

GM10 Firmware Upgrade Procedure

This document describes the procedure for upgrading the GM10 firmware.

Please read this document before proceeding with the upgrade.

Applicable Products

GM10 (standard models only)

*Excludes special specifications (with suffixes of /S1-999 or /Z). Note that in-factory maintenance is required for those models.

Versions after Upgrade

GM10	R2.02.06
Web Application	R2.02.01

Items to Prepare

- GM10
- GM90PS
- GM90MB
- SD memory card
The SD memory card must be formatted using the SD card formatter distributed by the SD Association. Other formats are not supported by the firmware upgrade.
- PC, Ethernet cable, and hub
- SMARTDAC+ Data Acquisition System GM User's Manual (IM04L55B01-01EN)

Notes

Note 1: This document applies to the free GM10 firmware upgrade.

Note 2: When upgrading the firmware, you must ensure that you also have the latest versions of all related software.

Note 3: If in-factory maintenance or repair is ever required, be sure to inform the factory that the unit has been upgraded.

Note 4: This upgrade restores various settings to their factory defaults. It is recommended to save your current settings to the SD memory card in order to easily restore them after the upgrade.

Note 5: Data recorded on the GM10 main unit will be deleted when applying this upgrade. Please save your data to the SD memory card prior to downloading.

Upgrade Procedure

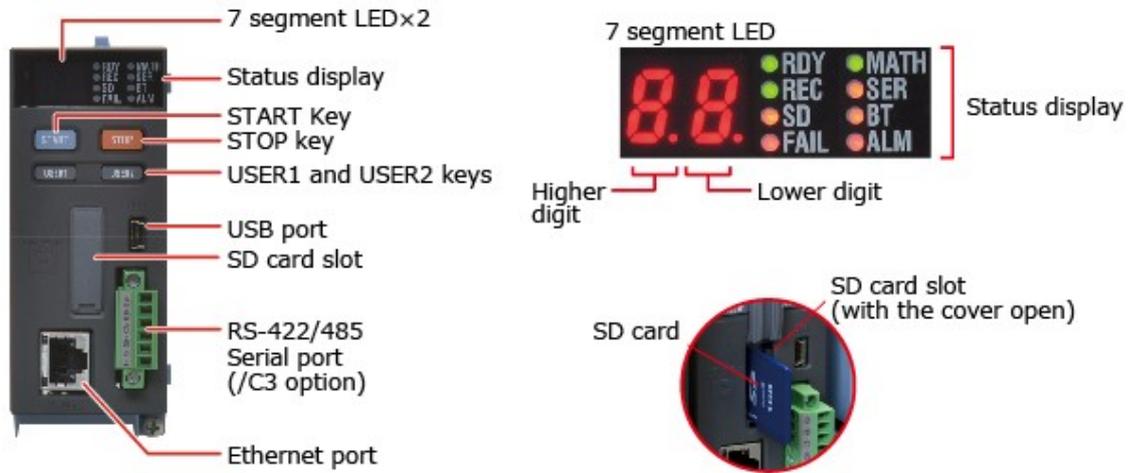


Figure 1: GM10 user interface (hardware)

1 Checking the main unit version

Before starting the upgrade, use the web application to check the main unit version number according to the following procedure.

- 1.1 Using the contents selection tool, click Data > System information to display the system information screen (see figure 2).
- 1.2 On the system information screen under Basic Information, check the Main Program and Web Program items. If the version matches the post-upgrade version, you do not need to perform the upgrade.

