



# **System Maintenance Manual GTN 6XX/7XX Part 23 AML STC**

**Contains Instructions for Continued Airworthiness  
for STC SA02019SE-D**

Aircraft Make, Model, Registration Number, and Serial Number along with the applicable STC configuration information must be completed in Appendix A and saved with aircraft permanent records.

© 2011-2014

Garmin International, Inc., or its subsidiaries  
All Rights Reserved

Except as expressly provided herein, no part of this manual 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 manual and of any revision to this manual onto a hard drive or other electronic storage medium to be viewed and to print one copy of this manual or of any revision hereto, provided that such electronic or printed copy of this manual or revision must contain the complete text of this copyright notice and provided further that any unauthorized commercial distribution of this manual or any revision hereto is strictly prohibited.

Adobe<sup>®</sup> is a registered trademark of Adobe Systems Incorporated. All rights reserved.

© 2014 The Bluetooth<sup>®</sup> word mark and logos are registered trademarks owned by Bluetooth SIG, Inc. and any use of such marks by Garmin is under license. Other trademarks and trade names are those of their respective owners.

© 2014 Sirius XM Radio Inc. Sirius, XM and all related marks and logos are trademarks of Sirius XM Radio Inc. All other marks and logos are property of their respective owners. All rights reserved.

Garmin<sup>®</sup>, FliteCharts<sup>®</sup>, and SafeTaxi<sup>®</sup> are registered trademarks of Garmin International or its subsidiaries. Connex<sup>™</sup>, Garmin Pilot<sup>™</sup>, GDU<sup>™</sup>, GTN<sup>™</sup>, and Telligence<sup>™</sup> are trademarks of Garmin International or its subsidiaries. These trademarks may not be used without the express permission of Garmin.

At Garmin, we value your opinion.

For comments about this guide, please e-mail: [Techpubs.Salem@garmin.com](mailto:Techpubs.Salem@garmin.com).

Garmin International Inc.  
1200 E. 151st Street  
Olathe, Kansas 66062 USA  
Telephone: (913) 397-8200  
[www.garmin.com](http://www.garmin.com)

Aviation Dealer Technical Support  
Telephone (Toll Free): (888) 606-5482  
Fax: (913) 397-0868  
Fax (Toll Free): (800) 801-4670  
E-mail: [orders@garmin.com](mailto:orders@garmin.com)  
[avionics@garmin.com](mailto:avionics@garmin.com)  
[warranty@garmin.com](mailto:warranty@garmin.com)

Garmin AT, Inc.  
2345 Turner Rd. SE  
Salem, OR 97302 USA  
Telephone: (503) 581-8101  
Fax: (503) 364-2138  
E-mail: [support.salem@garmin.com](mailto:support.salem@garmin.com)

Garmin (Europe) Ltd.  
 Liberty House, Hounsdown Business Park  
 Southampton, Hampshire SO40 9LR U.K.  
 Phone: +44 (0) 23 8052 4000  
 Fax: +44 (0) 23 8052 4004  
 Aviation Support +44 (0) 87 0850 1243

### RECORD OF REVISIONS

Revision	Revision Date	Description
1	03/04/2011	Initial Release
2	01/18/2012	Added instructions for NAV antenna cable splitter and diplexer.
3	11/19/12	Reorganized to add maintenance instructions.
4	12/13/12	Removed ASR material and other minor edits.
5	3/25/2013	Revised to incorporate changes associated with GTN main software version 4.10, COM software version 2.11, and GMA software version 3.05.
6	10/22/13	Revised to incorporate changes associated with GTN main software version 5.00.
7	11/25/14	Revised to incorporate changes associated with GTN main software version 5.13.

### DOCUMENT PAGINATION

Section	Pagination
Table of Contents	ii through v
Section 1	1-1 through 1-4
Section 2	2-1 through 2-5
Section 3	3-1 through 3-19
Section 4	4-1 through 4-10
Section 5	5-1 through 5-22
Section 6	6-1 through 6-28
Section 7	7-1 through 7-24
Section 8	8-1 through 8-1
Appendix A	A-1 through A-35

## INFORMATION SUBJECT TO EXPORT CONTROL LAWS

This document may contain information which is subject to the Export Administration Regulations (“EAR”) issued by the United States Department of Commerce (15 Code of Federal Regulations (CFR), Chapter VII, Subchapter C) and which may not be exported, released, or disclosed to foreign nationals inside or outside of the United States without first obtaining an export license. A violation of the EAR may be subject to a penalty of up to 10 years imprisonment and a fine of up to \$1,000,000 under Section 2410 of the Export Administration Act of 1979. Include this notice with any reproduced portion of this document.

This information in this document is subject to change without notice. Visit the Garmin web site ([www.garmin.com](http://www.garmin.com)) for current updates and supplemental information concerning the operation of Garmin products.

## DEFINITIONS OF WARNINGS, CAUTIONS, AND NOTES



### **WARNING**

*Warnings are used to bring to the installer’s immediate attention that not only damage to the equipment but personal injury may occur if the instruction is disregarded.*



### **CAUTION**

*Cautions are used to alert the individual that damage to equipment may result if the procedural step is not followed to the letter.*



### **NOTE**

*Notes are used to expand and explain the preceding step and provide further understanding of the reason for the particular operation.*



## TABLE OF CONTENTS

<b>1</b>	<b>INTRODUCTION.....</b>	<b>1-1</b>
1.1	Content, Scope and Purpose.....	1-1
1.2	Organization.....	1-1
1.3	Definitions and Abbreviations.....	1-2
1.4	Publications.....	1-3
1.5	Distribution.....	1-4
<b>2</b>	<b>SYSTEM DESCRIPTION.....</b>	<b>2-1</b>
2.1	Equipment Descriptions.....	2-1
2.2	Backplate Connectors.....	2-2
2.3	GTN Optional Interfaces.....	2-4
2.4	GTN Block Diagram.....	2-5
<b>3</b>	<b>GTN CONTROL AND OPERATION.....</b>	<b>3-1</b>
3.1	GTN Controls.....	3-1
3.2	GTN Normal Mode Overview.....	3-1
3.3	Software Loading.....	3-2
3.4	GTN Configuration Mode Overview.....	3-6
3.5	Database Updates.....	3-19
<b>4</b>	<b>INSTRUCTIONS FOR CONTINUED AIRWORTHINESS.....</b>	<b>4-1</b>
4.1	Airworthiness Limitations.....	4-1
4.2	Servicing Information.....	4-1
4.3	Maintenance Intervals.....	4-2
4.4	Visual Inspection.....	4-3
4.5	Electrical Bonding Test.....	4-4
4.6	Transient Voltage Suppressor (TVS) (If Installed).....	4-8
4.7	GPS/SBAS Antenna Cable Overbraid Inspection (If Installed).....	4-10
4.8	WXR HSDB Cable Overbraid Inspection (If Installed).....	4-10
<b>5</b>	<b>TROUBLESHOOTING.....</b>	<b>5-1</b>
5.1	GTN General Troubleshooting.....	5-1
5.2	GTN Failure Annunciations.....	5-5
5.3	GTN System Messages.....	5-6
5.4	Flight Stream Troubleshooting.....	5-20
5.5	GMA 35 Troubleshooting.....	5-21
5.6	GMA 35 Failure Annunciations.....	5-21
5.7	GMA 35 System Messages.....	5-22
<b>6</b>	<b>EQUIPMENT REMOVAL AND REINSTALLATION.....</b>	<b>6-1</b>
6.1	GTN.....	6-1
6.2	GMA 35.....	6-5
6.3	Data Card.....	6-7
6.4	Flight Stream 210.....	6-8
6.5	NAV Antenna Cable Diplexer.....	6-9
6.6	NAV Antenna Cable Splitter.....	6-10
6.7	Configuration Module (P1001 Only).....	6-11
6.8	GTN Fan.....	6-14
6.9	TVS and Fuse (Nonmetallic Aircraft Only).....	6-17
6.10	GPS/SBAS Antenna Cable Overbraid.....	6-21
6.11	WXR HSDB Cable Overbraid.....	6-23
6.12	Instrument Panel Bonding Strap.....	6-26
6.13	Flight Stream 210 Bonding Strap.....	6-27

**TABLE OF CONTENTS CONTINUED**

**7 EQUIPMENT CONFIGURATION AND TESTING.....7-1**

7.1 GTN 6XX/7XX ..... 7-1

7.2 GMA 35..... 7-6

7.3 Configuration Module ..... 7-10

7.4 Interfaced Equipment ..... 7-10

7.5 Enabled Features ..... 7-23

**8 SYSTEM RETURN TO SERVICE PROCEDURE.....8-1**

8.1 Maintenance Records ..... 8-1

**APPENDIX A AIRCRAFT SPECIFIC INFORMATION .....A-1**

## LIST OF FIGURES

Figure 2-1. GMA 35 Connector Layout Detail - Rear View .....	2-2
Figure 2-2. GTN 650 Connector Layout Detail - Rear View .....	2-3
Figure 2-3. GTN 750 Connector Layout Detail - Rear View .....	2-3
Figure 2-4. GTN System Interface Diagram .....	2-5
Figure 3-1. GTN 6XX Normal Mode Screen .....	3-1
Figure 3-2. GTN 7XX Normal Mode Screen .....	3-1
Figure 3-3. GTN Software Updater .....	3-2
Figure 3-4. System and Software Version .....	3-3
Figure 3-5. GTN Software Loader Card Formatting .....	3-3
Figure 3-6. Update Progress Window .....	3-4
Figure 3-7. Update Completion .....	3-4
Figure 3-8. GTN 6XX and GTN 7XX Configuration Mode Pages .....	3-6
Figure 3-9. GTN 7XX Updates Page .....	3-7
Figure 3-10. System Information Page .....	3-8
Figure 3-11. GTN 7XX Setup Pages .....	3-9
Figure 3-12. GTN 7XX Options Pages .....	3-11
Figure 3-13. GTN 7XX TAWS Configuration Page .....	3-12
Figure 3-14. Chart Configuration Page .....	3-13
Figure 3-15. COM Transmit Power Configuration Page .....	3-14
Figure 3-16. Weather Radar Page .....	3-15
Figure 3-17. GTN 6XX and 7XX Diagnostics Pages .....	3-17
Figure 4-1. TVS Assembly Check .....	4-9
Figure 5-1. Failure Screen .....	5-5
Figure 5-2. GMA 35 Failure Annunciation .....	5-21
Figure 6-1. GTN 7XX Mounting Rack Assembly .....	6-2
Figure 6-2. GTN 6XX Mounting Rack Assembly .....	6-3
Figure 6-3. GMA 35 Mounting Rack Assembly Overview .....	6-6
Figure 6-4. Flight Stream Assembly Overview .....	6-8
Figure 6-5. Backshell Assembly (Potted Configuration Module) .....	6-12
Figure 6-6. Backshell Assembly (Configuration Module with Spacer) .....	6-13
Figure 6-7. Fan/Backplate Orientation (GTN 7XX) .....	6-14
Figure 6-8. Fan Wiring Replacement .....	6-16
Figure 6-9. TVS/Fuse Replacement (TVS1/F1) .....	6-18
Figure 6-10. Detail of TVS Pin Assembly .....	6-19
Figure 6-11. TVS2 Assembly .....	6-20
Figure 6-12. GPS/SBAS Antenna Cable Overbraid .....	6-22
Figure 6-13. WXR HSDB Cable Overbraid Details .....	6-24
Figure 6-14. Instrument Panel Bonding .....	6-26
Figure 6-15. Flight Stream Bonding .....	6-28
Figure 7-1. Audio Panel Page .....	7-6
Figure 7-2. Main Indicator (Analog) Configuration Page .....	7-10
Figure 7-3. VOR/LOC/GS Configuration Page .....	7-11
Figure 7-4. XPDR1 Configuration Page .....	7-18
Figure 7-5. Audio Configuration Page .....	7-23
Figure 7-6. TAWS Configuration Page .....	7-23

## LIST OF TABLES

Table 3-1. GTN Database Summary .....	3-19
Table 4-1. Periodic Maintenance .....	4-2
Table 5-1. GTN Troubleshooting Guide .....	5-1
Table 5-2. Alert Text Troubleshooting Guide .....	5-6
Table 5-3. COM Alert Troubleshooting Guide .....	5-9
Table 5-4. GPS/SBAS Alert Troubleshooting Guide .....	5-11
Table 5-5. VLOC/GS Alert Troubleshooting Guide .....	5-12
Table 5-6. Remote Transponder Alert Troubleshooting Guide .....	5-13
Table 5-7. GAD 42 Alert Troubleshooting Guide .....	5-14
Table 5-8. Traffic Alert Troubleshooting Guide .....	5-14
Table 5-9. Datalink Alert Troubleshooting Guide .....	5-15
Table 5-10. Weather Radar Alert Troubleshooting Guide .....	5-17
Table 5-11. TAWS Alert Troubleshooting Guide .....	5-18
Table 5-12. Third-Party Sensor Alert Troubleshooting Guide .....	5-19
Table 5-13. Flight Stream Troubleshooting .....	5-20
Table 5-14. GMA 35 Troubleshooting .....	5-21
Table 5-15. Remote Audio Panel Alert Troubleshooting Guide .....	5-22
Table 6-1. Self Test Values .....	6-4
Table 6-2. Configuration Module Wire Color Reference Chart .....	6-11
Table 6-3. Configuration Module Kit 011-00979-03 (P1001) .....	6-12
Table 6-4. Configuration Module Kit 011-00979-00 (P1001) .....	6-13
Table 6-5. Fan Kit .....	6-15
Table 6-6. Fan Cable Wire Color Reference Chart .....	6-15
Table 6-7. Instrument Panel Bonding Hardware .....	6-26
Table 6-8. Flight Stream Bonding Hardware .....	6-28
Table 7-1. Configuration and Checkout Procedures .....	7-2

# 1 INTRODUCTION

## 1.1 Content, Scope and Purpose

This document provides Instructions for Continued Airworthiness (ICA) for the GTN 6XX/7XX and GMA 35 as installed under STC SA02019SE-D. This document satisfies the requirements for continued airworthiness as defined by 14 CFR Part 23.1529 and 14 CFR Part 23 Appendix G. Information in this document is required to maintain the continued airworthiness of the GTN 6XX/7XX, GMA 35, and Flight Stream 210.

## 1.2 Organization

The following outline briefly describes the organization of this manual:

### ***Section 2: System Description***

Provides a description of the equipment installed by STC SA02019SE-D. An overview of the GTN and GMA 35 system interface is also provided.

### ***Section 3: GTN Control and Operation***

Presents basic control and operation information specifically tailored to maintenance practices. Basic GTN Configuration Mode operation is also described as well as loading of software.

### ***Section 4: Instructions for Continued Airworthiness***

This section provides maintenance instructions for continued airworthiness of the GTN and GMA 35 systems.

### ***Section 5: Troubleshooting***

This section provides troubleshooting information to aid in diagnosing and resolving potential problems with the GTN and GMA 35 equipment.

### ***Section 6: Equipment Removal and Reinstallation***

This section provides instructions for the removal and reinstallation of the GTN and GMA 35 equipment.

### ***Section 7: Equipment Configuration and Testing***

This section provides instructions for the configuration and testing of the GTN and GMA 35 equipment.

### ***Section 8: System Return to Service Procedure***

This section specifies return-to-service procedures to be performed upon completion of maintenance of the GTN and GMA 35 equipment.

### 1.3 Definitions and Abbreviations

The following terminology is used within this document:

**AC:** Alternating Current  
**ADS-B:** Automatic Dependent Surveillance Broadcast  
**AGC:** Automatic Gain Control  
**AGCS:** Automatic Ground Clutter Suppression  
**AHRS:** Altitude and Heading Reference System  
**AML:** Approved Model List  
**BIT:** Built-In Test  
**CDI:** Course Deviation Indicator  
**CFR:** Code of Federal Regulations  
**COM:** Communications  
**CRG:** Cockpit Reference Guide  
**CSA:** Conflict Situational Awareness  
**DME:** Distance Measuring Equipment  
**EFIS:** Electronic Flight Instrument System  
**EHSI:** Electronic Horizontal Situation Indicator  
**FIS-B:** Flight Information Services Broadcast  
**FPGA:** Field-Programmable Gate Array  
**G/S:** Glideslope  
**GAD:** Garmin Interface Adapter  
**GDL:** Garmin Datalink  
**GMA:** Garmin Audio Panel  
**GNS:** Garmin Navigation System  
**GPS:** Global Position System  
**GSR:** Garmin Services  
**GTN:** Garmin Touch Navigator  
**GWX:** Garmin Weather Radar  
**HSDB:** High-Speed Data Bus  
**ICA:** Instructions for Continued Airworthiness  
**ICS:** Intercom System  
**IFR:** Instrument Flight Rules  
**ILS:** Instrument Landing System  
**IRU:** Inertial Reference Unit  
**LED:** Light Emitting Diode  
**LOC:** Localizer  
**LOI:** Loss of Integrity  
**LRU:** Line Replaceable Unit  
**MHz:** Mega-Hertz  
**NAV:** Navigation  
**OBS:** Omni Bearing Selector  
**PA:** Passenger Address

**PED:** Portable Electronic Device  
**PTC:** Push-to-Command  
**PTT:** Push-to-Talk  
**PVT:** Position, Velocity, Time  
**R/T:** Radar Transceiver  
**RF:** Radio Frequency  
**RMI:** Radio Magnetic Indicator  
**RX:** Receive  
**SBAS:** Satellite Based Augmentation System  
**SDI:** Source/Destination Identifiers  
**SSM:** Sign/Status Matrix  
**STC:** Supplemental Type Certificate  
**TAS:** Traffic Advisory System  
**TCAS:** Traffic Collision Avoidance System  
**TAWS:** Terrain Awareness System  
**TCAD:** Traffic Collision Avoidance Device  
**TIS:** Traffic Information Service  
**TSO:** Technical Standard Order  
**TVS:** Transient Voltage Suppressors  
**TX:** Transmit  
**UTC:** Coordinated Universal Time  
**VDC:** Volts Direct Current  
**VFR:** Visual Flight Rules  
**VHF:** Very High Frequency  
**VOR:** VHF Omni-directional Range  
**WAAS:** Wide Area Augmentation System  
**WXR:** Weather Radar  
**XPDR:** Transponder

#### 1.4 Publications

Part Number	Garmin Document
005-00533-C0	<i>Master Drawing List, GTN 6XX/7XX</i>
005-00533-C1	<i>GTN 6XX/7XX Equipment List</i>
190-01007-A2	<i>Supplemental Airplane Flight Manual for the Garmin GTN 6XX/7XX GPS/SBAS Navigation System</i>
190-01007-A5	<i>Supplemental Airplane Flight Manual for Garmin GTN 6XX/7XX GPS/SBAS Navigation System (GPS Functions Not Approved for IFR Navigation)</i>
190-01007-A3	<i>GTN 6XX/7XX AML STC Installation Manual</i>
190-01007-E1	<i>GTN 6XX/7XX Installation Checklist</i>

## 1.5 Distribution

This document is required for maintaining the continued airworthiness of the aircraft. When this document is revised, every page will be revised to indicate the current revision level. Garmin Dealers may obtain the latest revision of this document on the Garmin [Dealer Resource Center](#) website.

Owner/operators may obtain the latest revision of this document from [www.flyGarmin.com](http://www.flyGarmin.com) or by contacting a Garmin dealer. Other contacts include Garmin Product Support at 913-397-8200 (toll free 866-739-5687) or using around the world contact information on [www.flyGarmin.com](http://www.flyGarmin.com).

A Garmin Service Bulletin describing the revision to this document will be sent to Garmin dealers if the revision is determined to be significant.



## 2 SYSTEM DESCRIPTION

### 2.1 Equipment Descriptions

#### 2.1.1 GTN 6XX/7XX Navigators and GMA 35

The GTN SBAS navigators are a family of aviation panel mounted retro-fit products. The following sections will describe the available functions for each unit in the GTN 6XX/7XX navigators.

##### 2.1.1.1 GTN 6XX

The GTN 6XX SBAS navigators are a family of panel-mounted GPS/NAV/COM navigators. The GTN 6XX units include the GTN 625, GTN 635, and GTN 650. They are 6.25" wide and 2.65" tall. The GTN 6XX features a 600 by 266 pixel color LCD touchscreen. The GTN 625 is a GPS/SBAS unit that meets the requirements of Technical Standard Order TSO-C146c and may be approved for IFR en route, terminal, oceanic, non-precision, and precision approach operations when installed in accordance with the instructions in the manuals referenced in the GTN AML STC. The GTN 635 includes all of the features of the GTN 625 in addition to an airborne VHF communications transceiver. The GTN 650 includes all of the features of the GTN 625 in addition to an airborne VHF communications transceiver and airborne VOR/localizer (LOC) and glideslope (G/S) receivers.

##### 2.1.1.2 GTN 7XX

The GTN 7XX SBAS navigators are a family of GPS/NAV/COM aviation panel-mounted products. The GTN 7XX units include the GTN 725 and GTN 750. The GTN 7XX units are 6.25" wide and 6.00" tall. They feature a 600 by 708 pixel color LCD touchscreen. The GTN 725 is a GPS/SBAS unit that meets the requirements of Technical Standard Order TSO-C146c and may be approved for IFR en route, terminal, oceanic, non-precision, and precision approach operations when installed in accordance with the instructions in the manuals referenced in the GTN AML STC. The GTN 750 includes all of the features of the GTN 725 in addition to an airborne VHF communications transceiver and airborne VOR/localizer (LOC) and glideslope (G/S) receivers. The GTN 725 and 750 also have the ability to remotely control GMA 35 audio panel functions.

##### 2.1.1.3 GMA 35 Audio Panel

The GMA 35 audio panel is both a marker beacon receiver and an audio panel with 6-place intercom that interfaces to the communications and navigation radios, headsets, microphones, and speakers. The GMA 35 is remote-mounted and relies upon the GTN 725 or GTN 750 to control and display the audio functions.

The GMA 35 interfaces to the GTN 7XX through RS-232 for control and display of audio panel functions. Additionally, the GMA 35 includes a six-position intercom system (ICS) with electronic cabin noise de-emphasis, two stereo music inputs, and independent pilot, copilot, and passenger volume controls. The intercom provides three selectable isolation modes. A pilot-selectable cabin speaker output can be used to listen to the selected aircraft radios or to broadcast PA announcements.

##### 2.1.1.4 Flight Stream 210

The Flight Stream 210 brings Bluetooth<sup>®</sup> connectivity to the cockpit, allowing portable electronics to stream data to and from the installed avionics.

The Flight Stream 210 interfaces to the GTN 6XX/7XX (Flight Stream supports connection to one navigator at a time) through RS-232 for attitude information, flight plan information, and GPS PVT and displays that information on a portable electronic device (PED). The Flight Stream may interface to the GDL 88 through RS-422 and the GDL 69 through RS-232 as well.

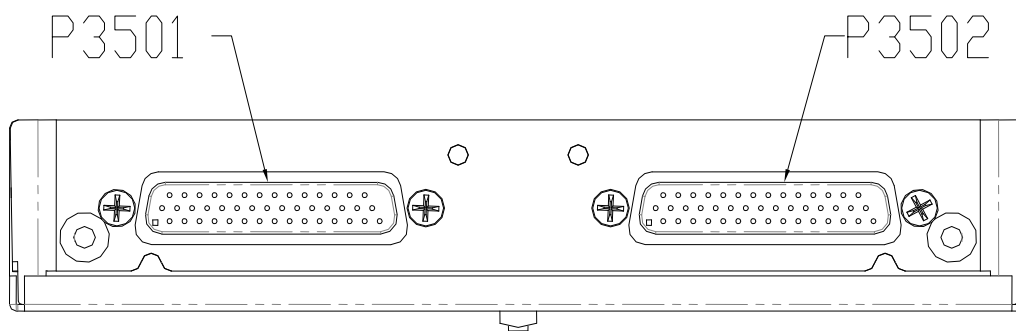
### 2.1.2 NAV Antenna Cable Splitter

The navigation antenna cable splitter (Garmin P/N 013-00112-00) is used for installations involving dual VHF navigation capable GTNs or a single VHF navigation capable GTN installation with a second non-Garmin aviation unit.

### 2.1.3 NAV Antenna Cable Diplexer

The GTN 650/750 navigation units have a single navigation antenna port and thus require a composite signal for those installations which include separate VOR/LOC and G/S antennas. The navigation diplexer (Comant diplexer VOR/GS, Model CI-507) is used for these installations.

## 2.2 Backplate Connectors



**Figure 2-1. GMA 35 Connector Layout Detail - Rear View**

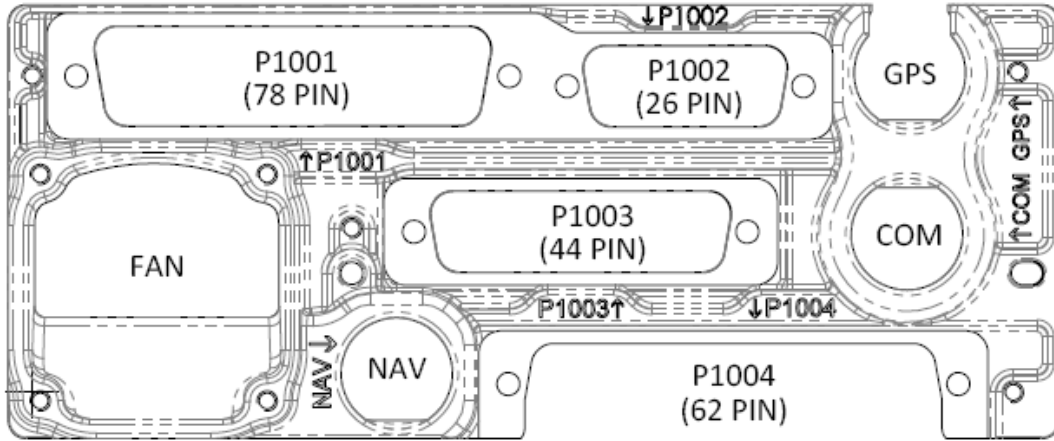


Figure 2-2. GTN 650 Connector Layout Detail - Rear View

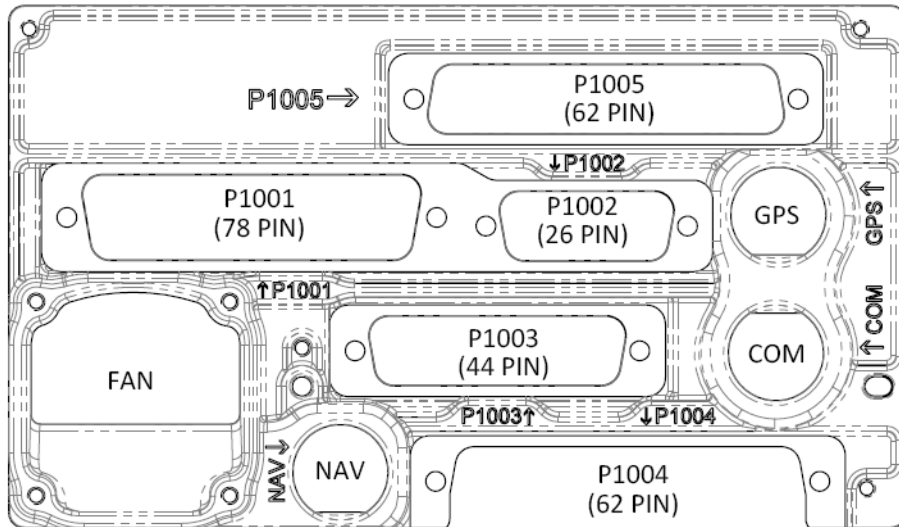


Figure 2-3. GTN 750 Connector Layout Detail - Rear View

## 2.3 GTN Optional Interfaces

Optional equipment interfaces include:

- Audio Panel
- Air Data Computer
- Altitude Serializer or Fuel/Air Data Computers
- Autopilot
- EFIS Displays
- EHSI Displays
- IRU/AHRS
- Navigation Indicators
- Weather, Traffic, Terrain Systems
- DME
- CDI/HSI Source Selection Annunciators
- TAWS Annunciator Panels
- Multifunction Displays
- Interface Adapters
- Synchro Heading Sources
- Weather Radar
- Garmin Iridium Transceiver
- Garmin ADS-B Traffic and FIS-B Weather Sources
- Garmin Flight Stream

## 2.4 GTN Block Diagram

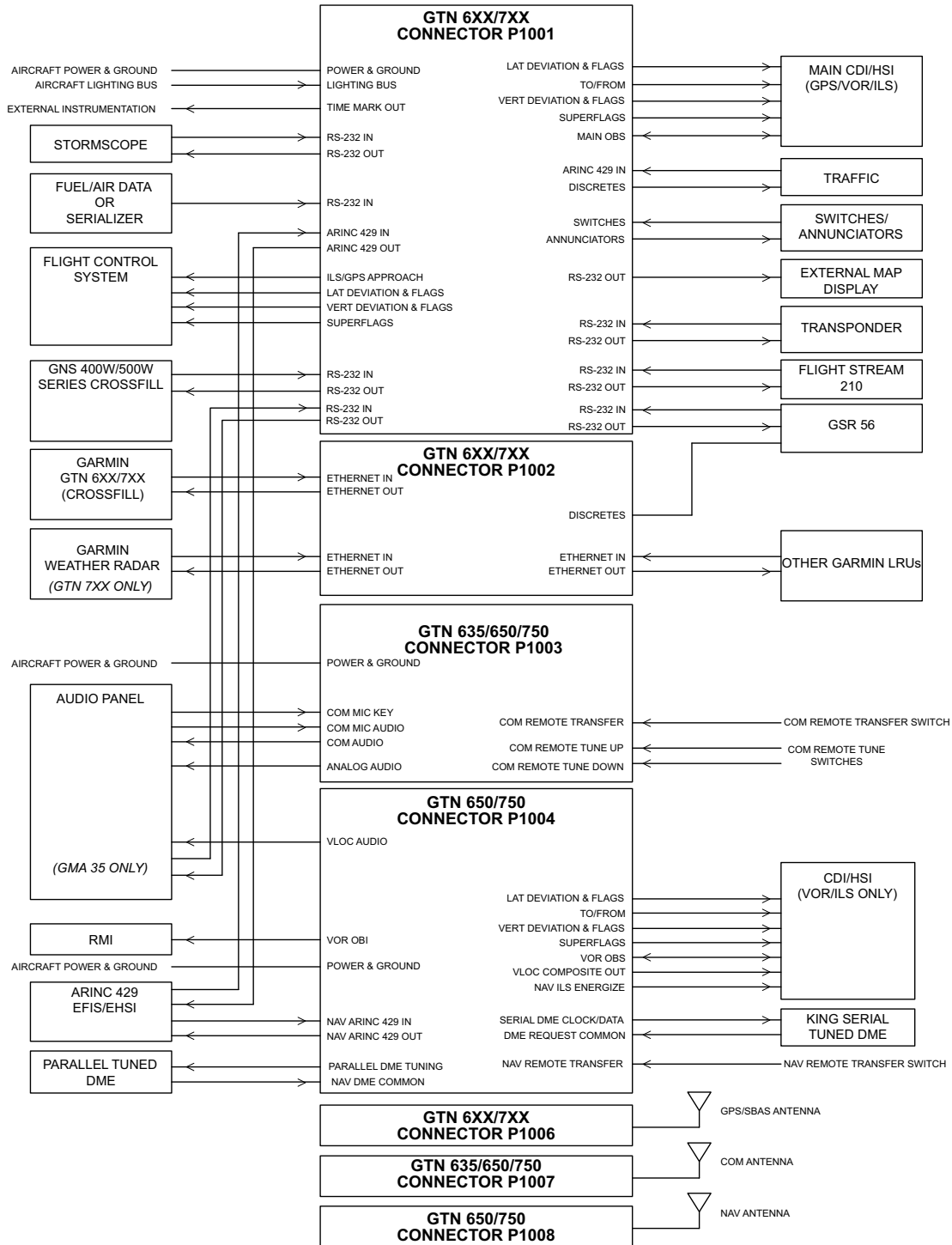


Figure 2-4. GTN System Interface Diagram

### 3 GTN CONTROL AND OPERATION

#### 3.1 GTN Controls

#### 3.2 GTN Normal Mode Overview

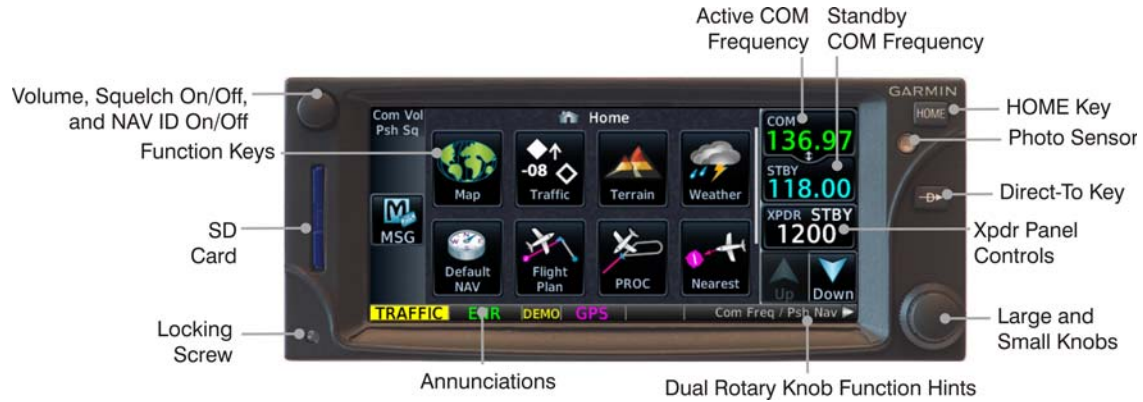


Figure 3-1. GTN 6XX Normal Mode Screen

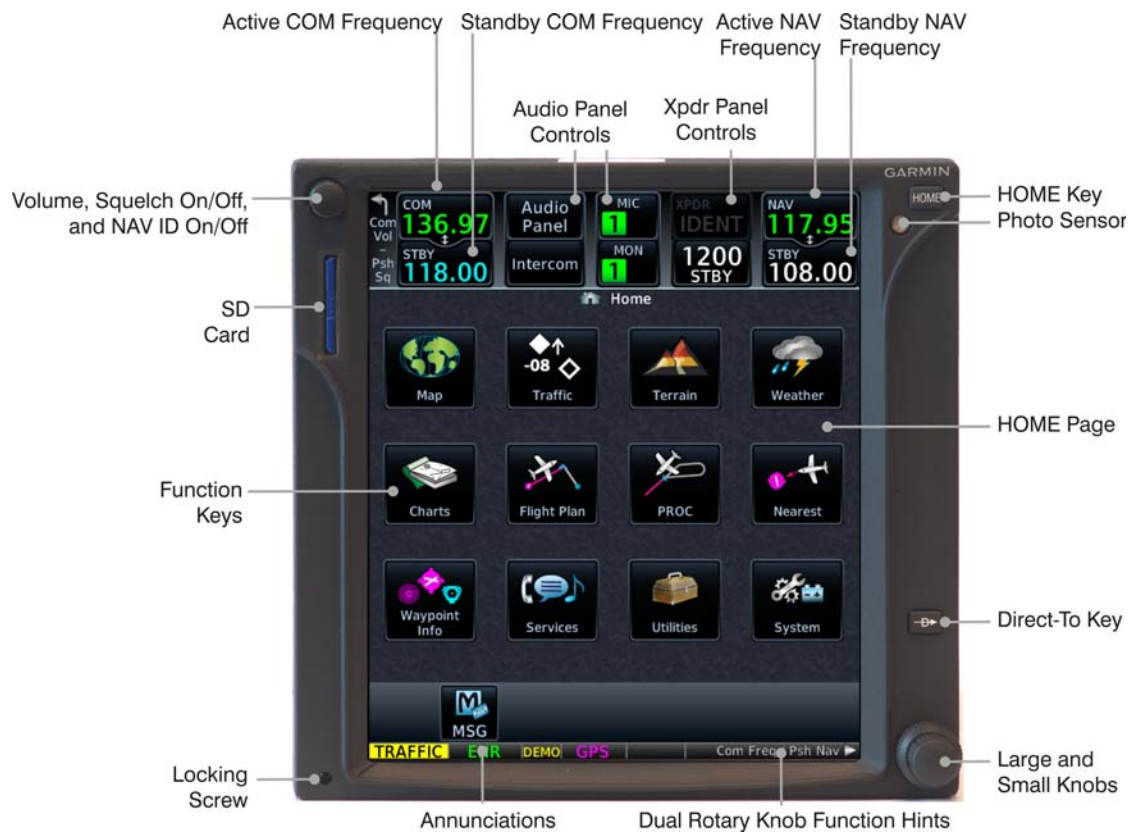


Figure 3-2. GTN 7XX Normal Mode Screen

### 3.3 Software Loading

#### 3.3.1 GTN Software Loader Card Creation

A GTN Software Loader Card may be created using GTN Downloadable Software and an SD card in conjunction with a GTN software application downloaded from the [Dealer Resource Center](#) on Garmin's website. The Dealer Resource Center will allow the technician to choose which software package(s) to load onto the card.



