CG-6 Autograv™ Gravity Meter

Firmware Upgrade Guide

Important: Read before Proceeding

Upgrading the firmware may result in the loss of calibration constants in your CG-6 Autograv™ Gravity Meter. Make sure you have these constants properly backed up beforehand.

Make sure your CG-6 Autograv™ Gravity Meter has proper power supply during the entire upgrade process.

Step 0. What you need to upgrade your firmware

- Your CG-6 Autograv™ Gravity Meter
- The supplied Windows tablet or any Windows PC with Bluetooth capability
- CG-6 firmware file. Latest version can be found at
  https://scintrexltd.com/support/product-software-updates/
- **LynxLG** land gravity processing software (pre-installed in the supplied Windows tablet) **or**
- CG-6 Firmware Updater software, downloaded from
  https://scintrexltd.com/wp-content/uploads/2025/06/CG_6_Firmware_Updater_Setup.zip

Step 1. Preparing to upgrade your firmware

1.1 Establish Bluetooth Connection

To perform the firmware upgrade, a Bluetooth connection between your CG-6 Autograv™ Gravity Meter and the tablet or PC needs to be established.

Note: This guide is prepared under Windows 7 environment. The interfaces might be different if you use a different version of Windows operating system.

Click the Bluetooth icon in the taskbar. Choose "Add a Device" in the menu, as illustrated below.

Figure 1-1: Adding a Bluetooth Device from Taskbar

Alternatively you can find "Add a Bluetooth device" in Control Panel.

Figure 1-2: Adding a Bluetooth device from the Control Panel

Choose your CG-6 gravity meter from the list of devices and click "Next"

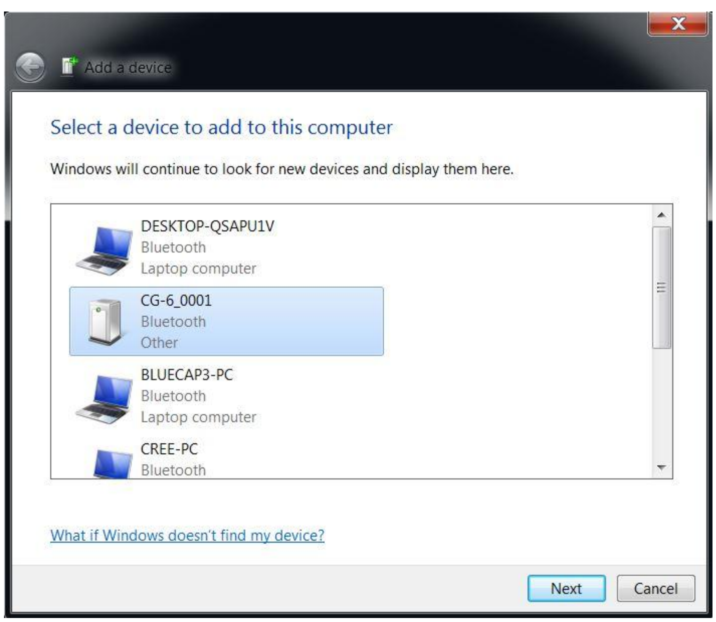


Figure 1-3: Selecting a Bluetooth Device

You will see the screen illustrated below after your CG-6 Autograv™ Gravity Meter has been successfully added to the list of Bluetooth devices. Click Close.

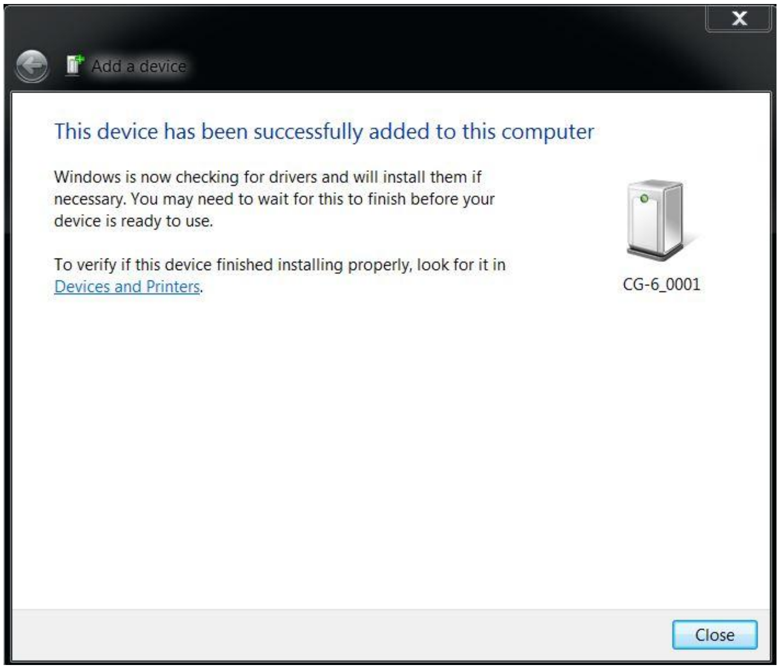


Figure 1-4: Bluetooth Device Successfully Added

1.2 Determine the COM Port Number

Click “Show Bluetooth Devices” in the Bluetooth menu and you should see your CG-6 Autograv™ Gravity Meter in the devices list. Right click the CG-6 icon and select “Properties”.

Figure 1-5: Bluetooth Device Properties

Note: The four digits after “CG-6” in device name indicate the serial number of your unit, which will be different from 0001.

Under the “Hardware” tab find the COM port number (in this example it is COM3). Please keep record of this COM port number to be used in future steps.