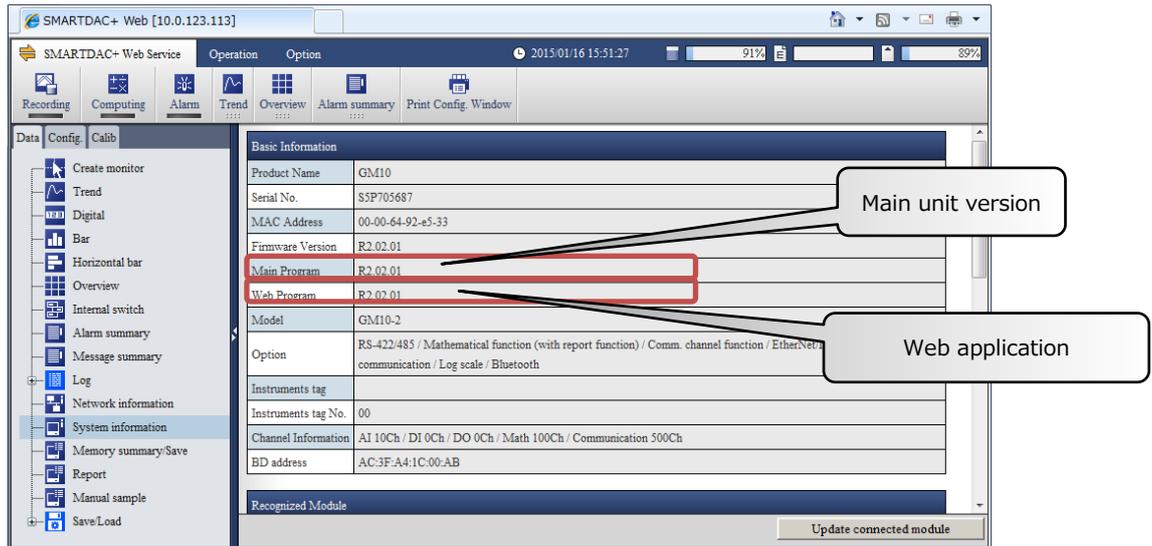


Figure 2: System information screen

Preparation is required to use the web application. For details see section 2.1, "Preparing to Use the Web Application" in the SMARTDAC+ Data Acquisition System GM User's Manual (IM04L55B01-01EN).

2 *Preparing the SD memory card for the upgrade*

- 2.1 Download the upgrade file from our website and save it on your PC.
- 2.2 Double-click the file and unzip it to a folder of your choice.
- 2.3 Save the unzipped files (see table 1) in the root directory of the SD memory card. Before saving, confirm that no other files used for upgrading are saved on the SD memory card. Delete any such files before proceeding.
- 2.4 Check whether the file and folder names in Table 1 are present.

Table 1: Firmware used for upgrades

Files/Folder	Name
File	ndacSV_main.rom
File	ndacSV_2_main.rom
File	ndacSV_boot.rom
Folder	SYSTEM

3 Saving data recorded on the main unit

Use the web application to save data recorded on the main unit according to the following procedure.

- 3.1 Insert the SD memory card prepared in step 2 into the SD memory card slot (see figure 1).
- 3.2 Check whether recording is in progress (that the REC status LED is lit). If recording is in progress, stop recording by holding down the STOP key for at least 3 seconds.
- 3.3 Using the contents selection tool, click Data > Save/Load > File List to open the save/load screen (see figure 3).
- 3.4 On the save/load screen, click **Save all data**.
- 3.5 In the Save All Data dialog box, click **Save to SD Card**. The recorded data is saved.

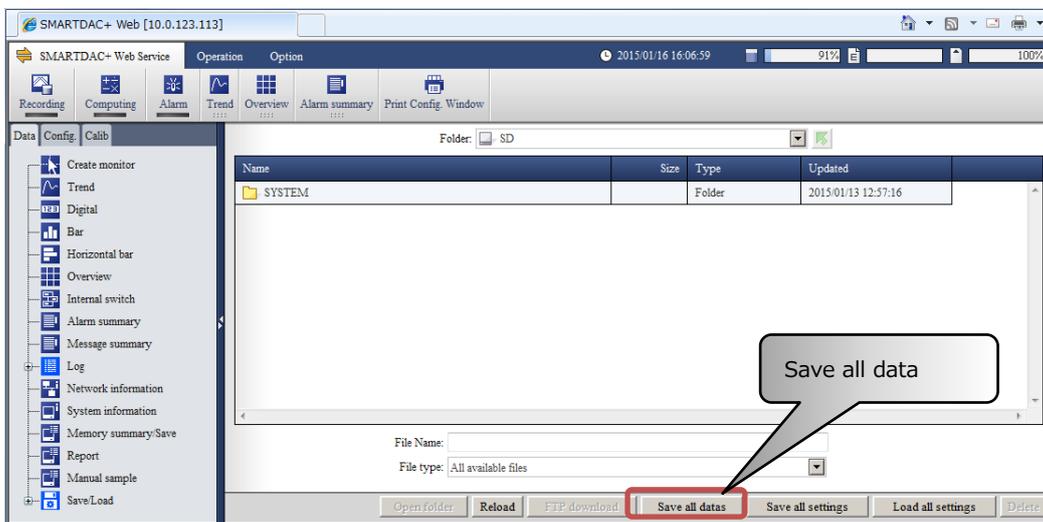


Figure 3: Save/load screen (1)

For details on saving recorded data, see section 2.23.6, "Saving All the Data in the Internal Memory" in the SMARTDAC+ Data Acquisition System GM User's Manual (IM04L55B01-01EN).

