



1200 E. 151st Street
Olathe, KS 66062
913-397-8200

SERVICE BULLETIN (Non-Certified Aircraft) NO.: 23101 Rev A

TO: Non-Certified Aircraft Owners
DATE: September 27, 2023
SUBJECT: GTN™ Xi Main Software Version 20.32
CERTIFICATION AUTHORIZATION: TSO Authorized Software for Non-Certified Aircraft (see Approval section for details)

Note: This Service Bulletin is provided solely for the purpose of installing the Subject software in non-certified aircraft. This Service Bulletin is not intended for software installation on certified aircraft whose maintenance must be performed by persons authorized in accordance with 14 CFR 43.3. This software update is NOT an owner/operator eligible activity as “preventative maintenance” under 14 CFR 43 for FAA certified aircraft. Non-certified aircraft owners who, upon reviewing these instructions, do not feel qualified to perform this upgrade without any assistance should contact a Garmin dealer to perform this important upgrade.

PRODUCTS AFFECTED

The following units are affected:

Table 1. Products Affected

Model	Appliance P/N
GTN 625Xi	011-04629-00
GTN 635Xi	011-04630-00
GTN 650Xi	011-04631-()
GTN 725Xi	011-04632-00
GTN 750Xi	011-04634-()

© 2023

Garmin Ltd. or its subsidiaries

All Rights Reserved

Except as expressly provided herein, no part of this document may be reproduced, copied, transmitted, disseminated, downloaded or stored in any storage medium, for any purpose without the express prior written consent of Garmin. Garmin hereby grants permission to download a single copy of this document and of any revision to this document onto a hard drive or other electronic storage medium to be viewed and to print one copy of this document or of any revision hereto, provided that such electronic or printed copy of this document or revision must contain the complete text of this copyright notice and provided further that any unauthorized commercial distribution of this document or any revision hereto is strictly prohibited.

PURPOSE

GTN Xi Series Main Software Version 20.32 fixed an issue described in Garmin Service Advisory 23085 where TAWS-A enabled GTN Xi units will not generate glideslope deviation alerts.

DESCRIPTION

This modification consists of accessing the Dealer Resource Center of the Garmin website and uploading GTN Xi Main Software Version 20.32.

MATERIAL INFORMATION

- GTN Xi Series, Software Loader Image (available on www.garmin.com)
- GTN Downloadable Software Data Card 010-01000-00 (available to order from a Garmin dealer)



NOTE

The GTN Downloadable Software Data Card is a blank SD Card. Other commercially available 2-32 Gb standard-size SD cards formatted for FAT32 may be used.



CAUTION

Garmin strongly recommends using the 010-01000-00 to avoid permanent damage to the SD card slot. Garmin does not recommend the use of micro SD card adaptors.

Loader Card Instructions



NOTE

The application requires Windows 2000, XP, Vista, Windows 7, or Windows 10. Mac computers are not supported.

1. Go to the Garmin website (www.garmin.com).
2. Download GTN 6XX/7XX Xi System Software Version 1391.0H (006-B3191-0H).
3. Make sure an SD card reader is connected to the PC.
4. Put the GTN Downloadable Software SD Card (010-01000-00) in the card reader.
5. Run the executable file that was downloaded in Step 2.
6. Follow the onscreen prompts to create a software loader card.
7. Select Finish to complete the process.
8. Eject the card from the card reader. The software loader card is now ready to use.

SD[®] is a registered trademark of SD-3D, LLC. All rights reserved.

COMPLIANCE

Optional: This Service Bulletin may be incorporated at the owner's discretion.

APPROVAL

GTN Xi Main software version 20.32 is TSO approved. Refer to the applicable GTN Xi Series Installation Manual (190-02327-02) for additional approvals. The changes from GTN Xi Main software version 20.31 are minor per 14 CFR 21.619.

DOCUMENTATION CONSIDERATIONS

No new pilot documents are provided with this Service Bulletin.

REFERENCES

Table 2. References

Document Number	Revision (or later)	Description
190-00858-11	K	GMA 35/35c TSO Installation Manual
190-02327-02	11	GTN Xi Series TSO Installation Manual
190-02327-03	E	GTN Xi Series Pilot's Guide
190-01007-50	B	GTN 6XX/7XX Telligence Voice Command Guide
190-02327-A0	B	GTN Xi Series Pilot's Guide Addendum for GDL 60

MANPOWER

One (1) hour labor per aircraft for single/dual GTN Xi installations.

