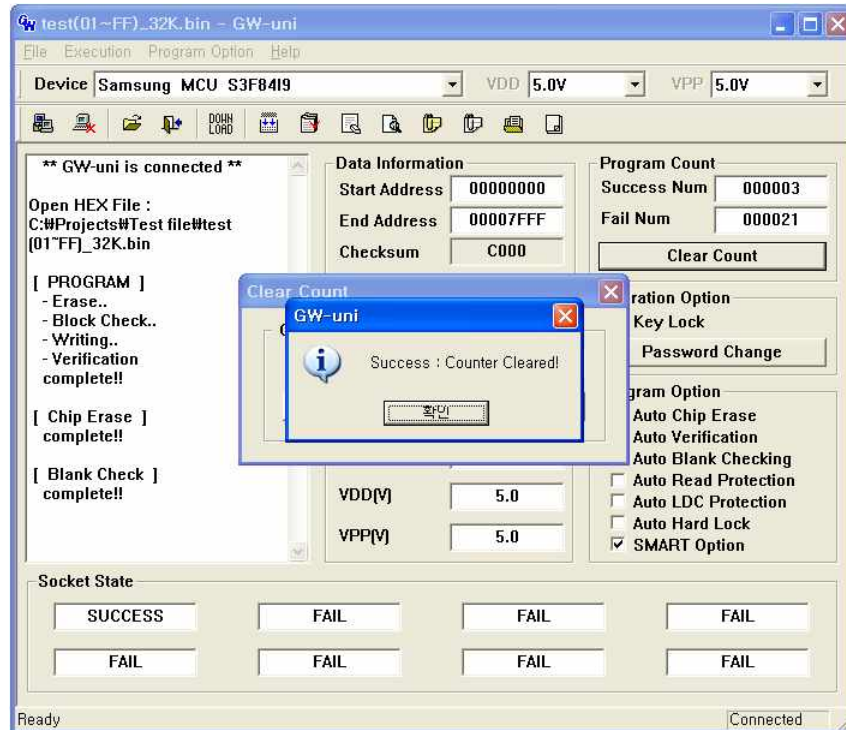


Figure 3.8.3 Success message

- 6) 'Success Num' and 'Fail Num' is initialized to '0' after the 'Clear Count' process is normally finished.

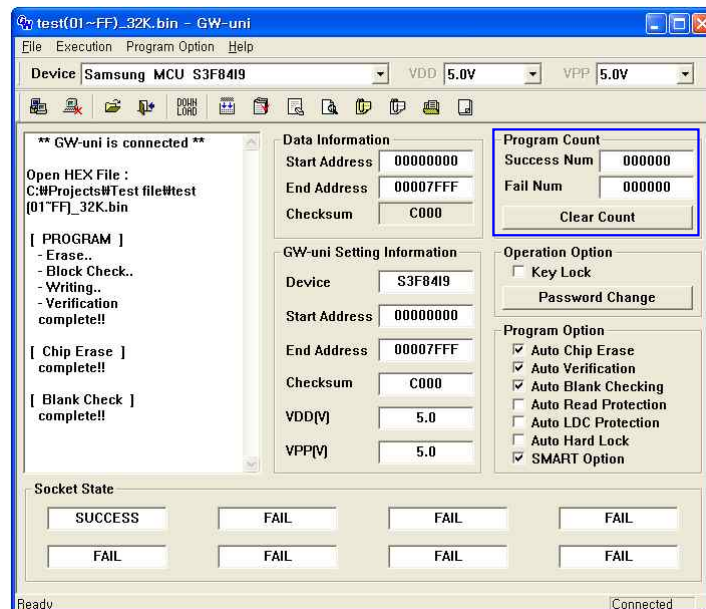


Figure 3.8.4 Clear Program Count

### 3.9 Data download

- 1) Save the selected file data, device information and program options etc. to GW-uni internal memory.

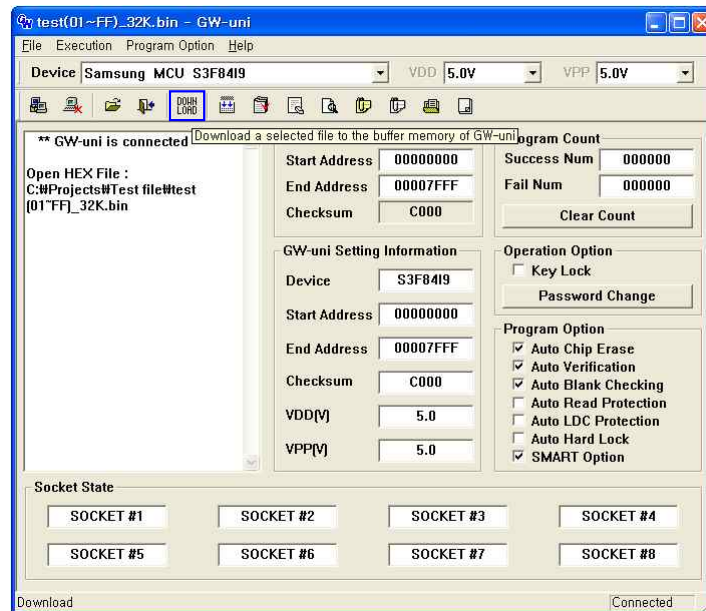


Figure 3.9.1 Download

- 2) Display the message "Download Success!" after download
- 3) Display information on 'GW-uni Setting Information' window after download.

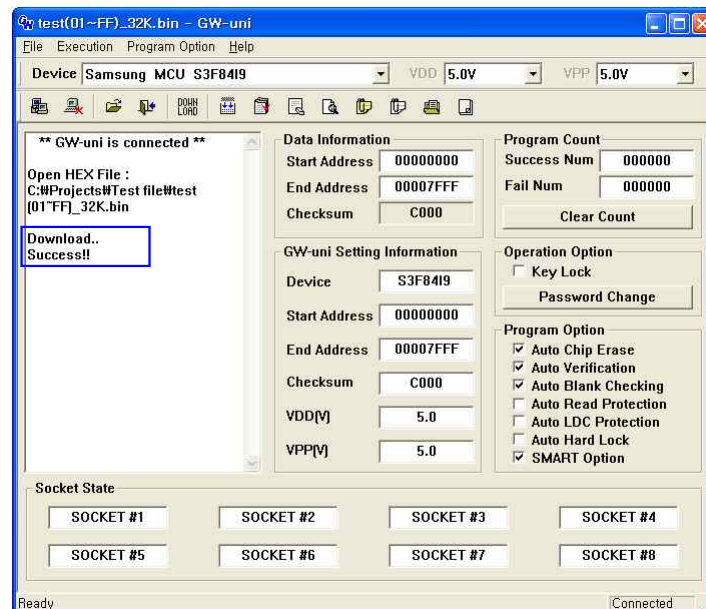


Figure 3.9.2 Download Success

### 3.10 Program

- 1) Write a data from GW-uni buffer memory to a device.
- 2) Execute selected program options in order.
- 3) Display the program result of each socket in 'Socket state' windows.
- 4) Program count is renewed.

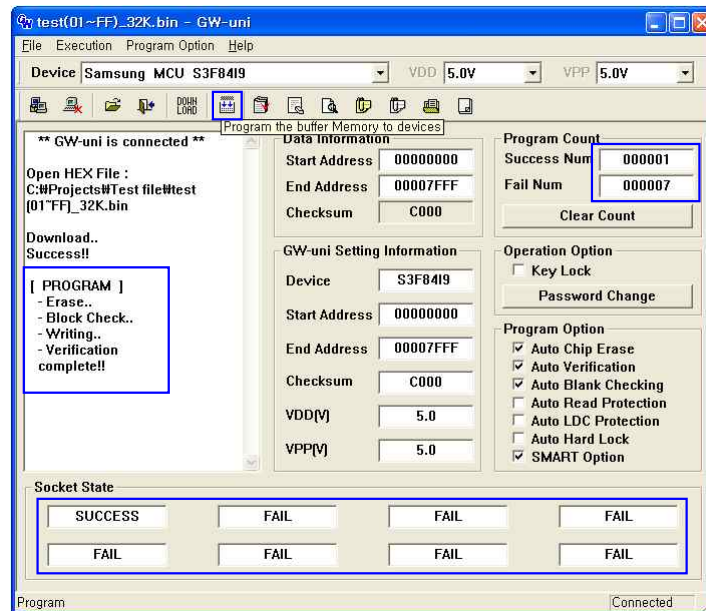


Figure 3.10 Program

### 3.11 Verify

- : Display the result after comparing a written data of a device and a data of a GW-uni buffer memory.

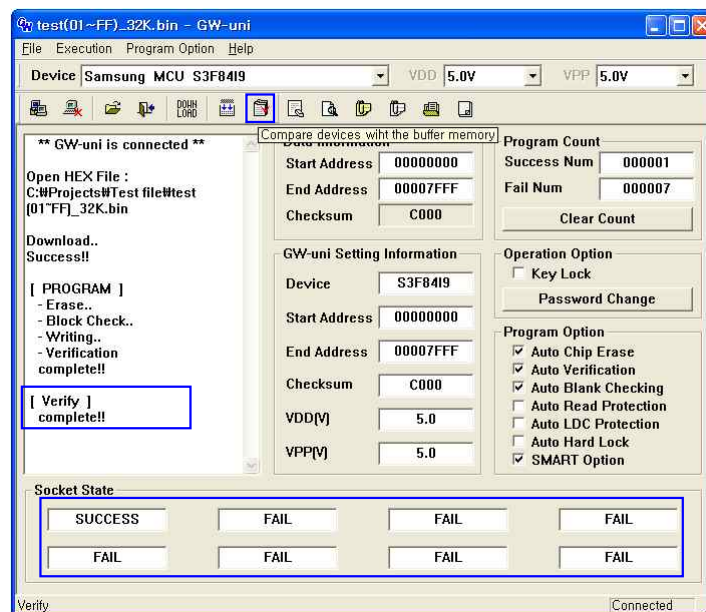


Figure 3.11 Verify

### 3.12 Chip erase

: Delete a device ROM data..

