

GARMIN GWX SERIES WEATHER RADAR SYSTEM - TROUBLESHOOTING

1. General

- A. This section gives the troubleshooting for the Garmin GWX 68/70/75 Weather Radar System. For a general description of the Garmin GWX 68/70/75 Weather Radar System, refer to Garmin GWX Series Weather Radar System - Description and Operation..

2. Garmin GWX Series Weather Radar System Troubleshooting

A. Tools and Equipment

NOTE: For the supplier publication part number and manufacturer data, refer to the Introduction - Supplier Publication List.

- (1) Tools and Equipment
 - Multimeter.
- (2) Special Consumables
 - None.
- (3) Reference Material
 - Garmin GWX Series Weather Radar System - Description and Operation
 - Garmin GWX Series Weather Radar System - Maintenance Practices
 - Garmin GWX Series Weather Radar System - Adjustment/Test
 - Chapter 20, Model 208 Wiring Diagram Manual, Wiring - Maintenance Practices
 - Garmin G1000 Line Maintenance Manual, refer to the Supplier Publication List.

B. Do the Garmin GWX Series Weather Radar System Troubleshooting.

- (1) Connect external electrical power to the airplane.
 - (a) Adjust the ground power unit (GPU) to 28Vdc, +0.5 or -0.5 Vdc.
- (2) Make sure that the circuit breaker given in Table 101 is engaged.

Table 101. Circuit Breaker

Component	Circuit Breaker Name	Circuit Breaker Location
GWX 70/75 Radar	RADAR R/T	Avionics Circuit Breaker Panel

- (3) Put the switches in the position(s) that follow:
 - (a) Connect external electrical power to the airplane.
 - (b) Set the EXTERNAL POWER switch to the BUS position.
 - (c) Set the BATTERY switch to the ON position.
 - (d) Set the AVIONICS 1 and AVIONICS 2 switches to the ON position.
- (4) Refer to Garmin G1000 Line Maintenance Manual and make sure that:
 - (a) The correct software and configuration has been installed.
 - (b) All related systems are serviceable.
 - (c) The LRU serial number or a version number is not dashed.
- (5) Make sure the GWX, has check mark (green) next to its nomenclature on the list.
 - (a) This indicates the line replaceable unit (LRU) is serviceable.
- (6) Select Weather Radar Map on the MFD.
 - (a) GWX failure annunciations will appear if the unit has failed.
- (7) If the GWX serial number or a version number is dashed, carefully examine the applicable electrical wiring and components as follows: Refer to the Model 208 Wiring Diagram Manual, Chapter 20, Wiring - Maintenance Practices.

NOTE: Serial number is not reported for the following equipment: COM1, COM2, GS1, GS2, GTX1, GTX 2 (OPT), NAV1, NAV2, AND WX500.

NOTE: The components that follow are not listed on the System Status List page: KR 87 ADF, KN 63

DME, KTA 870 TAS, KRA 405B, KHF 1050 HR Radio System, ME406 ELT, and the C406-N ELT.

- (a) Do a visual check of the electrical connectors and airplane electrical connectors for bent pins and pushed back pins.
 - 1 If necessary, repair the damage.
- (b) Make sure that electrical power and ground signals are present.
- (c) Make sure that data bus lines are correctly terminated and secure.
- (d) Remove electrical power from airplane.

CAUTION: Do not touch bus wiring to each other or to shield grounds. Damage to equipment or circuits can result.

- (e) Use a multimeter to do a continuity check of the bus wires.
 - 1 Make sure that there is continuity only from each wires' related pin end to end and to no other wires, airplanes grounds, or shields.
- (f) Do a visual check of the wiring components and make sure that all applicable strapping is correct and any necessary G1000 system strapping is correct.
- (g) Do a visual check of the wiring bundles for damage.
 - 1 If necessary, repair or replace the wiring bundles. Refer to the Model 208 Wiring Diagram Manual, Chapter 20, Wiring - Maintenance Practices.
- (h) Do a check of the applicable system wiring for continuity, ground faults, or other unserviceable conditions.
 - 1 If necessary, repair or replace the wiring bundles. Refer to the Model 208 Wiring Diagram Manual, Chapter 20, Wiring - Maintenance Practices.

C. GWX 68/70/75 CAS Message Troubleshooting

- (1) Check the primary flight display crew alert system (CAS) Alerts for messages to aid in troubleshooting the anomaly.
 - (a) For CAS messages related to other Garmin LRU's, refer to the applicable LRU section for CAS message troubleshooting.
 - (b) For GWX Alert message troubleshooting refer to, Table 102

Table 102. GWX 68/70/75 CAS Alert Message Troubleshooting

GWX 75 CAS Alert Messages	Cause	Corrective Action
GWX CONFIG  GWX config error. Config service req  d.	The G1000 has detected a GWX-68/70/75 configuration mismatch.	1. Load the correct configuration into GWX. Refer to Garmin G1000 Line Maintenance Manual. 2. Replace the GWX. Refer to Garmin GWX Series Weather Radar System - Maintenance Practices. 3. Replace the PFD 1 master configuration module. Refer to Garmin G1000 Line Maintenance Manual.
GWX FAIL  GWX is inoperative	The G1000 has detected a failure in the GWX-68/70/75.	1. Troubleshoot GWX wiring. Refer to Model 208 Wiring Diagram Manual.
GWX SERVICE  Needs service. Return unit for repair.	The G1000 has detected a failure in the GWX-68/70/75.	1. If problem persists, replace GWX. Refer to Garmin GWX Series Weather Radar System - Maintenance Practices
MANIFEST  GWX software mismatch, communication halted.	The system has detected an incorrect version loaded in the GWX-68/70/75.	1. Load correct software into GWX. Refer to Garmin G1000 Line Maintenance Manual.

If the master configuration module is replaced the unlock cards for optional systems (TAWS, Jeppesen Aviation Database ect.), and the Terrain database cards must be replaced.

- D. Put the Airplane Back to its Initial Condition.
- (1) Put the switches in the position(s) that follow:
 - (a) Set the EXTERNAL POWER switch to the BUS position.
 - (b) Set the BATTERY switch to the ON position.
 - (c) Set the AVIONICS 1 and AVIONICS 2 switches to the ON position.
 - (2) Disconnect the external electrical power from the airplane.