# ANNUNCIATIONS AND ALERTS

***NOTE:*** *The Cessna aircraft Pilot's Operating Handbook (POH) supersedes information found in this document.*

The G1000 Alerting System conveys alerts to the pilot using a combination of the following items:

- **Annunciation Window:** The Annunciation Window displays abbreviated annunciation text. Text color is based on alert levels described later in the Alert Levels Definitions section. The Annunciation Window is located to the right of the Altimeter and Vertical Speed Indicator on the display. All Cessna Nav III annunciations can be displayed simultaneously in the Annunciation Window. A white horizontal line separates annunciations that are acknowledged from annunciations that are not yet acknowledged. Higher priority annunciations are displayed towards the top of the window. Lower priority annunciations are displayed towards the bottom of the window.
- **Alerts Window:** The Alerts Window displays alert text messages. Up to 64 prioritized alert messages can be displayed in the Alerts Window. Pressing the **ALERTS** Softkey displays the Alerts Window. Pressing the **ALERTS** Softkey a second time removes the Alerts Window from the display. When the Alerts Window is displayed, the pilot can use the large **FMS** Knob to scroll through the alert message list.
- **Softkey Annunciation:** During certain alerts, the **ALERTS** Softkey may appear as a flashing annunciation to accompany an alert. The **ALERTS** Softkey assumes a new label consistent with the alert level (WARNING, CAUTION, or ADVISORY). By pressing the softkey annunciation, the pilot acknowledges awareness of the alert. The softkey then returns to the previous **ALERTS** label. If alerts are still present, the **ALERTS** label is displayed in inverse video (white background with black text). The pilot can press the **ALERTS** Softkey a second time to view alert text messages.
- **System Annunciations:** Typically, a large red 'X' appears in windows when a failure is detected in the LRU providing the information to the window. See the G1000 System Annunciations section for more information.
- **Audio Alerting System:** The G1000 system issues audio alert tones when specific system conditions are met. See the Alert Levels Definitions section for more information.

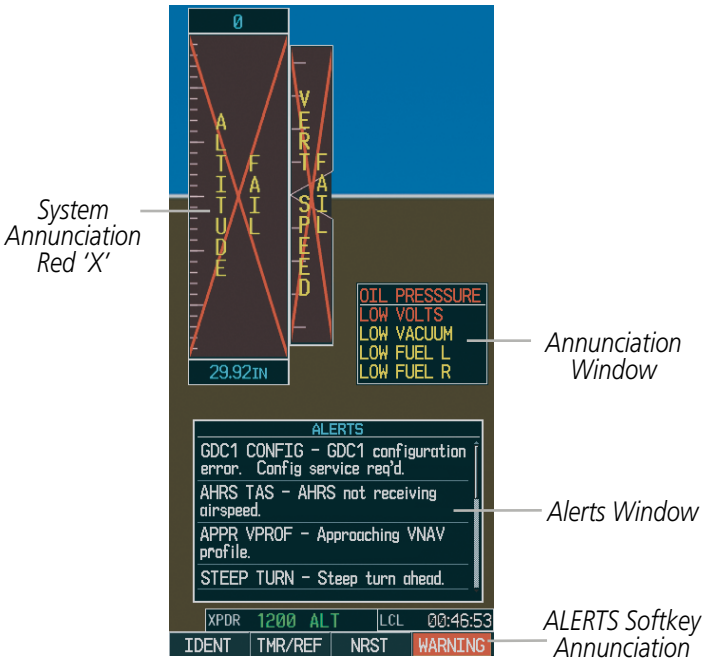



**Figure A-1 G1000 Alerting System**

## ALERT LEVEL DEFINITIONS

The G1000 Alerting System, as installed in Cessna Nav III aircraft, uses three alert levels.

- **WARNING:** This level of alert requires immediate pilot attention. A warning alert is annunciated in the Annunciation Window and is accompanied by a continuous aural tone. Text appearing in the Annunciation Window is RED. A warning alert is also accompanied by a flashing **WARNING** Softkey annunciation, as shown in Figure A-2. Pressing the **WARNING** Softkey acknowledges the presence of the warning alert and stops the aural tone, if applicable.
- **CAUTION:** This level of alert indicates the existence of abnormal conditions on the aircraft that may require pilot intervention. A caution alert is annunciated in the Annunciation Window and is accompanied by a single aural tone. Text appearing in the Annunciation Window is YELLOW. A caution alert is also accompanied by a flashing **CAUTION** Softkey annunciation, as shown in Figure A-3. Pressing the **CAUTION** Softkey acknowledges the presence of the caution alert.
- **MESSAGE ADVISORY:** This level of alert provides general information to the pilot. A message advisory alert does not issue annunciations in the Annunciation Window. Instead, message advisory alerts only issue a flashing **ADVISORY** Softkey annunciation, as shown in Figure A-4. Pressing the **ADVISORY** Softkey acknowledges the presence of the message advisory alert and displays the alert text message in the Alerts Window.


**Figure A-2 WARNING Softkey Annunciation**


**Figure A-3 CAUTION Softkey Annunciation**


**Figure A-4 ADVISORY Softkey Annunciation**

## NAV III AIRCRAFT ALERTS

The following alerts are configured specifically for the Cessna Nav III aircraft. See the Cessna Pilot's Operating Handbook (POH) for information regarding pilot responses.