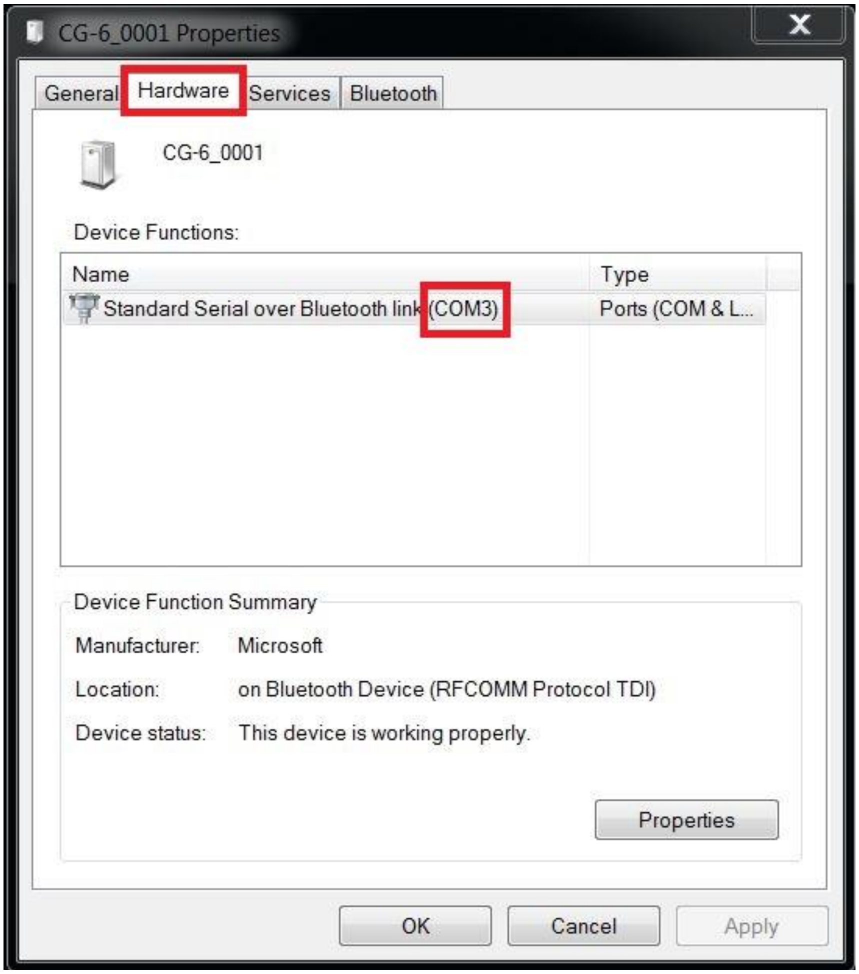


Figure 1-6: Bluetooth Device COM Port

Step 2A. Upgrading CG-6 Firmware with LynxLG Software

Note: If you do not have access to LynxLG land gravity processing software, please proceed to **Step 2B. Upgrading the CG-6 Firmware with CG-6 Firmware Updater Software**

2A.1 Backup Calibration Constants

Launch LynxLG software. Click “Settings” button on the main screen.

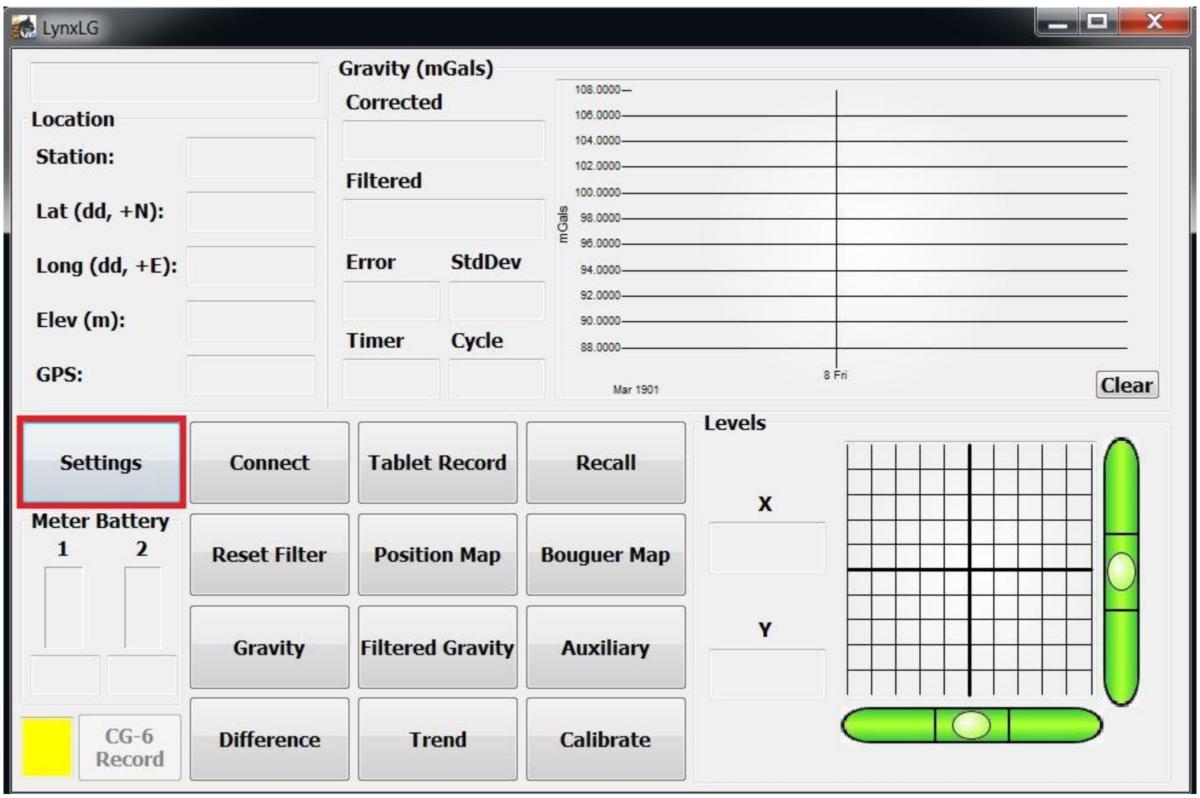


Figure 2A-1: LynxLG Software Main Screen

Go to “Calibration” tab and click “Get/Set Factors”, as illustrated below.