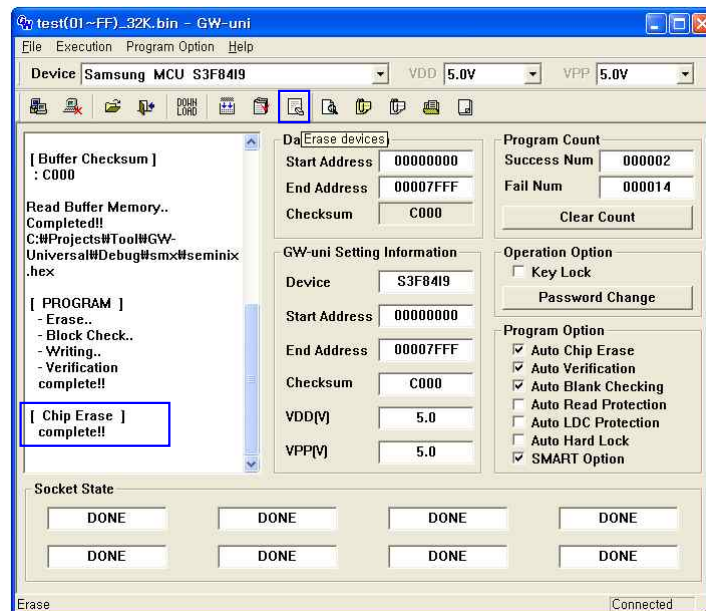


Figure 3.12 Erase

### 3.13 Blank check

: Check a device ROM data initialized(0xFF)

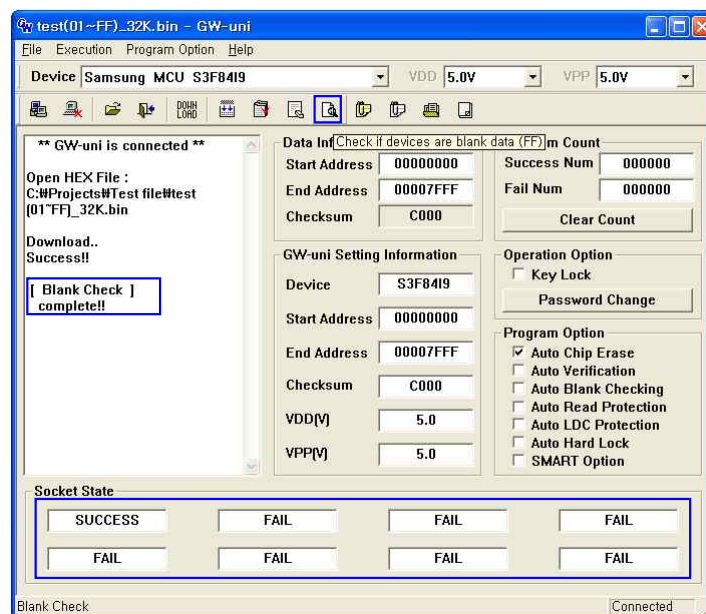


Figure 3.13 Blank Check

### 3.14 Device checksum

: Display a device checksum in the #1(Master) socket of 8 sockets.

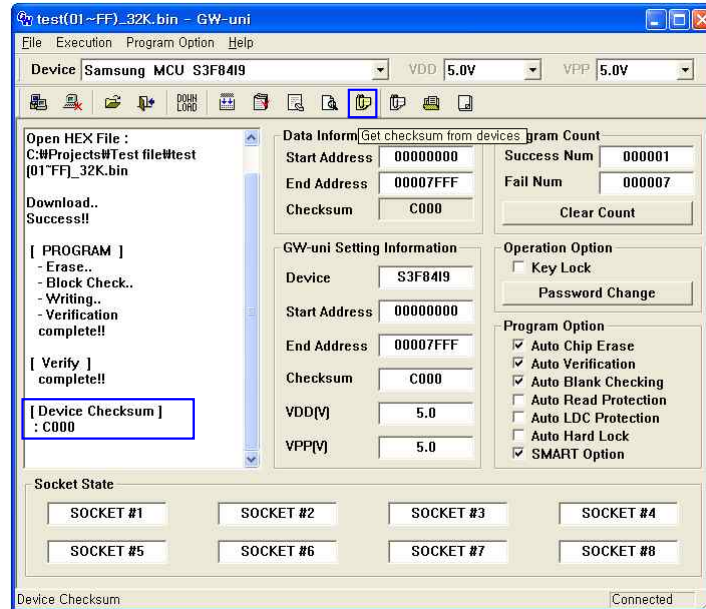


Figure 3.14 Device Checksum

### 3.15 Buffer checksum

: Display a checksum of GW-uni internal memory data.

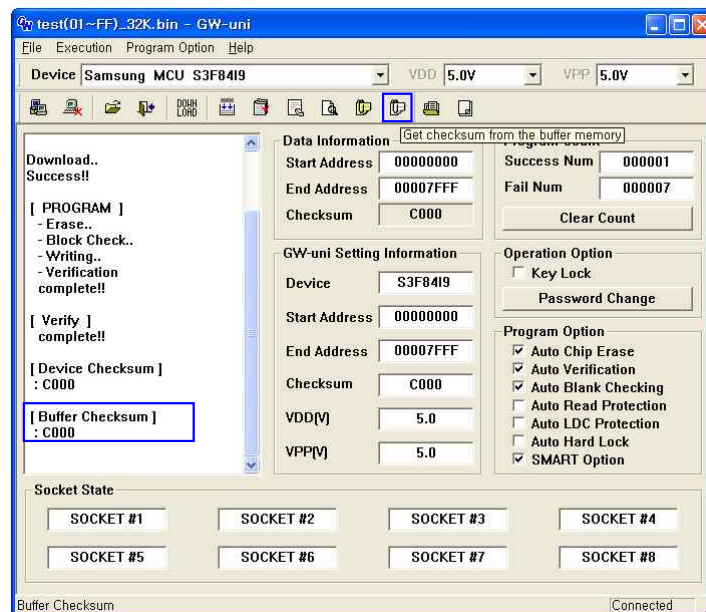


Figure 3.15 Buffer Checksum

### 3.16 Dump

: Display buffer memory or device ROM data.

- 1) Execute the Dump window after clicking the dump icon.

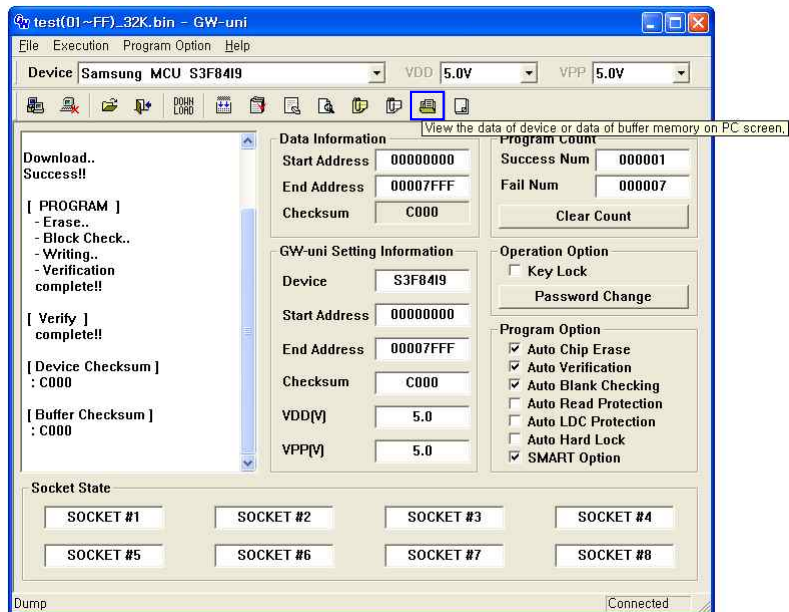


Figure 3.16.1 Dump execution

- 2) Address is changed by '<<' and '>>' button.
- 3) 'Buffer Memory' : Display buffer memory data.
- 4) 'Device<Socket#1>' : Display device ROM data in a socket #1.

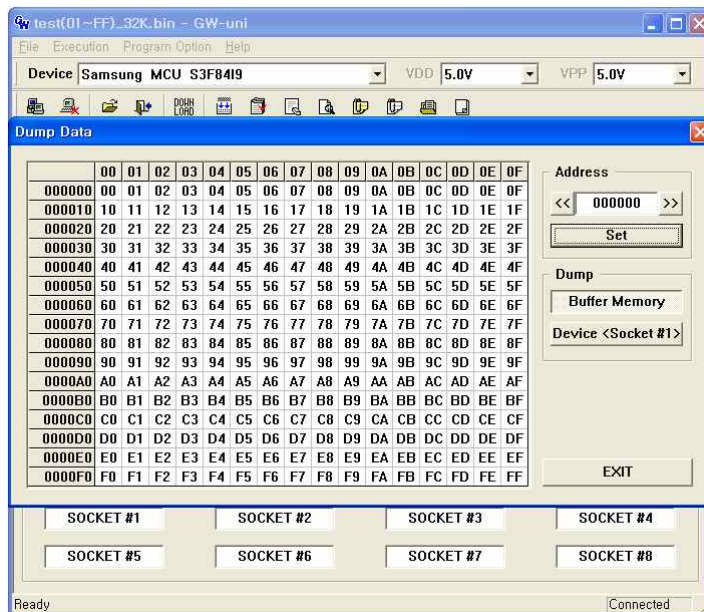


Figure 3.16.2 Dump window

### 3.17 Read Buffer

: Read data in buffer memory and save it as an intel hex file to PC

- 1) Click 'Read Buffer' button and the password window is displayed.