### WARNING ALERTS

| Annunciation Window Text | Audio Alert |
|---|---|
| CO LVL HIGH<br>HIGH VOLTS<br>LOW VOLTS*<br>OIL PRESSURE | Continuous Aural Tone |
| PITCH TRIM** | No Tone |

* Aural tone is inhibited while the aircraft is on the ground.
** KAP 140 installations only

### CAUTION ALERTS

| Annunciation Window Text | Audio Alert |
|---|---|
| LOW FUEL L<br>LOW FUEL R<br>LOW VACUUM<br>STBY BATT | Single Aural Tone |

### CAUTION ALERTS (T182, T206, AND 206 WITH PROP DE-ICE ONLY)

| Annunciation Window Text | Audio Alert |
|---|---|
| PROP HEAT | Single Aural Tone |

### SAFE OPERATING ANNUNCIATION (T182, T206, AND 206 WITH PROP DE-ICE ONLY)

| Annunciation Window Text | Audio Alert |
|---|---|
| PROP HEAT | No Tone |

## CO GUARDIAN MESSAGES

| Alerts Window Message | Comments |
|---|---|
| **CO DET SRVC** – The carbon monoxide detector needs service. | There is a problem within the CO Guardian that requires services. |
| **CO DET FAIL** – The carbon monoxide detector is inoperative. | Loss of communication between the G1000 and the CO Guardian. |

## G1000 SYSTEM ANNUNCIATIONS

When a new alert is issued, the **ALERT** Softkey flashes to alert the pilot of a new message. It continues to flash until acknowledged by pressing the softkey. Active alerts are displayed in white text. Alerts that have become inactive change to gray text. The **ALERT** Softkey flashes if the state of a displayed alert changes or a new alert is displayed. The inactive alerts can be removed from the Alert Window by pressing the flashing **ALERT** Softkey.

The G1000 System Messages convey messages to the pilot regarding problems with the G1000 system. When an LRU or an LRU function fails, a large red 'X' is typically displayed on windows associated with the failed data. The following section describes various system annunciations. Refer to the POH for additional information regarding pilot responses to these annunciations.

***NOTE:*** *Upon power-up of the G1000 system, certain windows remain invalid as G1000 equipment begins to initialize. All windows should be operational within one minute of power-up. Should any window continue to remain flagged, the G1000 system should be serviced by a Garmin-authorized repair facility.*

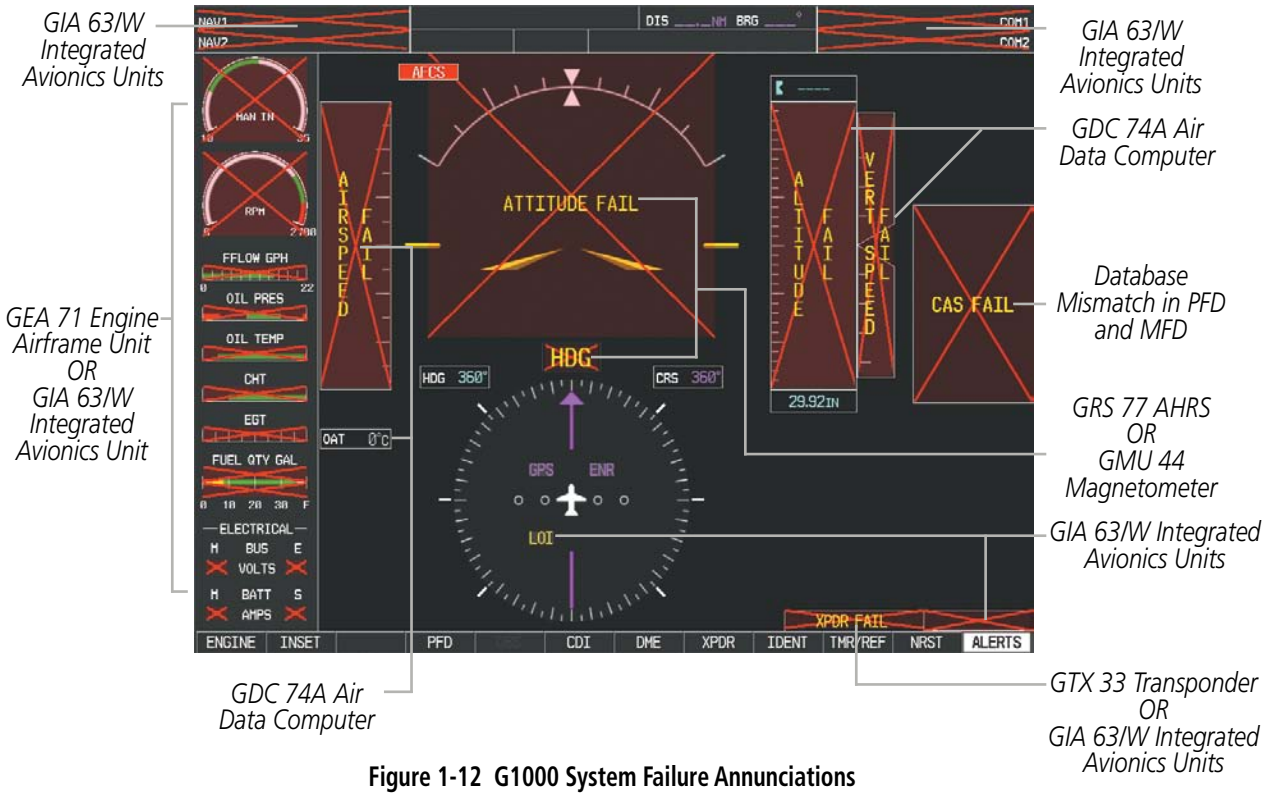
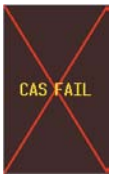
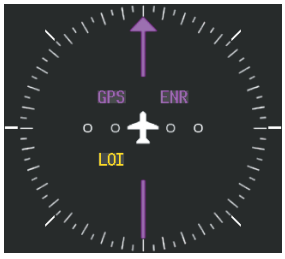



**Figure 1-12 G1000 System Failure Annunciations**

***NOTE:*** *Upon power-up, certain windows remain invalid as G1000 equipment begins to initialize. All windows should be operational within one minute of power-up. If any window continues to remain flagged, the G1000 System should be serviced by a Garmin-authorized repair facility.*

| System Annunciation | Comment |
|---|---|
|   | Attitude and Heading Reference System is aligning. |
|   | Display system is not receiving attitude information from the AHRS. |
|   | Indicates a configuration module failure. |

| System Annunciation | Comment |
|---|---|
|  | This annunciation is only seen when the autopilot is engaged. The annunciation indicates an AHRS monitor has detected an abnormal flight parameter, possibly caused by strong turbulence. In this case, the situation should correct itself within a few seconds. If there is an actual failure, a red "X" soon appears over the Attitude Indicator. |
|  | Display system is not receiving airspeed input from air data computer. |
|  | Display is not receiving altitude input from the air data computer. |
|  | Display is not receiving vertical speed input from the air data computer. |
|  | Display is not receiving valid heading input from AHRS. |
|  | Different versions of GDU software are installed in the PFD and MFD. This can also indicate different versions of navigation software are installed in the PFD and MFD. In some circumstances, a cross-talk error between the PFD and MFD can cause this annunciation. |
|  | 'LOI' Indicates Loss of Integrity of GPS information. GPS information is either not present or is invalid for navigation use. 'DR' may also be seen indicating that GPS is in Dead Reckoning Mode. Note that AHRS utilizes GPS inputs during normal operation. AHRS operation may be degraded if GPS signals are not present (see AFMS). |
|  | Display is not receiving valid transponder information. |
| Other Various Red X Indications | A red 'X' through any other display field, such as engine instrumentation fields, indicates that the field is not receiving valid data. |