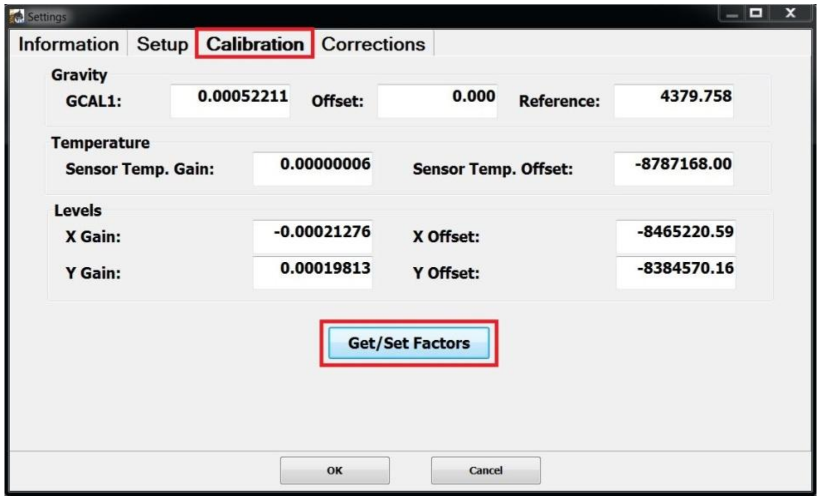


Figure 2A-2: LynxLG Calibration Screen

Click the “Get” buttons to synchronize CG-6 calibration constants to LynxLG as illustrated below. Make sure to click “OK” to save these changes.

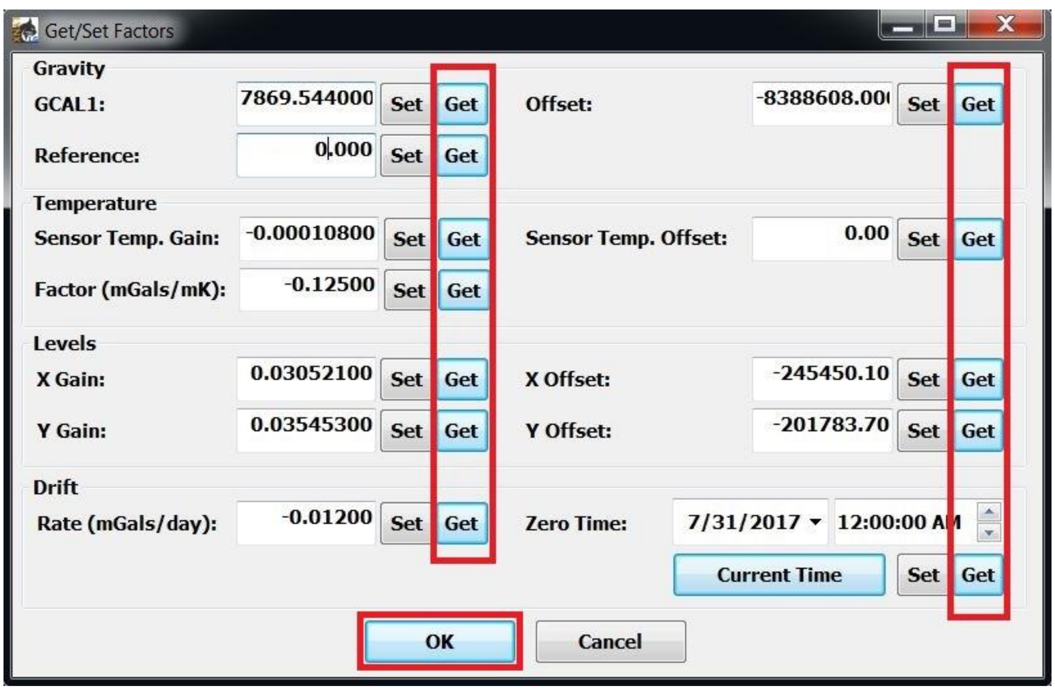


Figure 2A-3: LynxLG “Get/Set Factors” Screen

2A.2 Update Firmware

Return to the main LynxLG software screen as illustrated below. Click the LynxLG icon on the top-left corner and select “Upgrade Firmware” from the menu.