#### NOTE

*The downloadable application to create the GTN Software Loader Card only runs on PCs with Windows. Windows 2000, XP, Vista, and Windows 7 are supported. There is no Macintosh support at this time.*

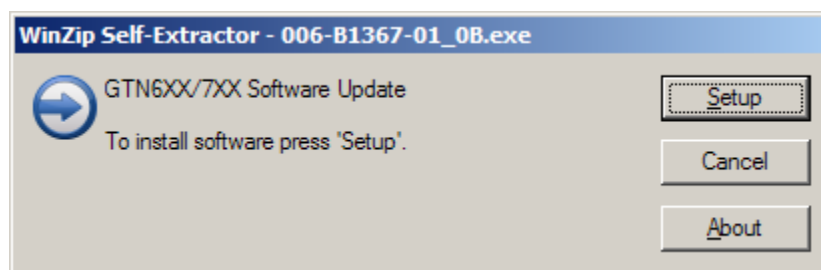


#### NOTE

*An SD card reader is needed to create the GTN Software Loader card using the application that is downloaded from Garmin. The approved readers are SanDisk® SDDR-999 and SDDR-93, although other SD card readers will work.*

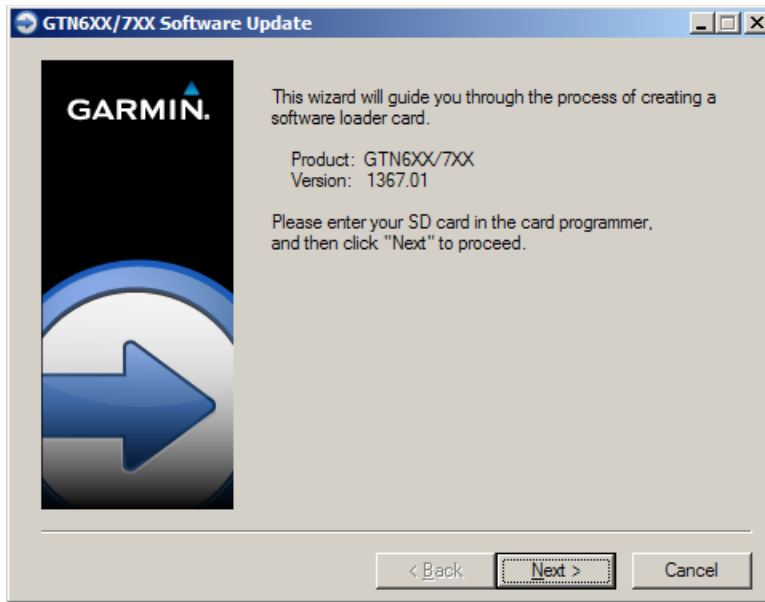
Create a GTN Software Loader Card as follows:

1. Go to the [Dealer Resource Center](#) on Garmin's website.
2. Download the GTN Software Loader Image. Refer to the Equipment List (P/N 005-00533-C1) for the correct Software Loader Image part number.
3. Ensure that you have an SD card reader connected to the PC. Insert the GTN Downloadable Software SD Card into the card reader.
4. Run the executable file. The screen shown in Figure 3-3 will appear.



**Figure 3-3. GTN Software Updater**

5. Click **Setup**. The window shown in Figure 3-4 will appear to guide you through the software loader card creation process.



**Figure 3-4. System and Software Version**

6. Click **Next** and the window shown in Figure 3-5 will appear.



**CAUTION**

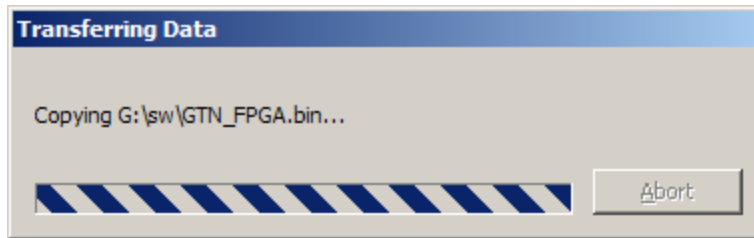
*In order to create a GTN Software Loader Card, the drive that you select will be completely erased.*



**Figure 3-5. GTN Software Loader Card Formatting**

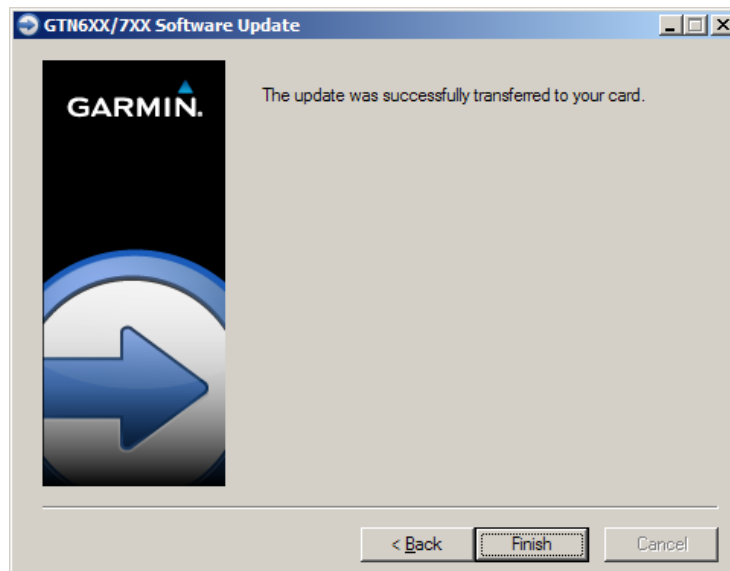


7. Ensure that the correct drive is selected. Click **Next** to create the card. Click **Next** to acknowledge any warnings that appear. The progress window in Figure 3-6 will appear when the card is being created.



**Figure 3-6. Update Progress Window**

8. After the card has been created, the window shown in Figure 3-7 in will appear. Click **Finish** to complete the update process.



**Figure 3-7. Update Completion**

9. Eject the card from the card reader (or stop the card reader in Windows). The GTN Software Loader Card is now ready to use.

### 3.3.2 GMA 35 Software Loading



#### NOTE

*The GMA 35 software will be present on the SD card when creating a GTN Software Loader Card. A separate card is not required to perform GMA 35 software updates.*

1. Remove power from the GTN 7XX by opening the circuit breaker
2. Insert the GTN Software Loader Card into the GTN 7XX data card slot (See Section 3.3.1 for instructions on how to create a GTN Software Loader Card).
3. Hold down the **HOME** key until Garmin is fully lit on the display after power is applied by closing the circuit breaker for the GTN 7XX.
4. Ensure the GMA 35 circuit breaker is also closed.
5. The Configuration Mode page should now be displayed. Touch the **Updates** key to display the software that is available.
6. To select GMA 35 software updates, touch the **GTN Software Updates** key on the top left corner of the display and select **GMA 35 Software Updates**.
7. To update the GMA 35 with all software available, touch **Select All**.
8. To begin the software update, touch the **Update** key on the bottom of the display.
9. The GTN will display the prompt, 'Start GMA 35 Software Updates?'
10. Touch **OK** to allow the GTN to update the GMA 35.
11. When the updates are finished, the GTN will display 'Update Complete!'
12. When finished, turn the GTN and GMA 35 off (open the circuit breaker) and remove the Software Loader Card. Reinsert the database card in the data card slot.
13. Restore power on the GTN and GMA 35 by closing the circuit breakers and ensure the software was updated correctly by going to the System Information page and selecting the GMA 35. Refer to Section 3.4.2 for more information on the System Information page.

### 3.4 GTN Configuration Mode Overview



**NOTE**

When configuring the GTN, ensure that no configuration module service messages are displayed in the message queue. This would indicate that the configuration module is improperly wired or damaged.

Configuration mode is used to configure the GTN settings for each specific installation. To access configuration mode, perform the following steps:

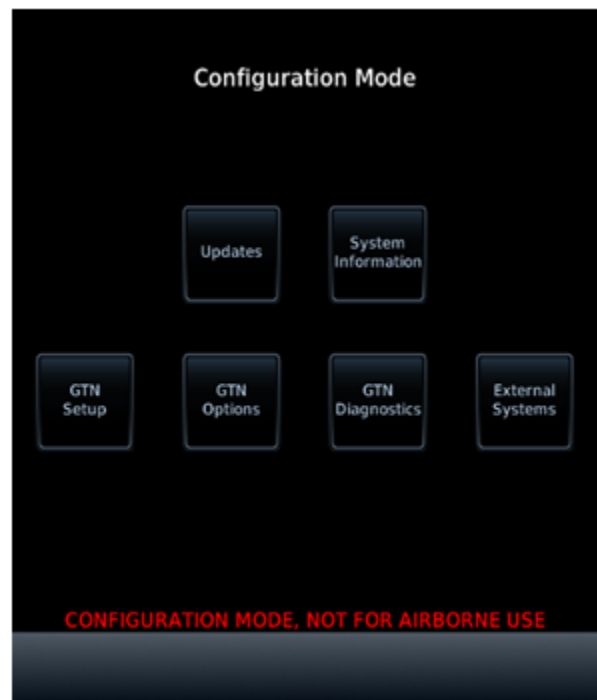
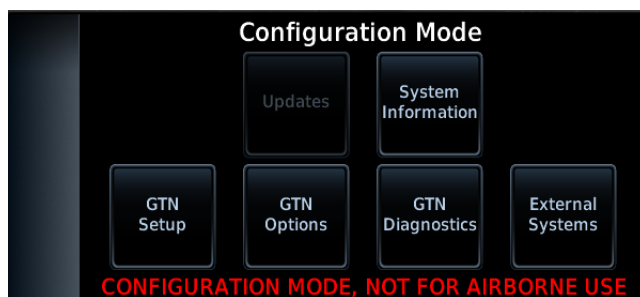
1. Remove power from the GTN by opening the circuit breaker.
2. Press and hold the **HOME** key and reapply power to the GTN (push in the circuit breaker).
3. Release the **HOME** key when the display activates and the name ‘Garmin’ appears fully lit on the screen.

The first page displayed is the Configuration Mode page, as shown in Figure 3-8. For detailed information regarding how to configure the GTN, refer to the GTN 6XX/7XX AML STC Installation Manual, P/N 190-01007-A3. While in configuration mode, pages can be selected by touching the desired key on the display. Some pages may require page scrolling to view all of the information and keys on the page. Scrolling is done by touching the screen and dragging the page in the desired direction, or by touching the **Up** or **Down** keys.



**NOTE**

The configuration pages shown here reflect main software version 3.00. Some differences in operation may be observed when comparing information in this manual to later software versions.



**Figure 3-8. GTN 6XX and GTN 7XX Configuration Mode Pages**

### 3.4.1 GTN Software Updates



**NOTE**

*The following steps will need to be repeated for each replacement GTN unit that requires a software update.*

To update the GTN software, perform the following steps:

1. Remove power from the GTN by opening the circuit breaker.
2. Remove the database card and insert the correct GTN Software Loader Card into the data card slot. See Section 3.3.1 for creating a GTN Software Loader Card.
3. Restore power to the GTN by closing the circuit breaker.
4. The GTN is now in configuration mode as shown in Figure 3-8. Touch **Updates** to display the software updates that are available.
5. Check that the software version being loaded to the GTN matches the software version listed on the GTN STC Equipment List, 005-00533-C1. The Updates page displays the version that is installed on the unit and the version installed on the loader card.
6. Check that the available GTN software updates are being displayed by ensuring that **GTN Software Updates** key is highlighted in the upper left corner (upper right corner for 6XX) of the display.
7. To update the GTN with all software available, touch **Select All**.
8. To begin the software update, touch **Updates** on the bottom of the display.
9. The GTN will display the prompt, ‘Start GTN Software Updates?’
10. Touch **OK** to allow the GTN to go through the update process.
11. When the updates are finished, the GTN will display ‘Update Complete!’ When finished, remove power from the GTN and remove the Software Loader Card. Reinsert the database card into the data card slot.



**Figure 3-9. GTN 7XX Updates Page**

### 3.4.2 System Information

View the System Information page, as shown in Figure 3-10, by touching **System Information** key on the Configuration Mode page. The System Information page displays the unit type, serial number, and system ID for the GTN. It also contains the software and hardware versions of the Main, I/O, Display, Keypad, LED, GPS/WAAS, COM and NAV boards. This information is also available for certain other LRUs connected to the GTN. Touch the **GTN** key and choose which LRU to display. Touch **UP** or **DOWN** to view all the information.



Figure 3-10. System Information Page

### 3.4.3 GTN Setup Page

This section provides a brief overview of the pages that are accessed from the GTN Setup page, as shown in Figure 3-11, are described below. To access the GTN Setup page, touch the **GTN Setup** key from the Configuration Mode page as shown in Figure 3-8.



**Figure 3-11. GTN 7XX Setup Pages**

#### **ARINC 429**

This page allows the user to configure the ARINC 429 input and output ports on the GTN. Both ARINC 429 formats and bus speeds are set from this configuration page.

#### **RS-232**

This page allows the user to configure the RS-232 input and output ports on the GTN.

#### **HSDB (Ethernet)**

This page allows the user to set which Ethernet ports are connected.

#### **Interfaced Equipment**

This page allows the user to configure which LRUs are installed and interfaced to the GTN. The transponder selection is automatically configured when a valid transponder configuration is selected under the RS-232 page.

#### **Main Indicator (Analog)**

This page allows the user to calibrate the OBS resolver, and configure the CDI key, selected course for GPS and VLOC as well as the V-Flag state.

#### **Lighting**

This page allows the user to set the display parameters that affect the backlight and key lighting brightness.

#### **Enhanced Lighting**

This page replaces the 'Lighting' page when enabled under the 'Main System' configuration page. Enhanced lighting allows the user to set the display parameters that affect the backlight and key lighting brightness. Enhanced lighting may be used to configure separate Day/Night lighting curves.

### **Audio**

This page allows the user to configure the aural alert volume.

### **Traffic**

This page allows the user to configure the traffic intruder symbol color and configure whether or not the GTN is the display used to control the traffic system.

### **Main System**

This page allows the user to display miscellaneous configuration options for the GTN. Air/Ground Threshold, Air/Ground Discrete, Fuel Type, and Heading/Altitude input source connection statuses are settings on this page.

### **COM**

This page allows the user to configure the RF squelch volume, Mic 1 Gain, and sidetone volume. These selections are only available for the GTN 635, 650, and 750 units.

### **VOR/LOC/GS**

This page allows the user to check the CDI outputs from the VOR/LOC/GS receiver as well as the OBS resolver input to the VOR receiver. It is also used to format the DME tuning data. This selection is only available for the GTN 650 and 750 navigation units.

### **ARINC 708**

This page allows the user to configure the GTN ARINC 708 input port. Selection of one of the approved ARINC 708 weather radars is only possible if the digital radar enablement is active. This setting is only available for the GTN 725 and 750 navigation units.

### **Discretes**

This page allows the user to customize the configuration of discrete inputs/outputs on the J1001 and J1002 connectors.

### **Waypoints**

These settings are not used in this STC.

### **Ownship**

This page allows the user to select the displayed ownship icon from a list.

### 3.4.4 GTN Options Page

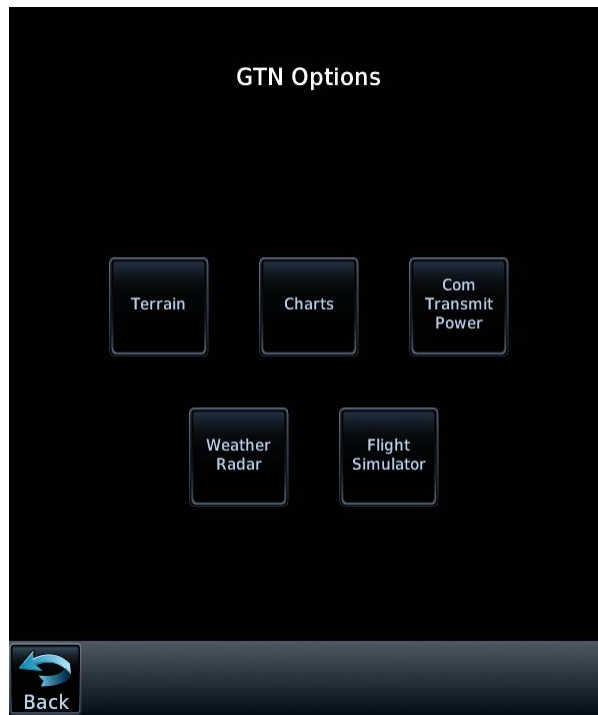


Figure 3-12. GTN 7XX Options Pages



### 3.4.4.1 TAWS-B Enablement

When the optional TAWS feature is enabled, the GTN will provide Class B TAWS functionality. This section describes how to reactivate the TAWS feature in the GTN.

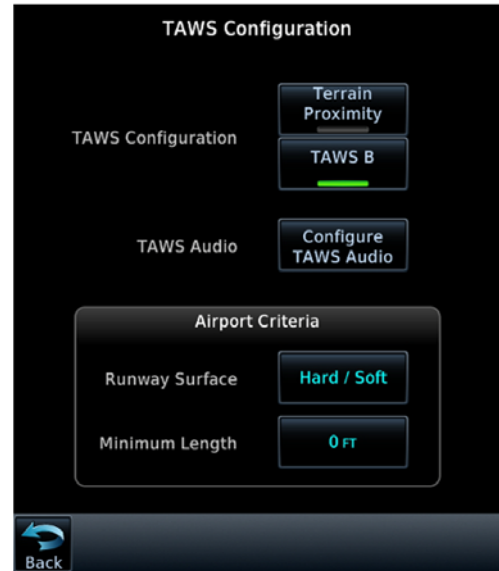


**NOTE**

*For first time TAWS enablement, refer to the GTN 6XX/7XX AML STC IM, P/N 190-01007-A3, for additional requirements and checkout procedures. This manual only describes the necessary steps to re-enable the feature for existing installations.*

1. Turn the GTN off by pulling the NAV/GPS circuit breaker.
2. Remove the database SD card from the data card slot and insert the TAWS Enablement Card, P/N 010-00878-01, which was used at the initial installation.
3. Enter configuration mode by applying power (closing the circuit breaker) to the GTN while holding the **HOME** key.
4. Go to the Terrain Configuration page from the GTN Options page. Touch the **TAWS B** key.

When the TAWS feature is activated, the **TAWS B** key will be lit green, as shown in Figure 3-13.



**Figure 3-13. GTN 7XX TAWS Configuration Page**



**NOTE**

*The feature enablement card should be provided to the customer after service has been completed.*

#### 3.4.4.1.1 TAWS-B Configuration Options

When TAWS-B is enabled as shown in Figure 3-13, the following configuration settings may be accessed:

**TAWS Audio**

This configuration setting allows the user to select aural alert messages for various caution and warning types.

**Airport Criteria**

The GTN TAWS alerting algorithm adapts the terrain alerting criteria based on nearby airports. The Airport Criteria configuration options allow the user to select the minimum criteria that the airport must meet to be considered as a nearby airport for the purpose of TAWS alerting. See Section 7.5.1 for more details.

### 3.4.4.2 ChartView™ Enablement (GTN 7XX Only)

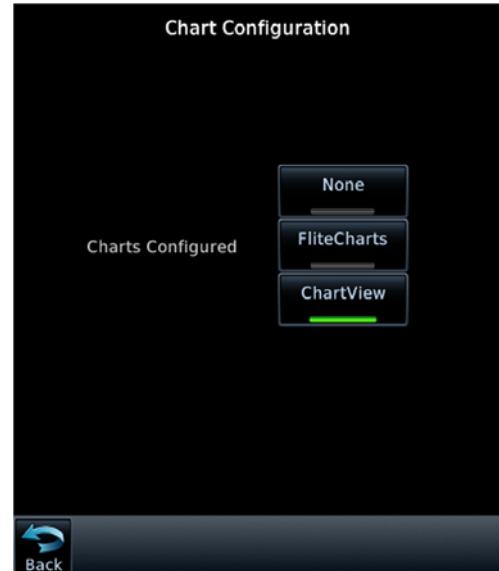
The GTN 7XX can display Jeppesen charts using the optional ChartView feature, which must be activated. To configure which Charts to display, touch either None, FliteCharts, or ChartView. If ChartView is selected, it must be enabled as described below.



#### NOTE

*For first time Chartview enablement, refer to the GTN 6XX/7XX AML STC IM, P/N 190-01007-A3, for additional requirements and checkout procedures. This manual only describes the necessary steps to re-enable the feature for existing installations.*

1. Turn the GTN off by pulling the NAV/GPS circuit breaker.
2. Remove the database SD card from the data card slot and insert the ChartView Enablement Card, P/N 010-00878-04, which was used at the initial installation.
3. Enter configuration mode on the GTN by applying power to the GTN (closing the circuit breaker) while holding the **HOME** key.
4. Go to the Charts page from the GTN Options page. Touch the **ChartView** key.
5. When the ChartView feature is activated, the ChartView key will be lit green, as shown in Figure 3-14.



**Figure 3-14. Chart Configuration Page**



#### NOTE

*The feature enablement card should be provided to the customer after service has been completed.*

### 3.4.4.3 COM Transmit Power Enablement

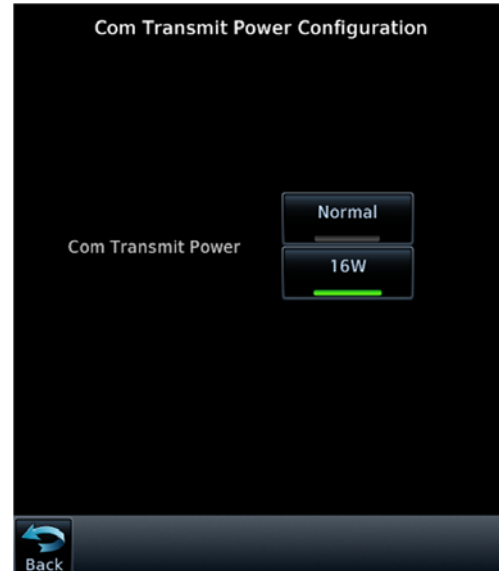
When the optional 16W COM power is configured, the GTN COM will transmit with 16 watts rather than the standard 10 watts. This section describes how to re-enable the 16W COM transmit power.



#### NOTE

*For first time COM transmit enablement, refer to the GTN 6XX/7XX AML STC IM, P/N 190-01007-A3, for additional requirements and checkout procedures. This manual only describes the necessary steps to re-enable the feature for existing installations.*

1. Turn the GTN off by pulling the NAV/GPS circuit breaker.
2. Remove the database SD card from the data card slot and insert the 16W Enablement Card, P/N 010-00878-04, that was used at the initial installation.
3. Enter configuration mode by applying power to the GTN (closing the circuit breaker) while holding the **HOME** key.
4. Go to the COM Transmit Power page from the GTN Options page. Touch the **16W** key.
5. When the 16W COM feature is activated, the **16W** key will be lit green, as shown in Figure 3-15.



**Figure 3-15. COM Transmit Power Configuration Page**



#### NOTE

*The feature enablement card should be provided to the customer after service has been completed.*

### 3.4.4.4 Digital Radar Enablement (GTN 7XX Only)

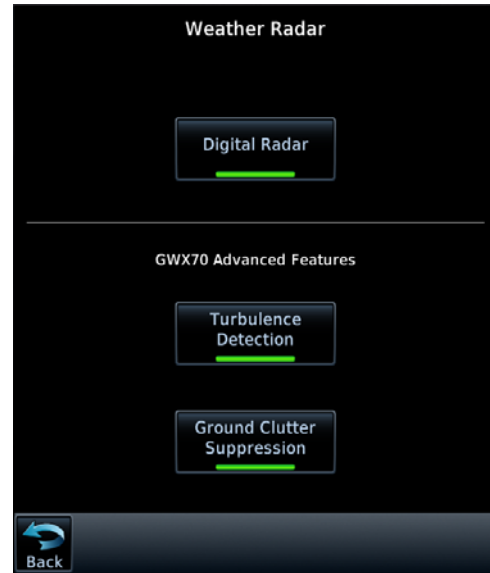
This section describes how to re-enable the Digital Radar feature, which allows approved ARINC 708 Weather Radars to be interfaced with the GTN 7XX.



#### NOTE

*For first time Digital Radar enablement, refer to the GTN 6XX/7XX AML STC IM, P/N 190-01007-A3, for additional requirements and checkout procedures. This manual only describes the necessary steps to re-enable the feature for existing installations.*

1. Turn the GTN off by pulling the NAV/GPS circuit breaker.
2. Remove the database SD card from the data card slot and insert the Digital Radar Enablement Card, (P/N 010-00878-42), that was used at the initial installation.
3. Enter configuration mode on the GTN by applying power to the GTN (closing the circuit breaker) while holding the **HOME** key.
4. Go to the Weather Radar page from the GTN Options page. Touch the **Digital Radar** key, as shown in Figure 3-16.
5. When prompted, touch **Yes** to enable Digital Weather Radars. When the feature is activated, the **Digital Radar** key will be lit green.



**Figure 3-16. Weather Radar Page**



#### NOTE

*The feature enablement card should be provided to the customer after service has been completed.*

### 3.4.4.5 GWX 70 Advanced Features (GTN 7XX Only)

The GTN 7XX can enable two Doppler radar features for the GWX 70. A Radar Turbulence Detection Card (P/N 010-00878-45 or 010-00878-47 (dual install)) is needed for Turbulence Detection and a Radar Automatic Ground Clutter Suppression Enablement Card (P/N 010-00878-44 or 010-00878-46 (dual install)) is needed for Ground Clutter Suppression.



#### NOTE

*For first time GWX 70 advanced feature enablement, refer to the GTN 6XX/7XX AML STC IM, P/N 190-01007-A3, for additional installation requirements and checkout procedures. This manual only describes the necessary steps to re-enable the feature for existing installations.*

To enable Radar Turbulence Detection:

1. Turn the GTN off by pulling the NAV/GPS circuit breaker.
2. Remove the database SD card from the data card slot and insert the Radar Turbulence Detection Enablement Card (P/N 010-00878-45), that was used at the initial installation.
3. Enter configuration mode on the GTN by applying power to the GTN (closing the circuit breaker) while holding the **HOME** key.
4. Go to the Weather Radar page from the GTN Options page. Touch the **Turbulence Detection** key, as shown in Figure 3-16.
5. When prompted, touch **Yes** to enable Turbulence Detection. When the feature is activated, the Turbulence Detection key will be lit green.

To enable Ground Clutter Suppression:

1. Turn the GTN off by pulling the NAV/GPS circuit breaker.
2. Remove the database SD card from the data card slot and insert the Radar AGCS Enablement Card (P/N 010-00878-44) that was used at the initial installation.
3. Enter configuration mode on the GTN by applying power to the GTN (closing the circuit breaker) while holding the **HOME** key.
4. Go to the Weather Radar page from the GTN Options page. Touch the **Ground Clutter Suppression** key, as shown in Figure 3-16.
5. When prompted, touch **Yes** to enable Ground Clutter Suppression. When the feature is activated, the Ground Clutter Suppression key will be lit green.



#### NOTE

*The feature enablement card should be provided to the customer after service has been completed.*

### 3.4.5 GTN Diagnostics Page

The GTN Diagnostics page, shown in Figure 3-17, is accessed from the Configuration Mode Home page and is a useful tool for diagnosing issues and troubleshooting problems. Ground checks are also performed using the tools on this page.

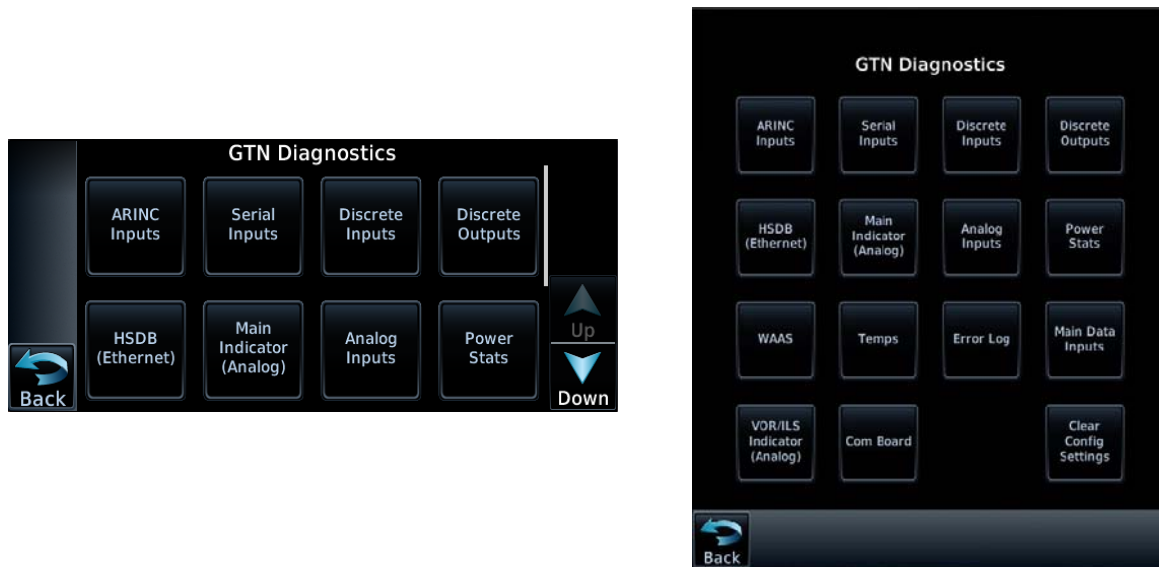


Figure 3-17. GTN 6XX and 7XX Diagnostics Pages

#### **ARINC Inputs**

This page displays the ARINC 429 data that is being received over each ARINC 429 port. Each port can be chosen for display by touching the Port key and toggling between the input ports. Select a port to display. The GTN will then display the label, SSM, Data, and SDI for each ARINC 429 input port. This is useful for determining if the expected labels are being received and also for troubleshooting incorrect or swapped wiring to the input ports. The data log can be paused by toggling the **Pause** key. Clear the data log by touching **Clear Log** key.

#### **Serial Inputs**

This page displays the serial data that is being received and is useful for determining if the GTN is receiving data on each connected port. Select the desired port by touching the **Port** key and selecting the RS-232 channel from the list. The data log can be paused by toggling the **Pause** key. Clear the data log by touching **Clear Log**.

#### **Discrete Inputs**

This page displays the state of each of the discrete input pins on the GTN. This page is useful for troubleshooting discrete wiring issues.

#### **Discrete Outputs**

This page displays the state of each of the discrete outputs and allows them to be toggled between active and inactive. This is useful for ensuring that annunciator and signal outputs are properly connected to annunciator lights or other LRUs and that they are receiving the signal.

### **HSDB Ethernet**

This page displays the status of each HSDB port to be displayed. This page displays whether or not each port is receiving data and displays whether the port is connected or not connected. The communication status of each installed HSDB LRU is also displayed.

### **Main Indicator (Analog)**

This page displays the CDI connected to the main board (P1001) to be ground checked and allows the interface to be verified.

### **Analog Inputs**

This page displays the bus voltage setting for Lighting Bus 1 and Lighting Bus 2 as well as the input voltage setting for each bus. It also displays synchro heading input diagnostics information such as heading angle, heading valid status, AC voltage, and AC frequency.

### **Power Stats**

This page displays the number of times the GTN has powered up as well as the total elapsed operating hours for the GTN.

### **WAAS Diagnostics**

This page displays the WAAS engine status, including UTC date/time, current Lat/Lon, overall navigation status, oscillator temperature, and AGC voltage. This page also allows the GPS/WAAS engine to be reset.

### **Temps**

This page displays the current, minimum, maximum, and average board temperatures for the LED Board, Main Board, Display Interface Board, GPS/WAAS Board, and COM Board.

### **Error Log**

This page allows the error log to be written to the SD card in the front slot. It also allows the error log to be cleared.

### **Main Data Inputs**

This page allows the data on ARINC 429, RS-232, and other electrical inputs to be monitored. This is used for checking electrical interfaces during installation and troubleshooting. Information that is not being received by the GTN is dashed out.

### **VOR/ILS Indicator (Analog)**

This page allows the CDI connected to the NAV board (P1004) to be ground checked and allows the NAV indicator interface to be verified.

### **COM Board Diagnostics Page**

This page displays status of the FPGA flash, nonvolatile memory, synthesizer lock calibration, and reversionary as well as the transmitter power limit.

### **Clear Config Settings**



#### **CAUTION**

*This key should only be pressed if the intent is to clear all configuration settings. Touching the Clear Config Settings key opens a confirmation window to reset all of the settings stored in the configuration module to their defaults.*

### 3.5 Database Updates

The GTN utilizes various databases. The Navigation, Basemap, SafeTaxi, and Obstacle databases reside internal to the GTN, while the Terrain and Charts databases are stored on the removable memory card located in the vertical slot on the left side of the GTN. The following describes each database and how the databases are updated. See Table 3-1 for a summary of the database location and update rate. The GTN Database card, Garmin P/N 010-00900-00, includes the Basemap, Obstacle, SafeTaxi, and Navigation databases.



#### CAUTION

*The databases on the GTN Database Card are locked to specific GTN installations. The first time the GTN Database Card is inserted into a GTN, it associates exclusively with that particular GTN and will not work in other installations.*

**Table 3-1. GTN Database Summary**

Database	Update Rate	Stored Location
Terrain Database	Periodic (When available)	Data Card
FliteCharts Database	28 Days	Data Card
ChartView Database	14 Days	Data Card
Obstacle Database with Hotlines	56 Days	Internal
SafeTaxi Database	56 Days	Internal
Basemap Database	Periodic (When available)	Internal
Navigation Database	28 Days	Internal



## 4 INSTRUCTIONS FOR CONTINUED AIRWORTHINESS

### 4.1 Airworthiness Limitations

There are no additional Airworthiness Limitations as defined in 14 CFR §23, Appendix G, G23.4 that result from this modification.

The Airworthiness Limitations section is FAA approved and specifies maintenance required under §43.16 and §91.403 of the Federal Aviation Regulations unless an alternative program has been FAA approved.

FAA APPROVED

 25-NOV-2014  
Michael Warren Date  
ODA STC Unit Administrator  
ODA-240087-CE

### 4.2 Servicing Information

The GTN and GMA do not require servicing. In the event of system failure, troubleshoot the GTN 6XX/7XX and GMA 35 in accordance with Section 5.

#### 4.2.1 Periodic Maintenance

The GTN and GMA 35 are designed to detect internal failures. A thorough self-test is executed automatically upon application of power to the units, and built-in tests (BIT) are continuously executed. Detected errors are indicated as failure annunciations, system messages, or a combination of the two.

All antennas connected to the GTN should be maintained in accordance with appropriate inspection data for the antenna installation.

#### 4.2.2 Special Tools

A milliohm meter with an accuracy of +/- 0.1 milliohms ohms (or better) is required to measure the electrical bonding between the GTN/GMA system components and aircraft ground.

### 4.3 Maintenance Intervals

**Table 4-1. Periodic Maintenance**

Item	Description/Procedure	Interval
Equipment Removal and Replacement	Removal and replacement of the following items. See Section 6 of this document for instructions. <ul style="list-style-type: none"> <li>• GTN 6XX/7XX, Flight Stream 210, or GMA 35 units</li> <li>• NAV antenna cable splitter</li> <li>• NAV antenna cable diplexer</li> <li>• Fan</li> </ul>	On Condition
Cleaning the Front Panel	The front bezel, keypad, and display can be cleaned with a soft cotton cloth dampened with clean water. DO NOT use any chemical-cleaning agents. Care should be taken to avoid scratching the surface of the display.	On Condition
Display Backlight	The display backlight LEDs are rated by the manufacturer as having a usable life of at least 36,000 hours. This life may be more or less than the rated time depending on the operating conditions of the GTN. Over time, the backlight lamp may dim and the display may not perform as well in direct sunlight conditions. The user must determine by observation when the display brightness is not suitable for its intended use. Contact the Garmin factory repair station when the backlight lamp requires service.	On Condition
Battery Replacement	The GTN has an internal keep-alive battery that will last about 10 years. The battery is used for GPS system information. Regular planned replacement is not necessary. The GTN will display a 'low battery' message when replacement is required. Once the low battery message is displayed, the battery should be replaced within 1 to 2 months.  If the battery is not replaced and becomes totally discharged, the GTN unit will remain fully operational, but the GPS signal acquisition time may be increased. There is no loss of function or accuracy of the GTN unit with a dead battery.  The battery must be replaced by the Garmin factory repair station or factory authorized repair station.	On Condition
Test - Bonding Check	Perform an electrical bonding check of the GTN, GMA 35 (if installed), and Flight Stream 210 (if installed) per Section 4.5.	Every 10 years or 2000 flight hours, whichever comes first.
Test TVS Lightning Protection	The GTN #1 main power input will have a TVS located at the LRU, for <b>IFR non-metallic aircraft only</b> . The TVS must be checked or replaced in accordance with Section 4.6.1.	24 Calendar Months

Item	Description/Procedure	Interval
Test Lightning Protection	The GTN #1 main power input and NAV power input will have a TVS located at the LRU, for <b>IFR non-metallic aircraft only</b> . The TVS must be replaced in accordance with Section 4.6.1. Conduct a visual check of the GPS/SBAS antenna cable overbraid in accordance with Section 4.7 Conduct a visual check of the WXR cable overbraid in accordance with Section 4.8 if installed.	After a suspected or actual lightning strike
Visual Inspection	The GTN unit, GMA 35 (if installed), Flight Stream 210 (if installed), switches, and wiring harnesses should be inspected to ensure continued integrity of the installation. These items must be inspected in accordance with Section 4.4.	12 Calendar Months

#### 4.4 Visual Inspection

Conduct a visual check of the GTN unit, switches, GMA 35 (if installed), and their wiring harnesses to ensure continued installation integrity.

