



ping200X

TSO Service Bulletin

Software Upgrade to ADS-B 3.3.1



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Patent uavionix.com/patents

1 Revision History

Revision	Date	Comments
A	10/14/2021	Initial release

2 Warnings / Disclaimers

uAvionix is not liable for damages arising from the use or misuse of this product.

This equipment is classified by the United States Department of Commerce's Bureau of Industry and Security (BIS) as Export Control Classification Number (ECCN) 7A994.

These items are controlled by the U.S. Government and authorized for export only to the country of ultimate destination for use by the ultimate consignee or end-user(s) herein identified. They may not be resold, transferred, or otherwise disposed of, to any other country or to any person other than the authorized ultimate consignee or end-user(s), either in their original form or after being incorporated into other items, without first obtaining approval from the U.S. government or as otherwise authorized by U.S. law and regulations.

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4 Planning Information

4.1 Distribution / Eligibility

The Accomplishment Instructions contained in Section 8 may only be performed by appropriately authorized personnel.

4.2 Applicability

This Service Bulletin applies to the TSO-authorized uAvionix ping200X UAV-1002723-001 with ADS-B software release 3.1.1.

Use Table 4-1 to determine applicability of the software update.

P/N Marking	Applicability
UAV-1002723-001 MOD 0	Verify by procedure

Table 4-1 Applicability

Parts identified above as “Verify by procedure” may have ADS-B software release 3.1.1. To determine what version of software is installed, see section 7.1.

4.3 Description

This Service Bulletin provides instructions for loading uAvionix ping200X UAV-1002723-001 with updated ADS-B software release 3.3.1.

4.4 Changes

This update improves perceived Mode-S and ADS-B performance as well as additional robustness checks for various user configurations. The change is considered minor per 14 CFR 21.619. In detail, the changes are as follows:

- Extended Squitter registers available in Mode-S Comm-B requests.
- Apollo message support for both Basic and Extended formats.
- Default Emitter Type set to “0” No Data Available.
- Track Angle in Surface Position Message implements a validation hysteresis at slow speeds based on AC 20-165B. Ground track is invalidated if GPS derived ground track is not reliable.
- Air/Ground state input robustness check.

4.5 Approval

The software described in this Service Bulletin continues to meet the previously authorized TSOs. TSO articles require separate airworthiness approval for installation in or on a type-certificated aircraft. Implementation of this TSO Service Bulletin may require additional approval, such as application of an updated STC, through use of the FAA Policy Memorandum “Installation Approval for ADS-B OUT Systems”, or a field approval.

4.6 Time Required

Up to 30 minutes is required to perform this update procedure.

4.7 Weight and Balance

No change.

4.8 Electrical Load Data

No change.

4.9 Software Accomplishment

No change.

4.10 Applicable Publications

The following documents are applicable to the ADS-B software release 3.3.1.

Title	Part Number	Revision
ping200X TSO User and Installation Guide	UAV-1002373-001	A

Table 4-2 Applicable Publications

5 Required Items

The following items are required to perform the update:

1. A Windows PC (Windows 10 or higher) with USB to RS-232 converter.
2. uAvionix “pingBootFlasher” application UAV-1002813-001 application for Windows, version 2.11 or higher.
3. uAvionix “ping200X Control & Config” application UAV-1004567-001 for Windows, version 3.28 or higher.

4. The following software update file(s):

Item	Filename	SHA1 Hash
ADS-B	UAV-1002393-004-Ping200XCertified-3_3_1-cf1c2fe.uav	3ec21c55 51177eeb c6cd24c3 4fed8322 0a5ad61e

Table 5-1 Software Update Files

uAvionix software update files are available for download from the uAvionix Support website at no charge, at:

<https://uavionix.com/support/ping200X/>

6 Update Notes

All ping200X configuration settings will be preserved during this update procedure.

7 Update Procedure

7.1 Determining Existing ADS-B Software Version and Part Number

Before attempting a software upgrade, determine if the ping200X is running a legacy software version. This can be accomplished by following steps in the “ping200X TSO User and Install Guide” UAV-1002373-001 Section 10.4. Once the software part number and software version information are obtained, refer to Table 7-1 to determine if a software upgrade is necessary.