## OTHER G1000 AURAL ALERTS

The following voice alerts can be configured for 'Male' or 'Female' gender by using the Aux System Setup Page on the MFD.

| Aural Alert | Description |
|---|---|
| "Minimums, minimums" | The aircraft has descended below the preset barometric minimum descent altitude. |
| "Vertical track" | The aircraft is one minute from Top of Descent. Issued only when vertical navigation is enabled. |
| "Traffic" | The Traffic Information Service (TIS) or ADS-B traffic system has issued a Traffic Advisory alert |
| "Traffic not available" | The aircraft is outside the Traffic Information Service (TIS) or ADS-B coverage area. |
| "Traffic, Traffic" | Played when a Traffic Advisory (TA) is issued with a TAS system. |
| "TAS System Test OK" | Played when the TAS system passes a pilot-initiated self test. |
| "TAS System Test Failed" | Played when the TAS system fails a pilot-initiated self test. |

***NOTE:*** *Voice alerts are provided to the G1000 by GIA 63/W #1. Should this unit fail, audio and voice alerts are no longer available.*

## G1000 SYSTEM MESSAGE ADVISORIES

This section describes various G1000 system message advisories. Certain messages are issued due to an LRU or an LRU function failure. Such messages are normally accompanied by a corresponding red 'X' annunciation as shown previously in the G1000 System Annunciation section.

***NOTE:*** *This Section provides information regarding G1000 message advisories that may be displayed by the system. Knowledge of the aircraft, systems, flight conditions, and other existing operational priorities must be considered when responding to a message. Always use sound pilot judgment. The Cessna Nav III Pilot's Operating Handbook (POH) takes precedence over any conflicting guidance found in this section.*

### MFD & PFD MESSAGE ADVISORIES

| Message | Comments |
|---|---|
| **DATA LOST** – Pilot stored data was lost. Recheck settings. | The pilot profile data was lost. System reverts to default pilot profile and settings. The pilot may reconfigure the MFD & PFDs with preferred settings, if desired. |
| **XTALK ERROR** – A flight display crosstalk error has occurred. | The MFD and PFD are not communicating with each other. The system should be serviced. |
| **PFD1 SERVICE** – PFD1 needs service. Return unit for repair. | The PFD and/or MFD self-test has detected a problem. The system should be serviced. |
| **MFD1 SERVICE** – MFD1 needs service. Return unit for repair. | |
| **MANIFEST** – PFD1 software mismatch, communication halted. | The PFD and/or MFD has incorrect software installed. The system should be serviced. |
| **MANIFEST** – MFD1 software mismatch, communication halted. | |
| **PFD1 CONFIG** – PFD1 config error. Config service req'd. | The PFD configuration settings do not match backup configuration memory. The system should be serviced. |
| **MFD1 CONFIG** – MFD1 config error. Config service req'd. | The MFD configuration settings do not match backup configuration memory. The system should be serviced. |

## MFD & PFD MESSAGE ADVISORIES (CONT.)

| Message | Comments |
|---|---|
| **SW MISMATCH** – GDU software version mismatch. Xtalk is off. | The MFD and PFD have different software versions installed. The system should be serviced. |
| **PFD1 COOLING** – PFD1 has poor cooling. Reducing power usage. | The PFD and/or MFD is overheating and is reducing power consumption by dimming the display. If problem persists, the system should be serviced. |
| **MFD1 COOLING** – MFD1 has poor cooling. Reducing power usage. | |
| **PFD1 KEYSTK** – PFD1 [key name] Key is stuck. | A key is stuck on the PFD and/or MFD bezel. Attempt to free the stuck key by pressing it several times. The system should be serviced if the problem persists. |
| **MFD1 KEYSTK** – MFD [key name] Key is stuck. | |
| **CNFG MODULE** – PFD1 configuration module is inoperative. | The PFD1 configuration module backup memory has failed. The system should be serviced. |
| **PFD1 VOLTAGE** – PFD1 has low voltage. Reducing power usage | The PFD1 voltage is low. The system should be serviced. |
| **MFD1 VOLTAGE** – MFD1 has low voltage. Reducing power usage | The MFD voltage is low. The system should be serviced. |

## DATABASE MESSAGE ADVISORIES

| Message | Comments |
|---|---|
| **MFD1 DB ERR** – MFD1 navigation database error exists. | The MFD and/or PFD detected a failure in the navigation database. Attempt to reload the navigation database. If problem persists, the system should be serviced. |
| **PFD1 DB ERR** – PFD1 navigation database error exists. | |
| **MFD1 DB ERR** – MFD1 basemap database error exists. | The MFD and/or PFD detected a failure in the basemap database. |
| **PFD1 DB ERR** – PFD1 basemap database error exists. | |
| **MFD1 DB ERR** – MFD1 terrain database error exists. | The MFD and/or PFD detected a failure in the terrain database. Ensure that the terrain card is properly inserted in display. Replace terrain card. If problem persists, the system should be serviced. |
| **PFD1 DB ERR** – PFD1 terrain database error exists. | |
| **MFD1 DB ERR** – MFD1 terrain database missing. | The terrain database is present on another LRU, but is missing on the specified LRU. |
| **PFD1 DB ERR** – PFD1 terrain database missing. | |
| **MFD1 DB ERR** – MFD1 obstacle database error exists. | The MFD and/or PFD detected a failure in the obstacle database. Ensure that the data card is properly inserted. Replace data card. If problem persists, the system should be serviced. |
| **PFD1 DB ERR** – PFD1 obstacle database error exists. | |