1. Inspect the GTN unit(s), GMA 35, and Flight Stream 210 for security of attachment, including visual inspection of mounting racks and other supporting structure attaching the racks to aircraft instrument panel.
  - **GTN 6XX/7XX** - Verify the countersunk fastener heads are in full contact with the unit mounting rack holes. Re-torque the mounting screws 12-15 in-lbs if required.
  - **GMA 35** - If the GMA 35 is installed, verify the countersunk fastener heads are in full contact with the unit mounting rack holes. Re-torque the GMA 35 mounting screws to 8.5-9.5 in-lbs if required.
  - **Flight Stream 210** - If the Flight Stream 210 is installed and screws are not securely attached, tighten any loose Flight Stream 210 mounting screws as necessary to snug plus one-quarter turn. If required, re-torque bonding strap hardware to 12-15 in-lbs.



#### CAUTION

*Care should be taken when tightening the mounting screws of the Flight Stream 210. Excessive tightening may damage the mounting flange.*

2. Inspect for signs of corrosion.
3. Inspect all switches, knobs, and buttons for damage.
4. Inspect condition of wiring, shield terminations, routing, and attachment/clamping.
5. Check the fan intake slots on the sides and bottom of the GTN unit's bezel for dust, dirt, or obstructions. Clean as needed.
6. Conduct a visual check of the GPS/SBAS antenna cable overbraid if installed.
7. Conduct a visual check of the WXR cable overbraid if installed.
8. Conduct a visual check of any bonding strap or conductive tape used for electrical bonding or RF ground plane (if installed). Replace any damaged or torn strap. See Section 6.12 or Section 6.13 for details. Replace any torn bonding tape using a heavy duty aluminum foil tape such as 3M P/N 438 or other foil with aluminum that is 7.2 mils thick or greater. If strap termination hardware is loose, tighten and retest bonding, see Section 4.5 for details.

## 4.5 Electrical Bonding Test

### 4.5.1 GTN Bonding Check (Metallic or Tube/Fabric Aircraft)

Perform an electrical bonding check as follows:

1. Remove the GTN 6XX or GTN 7XX from the mounting rack.
2. Remove the backplate assembly from the rack.



#### NOTE

*For GTN 7XX only, if the GMA 35 is installed, it must be removed from its rack and the GMA 35 backplate assembly must be removed prior to performing Step 3. When a GMA 35 bonding check is planned, perform the GMA 35 bonding check prior to reinstalling the GTN backplate assembly to the rack.*

3. Measure the resistance between the mounting rack and nearby exposed portion of aircraft metallic structure and verify it is less than or equal to 10 milliohms.



#### NOTE

*A bonding test failure may occur if a fastener is not secured to the specified torque value. For installations that use screws in lieu of rivets to secure the rack to surrounding structure, verify that the screws are torqued to the appropriate value before proceeding to remove the rack. See Section 4.4 for torque values.*

In the event of bonding test failure, remove the GTN rack and clean the attachment points with a bonding brush at both the GTN rack and the aircraft and reattach the rack to the rails in the panel. Re-verify the resistance between the mounting rack and nearby exposed portion of aircraft metallic structure and ensure that the resistance is less than or equal to 2.5 milliohms.

4. Reinstall the backplate assembly and reinstall the GTN in the mounting rack.

## 4.5.2 GTN (Composite Aircraft)

Perform an electrical bonding check as follows:

1. Remove the GTN 6XX or GTN 7XX from the mounting rack.
2. Remove the backplate assembly from the rack.



### NOTE

*For GTN 7XX only, if the GMA 35 is installed, it must be removed from its rack and the GMA 35 backplate assembly must be removed prior to performing Step 3.*

3. Measure the resistance between the mounting rack and the instrument panel, verify it is less than or equal to 10 milliohms.



### NOTE

*A bonding test failure may occur if a fastener is not secured to the specified torque value. For installations that use screws in lieu of rivets to secure the rack to surrounding structure, verify that the screws are torqued to the appropriate value before proceeding to remove the rack. See Section 4.4 for torque values.*

In the event of bonding test failure, remove the GTN rack and clean the attachment points with a bonding brush at both the GTN rack and the aircraft and reattach the rack to the rails in the panel. Re-verify the resistance between the mounting rack and the instrument panel and ensure that the resistance is less than or equal to 5 milliohms.

4. Reinstall the backplate assembly and reinstall the GTN in the mounting rack.

### 4.5.3 GMA 35 (Metallic or Tube/Fabric Aircraft)

A bonding check is required for the GMA 35. Perform an electrical bonding check as follows:

1. Gain access to the GMA 35 by removing the GTN 7XX.
2. Remove the GMA unit from the mounting rack.
3. Remove backplate assembly from the rack.



#### NOTE

*The GTN 7XX backplate assembly must be removed from the GTN rack prior to performing Step 4.*

4. Measure the resistance between the mounting rack and nearby exposed portion of aircraft metallic structure and verify it is less than or equal to 10 milliohms.



#### NOTE

*A bonding test failure may occur if a fastener is not secured to the specified torque value. For installations that use screws in lieu of rivets to secure the rack to surrounding structure, verify that the screws are torqued to the appropriate value before proceeding to remove the rack. See Section 4.4 for torque values.*

In the event of bonding test failure, remove the GMA 35 rack and clean the attachment points with a bonding brush at both the GMA rack and the aircraft attachment points. Re-verify the resistance between the mounting rack and nearby exposed portion of aircraft metallic structure and ensure that the resistance is less than or equal to 2.5 milliohms.

5. Reinstall the backplate assembly and reinstall the GMA unit in the mounting rack.

### 4.5.4 GMA 35 (Composite Aircraft)

1. Gain access to the GMA 35 by removing the GTN 7XX.
2. Remove the GMA unit from the mounting rack.
3. Remove the backplate assembly from the rack.



#### NOTE

*The GTN 7XX backplate assembly must be removed from the GTN rack prior to performing Step 4.*

4. Measure the resistance between the mounting rack and the instrument panel, and verify it is less than or equal to 10 milliohms.



## NOTE

*A bonding test failure may occur if a fastener is not secured to the specified torque value. For installations that use screws in lieu of rivets to secure the rack to surrounding structure, verify that the screws are torqued to the appropriate value before proceeding to remove the rack. See Section 4.4 for torque values.*

In the event of bonding test failure, remove the GMA 35 rack and clean the attachment points with a bonding brush at both the GMA rack and the aircraft attachment points. Re-verify the resistance between the mounting rack and the instrument panel and ensure that the resistance is less than or equal to 5 milliohms.

5. Reinstall the backplate assembly and reinstall the GMA unit in the mounting rack.

### 4.5.5 Flight Stream 210 (Metallic or Tube/Fabric Aircraft)

1. Disconnect the shield terminations from the Flight Stream connector backshell.
2. Measure the resistance between the connector and nearby exposed portion of aircraft metallic structure and check that it is less than or equal to 20 milliohms.

In the event of bonding test failure, remove the Flight Stream connector bonding strap from the aircraft ground plane and clean the attachment point with a bonding brush. Re-attach the bonding strap to the aircraft ground plane, torque to 12-15 in-lbs. Re-check the resistance between the Flight Stream connector and aircraft structure, ensuring that the resistance is less than or equal to 10 milliohms. If cleaning the far side of the strap is not enough, remove, clean, and reattach on the Flight Stream 210 side.

3. Connect the shield terminations to the Flight Stream connector backshell.

### 4.5.6 Flight Stream 210 (Composite Aircraft)

1. Disconnect the shield terminations from the Flight Stream connector backshell.
2. Measure the resistance between the connector and instrument panel (or other aircraft ground) and check that it is less than or equal to 20 milliohms.

In the event of bonding test failure, remove the Flight Stream connector bonding strap from the aircraft ground plane and clean the attachment point with a bonding brush. Re-attach the bonding strap to the aircraft ground plane, torque to 12-15 in-lbs. Re-check the resistance between the Flight Stream connector and aircraft ground, ensuring that the resistance is less than or equal to 10 milliohms. If cleaning the far side of the strap is not enough, remove, clean, and reattach on the Flight Stream 210 side.

3. Connect the shield terminations to the Flight Stream connector backshell.

## 4.6 Transient Voltage Suppressor (TVS) (If Installed)

After a suspected lightning strike, each TVS and TVS assembly (if installed) must be replaced. Refer to Section 6.9.1 for information on installing in-line TVSs.

### 4.6.1 GTN TVS1 Check (GTN #1 Only)



#### NOTE

*The GTN should be the only LRU connected to the NAV/GPS circuit breaker. If other equipment is connected to the NAV/GPS circuit breaker it must also be disconnected prior to conducting the following check. No other TVS devices should be on this circuit. If the TVS being checked is not isolated, erroneous readings may result.*

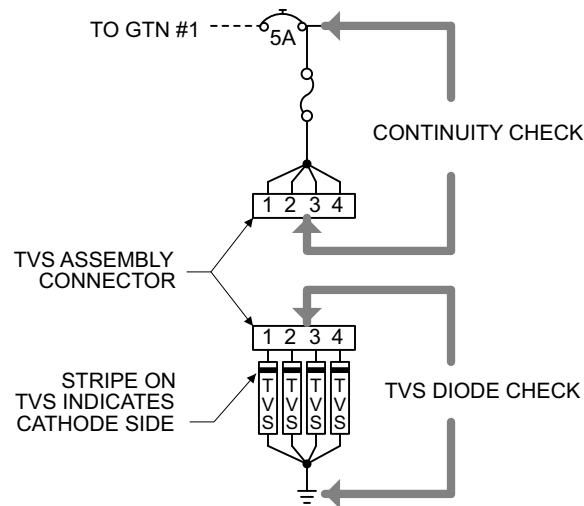
For a dual GTN installation, only GTN #1 will have the TVS protection. The following checks will only apply to GTN #1. Reference the appropriate GTN power interconnect drawings. To check the TVS on the GTN power inputs, the following steps should be followed:

1. Remove the GTN as described in Section 6.1.
2. Open the GTN's circuit breaker and use a multi-meter to perform a diode check between P1001-19 and ground:
  - a. The meter should indicate open with the red lead on P1001-19 and the black lead on ground.
  - b. The meter should indicate a diode drop of between 2.0V and 2.5V with the red lead on ground and the black lead on P1001-19.
    - i) If the diode drop is outside of the above range, replace the TVS.
    - ii) If the meter indicates a short during steps 2a or 2b, replace the TVS.
    - iii) If the meter indicates an open in both directions, check the continuity of the fuse.
    - iv) If the fuse is open, replace the fuse and repeat the check.
    - v) If the fuse is good, check the wiring for faults. If the wiring is good, replace the TVS.
3. Verify continuity between P1001-19 and P1001-20.
4. Reinstall the GTN as described in Section 6.1 and reset the GTN's circuit breaker.



#### 4.6.2 GTN TVS2 Assembly Check (GTN #1 Only)

The TVS assembly (refer to Section 6.9) and fuse on the power bus side of GTN #1 must be inspected. Verify operation of all four TVSs prior to replacing any failed TVS.



**Figure 4-1. TVS Assembly Check**

Check the TVS assembly (TVS2) as follows:

1. Ensure that the power to the bus is off and disconnect the connector in the TVS assembly.
2. Use a multi-meter to perform a diode check between the first connector contact (socket contact on the first TVS) and ground. Refer to Figure 4-1.
3. The meter should indicate open with the red lead on the connector socket contact and the black lead on ground:
  - a) The meter should indicate a diode drop of between 2.0V and 2.5V with the red lead on ground and the black lead on the connector socket contact.
    - i. If the diode drop is outside of the above range, replace the TVS diode corresponding to the contact being checked.
    - ii. If the meter indicates a short, replace the TVS diode corresponding to the contact being checked.
    - iii. If the meter indicates an open, check the wiring for faults. If the wiring is good, replace the TVS diode corresponding to the contact being checked.
4. Repeat checks in the previous step for each of the three remaining contacts/TVS diodes.
5. On the other connector, verify continuity between each of the four contacts and the power bus.
  - a) If there is no continuity between the power bus and all four contacts, check the continuity of the fuse.
  - b) If there is continuity between the power bus and some contacts but not others, check the wiring to the 'open' contacts and repair as necessary.
6. Reconnect the connector in the TVS assembly.

#### **4.7 GPS/SBAS Antenna Cable Overbraid Inspection (If Installed)**

The GPS/SBAS antenna cable overbraid must be inspected after a known or suspected lightning strike. Check the antenna and overbraid for the following:

1. Check the cable overbraid for pinching, melting or evidence of arcing at the GPS/SBAS antenna end and at the GTN 6XX/7XX.
2. Check the lug at the GTN end for evidence of arcing and verify that the lug is still secured to the overbraid and to the GTN connector shield block.
3. Check that the overbraid is securely attached at the GPS/SBAS antenna end and at the GTN6XX/7XX.

If any of these checks shows evidence of a lightning strike, replace the overbraid assembly in accordance with Section 6.10.

#### **4.8 WXR HSDB Cable Overbraid Inspection (If Installed)**

The WXR HSDB cable overbraid must be inspected after a known or suspected lightning strike. Check the overbraid for the following:

1. Check the cable overbraid for pinching, melting or evidence of arcing at the WXR end and at the bulkhead to which the WXR R/T is mounted.
2. Check the lug at the WXR end for evidence of arcing and verify that the lug is still secured to the overbraid and to the WXR shield block.
3. Check that the overbraid is securely attached at the bulkhead end.

If any of these checks shows evidence of a lightning strike, replace the overbraid assembly in accordance with Section 6.11.

## 5 TROUBLESHOOTING

### 5.1 GTN General Troubleshooting

This section provides information to assist troubleshooting if problems occur after completing the maintenance. Refer to the GTN System Configuration Log retained in the aircraft permanent records for a list of the interfaced equipment and system configuration data. When troubleshooting the GTN or GMA system, refer to the wire routing drawings and interconnect wiring diagrams that are retained in the aircraft permanent records.

**Table 5-1. GTN Troubleshooting Guide**

Problem	Possible Cause	Corrective Action
The GTN does not power on.	The unit is not getting power to the main connector P1001.	Ensure power is connected to the main 78-pin connector P1001, pins 19 and 20 and ground to P1001, pins 77 and 78. Check circuit breakers and main avionics switch.
The GTN does not compute a position.	Not receiving adequate GPS signals.	Check the GPS antenna connections. Make sure the aircraft is clear of hangars, buildings, trees, etc.
		Wait 20 minutes for GTN to download full GPS almanac and acquire position.
GPS signal levels drop when avionics are turned on.	Noise interference from other avionics.	Turn all avionics off, then turn on each piece one at a time to isolate the source of the interference. Route GPS cable and locate GPS antenna away from sources of interference.
The GPS signal levels are very low.	Improper antenna installation or coaxial routing.	Check GPS antenna installation, connections, and cable routing. The GPS antenna must be mounted on the top of the aircraft.
	Antenna shaded from satellites.	Make sure the aircraft is clear of hangars, buildings, trees, etc.
	RF interference at 1575.42 MHz from VHF COM.	Add a 1575.42 MHz notch filter in COM coaxial. Fix or replace the COM. Disconnect the ELT antenna coaxial to check for possible re-radiation. Move GPS antenna further from the COM antenna.

Problem	Possible Cause	Corrective Action
The GTN COM does not transmit.	The PTT input is not being pulled low.	Check that the MIC 1 Transmit (P1003-11) input is pulled low for transmit. The state of this discrete input can be monitored on the Discrete Inputs page found on the GTN Diagnostics page. See Section 3.4.5.
	No transmit power to COM.	Make sure power input is connected to the COM 44-pin connector P1003-30, -43 and -44 and ground to P1003-37, -38, and -40.
	The input voltage is too low.	Increase input supply voltage to >11VDC.
The side tone level is too low or too high.	Wrong type of headsets or side tone level needs adjustment.	If necessary, adjust the side tone level. Side tone adjustment is found on the COM Setup Config Mode page.
OBS Resolver won't calibrate.	Incompatible resolver or improper connection.	Check the resolver specifications and wiring.
OBS indication on GTN does not agree with OBS setting.	GTN resolver input not calibrated correctly.	Check wiring and calibration.
	Resolver has not been calibrated.	
GTN TAWS Audio not heard.	TAWS audio volume level set too low.	Increase TAWS audio volume level. Check wiring.
	Check audio panel volume and audio wiring.	
	Main software version has just been updated.	Allow up to 5 minutes for the TAWS audio clips to load. Cycle power on the GTN and verify that TAWS audio is working properly.
GTN is not receiving heading from compass system (ARINC 429 heading input used).	ARINC 429 input port speed not correct.	Check ARINC 429 input port speed setting for port that device is connected to and verify that the speed is correct for that device.
	Wiring connections are incorrect.	The raw data being received by the GTN can be monitored on the ARINC Inputs page found on the GTN Diagnostics page. See Section 3.4.5. Check wiring.

Problem	Possible Cause	Corrective Action
Autopilot is not getting GPSS/Roll Steering data from the GTN (ARINC 429 Roll Steering used).	GTN does not have a position or flight plan entered.	Acquire GPS position and enter a flight plan.
	GTN ARINC 429 output not configured correctly.	Check ARINC 429 output port setting for port to which autopilot is connected.
	ARINC 429 output port speed not correct.	Check ARINC 429 output port speed setting for port that autopilot is connected to and verify that the speed is correct for autopilot.
	Wiring connections are incorrect.	Check wiring.
	Certain autopilots require groundspeed for GPSS to be enabled.	Ensure that groundspeed is provided if required by the autopilot. This can be accomplished using GTN Demo Mode.
Tuning data not updating DME.	Incorrect configuration.	Check the DME Channel Mode on the VOR/LOC/GS CDI page.
	Wiring connections are incorrect.	Check wiring.
	Output not configured correctly.	
ARINC 429 device is not receiving data from the GTN.	GTN ARINC 429 output not configured correctly.	Check ARINC 429 output port setting for port that device is connected to.
	Receiving LRU ARINC 429 input port speed not correct.	Check ARINC 429 input port speed setting for port that device is connected to and verify that the speed is correct for that device.
	Wiring connections are incorrect.	Check wiring.
RS-232 device is not communicating with the GTN.	GTN RS-232 port not configured correctly.	Check RS-232 port setting for port that device is connected to.
	Improper setup on the remote device.	Verify the configuration of the other device.
	Device not compatible, or improper connection.	Verify GTN RX is connected to remote device TX and GTN TX is connected to remote device RX.
	Multiple TX lines connected together.	Verify that there is only one TX source per RX port.
	Wiring connections are incorrect.	Check wiring.
	Baud rate and parity settings not set correctly.	Ensure the correct baud rate and parity settings are selected in Config Mode.
CDI scaling on EFS 40/50 is not correct.	On EFS 40/50, (prior to SG465 software version 1501) FMS #1/#2 configuration is not set to "KLN 90-GPS".	Reconfigure EFS 40/50 for 'KLN 90-GPS' on FMS #1/#2 inputs as appropriate.

Problem	Possible Cause	Corrective Action
<p>GTN boots into configuration mode rather than normal mode.</p>	<p>Software Loader Card is inserted into SD card slot.</p>	<p>Remove Software Loader Card and insert database card. Ensure GTN powers up in normal mode after this.</p> <p>Reload software into the GTN (See Section 3.3). Ensure the GTN powers up in normal mode after this.</p>

## 5.2 GTN Failure Annunciations

If data fields become invalid, the GTN typically annunciates the failures with a large red X, as shown in Figure 5-1.



Figure 5-1. Failure Screen

## 5.3 GTN System Messages

### 5.3.1 GTN System Related Alerts

**Table 5-2. Alert Text Troubleshooting Guide**

Alert Text	Possible Cause	Corrective Action
CROSSFILL ERROR - Crossfill is inoperative. See CRG for crossfilled items.	An error was detected during unit-to-unit communication of data. This can be caused by problems with HSDB wiring or by either GTN needing service. See the Cockpit Reference Guide (CRG) for crossfilled items.	Start both GTNs in Configuration Mode and ensure that both GTNs are configured for crossfill. Check J1002 connection on crossfilled GTN units. Ensure that P1002-10 of GTN #2 is connected to ground.
DEMO MODE - Demo mode is active. Do not use for navigation.	The GTN is in Demo Mode and must not be used for actual navigation.	Check that the DEMO MODE SELECT* input (P1002-1) is not tied to ground. Also ensure that the <b>Direct-To</b> key is not stuck.
CDI/HSI FLAG - Main lateral/vertical flag on CDI/HSI is inoperative.	The main lateral or vertical superflag has been turned off due to an overcurrent condition.	Check the GTN main lateral and vertical superflag connections to the CDI/HSI for correct wiring, shorts to ground, and overcurrent. Superflags should not drive more than 320 mA.
GTN - GTN needs service.	The GTN has detected an internal failure.	Contact Garmin Technical Support.
COOLING - GTN overtemp. Reducing backlight brightness.	The GTN has detected excessive display backlight temperature. The backlight has been automatically dimmed to reduce the unit temperature.	Check for adequate ventilation or check cooling airflow. Also ensure the cooling fan is operating and is unobstructed.
KEY STUCK - HOME key is stuck.	The bezel's Home key is stuck in the enabled or pressed state.	Press the Home key again to cycle its operation. If the message persists, contact Garmin technical support.
KEY STUCK - Direct-to key is stuck.	The bezel's Direct-To key is stuck in the enabled or pressed state.	Touch the Direct-To key again to cycle its operation. If the message persists, contact Garmin technical support.
KNOB STUCK - Dual concentric inner knob is stuck in the pressed position.	The inner large knob push-key is stuck in the enabled or pressed state. Knob is located on the right side of the unit.	Press the knob to cycle its operation. If the message persists, contact Garmin technical support.
KNOB STUCK - Volume knob is stuck in the pressed position.	The small knob push-key is stuck in the enabled or pressed state. Knob is located on the left side of the unit.	Press the knob to cycle its operation. If the message persists, contact Garmin technical support.



Alert Text	Possible Cause	Corrective Action
CROSSFILL ERROR - GTN software mismatch. See CRG for crossfilled items.	The software does not match between GTNs. Crossfill disabled. See the Cockpit Reference Guide (CRG) for crossfilled items.	Check the software version of both GTNs and ensure they match. Update the software if needed.
CROSSFILL ERROR - GTN Navigation DB mismatch. See CRG for crossfilled items.	GTN #1 and GTN #2 have different cycles of the navigation database.	If it is desired to utilize the crossfill function, load the most current cycles of the navigation database to each GTN.
CONFIGURATION MODULE - GTN configuration module needs service.	The GTN configuration module has failed.	Verify the configuration module wiring is correct.
	The GTN configuration module is incorrectly wired.	Replace the configuration module.
DATACARD ERROR - Datacard is invalid or failed.	The datacard is not being properly read by the GTN.	Load the terrain database and any Charts databases to a new datacard. Replace the failed datacard.
REMOTE KEY STUCK - Remote OBS key is stuck.	The remote OBS switch is stuck in the enabled or pressed state.	<p>Press the switch again to cycle its operation.</p> <p>Go to the GTN DIAGNOSTICS - DISCRETE INPUTS page in configuration mode and check that the state of the input changes when the OBS switch is pressed and released.</p> <p>Verify that the remote OBS switch wiring is correct.</p>
		Contact Garmin technical support.
REMOTE KEY STUCK - Remote CDI key is stuck.	The remote CDI key is stuck in the enabled or pressed state.	<p>Go to the GTN DIAGNOSTICS - DISCRETE INPUTS page in configuration mode and check that the state of the input changes when the CDI switch is pressed and released.</p> <p>Verify that the CDI switch wiring is correct.</p> <p>Press the switch again to cycle its operation.</p>
		Contact Garmin technical support.

Alert Text	Possible Cause	Corrective Action
REMOTE KEY STUCK - Remote go around key is stuck	The remote Go Around switch is stuck in the enabled or pressed state.	Press the switch again to cycle its operation. Go to the GTN DIAGNOSTICS - DISCRETE INPUTS page in configuration mode and check that the state of the input changes when the Go Around switch is pressed and released. If the state still shows as active, inspect the wiring to ensure that it is not loose or shorting to ground.
COOLING FAN - The cooling fan has failed.	The wiring to the fan may be faulty, the fan connector may be unplugged, or the fan may have failed.	<ul style="list-style-type: none"> <li>• Check the wires between P1001-43, -58, and -59 and the fan to ensure they are not cut, damaged, or broken.</li> <li>• Check that the fan connector is completely engaged.</li> <li>• Check that the fan blades are not obstructed and they can rotate freely.</li> <li>• Check P1001 for ground lugs pushing on fan.</li> </ul> Note that the fan does not turn on if the unit is cool.
GNS CROSSFILL - GTN user waypoint(s) replaced with GNS user waypoint(s).	A user waypoint from the GNS replaced one or more existing waypoints on the GTN.	Ensure that the waypoints on the GNS have unique names before transferring to the GTN to avoid overwriting existing waypoints.
GNS CROSSFILL - Catalog full; not all GNS waypoint(s) transferred.	A user waypoint from the GNS could not be created because the user waypoint catalog is full.	Remove some of the waypoints from the catalog to make room for the waypoints from the GNS.
GNS CROSSFILL - Waypoint transfer failed.	Waypoint transfer failed/incomplete	The data transfer should be reattempted.
INTERNAL SD CARD ERROR - GTN needs service.	The GTN's internal data storage has become corrupt or nonfunctional.	Contact Garmin technical support.
INTERNAL SD CARD REMOVED - GTN needs service.	The GTN's internal data storage has been removed or has become nonfunctional.	Contact Garmin technical support.

### 5.3.1.1 COM Related Alerts

**Table 5-3. COM Alert Troubleshooting Guide**

Alert Text	Possible Cause	Corrective Action
COM RADIO - COM radio needs service.	A failure has been detected in the COM transceiver. The transceiver may still be usable.	<p>This message may appear after operations in configuration mode. Cycle power to the entire GTN (both GPS/NAV and COM circuit breakers) and see if the message has cleared.</p> <p>Contact Garmin technical support.</p>
COM RADIO - COM radio may be inoperative.	The GTN is not able to communicate with its COM transceiver.	<p>Verify that COM connector pins P1003-43 and P1004-44 are receiving aircraft power.</p> <p>Verify that COM connector pins P1003-37 and P1003-38 are connected to aircraft ground.</p> <p>If the message persists, contact Garmin technical support.</p>
REMOTE KEY STUCK - COM push-to-talk key is stuck.	The COM push-to-talk switch is stuck in the enabled or pressed state.	<p>Press the PTT switch to cycle its operation.</p> <p>If the message persists, contact Garmin technical support.</p> <p>Go to the GTN DIAGNOSTICS - DISCRETE INPUTS page in configuration mode and check that the state of the input changes when the PTT switch is pressed and released.</p> <p>Verify that the PTT switch wiring is correct.</p>
REMOTE KEY STUCK - COM remote transfer key is stuck.	The COM remote transfer key is stuck in the enabled or pressed state.	<p>Go to the GTN DIAGNOSTICS - DISCRETE INPUTS page in configuration mode and check that the state of the input changes when the COM remote frequency increment switch is pressed and released.</p> <p>Verify that the COM remote frequency increment switch wiring is correct.</p> <p>Press the COM remote transfer switch to cycle its operation.</p> <p>If the problem persists, contact Garmin technical support.</p>

Alert Text	Possible Cause	Corrective Action
<p>REMOTE KEY STUCK - COM remote frequency increment key is stuck.</p>	<p>The COM remote frequency increment key is stuck in the enabled or pressed state.</p>	<p>Go to the GTN DIAGNOSTICS - DISCRETE INPUTS page in configuration mode and check that the state of the input changes when the COM remote frequency increment switch is pressed and released.</p> <p>Verify that the COM remote frequency increment switch wiring is correct.</p> <p>Press the COM remote frequency increment key to cycle its operation.</p> <p>If the problem persists, contact Garmin technical support.</p>
<p>REMOTE KEY STUCK - COM remote frequency decrement key is stuck.</p>	<p>COM remote frequency decrement key is stuck in the enabled or pressed state.</p>	<p>Press the COM remote frequency decrement key to cycle its operation.</p> <p>Go to the GTN DIAGNOSTICS - DISCRETE INPUTS page in configuration mode and check that the state of the input changes when the COM remote frequency decrement switch is pressed and released.</p> <p>Verify that the COM remote frequency decrement switch wiring is correct.</p> <p>If the problem persists, contact Garmin technical support.</p>
<p>COM RADIO - COM overtemp or undervoltage. Reducing transmitter power.</p>	<p>The COM is reporting a high temperature.</p>	<p>Ensure the fan is functioning properly and check for adequate airflow around the unit.</p> <p>Ensure that the COM radio is receiving adequate input voltage (11-33 VDC).</p>
<p>COM RADIO - COM locked to 121.5 MHz. Hold remote COM transfer key to exit.</p>	<p>The COM remote transfer switch has been pressed for at least two seconds.</p>	<p>In lockout mode, the COM will tune the active frequency to 121.5 MHz and not allow the frequency to be changed. COM lockout mode can be exited by pressing the COM remote transfer switch for at least two seconds.</p>

### 5.3.1.2 GPS/SBAS Related Alerts

**Table 5-4. GPS/SBAS Alert Troubleshooting Guide**

Alert Text	Possible Cause	Corrective Action
GPS RECEIVER - GPS receiver has failed. Check GPS coaxial for electrical short.	A failure has been detected in the GPS/SBAS receiver.	Verify that the center conductor is not shorted to the braid in the coaxial cable.
	GPS antenna cable may be shorted to ground.	Contact Garmin technical support for assistance.
GPS RECEIVER - GPS receiver needs service.	The GTN has detected an internal failure in the GPS/SBAS receiver.	Contact Garmin technical support.
LOSS OF INTEGRITY (LOI) - Verify GPS position with other navigation equipment.	Improper antenna installation or coaxial routing.	Check GPS antenna installation, connections, and cable routing. The GPS antenna must be mounted on top of the aircraft.
	Antenna shaded from satellites.	Make sure the aircraft is clear of hangars, buildings, trees, etc.
	RF interference at 1575.42 MHz from VHF COM.	Move GPS antenna further from the COM antenna. Add a 1575.42 MHz notch filter in COM coaxial. Fix or replace the COM. Disconnect the ELT antenna coaxial to check for possible re-radiation.
GPS NAVIGATION LOST - Insufficient satellites. Use other navigation source.	There is no GPS fix available or the system is in dead reckoning mode.	Wait for GPS satellite geometry to improve.
		Ensure the aircraft has a clear view of the sky.
GPS NAVIGATION LOST - Erroneous position. Use other navigation source.	An internal position warning has occurred.	RAIM has determined that the info from one or more GPS satellites may be in error.
		Ensure the aircraft has a clear view of the sky.
GPS RECEIVER - Low internal clock battery.	The GTN has detected a low battery. Almanac data may have been lost.	Replace the battery.
SEARCHING SKY - Search-the-sky in progress.	The GTN is searching the sky for GPS satellites.	Wait 20 minutes for the unit to complete the cycle or until the current position is located.

### 5.3.1.3 VLOC/GS Related Alerts

**Table 5-5. VLOC/GS Alert Troubleshooting Guide**

Alert Text	Possible Cause	Corrective Action
VLOC RECEIVER - Navigation receiver needs service.	The GTN 650/750 has detected a failure in its navigation receiver.	Contact Garmin technical support.
VLOC RECEIVER - Navigation receiver has failed.	The GTN 650/750 has detected an internal failure in its VLOC receiver.	Contact Garmin technical support.
GLIDESLOPE - Glideslope receiver needs service.	The GTN 650/750 has detected an internal failure in its glideslope receiver.	Contact Garmin technical support.
GLIDESLOPE - Glideslope receiver has failed.	The GTN has detected an internal failure in its glideslope receiver.	Contact Garmin technical support.
REMOTE KEY STUCK - NAV remote transfer key is stuck.	NAV remote transfer key is stuck in the enabled or pressed state.	Press the NAV remote transfer switch to cycle its operation.
		Go to the GTN DIAGNOSTICS - DISCRETE INPUTS page in configuration mode and check that the state of the input changes when the NAV remote transfer switch is pressed and released.
		Verify that the NAV remote transfer switch wiring is correct.
		If the problem persists, contact Garmin technical support.

### 5.3.1.4 Remote Transponder Related Alerts

**Table 5-6. Remote Transponder Alert Troubleshooting Guide**

Alert Text	Possible Cause	Corrective Action
TRANSPONDER 1 - Transponder 1 needs service.	The transponder is reporting a system failure.	Refer to the transponder installation manual.
TRANSPONDER 2 - Transponder 2 needs service.	The transponder is reporting a system failure.	Refer to the transponder installation manual.
TRANSPONDER 1 - Transponder 1 is inoperative or connection to GTN is lost.	The GTN cannot communicate with the transponder or the transponder is reporting a system failure.	If two transponders are present, ensure that both GTNs are powered on.
		Check for proper configuration of the GTN and transponder RS-232 ports.
		Check for correct wiring.
		Refer to the transponder installation manual.
TRANSPONDER 2 - Transponder 2 is inoperative or connection to GTN is lost.	The GTN cannot communicate with the transponder or the transponder is reporting a system failure.	Ensure that both GTNs are powered on.
		Check for proper configuration of the GTN and transponder RS-232 ports.
		Check for correct wiring.
		Refer to the transponder installation manual.
TRANSPONDER - Transponder 1 and 2 Mode S addresses do not match.	The transponders are configured for different Mode S addresses.	Check the Mode S address for each transponder and verify that they match.
TRANSPONDER 1 – ADS-B is not transmitting position.	The transponder has insufficient data to support ADS-B.	Ensure the aircraft has a clear view of the sky.
		Refer to the transponder installation manual.
TRANSPONDER 2 - ADS-B is not transmitting position.	The transponder has insufficient data to support ADS-B.	Ensure the aircraft has a clear view of the sky.
		Refer to the transponder installation manual.

### 5.3.1.5 GAD 42 Alerts

**Table 5-7. GAD 42 Alert Troubleshooting Guide**

Alert Text	Possible Cause	Corrective Action
GAD 42 - GAD 42 configuration needs service.	GAD 42 not powered up.	Ensure that the GAD 42 is receiving power and is connected to ground.
	GTN is not receiving data from GAD 42.	Verify wiring between the GTN and the GAD 42.
GAD 42 - GAD 42 needs service.	GAD 42 is reporting an internal failure.	Contact Garmin technical support.

### 5.3.1.6 Traffic Related Alerts

**Table 5-8. Traffic Alert Troubleshooting Guide**

Alert Text	Possible Cause	Corrective Action
TRAFFIC - Traffic device is inoperative or connection to GTN is lost.	Traffic device is not powered up.	Ensure the traffic device is receiving power and is connected to ground.
		Verify the wiring between the GTN and the traffic device.
	Traffic device has failed.	Raw ARINC 429 data can be viewed on the GTN DIAGNOSTICS - ARINC INPUTS page in configuration mode.
TRAFFIC - Traffic device battery low. Traffic device user config settings not saved.	The connected traffic system is reporting that it has a low battery.	Traffic system may require service. Refer to external traffic system maintenance manual for additional details.
TRAFFIC - Traffic device has been in standby for more than 60 seconds.	The GTN is in the airborne state and the traffic device has been in standby for more than 60 seconds.	Troubleshoot the traffic system. Refer to traffic system installation manual.



### 5.3.1.7 Datalink Related Alerts

**Table 5-9. Datalink Alert Troubleshooting Guide**

Alert Text	Possible Cause	Corrective Action
DATALINK – GDL 69 is inoperative or connection to GTN is lost.	The GTN cannot communicate with the GDL 69.	Check for proper configuration.
		Ensure the GDL 69 is powered up.
		Verify that the GDL 69 Ethernet ports are enabled.
		HSDB data from the GDL 69 can be routed to the GTN through other Garmin LRUs. Ensure that all Garmin LRUs are powered up.
DATALINK – GDL 88 is inoperative or connection to GTN is lost.	The GTN cannot communicate with the GDL 88.	Check for proper configuration.
		Ensure the GDL 88 is powered up.
		HSDB data from the GDL 69 can be routed to the GTN through other Garmin LRUs. Ensure that all Garmin LRUs are powered up.
DATALINK - GDL 88 ADS-B failure. Unable to transmit ADS-B messages.	GDL 88 is not able to transmit an ADS-B message due to a failure with the GDL 88 system or antenna(s).	Check the GDL 88 Fault page in configuration mode on the GTN.
		Refer to the GDL 88 STC Installation Manual.
DATALINK – GDL 88 ADS-B fault.	The GDL 88 has detected a fault with one of the GDL 88 UAT/1090 antennas.	Refer to the GDL 88 STC Installation Manual.
DATALINK – ADS-B fault: UAT receiver.	The GDL 88 has detected a UAT receiver fault.	Refer to the GDL 88 STC Installation Manual.
DATALINK – ADS-B fault: 1090 receiver.	The GDL 88 has detected a 1090 receiver fault.	Refer to the GDL 88 STC Installation Manual.
DATALINK - GDL 88 ADS-B is not transmitting position. Check GPS devices.	The GDL 88 has detected a position input fault.	Refer to the GDL 88 STC Installation Manual.
DATALINK - GDL 88 control panel input fault. Check transponder is in correct mode.	The GDL 88 has lost communication with the transponder.	Refer to the GDL 88 STC Installation Manual.
DATALINK - GDL 88 ADS-B fault. Pressure altitude input is invalid.	The GDL 88 has lost communication with the pressure altitude source.	Refer to the GDL 88 STC Installation Manual.
DATALINK - GDL 88 ADS-B traffic has failed.	GDL 88 may have lost GPS position. The GDL 88 has detected an internal failure.	Check the GDL 88 Fault page in configuration mode on the GTN.
		Refer to the GDL 88 STC Installation Manual.