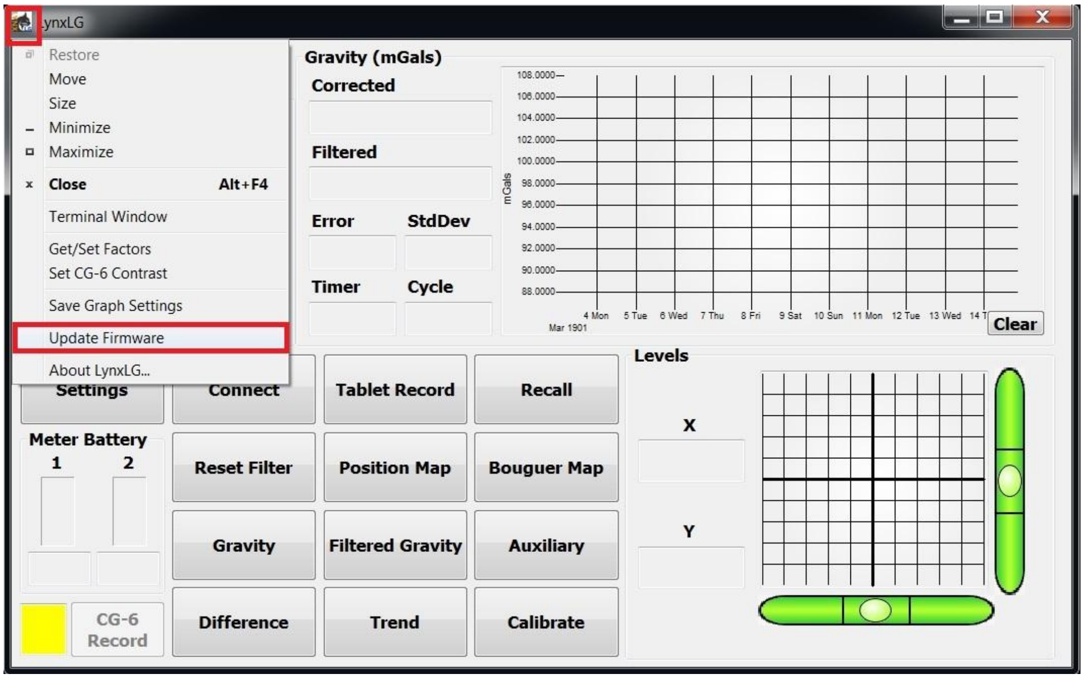


Figure 2A-4: LynxLG Update Firmware Pull-down Menu

Click “Yes” and “OK” in the next two message boxes illustrated below.

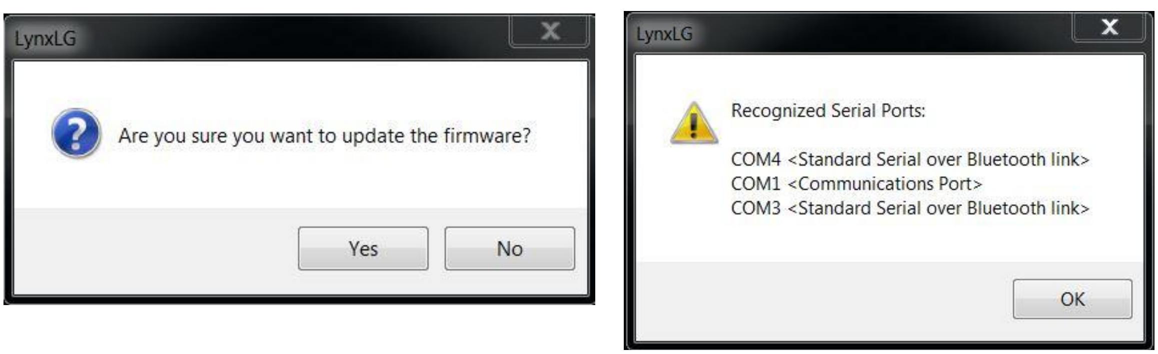


Figure 2A-5: Confirming the Firmware Update

Configure the port setup, as illustrated below. Use the COM port that was assigned to your CG-6 Autograv™ Gravity Meter (refer to "1.2 Determine the COM port number" section if you are unclear). The Baud Rate should be set to 115200, Data Bits to 8, Parity to None and Stop Bit to 1. Click "OK"

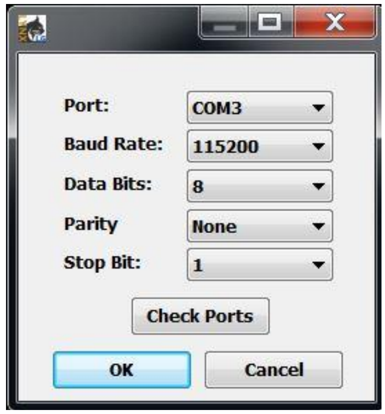


Figure 2A-6: COM Port Configurations

Your CG-6 Autograv™ Gravity Meter will now enter **firmware upgrade mode** as illustrated below.

Figure 2A- 7: CG-6 Screen in Upgrade Mode

Important: Should the upgrade prove to be unsuccessful and your CG-6 Autograv™ Gravity Meter is stuck in the screen illustrated above, perform a power-cycle (disconnect and reconnect all batteries and power cord) to restart your CG-6 Autograv™ Gravity Meter normally.

In the LynxLG software you will see the screen as illustrated below. Make sure that the correct COM port and baud rate have been selected. Click “Connect”.

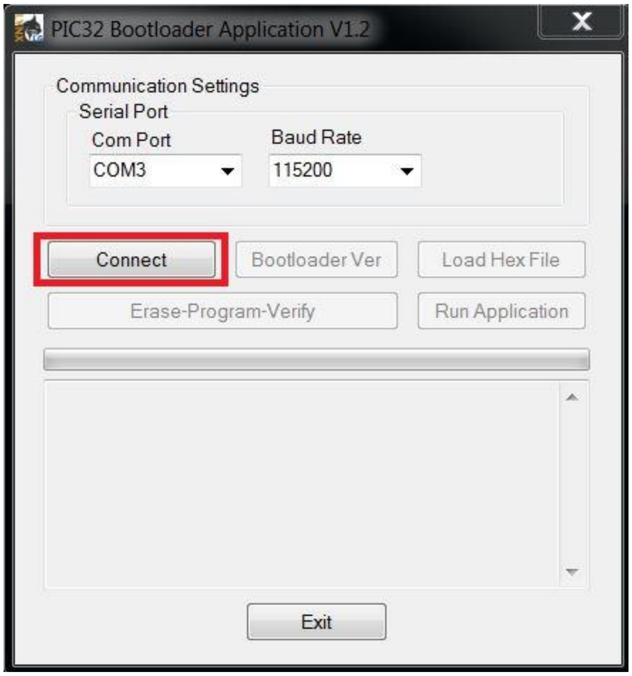


Figure 2A-8: Connecting to CG-6 with LynxLG

After having successfully connected, click “Load Hex File”, as illustrated below.