## DATABASE MESSAGE ADVISORIES (CONT.)

| Message | Comments |
|---|---|
| **MFD1 DB ERR** – MFD1 obstacle database missing. | The obstacle database is present on another LRU, but is missing on the specified LRU. |
| **PFD1 DB ERR** – PFD1 obstacle database missing. | |
| **MFD1 DB ERR** – MFD1 airport terrain database error exists. | The MFD and/or PFD detected a failure in the airport terrain database. Ensure that the data card is properly inserted. Replace data card. If problem persists, the system should be serviced. |
| **PFD1 DB ERR** – PFD1 airport terrain database error exists. | |
| **MFD1 DB ERR** – MFD1 airport terrain database missing. | The airport terrain database is present on another LRU, but is missing on the specified LRU. |
| **PFD1 DB ERR** – PFD1 airport terrain database missing. | |
| **MFD1 DB ERR** – MFD1 Safe Taxi database error exists. | The MFD and/or PFD detected a failure in the Safe Taxi database. Ensure that the data card is properly inserted. Replace data card. If problem persists, the system should be serviced. |
| **PFD1 DB ERR** – PFD1 Safe Taxi database error exists. | |
| **MFD1 DB ERR** – MFD1 Chartview database error exists. | The MFD detected a failure in the ChartView database (optional feature). Ensure the data card is properly inserted. Replace data card. If problem persists, system should be serviced. |
| **MFD1 DB ERR** – MFD1 FliteCharts database error exists. | The MFD detected a failure in the FliteCharts database (optional feature). Ensure the data card is properly inserted. Replace data card. If problem persists, system should be serviced. |
| **MFD1 DB ERR** – MFD1 Airport Directory database error exists. | The MFD detected a failure in the Airport Directory database. Ensure that the data card is properly inserted. Replace data card. If problem persists, the system should be serviced. |
| **DB MISMATCH** – Navigation database mismatch. Xtalk is off. | The PFD and MFD have different navigation database versions or types (Americas, European, etc.) installed. Crossfill is off. Install correct navigation database version or type in all displays. |
| **DB MISMATCH** – Standby Navigation database mismatch. | The PFD and MFD have different standby navigation database versions or types (Americas, European, etc.) installed. Install correct standby navigation database version or type in all displays. |
| **DB MISMATCH** – Terrain database mismatch. | The PFD and MFD have different terrain database versions or types installed. Install correct terrain database version or type in all displays. |
| **DB MISMATCH** – Obstacle database mismatch. | The PFD and MFD have different obstacle database installed. Install correct obstacle database in all displays. |
| **DB MISMATCH** – Airport Terrain database mismatch. | The PFD and MFD have different airport terrrain databases installed. Install correct airport terrain database in all displays. |
| **NAV DB UPDATED** – Active navigation database updated. | System has updated the active navigation database from the standby navigation database. |
| **TERRAIN DSP** – [PFD1 or MFD1] Terrain awareness display unavailable. | One of the terrain, airport terrain, or obstacle databases required for TAWS in the specified PFD or MFD is missing or invalid. |

## GMA 1347 MESSAGE ADVISORIES

| Message | Comments |
|---|---|
| **GMA1 FAIL** – GMA1 is inoperative. | The audio panel self-test has detected a failure. The audio panel is unavailable. The system should be serviced. |
| **GMA1 CONFIG** – GMA1 config error. Config service req'd. | The audio panel configuration settings do not match backup configuration memory. The system should be serviced. |
| **MANIFEST** – GMA1 software mismatch, communication halted. | The audio panel has incorrect software installed. The system should be serviced. |
| **GMA1 SERVICE** – GMA1 needs service. Return unit for repair. | The audio panel self-test has detected a problem in the unit. Certain audio functions may still be available, and the audio panel may still be usable. The system should be serviced when possible. |

## GIA 63 MESSAGE ADVISORIES

| Message | Comments |
|---|---|
| **GIA1 CONFIG** – GIA1 config error. Config service req'd. | The GIA1 and/or GIA2 configuration settings do not match backup configuration memory. The G1000 system should be serviced. |
| **GIA2 CONFIG** – GIA2 config error. Config service req'd. | |
| **GIA1 CONFIG** – GIA1 audio config error. Config service req'd. | The GIA1 and/or GIA2 have an error in the audio configuration. The G1000 system should be serviced. |
| **GIA2 CONFIG** – GIA2 audio config error. Config service req'd. | |
| **GIA1 COOLING** – GIA1 temperature too low. | The GIA1 and/or GIA2 temperature is too low to operate correctly. Allow units to warm up to operating temperature. |
| **GIA2 COOLING** – GIA2 temperature too low. | |
| **GIA1 COOLING** – GIA1 over temperature. | The GIA1 and/or GIA2 temperature is too high. If problem persists, the G1000 system should be serviced. |
| **GIA2 COOLING** – GIA2 over temperature. | |
| **GIA1 SERVICE** – GIA1 needs service. Return the unit for repair. | The GIA1 and/or GIA2 self-test has detected a problem in the unit. The G1000 system should be serviced. |
| **GIA2 SERVICE** – GIA2 needs service. Return the unit for repair. | |
| **MANIFEST** – GIA1 software mismatch, communication halted. | The GIA1 and/or GIA 2 has incorrect software installed. The G1000 system should be serviced. |
| **MANIFEST** – GIA2 software mismatch, communication halted. | |
| **COM1 TEMP** – COM1 over temp. Reducing transmitter power. | The system has detected an over temperature condition in COM1 and/or COM2. The transmitter is operating at reduced power. If the problem persists, the G1000 system should be serviced. |
| **COM2 TEMP** – COM2 over temp. Reducing transmitter power. | |