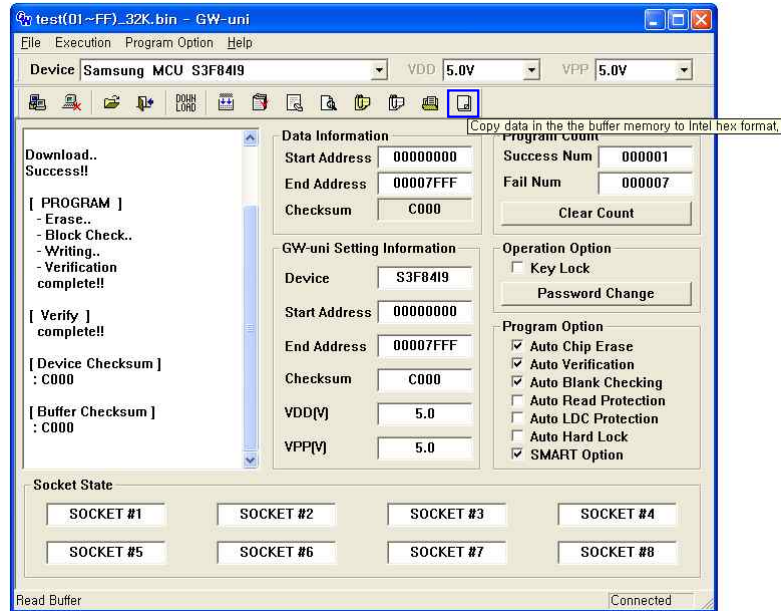


Figure 3.17.1 Read Buffer execution

- 2) Input password and click 'Check' button and start to execute Read Buffer.

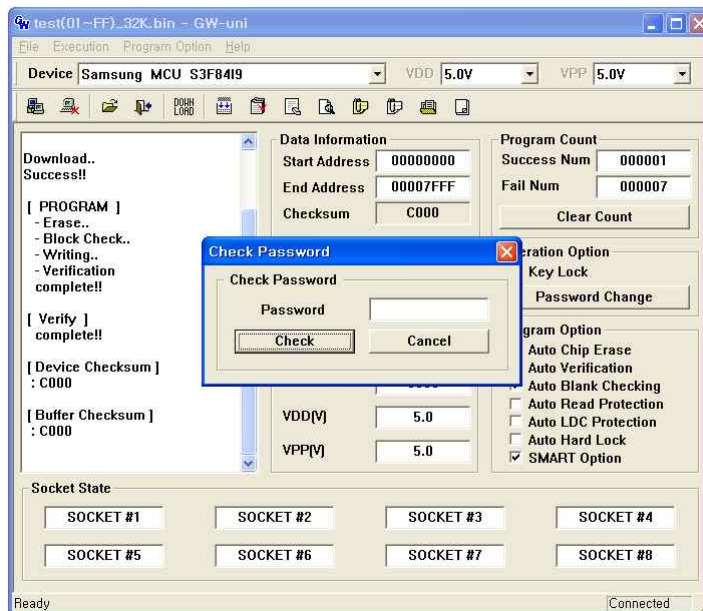


Figure 3.17.2 Input password

3) File address is displayed after 'Read Buffer' is completed

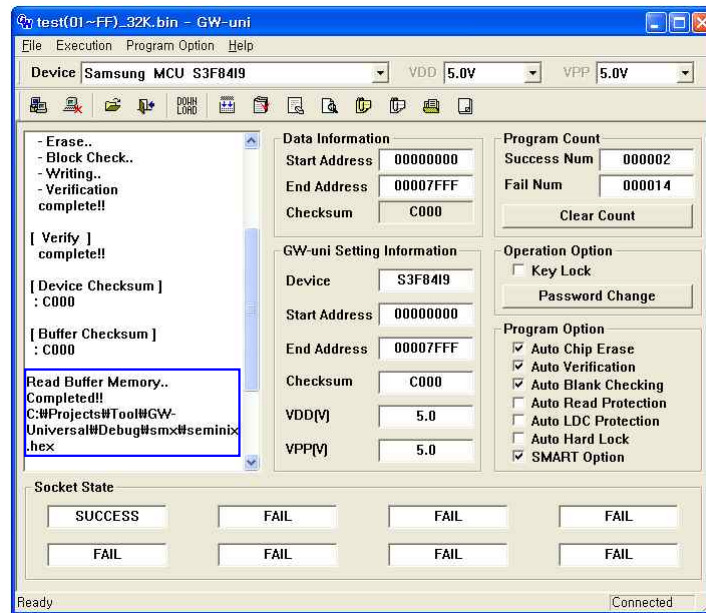


Figure 3.17.3 Complete 'Read Buffer'

### 3.18 Key Lock

: If the 'Key Lock Selected', the following function will be protected

- PC Application Program

: 'Device Selection', 'Download', 'Program Option', 'Dump' function

- Stand-alone mode

: 'Device Setting', 'Program Option' and 'Read Device' function

1) Click the 'Key Lock' check box and 'Key Lock' setting window is displayed.

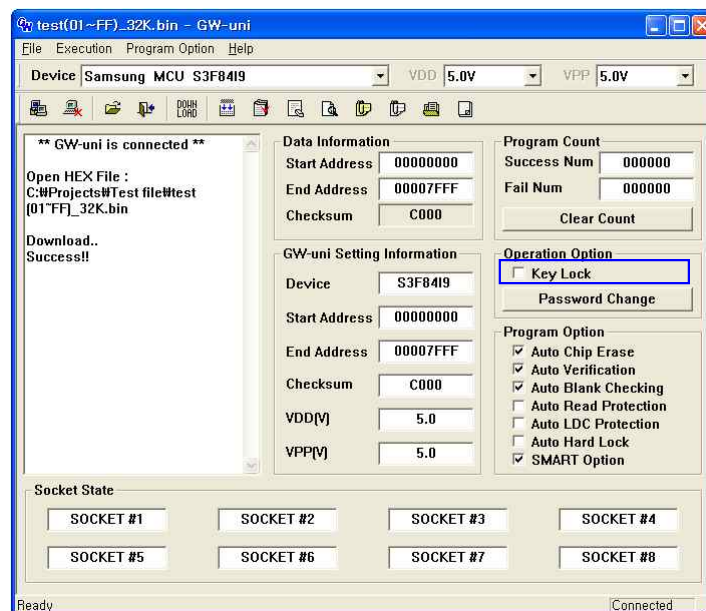


Figure 3.18.1 Key Lock execution

- 2) Input password and click 'Lock' or 'Unlock' button
- 3) 'Lock' : Set the key lock
- 4) 'Unlock': Set the key unlock
- 5) 'Exit'

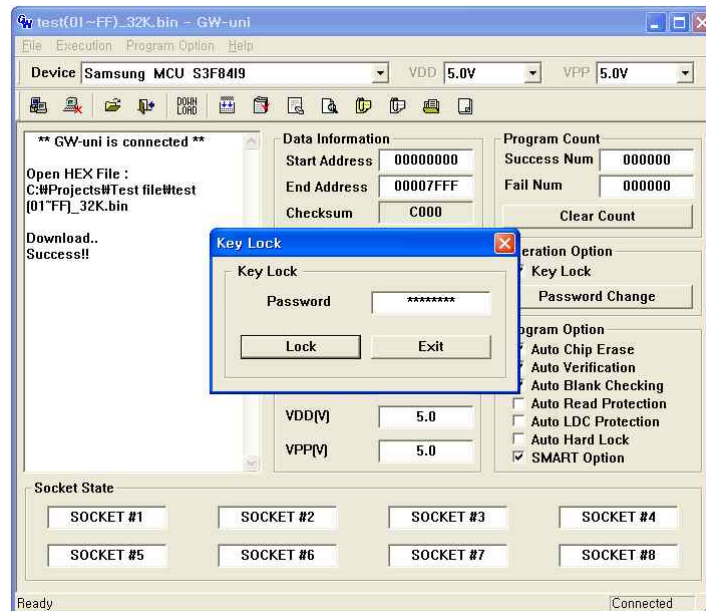


Figure 3.18.2 Key Lock

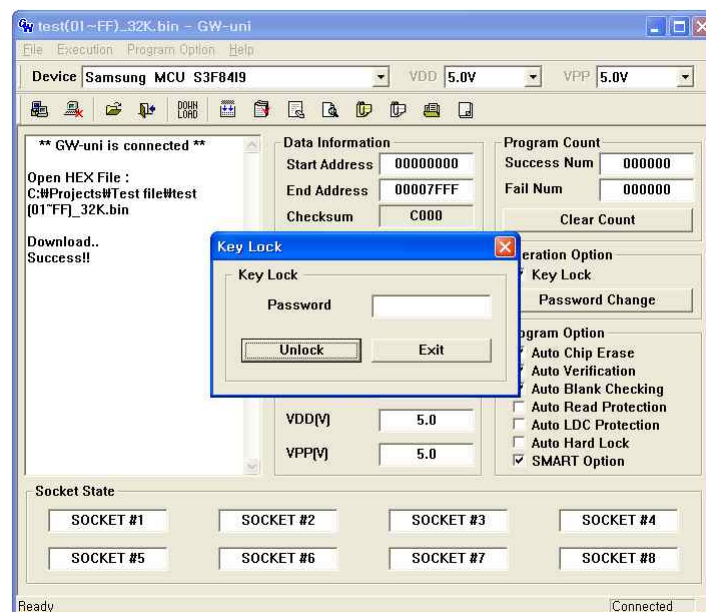


Figure 3.18.3 Key Unlock

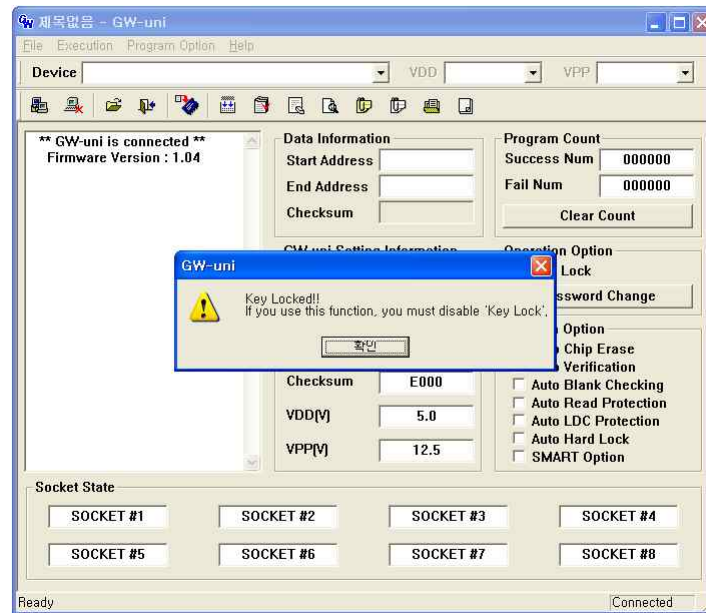


Figure 3.18.4 Key lock mode - Device Selection Error

- \* This function helps to avoid an operator's mistake in the mass production line.
- \* You must set Password before use this function.( refer to 3.19 Password Change )