ADS-B Software P/N	Version	Status
UAV-1002393-003	3.1.1	Legacy Software – Conduct Software Update
UAV-1002393-004	3.3.1	Latest Software – No Update Required

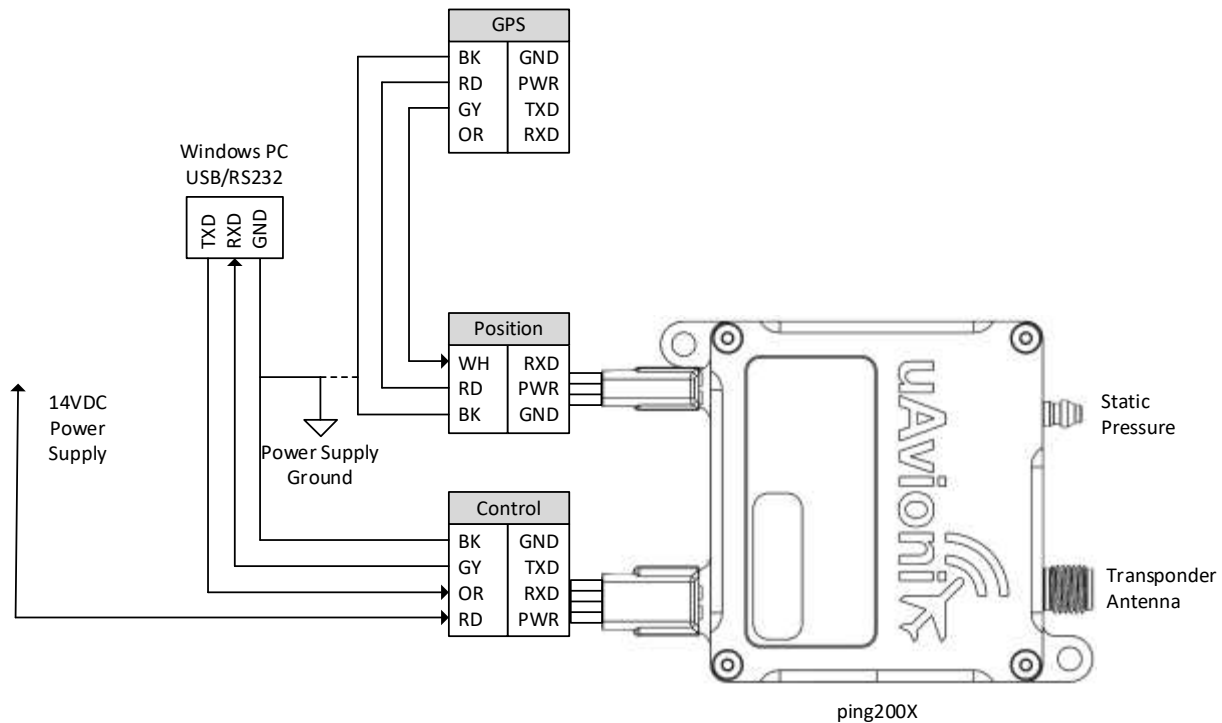
Table 7-1 Software Part Numbers Requiring Updating

7.2 Execute the Update Procedure

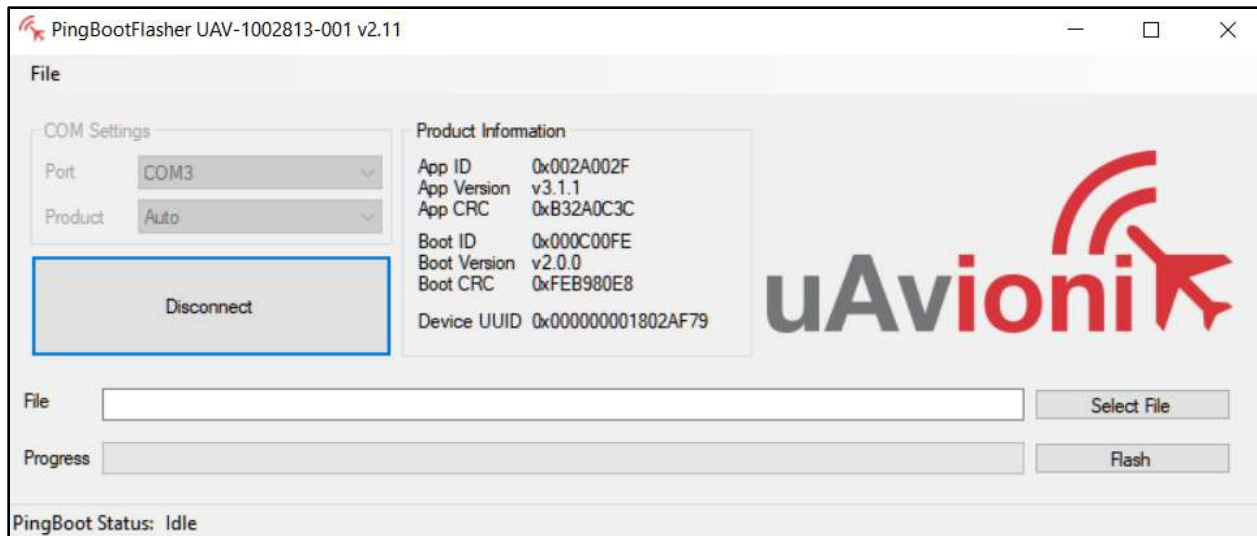
1. With the 14VDC power supply disabled, connect the 4-wire bundle as shown below.
2. Position Source (GPS) wires shown below may be left connected/disconnected during the upgrade procedure.