Alert Text	Possible Cause	Corrective Action
DATALINK - GDL 88 CSA Failure	The GDL 88 is reporting to the GTN that the CSA application has failed. Traffic alerting on ADS-B traffic is unavailable.	Ensure the aircraft has a clear view of the sky.
		If the problem persists, contact Garmin technical support.
DATALINK – GDL 88 external traffic system inoperative or connection lost.	The GDL 88 has detected a TAS/TCAS input fault.	Refer to the GDL 88 STC Installation Manual.
DATALINK - GDL 88 external traffic system has a low battery.	The GDL 88 is reporting that the external traffic system has a low battery.	Refer to the GDL 88 STC Installation Manual.
DATALINK – GDL 88 configuration module needs service.	The GDL 88 has detected a configuration module fault.	Refer to the GDL 88 STC Installation Manual.
DATALINK – GDL 88 needs service.	GDL 88 has detected an internal fault.	Check the GDL 88 Fault page in configuration mode on the GTN.
		Refer to the GDL 88 STC Installation Manual.
DATALINK - GDL 88 external traffic system has been in standby for more than 60 seconds.	The GDL 88 is in the airborne state and the traffic device that is	Attempt to put the traffic system into operating mode.
		Verify that the GDL 88 is configured correctly for the traffic system.
		Check the discrete wiring between the GDL 88 and connected traffic system.
DATALINK - GSR 56 is inoperative or connection to GTN is lost.	The GTN is not able to communicate with the GSR 56 Iridium transceiver.	Verify that the GTN is configured correctly for the GSR 56.
		Check the RS-232 wiring between the GTN and GSR 56.
		Check that the GSR 56 is receiving aircraft power and is connected to aircraft ground.
DATALINK – GSR 56 data services inoperative; registration required.	Registration settings have been altered or deleted.	In Normal mode, select System>External LRUs. Select the More Info button next to the GSR 56 LRU. Select Connex Registration and re-enter the access code.
	Account has been deactivated.	Reactivate account.

### 5.3.1.8 Weather Radar Alerts

**Table 5-10. Weather Radar Alert Troubleshooting Guide**

Alert Text	Possible Cause	Corrective Action
WX RADAR FAIL – Weather radar is inoperative.	GTN ARINC 708 input port or ARINC 429 output not configured correctly.	Check ARINC 708 port setting for port 1. Raw ARINC 708 data can be viewed on the GTN DIAGNOSTICS - ARINC INPUTS page in configuration mode.
		Verify that ARINC 429 Out 3 is configured for Radar Format 1.
	Improper setup on the weather radar.	Verify the configuration of the weather radar.
	Wiring connections are incorrect.	Check wiring.
	Weather radar is reporting a system fault.	Check weather radar status page on the GTN in configuration mode.
Refer to the weather radar installation manual.		
WX RADAR SERVICE – Weather radar needs service. Return unit for repair.	Weather radar is reporting a system failure.	Refer to the weather radar installation manual for troubleshooting.

### 5.3.1.9 TAWS Related Alerts

**Table 5-11. TAWS Alert Troubleshooting Guide**

Alert Text	Possible Cause	Corrective Action
<p>REMOTE KEY STUCK - TAWS inhibit key is stuck.</p>	<p>The TAWS inhibit input is stuck in the enabled or pressed state.</p>	<p>Press the TAWS Inhibit key to cycle its operation.</p>
		<p>Go to the GTN DIAGNOSTICS - DISCRETE INPUTS page in configuration mode and check that the state of the input changes when the TAWS Inhibit switch is pressed and released.</p>
		<p>Verify wiring to the switch.</p>
		<p>If the problem persists, contact Garmin technical support.</p>
<p>TAWS AUDIO INHIBITED - The TAWS Audio Inhibit discrete has been active for at least 30 seconds.</p>	<p>There is a wiring problem or a problem with the remote LRU that is connected to the GTN audio inhibit input.</p>	<p>Verify wiring to the TAWS AUDIO INHIBIT input.</p>
		<p>Go to the GTN DIAGNOSTICS - DISCRETE INPUTS page in configuration mode and check the state of the discrete input.  If the problem persists, contact Garmin technical support.</p>
<p>CONFIGURATION – Terrain/ TAWS configuration is invalid. GTN needs service.</p>	<p>The TAWS configuration is invalid due to a loss or corrupted registry.</p>	<p>The TAWS/terrain configuration setting must be reselected. Reselect the TAWS or terrain selection and cycle power to the GTN.</p>
		<p>If the problem persists, contact Garmin technical support.</p>

### 5.3.1.10 Third-Party Sensors Related Alerts

**Table 5-12. Third-Party Sensor Alert Troubleshooting Guide**

Alert Text	Possible Cause	Corrective Action
STORMSCOPE - Stormscope is inoperative or connection to GTN is lost.	Stormscope is not powered up.	Ensure Stormscope is receiving power and is connected to ground.
	Wiring corrections are incorrect.	Check wiring.
	Stormscope is reporting a system failure.	Refer to Stormscope installation manual for troubleshooting.
STORMSCOPE - Invalid heading received from Stormscope.	The Stormscope is receiving invalid heading.	Refer to Stormscope installation manual for troubleshooting.
DATA SOURCE - Pressure altitude source inoperative or connection to GTN lost.	The GTN is configured to receive pressure altitude, but is not receiving it from any source.	If the GTN is not expected to receive pressure altitude, ensure that "Altitude Source Input" is configured for "Not Connected".
		Check RS-232 port setting for the port that the device is connected to.
		Verify the configuration of the other device.
		Verify the GTN RX channel is connected to the remote device TX channel.
		Verify there is only one TX source per RX port.
Check wiring.		
DATA SOURCE - Heading source inoperative or connection to GTN lost.	The GTN is configured to receive heading, but is not receiving it from any source.	If the GTN is not expected to receive heading, ensure that "Heading Source Input" and "Synchro Heading Input" (GTN 7XX only) are configured for "Not Connected".
		Check ARINC 429 or RS-232 port setting for the port connected to the heading source.
		Verify the configuration of the heading source.
Check the RS-232, ARINC 429, or Synchro (GTN 7XX only) wiring between the GTN and the heading source.		

## 5.4 Flight Stream Troubleshooting

**Table 5-13. Flight Stream Troubleshooting**

Problem	Possible Cause	Corrective Action
Unable to pair PED to Flight Stream	Trying to pair with the device while not on the Bluetooth pairing page.	Access the Connex Bluetooth pairing page by pressing the <b>Home</b> key > <b>System</b> Key > Connex Setup.
	Flight Stream paired device storage is full.	Refer to the list of paired devices and verify that the queue is not full. If thirteen devices have been previously paired with the Flight Stream, remove one device from the list to pair the new device with the Flight Stream.
	Ensure that the Flight Stream has the latest certified software version.	Check software version and update if there is a newer approved version.
Flight Stream 210 is connected but Connex Setup page is grayed out	Flight Stream 210 has lost communication with the GTN.	<ol style="list-style-type: none"> <li>1. Check that the Flight Stream 210 connector is fully seated.</li> <li>2. Check RS-232 wires and connections between the GTN and Flight Stream 210.</li> <li>3. Check power and ground wires and connections to the Flight Stream 210.</li> </ol>
PED is not receiving any data from Flight Stream	Devices need to be re-synced with each other.	<ol style="list-style-type: none"> <li>1. Access the Connex Bluetooth pairing page by pressing the <b>Home</b> key &gt; <b>System</b> Key &gt; Connex Setup.</li> <li>2. Remove the PED from the list of paired devices on the GTN.</li> <li>3. Remove the list of Bluetooth devices on the PED.</li> <li>4. Re-pair the devices.</li> </ol>
PED is not receiving data from the GDL 88 (e.g., ADS-B traffic and FIS-B)	Flight Stream has lost communication with the GDL 88.	<ol style="list-style-type: none"> <li>1. Check that PED is paired to Flight Stream. See steps above for details.</li> <li>2. Check that the Flight Stream 210 connector is fully seated.</li> <li>3. Check RS-422 wires and connections between the GDL 88 and Flight Stream 210.</li> <li>4. Check power and ground wires and connections to the Flight Stream 210.</li> <li>5. Check that the GDL 88 RS-422 port is configured for Connex Format 1.</li> </ol>

Problem	Possible Cause	Corrective Action
PED is not receiving data from the GDL 69 (e.g., datalink weather)	Flight Stream has lost communication with the GDL 69.	1. Check that PED is paired to Flight Stream. See steps above for details.
PED will not control GDL 69 Sirius XM audio		2. Check that the Flight Stream 210 connector is fully seated.
		3. Check RS-232 wires and connections between the GDL 69 and Flight Stream 210.
		4. Check power and ground wires and connections to the Flight Stream 210.

## 5.5 GMA 35 Troubleshooting

This section provides information to assist troubleshooting if problems occur after completing maintenance. Refer to the system configuration log retained in the aircraft permanent records for a list of interfaced equipment and system configuration data.

**Table 5-14. GMA 35 Troubleshooting**

Problem	Possible Cause	Corrective Action
Audio volume, audio routing, music, marker beacon status, or intercom are not working properly.	GMA 35 is not configured properly.	Check the configuration against the configuration log to ensure that the GMA 35 is configured properly.
Audio panel operates only in failsafe mode (pilot headset connected to one COM radio, red X over the audio panel control field).	GMA 35 is disconnected from aircraft power or ground.	Ensure power is connected to P3502, pins 8 and 9, and ground is connected to P3502, pins 10 and 11. Check circuit breakers and avionics switch.
	GMA 35 is not seated correctly.	Verify that the GMA 35 is fully seated. Verify that counter-sunk flathead screws are used to secure the GMA 35 connectors to the backplate.
	RS-232 communication between the GTN 7XX and the GMA 35 is not functioning correctly.	Check for proper configuration of the GTN and GMA 35 RS-232 ports. Check for correct wiring between the audio panel and the GTN 7XX.



## 5.6 GMA 35 Failure Annunciations

Figure 5-2 depicts a typical failure indication of the GMA 35 audio panel.



Figure 5-2. GMA 35 Failure Annunciation

## 5.7 GMA 35 System Messages

Table 5-15. Remote Audio Panel Alert Troubleshooting Guide

Alert Text	Possible Cause	Corrective Action
AUDIO PANEL - Audio panel needs service.	Audio panel should be serviced.	Return audio panel to Garmin for service.
AUDIO PANEL - Audio panel is inoperative or connection to GTN is lost.	Audio panel is not powered up.	Ensure the audio panel is receiving power and connected to ground.
	Audio panel has failed.	Verify the wiring from the audio panel to the GTN.
	Wiring connections are incorrect.	

## 6 EQUIPMENT REMOVAL AND REINSTALLATION

This section describes how to remove and replace equipment associated with this STC. After removal and reinstallation, LRUs must be configured and tested as described in Section 7.



### CAUTION

*When removing and/or replacing a GTN, GMA 35, or any other item under the scope of the STC installation, always ensure that the aircraft power is off. Unplug any auxiliary power supply.*

### 6.1 GTN

#### Removal

1. Locate and pull the GTN GPS/NAV and COM (635/650/750 only) circuit breakers.
2. Locate the unit retention mechanism access hole at the bottom left corner of the unit face.
3. Insert a 3/32" hex tool into the access hole and turn the fastener counterclockwise until the unit is forced out about 3/8" and can be freely pulled from the rack.
4. Slide the GTN unit out of the rack.

#### Reinstallation

1. Ensure that the GTN GPS/NAV and COM circuit breakers are pulled.
2. Slide the GTN straight into the rack until it stops about 1" short of the fully seated position.
3. Insert a 3/32" hex drive into the unit retention mechanism access hole at the bottom of the unit face and turn the tool clockwise while pressing the bezel until the unit is firmly seated in the rack.
4. Once the GTN is reinstalled, verify that the unit power-up self test sequence is successfully completed and no failure messages or configuration error messages are annunciated. Section 6.1.1 outlines the power-up self-test sequence.



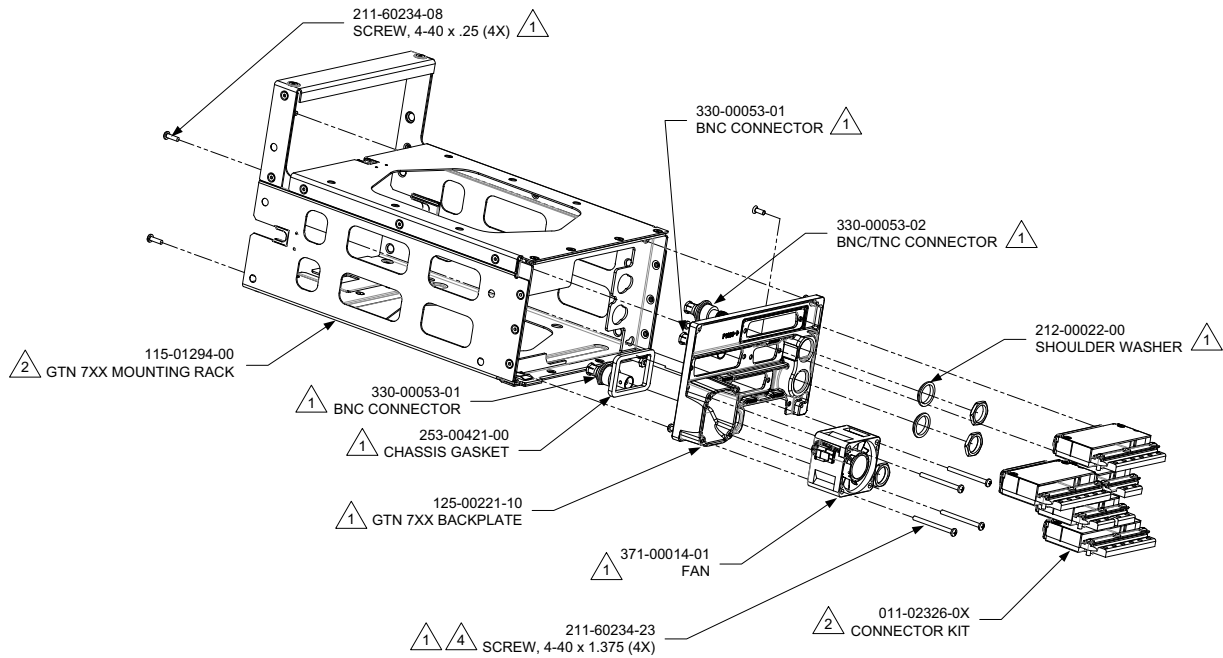
### NOTE

*It may be necessary to insert the hex drive tool into the access hole and turn the cam mechanism 90 degrees counterclockwise to ensure correct position prior to placing the unit in the rack.*



### CAUTION

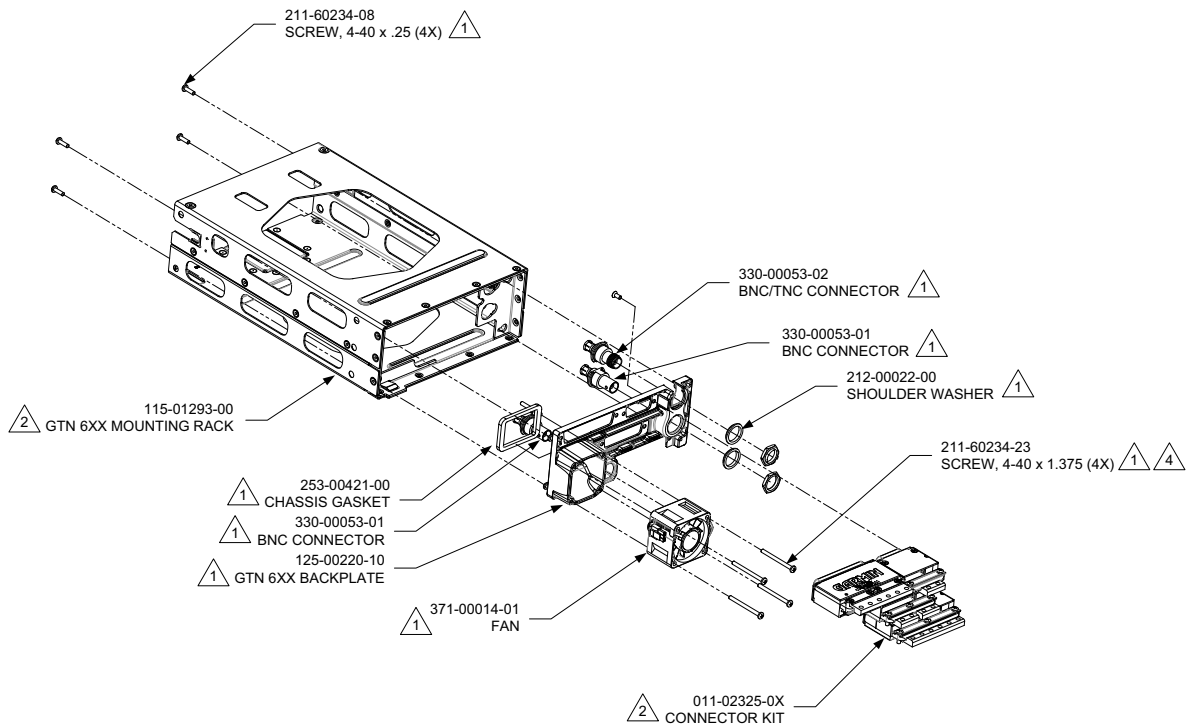
*Be sure not to over-tighten the unit into the rack. The application of hex drive tool torque exceeding 15 in-lbs can damage the locking mechanism.*



- 1 PART OF 011-02246-00 (GTN 725, BLACK) AND 011-02246-02 (GTN 750, BLACK AND GRAY) KITS. SEE TABLE FOR KIT CONTENT DIFFERENCES.
- 2 REFERENCE 010-00819-50 (GTN 725, BLACK), 010-00820-50 (GTN 750, BLACK) AND 010-00890-50 (GTN 750, GRAY) KITS.
- 3 SEE TABLE FOR KIT REFERENCE INFORMATION.
- 4 TORQUE 4.5 - 5.2 IN-LBS

UNIT DESCRIPTION	INSTALLATION KIT	CONNECTOR KIT 2	BACKPLATE KIT 2	BACKPLATE KIT CONTENT DIFFERENCES			
				WASHER	QTY (EACH)	BNC CONNECTOR	QTY (EACH)
GTN 725	010-00819-50	011-02326-00	011-02246-00	212-00022-00	1	330-00053-02	0
GTN 750 (BLACK)	010-00820-50	011-02326-02	011-02246-02	212-00022-00	3	330-00053-02	2
GTN 750 (GRAY)	010-00890-50	011-02326-02	011-02246-02	212-00022-00	3	330-00053-02	2

**Figure 6-1. GTN 7XX Mounting Rack Assembly**



- 1 PART OF 011-02245-00 (GTN 625, BLACK) 011-02245-01 (GTN 635, BLACK), AND 011-02245-02 (GTN 650, BLACK AND GRAY) KITS. SEE TABLE FOR KIT CONTENT DIFFERENCES.
- 2 REFERENCE 010-00811-50 (GTN 625, BLACK), 010-00812-50 (GTN 635, BLACK), 010-00813-50 (GTN 650, BLACK), AND 010-00889-50 (GTN 650, GRAY) KITS.
- 3 SEE TABLE FOR KIT REFERENCE INFORMATION.
- 4 TORQUE 4.5 - 5.2 IN-LBS

UNIT DESCRIPTION	INSTALLATION KIT	CONNECTOR KIT <sup>1</sup>	BACKPLATE KIT <sup>2</sup>	BACKPLATE KIT CONTENT DIFFERENCES			
				WASHER	QTY (EACH)	BNC CONNECTOR	QTY (EACH)
GTN 625	010-00811-50	011-02325-00	011-02245-00	212-00022-00	1	330-00053-01	0
GTN 635	010-00812-50	011-02325-01	011-02245-01		2		1
GTN 650 (BLACK)	010-00813-50	011-02325-02	011-02245-02		3		2
GTN 650 (GRAY)	010-00889-50	011-02325-02	011-02245-02		3		2

Figure 6-2. GTN 6XX Mounting Rack Assembly

### 6.1.1 Display of Self-Test Data

Following normal power-up, the database pages are displayed, followed by the Instrument Panel Self-Test page. Touch **Continue** to display the Instrument Panel Self-Test page. During this time, the electrical outputs are activated and set to the values listed below. Touch **Continue** to acknowledge the Instrument Panel Self-Test page. This is not a required check, although this page can be useful for troubleshooting installation problems.

**Table 6-1. Self-Test Values**

Parameter	Self-Test Value
Course Deviation	Half-scale left deviation, TO indication, flag pulled
Glideslope/Vert. Deviation	Half-scale up deviation, flag pulled
Annunciators	All On
Selected Course (OBS)	The GTN displays the OBS value (149.5° if interfaced to an HSI with driven course pointer).
Desired Track	149.5° (Displayed as 150°)
Items below are not displayed on the Instrument Panel Self-Test page	
Distance to Go	10.0 nautical miles
Time to Go	4 minutes
Bearing to Waypoint (RMI)	135°
Active Waypoint	"GARMN"
Groundspeed	150 knots
Present Position	N 39°04.05', W 94°53.86'
Waypoint Alert	Active
Phase of Flight	En Route
Message Alert	Active
Leg/OBS Mode	Leg Mode
GPS Integrity	Invalid
Roll Steering (if applicable)	Flight Director commands 0° bank (level flight) for 5 seconds; commands increasing right bank at 1°/second for 5 seconds; commands 5° right bank for 5 seconds; commands decreasing right bank at 1°/second for 5 seconds, until command is 0° bank again. This cycle repeats continuously.

## 6.2 GMA 35

### **Removal**

1. Locate and pull the audio panel circuit breaker.
2. Ensure that the GTN(s) are not receiving power prior to removal of the audio panel.
3. Remove the GTN 7XX.
4. Locate the GMA 35 unit retention mechanism access hole at the bottom center of the unit face.
5. Insert a 3/32" hex tool into the access hole and turn the fastener counterclockwise until the unit is forced out about 3/8" and can be freely pulled from the rack
6. Slide the GMA 35 unit out of the rack.

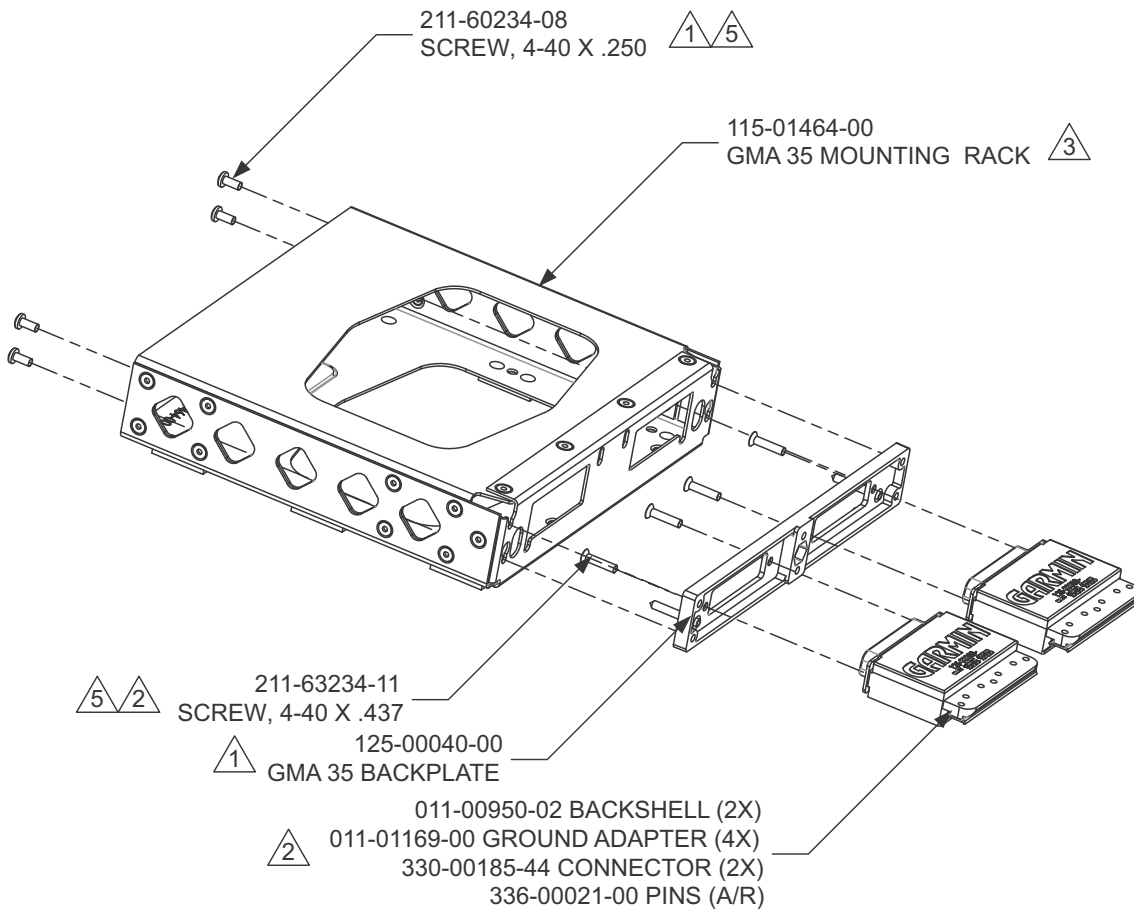
### **Reinstallation**

1. Ensure that the audio panel circuit breaker is pulled and the GTN units are not receiving power.
2. Slide the GMA 35 straight into the rack until it stops.
3. Insert a 3/32" hex drive into the unit retention mechanism access hole at the bottom of the unit face and turn the tool clockwise while pressing on the face of the unit until the GMA 35 is firmly seated in the rack.
4. Reinstall the GTN 7XX.
5. Verify that there are no failure messages or annunciations when the GTN and audio panel is powered on.



### **CAUTION**

*Be sure not to over tighten the unit into the rack. The application of hex drive tool torque exceeding 15 in-lbs can damage the locking mechanism.*



- 1 PART OF 011-02300-00 BACKPLATE KIT
- 2 PART OF 011-02302-00 CONNECTOR KIT
- 3 PART OF 010-00831-01 INSTALLATION KIT
- 4 SEE TABLE FOR KIT REFERENCE INFORMATION
- 5 TORQUE 4.5 – 5.2 IN-LBS

UNIT DESCRIPTION	INSTALLATION KIT	CONNECTOR KIT 3	BACKPLATE KIT 3
GMA 35	010-00831-01	011-02302-00	011-02300-00

Figure 6-3. GMA 35 Mounting Rack Assembly Overview

### 6.3 Data Card



#### **CAUTION**

*Handle the data cards carefully. Do not touch the connector edge of the data card.*

To replace the data card, complete the following steps:

1. Ensure that the GTN is turned off.
2. Remove the data card by pressing the card until it disengages and then pull the data card to extract from the unit.

With the label facing right, insert the new data card by pushing the card straight into the slot and press until it is fully inserted.



## 6.4 Flight Stream 210

See Figure 6-4 when performing the following steps:

### Removal

1. Locate and pull the BT Link circuit breaker.
2. Unscrew the two jackscrews on the Flight Stream connector. Remove connector.
3. Locate the four #6 mounting screws for the unit and unscrew them, removing the Flight Stream device.

### Reinstallation

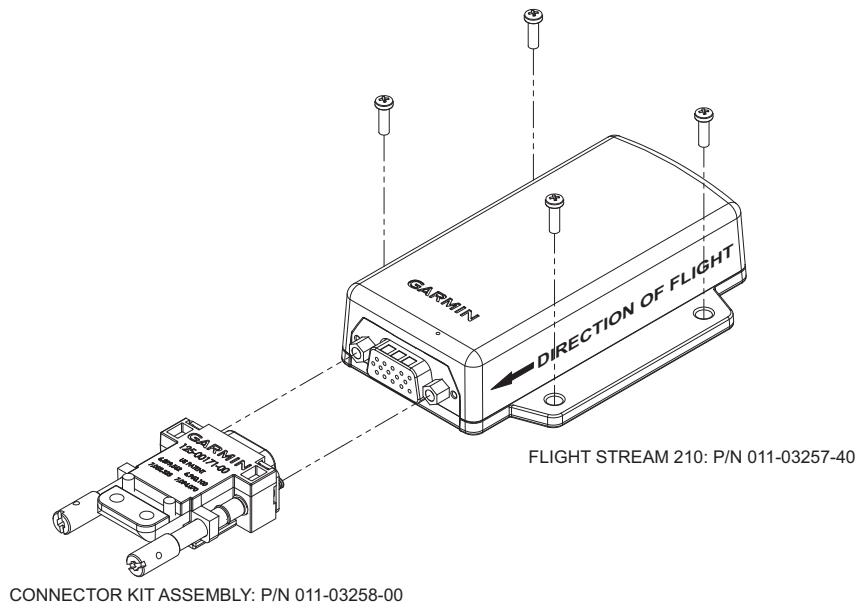
1. Check that the BT Link circuit breaker is pulled.
2. Reinstall the Flight Stream device using the four previously removed #6 mounting screws. Tighten fasteners until snug and turn an additional one-quarter turn.



### NOTE

*Ensure that the Flight Stream is mounted with the arrow pointing in the direction of flight.*

3. Attach the connector, tightening the two jackscrews.
4. Push in the BT Link circuit breaker.



**Figure 6-4. Flight Stream Assembly Overview  
(bonding strap not shown)**

## 6.5 NAV Antenna Cable Diplexer

### Removal

1. Disconnect the coaxial connectors from diplexer, taking note of which coaxial connectors are connected to each port on the diplexer.
2. Remove the mounting screws and diplexer.

### Reinstallation

1. Reinstall the diplexer over the existing hole pattern and reinstall fasteners. Torque fasteners within 22 to 25 in-lbs.
2. Reconnect the coaxial connectors to the diplexer.

### Approved Hardware for Replacement:

#### Stainless Hardware

Name	Part Number
Screw, Pan Head, Stainless	NASM51958, (MS51958), (AN520C)
Washer, .032 thickness	NAS1149C0332R, (AN960C-10L)
Washer, .063 thickness	NAS1149F0363P, (AN960C-10)
Nut, Self-locking Metal, Hex, Thin	NASM21043-3, NAS1291C3, (MS21043-3)
Nut, Self-locking Metal, Hex	NASM21046C3, MS20365C1032C, NAS1021C3, (MS21046C3), (AN363C1032)
Nutplate, One Lug, Fixed	MS21052, MS21054, MS21072
Nutplate, One Lug, Floating	MS21062
Nutplate, Two Lug, Fixed	MS21048, MS21050, MS21070
Nutplate, Two Lug, Floating	MS21060, MS21076
Nutplate, Corner	MS21056, MS21058, MS21074
Nutplate, Side-by-side	MS21087

**Note:** Part numbers in parentheses are inactive or cancelled part numbers; these numbers may still be available and/or referenced on packaging material.

#### Steel Hardware

Name	Part Number
Screw, Pan Head, Low Carbon Steel	NASM35207, (MS35207), (AN520)
Screw, Pan Head, Alloy Steel	NAS603
Washer, .032 thickness	NAS1149F0332P, (AN960-10L)
Washer, .063 thickness	NAS1149F0363P, (AN960-10)
Nut, Self-locking Metal, Hex, Thin	NASM21042L3, NAS1291-3, (MS21042L3)
Nut, Self-locking Metal, Hex	NASM21045L3, (MS21045L3), (AN363-1032)
Nutplate, One Lug, Fixed	MS21051, MS21053, MS21071
Nutplate, One Lug, Floating	MS21061
Nutplate, Two Lug, Fixed	MS21047, MS21049, MS21069
Nutplate, Two Lug, Floating	MS21059, MS21075
Nutplate, Corner	MS21055, MS21057, MS21073
Nutplate, Side-by-side	MS21086

**Note:** Part numbers in parentheses are inactive or cancelled part numbers; these numbers may still be available and/or referenced on packaging material.

## 6.6 NAV Antenna Cable Splitter

### Removal

1. Disconnect the coaxial connectors from splitter, taking note of which coaxial connectors are connected to each port on the splitter.
2. Remove the mounting screws and splitter.

### Reinstallation

1. Reinstall the splitter over the existing hole pattern and reinstall fasteners. Torque fasteners within 5 to 6 in-lbs.
2. Reconnect the coaxial connectors to the splitter.

### Approved Hardware for Replacement

#### Stainless Hardware

Name	Part Number
Screw, Pan Head, Stainless	MS51957, (AN515C)
Washer, .016 thickness	NAS1149CN416R, (AN960C-4L)
Washer, .032 thickness	NAS1149CN432R, (AN960C-4)
Nut, Self-locking Metal, Hex, Thin	NASM21043-04, NAS1291C04, (MS21043-04)
Nut, Self-locking Metal, Hex	NASM21046C04, (MS21046C04)
Nutplate, One Lug, Fixed	MS21052, MS21054, MS21072
Nutplate, One Lug, Floating	MS21062
Nutplate, Two Lug, Fixed	MS21048, MS21050, MS21070
Nutplate, Two Lug, Floating	MS21060, MS21076
Nutplate, Corner	MS21056, MS21058, MS21074
Nutplate, Side-by-side	MS21087

**Note:** Part numbers in parentheses are inactive or cancelled part numbers; these numbers may still be available and/or referenced on packaging material.

#### Steel Hardware

Name	Part Number
Screw, Pan Head, Low Carbon Steel	NASM35206, (MS35206), (AN515)
Screw, Pan Head, Alloy Steel	NAS600
Washer, .016 thickness	NAS1149FN416P, (AN960-4L)
Washer, .032 thickness	NAS1149FN432P, (AN960-4)
Nut, Self-locking Metal, Hex, Thin	NASM21042L04, NAS1291-04, (MS21042L04)
Nut, Self-locking Metal, Hex	NASM21045L04, (MS21045L04)
Nutplate, One Lug, Fixed	MS21051, MS21053, MS21071
Nutplate, One Lug, Floating	MS21061
Nutplate, Two Lug, Fixed	MS21047, MS21049, MS21069
Nutplate, Two Lug, Floating	MS21059, MS21075
Nutplate, Corner	MS21055, MS21057, MS21073
Nutplate, Side-by-side	MS21086

**Note:** Part numbers in parentheses are inactive or cancelled part numbers; these numbers may still be available and/or referenced on packaging material.

## 6.7 Configuration Module (P1001 Only)

GTN P1001 connector assemblies serve as the housing for a configuration module. This section lists configuration module assemblies.

**Table 6-2. Configuration Module Wire Color Reference Chart**

Color	Function	P1001 Contact
Red	Vcc	65
Black	Ground	64
Yellow	Data	62
White	Clock	63



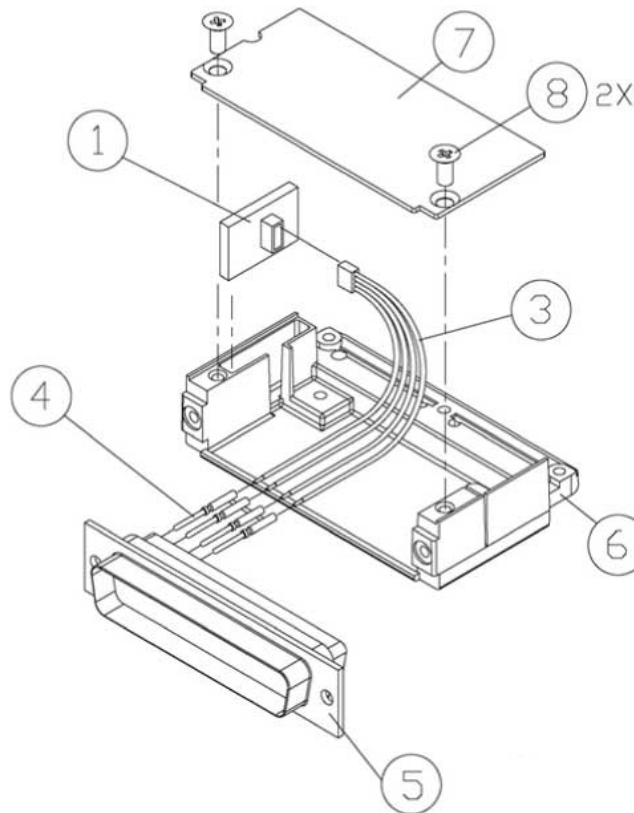
### NOTE

*The pin contacts supplied with the GTN configuration module are specifically made to accommodate 28 AWG wire. The crimp tool should have the indenter set to the correct setting when crimping these contacts to the configuration module harness.*

Configuration modules are located within the GTN harness connector backshell (Item 6, Figure 6-5). There are two configuration module kits that have been approved for use with the GTNs. The 011-00979-00 configuration module kit has a spacer (Figure 6-4), while the 011-00979-03 configuration module kit does not (Figure 6-3). The 011-00979-03 configuration module kit is recommended for all replacements. The instructions for removal/replacement of a configuration module apply equally to either P/N. Unless otherwise noted, refer to the corresponding backshell assembly drawing when performing the following removal and reinstallation steps.