## GIA 63 MESSAGE ADVISORIES (CONT.)

| Message | Comments |
|---|---|
| **COM1 SERVICE** – COM1 needs service. Return unit for repair. | The system has detected a failure in COM1 and/or COM2. COM1 and/or COM2 may still be usable. The G1000 system should be serviced when possible. |
| **COM2 SERVICE** – COM2 needs service. Return unit for repair. | |
| **COM1 PTT** – COM1 push-to-talk key is stuck. | The COM1 and/or COM2 external push-to-talk switch is stuck in the enable (or "pressed") position. Press the PTT switch again to cycle its operation. If the problem persists, the G1000 system should be serviced. |
| **COM2 PTT** – COM2 push-to-talk key is stuck. | |
| **COM1 RMT XFR** – COM1 remote transfer key is stuck. | The COM1 and/or COM2 transfer switch is stuck in the enabled (or "pressed") position. Press the transfer switch again to cycle its operation. If the problem persists, the G1000 system should be serviced. |
| **COM2 RMT XFR** – COM2 remote transfer key is stuck. | |
| **RAIM UNAVAIL** – RAIM is not available from FAF to MAP waypoints. | GPS satellite coverage is insufficient to perform Receiver Autonomous Integrity Monitoring (RAIM) from the FAF to the MAP waypoints. |
| **LOI** – GPS integrity lost. Crosscheck with other NAVS. | Loss of GPS integrity monitoring. |
| **GPS NAV LOST** – Loss of GPS navigation. Insufficient satellites. | Loss of GPS navigation due to insufficient satellites. |
| **GPS NAV LOST** – Loss of GPS navigation. Position error. | Loss of GPS navigation due to position error. |
| **GPS NAV LOST** – Loss of GPS navigation. GPS fail. | Loss of GPS navigation due to GPS failure. |
| **ABORT APR** – Loss of GPS navigation. Abort approach. | Abort approach due to loss of GPS navigation. |
| **TRUE APR** – True north approach. Change hdg reference to TRUE. | Displayed after passing the first waypoint of a true north approach when the nav angle is set to 'AUTO'. |
| **GPS1 FAIL** – GPS1 is inoperative. | A failure has been detected in the GPS1 and/or GPS2 receiver. The receiver is unavailable. The G1000 system should be serviced. |
| **GPS2 FAIL** – GPS2 is inoperative. | |
| **GPS1 SERVICE** – GPS1 needs service. Return unit for repair. | A failure has been detected in the GPS1 and/or GPS2 receiver. The receiver may still be available. The G1000 system should be serviced. |
| **GPS2 SERVICE** – GPS2 needs service. Return unit for repair. | |
| **NAV1 SERVICE** – NAV1 needs service. Return unit for repair. | A failure has been detected in the NAV1 and/or NAV2 receiver. The receiver may still be available. The G1000 system should be serviced. |
| **NAV2 SERVICE** – NAV2 needs service. Return unit for repair. | |

## GIA 63 MESSAGE ADVISORIES (CONT.)

| Message | Comments |
|---|---|
| **NAV1 RMT XFR** – NAV1 remote transfer key is stuck. | The remote NAV1 and/or NAV2 transfer switch is stuck in the enabled (or "pressed") state. Press the transfer switch again to cycle its operation. If the problem persists, the G1000 system should be serviced. |
| **NAV2 RMT XFR** – NAV2 remote transfer key is stuck. | |
| **G/S1 FAIL** – G/S1 is inoperative. | A failure has been detected in glideslope receiver 1 and/or receiver 2. The G1000 system should be serviced. |
| **G/S2 FAIL** – G/S2 is inoperative. | |
| **G/S1 SERVICE** – G/S1 needs service. Return unit for repair. | A failure has been detected in glideslope receiver 1 and/or receiver 2. The receiver may still be available. The G1000 system should be serviced when possible. |
| **G/S2 SERVICE** – G/S2 needs service. Return unit for repair. | |

## GIA 63W MESSAGE ADVISORIES

| Message | Comments |
|---|---|
| **GIA1 CONFIG** – GIA1 config error. Config service req'd. | The GIA1 and/or GIA2 configuration settings do not match backup configuration memory. The system should be serviced. |
| **GIA2 CONFIG** – GIA2 config error. Config service req'd. | |
| **GIA1 CONFIG** – GIA1 audio config error. Config service req'd. | The GIA1 and/or GIA2 have an error in the audio configuration. The system should be serviced. |
| **GIA2 CONFIG** – GIA2 audio config error. Config service req'd. | |
| **GIA1 COOLING** – GIA1 temperature too low. | The GIA1 and/or GIA2 temperature is too low to operate correctly. Allow units to warm up to operating temperature. |
| **GIA2 COOLING** – GIA2 temperature too low. | |
| **GIA1 COOLING** – GIA1 over temperature. | The GIA1 and/or GIA2 temperature is too high. If problem persists, the system should be serviced. |
| **GIA2 COOLING** – GIA2 over temperature. | |
| **GIA1 SERVICE** – GIA1 needs service. Return the unit for repair. | The GIA1 and/or GIA2 self-test has detected a problem in the unit. The system should be serviced. |
| **GIA2 SERVICE** – GIA2 needs service. Return the unit for repair. | |
| **HW MISMATCH** – GIA hardware mismatch. GIA1 communication halted. | A GIA mismatch has been detected, where only one is SBAS capable. |
| **HW MISMATCH** – GIA hardware mismatch. GIA2 communication halted. | |