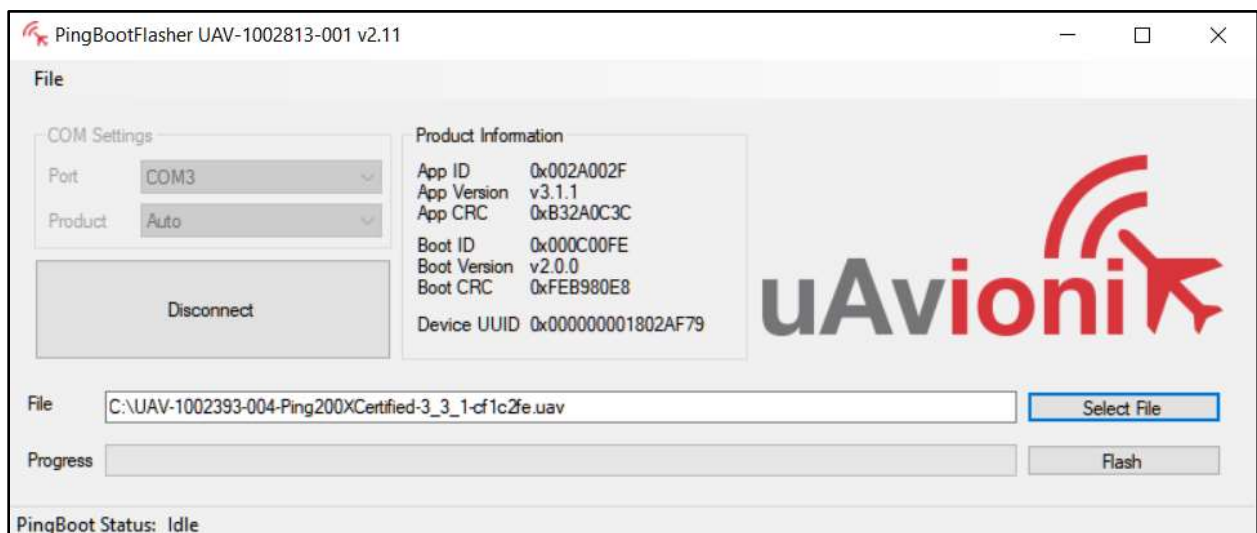
CAUTION: Ensure an appropriate transponder antenna load is connected to the ping200X transponder antenna port prior to powering the device.



3. From the Windows PC, run the uAvionix “pingBootFlasher” v2.11 or higher (e.g. pingBootFlasher.exe).
4. From the pingBootFlasher “COM Settings”, set the “Port” field to the COM port of the USB/RS-232 adapter. Leave the “Product” field set to “Auto”.
5. From the pingBootFlasher main page, press “Connect”.
6. From the 14VDC power supply, power ON the ping200X.
7. From the pingBootFlasher “Product Information” pane, Verify App ID, App Version and App CRC are set according to the existing ping200X ADS-B software. Example below.



8. From the pingBootFlasher main page, press “Select File” and load the UAV file listed in Table 5-1.



9. From the pingBootFlasher main page, press “Flash” to commence the software upgrade.



CAUTION: Do NOT remove power to the ping200X while flash upgrade is in progress.

10. The pingBootFlasher will automatically disconnect from the ping200X when the upgrade is complete.
11. From the 14VDC power supply, power OFF the ping200X.

8 Post-Accomplishment Verification

Verify the software load by performing the following procedure:

1. From the “ping200X Control & Config” application, connect to the ping200X on the appropriate Port and Baud rate, then press “Start”.



CAUTION: Ensure an appropriate transponder antenna load is connected to the ping200X transponder antenna port prior to powering the device.

2. From the Power Supply, power ON the ping200X.
3. In the “ping200X Control & Config” application “Service” tab, verify the part number, software version and CRC matches those shown in Table 8-1 Accomplishment Versions.

ADS-B Software P/N	Version	CRC
UAV-1002393-004	3.3.1	560E7A54

Table 8-1 Accomplishment Versions

If any post-accomplishment check fails, please contact uAvionix support, as guided in Section 10.



9 System Checkout

Perform the post-installation checks procedure as described in “ping200X TSO User and Installation Guide” UAV-1002373-001 Section 10.3.

10 Support

For additional questions or support please visit:

<http://www.uavionix.com/support/>

11 Maintenance Record

When post-accomplishment verification and system checkout is completed, make appropriate entries in the Aircraft Maintenance Log Book.

Maintenance Record

Service Bulletin UAV-1005982-001 Rev A for ping200X UAV-1002723-001 has been complied with.



A copy of this form must be submitted by visiting:

<https://uavionix.com/logbook/>

Date:	By:
Aircraft Information	
Make:	Model:
Serial Number:	Registration Number:
ping200X Information	
Serial Number:	
Customer Information	
Name:	
Email:	
Telephone:	
Address:	