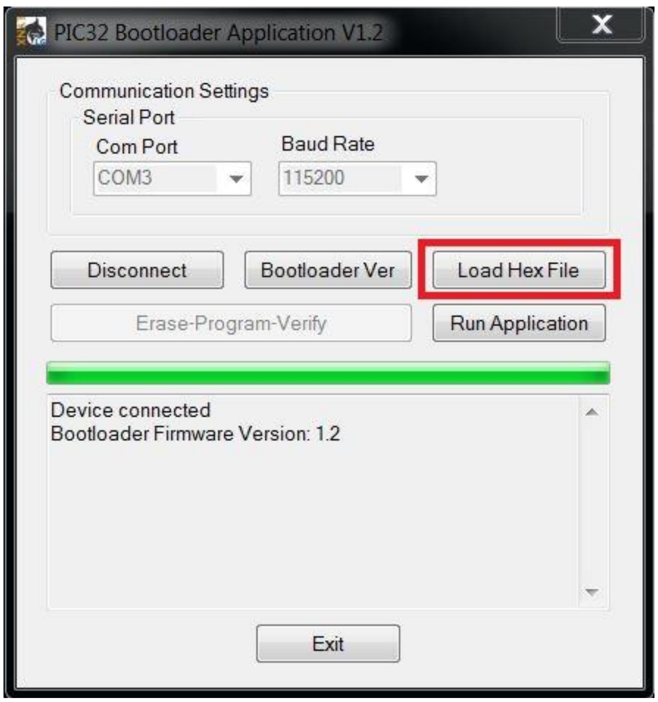


Figure 2A-9: Loading Hex File with LynxLG

Select the *.hex file you would like to flash, as illustrated below.

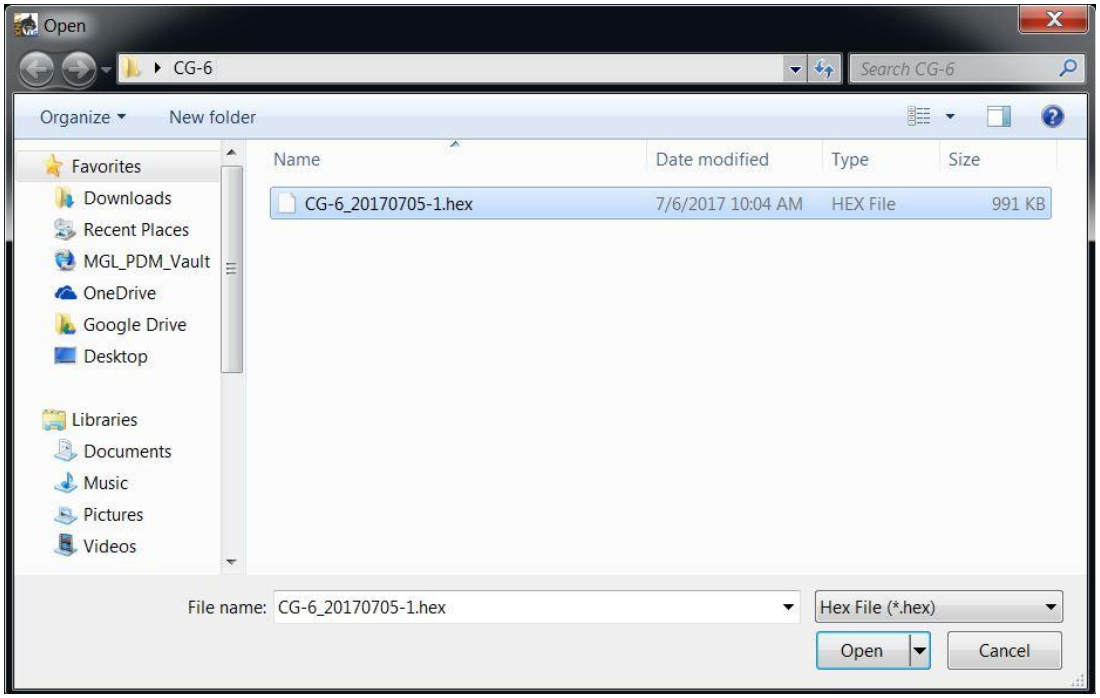


Figure 2A-10: Selecting Hex File with LynxLG

After loading the hex file, click “Erase-Program-Verify”, as illustrated below.

