

Firmware Update 3.05 – MSA G1 SCBA

The MSA G1 SCBA was developed with the promise to provide continuous product support, most importantly enhancements to product performance, further elevating the overall G1 SCBA experience. Fulfilling that promise, MSA is pleased to announce the release of the **G1 SCBA Firmware 3.05**. This firmware update provides several product enhancements related to Bluetooth audio clarity and hardware alarm diagnostics. We kindly request that you perform the steps outlined in this document at your earliest opportunity.

To ensure updates are executed as swiftly and easily as possible, MSA incorporated Bluetooth technology into every G1 SCBA. The Bluetooth link will allow every G1 SCBA to be updated wirelessly with new firmware. This document provides step-by-step instructions on how to perform the G1 SCBA Firmware 3.05 update as well as information regarding compatibility requirements and commonly asked questions.

Previous Firmware Update 3.03

MSA previously released firmware version 3.03 to provide new data-logging and battery features to support the NFPA 2018 standard release as well as improvements to audio clarity and Bluetooth volume. No additional changes were included in firmware version 3.03. New firmware version 3.05 provides additional enhancements to further optimize the G1 SCBA. Firmware version 3.03, and prior firmware versions are not required to be installed before updating to version 3.05, however the time to update to version 3.05 will be extended.

G1 Firmware 3.05 Notes:

Control Module and Power Module update

Enhancements:

- Firmware Error Code Enhancements – Red X without Error Code
- Update to Control Module Service Mode Screen for NFPA 2018
- Audio Performance Enhancement for Bluetooth Communications

Compatibility of Component Versions

Every time the G1 SCBA is turned on, a hardware and firmware check is performed to verify compatibility. With the introduction of new firmware versions, the system will alert the user by the hardware alarm when all components of the SCBA are **not** the same version. This scenario may occur following a G1 SCBA service where an electronic module is replaced with a new electronic module. All repair and replacement components from MSA will have the latest version of firmware installed prior to shipping.

To correct the compatibility of electronics:

Step 1: Remove the battery when the G1 SCBA hardware (HW) alarm is active.

NOTE: *Double pressing the green reset buttons on the control module will not turn the SCBA off when the unit is in HW alarm.*

Step 2: Reinstall the battery into the G1 SCBA. Once the startup screen is complete (after approximately 5 seconds), quickly turn off the G1 SCBA by double pressing a green reset button on the control module. The G1 SCBA must be powered off before it enters HW alarm.

NOTE: *If the G1 SCBA goes into hardware alarm, repeat steps 1 & 2.*

Step 3: Place the G1 SCBA into **Service Mode** by pressing and holding either of the green reset buttons on the control module until the service mode screen appears (~10 sec).

Step 4: Follow the steps to update the G1 SCBA firmware. The system will detect which components have older firmware versions and update only those requiring the latest version. Once complete, restart the system to clear the hardware alarm.

NOTE: *If the hardware alarm is not cleared after the update, contact MSA customer service at 1-800-MSA-2222.*

Updating to G1 SCBA Firmware 3.05

Required Components:

- Personal Computer (PC) with Bluetooth capability (or using P/N 10161282-SP)
- Installation of MSA A2 Software. Before starting, verify the bootloader version that is installed in the G1 Power Module by entering Service Mode and selecting System Info. The power module bootloader version will be B 1.006 or lower, OR B 1.008 or higher.

Step 1: Connect the PC to the internet and start the MSA A2 Software.

Step 2: Place up to six (6) SCBA into **Service Mode** by pressing and holding a green reset button on the control module until the service mode screen

appears (~10 sec). Position the SCBAs as close to the PC as possible.

NOTE: G1 SCBAs must have the same bootloader installed. If they do not, only one (1) SCBA will update at a time.

Step 3: Scroll down and choose **Data Link** with the red CM button. (To scroll up and down, use the green reset buttons.)



Step 2 & 3

Step 4: The SCBA Bluetooth address will appear on the screen. It may take up to 30 seconds for it to appear. Wait until the address appears on the control module displays. For later reference, record the last two digits.



Step 4

Step 5: Within the MSA A2 Software, select **G1 Firmware** and select the **Check for Updated Firmware** button in the upper right corner of the window to search for the latest firmware version.



Step 5

Step 6: Select **Software Version 3.05** and select **YES** to download the image to the PC. **Only download the image once to the PC.**

Step 7: Select the correct boot loader for the SCBA(s).

NOTE: G1 SCBAs must have the same bootloader installed. If they do not, only one (1) SCBA will update at a time.

Step 8: From the G1 Firmware update screen, select the **Scan for G1 Devices** option.



Step 8

Step 9: Select devices matching the address of the G1 SCBA. If the name is cropped, use the address which is listed in smaller font on the lower right corner of the icon.

NOTE: Perform updates on up to six (6) SCBA at a time. Some PCs will not be capable of handling more than one (1) SCBA at a time. If unsuccessful with six (6) SCBA, then only program one (1) at a time.



Step 9

Step 10: Select the **Upload firmware to devices** option in the lower right corner of the A2 window. Choose **Yes** to proceed.