**Table 6-3. Configuration Module Kit 011-00979-03 (P1001)**

Figure 6-5 Reference	Description	Garmin P/N
1	Configuration Module, PCB Board Assembly w/EEPROM	011-02178-00
3	4-Conductor Harness	325-00122-00
4	Pin Contact, Crimp, #22D	336-00021-00



**Figure 6-5. Backshell Assembly (Potted Configuration Module)**

### **Removal**

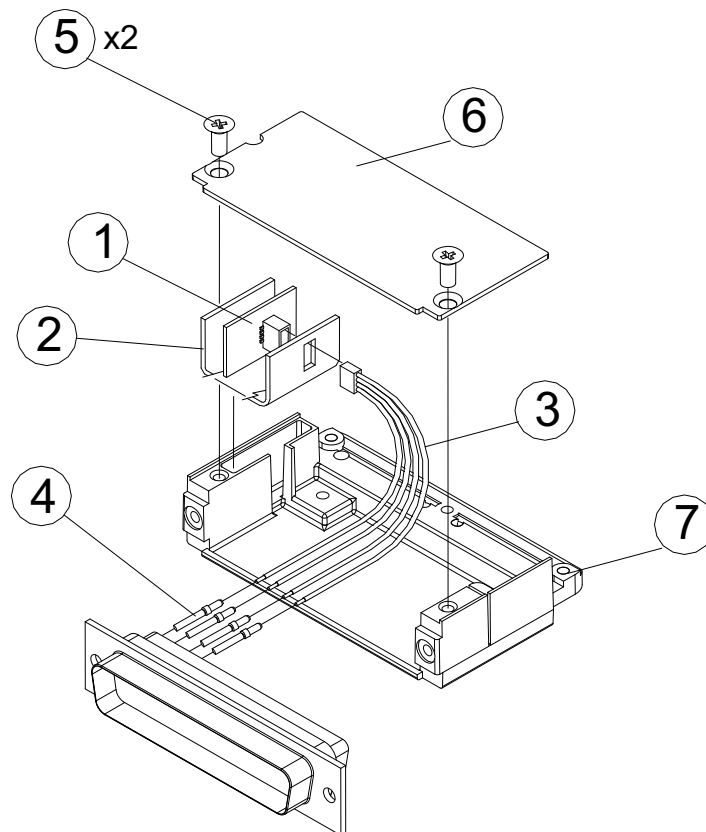
1. Disconnect the connector from the GTN backplate assembly.
2. Remove two screws (8) from cover (7) and remove cover. See Figure 6-5 for this step.
3. Unplug the connector from the configuration module (1).
4. Remove the configuration module from the backshell connector.

### **Reinstallation**

1. Inspect the connector for damaged pins (4).
2. Place the configuration module (1) in position.
3. Insert connector into the configuration module (1).
4. Place the cover (7) back on the connector and reinstall screws (8). See Figure 6-5 for this step.

**Table 6-4. Configuration Module Kit 011-00979-00 (P1001)**

Figure 6-6 Reference	Description	Garmin P/N
1	Configuration Module, PCB Board Assembly w/EEPROM	012-00605-00
2	Spacer, Configuration Module	213-00043-00
3	4-Conductor Harness	325-00122-00
4	Pin Contact, Crimp, #22D	336-00021-00



**Figure 6-6. Backshell Assembly (Configuration Module with Spacer)**

**Removal**

1. Disconnect the connector from the GTN.
2. Remove two screws (5) from cover (6) and remove cover.
3. Unplug the connector from the configuration module (1).
4. Remove the configuration module from the backshell connector.

**Reinstallation**

1. Inspect the connector for damaged pins (4).
2. Apply spacer (2) by wrapping it around the PCB board (1) making sure to insert the plastic connector mounted on the board into the hole provided in the spacer.
3. Place the configuration module (1) in position.
4. Insert connector into the configuration module (1).
5. Place the cover (6) back on the connector and reinstall screws (5).

## 6.8 GTN Fan



### CAUTION

To avoid damage to the GTN, take precautions to prevent Electro-Static Discharge (ESD) when handling the GTN, connectors, fan, and associated wiring. ESD damage can be prevented by touching an object that is of the same electrical potential as the GTN before handling the GTN itself.

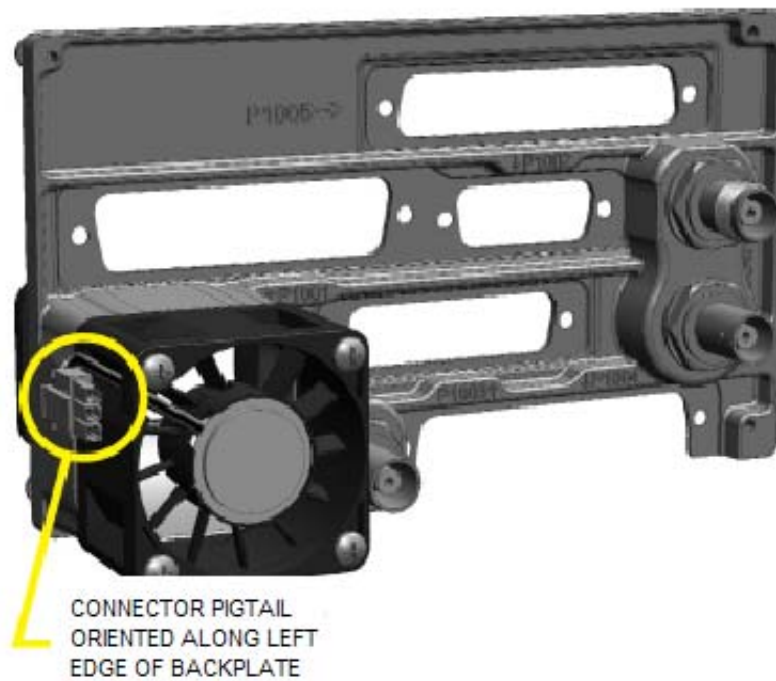
The GTN cooling fan assembly is located behind the rack relative to the unit. Fan removal and replacement details for specific installations fall outside the scope of this manual.

### Removal

1. Remove power from aircraft.
2. Remove the GTN unit from the rack. Refer to Section 6.1.
3. Loosen the four 4-40 x 0.25" panhead screws at each corner of the inside rear wall of the rack.
4. While depressing the metal spring at the lower left hand corner of the rack's rear face, slide the connector backplate to the left. The connector backplate is now free of the rack.
5. Disconnect the fan power connector. Be careful to avoid damaging the fan wires.
6. Remove the four 4-40 x 1.375" panhead screws attaching the fan to the backplate.

### Reinstallation

1. Position the fan on the backplate with the fan connector pigtail oriented along the left edge of the backplate, as shown in Figure 6-7.
2. Reinstall screws.
3. Connect fan power connector.



**Figure 6-7. Fan/Backplate Orientation (GTN 7XX)**

Table 6-5 lists part numbers for the Fan Kit which is used with P1001 only.

**Table 6-5. Fan Kit**

Figure 6-8 Ref	Description	Garmin P/N
1	Fan Cable Assembly, 3 conductor harness	320-00600-00
2	Pin Contact, Crimp, #22D	336-00021-00
3	Silicon Fusion Tape	249-00114-00

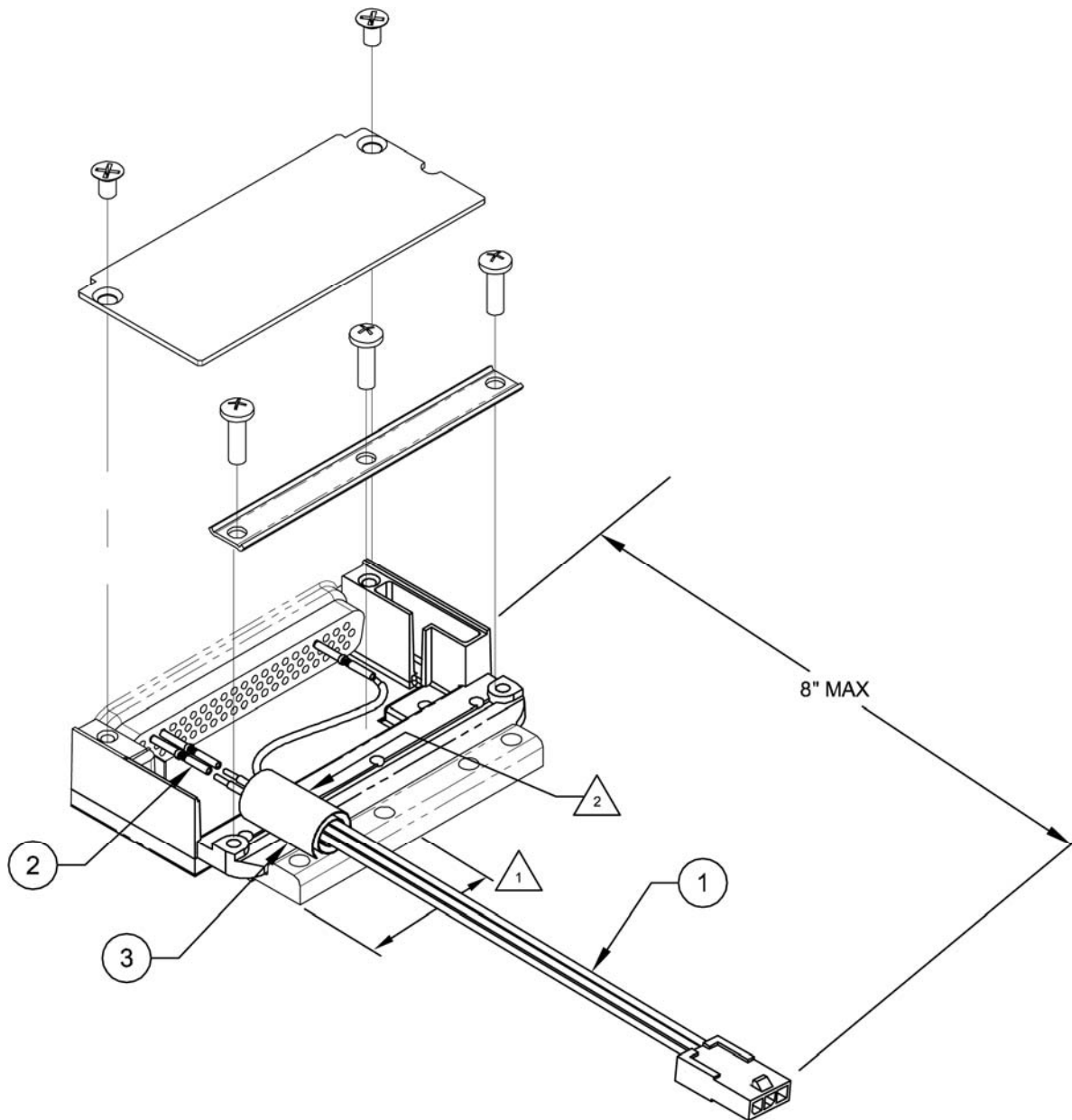
**Table 6-6. Fan Cable Wire Color Reference Chart**

Color	Function	P1001 Contact
Red	Power	59
Black	Ground	43
Yellow	Fan tach	58

### ***Fan Wiring Harness Replacement***

1. Strip 0.17" of insulation from each wire prior to crimping. Crimp socket contacts onto each wire of the three-conductor wire harness. Insert newly crimped socket contacts and wires into the appropriate connector housing location as shown in Figure 6-8.
2. Plug the three-conductor wire harness connector into the connector on the fan.





- ⚠ Do not use 3 tapped holes on shield block above the fan. There is insufficient clearance between the fan casing and terminal lugs.
- ⚠ Wrap fan wires with fusion tape separately from the main harness to prevent the fan wires from being dislodged or damaged if there is movement between the main harness and the fan harness.
- ⚠ Ensure the fan wires do not exceed a length of 8 inches.

**Figure 6-8. Fan Wiring Replacement**

## 6.9 TVS and Fuse (Nonmetallic Aircraft Only)

This section applies to IFR nonmetallic aircraft only. VFR nonmetallic aircraft do not require the use of TVSs or fuses.

Certain nonmetallic aircraft will require TVSs at the main power input of the GTN. Refer to the GTN 6XX/7XX AML STC Installation Manual for TVS component part numbers.

### 6.9.1 Fuse

#### **Removal**

1. Open the fuse holder and remove the fuse.

#### **Reinstallation or Replacement**

1. If the fuse continuity checks good, reinstall fuse and close the fuse holder. If the fuse is open, replace the fuse and close the fuse holder.

### 6.9.2 TVS

#### **TVS1 Removal**

1. Remove the shield block grounding screw and remove the ring terminal from the backshell of the connector as shown in Figure 6-9.
2. Open the fuse holder and remove the fuse.
3. Carefully remove heat shrink from the TVS ensuring not to cut the insulation on the wire under the heat shrink.
4. On the fuse end of the TVS, use a soldering iron to heat the solder joint to remove the TVS.

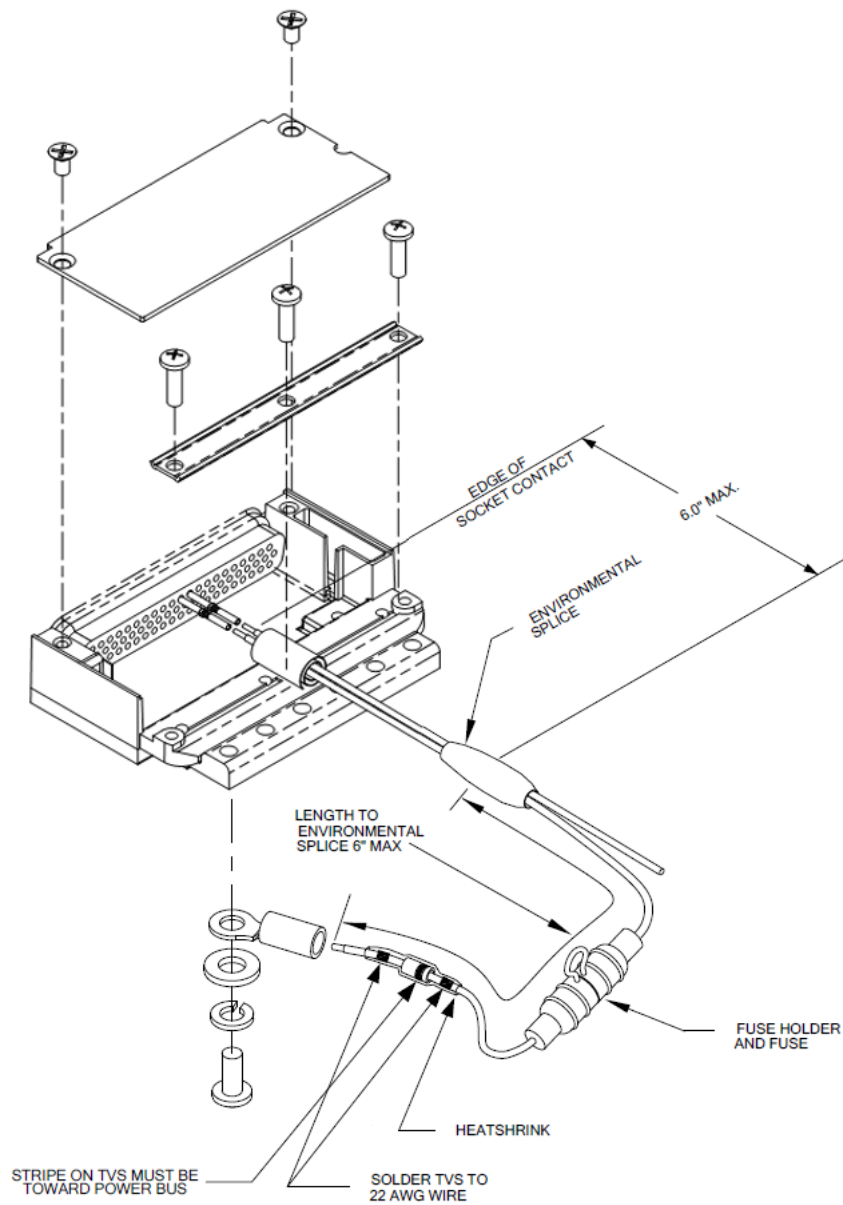
#### **TVS1 Replacement**



#### **CAUTION**

*Be aware of the orientation of the TVS during replacement. Refer to Figure 6-9 for proper alignment of the TVS.*

1. Solder new TVS onto the exposed wire from the fuse holder.
2. Solder a small piece of wire to the opposite end of the TVS. The total wire length to the environmental splice is not to exceed 6".
3. Install heat shrink over the exposed TVS and solder joints.
4. Attach the ring terminal to the new lead as shown in Figure 6-9.
5. Place the fuse back into the fuse holder and close the holder.
6. Reattach the ring terminal to the backshell of the connector.



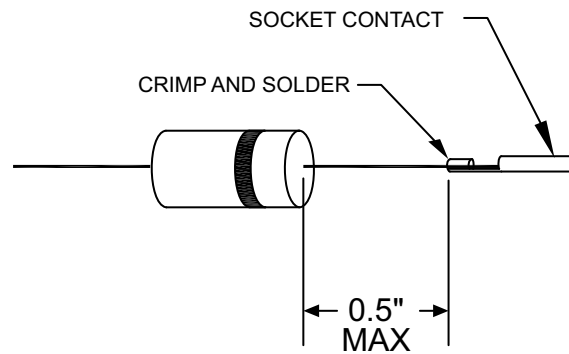
**Figure 6-9. TVS/Fuse Replacement (TVS1/F1)**

**TVS2 Removal**

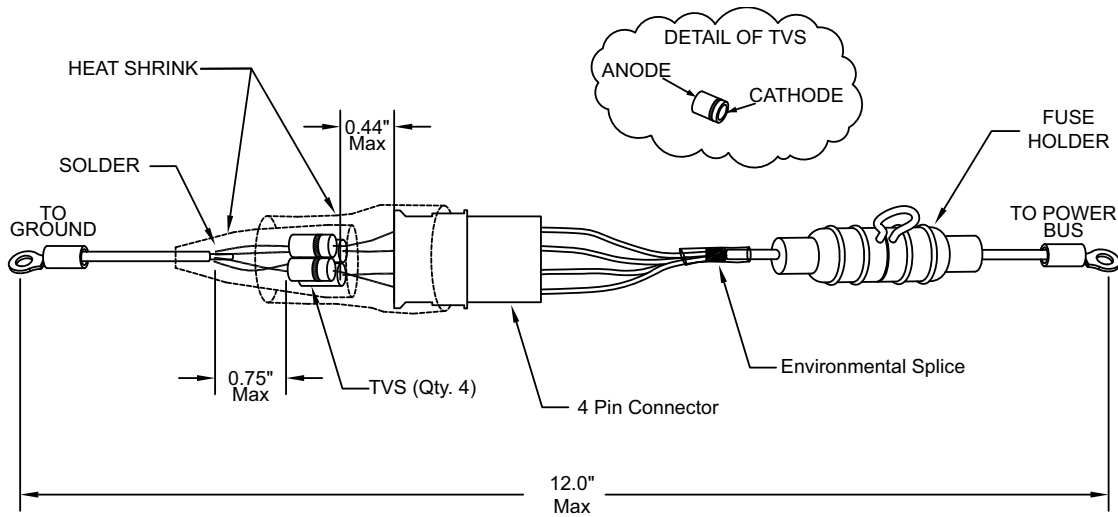
1. Remove the ring terminal from ground as shown in Figure 6-11.
2. Carefully remove heat shrink from the TVS assembly, ensuring not to cut the insulation on the wire under the heat shrink.
3. If replacing the entire TVS assembly, unplug the 4-pin connector and proceed to step (1) of the replacement. If it is not necessary to replace all of the TVSs, carefully unpin the failed TVS(s).
4. Apply heat with a soldering iron to opposite end of the TVS assembly so that the bad TVSs can be removed. Use caution when applying heat to the solder joint to ensure that the remaining TVSs aren't damaged.

## TVS2 Replacement

1. When installing new TVSs, cut the leads to  $0.75 +0.00/-0.10$ " on both sides.
2. Crimp and solder each of the TVS banded side (cathode) leads to their specific sockets (refer to Figure 6-10), and insert into the 4-pin connector with sockets.
3. Install heat shrink around the four TVSs – this will help to hold them in place during the following steps.
4. Solder the un-banded end of the TVS assembly together as shown in Figure 6-11 onto a length of 18 AWG wire. Attach a terminal lug onto the wire end.
5. Carefully remove heat shrink installed in Step 3 from the TVS ensuring not to cut the insulation on the wire under the heat shrink.
6. Attach an appropriately sized section of heat shrink to cover the soldered TVS leads and four TVS pieces. A second appropriately sized (larger) section of heat shrink should then be attached to shrink over the 4-pin connector with sockets and back over the four TVSs. These two pieces of heat shrink should overlap along the entire length of the TVSs.
7. Mate the four-pin connector together.
8. Reconnect the power end of the assembly to the power bus
9. Reconnect the ground end of the assembly to ground.
10. Perform a polarity check per Section 6.9.2.1.



**Figure 6-10. Detail of TVS Pin Assembly**



NOTE:  
All four TVSs must be installed with the cathode facing the connector.

**Figure 6-11. TVS2 Assembly**

### 6.9.2.1 TVS2 Assembly Polarity Check

Using a multimeter that is set to the diode mode, check conductivity across the entire TVS2 assembly. In one direction, the meter should read open and in the other direction it should read 2.0 to 2.5 volts. When installed in the aircraft, the TVS assembly should be oriented so that it does not normally conduct from power to ground. The meter should indicate open when the red lead is attached to the power bus terminal lug, and the black lead is attached to the ground terminal lug. The meter should indicate 2.0 to 2.5 volts when the red lead is attached to the ground terminal lug, and the black lead is attached to the power bus terminal lug.

## 6.10 GPS/SBAS Antenna Cable Overbraid

The following removal and replacement steps are provided as guidance for replacing the cable overbraid assembly. See Figure 6-12.

### Removal

1. Gain access to the GPS/SBAS antenna cable.
2. Disconnect the overbraid terminal lug from the shield block.
3. Disconnect the GPS coaxial cable connector at the GTN backplate.
4. Gain access to the GPS antenna and disconnect the antenna end of the coaxial cable.
5. Refer to the wire routing diagram and remove the entire cable assembly from the aircraft.
6. Remove the two visible electrical tie down connectors.
7. Unfold the overbraid that is doubled over and remove the remaining tie down connector.
8. Remove the antenna cable from the overbraid and visually inspect the cable insulation for damage.

### Replacement



#### NOTE

*Note: The length of overbraid required for replacement of the assembly will be the length of the GPS/SBAS antenna cable plus 6". Refer to Figure 6-12 before beginning the reinstallation steps below.*

1. If the antenna cable insulation shows signs of damage, replace the cable.
2. Test the GPS coaxial cable for continuity. Replace the cable if it fails the continuity test.
3. Slide the new overbraid over the entire length of the GPS/SBAS antenna cable.
4. Roll back approximately 1.5" of the overbraid end at the antenna end.
5. Leaving the rolled-back portion free, secure the antenna end of the overbraid around the GPS/SBAS antenna connector with an electrical tie-down strap.
6. Fold the free overbraid ends back over the tie-down strap and secure them to the cable with two additional tie-down straps.
7. Reinstall the cable in the aircraft and connect the cable to the GPS antenna.
8. At the GTN end of the overbraid, comb out a maximum of two" of braid, twist it, cut to length if necessary, and terminate with a #10 terminal lug.
9. Connect the remaining end of the antenna cable to the GTN and terminal lug to the P1001 shield block ground.

NOTES:

- ⚠ THE OVERBRAID MUST BE INSERTED INTO THE GROUNDING LUG BY COMBING OUT AND TWISTING THE WIRE STRANDS AND BEFORE TERMINATING THEM IN A TERMINAL LUG.
- ⚠ WHEN REINSTALLING OVERBRAID AT CONNECTOR END OF PIGTAIL, THE OVERBRAID IS PUSHED DOWN UNTIL IT TOUCHES THE TOP SURFACE OF THE CONNECTOR. CONTINUE PUSHING BRAID DOWN BY SPREADING IT OUT ALONG THE TOP SURFACE OF THE CONNECTOR. APPLY THE FIRST CABLE TIE AROUND THE BRAID AND ANTENNA CABLE WHERE IT ENTERS THE CONNECTOR. THEN LIFT THE SPREAD PORTION OF THE BRAID UP TO COVER THE FIRST CABLE TIE, DOUBLING BACK ON ITSELF. INSTALL THE REMAINING TWO CABLE TIES ABOVE THE BULGE CREATED BY THE FIRST CABLE TIE WHICH IS NOW COVERED BY THE BRAID.

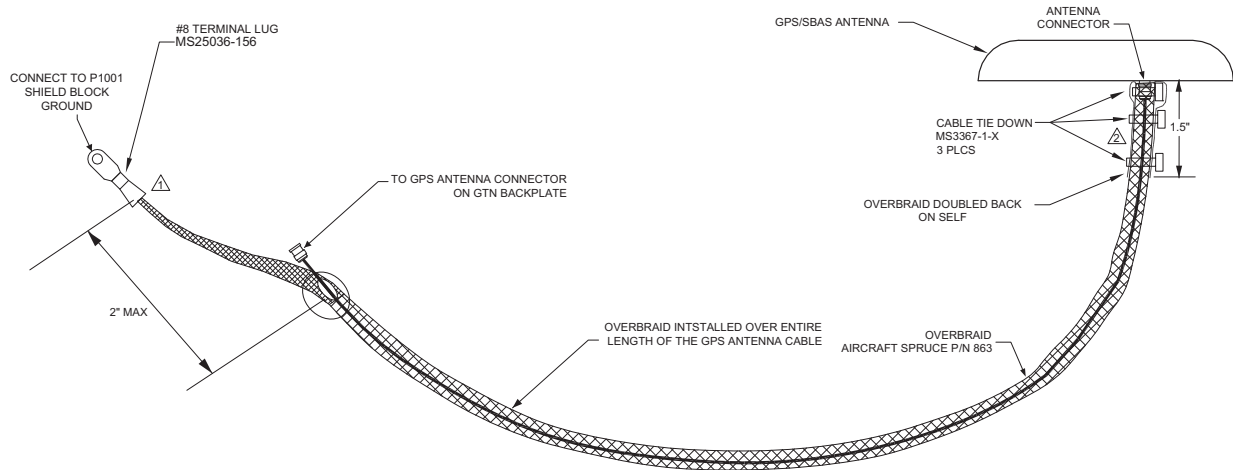


Figure 6-12. GPS/SBAS Antenna Cable Overbraid

## 6.11 WXR HSDB Cable Overbraid

The following removal and replacement steps are provided as guidance for replacing the cable overbraid assembly. The overbraid assembly drawing is shown in Figure 6-13.

### Removal

1. Remove the radome to gain access to the GWX radar.
2. Disconnect the cable connector at the weather radar.
3. At the other end of the overbraid, disconnect the terminal ground lug from the bulkhead.
4. Remove the electrical tie-down strap.
5. Remove the backshell from the GWX weather radar connector.
6. Unpin the necessary cables from the GWX connector and pull the overbraid off of the wire.

### Replacement



#### NOTE

*The length of overbraid required is approximately equal to the length of the WXR cabling in the radome area (measured from the bulkhead to the WXR R/T connector) plus 6".*

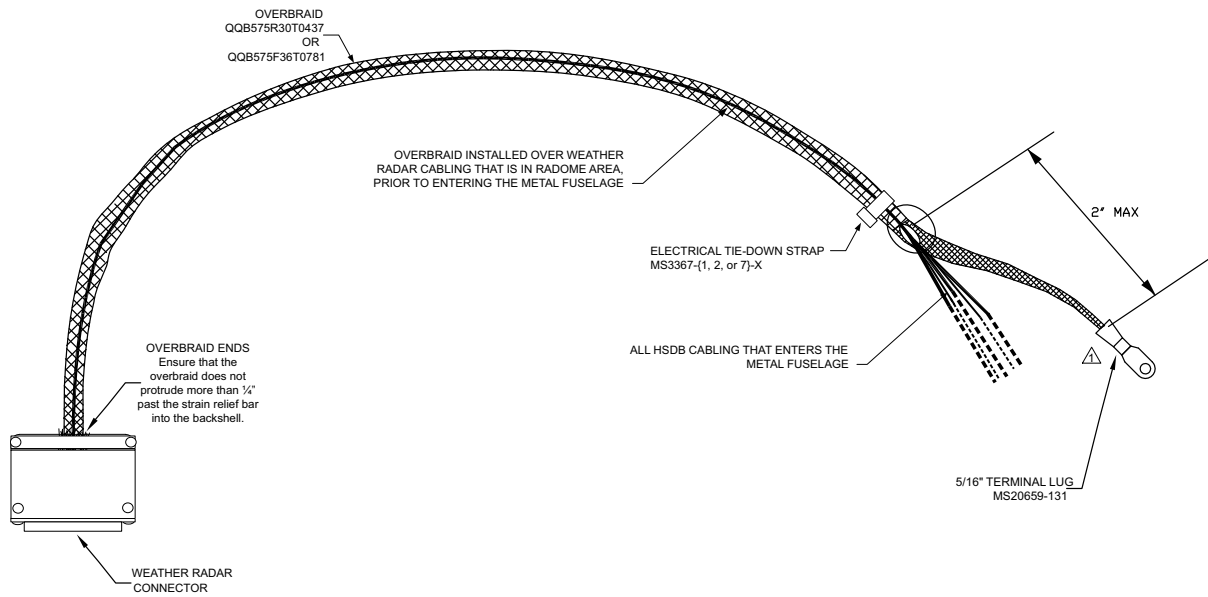
1. If any of the cables' insulation shows signs of damage, replace the cable(s).
2. Slide the new overbraid over the HSDB cabling from the WXR R/T to the bulkhead.
3. At the bulkhead end of the overbraid, comb out a maximum of two" of braid, twist it, cut to length if necessary, and terminate with a MS20659-131 5/16" terminal lug.
4. With a NASM970-516 (AN970-516) washer between the terminal lug and bulkhead, secure the terminal lug to the existing bulkhead location.
5. At the WXR R/T end of the overbraid, fold one" of overbraid back over itself. Position the overbraid so that the fold will lie under the backshell cover plate, while the overbraid ends will lie just outside the strain relief bar.
6. Re-pin the cables to the WXR connector and reinstall the backshell cover plate and strain relief bar.
7. Verify overbraid terminal bonding by checking the resistance between the overbraid and the bulkhead. The resistance should be less than 2.5 mΩ.



#### CAUTION

*All overbraid ends must be secured outside the backshell by the strain relief bar (Refer to Figure 6-13). Failure to do so may allow the overbraid ends to contact and short HSDB pins, resulting in weather radar malfunction or damage.*

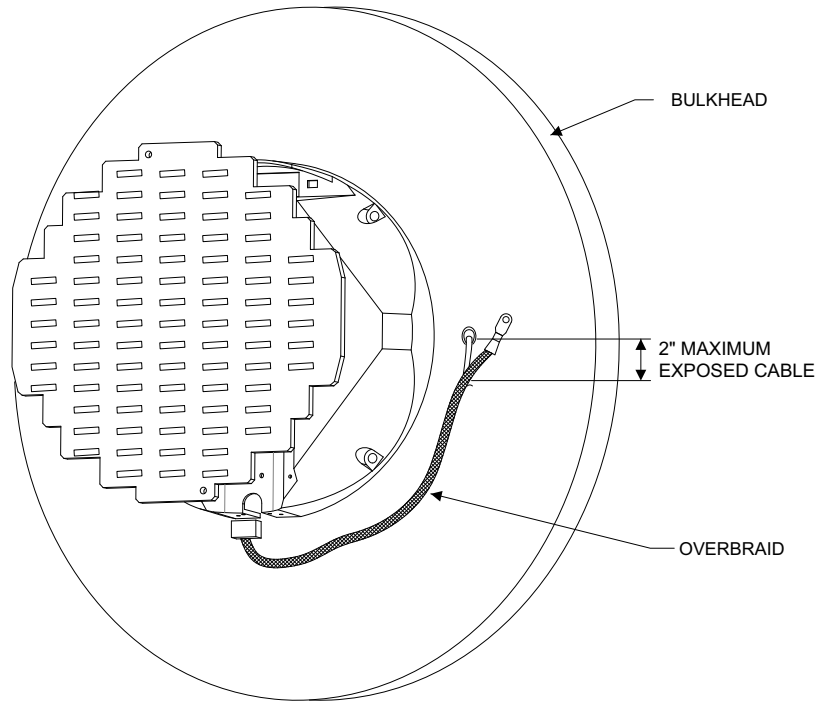




NOTES:

- △ THE OVERBRAID MUST BE INSERTED INTO THE GROUNDING LUG BY "COMBING" IT OUT INTO A FLAT CONFIGURATION AND THEN COMPRESS INTO A SMALL DIAMETER BUNDLE NEAR ITS END WHICH MAY BE INSERTED INTO THE GROUNDING LUG.

**Figure 6-13. WXR HSDB Cable Overbraid Details**  
**Sheet 1 of 2**



**Figure 6-12. WXR HSDB Cable Overbraid Details**  
**Sheet 2 of 2**

## 6.12 Instrument Panel Bonding Strap

The following steps are provided as guidance for replacing a damaged instrument panel bonding strap. Reference the bonding strap hardware stack up in Figure 6-14.

### Removal

The bonding strap is attached in two locations. The terminal lug is secured with a lock nut. To remove the strap, access both sides of the instrument panel and the nearby structure and unbolt the hardware.

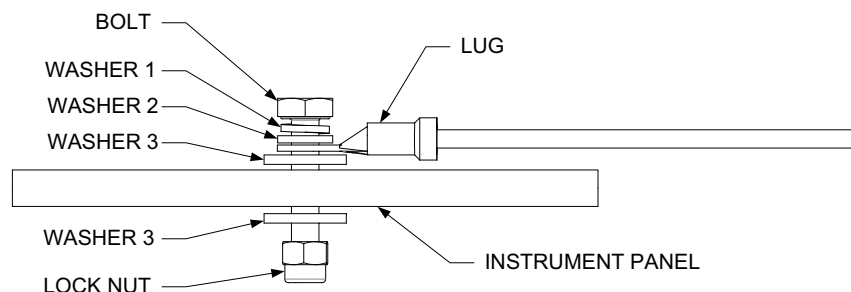
### Replacement



#### NOTE

*The instrument panel bonding strap should be as short as practical and must not exceed 6" in length.*

1. Construct a bonding strap by attaching 5/16" inside diameter insulated terminal lugs (MS20659-131) to both ends of the braid. 3/4" tinned copper flat braid (QQB575F36T781) or equivalent may be used.
2. If needed, clean the attachment locations with a bonding brush.
3. Secure each end of the bonding strap to the previously installed locations. Ensure that the strap does not loop back on itself and that the hardware is as shown in Figure 6-14. The washers must seat fully against the aircraft metallic structure, without overhang or interference from other hardware.
4. Using a milliohm meter, verify that the resistance between the connected structure is less than 2.5 milliohms.



**Figure 6-14. Instrument Panel Bonding**

**Table 6-7. Instrument Panel Bonding Hardware**

Hardware	P/N
Bolt	AN5-XA
Washer 1 (5/16" lock washer)	NASM35338-45
Washer 2 (5/16" flat washer)	NAS1149F0532P
Washer 3 (.063" thick flat washer)	NASM970-516 or AN970-5
Locknut (5/16")	MS21042, MS20364, MS21045, or MS20365

## 6.13 Flight Stream 210 Bonding Strap

The following removal and replacement steps are provided as guidance for replacing the Flight Stream bonding strap. The bonding strap assembly drawing is shown in Figure 6-15.



### NOTE

*Aircraft structure side of bonding strap may be mounted using a nut in lieu of a nut plate. If a nut was used in lieu of a nut plate, further disassembly of the aircraft may be required to gain access to the nut.*

### Removal

1. Disconnect one end of the bonding strap from the aircraft ground location.
2. Disconnect the other end of the bonding strap from the shield block on the Flight Stream connector backshell.
3. Remove the bonding strap.