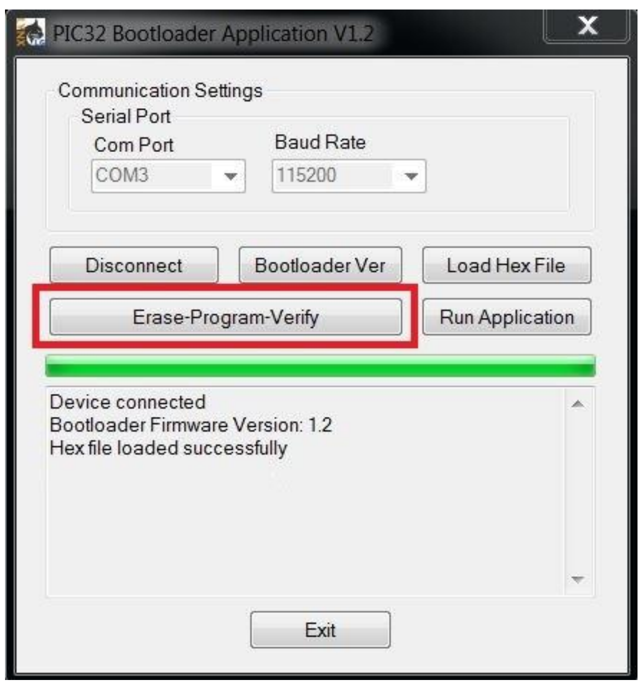


Figure 2A-11: Erase, Program and Verify with LynxLG

Wait until the successful completion of erase, program and verify (this might take several minutes). Then click “Run Application”, as illustrated below.

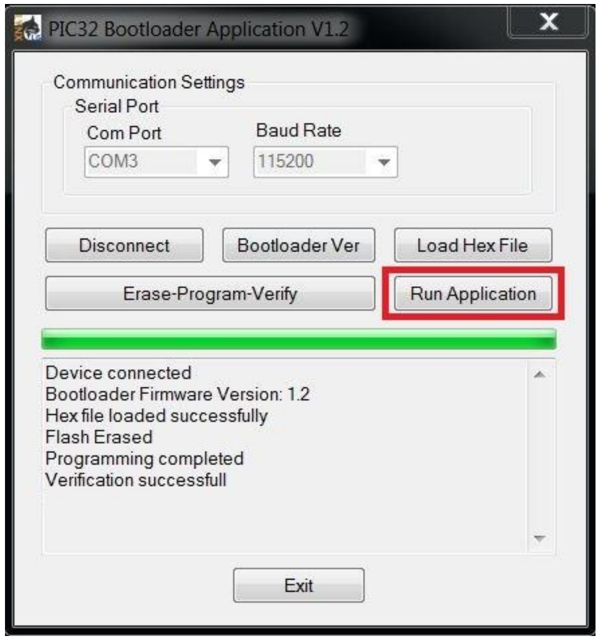


Figure 2A-12: Verification Successful, Run Application with LynxLG

Your CG-6 Autograv™ Gravity Meter should quit the firmware upgrade mode and run the newly upgraded firmware.

2A.3 Restore Calibration Constants

Go back to Settings\Calibration Tab\Get/Set Factors window, as illustrated below. Click all “Set” buttons to synchronize all calibration constants from LynxLG back to your CG-6 Autograv™ Gravity Meter.

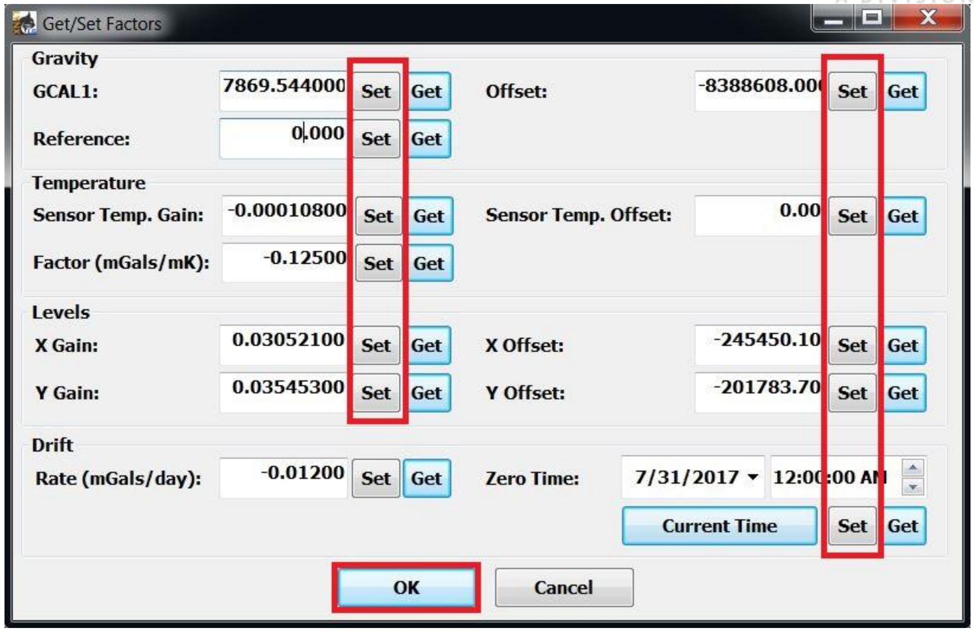


Figure 2A-13: LynxLG "Get/Set Factors" Screen

Note: All above illustrated captions are examples. The constants of your CG-6 Autograv^{TM} Gravity Meter will be different.

The firmware upgrade is complete.

Step 2B. Upgrading the CG-6 Firmware with CG-6 Firmware Updater Software

2B.1 Backup Calibration Constants

On your CG-6 Autograv™ Gravity Meter go to the “SETTINGS\CALIB” screen, as illustrated below. Write down all calibration constants. You may type them in a text file, write them down on paper or simply take a picture of the screen.

CALIBRATION	
GCAL1	8123.236000
G REF [mGals]	0.0000
TEMP COEFF	-0.134000
TEMP SCALE	-0.000111
X SCALE	0.031232
X OFFSET	-193540.169576
Y SCALE	0.031289
Y OFFSET	-148853.480062
DRIFT RATE	0.260000
DRIFT START	2017/07/17 19:47:56
BACK	

Figure 2B-1: CG-6 Calibration Screen

2B.2 Download and Install CG-6 Firmware Updater Software

Download CG-6 Firmware Updater software installer from the following link:
http://www.microglacoste.com/LynxLG/CG_6_Firmware_Updater/CG_6_Firmware_Updater_Setup.exe

Launch the installer and follow the prompts to complete the installation.