WARRANTY INFORMATION

This modification is not warranty reimbursable.

SOFTWARE INSTALLATION AND VERIFICATION INSTRUCTIONS

These instructions explain how to upgrade GTN Xi Main software to version 20.32.

The following GTN Xi loader card contains GTN Xi Main Software v20.32:

Table 3. Software

Loader Software (Loader Card)	Software Included
006-B3191-0H (010-02130-0H)	<ul style="list-style-type: none">• GTN Xi<ul style="list-style-type: none">◦ Main Software Version 20.32◦ Touch Software Version 2.01◦ WAAS Software Version 8.2◦ COM Software Version 2.10◦ NAV Software Version 2.04• GMA 35 P/N 011-02299-0()<ul style="list-style-type: none">◦ Software Version 4.20A◦ ASR Grammar Version 4.20 (006-D3034-33)◦ Other GMA software listed in Part Three of this section• GMA 35 P/N 011-02299-2() and GMA 35c P/N 011-02299-4()<ul style="list-style-type: none">◦ Software Version 4.21C◦ ASR Grammar Version 4.20 (006-D3034-33)◦ Audio Configuration v4.22C◦ Other GMA software listed in Part Three of this section



NOTE

For installations with GMA 35 P/N 011-02299-0(), GMA Audio Software Version 4.20A is required for compatibility with GTN Xi Software Version 20.32. The Loader Card identified above can be used to update newer versions of GMA 35 Audio Software to Software Version 4.20A.



NOTE

For installations with GMA 35 P/N 011-02299-2() and GMA 35c P/N 011-02299-4(), GMA Audio Software Version 4.21C is required for compatibility with GTN Xi Software Version 20.32. The Loader Card identified in this section can be used to update newer versions of GMA 35 Audio Software to Software Version 4.21C.



NOTE

For installations with GDL 88, GTN Xi Main Software Version 20.32 is compatible with GDL 88 Software Version 2.05 and later.



NOTE

For dual GTN Xi installations, both GTN Xi units must be updated to the GTN Xi Main Software Version 20.32. The software can be installed simultaneously using two update cards.

Part One: GTN Xi Software Installation

1. Attach the aircraft to ground power.



NOTE

Take steps to prevent accidental power disruptions to the unit during the software loading process.

2. Touch and hold the “Home” key and energize the GTN Xi to enter Configuration Mode.
3. Release the “Home” key when the display activates and the Garmin logo shows fully illuminated on the display.
4. Make sure that all avionics are powered on.
5. Record all system configuration settings (including the Discrete Input and Output configuration settings).



NOTE

The GTN Xi system configuration settings **will** need to be entered if loading GTN Xi software v20.32 from a newer GTN Xi software version.

6. For GMA 35s that have GMA Software Version 4.21C, record all GMA 35 configuration settings before installing new software on the GTN and GMA.



NOTE

The configuration settings may need to be entered after the software update to make sure the system is properly configured.



NOTE

GMA 35 and GMA 35c software versions 4.20/4.21c are compatible with GTN Xi Main software version 20.32. If compatible GMA 35 software is not installed, then install compatible GMA 35 software per Service Bulletin 2025 before installing GTN Xi Main Software v20.32.

7. If loading from a newer version of GTN Xi Main Software to software v20.32, then continue with the following steps.



NOTE

Before loading GTN Xi Main Software v20.32 from a newer software version, it is recommended to set the system configuration settings to the default values. The system configuration settings will then need to be entered after loading software v20.32. Make sure that there is a record of all system configuration settings before proceeding.

- a. On the GTN Xi Configuration Mode page, touch **GTN Diagnostics**.
 - b. Touch **Clear Config Settings**.
 - c. Touch **OK** to confirm.
8. Stop power to the GTN Xi.
 9. Put the GTN Xi Software Loader Card into the SD Card slot.



NOTE

Not loading GTN Xi Main software after energizing the unit using a loader card that contains different GTN Xi Main software may corrupt the GTN Xi configuration settings. If GTN Xi configuration settings become corrupt, the GTN Xi configuration settings must be cleared and entered.