### Replacement



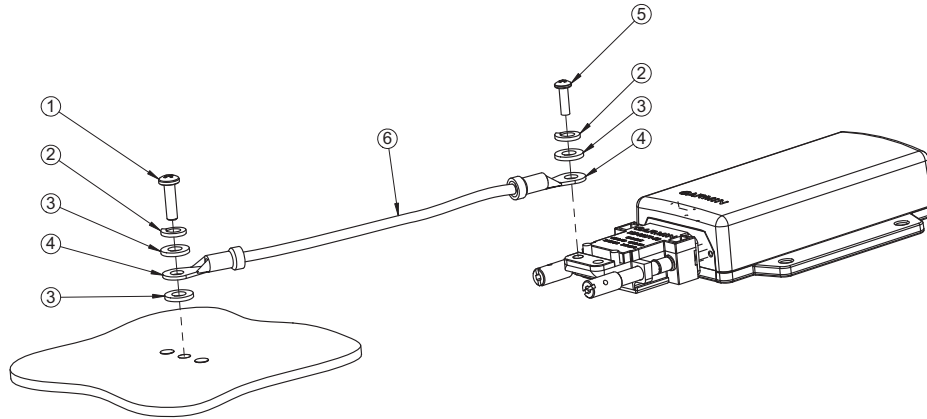
### NOTE

*The Flight Stream bonding strap should be as short as practical and must not exceed 20". When installed, the bonding strap must not loop back on itself.*

1. Construct a bonding strap no longer than 20" by attaching 10AWG terminal lugs to both ends of 1/4" braid (QQB575R36T0250) or wider.
2. If needed, clean the attachment locations with a bonding brush.
3. Secure each end of the bonding strap to the previously installed locations. Ensure that the strap does not loop back on itself and that the hardware is as shown in Figure 6-15. The washers must seat fully against the aircraft metallic structure, without overhang or interference from other hardware.

Using a milliohm meter, verify that the resistance between the connected structure is less than 2.5 milliohms.

In the event of a bonding test failure, remove the bonding strap from the aircraft ground point and clean the attachment point with a bonding brush. Re-install the bonding strap and perform the electrical bonding test in accordance with Section 4.5 again.



**Figure 6-15. Flight Stream Bonding**

**Table 6-8. Flight Stream Bonding Hardware**

See Figure 6-15	Hardware	P/N
1	Screw	AN515, AN515B, or AN515C
2	Lock washer	MS35338-137
3	Flat washer	NAS1149CN832R or AN960C-8
4	Terminal Lugs (7 AWG or 10 AWG depending on size of braid)	MS25036
5	Screw	MS51957-42
6	Braid	QQB575R36T0250

## 7 EQUIPMENT CONFIGURATION AND TESTING

This section provides procedures to be followed after an LRU is replaced. At the beginning of each LRU section, instructions are given to guide the technician for various removal and replacement scenarios. These instructions define necessary procedures to be followed for situations in which original equipment was reinstalled as well as for situations in which new equipment (new serial number) is installed.

### 7.1 GTN 6XX/7XX

#### ***Original GTN 6XX/7XX Reinstalled***

If the removed GTN is installed in its original position, no software loading or configuration setting changes are required. This does not include units that were returned for repair as their software and configuration files are deleted during the repair testing progress. It is recommended to perform the connector engagement check to ensure that the GTN is properly seated to the connectors.

See Section 7.1.2.1.

#### ***New, Repaired, or Exchanged GTN Installed***

If a new, repaired, or exchanged GTN is installed, the correct software must be loaded to the unit. Some configuration files must be set. See the summary in Table 7.1. Any enabled features such as TAWS-B or ChartView will not need to be re-enabled if the configuration module was left in the aircraft.

This section covers the necessary steps to configure and test a replacement GTN unit. The steps provided in this section are only applicable for replacement of an equivalent GTN unit (i.e. 750 for 750, 625 for 625 etc.). If wiring updates are needed or the configuration module is being replaced simultaneously, refer to the GTN 6XX/7XX AML STC Installation Manual P/N 190-01007-A3 for installation instructions.

**Table 7-1. Configuration and Checkout Procedures**

Modification	Required Action	Affected Models
Replacing GTN with equivalent unit	<p>Repeat configuration steps described in Section 7.1.1.1 (COM Configuration).</p> <p>Repeat configuration steps described in Section 7.4.1.1.2 (VOR/LOC/GS Configuration) and Section 7.4.2.1 (Serial Tuned DME Configuration).</p> <p>Perform ground checks per Section 7.1.2 (GTN Ground Checks), Section 7.4.1.2.2 (VOR/ILS/GS Indicator) and Section 7.4.2.2 (Interface Check).</p> <p>Ensure that the Basemap, Navigation, SafeTaxi, and Obstacle databases are up to date per Section 3.5 and insert SD card from previous GTN into the replacement unit.</p>	GTN 6XX/7XX
Replacing Configuration module with new module	Database cards need to be recreated when updating the configuration module. See Section 3.5 for instructions regarding database updates.	GTN 6XX/7XX
Replacing Navigation Indicator	Repeat calibration per section Section 7.4.1.1.1.1 (OBS Resolver Calibration) (if using GPS) or Section 7.4.1.1.2.1 (Calibrate Resolver) if using VOR/LOC/GS receiver.	GTN 6XX/7XX
Replacing GMA 35	<p>Refer to Section 7.2.1 for configuration steps.</p> <p>Perform checkout procedures per Section 7.2.2.</p>	GMA 35
Replacing a Serial Tuned DME	Perform interface check per Section 7.4.2.2 (Interface Check).	GTN 650/750
Replacing a Display	Perform the appropriate interface check per Section 7.4.3 (Displays).	GTN 6XX/7XX

Modification	Required Action	Affected Models
Replacing a Transponder	Configure remote transponder per Section 7.4.4.1 (Remote Transponder Configuration).  Perform interface check per Section 7.4.2.2 (Interface Check).	GTN 6XX/7XX
Replacing altitude encoders, air data computers or fuel-air data computers	No action required.	GTN 6XX/7XX
Replace traffic system or weather system	Perform the appropriate interface check per Section 7.4.5.	GTN 6XX/7XX
Replace weather radar	Perform the appropriate interface check per Section 7.4.6.	GTN 725/750
Replace Fan	Perform the fan interface check per Section 7.4.8 (Fan Interface Check).	GTN 6XX/7XX
Replace a Flight Stream 210	No configuration/interface checkout procedures are required to return to service.	Flight Stream 210



## 7.1.1 GTN Configuration Steps

### 7.1.1.1 COM Configuration Page (GTN 635/650/750 Only)

Select the COM Configuration page from the GTN Setup page. These values are set at the factory and rarely require calibration.

To enable or disable the COM radio, touch the **COM** key to toggle between enabled and disabled. The COM radio defaults to the enabled state.

Review the COM configuration settings on the GTN and compare them against the GTN Configuration and Checkout Log. A copy of the GTN Configuration and Checkout Log form may be found in the appendices of this document. If any of the settings differ from the checkout log, update the settings to the correct value. For information regarding individual settings, refer to the GTN 6XX/7XX AML STC Installation Manual.

### 7.1.1.2 Enabled Features

Refer to Section 7.5 for instructions on feature enablement. If the configuration module is not replaced, the enabled features will be retained upon replacing the GTN.

## 7.1.2 GTN Ground Checks

Ground checks of the GTN require the GTN to be powered up in configuration mode as described in Section 3.4.

### 7.1.2.1 Connector Engagement Check

Prior to configuration and checkout of the GTN, the connector engagement should be checked as described below:

1. Ensure that the GTN GPS/NAV and COM circuit breakers are pulled.
2. Slide the GTN straight into the rack until it stops about 1" short of the fully seated position.
3. Insert a 3/32" hex drive into the unit retention mechanism access hole at the bottom of the unit face and turn the tool clockwise while pressing the bezel until the unit is firmly seated in the rack.
4. With the GTN seated, reapply power by closing the circuit breakers and turning on the avionics master switch (if installed).
5. Again, insert the hex drive into the unit retention mechanism access hole. Turn the tool counter-clockwise to back out the retention mechanism. Ensure that three (3) complete revolutions of the Allen screw can be performed without red 'X' indication or loss of power to the GTN.



#### NOTE

*If power is lost or the red 'X' condition occurs with fewer than three (3) turns, ensure there are no obstructions to the unit fully seating in the rack. Also, the mounting rack may need to be moved aft (toward the pilot) such that the aircraft panel does not obstruct the unit from properly engaging in the rack.*

6. Pull the circuit breakers to remove power from the unit and re-seat the GTN per step 3. Close the breakers to restore power to the unit.

### 7.1.2.2 Signal Acquisition Check



#### NOTE

*All other avionics should be turned off at the start of this test, with the GTN powered on in normal mode. After reinstallation, the initial acquisition of position can take up to 20 minutes. Subsequent acquisitions will not take as long.*



#### NOTE

*For best results, this check should be performed outdoors away from large buildings or objects that could obstruct the GPS antenna.*

Ensure the GTN is able to acquire sufficient satellites to compute a GPS position. From the Home page, touch the **System** key and then touch the **GPS Status** key. Under “GPS Solution”, ensure that a **3D Fix** or **3D Diff Fix** is obtained. If the unit is unable to acquire satellites, move the aircraft away from obstructions which might be shading GPS reception. If the GPS solution does not improve, check the GPS antenna installation.

Once GPS position information is available, verify that the LAT/LON agree with a known reference position.

### 7.1.2.3 Receiver/Transmitter Operation (GTN 635/650/750 Only)

Tune the unit to a local VHF frequency and verify the receiver output produces a clear and understandable audio output. Verify the transmitter functions properly by contacting another station and getting a report of reliable communications.

## 7.2 GMA 35

The following steps must be performed when replacing a GMA 35 audio panel.

1. Configure audio panel per Section 7.2.1.
2. Perform ground check per Section 7.2.2.

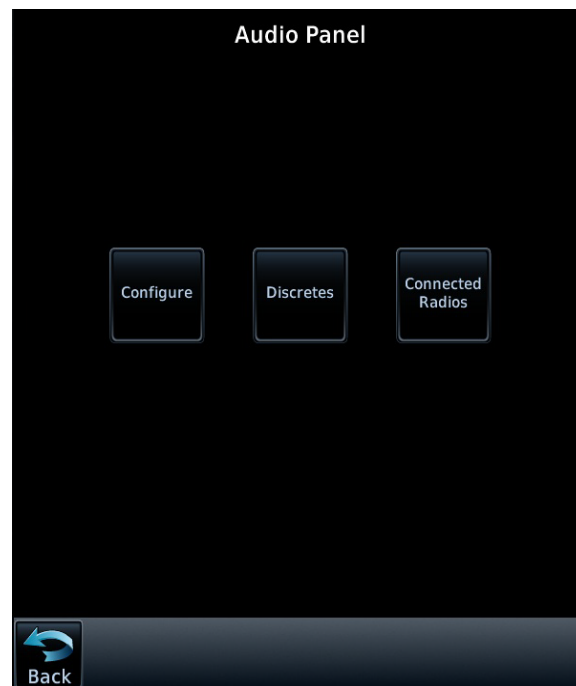
### 7.2.1 GMA 35 Audio Panel Configuration (GTN 7XX Only)

#### 7.2.1.1 GMA 35 Audio Panel Settings

In configuration mode, touch the **External Systems** key (See Figure 3-8) followed by the **Audio Panel** key. The Audio Panel page (Figure 7-1) will be displayed. Touch the **Configure** key to access configuration settings for audio routing, volume, and miscellaneous options. See Figure 7-1. Touch **Back** to return to the Audio Panel page.

Touch the **Connected Radios** key to set the status (Present or Not Present) of COM 2, COM 3, NAV 1, NAV 2, RCVR 3, RCVR 4, RCVR 5, TEL, Music 1, Music 2 and Marker Beacon. Touch **Back** to return to the Audio Panel page.

Review the GMA 35 audio panel configuration settings on the GTN and compare them against the GTN Configuration Log. A copy of the GTN Configuration Log form may be found in the appendices of this document. If any of the settings differ from the checkout log, update the settings to the correct value. For information regarding individual settings, refer to the GTN 6XX/7XX AML STC Installation Manual.



**Figure 7-1. Audio Panel Page**

## 7.2.2 GMA 35 Audio Panel Checkout (GTN 7XX Only)

### 7.2.2.1 GMA 35 Interface Check (GTN 7XX Only)

1. With the GTN running and the GMA 35 audio panel powered on, go to the Home page and touch the **Audio Panel** key.
2. Ensure that a red “X” is not displayed over the **Audio Panel** key.

After configuring the audio panel, an in-aircraft checkout may be performed with a good microphone, headset, speaker, and avionics receivers. For testing the marker beacon, use a ramp tester that transmits a 75 MHz marker beacon test signal.

For instructions on how to operate the GMA 35 in normal mode during checkout procedures, refer to the GTN 725/750 GMA 35 Pilot’s Guide, P/N 190-01007-03.



#### NOTE

*In the following procedural steps allow for variation in the configuration settings for the particular installation under test.*

### 7.2.2.2 Failsafe Operation Check

1. Power the GMA 35 off by pulling the audio panel circuit breaker.
2. Check the failsafe operation by exercising the COM1 microphone, microphone key and audio over the pilot’s headphones.



#### NOTE

*Use of a true mono headset is required for this test to ensure proper wiring even if a stereo jack is provided in the installation. Wiring left channel (tip contact) and right channel (ring contact) backwards will cause failsafe mode not to function with mono headsets. Use of a true mono headset is required for this test (not a stereo headset with a mono/stereo switch because headset manufactures differ on how they accomplish this switching). This will guarantee the condition of the right channel (ring terminal) being shorted to the return (sleeve terminal) by the mono headset’s plug. During power-on operation, this short will not damage the audio panel.*

3. Verify that COM1 can key and transmit the pilot’s mic audio by verifying received sidetone or checking reception of the transmission with another radio tuned to receive this transmission (verify Pilot PTT and mic operation is delivered to this transceiver).
4. Turn the unit back on to continue testing.



#### NOTE

*If the configuration setting “COM 1 is connected as COM 2” is set to True, then the COM 2 microphone should be exercised rather than COM 1.*

### 7.2.2.3 COM Transceiver Operational Check

1. Connect a headset to the pilot's headset output and mic input jack.
2. Verify that each installed transceiver (COM) can be heard when selected.



#### NOTE

*Depending on configuration settings, the mic selected COM may mute audio from other COMs.*

3. Verify that each installed transceiver keys for transmission and transmits clear audio from the pilot's mic when selected for transmission and the Pilot PTT key is pressed. (Because the audio panel can be configured to simulate received sidetone internally, verifying transmission with a separate radio not in the system is recommended.)



#### NOTE

*Depending on configuration settings, other transceivers may be muted during transmit. Also, the audio panel may mute the speaker during PTT.*

4. Move the headset to the copilot's headset jacks and verify that any one of the installed transceivers (testing each is not necessary) receives and transmits copilot mic properly as above.

### 7.2.2.4 NAV Audio Check

Ensure the GMA 35 and each installed NAV receiver is powered on.

1. Tune the NAV receiver to a local VOR station.
2. Ensure the Morse code identifier is being received over the crew headsets.
3. If the audio is not heard, verify the wiring to the audio panel.
4. Ensure the audio volume is sufficient for all anticipated cockpit noise conditions.

Repeat steps 1 through 4 for each installed NAV receiver.

### 7.2.2.5 Alert Audio Check

If there is an alert audio source connected to the GMA 35, the interface should be verified as described below.

1. Cause the alert audio source to produce audio. (e.g., if a traffic system is installed, command the traffic system into self-test mode; if a TAWS system is installed, command the TAWS system into self-test mode.)
2. Verify that the alert audio source is heard in the pilot and copilot headsets and that the audio volume is sufficient for all anticipated cockpit noise conditions. Adjust the audio volume level as needed. For modification of configuration settings, refer to the GTN 6XX/7XX AML STC Installation Manual.
3. If the alert audio source is not heard in the crew headsets, check the wiring from the source to the GMA 35 alert audio inputs.

Repeat steps 1 through 3 for each alert audio source connected to the GMA 35.

### 7.2.2.6 Receiver Audio Check

If there are receiver audio sources connected to the GMA 35, the interface should be verified as described below. Ensure the GMA 35 as well as each interfaced receiver (DME, ADF, etc) is powered on.

1. Plug in a headset at pilot and copilot position.
2. Tune the installed receiver to a valid station.
3. Ensure audio is being received over the crew headsets.
4. Ensure the audio volume is sufficient for all anticipated cockpit noise conditions. Adjust the audio output level as needed at the receiver.

Repeat steps 2 through 4 for each installed receiver.

### 7.2.2.7 Intercom System (ICS) Check



#### NOTE

*If a monaural headset is plugged into any stereo phone jack position, no damage will occur to the GMA 35. In the case of plugging a monaural headset into any passenger position, any stereo listener will lose one channel when another passenger plugs in a monaural headset.*

1. Place the audio panel into ALL ICS mode (refer to the GTN 725/750 Pilot's Guide, P/N 190-01007-03) so that all ICS positions hear all others.
2. Deselect or turn off other audio sources (MKR, transceivers, receivers, alerts). Some configurations may mute passenger intercom audio to crew when aircraft audio is present.
3. From the pilot headset position, verify the pilot, copilot, and all passenger mic inputs can be heard in the pilot's headset when speaking into the mic input under test (adjust pilot ICS volume if necessary).
4. Speak into the pilot's mic and verify that pilot mic audio is heard in the copilot headset (adjust copilot ICS volume if necessary) and in each passenger headset (adjust passenger ICS volume if necessary).

### 7.2.2.8 Music System Check (if installed)

1. Set the intercom to the ALL mode.
2. Connect a stereo audio source to MUSIC 1 or MUSIC 2. Verify that stereo audio is heard over the Pilot headset position.
3. Tune a station on COM 1 and verify that the sound is muted by active COM 1 audio (break squelch on COM 1 if necessary).
4. Verify that stereo audio is also heard in the passenger headsets.

### 7.3 Configuration Module

Upon replacing a configuration module with a new configuration module unit, no further action is required to use the updated configuration module. Installation of a used configuration module is not recommended.

### 7.4 Interfaced Equipment

This manual does not cover the removal/replacement of the following interfaced equipment. However, the following procedures are required to ensure proper functionality with the interfaced equipment. Perform the following calibration procedures and interface checks after reinstalling or replacing any of the optionally interfaced equipment.

#### 7.4.1 Navigation Indicator

1. Perform calibration per Section 7.4.1.1.1.1 (if using GPS) or Section 7.4.1.1.2.1 (650/750 only) if using VOR/LOC/GS receiver.
2. Perform ground checks per Section 7.4.1.2 and the appropriate interface check.

##### 7.4.1.1 Navigation Indicator Calibration

###### 7.4.1.1.1 Main Indicator (Analog) Configuration Page

Select the Main Indicator (Analog) Configuration Page, shown in Figure 7-2, from the GTN Setup page. This page allows you to calibrate the OBS resolver, configure the CDI key, selected course for GPS and VLOC, as well as the V-Flag state. Configurable fields are described in the following sections.

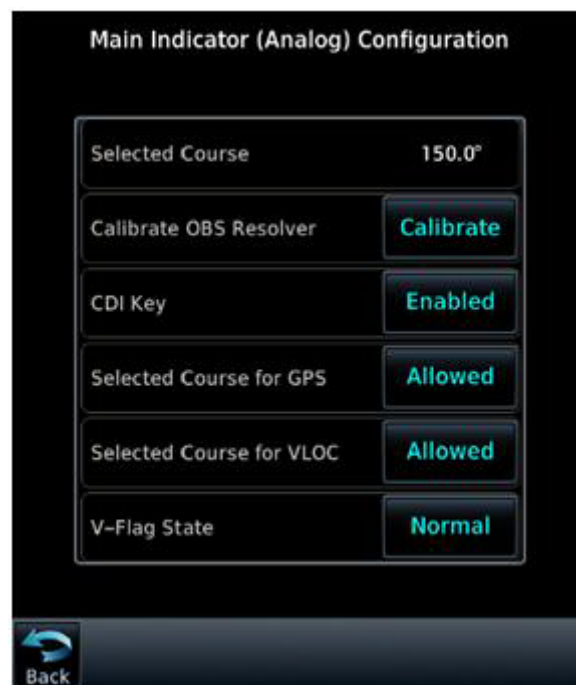


Figure 7-2. Main Indicator (Analog) Configuration Page

#### 7.4.1.1.1 Main Indicator OBS Resolver Calibration

To calibrate the OBS resolver, touch the **Calibrate** key from the Main Indicator Configuration page. Next, select 150° on the External CDI/HSI then touch the **OK** key, as prompted on the display. After the OBS resolver is finished calibrating, the GTN will display “OBS Resolver Calibration Complete!” Touch **OK** after the calibration is complete. Verify OBS operation by checking that the selected course displayed at the top of the page is within 2° of the selected course.

The Main Indicator (Analog) Configuration page allows the CDI connected to the NAV board (P1001) to be ground checked and allows the NAV indicator interface to be verified. See Section 7.4.1.2.1 for the ground check.

#### 7.4.1.1.2 VOR/LOC/GS Configuration Page (GTN 650/750 Only)

Select the **VOR/LOC/GS** key on the GTN Setup page. This page allows you to verify the CDI outputs from the VOR/LOC/GS receiver as well as the OBS resolver input to the VOR receiver. It also allows you to select the format for the DME tuning data.

##### 7.4.1.1.2.1 Calibrate OBS Resolver

To calibrate the OBS resolver, touch the **Calibrate** key from the VOR/LOC/GS Configuration page. Next, select 150° on the external CDI/HSI, then touch the **OK** key when prompted by the display. Touch **OK** after calibration is complete. Verify OBS operation by checking that the selected course displayed at the top of the page is within 2° of the selected course.

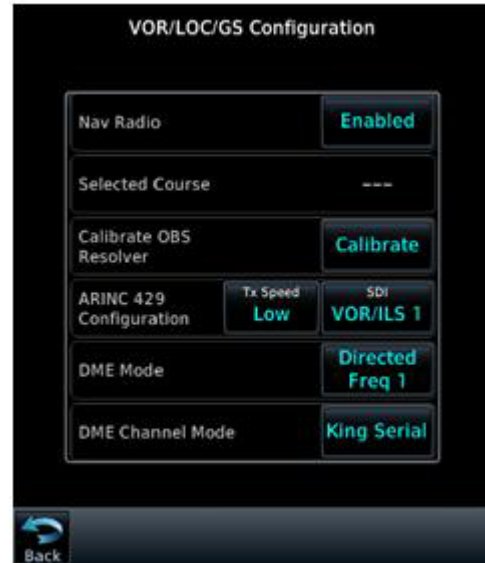


Figure 7-3. VOR/LOC/GS Configuration Page



## 7.4.1.2 Navigation Indicator Ground Checks (Configuration Mode)

### 7.4.1.2.1 Main Indicator Check (Analog Only)



#### NOTE

*If the GTN is interfaced to an electronic HSI/EFIS and the main indicator analog output is not used, this check is not required.*



#### NOTE

*To verify if the indicator is interfaced with the GTN on the main connector (P1001), examine the response of the indicator during the GTN self test upon power-up. If the indicator responds according to the values described on the screen, then it is connected to the main connector.*

If the GTN is interfaced to an analog indicator on the main connector (P1001), perform the following steps in configuration mode (Section 3.4):

1. From the configuration mode page (Figure 3-8), touch **GTN Diagnostics** key.
2. Touch the **Main Indicator (Analog)** key.
3. Verify correct operation of the lateral deviation, flag and TO/FROM flag using the corresponding selections.
4. Verify correct operation of the vertical deviation and flag using the corresponding selections.
5. Verify correct operation of the OBS knob using the OBS Resolver Setting display. At 30° increments around the OBS card, ensure that the indicated value is within 2° of the value set on the indicator. If the resolver is not within 2°, calibrate the resolver as described in Section 7.4.1.1.1.1.

### 7.4.1.2.2 VOR/LOC/GS Indicator

If the GTN is interfaced to an analog indicator on the VOR/ILS connector (P1004), perform the following steps:

1. From the configuration mode page (Figure 3-8), touch **GTN Diagnostics** key.
2. Touch the **VOR/ILS Indicator (Analog)** key.
3. Verify correct operation of the lateral deviation, flag and TO/FROM flag using the corresponding selections.
4. Verify correct operation of the vertical deviation and flag using the corresponding selections.
5. Verify correct operation of the OBS knob using the Selected Course display. At 30° increments around the OBS card, ensure that the indicated value is within 2° of the value set on the indicator. If the resolver is not within 2°, calibrate the resolver as described in Section 7.4.1.1.2.1.

## 7.4.2 Serial Tuned DME

### 7.4.2.1 Serial Tuned DME Configuration

Under the VOR/LOC/GS configuration page, set the DME mode and DME Channel Mode to the values specified in the Configuration Checkout Log. Configuration of these settings is required if exchanging GTN 650/750 units, but is not required if replacing a DME with an equivalent unit.

### 7.4.2.2 Interface Check (650/750 Only)

Verify the interface performing the following steps:

1. Select a VOR/ILS channel that corresponds to (1) a DME station within a 40 nautical mile range, or (2) the frequency of a DME ground tester.
2. Verify that the DME locks on to the signal and a valid distance is displayed.
3. Tune an invalid VOR station. Verify that the DME data is flagged.
4. If multiple GTNs are set up to remotely channel a DME, repeat steps 1-3 using the other GTN.

## 7.4.3 Displays

Perform the appropriate interface check for the replaced EHSD, EFIS, PFD, or MFD. No additional configuration on the GTN is required when replacing a display with an equivalent unit.

### 7.4.3.1 Honeywell (Bendix/King) EFS 40/50 Interface Check

If a Honeywell EFS 40/50 has been connected to the GTN, the interface should be verified as described in this section.

1. Cycle power to the first GTN and acknowledge the prompts until it gets to the Instrument Panel Self-Test page (see Section 6.1.1)
2. Ensure that GPS1 data is displayed by pressing the **1-2** key on the EFS 40/50 control panel.
3. While the GTN is displaying the Instrument Panel Self-Test page, verify that the EFS 40/50 is displaying data from the GPS source.
  - Course Deviation: Half-scale left deviation, TO indication, flag pulled
  - Active Waypoint: GARMN
  - Vertical Deviation: Half-scale up deviation (only if installation is setup to display GPS vertical deviation)
4. On the GTN verify that an OBS value is displayed (and not dashed out).
5. Using a VOR test set verify that the CDI deviation on the EFS 40/50 is displayed correctly.
6. Cycle power to the second GTN and acknowledge the prompts until it gets to the Instrument Panel Self-Test page.
7. If a second GTN is installed, switch to GPS2 data by pressing the **1-2** key on the EFS 40/50 control panel and repeat steps 3 through 5 with the second GTN.

### 7.4.3.2 Sandel SN3308 Interface Check

If a Sandel EHSI has been connected to the GTN, the interface should be verified as described in one of the following sections, as appropriate for the installation.

#### 7.4.3.2.1 One GTN/One SN3308

1. Cycle power to the GTN and acknowledge the prompts until it gets to the Instrument Panel Self-Test page (see Section 6.1.1).
2. Ensure that the SN3308 is receiving valid heading.



#### NOTE

*The Vertical Deviation Indication will not be displayed unless the SN3308 is receiving valid heading.*

3. While the GTN is displaying the Instrument Panel Self-Test page, verify that the SN3308 is displaying the following data from the GPS source.
  - Course Deviation: Half-scale left deviation, TO indication, flag pulled
  - Vertical Deviation: Half-scale up deviation, flag pulled
  - Active Waypoint: GARMN
4. On the GTN verify that an OBS value is displayed (and not dashed out).
5. Acknowledge the self-test on the GTN by touching the **Continue** key.
6. Select VLOC on the GTN and verify that the SN3308 displays NAV 1 or NAV 2 (depending on the GTN navigation source configuration).
7. Using a VOR test set verify that the CDI deviation on the SN3308 is displayed correctly.

#### 7.4.3.2.2 Two GTNs/One SN3308

1. Remove power from GTN #2 by opening up the circuit breaker.
2. Cycle power to GTN #1 and acknowledge the prompts until it gets to the Instrument Panel Self-Test page (see Section 6.1.1).
3. Select GPS1 as the navigation source by pressing the **NAV** key on the SN3308. Verify that GPS1 is displayed on the SN3308.
4. Ensure that the SN3308 is receiving valid heading. The Vertical Deviation Indication will not be displayed unless the SN3308 is receiving valid heading.
5. While GTN #1 is displaying the Instrument Panel Self-Test page, verify that the SN3308 is displaying the following data from GPS1.
  - Course Deviation: Half-scale left deviation, TO indication, flag pulled
  - Vertical Deviation: Half-scale up deviation, flag pulled
  - Active Waypoint: GARMN
6. On GTN #1 verify that an OBS value is displayed (and not dashed out).
7. Acknowledge the self test on GTN #1 by touching the **Continue** key.
8. Select VLOC on GTN #1 and verify that the SN3308 displays NAV 1 or NAV 2 (depending on which navigation source the GTN is).
9. Using a VOR test set verify that the CDI deviation on the SN3308 is displayed correctly.
10. Remove power from GTN #1 and apply power to GTN #2. Acknowledge the prompts until the Instrument Panel Self-Test page is displayed. See Section 6.1.1. Select GPS2 by pressing the **NAV** key on the SN3308.

Repeat steps 5 through 9 with the second GTN.

### 7.4.3.2.3 Two GTNs/Two SN3308s

1. Remove power from GTN #2.
2. Cycle power to GTN #1 and acknowledge the prompts until it gets to the Instrument Panel Self-Test page (see Section 6.1.1). Select GPS1 as the navigation source by pressing the **NAV** key on the SN3308 #1. Verify that GPS1 is displayed on the SN3308.
3. Ensure that the SN3308 is receiving valid heading. The Vertical Deviation Indication will not be displayed unless the SN3308 is receiving valid heading.
4. While GTN #1 is displaying the Instrument Panel Self-Test page, verify that the SN3308 is displaying the following data from GPS1.
  - Course Deviation: Half-scale left deviation, TO indication, flag pulled
  - Vertical Deviation: Half-scale up deviation, flag pulled
  - Active Waypoint: GARMN
5. On GTN #1 verify that an OBS value is displayed (and not dashed out).
6. Acknowledge the self test on GTN #1 by touching the **Continue** key.
7. Select VLOC on GTN #1 and verify that the SN3308 displays NAV 1 or NAV 2 (depending on which navigation source the GTN is).
8. Using a VOR test set verify that the CDI deviation on the SN3308 is displayed correctly.
9. Remove power from GTN #1 and apply power to GTN #2. Acknowledge the prompts until the Instrument Panel Self-Test page is displayed (see Section 6.1.1).
10. Select GPS2 by pressing the **NAV** key on the SN3308.

Repeat steps 4 through 8 with the second GTN.

Perform the same procedure for the second SN3308. Ensure that SN3308 #2 is receiving valid heading by ensuring the vertical deviation indication is being displayed.

### 7.4.3.3 Sandel SN3500/4500 Interface Check

If a Sandel SN3500/4500 EHSI has been connected to the GTN, the interface should be verified as described in this section.

1. Cycle power to the GTN and acknowledge the prompts until it gets to the Instrument Panel Self-Test page (see Section 6.1.1).
2. Ensure that the SN3500/4500 is receiving valid heading. The Vertical Deviation Indication will not be displayed unless the SN3500/4500 is receiving valid heading.
3. While the GTN is displaying the Instrument Panel Self-Test page, verify that the SN3500/4500 is displaying data from the GPS source.
  - Course Deviation: Half-scale left deviation, TO indication, flag pulled
  - Vertical Deviation: Half-scale up deviation, flag pulled
  - Active Waypoint: GARMN
4. On the GTN verify that an OBS value is displayed (and not dashed out).
5. Acknowledge the self test on the GTN by touching the **Continue** key.
6. Select VLOC on the GTN and verify that the SN3500/4500 displays NAV 1 or NAV 2 (depending on which navigation source the GTN is).
7. Ensure that the NAV1 (or NAV2) indication does not have a red line through it.

Repeat steps 3 through 7 for the second GTN, if installed.

#### 7.4.3.4 EHSI Deviation Scaling for HSI/CDI Driven by GTN through ARINC 429 Data

If the GTN has a serial connection to an EFIS display, proper scaling of the EFIS CDI and VDI must be verified.

1. Cycle power to the GTN and acknowledge the prompts until it gets to the Instrument Panel Self-Test page (see Section 6.1.1).
2. With the Instrument Panel Self-Test page displayed on the GTN, look on the EHSI/EFIS and verify that the lateral deviation is half-scale left and not flagged.
3. With the Instrument Panel Self-Test page displayed on the GTN, look on the EHSI/EFIS and verify that the vertical deviation is half-scale up and not flagged. .

#### 7.4.3.5 GMX200/MX20 Interface Check

The Garmin GMX 200 or MX20 interface should be verified as described in this section.

1. Ensure that the GTN has a 3-D position fix.
2. Create and activate a flight plan on the GTN by touching the **Direct-To** key and entering a waypoint.
3. Verify that the RTE and POS data flags are not displayed on the GMX 200/MX20.
4. Verify that the flight plan is displayed on the GMX 200/MX20 using the flight plan (FPL) function.

#### 7.4.4 Transponder

1. For remote transponders, configure transponder per Section 7.4.4.1.
2. Perform interface check per Section 7.4.4.2.

##### 7.4.4.1 Remote Transponder Configuration

A remote transponder can be configured by the GTN through RS-232 if a transponder is configured for one of the RS-232 ports. To configure the transponder, it must first be selected as present and the type of transponder installed must be specified. To do this, access the **Interfaced Equipment** page on the GTN Setup page (Figure 3-11). Next, go to the External Systems page and touch the **XPDR** key. This displays the page shown in Figure 7-4, which allows the remote transponder to be configured. The remote transponder should be configured in accordance with the installation manual for that specific transponder.



#### NOTE

*If the GTN controls any transponder (GTX 32/33/327/328/330), then that transponder will boot into the same mode (Normal or Configuration) as the GTN.*



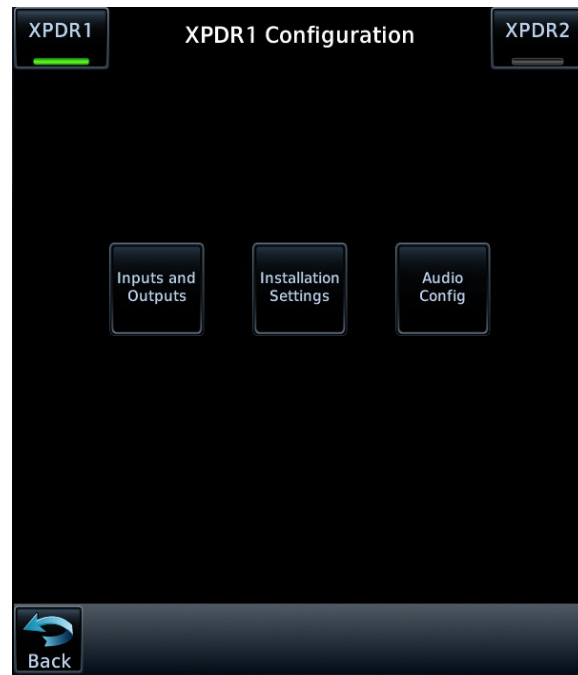
#### NOTE

*If the GTN is not communicating with the GTX transponder, all of the editable fields for the setup items shown in the following sections will be dashed out. If the fields are dashed out, check the wiring and pin connections from the GTN to the transponder.*



#### NOTE

*The GTN can interface to the GTX 327/328/330/330 ES; however, configuration of the panel-mounted GTX 327/328/330/330 ES is not supported. These transponders should be configured per their installation manuals rather than through the GTN.*



**Figure 7-4. XPDR1 Configuration Page**

#### 7.4.4.2 Transponder Interface Check

If the GTN is interfaced to a GTX 32/33 remote transponder or a GTX 327/328/330 configured as a remote transponder, the following checks must be completed.

1. With the GTN unit running in normal mode and the transponder powered on, go to the Home page and ensure there is no red 'X' over the transponder data field on the screen.
2. Check that a code can be entered into the code field. Enter a code using the keypad and then touch the **Enter** key. Check the code that was entered is displayed in the transponder data field.
3. If dual transponders are installed, select Transponder 2 and perform steps 1 and 2 for the second transponder as well.
4. To verify wiring is not crossed, pull the Transponder 1 circuit breaker and check the Transponder 1 data field is red 'X'd.
5. Repeat the steps 1 through 3 for the second GTN.

## 7.4.5 Traffic or Weather System

Perform the appropriate interface check for the traffic or weather system. No additional GTN configuration steps are required for replacing a traffic or weather device with an equivalent unit.

### 7.4.5.1 Ryan TCAD Traffic System Interface Check

If a Ryan TCAD has been connected to the GTN 6XX/7XX unit, the traffic interface should be verified as described in this section.

1. Go the Traffic page on the GTN from the HOME page group.
2. Verify that NO DATA is not displayed in yellow on the center of the traffic page.
3. Using the SHIELD SETUP under the Traffic Menu, verify that the shield mode can be changed.

