GARMIN GMA 1347/1360D AUDIO SYSTEM - TROUBLESHOOTING

1. General

A. This section gives the troubleshooting procedures for the Garmin GMA 1347/1360D Audio System. For a general overview of the GMA 1347/1360D Audio System refer to Garmin GMA 1347/1360D Audio System - Description and Operation.

2. Garmin GMA 1347/1360D Audio System Troubleshooting

A. Tools and Equipment

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

(1) Digital Multimeter.

B. Special Consumables

- None.

C. Reference Material

- Chapter 23, Passenger Address System and Cockpit Speaker Amplifier - Removal and Installation
- Chapter 23, Garmin GMA 1347/1360D Audio Panel - Removal/Installation
- Chapter 34, Garmin G1000 Integrated Avionics System - Adjustment/Test
- Chapter 34, Garmin G1000 Master Configuration Module - Removal/Installation
- Model 208 Wiring Diagram Manual.

D. Do the GMA 1347/1360D Audio System troubleshooting.

(1) Refer to Do the Architecture Verification check and make sure all related systems are serviceable. Refer to G1000 Integrated Avionics System - Adjustment/Test, G1000 Architecture Verification Check.

(a) Make sure that the correct software and configuration has been installed.

(2) Make sure the GMA1 and GMA2 have check marks (green) next to their nomenclature on the list.

(a) This indicates the LRU is serviceable.

(3) Make sure that GIA1, GIA2, PFD1, PFD2 or the MFD on the System Status List the do not show a red X .

(a) If The above LRU(s) show a red X troubleshoot the anomaly before further troubleshooting of the GMA 1347/1360D audio system. Refer to, Chapter 34, Garmin G1000 Integrated Avionics System - Troubleshooting.

(4) Check the primary flight display Alert window for messages to aid in troubleshooting the anomaly.

(a) For GMA Alert messages troubleshooting refer to Table 101.

Table 101. GMA CAS Alert Messages

GMA CAS Alert Messages	Cause	Corrective Action
MANIFEST ◆ GMA1 software mismatch. Communication halted.	The system has detected an incorrect software version loaded in the GMA.	1. Load correct software in the GMA.
GMA1 SERVICE ◆ GMA1 needs service. Return unit for repair.	The G1000 as determined GMA needs service.	1. Make sure that the GMA wiring is serviceable. 2. Replace the GMA. Refer to Garmin GMA 1347/1360D Audio Panel - Removal/Installation.

GMA1 FAIL ◆ GMA1 is inoperative.	The G1000 has detected a failure in GMA.	1. Make sure that the GMA has electrical power. 2. Make sure that GIA 63W/64W No.1 and No.2 have electrical power. 3. Make sure the PFD 1, PFD 2 and MFD have electrical power. 4. Make sure that the GMA and GIA RS-232 data lines are serviceable. 5. Make sure that the GIA and GDU Ethernet data lines are serviceable. 6. Replace GMA 1. Refer to Garmin GMA 1347/1360D Audio Panel - Removal/Installation.
GMA1 CONFIG ◆ GMA1 configuration error. Config service req◆d.	The G1000 System has detected a GMA configuration mismatch.	1. Load new configuration in the GMA. 2. Replace the GMA 1347/1360D. Refer to Garmin GMA 1347/1360D Audio Panel - Removal/Installation. 3. Replace the PFD 1 master configuration module. Refer to Chapter 34, Garmin G1000 Master Configuration Module - Removal/Installation. (Note 1)
MANIFEST ◆ GMA2 software mismatch. Communication halted.	The system has detected an incorrect software version loaded in the GMA.	1. Load correct software into the GMA.
GMA2 SERVICE ◆ GMA2 needs service. Return unit for repair.	The G1000 as determined GMA needs service.	1. Make sure that the GMA wiring is serviceable. 2. Replace the GMA 2. Refer to Garmin GMA 1347/1360D Audio Panel - Removal/Installation.
GMA2 FAIL ◆ GMA2 is inoperative.	The G1000 has detected a failure in GMA.	1. Make sure that the GMA has electrical power. 2. Make sure that GIA 63W/64W No.1 and No.2 have electrical power. 3. Make sure the PFD 1, PFD 2 and MFD have electrical power. 4. Make sure that the GMA and GIA RS-232 data lines are serviceable. 5. Make sure that the GIA and GDU Ethernet data lines are serviceable. 6. Replace GMA 2. Refer to Garmin GMA 1347/1360D Audio Panel - Removal/Installation.