4 Saving main unit settings

Use the web application to save settings recorded on the main unit according to the following procedure.

- 4.1 Create a settings folder on the SD memory card you prepared in step 2.
- 4.2 Insert the SD memory card into the SD memory card slot (see figure 1).
- 4.3 Using the contents selection tool, click Data > Save/Load > File List to open the save/load screen (see figure 4).
- 4.4 In the save/load screen, in the Folder box, select the folder you created for saving settings.
- 4.5 In the save/load screen, click **Save all settings**.
- 4.6 In the Save All Settings dialog box, click **OK**. The settings are saved.

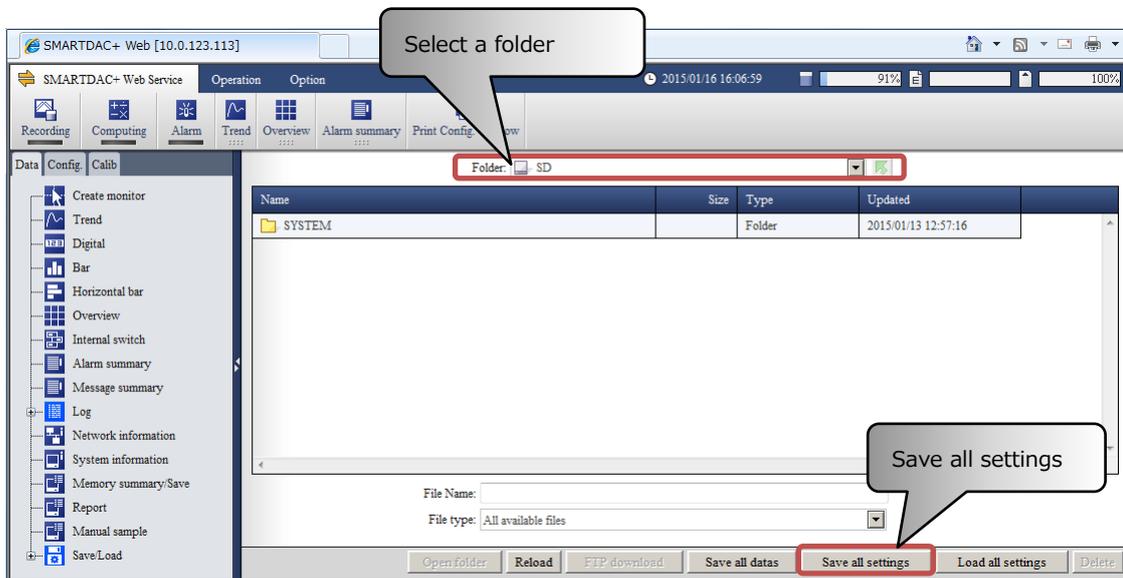


Figure 4: Save/load screen (2)

For details on saving settings, see section 2.23.4, "Saving Setting Parameters, Report Templates, and Trusted Certificates" in the SMARTDAC+ Data Acquisition System GM User's Manual (IM04L55B01-01EN).

5 Upgrading the main unit

Upgrade the GM10 main unit firmware according to the following procedure.

- 5.1 Confirm that recording is in progress (that the REC status LED is lit).
- 5.2 Turn OFF the power.
- 5.3 Insert the SD memory card prepared in 2 into the SD memory card slot (see figure 1). Do not remove the SD memory card until the upgrade is complete.
- 5.4 Hold down the START key while turning ON the power. When the 7-segment LED shows the in-process display (see figure 5), release the START key.

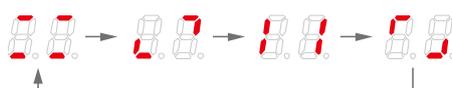


Figure 5: In-process display

- 5.5 When the 7-segment LED displays [bc], turn OFF the power.
- 5.6 With the SD memory card still inserted, turn ON the power. When the 7-segment LED shows the start-up display (see figure 6), the upgrade begins. The upgrade can take several minutes. Do not turn OFF the unit while the upgrade is in progress. When the 7-segment LED displays "00", the upgrade is complete.

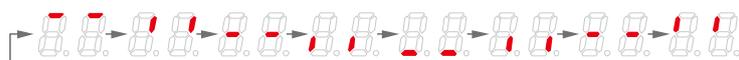


Figure 6: Start-up display

If the 7-segment LED displays "bx" (where x is a number), the upgrade failed.

Following step 2, save the upgrade data again to the SD memory card, and then repeat step 5. During this process, be sure not to delete the recording and settings data saved in steps 3 and 4.