### 7.4.5.2 ARINC 429 Traffic System Interface Check

If a Garmin GTS 8XX Traffic system, L-3 Communications SKY497/SKY899 SkyWatch® sensor or a Honeywell (Bendix/King) KTA 810 TAS/KMH 820 IHAS has been connected to the GTN through ARINC 429, the traffic interface should be verified as described in this section.

1. Go to the Traffic page on the GTN from the home page.
2. Verify that NO DATA is not displayed in yellow on the center of the traffic page.
3. If the GTN is configured to control the traffic system. Verify that the traffic system mode can be changed from STBY to OPER.
4. Switch the traffic system mode to STBY, and then run the traffic self test from the Menu.
5. Verify that the traffic system executes a self test and that a self-test pattern is displayed on the GTN traffic display.
6. Restart the GTN in Configuration Mode.
7. On the Traffic page in the External Systems page group, verify that there is data displayed in the Altitude field.

### 7.4.5.3 Stormscope® Interface Check

If an L-3 Communications WX-500 Stormscope has been connected to the GTN, the Stormscope interface should be verified as described in this section.

1. Go to the Lightning page on the GTN.
2. Verify that 'STORMSCOPE FAILED' is not displayed in yellow on the center of the Lightning page.
3. Verify that the Stormscope mode can be changed from **Strike** to **Cell**, and vice versa.

### 7.4.5.4 TIS (Garmin GTX 33/330) Interface Check

If a Garmin GTX 33/330 transponder has been connected to the GTN as a TIS traffic source, the traffic interface should be verified as described in this section.

1. Select the Traffic Map from the GTN Home page.
2. Verify that **TIS FAIL** is not displayed in the upper left corner under Traffic Status, and that **NO DATA** (yellow) is not displayed over the ownship symbol.
3. On the upper left corner of the Traffic Map page, verify that the status of the traffic system is either TIS Standby or TIS Operating/Unavailable (i.e. TAS should not be displayed).



The following additional steps should only be completed if the GTN is controlling the traffic system.

1. Pull the transponder circuit breaker and verify the air data fields are red 'X'd.
2. If a squat switch (or airspeed switch) is connected to the GTX 33/330, ensure that it is in AIR mode.
3. Alternately touch the **Standby** key and **Operate** key to change the mode of the traffic system. It may take several seconds for the traffic system to change modes.
4. Verify that the mode of the traffic system can be changed.

#### **7.4.6 Weather Radar**

Perform the appropriate interface check for the weather radar. No additional GTN configuration steps are required for replacing a weather radar with an equivalent unit.

##### **7.4.6.1 GWX 68/70 Weather Radar Interface Check**

This section verifies that the interface between the GTN 7XX and the GWX 68/70 weather radar is functional.

1. Start the GTN in normal mode.
2. On the Home page, touch the **Weather** key and then the **Radar** key.
3. Touch the **Mode** key and select Standby mode and wait for the warm-up to complete.
4. Touch the **Mode** key again and select Test mode.
5. Verify that the GWX 68/70 begins sweeping and the test pattern is shown.
6. If supported by the installation, verify that stabilization is on (STAB On is displayed in the upper right corner of the radar display).
7. Touch the **Mode** key, set the mode to Off.

Repeat steps 1 through 7 for the second GTN 7XX (if installed).

### 7.4.6.2 ARINC 708 Weather Radar Interface Check

This section verifies that the interface between the GTN 7XX and ARINC 708 weather radar is functional.

1. Start the GTN in normal mode. If there are dual GTN 7XXs, start both in normal mode.
2. On each GTN, go to the Home page, touch Weather and then Radar.
3. On one GTN, touch the **Mode** key and select Standby mode and wait for the warmup to complete.
4. Touch the **Mode** key again and select Test mode.
5. Verify that the radar begins sweeping and the test pattern is shown.



#### **WARNING**

*Aircraft should be outdoors and personnel should not be in front of the weather radar when it is radiating (i.e. when Weather or Ground mode is selected on the GTN).*

6. If stabilization is supplied to the radar, turn the radar to Weather mode and turn stabilization on in the weather menu. Verify that STAB On is displayed in the upper right corner of the radar display. If STAB INOP is displayed, verify that stabilization is being supplied to the weather radar R/T.
7. Touch the **Mode** key to set the mode to Off.



#### **NOTE**

*If only one GTN 7XX is installed, the following steps do not have to be carried out.*

8. Repeat steps 1 through 7 for the second GTN 7XX.
9. On each GTN 7XX, touch the **Mode** key and select Standby and wait for the warm-up to complete.
10. On each GTN 7XX, touch the **Mode** key again and select Test mode.
11. On GTN #1, touch the **Zoom Out** key to increase the range of the radar display. Verify that the range on GTN #1 changes and the range on GTN #2 does not change.
12. On GTN #2, touch the **Zoom Out** key to increase the range of the radar display – select a different zoom level than GTN #1. Verify that the range on GTN #2 changes and the range on GTN #1 does not change.
13. On each GTN 7XX, use the **Mode** key to set the mode to Off.

### 7.4.7 GDL 88

When testing the GDL 88, the aircraft must be located outside and have an unobstructed view of the sky. If the GDL 88 is installed and connected to the GTN, perform the following steps. No additional configuration steps are required when replacing the GDL 88 with an equivalent unit.

1. Start all GTNs in Configuration Mode as described in Section 3.4.
2. Touch the **External Systems** key.
3. Touch the **GDL 88** key.
4. Touch **Diagnostics** and then the **GPS/SBAS Data** key.
5. Verify that the GDL 88 is receiving valid position source data.
6. Verify that the status of the External PPS connection(s) is valid.

### 7.4.8 Fan Interface Check

The fan that is mounted to the GTN backplate should be checked after replacing the fan. With the GTN unit running in normal mode and the fan powered on and running, go to the Home page and touch the **Message Queue** key. Ensure that the “COOLING FAN- the cooling fan has failed” message is not displayed. Note that the fan may take a few minutes to power on if the unit is below normal operating temperature.

## 7.5 Enabled Features

See Section 3.4.4 for guidance on enabling features.

### 7.5.1 TAWS Configuration and Checks (For Units with TAWS Only)

Reconfigure TAWS settings per the Configuration Checkout Log. The TAWS configuration settings are located under the GTN Options menu.



Figure 7-5. Audio Configuration Page

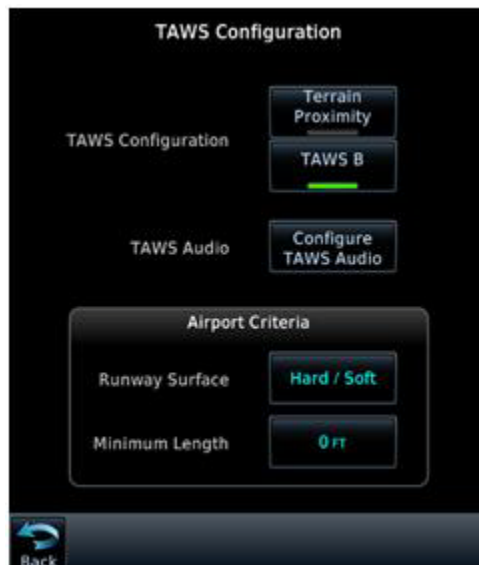


Figure 7-6. TAWS Configuration Page

### 7.5.1.1 TAWS System Check

While on the ground, turn on the GTN following normal power-up procedures. Also turn on the audio panel.



#### **NOTE**

*A 3D GPS position fix is required to conduct the check.*

1. Select the Terrain page from the normal mode Home page.
2. Touch the **Menu** key.
3. Touch the **Test TAWS** key.
4. Wait until the TAWS self-test completes (10-15 seconds) to hear the TAWS system status aural message.
  - The aural message “TAWS System Test OK” will be annunciated if the TAWS system is functioning properly.
  - The aural message “TAWS System Failure” will be annunciated if the TAWS system is NOT functioning properly. Also, “TAWS FAIL” will appear in amber on the screen.

If no audio message is heard, then a fault exists within the audio system or associated wiring and the TAWS capability must be considered non-functional. Verify the TAWS audio wiring to the audio panel.

## 8 SYSTEM RETURN TO SERVICE PROCEDURE

### 8.1 Maintenance Records

After conducting required return-to-service procedures in accordance with Table 7-1 and updating aircraft records in accordance with this section, the aircraft may be returned to service.

Record the following information in the appropriate aircraft maintenance logs:

- Software versions loaded as part of any maintenance action.
- Record part and serial numbers of any LRU which was replaced.
- Record any database updates which were performed during maintenance.
- Verify that replacement LRUs software and/or FPGA versions match those in the Configuration Log from Appendix A, a copy of which should be in the aircraft records.
- Any other applicable information related to the maintenance work performed on the aircraft.

## APPENDIX A AIRCRAFT SPECIFIC INFORMATION

An [electronic fillable form](#) is available. For updating from GTN v5.00 to v5.13, a [separate fillable form](#) is available. Refer to the “Attachments” panel of this manual. Acrobat Reader 8.0 or later is necessary to view and fill out the form. You can download Acrobat Reader by visiting [www.adobe.com](http://www.adobe.com).

**APPENDIX A AIRCRAFT SPECIFIC INFORMATION**  
**GENERAL INFORMATION**

Date: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ By: \_\_\_\_\_

---

**AIRCRAFT:**

AIRCRAFT MAKE: \_\_\_\_\_

AIRCRAFT MODEL: \_\_\_\_\_

AIRCRAFT SERIAL #: \_\_\_\_\_

AIRCRAFT REG. #: \_\_\_\_\_

---

**GTN #1:**

Unit P/N: \_\_\_\_\_ Mod Level: \_\_\_\_\_

Unit Model: \_\_\_\_\_ Serial #: \_\_\_\_\_

GPS Antenna P/N #: \_\_\_\_\_ GPS Antenna Model: \_\_\_\_\_

**GTN #2:  [N/A]**

Unit P/N: \_\_\_\_\_ Mod Level: \_\_\_\_\_

Unit Model: \_\_\_\_\_ Serial #: \_\_\_\_\_

GPS Antenna P/N #: \_\_\_\_\_ GPS Antenna Model: \_\_\_\_\_

**GMA 35:  [N/A]**

Unit P/N: \_\_\_\_\_ Mod Level: \_\_\_\_\_

Unit Model: \_\_\_\_\_ Serial #: \_\_\_\_\_

**Flight Stream:  [N/A]**

Unit P/N: \_\_\_\_\_ Mod Level: \_\_\_\_\_

Unit Model: \_\_\_\_\_ Serial #: \_\_\_\_\_



## GTN 6XX/7XX PART 23 CONFIGURATION LOG – GTN #1

### SYSTEM INFORMATION

#### GTN SOFTWARE VERSIONS

##### Main Board

Software: \_\_\_\_\_ Boot Code: \_\_\_\_\_ FPGA: \_\_\_\_\_

##### Touch Controller Board

Software: \_\_\_\_\_ Boot Code: \_\_\_\_\_

##### GPS/WAAS Board

Software: \_\_\_\_\_

##### NAV Board [N/A]

Software: \_\_\_\_\_ Boot Code: \_\_\_\_\_ FPGA: \_\_\_\_\_

##### COM Board [N/A]

Software: \_\_\_\_\_ Boot Code: \_\_\_\_\_ FPGA: \_\_\_\_\_

### GTN SETUP MENU

#### ARINC 429 CONFIGURATION

In 1:  High  Low \_\_\_\_\_ Out 1:  High  Low \_\_\_\_\_

In 2:  High  Low \_\_\_\_\_ Out 2:  High  Low \_\_\_\_\_

In 3:  High  Low \_\_\_\_\_ Out 3:  High  Low \_\_\_\_\_

In 4:  High  Low \_\_\_\_\_ SDI:  Common  LNAV 1  LNAV 2

---

#### RS-232 CONFIGURATION

In 1: \_\_\_\_\_ Out 1: \_\_\_\_\_

In 2: \_\_\_\_\_ Out 2: \_\_\_\_\_

In 3: \_\_\_\_\_ Out 3: \_\_\_\_\_

In 4: \_\_\_\_\_ Out 4: \_\_\_\_\_

In 5: \_\_\_\_\_ Out 5: \_\_\_\_\_

In 6: \_\_\_\_\_ Out 6: \_\_\_\_\_

**GTN 6XX/7XX PART 23 CONFIGURATION LOG – GTN #1 - CONTINUED**

**GTN SETUP MENU - CONTINUED**

**HSDB (ETHERNET) CONFIGURATION**

**Port 1:**  Connected     Not Connected   
 **Port 3:**  Connected     Not Connected  
**Port 2:**  Connected     Not Connected   
 **Port 4:**  Connected     Not Connected

**INTERFACED EQUIPMENT CONFIGURATION**

**Cross-Side Navigator:**  Present  Not Present  
**GDU #1:**                     Present  Not Present    Type: \_\_\_\_\_  
**GDU #2:**                     Present  Not Present    Type: \_\_\_\_\_  
**GDU #3:**                     Present  Not Present    Type: \_\_\_\_\_  
**GDL 69/69A:**             Present  Not Present    Type: \_\_\_\_\_  
**GDL 88/88D:**             Present  Not Present    Type: \_\_\_\_\_  
**Transponder #1:**         Present  Not Present    Type: \_\_\_\_\_  
**Transponder #2:**         Present  Not Present    Type: \_\_\_\_\_  
**GSR 56:**                     Present  Not Present  
**GWX:**                       Present  Not Present    Type: \_\_\_\_\_

**MAIN INDICATOR (ANALOG) CONFIGURATION**

**CDI Key:**  Enabled  Disabled  N/A            **Selected Course for VLOC:**  Allow  Ignore  N/A  
**Selected Course for GPS:**  Allow  Ignore    **V-Flag State:**  Normal  Declutter

**LIGHTING CONFIGURATION  
(IF ENHANCED LIGHTING IS DISABLED)**

**Lighting Configuration:**  [N/A]  
**Display Source:**  Photocell  Lighting Bus 1    **Keys Source:**  Photocell  Lighting Bus 1  Lighting Bus 2  
**Display Minimum Level:** \_\_\_\_\_%    **Display Minimum Level:** \_\_\_\_\_%  
**Configure Photocell:**  [N/A]  
**Response Time:** \_\_\_\_\_sec    **Slope:** \_\_\_\_\_    **Offset:** \_\_\_\_\_  
**Photocell Override**  
**Key Backlight Cutoff:** \_\_\_\_\_%    **Photocell Transition:** \_\_\_\_\_  
**Configure Lighting Bus:**  [N/A]  
**Lighting Bus 1:**             14 VDC  28 VDC  5 VDC  5VAC  
**Response Time:** \_\_\_\_\_sec    **Slope:** \_\_\_\_\_    **Offset:** \_\_\_\_\_  
**Lighting Bus 2:**  [N/A]  14 VDC  28 VDC  5 VDC  5VAC  
**Response Time:** \_\_\_\_\_sec    **Slope:** \_\_\_\_\_    **Offset:** \_\_\_\_\_

GTN 6XX/7XX PART 23 CONFIGURATION LOG – GTN #1 - CONTINUED

GTN SETUP MENU - CONTINUED

ENHANCED LIGHTING CONFIGURATION  
(IF ENABLED ON MAIN SYSTEM CONFIGURATION PAGE)

ENHANCED LIGHTING:  [N/A]

SOURCE SETTINGS

Display Source:  Photocell  Lighting Bus 1 Keys Source:  Photocell  Lighting Bus 1  Lighting Bus 2

Photocell: Response Time: \_\_\_\_\_sec

Lighting Bus 1:  [N/A] Input Type:  14 VDC  28 VDC  5 VDC  5VAC Response Time: \_\_\_\_ sec

Lighting Bus 2:  [N/A] Input Type:  14 VDC  28 VDC  5 VDC  5VAC Response Time: \_\_\_\_ sec

DAY MODE OPERATION

Photocell Transition: \_\_\_\_\_% Key Backlight Cutoff: \_\_\_\_\_%

DISPLAY

Minimum Level: \_\_\_\_\_% Maximum Level: \_\_\_\_\_%

Configure Curve

Vertex 1: Input Level \_\_\_\_% Output Level \_\_\_\_% Vertex 3: Input Level \_\_\_\_% Output Level \_\_\_\_%

Vertex 2: Input Level \_\_\_\_% Output Level \_\_\_\_% Vertex 4: Input Level \_\_\_\_% Output Level \_\_\_\_%

KEYS

Minimum Level: \_\_\_\_\_% Maximum Level: \_\_\_\_\_%

Configure Curve

Vertex 1: Input Level \_\_\_\_% Output Level \_\_\_\_% Vertex 3: Input Level \_\_\_\_% Output Level \_\_\_\_%

Vertex 2: Input Level \_\_\_\_% Output Level \_\_\_\_% Vertex 4: Input Level \_\_\_\_% Output Level \_\_\_\_%

NIGHT MODE OPERATION  [N/A]

Photocell Transition: \_\_\_\_\_% Key Backlight Cutoff: \_\_\_\_\_%

DISPLAY

Minimum Level: \_\_\_\_\_% Maximum Level: \_\_\_\_\_%

Configure Curve

Vertex 1: Input Level \_\_\_\_% Output Level \_\_\_\_% Vertex 3: Input Level \_\_\_\_% Output Level \_\_\_\_%

Vertex 2: Input Level \_\_\_\_% Output Level \_\_\_\_% Vertex 4: Input Level \_\_\_\_% Output Level \_\_\_\_%

KEYS

Minimum Level: \_\_\_\_\_% Maximum Level: \_\_\_\_\_%

Configure Curve

Vertex 1: Input Level \_\_\_\_% Output Level \_\_\_\_% Vertex 3: Input Level \_\_\_\_% Output Level \_\_\_\_%

Vertex 2: Input Level \_\_\_\_% Output Level \_\_\_\_% Vertex 4: Input Level \_\_\_\_% Output Level \_\_\_\_%

**GTN 6XX/7XX PART 23 CONFIGURATION LOG – GTN #1 - CONTINUED**

**GTN SETUP MENU - CONTINUED**

**AUDIO CONFIGURATION**

Alert Volume Level: \_\_\_\_\_%

**TRAFFIC CONFIGURATION**

Traffic Intruder Symbol Color:  Cyan  White      GTN Control of Traffic System:  Yes  No

**MAIN SYSTEM CONFIGURATION**

Airframe Type: Fixed Wing

Air/Ground Threshold: \_\_\_\_\_ KT

Air/Ground Discrete:  Active for Airborne  
 Active for Ground

GPS Antenna Height Above Ground: \_\_\_\_\_ FT

Fuel Type:  AV Gas  Jet A  Jet B

Synchro Heading Input:  Connected  Not Connected

GPS Select:  Auto  Prompt

Database SYNC:  Pilot Control  Enabled  Disabled

Heading Source Input:  Connected  Not Connected

Radio Altimeter Input:  Connected  Not Connected  
(Radio Altimeter not approved under this STC)

Altitude Source Input:  Connected  Not Connected

Enhanced Lighting Mode:  Enabled  Disabled

Voice Command:  Enabled  Disabled

(Voice Command not approved under this STC)

Pilot Position:  Right  Left

Crossfill Status Alert:  Enabled  Disabled

(Crossfill Status Alert not approved under this STC)

System ID:  GTN 1  GTN 2

**COM CONFIGURATION (GTN 635/650/750 ONLY)**

COM Radio:  Enabled  Disabled

MIC 1 Gain: \_\_\_\_\_dB

COM RF Squelch: \_\_\_\_\_%

Sidetone Volume: \_\_\_\_\_dB

**VOR/LOC/GS CONFIGURATION (GTN 650/750 ONLY)**

NAV Radio:  Enabled  Disabled

ARINC 429 TX Speed:  High  Low

ARINC 429 SDI:  Common  VOR/ILS 1  VOR/ILS 2

DME Mode:  Directed Freq. 1  Directed Freq. 2

DME Channel Mode: \_\_\_\_\_

**ARINC 453/708 CONFIGURATION**

Port 1: External Weather Radar:  Off  On

**GTN 6XX/7XX PART 23 CONFIGURATION LOG – GTN #1 - CONTINUED**

**GTN SETUP MENU - CONTINUED**

**DISCRETES CONFIGURATION**

J1001-16: _____	J1001-52: <u>VLOC Annunciate</u> _____
J1001-36: _____	J1001-53: _____
J1001-37: _____	J1001-54: _____
J1001-38: _____	J1001-55: _____
J1001-39: _____	J1001-56: <u>ILS/GPS Approach Annunciate</u> _____
J1002-01: <u>Demo Mode Select</u> _____	J1001-57: _____
J1002-10: _____	J1001-71: _____
J1002-11: _____	J1001-72: _____
J1005-33*: <u>Synchro Valid - Low</u> _____	J1001-73: _____
J1005-53*: _____	J1001-74: _____
J1005-54*: <u>Synchro Valid - High</u> _____	J1001-75: _____
J1001-14: _____	J1001-76: _____
J1001-15: <u>GPS Annunciate</u> _____	J1002-03: _____
J1001-33: _____	J1002-12: _____
J1001-34: _____	J1005-13*: _____
J1001-35: _____	J1005-34*: _____

\* Available only on GTN 725 and GTN 750 units.

**WAYPOINTS CONFIGURATION**

**Mark on Target:**  Enabled  Disabled (Mark on Target not approved under this STC)

**OWNSHIP CONFIGURATION**

**Ownship Configuration:** \_\_\_\_\_

Selection of ownship color magenta is not covered under this STC.

**GTN 6XX/7XX PART 23 CONFIGURATION LOG – GTN #1 - CONTINUED**

**GTN OPTIONS MENU**

**TERRAIN CONFIGURATION**

**Terrain Mode:**  Terrain Proximity  TAWS A  TAWS B

**TAWS Audio Clips**

**GSD Caution:** "Glideslope"

**NCR Caution:**  "Don't Sink"  
 "Too Low Terrain"

**ECR Caution:** "Terrain, Terrain"

**EDR Caution:** "Sink Rate"

**FIT Flap Caution:** "Too Low Flaps"

**FIT Gear Caution:** "Too Low Gear"

**PDA Caution:** "Too Low Terrain"

**FIT Speed Caution:** "Too Low Terrain"

**FIT Takeoff Caution:** "Too Low Terrain"

**IOI Caution:**  "Obstacle Ahead" x2  
 "Caution Obstacle" x2

**ROC Caution:**  "Obstacle Ahead" x2  
 "Caution Obstacle" x2

**ILI Caution:**  "Wire Ahead" x2  
 "Caution Wire" x2

**RLC Caution:**  "Wire Ahead" x2  
 "Caution Wire" x2

**ITI Caution:**  "Terrain Ahead" x2  
 "Caution Terrain" x2

**RTC Caution:**  "Terrain Ahead" x2  
 "Caution Terrain" x2

**IOI Warning:**  "Obstacle Ahead Pull Up" x2  
 "Obstacle" x2 "Pull Up" x2

**ILI Warning:**  "Wire Ahead Pull Up" x2  
 "Wire" x2 "Pull Up" x2

**RLC Warning:**  "Wire Ahead Pull Up" x2  
 "Wire" x2 "Pull Up" x2

**ROC Warning:**  "Obstacle Ahead Pull Up" x2  
 "Obstacle" x2 "Pull Up" x2

**ITI Warning:**  "Terrain Ahead Pull Up" x2  
 "Terrain" x2 "Pull Up" x2

**RTC Warning:**  "Terrain Ahead Pull Up" x2  
 "Terrain" x2 "Pull Up" x2

**ECR Warning:** "Tone Tone Pull Up"

**EDR Warning:** "Tone Tone Pull Up"  
**500 FT:** "Five Hundred"

**TAWS Settings**

**Runway Surface:**  Any  Hard Only  Hard/Soft  Water

**Minimum Runway Length:** \_\_\_\_\_ FT

**Approach Speed: (TAWS A Only)**  [N/A] \_\_\_\_\_ KT

**MAX Flap Extension Speed: (TAWS A Only)**  [N/A] \_\_\_\_\_ KT

**MAX Gear Extension Speed: (TAWS A Only)**  [N/A] \_\_\_\_\_ KT

**Flap Position Discrete: (TAWS A Only)**  [N/A]  Active for Landing  Active for Non-Landing

**Landing Gear Position Discrete: (TAWS A Only)**  [N/A]  Active for Landing  Active for Non-Landing

## GTN 6XX/7XX PART 23 CONFIGURATION LOG – GTN #1 – CONTINUED

### GTN OPTIONS MENU - CONTINUED

#### CHARTS

Charts Configured:  None  FliteCharts  ChartView

---

#### COM TRANSMIT POWER

Com Transmit Power:  Normal  16W  N/A

---

#### WEATHER RADAR

Digital Radar:  N/A  Enabled

Turbulence Detection:  N/A  Enabled

Ground Clutter Suppression:  N/A  Enabled

#### NOTES

## GTN 6XX/7XX PART 23 CONFIGURATION LOG – GTN #2

### SYSTEM INFORMATION

#### GTN SOFTWARE VERSIONS

##### Main Board

Software: \_\_\_\_\_ Boot Code: \_\_\_\_\_ FPGA: \_\_\_\_\_

##### Touch Controller Board

Software: \_\_\_\_\_ Boot Code: \_\_\_\_\_

##### GPS/WAAS Board

Software: \_\_\_\_\_

##### NAV Board [N/A]

Software: \_\_\_\_\_ Boot Code: \_\_\_\_\_ FPGA: \_\_\_\_\_

##### COM Board [N/A]

Software: \_\_\_\_\_ Boot Code: \_\_\_\_\_ FPGA: \_\_\_\_\_

### GTN SETUP MENU

#### ARINC 429 CONFIGURATION

In 1:  High  Low \_\_\_\_\_ Out 1:  High  Low \_\_\_\_\_

In 2:  High  Low \_\_\_\_\_ Out 2:  High  Low \_\_\_\_\_

In 3:  High  Low \_\_\_\_\_ Out 3:  High  Low \_\_\_\_\_

In 4:  High  Low \_\_\_\_\_ SDI:  Common  LNAV 1  LNAV 2

---

#### RS-232 CONFIGURATION

In 1: \_\_\_\_\_ Out 1: \_\_\_\_\_

In 2: \_\_\_\_\_ Out 2: \_\_\_\_\_

In 3: \_\_\_\_\_ Out 3: \_\_\_\_\_

In 4: \_\_\_\_\_ Out 4: \_\_\_\_\_

In 5: \_\_\_\_\_ Out 5: \_\_\_\_\_

In 6: \_\_\_\_\_ Out 6: \_\_\_\_\_



**GTN 6XX/7XX PART 23 CONFIGURATION LOG – GTN #2 - CONTINUED**

**GTN SETUP MENU - CONTINUED**

**HSDB (ETHERNET) CONFIGURATION**

**Port 1:**  Connected     Not Connected   
 **Port 3:**  Connected     Not Connected  
**Port 2:**  Connected     Not Connected   
 **Port 4:**  Connected     Not Connected

**INTERFACED EQUIPMENT CONFIGURATION**

**Cross-Side Navigator:**  Present  Not Present  
**GDU #1:**                     Present  Not Present    Type: \_\_\_\_\_  
**GDU #2:**                     Present  Not Present    Type: \_\_\_\_\_  
**GDU #3:**                     Present  Not Present    Type: \_\_\_\_\_  
**GDL 69/69A:**                 Present  Not Present    Type: \_\_\_\_\_  
**GDL 88/88D:**                 Present  Not Present    Type: \_\_\_\_\_  
**Transponder #1:**            Present  Not Present    Type: \_\_\_\_\_  
**Transponder #2:**            Present  Not Present    Type: \_\_\_\_\_  
**GSR 56:**                     Present  Not Present  
**GWX:**                         Present  Not Present    Type: \_\_\_\_\_

**MAIN INDICATOR (ANALOG) CONFIGURATION**

**CDI Key:**  Enabled    Disabled    N/A               
 **Selected Course for VLOC:**  Allow    Ignore    N/A  
**Selected Course for GPS:**    Allow    Ignore       
 **V-Flag State:**  Normal    Declutter

**LIGHTING CONFIGURATION  
(IF ENHANCED LIGHTING IS DISABLED)**

**Lighting Configuration:**    [N/A]  
**Display Source:**  Photocell    Lighting Bus 1   
 **Keys Source:**    Photocell    Lighting Bus 1    Lighting Bus 2  
**Display Minimum Level:** \_\_\_\_\_%   
 **Display Minimum Level:** \_\_\_\_\_%  
**Configure Photocell:**    [N/A]  
**Response Time:** \_\_\_\_\_ sec   
**Slope:** \_\_\_\_\_   
**Offset:** \_\_\_\_\_  
**Photocell Override**  
**Key Backlight Cutoff:** \_\_\_\_\_%   
**Photocell Transition:** \_\_\_\_\_  
**Configure Lighting Bus:**    [N/A]  
**Lighting Bus 1:**  14 VDC    28 VDC    5 VDC    5VAC  
**Response Time:** \_\_\_\_\_ sec   
**Slope:** \_\_\_\_\_   
**Offset:** \_\_\_\_\_  
**Lighting Bus 2:**  [N/A]    14 VDC    28 VDC    5 VDC    5VAC  
**Response Time:** \_\_\_\_\_ sec   
**Slope:** \_\_\_\_\_   
**Offset:** \_\_\_\_\_

**GTN 6XX/7XX PART 23 CONFIGURATION LOG – GTN #2 - CONTINUED**

**GTN SETUP MENU - CONTINUED**

**ENHANCED LIGHTING CONFIGURATION  
(IF ENABLED ON MAIN SYSTEM CONFIGURATION PAGE)**

**ENHANCED LIGHTING:**  [N/A]

**SOURCE SETTINGS**

**Display Source:**  Photocell  Lighting Bus 1 **Keys Source:**  Photocell  Lighting Bus 1  Lighting Bus 2

**Photocell:** Response Time: \_\_\_\_\_ sec

**Lighting Bus 1:**  [N/A] Input Type:  14 VDC  28 VDC  5 VDC  5VAC Response Time: \_\_\_\_\_ sec

**Lighting Bus 2:**  [N/A] Input Type:  14 VDC  28 VDC  5 VDC  5VAC Response Time: \_\_\_\_\_ sec

**DAY MODE OPERATION**

**Photocell Transition:** \_\_\_\_\_% **Key Backlight Cutoff:** \_\_\_\_\_%

**DISPLAY**

**Minimum Level:** \_\_\_\_\_% **Maximum Level:** \_\_\_\_\_%

**Configure Curve**

**Vertex 1:** Input Level \_\_\_\_\_% **Output Level** \_\_\_\_\_% **Vertex 3:** Input Level \_\_\_\_\_% **Output Level** \_\_\_\_\_%

**Vertex 2:** Input Level \_\_\_\_\_% **Output Level** \_\_\_\_\_% **Vertex 4:** Input Level \_\_\_\_\_% **Output Level** \_\_\_\_\_%

**KEYS**

**Minimum Level:** \_\_\_\_\_% **Maximum Level:** \_\_\_\_\_%

**Configure Curve**

**Vertex 1:** Input Level \_\_\_\_\_% **Output Level** \_\_\_\_\_% **Vertex 3:** Input Level \_\_\_\_\_% **Output Level** \_\_\_\_\_%

**Vertex 2:** Input Level \_\_\_\_\_% **Output Level** \_\_\_\_\_% **Vertex 4:** Input Level \_\_\_\_\_% **Output Level** \_\_\_\_\_%

**NIGHT MODE OPERATION**  [N/A]

**Photocell Transition:** \_\_\_\_\_% **Key Backlight Cutoff:** \_\_\_\_\_%

**DISPLAY**

**Minimum Level:** \_\_\_\_\_% **Maximum Level:** \_\_\_\_\_%

**Configure Curve**

**Vertex 1:** Input Level \_\_\_\_\_% **Output Level** \_\_\_\_\_% **Vertex 3:** Input Level \_\_\_\_\_% **Output Level** \_\_\_\_\_%

**Vertex 2:** Input Level \_\_\_\_\_% **Output Level** \_\_\_\_\_% **Vertex 4:** Input Level \_\_\_\_\_% **Output Level** \_\_\_\_\_%

**KEYS**

**Minimum Level:** \_\_\_\_\_% **Maximum Level:** \_\_\_\_\_%

**Configure Curve**

**Vertex 1:** Input Level \_\_\_\_\_% **Output Level** \_\_\_\_\_% **Vertex 3:** Input Level \_\_\_\_\_% **Output Level** \_\_\_\_\_%

**Vertex 2:** Input Level \_\_\_\_\_% **Output Level** \_\_\_\_\_% **Vertex 4:** Input Level \_\_\_\_\_% **Output Level** \_\_\_\_\_%

**GTN 6XX/7XX PART 23 CONFIGURATION LOG – GTN #2 - CONTINUED**

**GTN SETUP MENU - CONTINUED**

**AUDIO CONFIGURATION**

Alert Volume Level: \_\_\_\_\_%

**TRAFFIC CONFIGURATION**

Traffic Intruder Symbol Color:  Cyan  White      GTN Control of Traffic System:  Yes  No

**MAIN SYSTEM CONFIGURATION**

Airframe Type: Fixed Wing

Heading Source Input:  Connected  Not Connected

Air/Ground Threshold: \_\_\_\_\_ KT

Radio Altimeter Input:  Connected  Not Connected

Air/Ground Discrete:  Active for Airborne  
 Active for Ground

(Radio Altimeter Input not approved under this STC)

Altitude Source Input:  Connected  Not Connected

Enhanced Lighting Mode:  Enabled  Disabled

Voice Command:  Enabled  Disabled

GPS Antenna Height Above Ground: \_\_\_\_\_ FT

(Voice Command not approved under this STC)

Fuel Type:  AV Gas  Jet A  Jet B

Pilot Position:  Right  Left

Synchro Heading Input:  Connected  Not Connected

Crossfill Status Alert:  Enabled  Disabled

GPS Select:  Auto  Prompt

(Crossfill Status Alert not approved under this STC)

Database SYNC:  Pilot Control  Enabled  Disabled      System ID:  GTN 1  GTN 2

**COM CONFIGURATION (GTN 635/650/750 ONLY)**

COM Radio:  Enabled  Disabled

COM RF Squelch: \_\_\_\_\_%

MIC 1 Gain: \_\_\_\_\_dB

Sidetone Volume: \_\_\_\_\_dB

**VOR/LOC/GS CONFIGURATION (GTN 650/750 ONLY)**

NAV Radio:  Enabled  Disabled

DME Mode:  Directed Freq. 1  Directed Freq. 2

ARINC 429 TX Speed:  High  Low

DME Channel Mode: \_\_\_\_\_

ARINC 429 SDI:  Common  VOR/ILS 1  VOR/ILS 2

**ARINC 453/708 CONFIGURATION**

Port 1: External Weather Radar:  Off  On

GTN 6XX/7XX PART 23 CONFIGURATION LOG – GTN #2 - CONTINUED

**GTN SETUP MENU - CONTINUED**

**DISCRETES CONFIGURATION**

J1001-16: _____	J1001-52: <u>VLOC Annunciate</u> _____
J1001-36: _____	J1001-53: _____
J1001-37: _____	J1001-54: _____
J1001-38: _____	J1001-55: _____
J1001-39: _____	J1001-56: <u>ILS/GPS Approach Annunciate</u> _____
J1002-01: <u>Demo Mode Select</u> _____	J1001-57: _____
J1002-10: _____	J1001-71: _____
J1002-11: _____	J1001-72: _____
J1005-33*: <u>Synchro Valid - Low</u> _____	J1001-73: _____
J1005-53*: _____	J1001-74: _____
J1005-54*: <u>Synchro Valid - High</u> _____	J1001-75: _____
J1001-14: _____	J1001-76: _____
J1001-15: <u>GPS Annunciate</u> _____	J1002-03: _____
J1001-33: _____	J1005-12*: _____
J1001-34: _____	J1005-13*: _____
J1001-35: _____	J1005-34*: _____

\* Available only on GTN 725 and GTN 750 units.

**WAYPOINTS CONFIGURATION**

**Mark on Target:**  Enabled  Disabled (Mark on Target not approved under this STC)

**OWNSHIP CONFIGURATION**

**Ownship Configuration:** \_\_\_\_\_

Selection of ownship color magenta is not covered under this STC.