GMA2 CONFIG ◆ GMA2 configuration error. Config service req◆d.	The G1000 System has detected a GMA configuration mismatch.	1. Load new configuration in the GMA. 2. Replace GMA 2. Refer to Garmin GMA 1347/1360D Audio Panel - Removal/Installation. 3. Replace the PFD 1 master configuration module. Refer to Chapter 34, Garmin G1000 Master Configuration Module - Removal/Installation. (Note 1)

If the master configuration module is replaced along with PFD #1, the unlock cards for optional systems (TAWS, Jeppesen Aviation Database ect.) must be replaced.

E. Data Path Troubleshooting

(1) Review the GIA Page Group ◆ ◆RS-232/ARINC 429 CONFIG◆ page for data path communication errors. Refer to Data Path Troubleshooting Procedures.

F. GMA 1347/1360D Audio System Symptom Troubleshooting.

(1) For general anomaly symptoms refer to Table 102.

Table 102. General Audio System Troubleshoooting

Symptom	Corrective Action
GMA 1347/1360D has no electrical power.	1. Make sure that the AUDIO 1 and AUDIO 2 circuit breakers found on the Avionics circuit breaker panel are engaged. 2. With power applied to the airplane, make sure that electrical connector PI500 pin 53 and PI530 pin 53 has 28 Vdc. Refer to the Model 208 Wiring Diagram Manual. 3. If there is not 28Vdc at electrical connector PI500 pin 53 and PI530 pin 53 make sure the wiring between the circuit breaker panel and the GMA 1347/1360D is serviceable. 4. Replace the GMA 1347/1360D. Refer to Garmin GMA 1347/1360D Audio Panel - Removal/Installation.
No TX indication on the PFD when Transmitting. Only applicable to the dual GMA installation	1. When transmitting if you cannot hear relay switching at the Avionics J-box make sure the wiring associated with electrical connector PF302 between the PTT and relays is serviceable. Refer to Model 208 Wiring Diagram Manual. 2. If the wiring is serviceable replace the Relay PC board JF302. Refer to Model 208 Wiring Diagram Manual.
No Cabin/PA speaker audio.	1. When transmitting if you cannot hear relay switching at the Avionics J-box make sure the wiring associated with electrical connector PF302 between the PTT and relays K1, K2, and K5 is serviceable. Refer to Model 208 Wiring Diagram Manual. 2. Make sure the wiring between GMA 1 and GMA 2 to PF302 and between PF302 and the Cabin/PA speakers is serviceable. 3. If still unserviceable replace the Relay PC board JF302. Refer to Refer to Model 208 Wiring Diagram Manual.

Cabin speaker cuts out.	1. Reduce the volume level of the item that caused the speaker to cut out when turned up. 2. Replace the cabin speaker. Refer to, Passenger Address System and Cockpit Speaker Amplifier - Removal and Installation.
MIC audio heard in speaker.	1. Reduce ICS volume.
Noise in audio.	1. Use a different pair of headsets. 2. If there is only noise when engine is operating do a check of the generator or ignition system. 3. One system at a time turn off other electronic equipment. If noise stops, troubleshoot applicable system. 4. Make sure that NAV/COM squelch is not open. 5. Make sure that ADF or DME audio is not active. 6. Make sure that ICS squelch is not open.
Buttons do not work.	1. Load GMA and optional equipment configuration files. (Note 1)
COM bleed-over.	1. Make sure that on the GMA CONFIGURATION page that 'Disable Split COM' has a green box. (Note 2) 2. If there is not a green box, highlight ' 'Disable Split COM' with the cursor and push the ENT soft key to deactivate split COM mode and change the box to green.

NOTE 1:

Some buttons are disabled by default to prevent possible sources of audio noise from inputs that are not used.

NOTE 2:

Due to the closeness of the COM antennas and high power of the COM transceivers, split COM operation is not approved.

G. GMA 1347/1360D Wiring Troubleshooting.

(1) Do a check of the GMA 1347/1360D wiring as follows:

(a) Do a visual check of the electrical connectors and airplane electrical connectors for broken, bent or 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.

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

(d) 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.

(e) 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.

(f) 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.

(g) 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.

(2) If the GMA 1347/1360D system wiring is serviceable replace the component that follows:

(a) Replace the applicable GMA 1347/1360D audio panel. Refer to Chapter 23, Garmin GMA 1347/1360D Audio System - Maintenance Practices.

1 Do an operational check of the GMA 1347/1360D audio system again. Refer to Chapter 23, Garmin GMA 1347/1360D Audio System - Adjustment/Test.