



SERVICE BULLETIN

MXS Software Upgrade to SW07061

SB07059

August 2024

Products Affected

The MXS 10-0000 with software part number SW06990 or SW07027 is affected.

Description

This service bulletin provides instructions for loading MXS with updated software SW07061.

Certification Authorization

TSO Authorization

Compliance

Recommended: Compliance with this service bulletin is recommended at the next scheduled maintenance interval for aircraft with a single antenna installation.

Required: Compliance with this service bulletin is required for aircraft with a diversity (dual) antenna installation.

Purpose

The MXS update is identified as 10-0000 MOD B with software part number SW07061, MXS software SW07061 contains the following changes.

- Corrects an issued where CPR odd and even encoding of ADS-B Out Position Messages do not alternate top and bottom antennas correctly causing the receiver of the Position Message to not establish a track or cause track delay.
- Improves functionality of the Operating Response Message
- Removes the automatic setting of SDA/SIL values based on GPS source. These values are now set from the values in the Installation Message

Procedure

Follow these procedures to modify MXS equipment to MOD B. For assistance contact our [Customer Support Team](#).

Material

The following table lists the material necessary to complete this procedure. Contact our [Customer Support Team](#) to obtain material.

Table 1 Required Materials List

Item #	Material	Part Number	Quantity	Source
1	LABEL, MXS	11-0398	1	Sagetech
2	SW/FW SERIAL IMAGE, MXS_MOD_B	SW07061 Rev 01	1	Sagetech

Tools

The following table lists the tools required to complete this procedure. Contact our [Customer Support Team](#) to obtain required tools.

Table 2 Required Tools List

Item #	Tool	Part Number	Source
1	MXS COM TEST GUI	APP06986	Sagetech
2	MXS Cable Interface Box	11-0423	Sagetech
3	MXS Generic Cable	11-0382	Sagetech

Reference Documents

The documents listed in the table below are useful references but not required to complete the Service Bulletin procedure.