## GIA 63W MESSAGE ADVISORIES (CONT.)

| Message | Comments |
|---|---|
| **MANIFEST** – GIA1 software mismatch, communication halted. | The GIA1 and/or GIA 2 has incorrect software installed. The system should be serviced. |
| **MANIFEST** – GIA2 software mismatch, communication halted. | |
| **MANIFEST** – GFC software mismatch, communication halted. | Incorrect servo software is installed, or gain settings are incorrect. |
| **MANIFEST** – COM1 software mismatch, communication halted. | The COM1 and/or COM2 has incorrect software installed. The system should be serviced. |
| **MANIFEST** – COM2 software mismatch, communication halted. | |
| **MANIFEST** – NAV1 software mismatch, communication halted. | The NAV1 and/or NAV2 has incorrect software installed. The system should be serviced. |
| **MANIFEST** – NAV2 software mismatch, communication halted. | |
| **COM1 TEMP** – COM1 over temp. Reducing transmitter power. | The system has detected an over temperature condition in COM1 and/or COM2. The transmitter is operating at reduced power. If the problem persists, the system should be serviced. |
| **COM2 TEMP** – COM2 over temp. Reducing transmitter power. | |
| **COM1 SERVICE** – COM1 needs service. Return unit for repair. | The system has detected a failure in COM1 and/or COM2. COM1 and/or COM2 may still be usable. The system should be serviced when possible. |
| **COM2 SERVICE** – COM2 needs service. Return unit for repair. | |
| **COM1 PTT** – COM1 push-to-talk key is stuck. | The COM1 and/or COM2 external push-to-talk switch is stuck in the enable (or "pressed") position. Press the PTT switch again to cycle its operation. If the problem persists, the system should be serviced. |
| **COM2 PTT** – COM2 push-to-talk key is stuck. | |
| **COM1 RMT XFR** – COM1 remote transfer key is stuck. | The COM1 and/or COM2 transfer switch is stuck in the enabled (or "pressed") position. Press the transfer switch again to cycle its operation. If the problem persists, the system should be serviced. |
| **COM2 RMT XFR** – COM2 remote transfer key is stuck. | |
| **LOI** – GPS integrity lost. Crosscheck with other NAVS. | GPS integrity is insufficient for the current phase of flight. |
| **GPS NAV LOST** – Loss of GPS navigation. Insufficient satellites. | Loss of GPS navigation due to insufficient satellites. |
| **GPS NAV LOST** – Loss of GPS navigation. Position error. | Loss of GPS navigation due to position error. |
| **GPS NAV LOST** – Loss of GPS navigation. GPS fail. | Loss of GPS navigation due to GPS failure. |
| **ABORT APR** – Loss of GPS navigation. Abort approach. | Abort approach due to loss of GPS navigation. |

## GIA 63W MESSAGE ADVISORIES (CONT.)

| Message | Comments |
|---|---|
| **APR DWNGRADE** – Approach downgraded. | Vertical guidance generated by SBAS is unavailable, use LNAV only minimums. |
| **TRUE APR** – True north approach. Change HDG reference to TRUE. | Displayed after passing the first waypoint of a true north approach when the nav angle is set to 'AUTO'. |
| **GPS1 SERVICE** – GPS1 needs service. Return unit for repair. | A failure has been detected in the GPS1 and/or GPS2 receiver. The receiver may still be available. The system should be serviced. |
| **GPS2 SERVICE** – GPS2 needs service. Return unit for repair. | |
| **NAV1 SERVICE** – NAV1 needs service. Return unit for repair. | A failure has been detected in the NAV1 and/or NAV2 receiver. The receiver may still be available. The system should be serviced. |
| **NAV2 SERVICE** – NAV2 needs service. Return unit for repair. | |
| **NAV1 RMT XFR** – NAV1 remote transfer key is stuck. | The remote NAV1 and/or NAV2 transfer switch is stuck in the enabled (or "pressed") state. Press the transfer switch again to cycle its operation. If the problem persists, the system should be serviced. |
| **NAV2 RMT XFR** – NAV2 remote transfer key is stuck. | |
| **G/S1 FAIL** – G/S1 is inoperative. | A failure has been detected in glideslope receiver 1 and/or receiver 2. The system should be serviced. |
| **G/S2 FAIL** – G/S2 is inoperative. | |
| **G/S1 SERVICE** – G/S1 needs service. Return unit for repair. | A failure has been detected in glideslope receiver 1 and/or receiver 2. The receiver may still be available. The system should be serviced when possible. |
| **G/S2 SERVICE** – G/S2 needs service. Return unit for repair. | |

## GEA 71 MESSAGE ADVISORIES

| Message | Comments |
|---|---|
| **GEA1 CONFIG** – GEA1 config error. Config service req'd. | The GEA1 configuration settings do not match those of backup configuration memory. The G1000 system should be serviced. |
| **MANIFEST** – GEA1 software mismatch, communication halted. | The #1 GEA 71 has incorrect software installed. The G1000 system should be serviced. |

## GTX 33 MESSAGE ADVISORIES

| Message | Comments |
|---|---|
| **XPDR1 CONFIG** – XPDR1 config error. Config service req'd. | The transponder configuration settings do not match those of backup configuration memory. The system should be serviced. |
| **MANIFEST** – GTX1 software mismatch, communication halted. | The transponder has incorrect software installed. The system should be serviced. |
| **XPDR1 SRVC** – XPDR1 needs service. Return unit for repair. | The #1 transponder should be serviced when possible. |
| **XPDR1 FAIL** – XPDR1 is inoperative. | There is no communication with the #1 transponder. |

## GRS 77 MESSAGE ADVISORIES

| Message | Comments |
|---|---|
| **AHRS1 TAS** – AHRS1 not receiving airspeed. | The #1 AHRS is not receiving true airspeed from the air data computer. The AHRS relies on GPS information to augment the lack of airspeed. The system should be serviced. |
| **AHRS1 GPS** – AHRS1 using backup GPS source. | The #1 AHRS is using the backup GPS path. Primary GPS path has failed. The system should be serviced when possible. |
| **AHRS1 GPS** – AHRS1 not receiving any GPS information. | The #1 AHRS is not receiving any or any useful GPS information. Check AFMS limitations. The system should be serviced. |
| **AHRS1 GPS** – AHRS1 not receiving backup GPS information. | The #1 AHRS is not receiving backup GPS information. The system should be serviced. |
| **AHRS1 GPS** – AHRS1 operating exclusively in no-GPS mode. | The #1 AHRS is operating exclusively in no-GPS mode. The system should be serviced. |
| **AHRS1 SRVC** – AHRS1 Magnetic-field model needs update. | The #1 AHRS earth magnetic field model is out of date. Update magnetic field model when practical. |
| **GEO LIMITS** – AHRS1 too far North/South, no magnetic compass. | The aircraft is outside geographical limits for approved AHRS operation. Heading is flagged as invalid. |
| **MANIFEST** – GRS1 software mismatch, communication halted. | The #1 AHRS has incorrect software installed. The system should be serviced. |