6 Deleting temporary Internet files

After performing the upgrade, if you used the web application, you must clear the web browser and Java Runtime cache by following the procedure below. If the cache is not cleared before proceeding, the web browser's pre- and post-upgrade statuses will be out of synch, resulting in possible malfunction. Note that when the cache is cleared, it may take a few seconds to load pages when you visit them for the first time, but on and after the second time they will be displayed as quickly as before.

6.1 Clearing the web browser's cache (temporary Internet files)

Contact Microsoft for details.

1. Example with Internet Explorer 8 and 9

- ① Click Tools > Internet Options to open the Internet Options properties.
- ② On the General tab, under Browsing History, click the **Delete** button. The Delete Browsing History dialog box appears.
- ③ Under Temporary Internet Files, select the Cookie check box. If the URL of the GX/GP you use has been added to favorites, clear the "Preserve favorites website data" check box and click **Delete**.

2. Example with Internet Explorer 10 and 11

- ① Click the **Tools** button and select Internet Options to open the Internet Options screen.
- ② On the General tab, under Browsing History, click the **Delete** button. The Delete Browsing History dialog box appears.
- ③ Under Temporary Internet Files, select the Cookies and website data check box. If the URL of the GX/GP you use has been added to favorites, clear the "Preserve favorites website data" check box and click **Delete**.

6.2 Clearing the Java Runtime cache

Contact Oracle for details.

Example with Java Runtime 1.7.0_xx (version 7 update xx)

"xx" is 51 or later

- ① On the Start menu click Control Panel to open the Windows control panel.
- ② Double-click Java to open the Java control panel.
- ③ On the General tab, under Temporary Internet Files, click the **Settings** button to open the Temporary Files dialog box.
- ④ Click the **Delete Files** button. In the confirmation dialog box, select the "Cached Applications and applets" and "Traces and log files" check boxes and click **OK**.

7 Checking the version

Confirm whether the upgrade was successful by checking the main unit version number according to step 1.

* Because the upgrade restores all settings to their factory defaults, you must re-enter the IP address. If you do not have the latest versions, return to step 5 and repeat the upgrade.

8 Main unit reconfiguration

You can use the web application to reconfigure the main unit according to the following procedure.

- 8.1 While recording is stopped, confirm that the REC status LED is not lit.
- 8.2 Using the contents selection tool, click Calib > Reconfiguration to display the system reconfiguration screen (see figure 7).
- 8.3 In the system reconfiguration screen, click **Reconfiguration**.
- 8.4 In the Reconfiguration dialog box, click **Execute**. The system is reconfigured. During reconfiguration, the System reconfiguring dialog box appears. When complete, the "M8201 System configuration changed successfully" dialog box appears. Click **OK**. The "W8108 Since the system configuration changed, information will be updated" dialog box appears. Click **OK** and confirm that installed modules are shown under Recognized Module.