2B.3 Update Firmware

Launch CG-6 Firmware Updater Software.

Figure 2B-2: CG-6 Firmware Updater Icon

A pop-up window with a list of all the recognized serial ports will appear. Make sure the serial port assigned to your CG-6 (in this example it is COM3) is in the list and click “OK”.

Refer to “1.2 Determine the COM Port Number” for detailed instruction on how to find the correct COM port number.

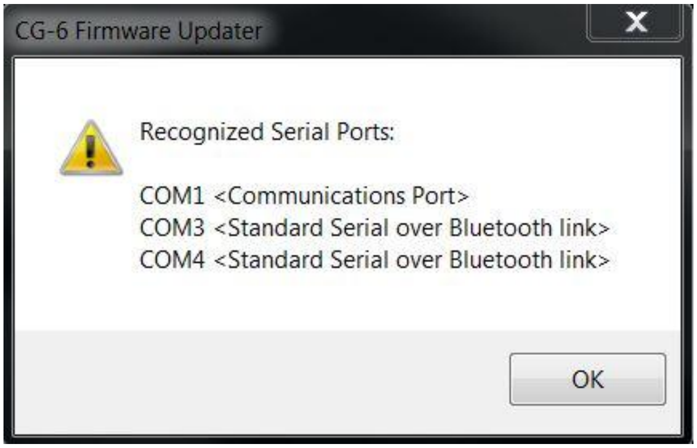


Figure 2B-3: List of Recognized Serial Ports

The main screen of CG-6 Firmware Upgrader will show up. Make sure the correct COM port is selected and Baud Rate is set to 115200. Click “Connect”

Figure 2B-4: CG-6 Firmware Updater Main Screen

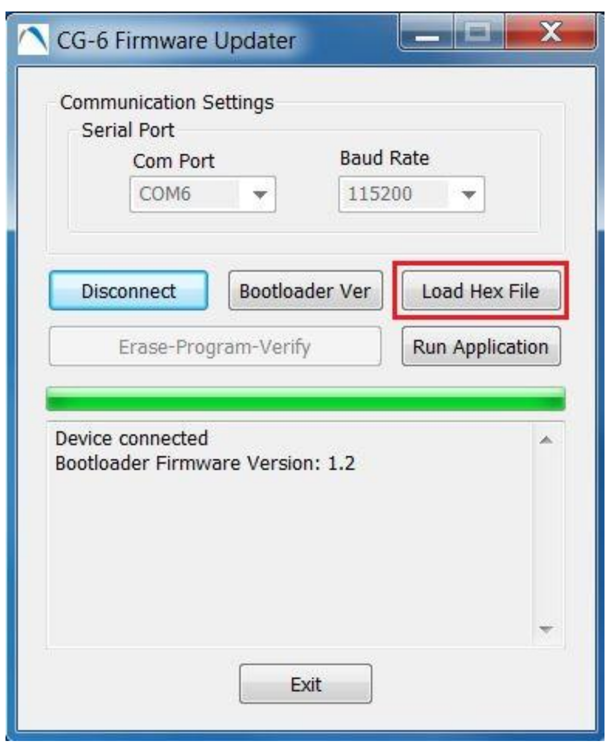
A pop-up window will appear to confirm you want to proceed with the update. Click “Yes”.

Your CG-6 Autograv™ Gravity Meter will now enter **firmware upgrade mode** as illustrated below.

Figure 2B-5: CG-6 screen in Upgrade Mode

Important: Should the upgrade prove to be unsuccessful and your CG-6 Autograv™ Gravity Meter is stuck in the screen illustrated above, perform a power-cycle (disconnect and reconnect all batteries and power cord) to restart your CG-6 Autograv™ Gravity Meter.

Click “Load Hex File” and choose the firmware file (.hex format) you would like to upgrade to.