## GMU 44 MESSAGE ADVISORIES

| Message | Comments |
|---|---|
| **HDG FAULT** – AHRS1 magnetometer fault has occurred. | A fault has occurred in the #1 GMU 44. Heading is flagged as invalid. The AHRS uses GPS for backup mode operation. The G1000 system should be serviced. |
| **MANIFEST** – GMU1 software mismatch, communication halted. | The GMU 44 has incorrect software installed. The G1000 system should be serviced. |

## GDL 69/69A MESSAGE ADVISORIES

| Message | Comments |
|---|---|
| **GDL69 CONFIG** – GDL 69 config error. Config service req'd. | GDL 69 configuration settings do not match those of backup configuration memory. The G1000 system should be serviced. |
| **GDL69 FAIL** – GDL 69 has failed. | A failure has been detected in the GDL 69. The receiver is unavailable. The G1000 system should be serviced |
| **MANIFEST** – GDL software mismatch, communication halted. | The GDL 69 has incorrect software installed. The G1000 system should be serviced. |

## GDC 74A MESSAGE ADVISORIES

| Message | Comments |
|---|---|
| **MANIFEST** – GDC1 software mismatch, communication halted. | The GDC 74A has incorrect software installed. The G1000 system should be serviced. |

## MISCELLANEOUS MESSAGE ADVISORIES

| Message | Comments |
|---|---|
| **FPL WPT LOCK** – Flight plan waypoint is locked. | Upon power-up, the system detects that a stored flight plan waypoint is locked. This occurs when an navigation database update eliminates an obsolete waypoint. The flight plan cannot find the specified waypoint and flags this message. This can also occur with user waypoints in a flight plan that is deleted.<br>Remove the waypoint from the flight plan if it no longer exists in any database,<br>Or<br>update the waypoint name/identifier to reflect the new information. |
| **FPL WPT MOVE** – Flight plan waypoint moved. | The system has detected that a waypoint coordinate has changed due to a new navigation database update. Verify that stored flight plans contain correct waypoint locations. |
| **TIMER EXPIRD** – Timer has expired. | The system notifies the pilot that the timer has expired. |
| **DB CHANGE** – Database changed. Verify user modified procedures. | This occurs when a stored flight plan contains procedures that have been manually edited. This alert is issued only after an navigation database update. Verify that the user-modified procedures in stored flight plans are correct and up to date. |
| **DB CHANGE** – Database changed. Verify stored airways. | This occurs when a stored flight plan contains an airway that is no longer consistent with the navigation database. This alert is issued only after an navigation database update. Verify use of airways in stored flight plans and reload airways as needed. |
| **FPL TRUNC** – Flight plan has been truncated. | This occurs when a newly installed navigation database eliminates an obsolete approach or arrival used by a stored flight plan. The obsolete procedure is removed from the flight plan. Update flight plan with current arrival or approach. |
| **LOCKED FPL** – Cannot navigate locked flight plan. | This occurs when the pilot attempts to activate a stored flight plan that contains locked waypoint. Remove locked waypoint from flight plan. Update flight plan with current waypoint. |
| **WPT ARRIVAL** – Arriving at waypoint -[xxxx] | Arriving at waypoint [xxxx], where [xxxx] is the waypoint name. |
| **STEEP TURN** – Steep turn ahead. | A steep turn is 15 seconds ahead. Prepare to turn. |
| **INSIDE ARSPC** – Inside airspace. | The aircraft is inside the airspace. |
| **ARSPC AHEAD** – Airspace ahead less than 10 minutes. | Special use airspace is ahead of aircraft. The aircraft will penetrate the airspace within 10 minutes. |
| **ARSPC NEAR** – Airspace near and ahead. | Special use airspace is near and ahead of the aircraft position. |
| **ARSPC NEAR** – Airspace near – less than 2 nm. | Special use airspace is within 2 nm of the aircraft position. |
| **APR INACTV** – Approach is not active. | The system notifies the pilot that the loaded approach is not active. Activate approach when required. |
| **SLCT FREQ** – Select appropriate frequency for approach. | The system notifies the pilot to load the approach frequency for the appropriate NAV receiver. Select the correct frequency for the approach. |
| **SLCT NAV** – Select NAV on CDI for approach. | The system notifies the pilot to set the CDI to the correct NAV receiver. Set the CDI to the correct NAV receiver. |
| **PTK FAIL** – Parallel track unavailable: bad geometry. | Bad parallel track geometry. |

## MISCELLANEOUS MESSAGE ADVISORIES (CONT.)

| Message | Comments |
|---|---|
| **PTK FAIL** – Parallel track unavailable: past IAF. | IAF waypoint for parallel offset has been passed. |
| **PTK FAIL** – Parallel track unavailable: past IAF. | IAF waypoint for parallel offset has been passed. |
| **NON WGS84 WPT** – Do not use GPS for navigation to [xxxx] | The position of the selected waypoint [xxxx] is not calculated based on the WGS84 map reference datum and may be positioned in error as displayed. Do not use GPS to navigate to the selected non-WGS84 waypoint. |
| **STRMSCP FAIL** – Stormscope has failed. | Stormscope has failed. The G1000 system should be serviced. |
| **UNABLE V WPT** – Can't reach current vertical waypoint. | The current vertical waypoint can not be reached within the maximum flight path angle and vertical speed constraints. The system automatically transitions to the next vertical waypoint. |
| **VNV** – Unavailable. Excessive track angle error. | The current track angle error exceeds the limit, causing the vertical deviation to go invalid. |
| **VNV** – Unavailable. Unsupported leg type in flight plan. | The lateral flight plan contains a procedure turn, vector, or other unsupported leg type prior to the active vertical waypoint. This prevents vertical guidance to the active vertical waypoint. |
| **VNV** – Unavailable. Excessive crosstrack error. | The current crosstrack exceeds the limit, causing vertical deviation to go invalid. |
| **VNV** – Unavailable. Parallel course selected. | A parallel course has been selected, causing the vertical deviation to go invalid. |
| **TRAFFIC FAIL** – Traffic device has failed. | The system is no longer receiving data from the traffic system. The traffic device should be serviced. |
| **FAILED PATH** – A data path has failed. | A data path connected to the GDU, GSD 41, or the GIA 63/W has failed. |
| **MAG VAR WARN** – Large magnetic variance. Verify all course angles. | The GDU's internal model cannot determine the exact magnetic variance for geographic locations near the magnetic poles. Displayed magnetic course angles may differ from the actual magnetic heading by more than 2°. |
| **SVS** – SVS DISABLED: Out of available terrain region. | Synthetic Vision is disabled because the aircraft is not within the boundaries of the installed terrain database. |
| **SVS** – SVS DISABLED: Terrain DB resolution too low. | Synthetic Vision is disabled because a terrain database of sufficient resolution (9 arc-second or better) is not currently installed. |
| **SCHEDULER [#]** – <message>. | Message criteria entered by the user. |
| **CHECK CRS** – Database course for LOC1 / [LOC ID] is [CRS]°. | Selected course for LOC1 differs from published localizer course by more than 10 degrees. |
| **CHECK CRS** – Database course for LOC2 / [LOC ID] is [CRS]°. | Selected course for LOC2 differs from published localizer course by more than 10 degrees. |
| **[PFD1 or MFD1] CARD 1 REM** – Card 1 was removed. Reinsert card. | The SD card was removed from the top card slot of the PFD or MFD. The SD card needs to be reinserted. |
| **[PFD1 or MFD1] CARD 2 REM** – Card 2 was removed. Reinsert card. | The SD card was removed from the bottom card slot of the PFD or MFD. The SD card needs to be reinserted. |