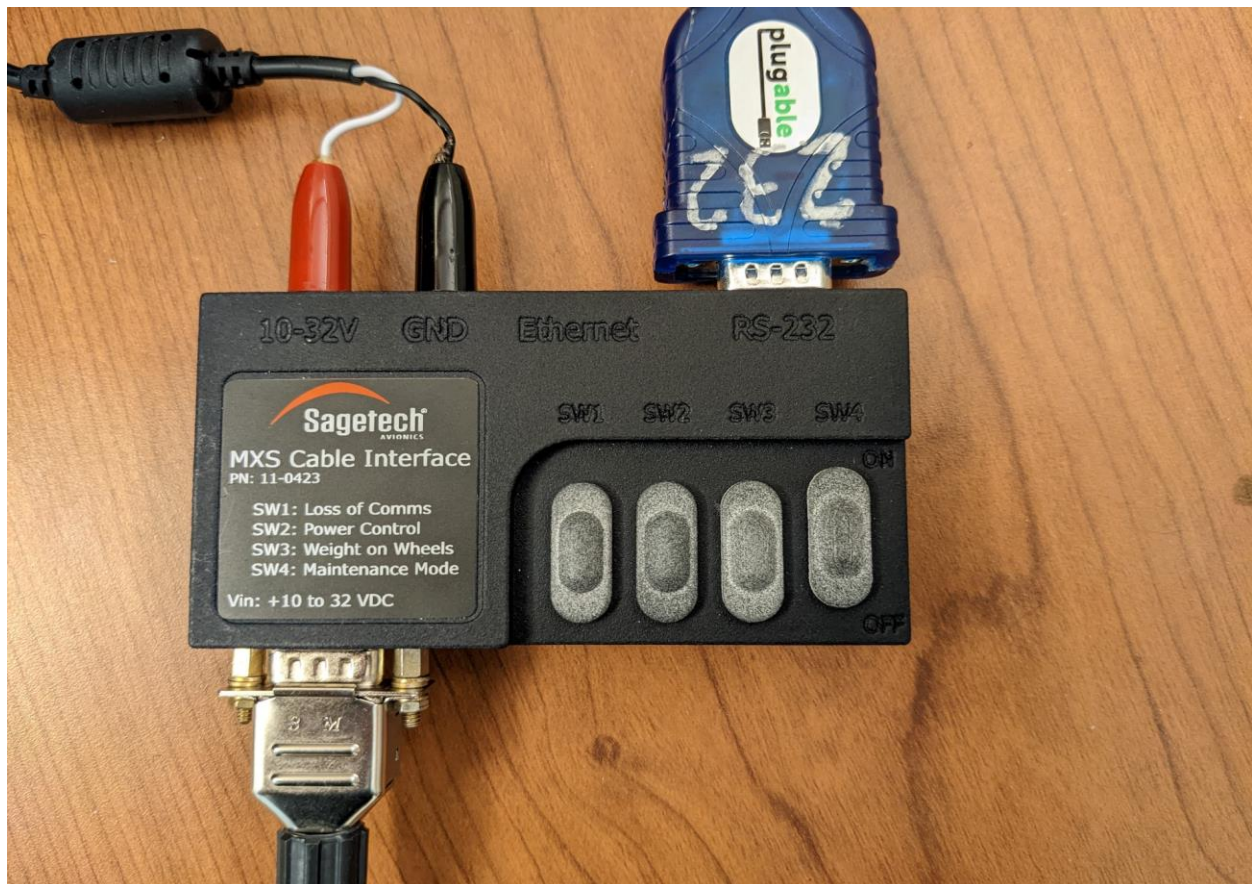
Table 3 Reference Document List

Item #	Tool	Part Number	Source
1	MXS Cable Interface Box User Guide	UM07015	Sagetech
2	MXS COM TEST GUI User Guide	UM06951	Sagetech
3	MXS System Description and Installation Manual	UM06945	Sagetech

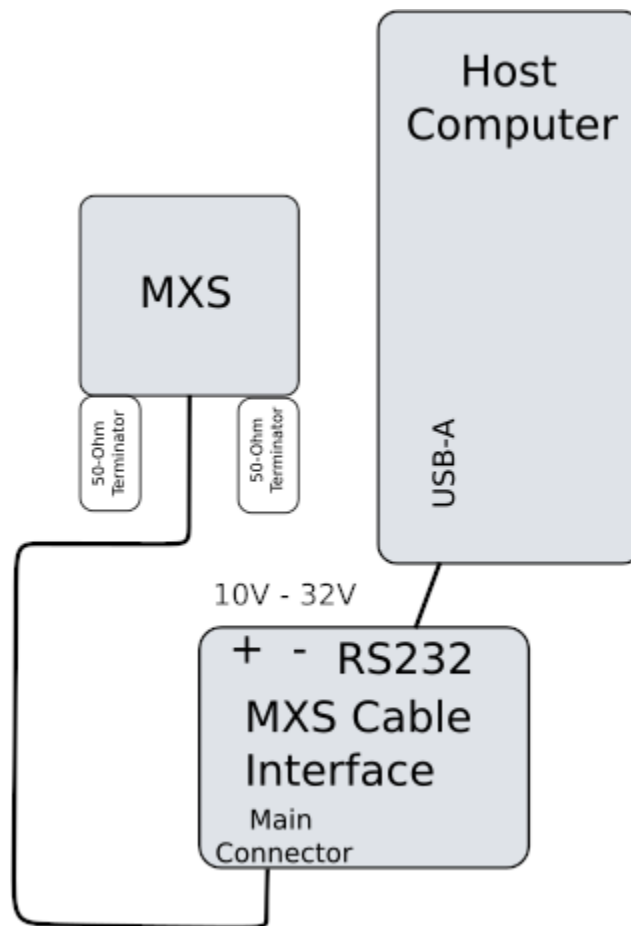
Programming Environment Setup

Pictured below is the MXS Cable Interface Box with an MXS connected and powered on.