### 3.19 Password Change

: Change password

- 1) Click the 'Password Change' button and the 'Password' setting window is displayed

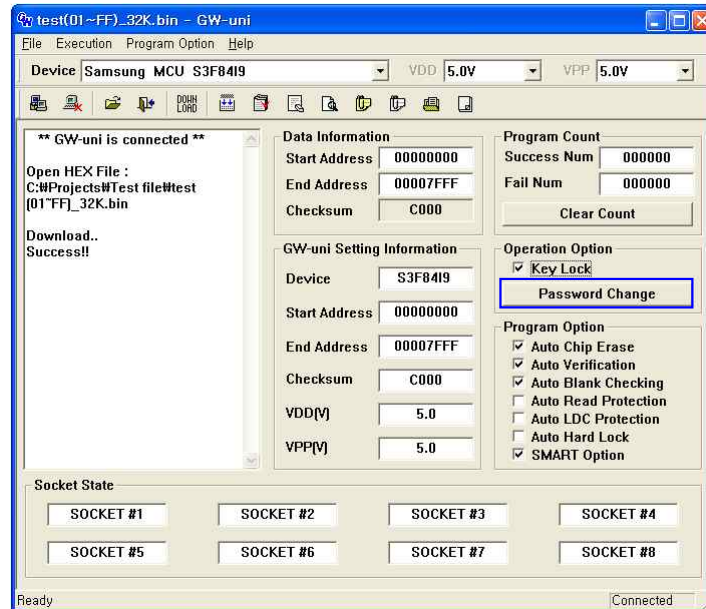


Figure 3.19.1 'Password Change' execution

- 2) Input a previous password in 'Password' blank box and input a new password in 'New Password' blank box and click 'Change' button to change the password

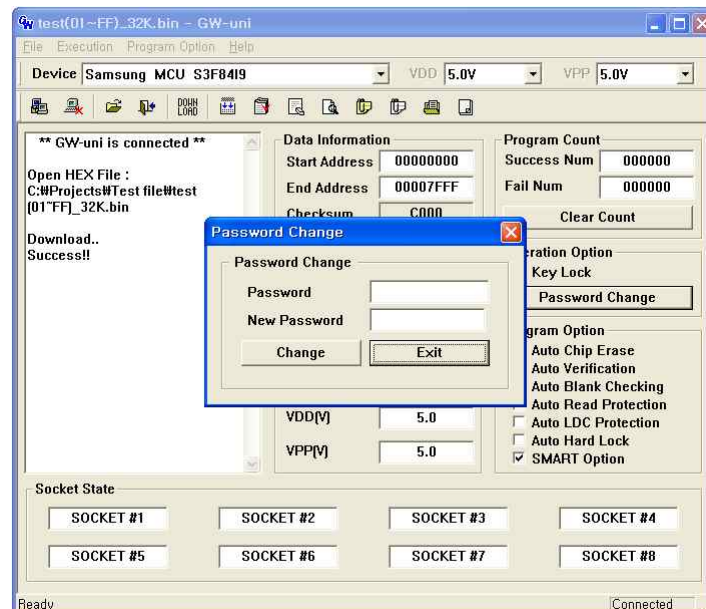


Figure 3.19.2 Password Change

3) A message window about a result is displayed after changing password.

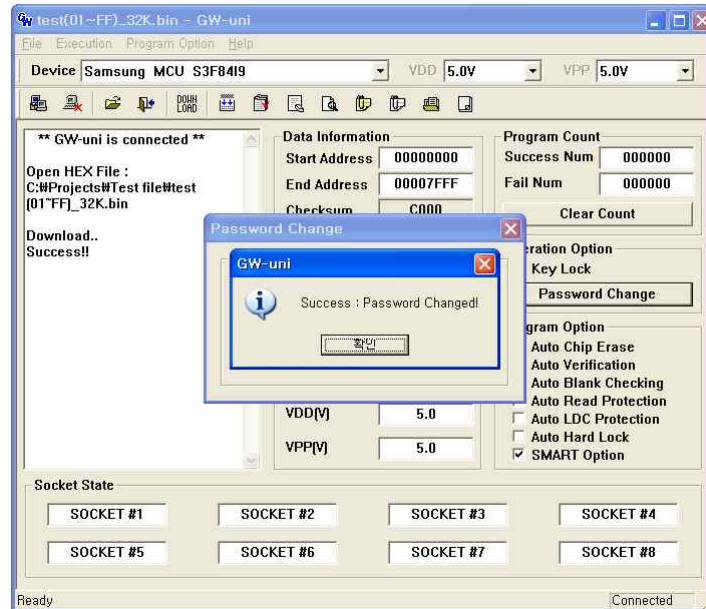


Figure 3.19.3 Finish Password Change

- A password is not set at first
- Password can be set to maximum 8 words.
- Password is not set when 'New Password' blank box is not filled.

### 3.20 Socket state

: Display an operating result on each socket.

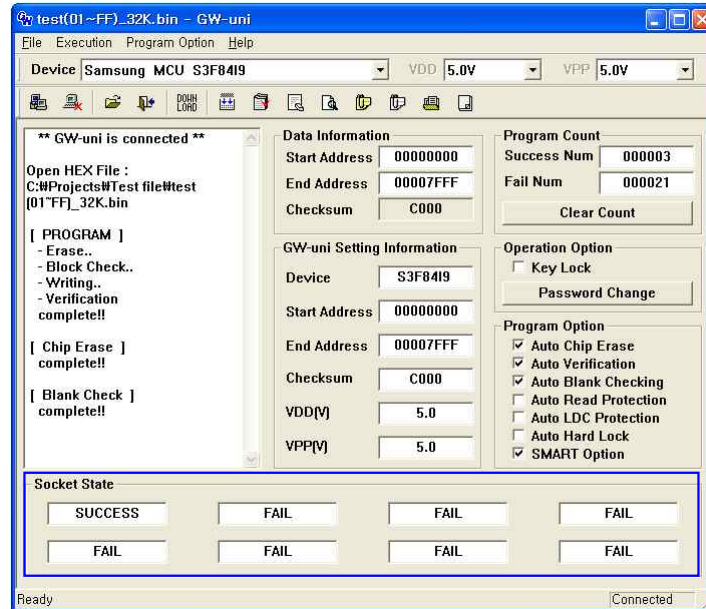


Figure 3.20 Display a socket state

### 3.21 State window

: Display an operating result on the 'Socket State' window.

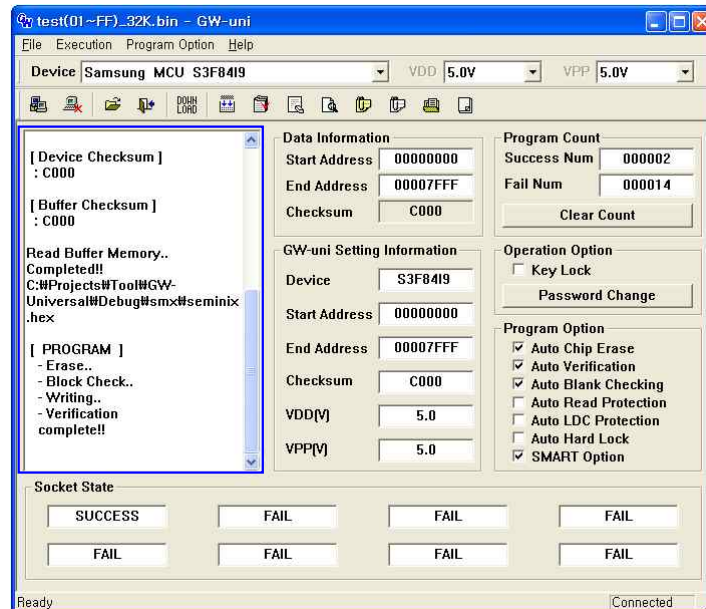


Figure 3.21 State Window

### 3.22 GW-uni Setting window

: Display GW-uni setting state.

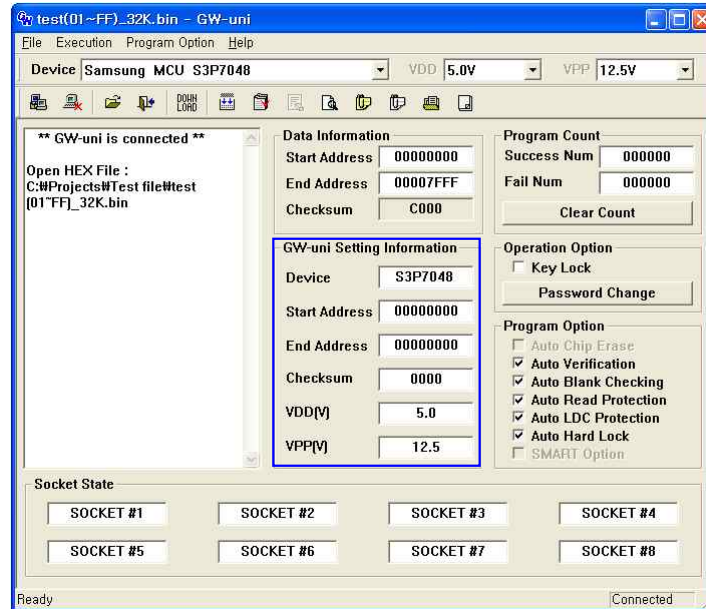


Figure 3.22 GW-uni setting window

- 1) Device : Display a device name.
- 2) Start Address : Display a program start address.
- 3) End Address : Display a program end address.
- 4) Checksum : Display a data checksum which is downloaded.
- 5) VDD : Display a system voltage.
- 6) VPP : Display a program voltage.

**GW-uni works based on GW-uni setting information so check whether GW-uni setting is changed after changing GW-uni setting information. (device information, Program option, Download etc.)**

**\* The setting value is displayed when GW-uni is connected to PC GW-uni normally.**

### 3.23 Upgrade

- Upgrade GW-uni software.
- Please check a new firmware file at SEMINIX homepage([www.seminix.com](http://www.seminix.com)) periodically
- User can check the version information at 'Help -> About GW-uni...' menu

#### 1) Upgrade process

- (1) Write "UPGRD" to the 'Start Address' blank and then enter the 'Enter' key.