Step 10

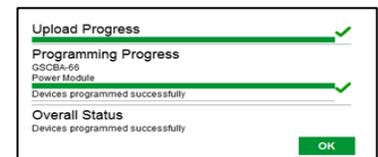
IMPORTANT: At this time, devices will turn off and A2 will attempt to connect with the devices to start the reprogramming process. One of the following situations will occur:

- (1) A2 begins boot loading G1 SCBAs and the reprogramming process will be completed on all G1 SCBAs.
- (2) A2 does not connect with one of the G1 SCBAs and the G1 SCBA starts up normally. This G1 SCBA is currently not being reprogrammed and can be turned off (quick double press of reset button) for this series of reprogramming. This G1 SCBA can be reprogrammed as part of the next set of reprogramming. **DO NOT cancel the update process for the other G1 SCBAs.**
- (3) A2 does not connect with any G1 SCBAs and the G1 SCBAs start up normally. Turn off all G1 SCBAs and repeat steps 1 – 10.
- (4) A2 begins to program one or multiple G1 SCBAs and fails during programming (the PM flashes and the CM will be off). **DO NOT REMOVE the G1 battery or rescan A2 for the device.** Leave the G1 SCBAs in their current state and re-attempt programming by selecting “Upload firmware to devices”. Repeat this step until the G1 SCBAs program.

WARNING: DO NOT cancel the A2 reprogramming process or move the G1 SCBA that are being reprogrammed. The G1 SCBA that started normally can be turned off until the programming process completes for the other G1 SCBAs. Canceling the programming process or removing the battery from the G1 SCBA may cause a programming error.

NOTE: Approximately 6 minutes are required to update firmware when the Power Module is programmed. Additional time may be required if the G1 SCBA is updating from a firmware version 3.0 or lower.

Step 11: When the update completes, the G1 SCBA will reboot and A2 will show an indication of success.



Step 11

To verify the new firmware version

- Step 1:** Place the G1 SCBA into **Service Mode** by pressing and holding a green reset button on the control module until the service mode screen appears (~10 sec).
- Step 2:** Scroll down and select **System Info** using the red alarm button. (To scroll up and down, use the green reset buttons.)
- Step 3:** All modules show hardware (H), software (S), and bootloader (B) versions. The new software version will read **S 3.00** for the regulator, **S 3.05** for the control module, and **S 3.05** for the power module.

Frequently Asked Questions

1. *Will the G1 SCBA continue to operate normally if the firmware is not updated?*

MSA recommends updating the G1 SCBA firmware to the latest version to ensure optimal performance and new feature addition. However, the G1 SCBA will continue to operate as it does today if the firmware is not updated.

2. *Where to obtain MSA A2 Software?*

The following link provides access to MSA A2 Software, as well as licensing information.

<http://us.msasafety.com/productSoftwareDownloads>

3. *How to find out if the G1 SCBA has the latest firmware?*

To verify firmware version, place the G1 SCBA into Service Mode and review System Info. System Info displays the G1 SCBA's software version; the new firmware version will read **S 3.00** for the regulator, **S 3.05** for the control module, and **S 3.05** for the power module.

4. *How much time is needed to update the G1 SCBA?*

The process requires approximately 20 minutes per G1 SCBA to update to firmware 3.05 if firmware 3.03 is already installed. If updating from version 3.0 or older, the process requires approximately 28 minutes.

5. *How much time is needed to download the G1 SCBA datalog?*

The process requires approximately 4 minutes per G1 SCBA to download the datalog. For downloading the G1 SCBA datalog, please review the A2 Operating Manual:

<http://us.msasafety.com/productSoftwareDownloads>

6. *How to obtain the latest firmware version?*

To obtain the latest firmware version, install MSA A2 Software and select G1 Firmware. The software reaches MSA servers and downloads the latest version.

7. *May more than one (1) G1 SCBA be updated at a time?*

Yes. Following the instructions shown above, up to six (6) G1 SCBAs may be updated at a time. Instructions must be followed carefully to ensure a successful update. Some personal computers are not capable of reprogramming more than one (1) G1 SCBA at a time. If the steps above do not work for six (6) G1 SCBAs, program only one (1) G1 SCBA a time.

8. Does MSA plan to release additional firmware updates?

MSA continues to investigate new technology and additional features to implement into the G1 SCBA. Currently MSA does not have a set release date for a new version, however MSA will communicate when additional firmware updates are made available.

9. A G1 Control Module was replaced and now the SCBA is in hardware alarm. What is causing the alarm?

The replacement control module has the latest version of firmware (3.05) while the other G1 SCBA components have a previous version. To clear the hardware alarm, follow the steps listed in this document to update firmware for the remaining electronic modules.

10. A G1 Regulator Module was replaced and now the SCBA is in hardware alarm. What is causing the alarm?

The replacement regulator module has the latest version of firmware (3.0) while the other SCBA components have a previous version. To clear the hardware alarm, follow the steps listed in this document to update firmware for the remaining electronic modules.

11. A G1 Power Module was replaced and now the SCBA is in hardware alarm. What is wrong with the unit?

The replacement power module has the latest version of firmware (3.05) while the other G1 SCBA components have a previous version. To clear the hardware alarm, follow the steps listed in this document to update firmware for the remaining electronic modules.

12. Are warranty points awarded for performing SW 3.05 update?

Yes, MSA CARE certified channel partners, with a Warranty Claims account, will receive 5 warranty points per G1 SCBA that is updated to SW 3.05. To submit warranty claims, please visit: <http://us.msasafety.com/resources>.

13. MSA A2 Software is not updating the G1 SCBA, and a Red X is displayed during the update. What is causing the issue?

- Adjust PC sleep timer to a duration greater than 30 minutes
- G1 SCBA Batteries with at least 75% charge will maximize update performance
- Do NOT remove G1 SCBA battery during update. If an issue occurs during the G1 SCBA update, restart A2 Software re-attempt G1 SCBA update.