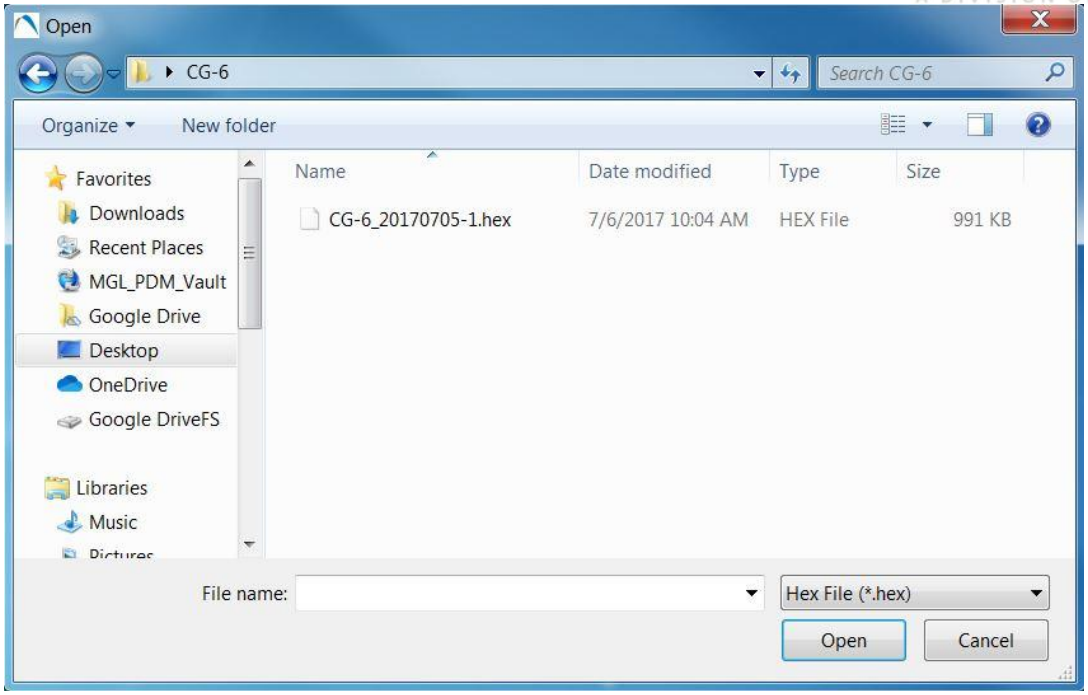


Figure 2B-6: Choosing the Hex File

After successfully loading the hex file, click "Erase-Program-Verify".

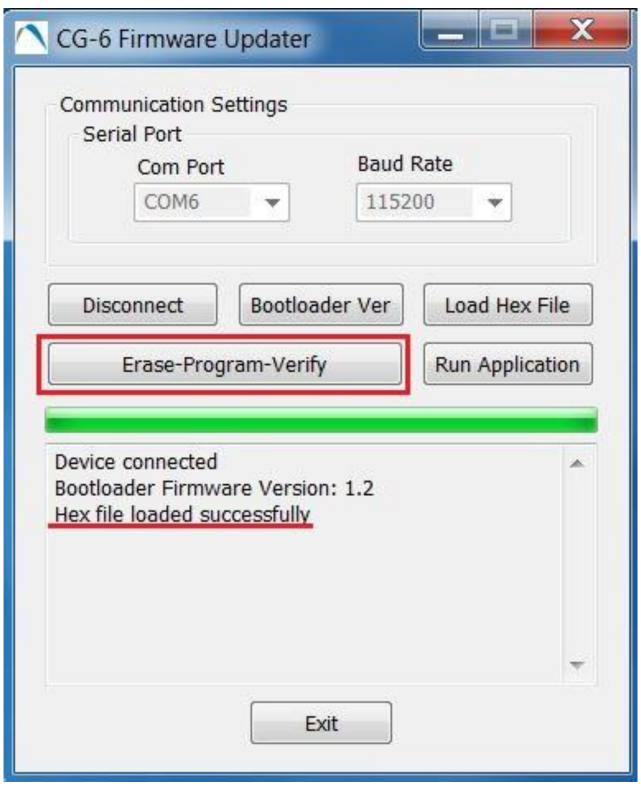


Figure 2B-7: Erase, Program and Verify

Wait until the successful completion of erase, program and verify (this might take several minutes). Then *click* “Run Application”, as illustrated below.

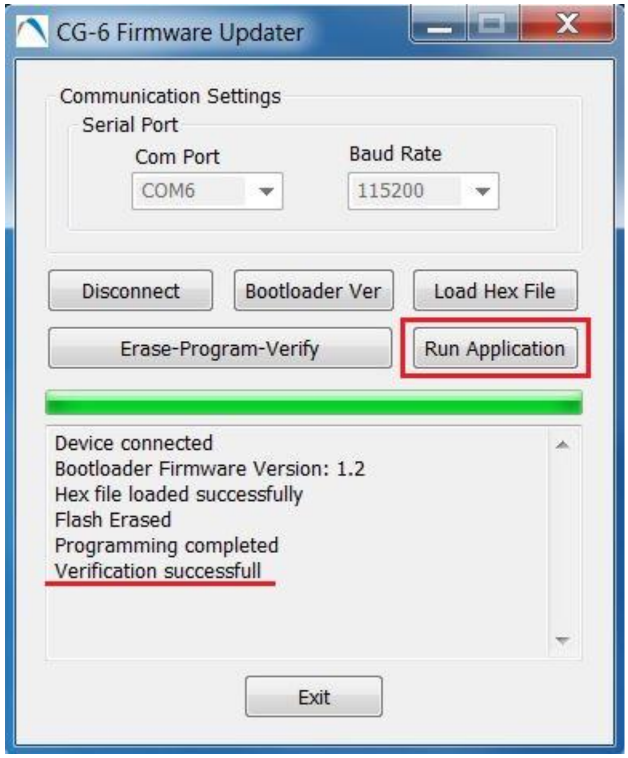


Figure 2B-8: Run Application after Successful Verification

2B.4 Restore Calibration Constants

On your CG-6 Autograv^{TM} Gravity Meter go to the “SETTINGS\CALIB” screen, as illustrated below. Edit each entry with the previously recorded values.

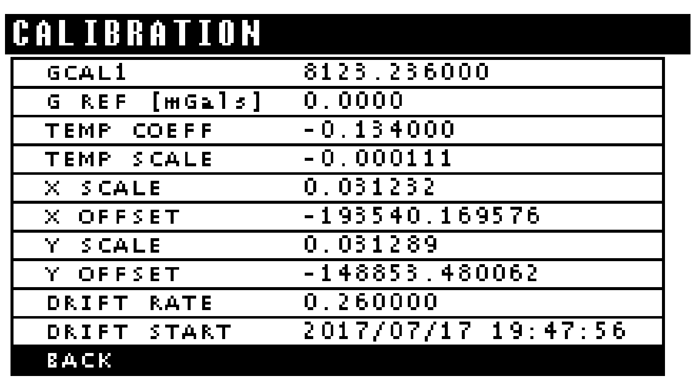


Figure 2B-9: CG-6 Calibration Screen

Note: All above illustrated captions are examples. The constants of your CG-6 Autograv™ Gravity Meter will be different.

The firmware upgrade is complete.