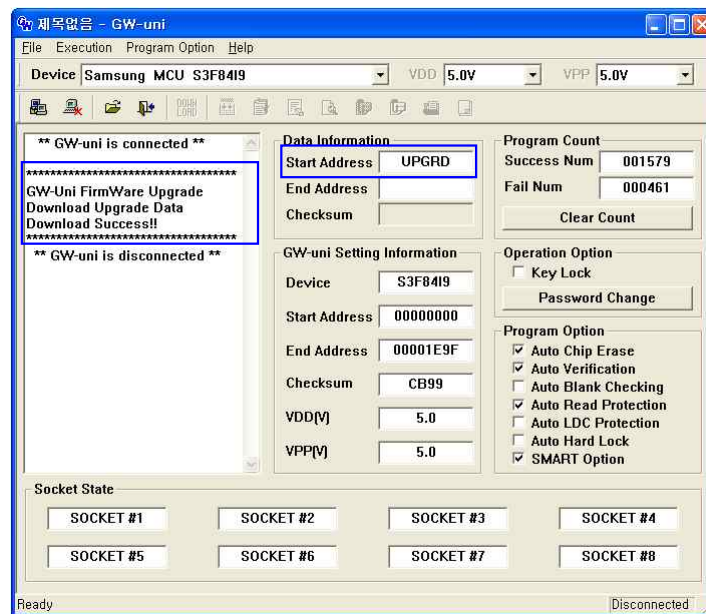


Figure 3.23 Upgrade Start

- (2) The upgrade data is downloaded when user enters 'Enter key'
- (3) GW-uni is upgraded after finish the download.
- (4) Restart GW-uni about 20 min later (Power off -> Power On)

## 4. Stand-alone mode

### 4.1 System on and initialization

: To use GW-uni with stand-alone mode, user should setup PC application program and download a data first

Touch keys don't work if the USB cable is connected so please disconnect USB cable for the stand-alone mode.

- 1) Set a device with reference to '3.4 Device selection'
- 2) Set a program option with reference to '3.6 Program Option'
- 3) Download a data with reference to '3.5 File Open','3.9 Data Download'
- 4) Disconnect USB cable. (The key is not working when USB cable is connected)
- 5) The system information is kept until user set it again.

### 4.2 LCD display information

: There is a program standing mode when user turns on GW-uni power after initialization

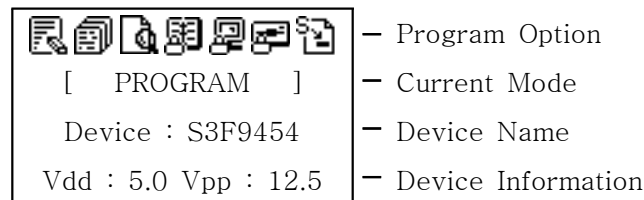


Figure 4.2 LCD display

#### 1) Program Option : Display Program option

- (1) : Auto Chip Erase
- (2) : Auto Verification
- (3) : Auto Blankcheck
- (4) : Auto Read Protection
- (5) : Auto LDC Protection
- (6) : Auto Hard Lock
- (7) : SMART Option

#### 2) Current Mode : Display a current mode.

- (1) PROGRAM, VERIFICATION, ERASE, BLANK CHECK, DVC CHECKSUM, and BUF CHECKSUM
- (2) A mode is changed in order when touch 'LEFT' and 'RIGHT' keys.

## 3) Device Name

: Display a device name.( Display 'Nothing' when there is not any selected device)

## 4) Device Information : Display Device setting information..

- (1) Vdd : System Power (Voltage)
- (2) Vpp : Program Power (Voltage)
- (3) E.A : End Address (Hex)
- (4) Checksum : Buffer Checksum (Hex)

### 4.3 Program mode

: Program standing state

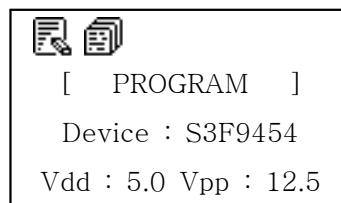


Figure 4.3.1 Program Mode

## 1) Touch 'PROGRAM' key and execute the program mode.

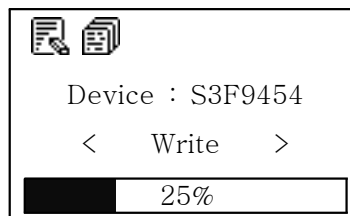


Figure 4.3.2 Program Mode – Write to a device

- 2) Execute a program option together
- 3) Touch the 'RIGHT' key for 'Verification mode'
- 4) Touch the 'LEFT' key for 'Buf Checksum mode'
- 5) Touch the 'MENU' key for 'Menu mode'.

#### 4.4 Verification mode

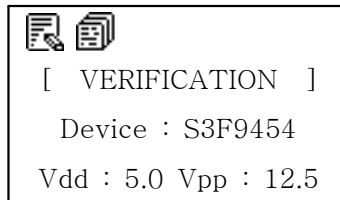


Figure 4.4.1 Verification Mode

- 1) Touch the 'PROGRAM' key for verify.

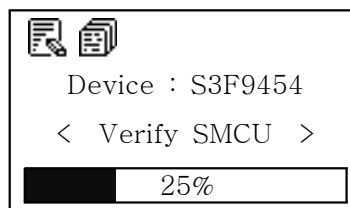


Figure 4.4.2 Verification mode - Verify

- 2) Touch the 'RIGHT' key for 'Erase mode'.
- 3) Touch the 'LEFT' key for 'Program mode'.
- 4) Touch the 'MENU' key for 'Menu mode'.

#### 4.5 Erase mode

: Make a device ROM initialize (0xff)

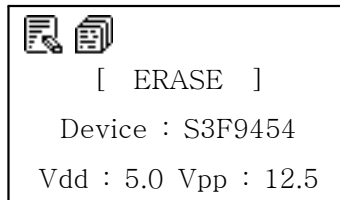


Figure 4.5.1 Erase Mode

1) Touch the 'PROGRAM' key for erase.



Figure 4.5.2 Erase Mode - Erase

2) Touch the 'RIGHT' key for 'Blank Check mode'.

3) Touch the 'LEFT' key for 'Verification mode'.

4) Touch the 'MENU' key for 'Menu mode'.

#### 4.6 Blank Check mode

: Check a device ROM data initialized(0xff)

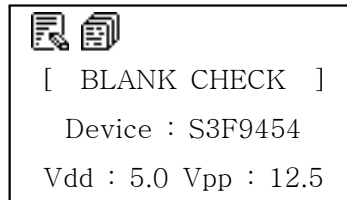


Figure 4.6.1 Blank check mode

- 1) Touch the 'PROGRAM' key for 'Blank Check'.

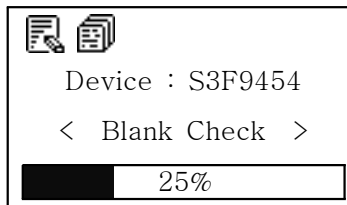


Figure 4.6.2 Blank check mode - Blank check

- 2) Touch the 'RIGHT' key for 'DVC Checksum mode'.
- 3) Touch the 'LEFT' key for 'Erase mode'.
- 4) Touch the 'MENU' key for 'Menu mode'.

#### 4.7 Device Checksum mode

: Get a device checksum in the first socket(Master) of 8 sockets

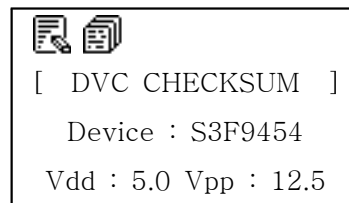


Figure 4.7.1 Device checksum mode

1) Touch the 'PROGRAM' key for device checksum.

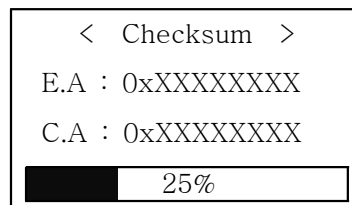


Figure 4.7.2 Device Checksum - Loading

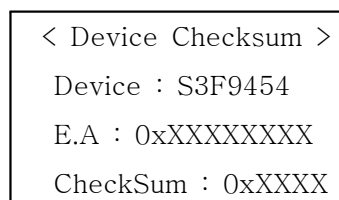


Figure 4.7.3 Device Checksum - Done

2) Touch the 'RIGHT' key for 'BUF Checksum mode'.

3) Touch the 'LEFT' key for 'Blank Check mode'.

4) Touch the 'MENU' key for 'Menu mode'.

\* *E.A : End Address*

\* *C.A : Current Address*

\* *Checksum : 2byte*

## 4.8 Buffer Checksum

: Display a checksum of GW-uni buffer memory.

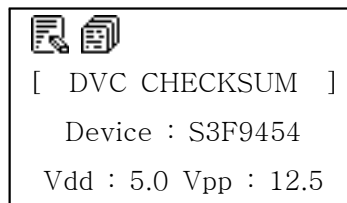


Figure 4.8.1 Device checksum mode

1) Touch the 'PROGRAM' key for 'Buffer Checksum'.

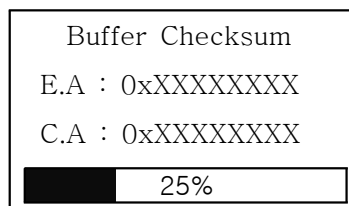


Figure 4.8.2 Buffer Checksum - Loading

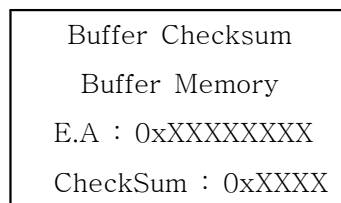


Figure 4.8.3 Buffer Checksum - Done

- 2) Touch the 'RIGHT' key for 'Program mode'..
- 3) Touch the 'LEFT' key for 'DVC Check mode'.
- 4) Touch the 'MENU' key for 'Menu mode'.

