



**February, 2012**

**G450 / G460  
Using the firmware and  
configuration update  
programs**

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**G450 / G460 Advanced  
Service Procedures**

**WARNING:  
Advanced  
service  
procedures  
should only  
be undertaken  
by authorized  
personnel**



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## Updating G450 / G460 Firmware

- **You will need:**
  - **Latest firmware version to be installed**
    - **Latest version can be downloaded from [www.goodforgas.com](http://www.goodforgas.com)**
  - **Charger cradle and data download interface cable**
    - **Make sure the GfG drivers for the interface cable have been installed on your computer**



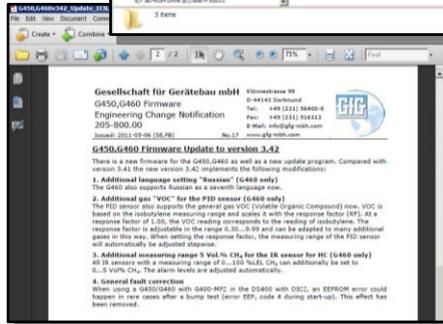
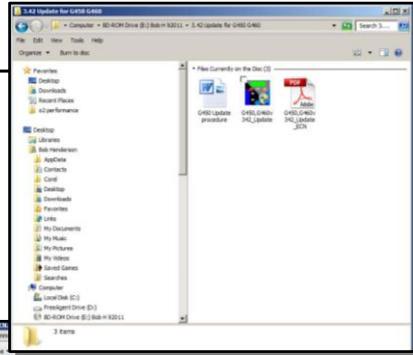
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## Update firmware: Step 1

- **Load the new "Update firmware" application onto your computer**
  - **The latest version can be downloaded at [www.goodforgas.com](http://www.goodforgas.com)**
- **Read the description of changes from the previous version**
- **Decide whether to proceed with update**



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## Update firmware: Step 2

- **Connect download interface cable to cradle and connect cable to USB port in computer**
- **Turn instrument on then place in cradle**



- **Make sure neither the instrument or computer run out of power during update procedure**
- **Make sure battery gauge in LCD shows at least two segments**
- **Do not disconnect or disturb interface cable and instrument during update process**



Battery power gauge

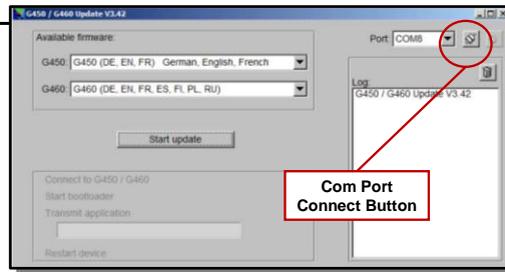
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## Update firmware: Step 3

- **Open G450 / G460 Update program**
- **Select com port from pull down menu then click on "connect" button**
  - **Note: Correct com port is usually the one with the highest number**
- **Choose desired set of languages from pull-down menu**
  - **G450 supports sets of three languages at a time as choices in on-board memory**
  - **G460 supports all available languages at same time in on-board memory**

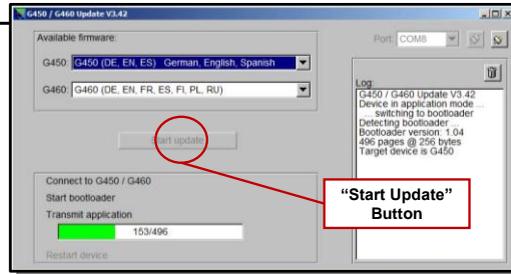


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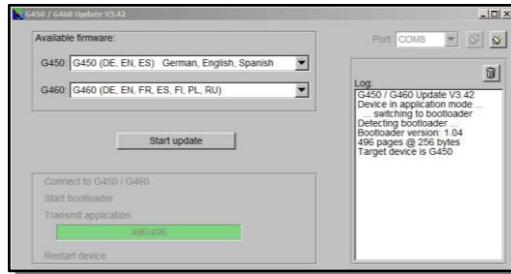


## Update firmware: Step 4

- Click on “Start Update” button
  - A green status bar will indicate progress
- The instrument will turn itself back on in normal operation when the update is complete



- The instrument must be calibrated before it is put back into service!



