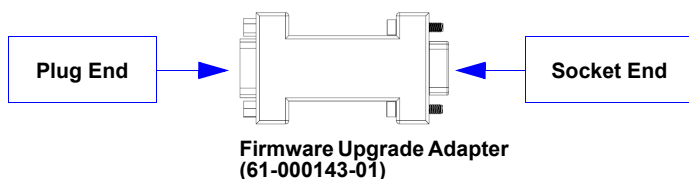# MICROSCAN.

MS-2 Firmware Update Guide

Application code versions are specific to your MS-2. Consult with your sales representative before downloading application code. If needed, application code will be sent to you in the form of a ***.mhx** file.
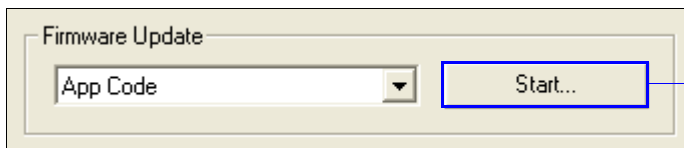
Contact Microscan's help desk if you have difficulty downloading application code to the MS-2: **helpdesk@microscan.com**.

Downloading Application Code to the MS-2

1. Connect to the MS-2 via ESP.
2. Verify your current firmware using **Firmware Verification** in **ESP Utilities**.
3. Power-off the reader by detaching the reader cable from the IC-3USB adapter (if you are connected by USB) or IC-332 adapter (if you are connected by RS-232).
4. Attach the plug end of the Firmware Upgrade Adapter (61-000143-01) to the reader cable.

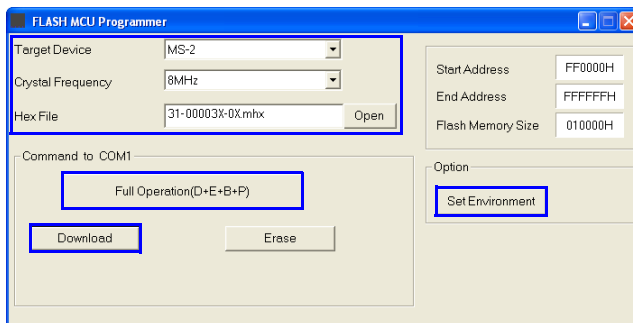**Firmware Upgrade Adapter (61-000143-01)**

5. Attach the socket end of the Firmware Upgrade Adapter to the IC-3USB adapter (if you are connected by USB) or IC-332 adapter (if you are connected by RS-232) and power-on the reader.
6. Click the **Start** button in **ESP Utilities** to open the firmware update utility.
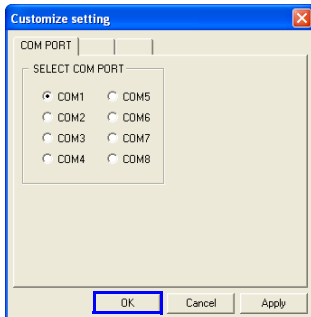

Click the **Start** button in **ESP Utilities** to open the firmware update utility.

7. Select **MS-2** from the **Target Device** dropdown menu.
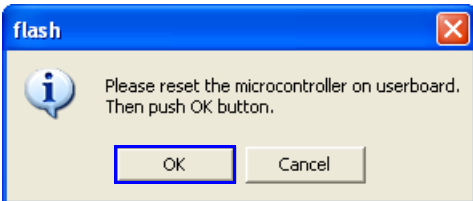8. Select **8MHz** from the **Crystal Frequency** dropdown menu.
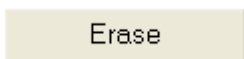

(Continued on next page)

9. Click **Open**, select the appropriate firmware file (**31-000037-XX.mhx**) and click **OK**.
10. Click the **Set Environment** button to bring up the COM Port menu.
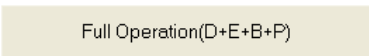

11. Select the appropriate COM Port and click **OK**.
12. Click the **Download** button. When the following dialog appears, cycle power to the reader (turn power off and then back on) and then click **OK** to continue.

13. Click **OK** again once firmware is downloaded.
14. Click the **Erase** button to clear old firmware.

15. Click **OK** again when you see the dialog stating that old firmware has been erased.
16. Click the **Full Operation(D+E+B+P)** button. When the dialog shown in step 12 appears, cycle power to the reader (turn power off and then back on), and then click **OK** to complete the download process.

17. Click **OK** again when you see the dialog stating that the firmware download is complete.
18. Detach the Firmware Upgrade Adapter (61-000143-01) and re-connect the MS-2 in its original configuration.
19. Verify installation of the new firmware using **Firmware Verification** in **ESP Utilities**.
20. If the firmware update procedure fails, check hardware and pinout connectivity, and repeat the procedure.

Caution: Do not interrupt power or disconnect the host cable while download is in progress. Be sure that each download is complete before moving on to the next.

Important: When updating firmware, be sure that the application code and boot code versions are mutually compatible.