\* E.A : End Address

\* C.A : Current Address

\* Checksum : 2byte

#### 4.9 Menu mode

: Touch the key for Menu mode in 'Program Mode', 'Verification Mode' and 'Erase Mode'

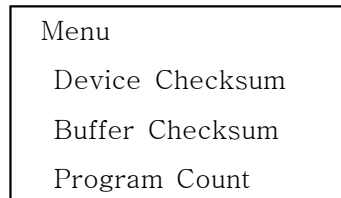


Figure 4.9.1 Menu Mode

1) Menu

- (1) Device Setting : Set a device value by part no.
- (2) Program Option : Select a program option.
- (3) Read Device : Read a device ROM data and save it to a buffer memory.
- (4) Program Count : Display the programed device number.
- (5) Beep Sound : On and off the beep sound.
- (6) Information : Display GW-uni information.
- (7) Return : Return to previous mode.

- 2) Display the chosen menu with an inverted color.
- 3) Menu can be changed by 'UP' and 'DOWN' key.
- 4) Touch the 'MENU' key to select a chosen menu.
- 5) Touch the 'PROGRAM' key for a previous mode.

#### 4.10 Device Setting

: Change system setting value depending on a chosen device.

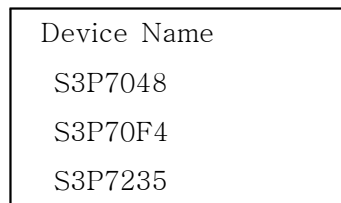


Figure 4.10 Device Setting

- 1) Display a chosen device with an inverted color
- 2) A device can be changed by 'UP' and 'DOWN' key.
- 3) Touch the 'MENU' key to select a chosen menu.
- 4) Touch the 'PROGRAM' key for a previous mode.

***\*This device setting can't used if there is the 'Key lock' setting.***

#### 4.11 Program Option

: Change a program option.

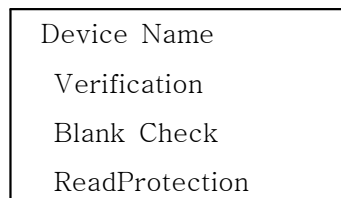


Figure 4.11 Program Option

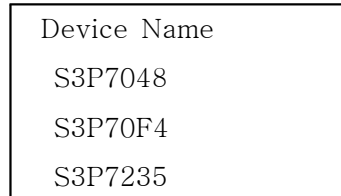
- 1) Display an icon when an option is chosen.
- 2) An option can be changed by 'UP' and 'DOWN' key.
- 3) Touch the 'MENU' key to select a chosen option.
- 4) Touch the 'PROGRAM' key for a previous mode.
- 5) Back to a menu mode when 'Return' is selected.

***\*This program option can't be used if there is the 'Key lock' setting.***

## 4.12 Read Device

: Read a device ROM data in the socket #1 and save it to GW-uni buffer memory.

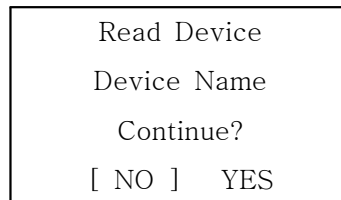
- 1) Display a device setting menu when 'Read Device' is selected.



A rectangular menu box with a black border. Inside, the text 'Device Name' is at the top. Below it are three lines of text: 'S3P7048', 'S3P70F4', and 'S3P7235'.

Figure 4.12.1 Device selection

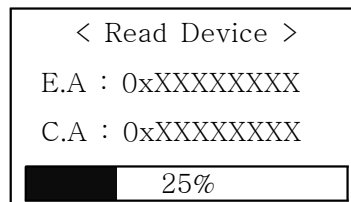
- 2) Display a confirmation window when a device is selected.



A rectangular confirmation window with a black border. The text inside is centered and reads: 'Read Device', 'Device Name', 'Continue?', and '[ NO ] YES'.

Figure 4.12.2 Read Device confirmation

- 3) Back to a menu mode when 'NO' is selected.  
4) Execute 'Read Device' when 'YES' is selected.



A rectangular loading screen with a black border. The text inside is centered and reads: '< Read Device >', 'E.A : 0XXXXXXXXX', 'C.A : 0XXXXXXXXX', and a progress bar at the bottom showing a black bar followed by '25%'.

Figure 4.12.3 Read Device - Loading

- 5) Back to a previous mode when 'Read Device' is finished.

***\*This Read Device can't be used if there is the 'Key lock' setting.***

#### 4.13 Program Count

- (1) Success : The number of program success.
- (2) Fail : The number of program fail.

|               |          |
|---------------|----------|
| Program Count |          |
| Success       | : 000000 |
| Fail          | : 000000 |

Figure 4.13 Program Count

#### 4.14 Beep Sound

: On and off beep sound.

|             |     |
|-------------|-----|
| Beep Sound? |     |
| [ ON ]      | OFF |

Figure 4.14 Beep Sound

#### 4.15 Information

- (1) Display a hardware version.
- (2) Display a software version.
- (3) Display a buffer memory size.

|             |           |
|-------------|-----------|
| INFORMATION |           |
| H / W       | : Ver 1.0 |
| S / W       | : Ver 1.0 |
| Memory      | : 128 MB  |

Figure 4.15 Information

#### 4.16 Return

: Back to the previous mode (Program Mode, Verification Mode, Erase Mode)

#### 4.17 Result

- 1) Display an operating result of each socket.
- 2) Display "G" with programming success.  
Display "F" with programming fail.

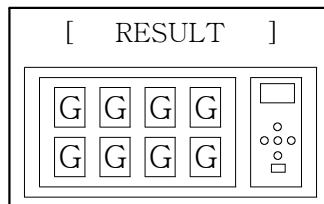


Figure 4.17 Display LCD Result

#### 4.18 Socket LED

| State            |         | LED RED | LED GREEN |
|------------------|---------|---------|-----------|
| Stand By         |         | OFF     | ON        |
| Execute Function |         | X       | X         |
| Result           | Success | OFF     | OFF       |
|                  | Fail    | ON      | OFF       |