1. Provide a power source into the Cable Interface Box input power that is between 10V-32V.
2. Plug a RS232 (Cable Interface Box end) to USB Type A (host computer end) cable, or an ethernet cable instead if desired, into the box that is connected to the host computer.
3. Connect the MXS to the MXS Cable Interface Box using the MXS Generic Cable
4. Ensure that the MXS antenna ports are both terminated with a 50-ohm load before powering on the MXS.
5. Ensure that the 'Maintenance Mode' switch is turned on as seen below.



The proper physical connections are detailed in the following diagram.



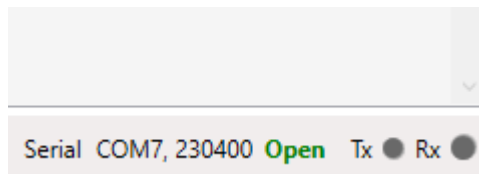
Note: This is an example setup that can be used to update the software image on the MXS. The MXS Cable Interface is not required. All that is required to upload the software is access to one of the communication ports and the ability to ground the maintenance mode pin (See SDIM UM06945).

Software Loading Instructions

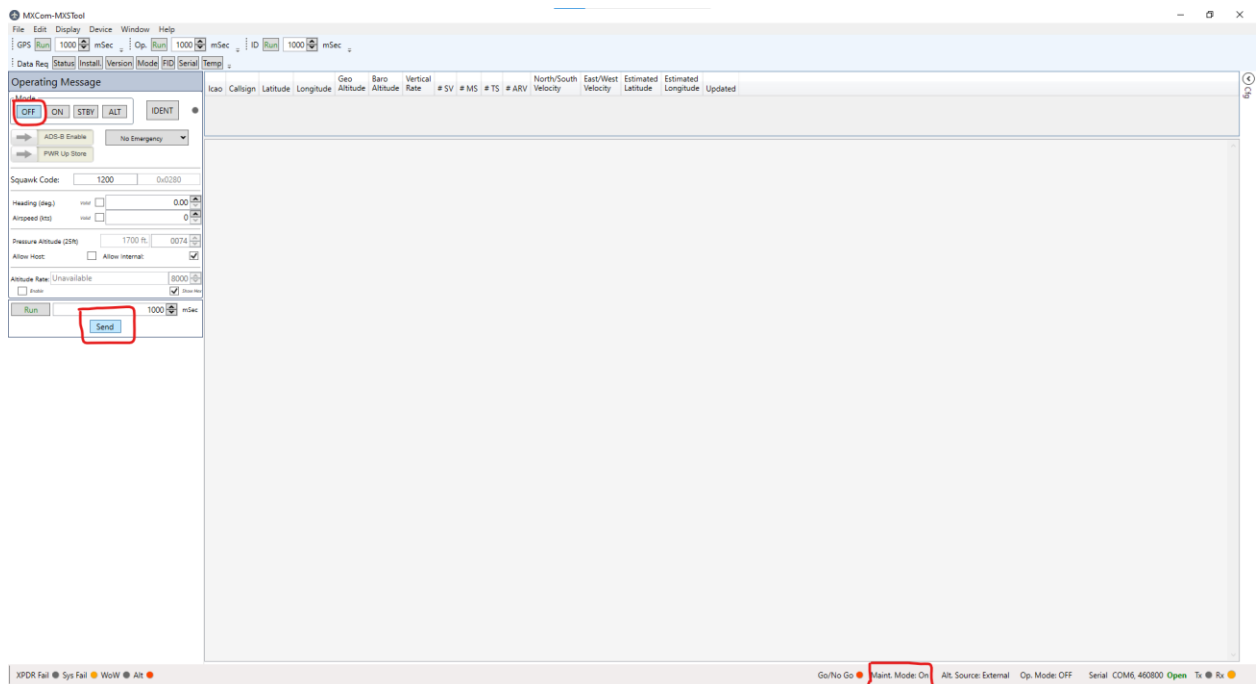
1. Open the application “MXCom-MXS Tool”.