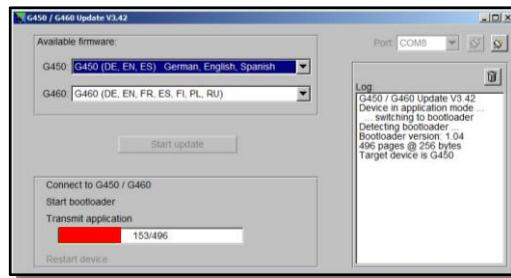
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## Update firmware: If a problem is encountered

- A red status bar indicates a problem has been encountered
- Remove the instrument from the cradle, then replace in cradle and click on the start button to repeat the update process

- If the update application fails to restart the procedure, try momentarily disconnecting the interface cable from the computer, and / or closing and restarting the update application



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## Configuration Update Software

- **Warning:**
  - GfG “Config update” software is primarily designed for use during factory production procedures
  - Use of GfG “Config update” software is restricted to factory trained and authorized service technicians
  - Use ONLY those “Config update” choices which are absolutely necessary to complete the required service procedure



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## Using Configuration Update Software

- **You will need:**
  - **Charger cradle and data download interface cable**
    - Make sure the GfG drivers for the interface cable have been installed on your computer
  - **GfG “Config update” software**
    - Latest version can only be obtained from GfG factory headquarters in Ann Arbor, Michigan
    - Contact factory to obtain latest version



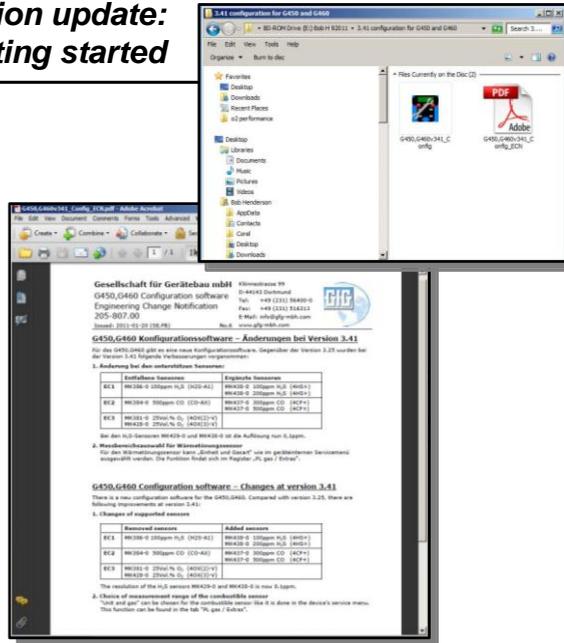
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## Configuration update: Getting started

- Load the “Config update” software onto your computer
- Read the ECN (“Engineering Change Notice”) that explains the changes from the previous version
- Decide whether to proceed with update

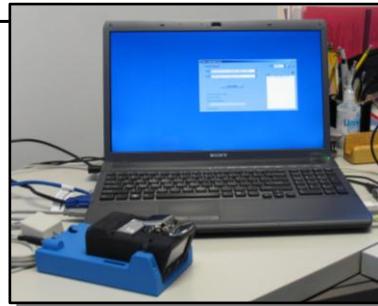


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## Configuration update: Connecting with computer

- Connect download interface cable to cradle and connect cable to USB port in computer
- Turn instrument on then place in cradle



- Make sure neither the instrument or computer run out of power during update procedure
- Make sure battery gauge in LCD shows at least two segments
- Do not disconnect or disturb interface cable and instrument during update process



Battery power gauge

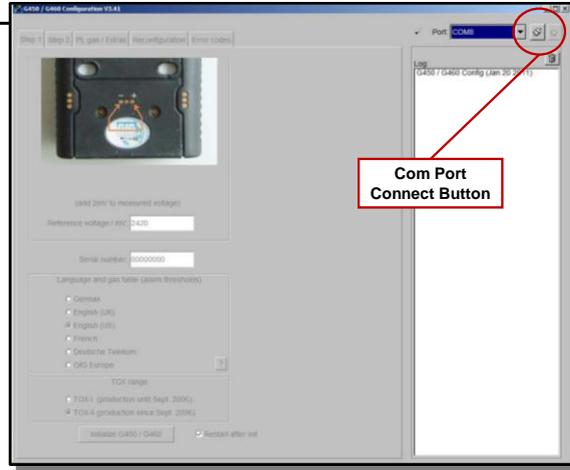
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## Configuration update: Open com port

- Open G450 / G460 “Config update” program
- Select com port from pull down menu then click on “connect” button
- Correct com port is usually the one with the highest number



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## Configuration update: “Step 1” screen

- After successfully opening com port “Config update” software opens on the “Step 1” screen
- The choices in the “Step 1” screen are used during in-factory production procedures
- Do not make any changes in the “Step 1” screen
- Do not initialize instrument!



DO NOT INITIALIZE INSTRUMENT!