Table 4.18 Socket LED Description

## 5. Operation Sequence

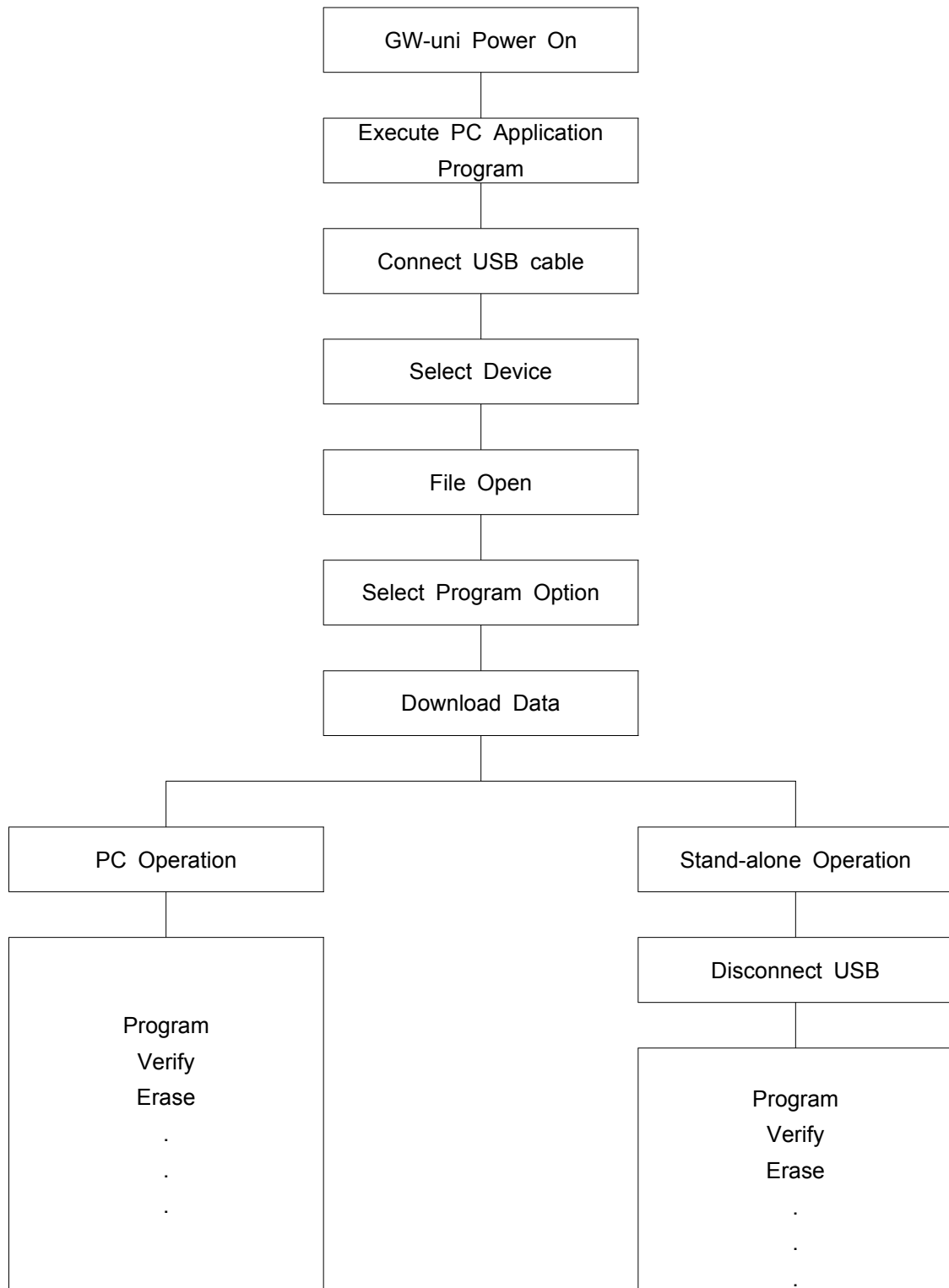


Figure 5.1 Operation Sequence

## 6. Key Function map

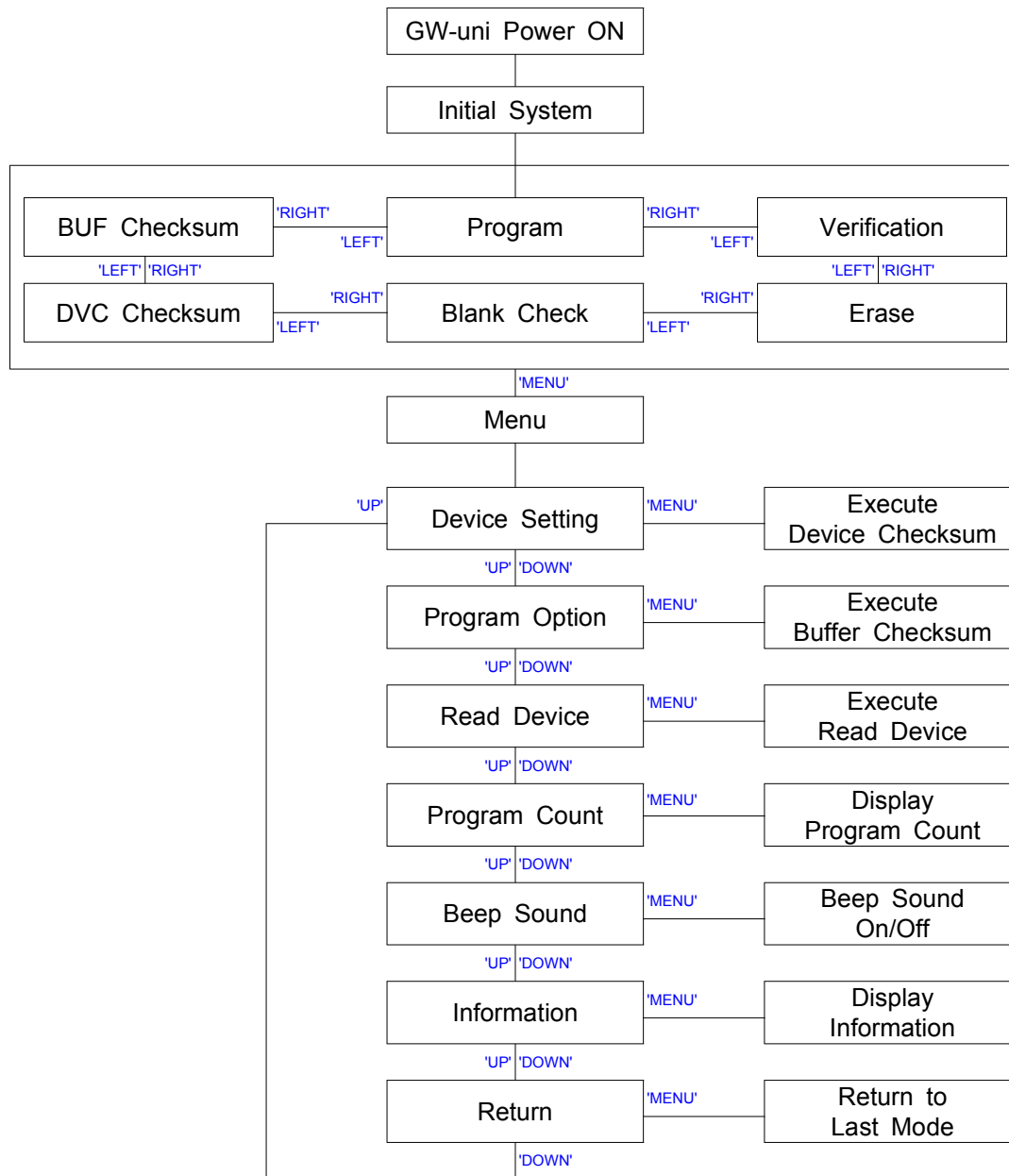


Figure 6.1 Key Function Map

\* Please make sure that USB cable should not be connected when user want to use the stand-alone mode because 'Key' is not working when USB cable is connected.

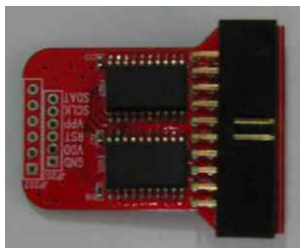
## 7. On-Board Program

### 7.1 UAS-Pellet Adapter Cable

: You must use a UAS-Pellet Adapter Cable when you use GW-uni to program MCU(or COB) on the PCB.



Connect GW-uni to User board via UAS-Pellet Adapter Cable



20CB6



Connection Cable



UAS-Pellet Adapter

Figure 7.1 Component of UAS-pellet Adapter Cable

## 7.2 Connection

(1) 20CB6-Adapter Board 'GND' – Target-MCU 'GND(Vss)'

(2) 20CB6-Adapter Board 'VDD' – Target-MCU 'Vdd(Vcc)'

(3) 20CB6-Adapter Board 'RST' – Target-MCU 'Reset'

(4) 20CB6-Adapter Board 'VPP' – Target-MCU 'Vpp(Test)'

\* if 'Reset pin' and 'Vpp(Test) pin' are same, you have only to connect 'Vpp(Test) pin'.

(5) 20CB6-Adapter Board 'SCLK' – Target-MCU 'SCLK'

(6) 20CB6-Adapter Board 'SDAT' – Target-MCU 'SDATA'

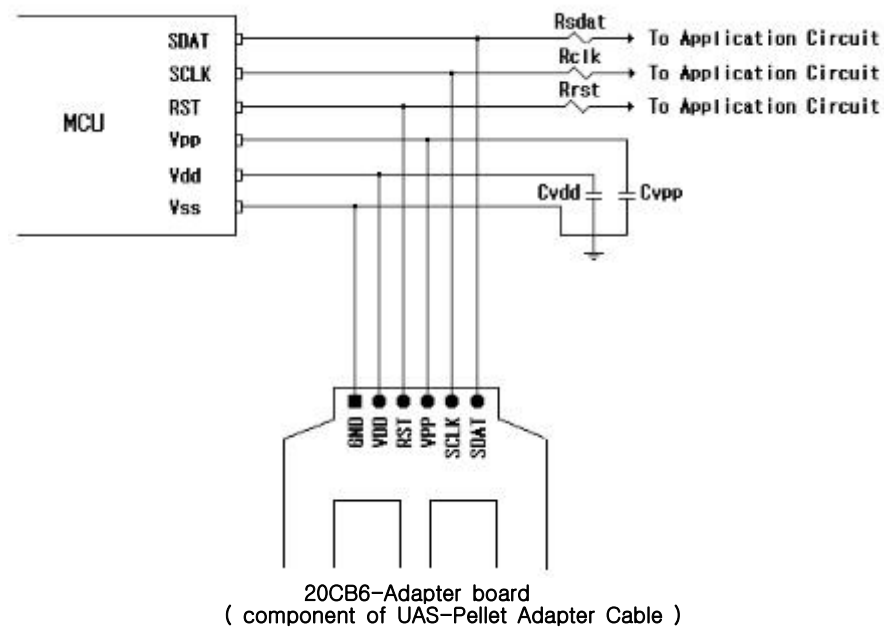


Figure 7.2 Connect UAS-Pellet Adapter Cable to MCU

Rsd : 4.7K ohm

Rclk : 4.7K ohm

Rrst : 1K~4.7K ohm

Cvpp : 10nF

Cvdd : 10nF

2) Connect UAS-Pellet Adapter to 20CB6 Adapter-Board via connect cable.

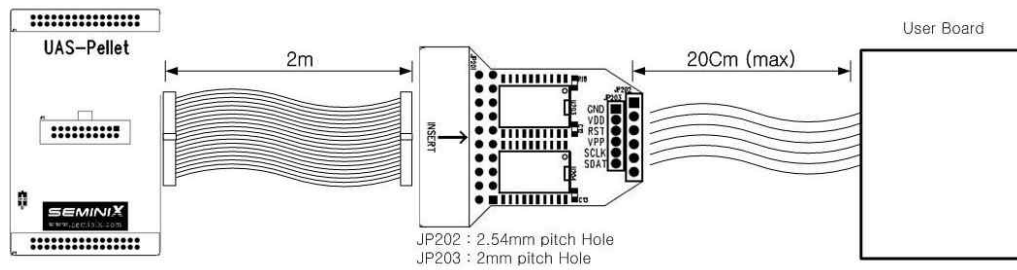


Figure 7.3 Connect UAS-Pellet Adapter cable to the User Board

3) Put a UAS-Pellet adapter cable in GW-uni.

### 7.3 Caution

- 1) 2m of cable is the maximum length from UAS-Pellet socket to 20CB6-Adapter Board
- 2) 20cm of cable is the maximum length from Adapter-Board to Target-MCU.
- 3) if you program to MCU on board, you must use the UAS-Pellet Adapter Cable.
- 4) Please check components – Rsdatt, Rclk, Rrst, Cvpp, Cvdd.

## 8. Electrical Characteristics

| Parameter           | Conditions     |           | Min | Typ  | Max  | Unit |
|---------------------|----------------|-----------|-----|------|------|------|
| Current Consumption | Stand By       |           | -   | -130 | -150 | mA   |
|                     | Operating      |           | -   | -    | -300 |      |
| VDD                 | VPP 3.3 ~ 12.5 |           | 3.3 |      | 5.0  | V    |
| VPP                 | VDD 3.3 or 5.0 |           | 3.3 |      | 12.5 | V    |
| Idd                 | VDD = 3.3V     | VPP=3.3V  | -   | -    | 500  | mA   |
|                     |                | VPP=12.5V | -   | -    | 500  | mA   |
|                     | VDD = 5.0V     | VPP=5.0V  | -   | -    | 500  | mA   |
|                     |                | VPP=12.5V | -   | -    | 500  | mA   |
| Ipp                 | VDD = 3.3V     | VPP=3.3V  | -   | -    | 25   | mA   |
|                     |                | VPP=12.5V | -   | -    | 25   | mA   |
|                     | VDD = 5.0V     | VPP=5.0V  | -   | -    | 25   | mA   |
|                     |                | VPP=12.5V | -   | -    | 25   | mA   |

## 9. Special Notice

- 1) Please make sure to check device information, End address, Vdd, Vpp, buffer check sum before programming.
- 2) Please check device checksum regularly for normal programming
- 3) Please check Vdd and Vpp regularly
- 4) Please contact SEMINIX when there is a problem of device programming
- 5) GW-uni is the socket programmer only so SEMINIX can't take the responsibility for all accidents after user's artificial manipulation without SEMINIX socket
- 6) SEMINIX doesn't take the responsibility of GW-uni from user's careless mistake.