**GTN 6XX/7XX PART 23 CONFIGURATION LOG – GTN #2 - CONTINUED**

**GTN OPTIONS MENU**

**TERRAIN CONFIGURATION**

**Terrain Mode:**  Terrain Proximity  TAWS A  TAWS B

**TAWS Audio Clips**

**GSD Caution:** “Glideslope”

**NCR Caution:**  “Don’t Sink”  
 “Too Low Terrain”

**ECR Caution:** “Terrain, Terrain”

**EDR Caution:** “Sink Rate”

**FIT Flap Caution:** “Too Low Flaps”

**FIT Gear Caution:** “Too Low Gear”

**PDA Caution:** “Too Low Terrain”

**FIT Speed Caution:** “Too Low Terrain”

**FIT Takeoff Caution:** “Too Low Terrain”

**IOI Caution:**  “Obstacle Ahead” x2  
 “Caution Obstacle” x2

**ROC Caution:**  “Obstacle Ahead” x2  
 “Caution Obstacle” x2

**ILI Caution:**  “Wire Ahead” x2  
 “Caution Wire” x2

**RLC Caution:**  “Wire Ahead” x2  
 “Caution Wire” x2

**ITI Caution:**  “Terrain Ahead” x2  
 “Caution Terrain” x2

**RTC Caution:**  “Terrain Ahead” x2  
 “Caution Terrain” x2

**IOI Warning:**  “Obstacle Ahead Pull Up” x2  
 “Obstacle” x2 “Pull Up” x2

**ILI Warning:**  “Wire Ahead Pull Up” x2  
 “Wire” x2 “Pull Up” x2

**RLC Warning:**  “Wire Ahead Pull Up” x2  
 “Wire” x2 “Pull Up” x2

**ROC Warning:**  “Obstacle Ahead Pull Up” x2  
 “Obstacle” x2 “Pull Up” x2

**ITI Warning:**  “Terrain Ahead Pull Up” x2  
 “Terrain” x2 “Pull Up” x2

**RTC Warning:**  “Terrain Ahead Pull Up” x2  
 “Terrain” x2 “Pull Up” x2

**ECR Warning:** “Tone Tone Pull Up”

**EDR Warning:** “Tone Tone Pull Up”  
**500 FT:** “Five Hundred”

**TAWS Settings**

**Runway Surface:**  Any  Hard Only  Hard/Soft  Water

**Minimum Runway Length:** \_\_\_\_\_ FT

**Approach Speed: (TAWS A Only)**  [N/A] \_\_\_\_\_ KT

**MAX Flap Extension Speed: (TAWS A Only)**  [N/A] \_\_\_\_\_ KT

**MAX Gear Extension Speed: (TAWS A Only)**  [N/A] \_\_\_\_\_ KT

**Flap Position Discrete: (TAWS A Only)**  [N/A]  Active for Landing  Active for Non-Landing

**Landing Gear Position Discrete: (TAWS A Only)**  [N/A]  Active for Landing  Active for Non-Landing

## GTN 6XX/7XX PART 23 CONFIGURATION LOG – GTN #2 – CONTINUED

### GTN OPTIONS MENU - CONTINUED

#### CHARTS

Charts Configured:     None     FliteCharts     ChartView

#### COM TRANSMIT POWER

Com Transmit Power:     Normal     16W     N/A

#### WEATHER RADAR

Digital Radar:                     N/A  Enabled

Turbulence Detection:             N/A  Enabled

Ground Clutter Suppression:     N/A  Enabled

#### NOTES

## GTN 6XX/7XX PART 23 CONFIGURATION LOG

**GMA 35 AUDIO PANEL CONFIGURATION**  [N/A] Software Version: \_\_\_\_\_

<b>AUDIO PANEL CONFIGURATION</b>
----------------------------------

**INTERCOM**

- Mute PASS to CREW intercom during alerts  True  False
- Mute PASS to CREW intercom during selected audio  True  False
- Passengers hear selected audio  True  False
- Receiver 5 is passenger  True  False

**PASSENGER ADDRESS**

- Disable PA functionality  True  False

**MUSIC**

- Mute PASS music during intercom  True  False

**ALERTS**

- Passengers hear alerts  True  False

**SECONDARY RADIOS**

- Mute secondary radios on primary radio reception

**SIDETONE**

- Audio Processor generates COM1 internal sidetone  True  False
- Audio Processor generates COM2 internal sidetone  True  False
- Audio Processor generates COM3 internal sidetone  True  False

**COM 1/2 CONNECTIONS**

- COM 1 is connected as COM2  True  False

**SPEAKER**

- Ambient Noise Mic On  True  False

**HEADSET**

- Ambient Noise Mic On  True  False

**INPUT VOLUME**

- |  |                       |  |
|--|-----------------------|--|
| Alert 1 input audio volume _____dB       | Marker volume _____dB |  |
| Alert 2 input audio volume _____dB       | Music 1 _____dB       |  |
| Alert 3 input audio volume _____dB       | Music 2 _____dB       |  |
| Alert 4 input audio volume _____dB       | Telephone _____dB     |  |
| Failsafe Warn input audio volume _____dB | Audio Clips _____dB   |  |

**SPEAKER VOLUME**

- |                  |                    |                    |                         |
|------------------|--------------------|--------------------|-------------------------|
| Pilot PA _____dB | Crew Audio _____dB | Copilot PA _____dB | Alert Audio Sum _____dB |
|------------------|--------------------|--------------------|-------------------------|

**SQUELCH THRESHOLD**

- |              |               |               |                |
|--------------|---------------|---------------|----------------|
| COM1 _____dB | NAV1 _____dB  | RCVR4 _____dB | ALERT1 _____dB |
| COM2 _____dB | NAV2 _____dB  | RCVR5 _____dB | ALERT2 _____dB |
| COM3 _____dB | RCVR3 _____dB | WARN1 _____dB | ALERT3 _____dB |
|              |               |               | ALERT4 _____dB |

**OTHER**

- Marker Beacon high sense threshold \_\_\_\_\_dB
- Marker Beacon low sense threshold \_\_\_\_\_dB
- Marker external lamp lighting offset \_\_\_\_\_dB

### GTN 6XX/7XX PART 23 CONFIGURATION LOG

#### GMA 35 AUDIO PANEL CONFIGURATION - CONTINUED

<b>AUDIO PANEL DISCRETES</b>
------------------------------

J3501-16: \_\_\_\_\_

J3502-14 \_\_\_\_\_

J3502-30 \_\_\_\_\_

<b>AUDIO PANEL CONNECTED RADIOS</b>
-------------------------------------

COM 2:             Present  Not Present

COM 3:             Present  Not Present

NAV 1:             Present  Not Present

NAV 2:             Present  Not Present

RCVR 3:            Present  Not Present            Type: \_\_\_\_\_

RCVR 4:            Present  Not Present            Type: \_\_\_\_\_

RCVR 5:            Present  Not Present            Type: \_\_\_\_\_

TEL:               Present  Not Present

MUSIC 1:          Present  Not Present

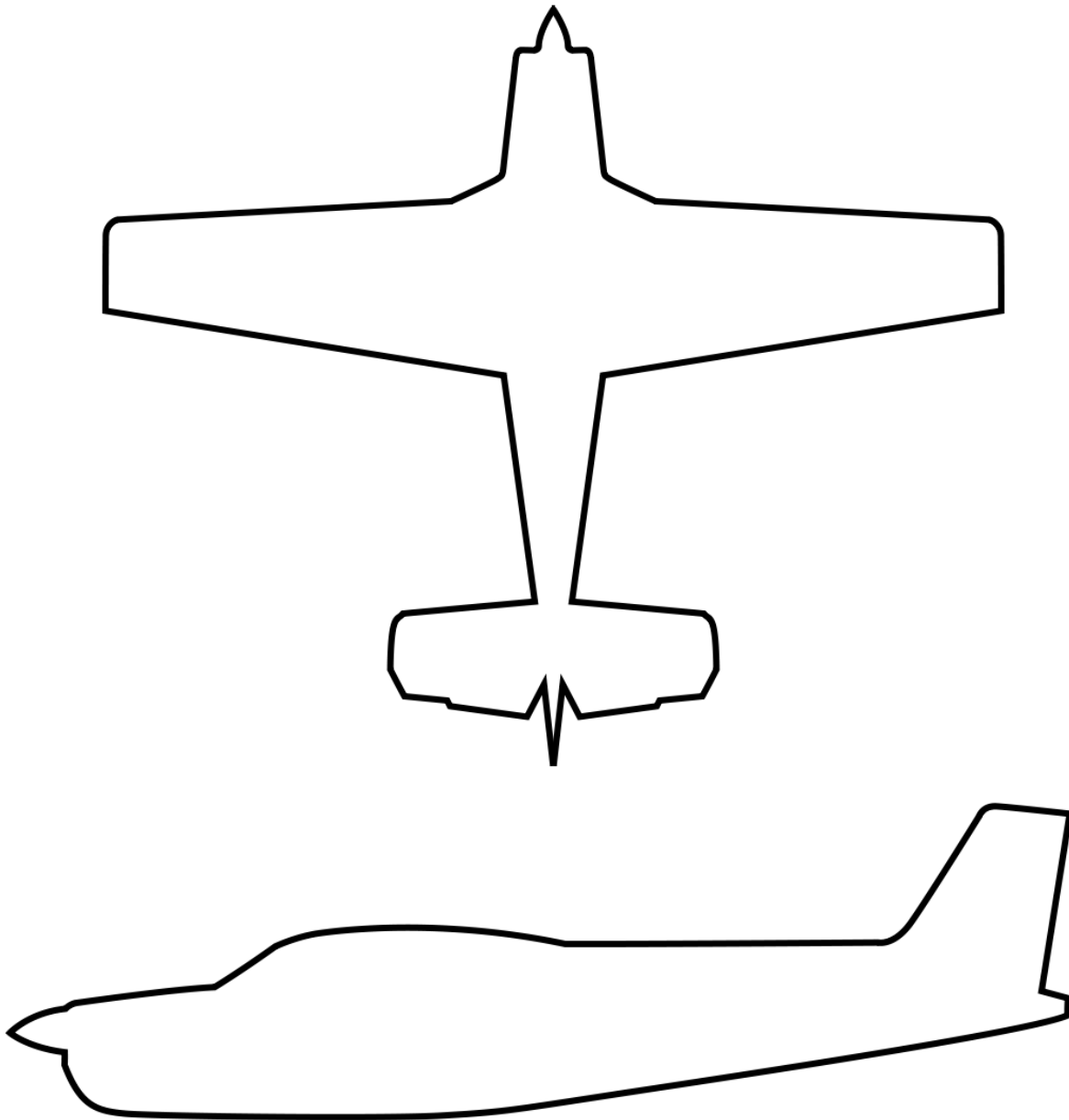
MUSIC 2:          Present  Not Present

MARKER BEACON:  Present  Not Present



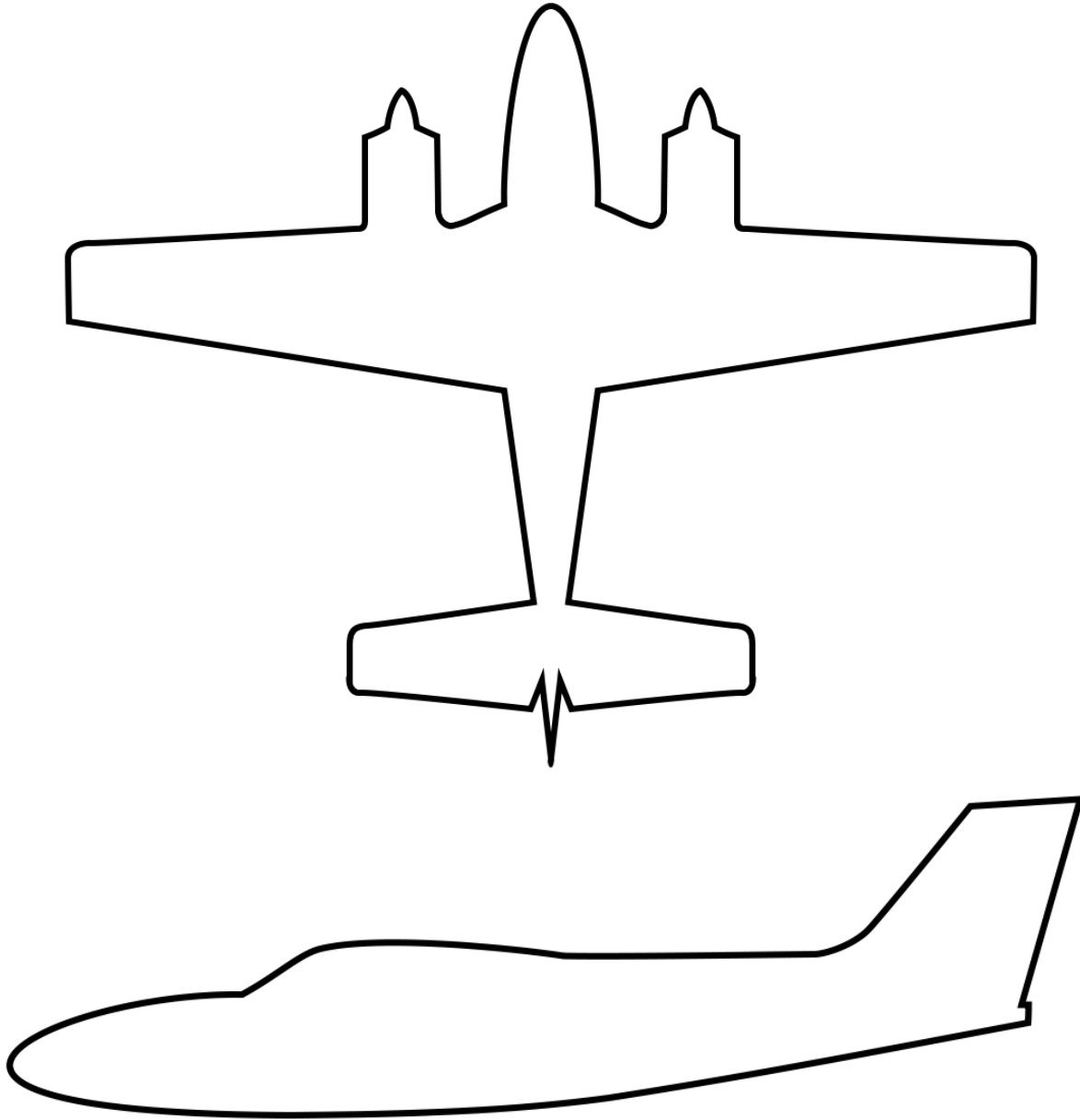
**Wire Routing****Single Engine**

The following diagram depicts approximate location of all LRUs and antenna(s) along with the wire routing for the GTN 6XX/7XX, GMA 35, and Flight Stream 210 throughout the aircraft structure for a single-engine aircraft.



**Twin Engine**

The following diagram depicts approximate location of all LRUs and antenna(s) along with the wire routing for the GTN 6XX/7XX, GMA 35, and Flight Stream 210 throughout the aircraft structure for a twin-engine aircraft.



### Aircraft Wiring Diagrams

Attach the aircraft wiring diagrams showing the equipment installed by this STC or a markup of the interconnect diagrams from the STC installation manual detailing which equipment was installed and how it was connected.



#### NOTE

*Electrical loads for equipment installed by this STC are listed in the GTN 6XX/7XX AML STC Installation Manual.*

### Aircraft Wiring Diagrams

Check all that apply and add a brief description of the location.

#### SPLITTER

Included in Installation:  Yes  No

Description of Location: \_\_\_\_\_

#### DIPLEXER

Included in Installation:  Yes  No

Description of Location: \_\_\_\_\_

## Equipment Interfaced to the GTN 6XX/7XX

The purpose of the GTN Interfaced Equipment Lists (GTN #1 and GTN #2 (if applicable)) is to document the equipment that is interfaced to the GTN(s). Use the following guidance when filling out these tables:

- **Installed?:** Check “Yes” if the equipment is installed in the aircraft and interfaced to the GTN. If the equipment is not installed in the aircraft, check “No.” If the equipment is installed in the aircraft but not interfaced to the GTN, check “No.”
- **Model(s):** Enter the model number or numbers of the equipment that is interfaced to the GTN.
- **Interface(s):** Enter the type of interface used to connect to the GTN.
- **GTN Port Numbers:** When applicable, enter the GTN port number or numbers used for the interface. This column is generally applicable only to serial ports such as RS-232 and ARINC 429.
- **Covered by GTN STC Installation Manual?:** See Section 3. Check “Yes” if the equipment is listed in Appendix C of the GTN 6XX/7XX AML STC Installation Manual. Check “No” if the equipment is not listed in Appendix C of the GTN 6XX/7XX AML STC Installation Manual.



### NOTE

*This information is optional and is not required to be completed or maintained with the aircraft records.*

## GTN #1 Interfaced Equipment List

### Equipment Type

**COM Antenna**      **NAV Antenna**      **Marker Beacon Antenna**  
Installed:  Yes  No    Installed:  Yes  No    Installed:  Yes  No

#### AUDIO PANEL

Installed:  Yes  No

Model(s): \_\_\_\_\_

Interface(s) (Analog, RS-232, ARINC 429, etc.): \_\_\_\_\_

GTN Port Number(s) (if applicable): \_\_\_\_\_

Covered by GTN STC Installation Manual?  Yes  No

---

#### AIR DATA COMPUTER(S)

Installed:  Yes  No

Model(s): \_\_\_\_\_

Interface(s) (Analog, RS-232, ARINC 429, etc.): \_\_\_\_\_

GTN Port Number(s) (if applicable): \_\_\_\_\_

Covered by GTN STC Installation Manual?  Yes  No

---

#### ALTITUDE SERIALIZER OR FUEL/AIR DATA

Installed:  Yes  No

Model(s): \_\_\_\_\_

Interface(s) (Analog, RS-232, ARINC 429, etc.): \_\_\_\_\_

GTN Port Number(s) (if applicable): \_\_\_\_\_

Covered by GTN STC Installation Manual?  Yes  No

---

#### AUTOPILOT

Installed:  Yes  No

Model(s): \_\_\_\_\_

Interface(s) (Analog, RS-232, ARINC 429, etc.): \_\_\_\_\_

GTN Port Number(s) (if applicable): \_\_\_\_\_

Covered by GTN STC Installation Manual?  Yes  No

**GTN #1 Interfaced Equipment – CONTINUED****AUTOPILOT ROLL STEERING CONVERTER**Installed:  Yes  No

Model(s): \_\_\_\_\_

Interface(s) (Analog, RS-232, ARINC 429, etc.): \_\_\_\_\_

GTN Port Number(s) (if applicable): \_\_\_\_\_

Covered by GTN STC Installation Manual?  Yes  No

---

**EFIS DISPLAY(S)**Installed:  Yes  No

Model(s): \_\_\_\_\_

Interface(s) (Analog, RS-232, ARINC 429, etc.): \_\_\_\_\_

GTN Port Number(s) (if applicable): \_\_\_\_\_

Covered by GTN STC Installation Manual?  Yes  No

---

**EHSI(S)**Installed:  Yes  No

Model(s): \_\_\_\_\_

Interface(s) (Analog, RS-232, ARINC 429, etc.): \_\_\_\_\_

GTN Port Number(s) (if applicable): \_\_\_\_\_

Covered by GTN STC Installation Manual?  Yes  No

---

**GSR 56**Installed:  Yes  No

Model(s): \_\_\_\_\_

Interface(s) (Analog, RS-232, ARINC 429, etc.): \_\_\_\_\_

GTN Port Number(s) (if applicable): \_\_\_\_\_

Covered by GTN STC Installation Manual?  Yes  No

**GTN #1 Interfaced Equipment – CONTINUED**

GDL 88

Installed:  Yes  No

Model(s): \_\_\_\_\_

Interface(s) (Analog, RS-232, ARINC 429, etc.): \_\_\_\_\_

GTN Port Number(s) (if applicable): \_\_\_\_\_

Covered by GTN STC Installation Manual?  Yes  No

---

**IRU/AHRS UNIT(S)**Installed:  Yes  No

Model(s): \_\_\_\_\_

Interface(s) (Analog, RS-232, ARINC 429, etc.): \_\_\_\_\_

GTN Port Number(s) (if applicable): \_\_\_\_\_

Covered by GTN STC Installation Manual?  Yes  No

---

**TRANSPONDER(S)**Installed:  Yes  No

Model(s): \_\_\_\_\_

Interface(s) (Analog, RS-232, ARINC 429, etc.): \_\_\_\_\_

GTN Port Number(s) (if applicable): \_\_\_\_\_

Covered by GTN STC Installation Manual?  Yes  No

---

**NAV INDICATORS**Installed:  Yes  No

Model(s): \_\_\_\_\_

Interface(s) (Analog, RS-232, ARINC 429, etc.): \_\_\_\_\_

GTN Port Number(s) (if applicable): \_\_\_\_\_

Covered by GTN STC Installation Manual?  Yes  No

**GTN #1 Interfaced Equipment – CONTINUED****TRAFFIC SOURCE**Installed:  Yes  No

Model(s): \_\_\_\_\_

Interface(s) (Analog, RS-232, ARINC 429, etc.): \_\_\_\_\_

GTN Port Number(s) (if applicable): \_\_\_\_\_

Covered by GTN STC Installation Manual?  Yes  No**TAWS (EXTERNAL TO GTN)**Installed:  Yes  No

Model(s): \_\_\_\_\_

Interface(s) (Analog, RS-232, ARINC 429, etc.): \_\_\_\_\_

GTN Port Number(s) (if applicable): \_\_\_\_\_

Covered by GTN STC Installation Manual?  Yes  No**WEATHER SOURCE: WX-500 STORMSCOPE**Installed:  Yes  No

Model(s): \_\_\_\_\_

Interface(s) (Analog, RS-232, ARINC 429, etc.): \_\_\_\_\_

GTN Port Number(s) (if applicable): \_\_\_\_\_

Covered by GTN STC Installation Manual?  Yes  No**WEATHER SOURCE: GDL 69/69A**Installed:  Yes  No

Model(s): \_\_\_\_\_

Interface(s) (Analog, RS-232, ARINC 429, etc.): \_\_\_\_\_

GTN Port Number(s) (if applicable): \_\_\_\_\_

Covered by GTN STC Installation Manual?  Yes  No



**GTN #1 Interfaced Equipment – CONTINUED**

**DME**

Installed:  Yes  No

Model(s): \_\_\_\_\_

Interface(s) (Analog, RS-232, ARINC 429, etc.): \_\_\_\_\_

GTN Port Number(s) (if applicable): \_\_\_\_\_

Covered by GTN STC Installation Manual?  Yes  No

---

**CDI/HSI SOURCE SELECTION ANNUNCIATOR**

Installed:  Yes  No

Model(s): \_\_\_\_\_

Interface(s) (Analog, RS-232, ARINC 429, etc.): \_\_\_\_\_

GTN Port Number(s) (if applicable): \_\_\_\_\_

Covered by GTN STC Installation Manual?  Yes  No

---

**TAWS ANNUNCIATOR PANEL**

Installed:  Yes  No

Model(s): \_\_\_\_\_

Interface(s) (Analog, RS-232, ARINC 429, etc.): \_\_\_\_\_

GTN Port Number(s) (if applicable): \_\_\_\_\_

Covered by GTN STC Installation Manual?  Yes  No

---

**MULTIFUNCTION DISPLAY(S)**

Installed:  Yes  No

Model(s): \_\_\_\_\_

Interface(s) (Analog, RS-232, ARINC 429, etc.): \_\_\_\_\_

GTN Port Number(s) (if applicable): \_\_\_\_\_

Covered by GTN STC Installation Manual?  Yes  No

**GTN #1 Interfaced Equipment – CONTINUED**

**INTERFACE ADAPTER(S) (E.G., GAD 42)**

Installed:  Yes  No

Model(s): \_\_\_\_\_

Interface(s) (Analog, RS-232, ARINC 429, etc.): \_\_\_\_\_

GTN Port Number(s) (if applicable): \_\_\_\_\_

Covered by GTN STC Installation Manual?  Yes  No

---

**SYNCHRO HEADING SOURCE**

Installed:  Yes  No

Model(s): \_\_\_\_\_

Interface(s) (Analog, RS-232, ARINC 429, etc.): \_\_\_\_\_

GTN Port Number(s) (if applicable): \_\_\_\_\_

Covered by GTN STC Installation Manual?  Yes  No

---

**WEATHER RADAR**

Installed:  Yes  No

Model(s): \_\_\_\_\_

Interface(s) (Analog, RS-232, ARINC 429, etc.): \_\_\_\_\_

GTN Port Number(s) (if applicable): \_\_\_\_\_

Covered by GTN STC Installation Manual?  Yes  No

If a second GTN is not installed in the aircraft, check this box and do not fill out the following table.

[GTN #2 Not Installed]

## GTN #2 Interfaced Equipment

### Equipment Type

**COM Antenna**                      **NAV Antenna**                      **Marker Beacon Antenna**

Installed:  Yes  No    Installed:  Yes  No    Installed:  Yes  No

#### AUDIO PANEL

Installed:  Yes  No

Model(s): \_\_\_\_\_

Interface(s) (Analog, RS-232, ARINC 429, etc.): \_\_\_\_\_

GTN Port Number(s) (if applicable): \_\_\_\_\_

Covered by GTN STC Installation Manual?  Yes  No

---

#### AIR DATA COMPUTER(S)

Installed:  Yes  No

Model(s): \_\_\_\_\_

Interface(s) (Analog, RS-232, ARINC 429, etc.): \_\_\_\_\_

GTN Port Number(s) (if applicable): \_\_\_\_\_

Covered by GTN STC Installation Manual?  Yes  No

---

#### ALTITUDE SERIALIZER OR FUEL/AIR DATA

Installed:  Yes  No

Model(s): \_\_\_\_\_

Interface(s) (Analog, RS-232, ARINC 429, etc.): \_\_\_\_\_

GTN Port Number(s) (if applicable): \_\_\_\_\_

Covered by GTN STC Installation Manual?  Yes  No

---

#### AUTOPILOT

Installed:  Yes  No

Model(s): \_\_\_\_\_

Interface(s) (Analog, RS-232, ARINC 429, etc.): \_\_\_\_\_

GTN Port Number(s) (if applicable): \_\_\_\_\_

Covered by GTN STC Installation Manual?  Yes  No

**GTN #2 Interfaced Equipment – CONTINUED**

**AUTOPILOT ROLL STEERING CONVERTER**

Installed:  Yes  No

Model(s): \_\_\_\_\_

Interface(s) (Analog, RS-232, ARINC 429, etc.): \_\_\_\_\_

GTN Port Number(s) (if applicable): \_\_\_\_\_

Covered by GTN STC Installation Manual?  Yes  No

---

**EFIS DISPLAY(S)**

Installed:  Yes  No

Model(s): \_\_\_\_\_

Interface(s) (Analog, RS-232, ARINC 429, etc.): \_\_\_\_\_

GTN Port Number(s) (if applicable): \_\_\_\_\_

Covered by GTN STC Installation Manual?  Yes  No

---

**EHSI(S)**

Installed:  Yes  No

Model(s): \_\_\_\_\_

Interface(s) (Analog, RS-232, ARINC 429, etc.): \_\_\_\_\_

GTN Port Number(s) (if applicable): \_\_\_\_\_

Covered by GTN STC Installation Manual?  Yes  No

---

**GSR 56**

Installed:  Yes  No

Model(s): \_\_\_\_\_

Interface(s) (Analog, RS-232, ARINC 429, etc.): \_\_\_\_\_

GTN Port Number(s) (if applicable): \_\_\_\_\_

Covered by GTN STC Installation Manual?  Yes  No

**GTN #2 Interfaced Equipment – CONTINUED**

**GDL 88**

Installed:  Yes  No

Model(s): \_\_\_\_\_

Interface(s) (Analog, RS-232, ARINC 429, etc.): \_\_\_\_\_

GTN Port Number(s) (if applicable): \_\_\_\_\_

Covered by GTN STC Installation Manual?  Yes  No

---

**IRU/AHRS UNIT(S)**

Installed:  Yes  No

Model(s): \_\_\_\_\_

Interface(s) (Analog, RS-232, ARINC 429, etc.): \_\_\_\_\_

GTN Port Number(s) (if applicable): \_\_\_\_\_

Covered by GTN STC Installation Manual?  Yes  No

---

**TRANSPONDER(S)**

Installed:  Yes  No

Model(s): \_\_\_\_\_

Interface(s) (Analog, RS-232, ARINC 429, etc.): \_\_\_\_\_

GTN Port Number(s) (if applicable): \_\_\_\_\_

Covered by GTN STC Installation Manual?  Yes  No

---

**NAV INDICATORS**

Installed:  Yes  No

Model(s): \_\_\_\_\_

Interface(s) (Analog, RS-232, ARINC 429, etc.): \_\_\_\_\_

GTN Port Number(s) (if applicable): \_\_\_\_\_

Covered by GTN STC Installation Manual?  Yes  No

## GTN #2 Interfaced Equipment – CONTINUED

### TRAFFIC SOURCE

Installed:  Yes  No

Model(s): \_\_\_\_\_

Interface(s) (Analog, RS-232, ARINC 429, etc.): \_\_\_\_\_

GTN Port Number(s) (if applicable): \_\_\_\_\_

Covered by GTN STC Installation Manual?  Yes  No

---

### TAWS (EXTERNAL TO GTN)

Installed:  Yes  No

Model(s): \_\_\_\_\_

Interface(s) (Analog, RS-232, ARINC 429, etc.): \_\_\_\_\_

GTN Port Number(s) (if applicable): \_\_\_\_\_

Covered by GTN STC Installation Manual?  Yes  No

---

### WEATHER SOURCE: WX-500 STORMSCOPE

Installed:  Yes  No

Model(s): \_\_\_\_\_

Interface(s) (Analog, RS-232, ARINC 429, etc.): \_\_\_\_\_

GTN Port Number(s) (if applicable): \_\_\_\_\_

Covered by GTN STC Installation Manual?  Yes  No

---

### WEATHER SOURCE: GDL 69/69A

Installed:  Yes  No

Model(s): \_\_\_\_\_

Interface(s) (Analog, RS-232, ARINC 429, etc.): \_\_\_\_\_

GTN Port Number(s) (if applicable): \_\_\_\_\_

Covered by GTN STC Installation Manual?  Yes  No

**GTN #2 Interfaced Equipment – CONTINUED**

**DME**

Installed:  Yes  No

Model(s): \_\_\_\_\_

Interface(s) (Analog, RS-232, ARINC 429, etc.): \_\_\_\_\_

GTN Port Number(s) (if applicable): \_\_\_\_\_

Covered by GTN STC Installation Manual?  Yes  No

---

**CDI/HSI SOURCE SELECTION ANNUNCIATOR**

Installed:  Yes  No

Model(s): \_\_\_\_\_

Interface(s) (Analog, RS-232, ARINC 429, etc.): \_\_\_\_\_

GTN Port Number(s) (if applicable): \_\_\_\_\_

Covered by GTN STC Installation Manual?  Yes  No

---

**TAWS ANNUNCIATOR PANEL**

Installed:  Yes  No

Model(s): \_\_\_\_\_

Interface(s) (Analog, RS-232, ARINC 429, etc.): \_\_\_\_\_

GTN Port Number(s) (if applicable): \_\_\_\_\_

Covered by GTN STC Installation Manual?  Yes  No

---

**MULTIFUNCTION DISPLAY(S)**

Installed:  Yes  No

Model(s): \_\_\_\_\_

Interface(s) (Analog, RS-232, ARINC 429, etc.): \_\_\_\_\_

GTN Port Number(s) (if applicable): \_\_\_\_\_

Covered by GTN STC Installation Manual?  Yes  No

**GTN #2 Interfaced Equipment – CONTINUED**

**INTERFACE ADAPTER(S) (E.G., GAD 42)**

Installed:  Yes  No

Model(s): \_\_\_\_\_

Interface(s) (Analog, RS-232, ARINC 429, etc.): \_\_\_\_\_

GTN Port Number(s) (if applicable): \_\_\_\_\_

Covered by GTN STC Installation Manual?  Yes  No

---

**SYNCHRO HEADING SOURCE**

Installed:  Yes  No

Model(s): \_\_\_\_\_

Interface(s) (Analog, RS-232, ARINC 429, etc.): \_\_\_\_\_

GTN Port Number(s) (if applicable): \_\_\_\_\_

Covered by GTN STC Installation Manual?  Yes  No

---

**WEATHER RADAR**

Installed:  Yes  No

Model(s): \_\_\_\_\_

Interface(s) (Analog, RS-232, ARINC 429, etc.): \_\_\_\_\_

GTN Port Number(s) (if applicable): \_\_\_\_\_

Covered by GTN STC Installation Manual?  Yes  No



## Equipment Interfaced to the GMA 35

The purpose of the GMA 35 Interfaced Equipment List is to document the equipment that is interfaced to the GTN(s). Use the following guidance when filling out these tables:

- **Installed?:** Check “Yes” if the equipment is installed in the aircraft and interfaced to the GTN. If the equipment is not installed in the aircraft, check “No.” If the equipment is installed in the aircraft but not interfaced to the GTN, check “No.”
- **Model(s):** Enter the model number or numbers of the equipment that is interfaced to the GTN.
- **Interface(s):** Enter the type of interface used to connect to the GTN.

If a GMA 35 audio panel is not installed in the aircraft, check this box and do not fill out the following table.

[GMA 35 Not Installed]



### NOTE

*This information is optional and is not required to be completed or maintained with the aircraft records.*

## Equipment Type

### COM RADIO #1

Installed:  Yes  No

Model(s): \_\_\_\_\_

### COM RADIO #2

Installed:  Yes  No

Model(s): \_\_\_\_\_

### COM RADIO #3

Installed:  Yes  No

Model(s): \_\_\_\_\_

### NAV RADIO #1

Installed:  Yes  No

Model(s): \_\_\_\_\_

### NAV RADIO #2

Installed:  Yes  No

Model(s): \_\_\_\_\_

### NAV RADIO #3

Installed:  Yes  No

Model(s): \_\_\_\_\_

### NAV RADIO #4

Installed:  Yes  No

Model(s): \_\_\_\_\_

## New/Modified Configuration Settings for GTN v5.00 to v5.13

### GENERAL INFORMATION

Date: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ By: \_\_\_\_\_

### GTN 6XX/7XX PART 23 New/Modified Configuration Settings For GTN v5.00 to v5.13 – GTN #1

#### UNIT INFORMATION

Flight Stream:  N/A

Unit P/N: \_\_\_\_\_ Mod Level: \_\_\_\_\_

Unit Model: \_\_\_\_\_ Serial #: \_\_\_\_\_

#### SYSTEM INFORMATION

##### GTN SOFTWARE VERSIONS

##### Main Board

Software: \_\_\_\_\_ Boot Code: \_\_\_\_\_ FPGA: \_\_\_\_\_

##### Touch Controller Board

Software: \_\_\_\_\_ Boot Code: \_\_\_\_\_

##### GPS/WAAS Board

Software: \_\_\_\_\_

##### NAV Board [N/A]

Software: \_\_\_\_\_ Boot Code: \_\_\_\_\_ FPGA: \_\_\_\_\_

##### COM Board [N/A]

Software: \_\_\_\_\_ Boot Code: \_\_\_\_\_ FPGA: \_\_\_\_\_

#### GTN SETUP MENU

##### INTERFACED EQUIPMENT CONFIGURATION

GDU #1:  Present  Not Present Type: \_\_\_\_\_

GDU #2:  Present  Not Present Type: \_\_\_\_\_

GDU #3:  Present  Not Present Type: \_\_\_\_\_

##### MAIN SYSTEM CONFIGURATION

Database SYNC:  Pilot Control  Enabled  Disabled

##### OWNSHIP CONFIGURATION

Ownership Configuration: \_\_\_\_\_

Selection of ownship color magenta is not covered under this STC.

##### TAWS AUDIO CLIPS

ILI Caution:  "Wire Ahead" x2  
 "Caution Wire" x2

RLC Caution:  "Wire Ahead" x2  
 "Caution Wire" x2

ILI Warning x2:  "Wire Ahead Pull Up"  
 "Wire" x2 "Pull Up" x2

RLC Warning x2:  "Wire Ahead Pull Up"  
 "Wire" x2 "Pull Up" x2

**GTN 6XX/7XX PART 23 New/Modified Configuration Settings  
For GTN v5.00 to v5.13 – GTN #2**

**SYSTEM INFORMATION**

**GTN SOFTWARE VERSIONS**

**Main Board**

Software: \_\_\_\_\_ Boot Code: \_\_\_\_\_ FPGA: \_\_\_\_\_

**Touch Controller Board**

Software: \_\_\_\_\_ Boot Code: \_\_\_\_\_

**GPS/WAAS Board**

Software: \_\_\_\_\_

**NAV Board**  [N/A]

Software: \_\_\_\_\_ Boot Code: \_\_\_\_\_ FPGA: \_\_\_\_\_

**COM Board**  [N/A]

Software: \_\_\_\_\_ Boot Code: \_\_\_\_\_ FPGA: \_\_\_\_\_

**GTN SETUP MENU**

**INTERFACED EQUIPMENT CONFIGURATION**

**GDU #1:**             Present  Not Present    Type: \_\_\_\_\_

**GDU #2:**             Present  Not Present    Type: \_\_\_\_\_

**GDU #3:**             Present  Not Present    Type: \_\_\_\_\_

**MAIN SYSTEM CONFIGURATION**

**Database SYNC:**  Pilot Control  Enabled  Disabled

**OWNSHIP CONFIGURATION**

**Ownship Configuration:** \_\_\_\_\_

Selection of ownship color magenta is not covered under this STC.

**GMA 35 AUDIO PANEL CONFIGURATION**  [N/A]    Software Version: \_\_\_\_\_

**AUDIO PANEL CONFIGURATION**

**INTERCOM**

Receiver 5 is passenger  True  False

**AUDIO PANEL DISCRETES**

**J3501-16:** \_\_\_\_\_

**J3502-14:** \_\_\_\_\_

**J3502-30:** \_\_\_\_\_

**GARMIN**  <sup>®</sup>