10. Energize the GTN Xi. The Configuration Mode home page will show.

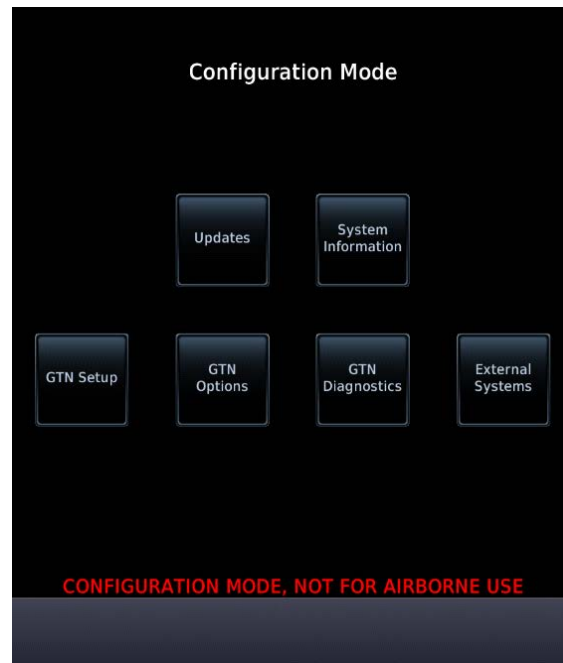


Figure 1. Configuration Mode Home Page

11. Touch **Updates** to show the software updates that are available.



Figure 2. Software Updates Page

12. Make sure the software version is shown for “On Card” for each of the following:

Table 4. On Card

Software	“On Card” Version Displayed
Main Board Software	20.32
COM Board Software	2.02
NAV Board Software	2.03
WAAS Board Software	8.2

13. Touch the software items identified below to be uploaded for the specified model. A green check mark will appear next to each software item that is selected.

Table 5. Software

Software	GTN 625Xi	GTN 635Xi	GTN 650Xi	GTN 725Xi	GTN 750Xi
Main Board Software	Select	Select	Select	Select	Select
COM Board Software	(See Note)	(See Note)	(See Note)	(See Note)	(See Note)
NAV Board Software	-	-	(See Note)	-	(See Note)
WAAS Board Software	(See Note)	(See Note)	(See Note)	(See Note)	(See Note)



NOTE

Select only if the version displayed for “On Card” does not match the version displayed for “Installed.” This is generally applicable for loading a previous software version.

14. Touch **Update** on the bottom of the display to update GTN Xi Software.
15. The GTN Xi will show the prompt “Start GTN Software Updates?” Touch **OK** to proceed with the software update.
16. When the update is complete the GTN Xi will display “Update Complete!”
17. If GTN Xi Main Software was loaded to software v20.32 from a newer software version, continue with the following steps.
 - a. Once the update is complete, stop power to the GTN Xi.
 - b. Energize the GTN Xi. The Configuration Mode home page will show.
 - c. Touch **GTN Setup** on the Configuration Mode home page.
 - d. Enter the configuration settings recorded in Part One, Step 5.
 - e. Touch **GTN Options** on the Configuration Mode home page.
 - f. Enter the configuration settings recorded in Part One, Step 5.
18. Stop power to the GTN Xi.
19. Remove the software loader card.
20. Put the database card into the SD card slot.
21. Continue to Part Two: GTN Xi Software Verification Procedure. If a GMA 35 is installed, do Part Two before updating the GMA 35 Software.

Part Two: GTN Xi Software Verification Procedure

1. With the GTN Xi off, touch and hold the “Home” key and energize the GTN Xi to enter Configuration Mode.
2. Release the “Home” key when the display activates and the Garmin logo shows fully illuminated on the display.
3. Touch **System Information** on the Configuration Mode page.
4. On the System Information page for the GTN Xi, make sure:

Table 6. Software

Software	Version
Main Board Software Version	20.32
Main Board FPGA Version	2.0
Display FPGA Version	2.0
Touch Controller Board Software Version	2.01
GPS/WAAS Board Software	8.2
COM Board Software Version	2.02
COM Board FPGA Version	2.0
NAV Board Software	2.04
NAV Board FPGA Version	2.0

5. Use the configuration settings recorded in Part One, to make sure that all of the configuration settings (including the Discrete Input and Output configuration settings) were retained through the software upgrade. Correct as necessary.

Part Three: GMA 35/35c Software Installation

If a GMA 35/35c listed in Table 7 is installed, the following GMA 35 software updated is recommended.



NOTE

If GMA 35 Audio ARC DB (Audio Configuration) v4.22C is already loaded on the GMA 35, go to the Return to Service Test Procedure.