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## Configuration update: "Step 2" screen

- "Step 2" screen used to reset sensor warranty expiration dates or pick different type of sensor for installation in the identified sensor location
- Click "Read config from G450" button to verify the current sensor settings and warranty expiration dates
- Click "single sensor config" to reset the warranty clock with today's date (the new warranty exp date will be three years from today)

Do not "write config to all sensors" unless you have replaced all of the sensors with brand new sensors!

DO NOT CLICK "WRITE CONFIG TO ALL SENSORS"



## Configuration update: PL gas / extras screen

- The choices in the "PL gas / extras" screen are exclusively used during in-factory production procedures
- Do not make any changes in the "PL gas / extras" screen



## Configuration update: Reconfiguration screen

- The “Reconfiguration” screen is used to assign a new serial number to the instrument

- Make sure the assigned serial number matches the serial number on the external label
- NEVER turn-off (deselect) “Data logger”
- NEVER turn-off (deselect) “Vibrator”

G450 / G460 Configuration V3.41

Step 1 | Step 2 | PL gas / Extras | **Reconfiguration** | Error codes

Read configuration

G450/G460 S/N: 11069680

Data logger:

Vibrator:

Access restricted:

AutoCal on start-up:

Bump test interval: 30

Calibration interval: 180

Write configuration

Set time

Next inspection: + 6 months + 12 months

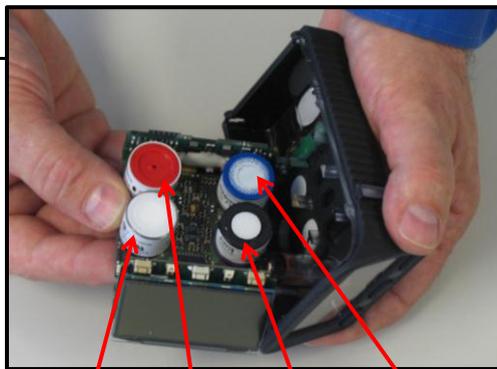
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## G450 Sensor replacement

- In the G450 the sensor positions are defined
- Identify the sensor you intend to replace
- Remove and replace the required sensors
- **IN THE G450 THE SENSOR YOU REMOVE MUST BE REPLACED WITH THE EXACT SAME TYPE OF SENSOR IN THE EXACT SAME POSITION,**
- **SWITCHING SENSOR POSITIONS WILL RESULT IN CALIBRATION OR SENSOR TEST FAILURE WHEN THE INSTRUMENT IS RESTARTED**



LEL (stainless steel housing)

CO (red top)

H2S (blue ring top)

Oxygen (purple housing)

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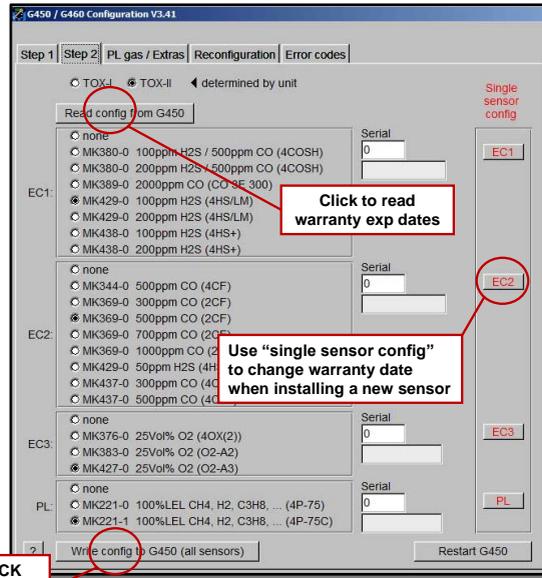
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## Resetting the warranty expiration date for a new G450 sensor

- In the G450 replacing an old sensor with a new one does not automatically update the warranty exp date
- When a sensor is replaced with a newly purchased sensor the warranty exp date should be updated
- "Config update" software is used to update the warranty expiration to 3-years from today's date
- Use the "Step 2" screen and "single sensor config" choice to update ONLY the warranty expiration dates of the newly installed sensor(s)

• Normally, when a sensor is replaced under warranty the original warranty date should NOT be updated

DO NOT CLICK "WRITE CONFIG TO ALL SENSORS"



## G460 sensor replacement

- G460 sensors are equipped with "smart" PCBs that identify the type of sensor and other settings to the instrument
- As long as the type of sensor is supported when installed in a particular position on the PCB, the instrument will automatically update the sensor configuration when it is restarted



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## Returning the instrument to service

- **Calibrate ALL sensors in the instrument (whether or not they have been changed) before returning the instrument to service**
- **It is best to let new sensors stabilize in the instrument for 30 minutes prior to calibration**



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## Questions?

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