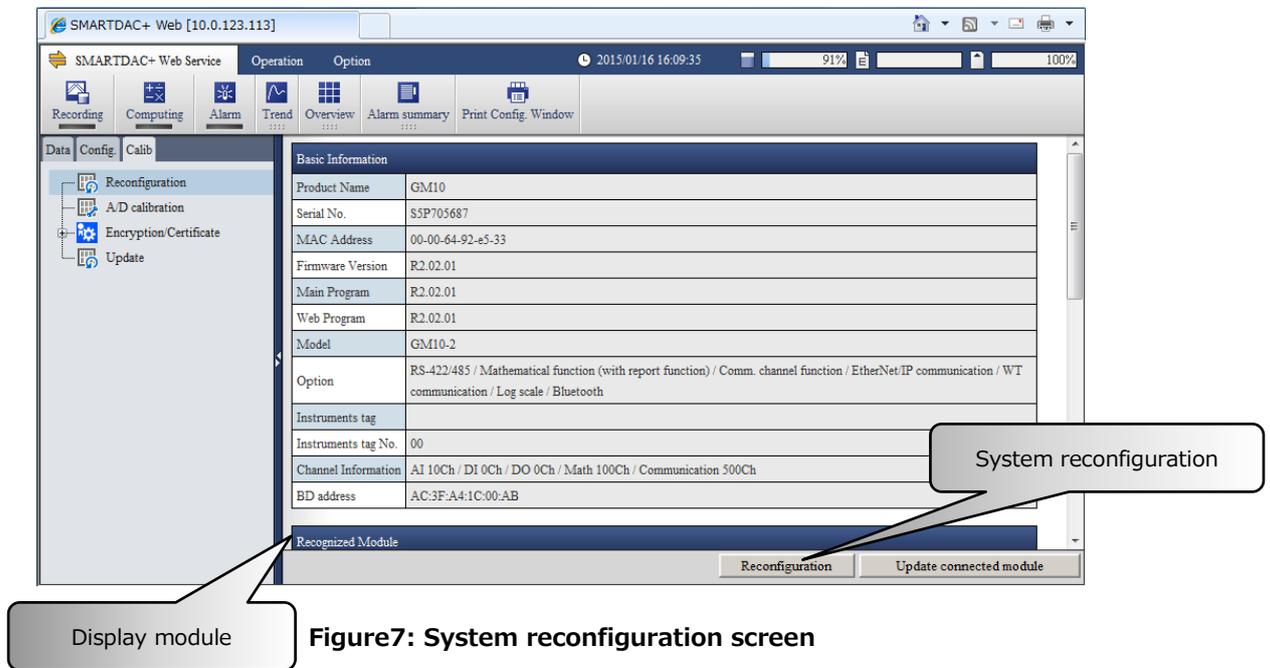


Figure7: System reconfiguration screen

For details on system reconfiguration, see section 2.24.2, "Reconfiguring the GM" in the SMARTDAC+ Data Acquisition System GM User's Manual (IM04L55B01-01EN).

9 Loading main unit settings

Load the settings saved in step 4.

- 9.1 Insert the SD memory card prepared in 4 into the SD memory card slot (see figure 1).
- 9.2 Using the contents selection tool, click Data > Save/Load > File List to open the save/load screen (see figure 8).
- 9.3 In the save/load screen under Folder, select the settings folder you created in step 4.3.
- 9.4 In the save/load screen, click **Load all settings**.
- 9.5 In the Load All Settings dialog box, click **OK**. Loading of settings begins.

Some settings may not be able to be loaded. Check the settings after loading, and re-enter settings if necessary before use.

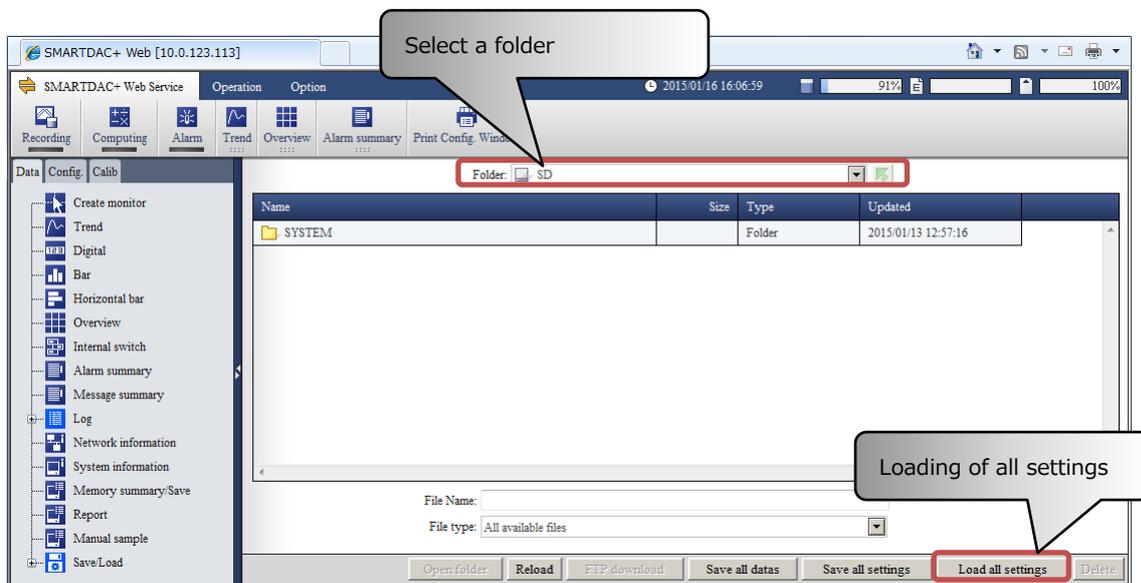


Figure 8: Save/Load screen (3)

10 Upgrading the software

If upgrading to the latest main unit firmware, please also use the latest version of the related software below. Visit the download page on our website for the latest releases of each program.

Related Software

- SMARTDAC+ STANDARD Universal viewer
- SMARTDAC+ STANDARD hardware settings
- SMARTDAC+ Report template builder
- SMARTDAC+ Excel report simulator

Download Site

- <http://www.smartdacplus.com/software/en/>

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