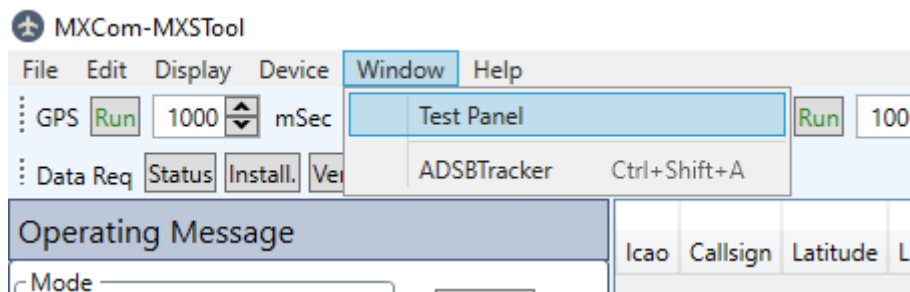
2. Establish a connection with the MXS unit. For detailed guidance refer to UM06951.



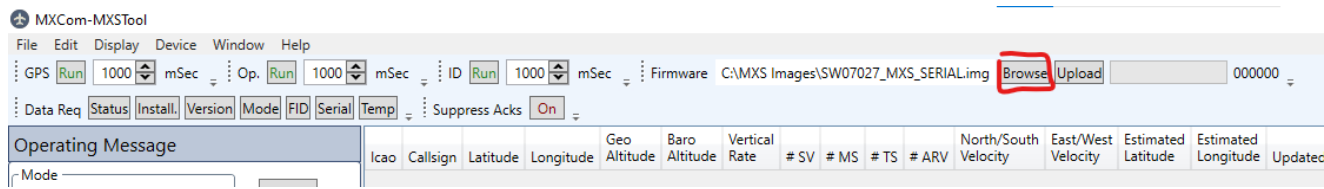
3. Ensure the unit is in 'OFF' mode by sending an operating message with 'OFF' selected. Also ensure that maintenance mode is enabled via the interface box.



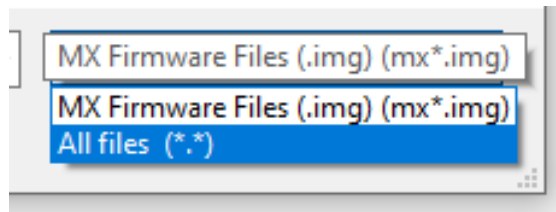
4. Go to 'Window' and left click 'Test Panel'.



5. Left click the 'Browse' button and navigate to the file named 'SW07061_MXS_MOD_B_SERIAL.img'. Select the file and click 'Open'.



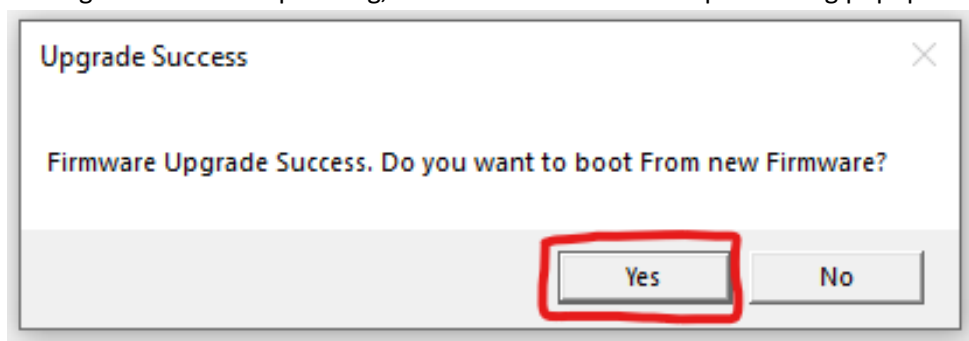
6. If the file is not visible in the browsing window, change the displayed file type to 'All files (*.*)'.

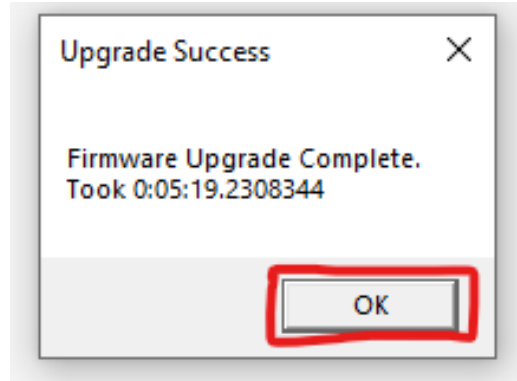


7. Once the image file is loaded, left click the 'Upload' button to begin loading the image onto the unit. Note that it may take up to 30 seconds for the progress bar to start updating.