## 10. Adapter Socket Table

**SAMSUNG SAM4(S3P7XXX) series adapter socket table**

| Device Name | Package type    | Socket type   | Adapter socket                |
|-------------|-----------------|---------------|-------------------------------|
| S3P7048     | 42SDIP<br>44QFP | Special type  | UA7048-42SDIP<br>UA7048-44QFP |
| S3P70F4     | 30SDIP<br>32SOP | Standard type | UAS-30SDIP<br>UAS-32SOP       |
| S3P7235     | 80QFP           | Standard type | UAS-80QFP                     |
| S3P72H8     | 64QFP           | Standard type | UAS-64QFP                     |
| S3P72K8     | 80QFP           | Standard type | UAS-80QFP                     |
| S3P72M9     | 128QFP          | Standard type | UAS-128QFP                    |
| S3P72N5     | 80QFP           | Standard type | UAS-80QFP                     |
| S3P72P9     | 100QFP          | Standard type | UAS-100QFP                    |
| S3P72Q5     | 100QFP          | Standard type | UAS-100QFP                    |
| S3P7324     | 64QFP           | Standard type | UAS-64QFP                     |
| S3P7335     | 80QFP           | Standard type | UAS-80QFP                     |
| S3P7414     | 42SDIP<br>44QFP | Standard type | UAS-42SDIP<br>UAS-44QFP       |
| S3P7515     | 64SDIP<br>64QFP | Special type  | UA7515-64SDIP<br>UA7515-64QFP |
| S3P7528     | 42SDIP<br>44QFP | Standard type | UAS-42SDIP<br>UAS-44QFP       |
| S3P7544     | 24SDIP<br>24SOP | Special type  | UA7544-24SDIP<br>UA7544-24SOP |
| S3P7559     | 64SDIP<br>64QFP | Special type  | UA7515-64SDIP<br>UA7515-64QFP |
| S3P7565     | 100QFP          | Standard type | UAS-100QFP                    |

**SAMSUNG SAM8 (S3P8XXXX, S3F8XXX) series adapter socket table**

| Device Name | Package type      | Socket type                   | Adapter socket               |
|-------------|-------------------|-------------------------------|------------------------------|
| S3F8285     | 80QFP<br>80TQFP   | Standard type                 | UAS-80QFP<br>UAS-80TQFP      |
| S3F8289     | 80QFP<br>80TQFP   | Standard type                 | UAS-80QFP<br>UAS-80TQFP      |
| S3F828B     | 80QFP<br>80TQFP   | Standard type                 | UAS-80QFP<br>UAS-80TQFP      |
| S3F82E5     | 44QFP<br>48TQFP   | Standard type                 | UAS-44QFP<br>UAS-48TQFP      |
| S3F82F5     | 100QFP<br>100TQFP | Standard type                 | UAS-100QFP<br>UAS-100TQFP    |
| S3P830A     | 100QFP            | Standard type                 | UAS-100QFP                   |
| S3P831B     | 100QFP<br>100TQFP | Standard type                 | UAS-100QFP<br>UAS-100TQFP    |
| S3P8325     | 80QFP<br>80TQFP   | Standard type                 | UAS-80QFP<br>UAS-80TQFP      |
| S3F833B     | 100QFP            | Standard type                 | UAS-100QFP                   |
| S3F834B     | 100TQFP           | Standard type                 | UAS-100TQFP                  |
| S3P8454     | 80QFP<br>80TQFP   | Standard type                 | UAS-80QFP<br>UAS-80TQFP      |
| S3P8469     | 64SDIP<br>64QFP   | Standard type                 | UAS-64SDIP<br>UAS-64QFP      |
| S3P8475     | 42SDIP<br>44QFP   | Standard type                 | UAS-42SDIP<br>UAS-44QFP      |
| S3P848A     | 64SDIP<br>64QFP   | Standard type                 | UAS-64SDIP<br>UAS-64QFP      |
| S3P84A4     | 64QFP             | Standard type                 | UAS-64QFP                    |
| S3F84BB     | 80TQFP<br>80QFP   | Special type<br>Standard type | UA84BB-80TQFP<br>UAS-80QFP   |
| S3F84D8     | 100TQFP<br>100QFP | Special type<br>Standard type | UA84DB-100TQFP<br>UAS-100QFP |
| S3P84E9     | 42SDIP<br>44QFP   | Standard type                 | UAS-42SDIP<br>UAS-44QFP      |

**SAMSUNG SAM8 (S3P8XXXX, S3F8XXX) series adapter socket table**

| Device Name | Package type                                                    | Socket type                   | Adapter socket                                                                              |
|-------------|-----------------------------------------------------------------|-------------------------------|---------------------------------------------------------------------------------------------|
| S3F84H5     | 32SDIP<br>32SOP<br>30SDIP<br>28SOP                              | Standard type                 | UAS-32SDIP<br>UAS-32SOP<br>UAS-30SDIP<br>UAS-28SOP                                          |
| S3F84I8     | 42SDIP<br>44QFP                                                 | Standard type                 | UAS-42SDIP<br>UAS-44QFP                                                                     |
| S3F84I9     | 42SDIP<br>44QFP                                                 | Standard type                 | UAS-42SDIP<br>UAS-44QFP                                                                     |
| S3F84K4     | 16DIP<br>16SOP<br>16SSOP<br>16TSSOP<br>20DIP<br>20SOP<br>20SSOP | Standard type                 | UAS-16DIP<br>UAS-16SOP<br>UAS-16SSOP<br>UAS-16TSSOP<br>UAS-20DIP<br>UAS-20SOP<br>UAS-20SSOP |
| S3F84MB     | 80TQFP<br>80QFP                                                 | Standard type                 | UAS-80TQFP<br>UAS-80QFP                                                                     |
| S3F84P4     | 8SOP<br>8DIP                                                    | Standard type                 | UAS-8SOP<br>UAS-8DIP                                                                        |
| S3P851B     | 160QFP                                                          | Standard type                 | UAS-160QFP                                                                                  |
| S3P852B     | 100QFP                                                          | Standard type                 | UAS-100QFP                                                                                  |
| S3P863A     | 42SDIP<br>44QFP                                                 | Standard type<br>Special type | UAS-42SDIP<br>UA8629-44QFP                                                                  |
| S3F8647     | 32SDIP                                                          | Standard type                 | UAS-32SDIP                                                                                  |
| S3F866B     | 42SDIP<br>44QFP                                                 | Standard type                 | UAS-42SDIP<br>UAS-44QFP                                                                     |
| S3F880A     | 42SDIP                                                          | Standard type                 | UA8837-42SDIP                                                                               |
| S3P8849     | 42SDIP                                                          | Standard type                 | UAS-42SDIP                                                                                  |

**SAMSUNG SAM8 (S3P9XXXX, S3F9XXX) series adapter socket table**

| Device Name | Package type                                          | Socket type   | Adapter socket                                                                |
|-------------|-------------------------------------------------------|---------------|-------------------------------------------------------------------------------|
| S3P9228     | 42SDIP<br>44QFP                                       | Standard type | UAS-42SDIP<br>UAS-44QFP                                                       |
| S3P9234     | 64QFP                                                 | Standard type | UAS-64QFP                                                                     |
| S3P9404     | 30SDIP<br>32SOP                                       | Standard type | UAS-30SDIP<br>UAS-32SOP                                                       |
| S3P9428     | 28SOP<br>32SOP<br>30SDIP                              | Standard type | UAS-28SOP<br>UAS-32SOP<br>UAS-30SDIP                                          |
| S3P9434     | 18DIP<br>20DIP<br>20SOP                               | Standard type | UAS-18DIP<br>UAS-20DIP<br>UAS-20SOP                                           |
| S3P9444     | 8SOP<br>8DIP                                          | Standard type | UAS-8SOP<br>UAS-8DIP                                                          |
| S3P9454     | 16DIP<br>16SOP<br>16TSSOP<br>20DIP<br>20SOP<br>20SSOP | Standard type | UAS-16DIP<br>UAS-16SOP<br>UAS-16TSSOP<br>UAS-20DIP<br>UAS-20SOP<br>UAS-20SSOP |
| S3P9488     | 32SDIP<br>32SOP<br>42SDIP<br>44QFP                    | Standard type | UAS-32SDIP<br>UAS-32SOP<br>UAS-42SDIP<br>UAS-44QFP                            |
| S3P9498     | 28SOP<br>32SOP<br>32SDIP<br>20SDIP                    | Standard type | UAS-28SOP<br>UAS-32SOP<br>UAS-32SDIP<br>UAS-20SDIP                            |
| S3F94A5     | 44QFP<br>42SDIP                                       | Standard type | UAS-44QFP<br>UAS-42SDIP                                                       |
| S3P9688     | 42SDIP<br>44QFP                                       | Standard type | UAS-42SDIP<br>UAS-44QFP                                                       |

**SAMSUNG CalmRISC8, CalmRISC16 (S3FKXXXX, S3FCXXX) series adapter socket table**

| Device Name | Package type      | Socket type   | Adapter socket            |
|-------------|-------------------|---------------|---------------------------|
| S3FK11F     | 128QFP            | Standard type | UAS-128QFP                |
| S3FK215     | 80QFP             | Standard type | UAS-80QFP                 |
| S3FK225     | 64QFP<br>64LQFP   | Standard type | UAS-64QFP<br>UAS-64LQFP   |
| S3FK318     | 44QFP             | Standard type | UAS-44QFP                 |
| S3FC11B     | 100QFP<br>100TQFP | Standard type | UAS-100QFP<br>UAS-100TQFP |
| S3FC34D     | 100QFP<br>100TQFP | Standard type | UAS-100QFP<br>UAS-100TQFP |
| S3FC40D     | 100QFP<br>100TQFP | Standard type | UAS-100QFP<br>UAS-100TQFP |

**SAMSUNG On-board Chip/COB type adapter cable**

| Device Name            | Package type        | Socket type | Adapter cable |
|------------------------|---------------------|-------------|---------------|
| On-board<br>programing | Samsung<br>Standard | –           | UAS-Pellet    |
| COB<br>(Chip On Board) | Pellet (Die form)   | –           | UAS-Pellet    |