1. Stop power to the GTN Xi and GMA 35.
2. Put the GTN Xi Software Loader Card into the GTN Xi SD Card slot.
3. Energize the GTN Xi and GMA 35. The Configuration Mode home page will show.
4. Touch **Updates** to show the software updates that are available.
5. Touch the **GTN Software Updates** key on the top left corner of the display.
6. Select **GMA 35 Software Updates**.

7. Make sure the software version shows for “On Card” for each of the following:

Table 7. GMA Software Updates Page

Software	Version for P/N 011-02299-2() P/N 011-02299-4()
GMA Region List	4.10C
GMA System Code	4.21C
Audio Configuration	4.22C
GMA Configuration	N/A
GMA AUX Region List	4.10C
GMA AUX System Code	4.21C
GMA AUX Audio Data	4.20C
GMA Voice Command Grammars	4.20
GMA Voice Command Language	2.00
GMA Voice Command DDG2P	2.00
GMA TTS Audio Data	N/A
GMA TTS Grammars	4.10

8. Touch the software items identified below to be uploaded. A green check mark will appear next to each software item that is selected.

Table 8. GMA Software

Software	Action
GMA Region List	(See Note 1)
GMA System Code	(See Note 1)
Audio Configuration	Select (See Note 1)
GMA AUX Region List	(See Note 1)
GMA AUX System Code	(See Note 1)
GMA AUX Audio Data	(See Note 1)
GMA Voice Command Grammars	(See Note 1)
GMA Voice Command Language	(See Note 2)
GMA Voice Command DDG2P	(See Note 2)
GMA TTS Audio Data	(See Notes 2 and 3)
GMA TTS Grammars	(See Notes 2 and 3)



NOTE

Note 1: GMA software does not need to be selected if the GMA software version displayed for “Installed” matches the versions displayed for “On Card.”



NOTE

Note 2: Select only if the version displayed for “On Card” does not match the version displayed for “Installed”, or if there is no version displayed for “Installed”. This is generally applicable for loading software from a newer version.



NOTE

Note 3: Select only if the installation uses Telligence Voice Commands. Updating the TTS files can take approximately 30 minutes.

9. Touch the **Update** key on the bottom of the display.
10. The GTN Xi will show the prompt “Start GMA 35 Software Updates?”
11. Touch **OK** to proceed with the software update.
12. Once the update has been completed, stop power to the GMA 35 and GTN Xi.
13. Remove the software loader card.
14. Put the database card into the GTN Xi SD Card slot.
15. Continue to Part Four: GMA 35/35c Software Verification Procedure.

Part Four: GMA 35/35c Software Verification

1. With the GTN Xi off, touch and hold the “Home” key.
2. Energize the GTN Xi to enter Configuration Mode.
3. Release the “Home” key when the display activates and the Garmin logo shows fully illuminated on the display.
4. Make sure that the GMA 35 is energized.
5. Touch **System Information** on the Configuration Mode page.
6. Touch **GTN**.
7. Select GMA 35 in the Select LRU Type list. On the System Information page for the GMA 35, make sure:

Table 9. GMA Software Systems Information Page

Software	Version for P/N 011-02299-2() P/N 011-02299-4()
Audio Main Software Version	4.21C
Audio Boot Software Version	4.20C
Audio Region List Version	4.10C
Audio ARC DB Version	4.22C
Configuration File	4.20C
Auxiliary Main Software Version	4.21C
Auxiliary Boot Software Version	4.20C
Auxiliary Region List Version	4.10C
Auxiliary Audio Database Version	4.20C
Auxiliary ASR Grammar Version	4.20
Auxiliary ASR Language Version	2.00
Auxiliary ASR DDG2P Version	2.00
Auxiliary TTS Audio Data	4.10
Auxiliary TTS Grammar	4.10

8. Touch **External Systems** on the Configuration Mode page.
9. Touch **Audio Panel**.
10. Touch **Configure**.
11. Make sure the GMA 35 configuration settings match those from Part One, step 6. Correct as necessary.

RETURN TO SERVICE TEST PROCEDURE

Successful completion of Part Two of this bulletin is adequate to return the GTN Xi to service.

Successful completion of the applicable ground checks per Section 6.10 and Section 6.11 of the applicable TSO installation manual is adequate to return the GTN installation to service.