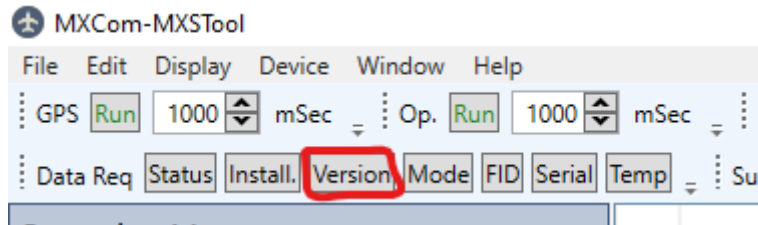


8. Once the image has finished uploading, click 'Yes' and 'Ok' on the proceeding popups.





9. Request the software and firmware version numbers by left clicking the 'Version' button in the data request section.



10. The unit should respond on the console with a software revision number of '27095' and a firmware revision number of '25127'. If this is the case, the unit has successfully been updated with the new image and operation of the transponder can resume as normal.

```
06:27:27.359 Rx AA
06:27:27.359 Rx 80 07 06 05 07 33 80 00 00 F6 AA 8E 07 06 09 09 69 D7 62 27 20
06:27:27.359 ← [Version Response]
          Versions  SW:    9    FW:    9
          Revisions SW: 27095  FW: 25127
```

Relabeling Instructions

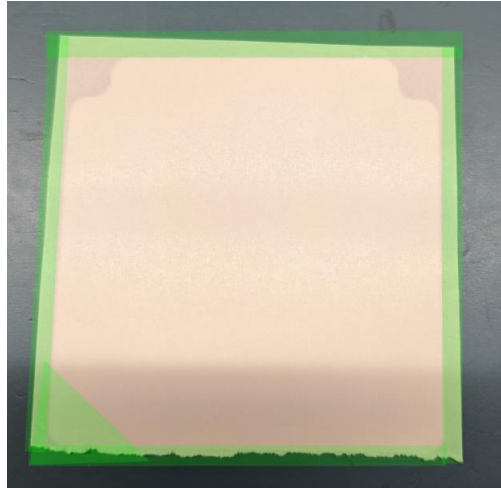
1. Contact Sagetech to acquire a MXS MOD B label (Table 1 Item 1)
2. Remove the old label from the MXS Unit
3. Apply the new label

Note: Steps in this section are recommendations. Other methods may be used to apply the label evenly centered over the target area with no bubble entrapment.

Note: Step images in this section show the process applied using example parts. The images may not match the parts in the End Item Assembly being built. Use the images as a guide.

- a. Trim the backing material close to the edge of the label and cut a triangle of backing material. The green highlighted area shows what to trim.

Before:



After:



- b. Wipe down the surface of the part with a lint free cloth and isopropyl alcohol. Allow to dry.
- c. Center the label over the target area, keeping the exposed sticky corner of the label off the surface of the part until the label is positioned correctly. The sticky corner can be pressed onto the part when you are happy with the positioning.



- d. Remove the label backing starting near the corner that is stuck down and smoothly roll the label against the part, taking care not to trap any air bubbles.



- e. Smooth out label.



Conclusion

Customers may choose to return MXS units for Mod B upgrade. Contact [Customer Support Team](#) for Return Material Authorization (RMA).

After completing the Service Bulletin procedure successfully, we ask that you send our [Customer Support Team](#) the following information.

MXS Serial Number:

Date Completed:

Operator:

Operator Contact Information:

Suggestions for Improvement:

Revision History

Rev	Summary of Changes	Effective Date	Approval
01	Initial Release	Apr 2024	ECO-00047
02	Change the SW rev called out on page 8 Step 10 to match the number in the image that follows the paragraph	Aug 2024	ECO-00072