## MISCELLANEOUS MESSAGE ADVISORIES (CONT.)

| Message | Comments |
|---|---|
| **[PFD1 or MFD1] CARD 1 ERR** – Card 1 is invalid. | The SD card in the top card slot of the PFD or MFD contains invalid data. |
| **[PFD1 or MFD1] CARD 2 ERR** – Card 2 is invalid. | The SD card in the bottom card slot of the PFD or MFD contains invalid data. |
| **TRN AUD FAIL** – Trn Awareness audio source unavailable. | The audio source for terrain awareness is offline. Check GIA1 or GIA 2. |
| **TERRAIN AUD CFG** – Trn Awareness audio config error. Service req'd. | Terrain audio alerts are not configured properly. The system should be serviced |

## FLIGHT PLAN IMPORT/EXPORT MESSAGES

In some circumstances, some messages may appear in conjunction with others.

| Flight Plan Import/Export Results | Description |
|---|---|
| 'Flight plan successfully imported.' | A flight plan file stored on the SD card was successfully imported as a stored flight plan. |
| 'File contained user waypoints only. User waypoints imported successfully. No stored flight plan data was modified.' | The file stored on the SD card did not contain a flight plan, only user waypoints. These waypoints have been saved to the system user waypoints. No flight plans stored in the system have been modified. |
| 'No flight plan files found to import.' | The SD card contains no flight plan data. |
| 'Flight plan import failed.' | Flight plan data was not successfully imported from the SD card. |
| 'Flight plan partially imported.' | Some flight plan waypoints were successfully imported from the SD card, however others had errors and were not imported. A partial stored flight plan now exists in the system. |
| 'File contained user waypoints only.' | The file stored on the SD card did not contain a flight plan, only user waypoints. One or more of these waypoints did not import successfully. |
| 'Too many points. Flight plan truncated.' | The flight plan on the SD card contains more waypoints than the system can support. The flight plan was imported with as many waypoints as possible. |
| 'Some waypoints not loaded. Waypoints locked.' | The flight plan on the SD card contains one or more waypoints that the system cannot find in the navigation database. The flight plan has been imported, but must be edited within the system before it can be activated for use. |
| 'User waypoint database full. Not all loaded.' | The flight plan file on the SD card contains user waypoints. The quantity of stored user waypoints has exceeded system capacity, therefore not all the user waypoints on the SD card have been imported. Any flight plan user waypoints that were not imported are locked in the flight plan. The flight plan must be edited within the system before it can be activated for use. |
| 'One or more user waypoints renamed.' | One or more imported user waypoints were renamed when imported due to naming conflicts with waypoints already existing in the system. |
| 'Flight plan successfully exported.' | The stored flight plan was successfully exported to the SD card. |
| 'Flight plan export failed.' | The stored flight plan was not successfully exported to the SD card. The SD card may not have sufficient available memory or the card may have been removed prematurely. |

## AFCS ALERTS

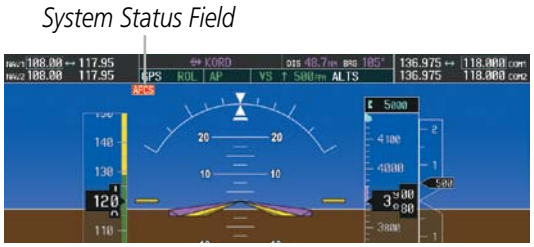



**Figure A-6 AFCS System Status Field**

The following alert annunciations appear in the AFCS System Status field on the PFD.

| Condition | Annunciation | Description |
|---|---|---|
| Pitch Failure | PTCH | Pitch axis control failure. AP is inoperative. |
| Roll Failure | ROLL | Roll axis control failure. AP is inoperative. |
| MET Switch Stuck, or Pitch Trim Axis Control Failure | PTRM | If annunciated when AP is engaged, take control of the aircraft and disengage the autopilot. If annunciated when AP is not engaged, move each half of the MET switch separately to check if a stuck switch is causing the annunciation. |
| System Failure | AFCS | AP and MET are unavailable. FD may still be available. |
| Elevator Mistrim Up | ↑ELE | A condition has developed causing the pitch servo to provide a sustained force. Be prepared to apply nose up control wheel force upon autopilot disconnect. |
| Elevator Mistrim Down | ↓ELE | A condition has developed causing the pitch servo to provide a sustained force. Be prepared to apply nose down control wheel force upon autopilot disconnect. |
| Aileron Mistrim Left | ←AIL | A condition has developed causing the roll servo to provide a sustained left force. Ensure the slip/skid indicator is centered and observe any maximum fuel imbalance limits. |
| Aileron Mistrim Right | AIL→ | A condition has developed causing the roll servo to provide a sustained right force. Ensure the slip/skid indicator is centered and observe any maximum fuel imbalance limits. |
| Preflight Test | PFT | Performing preflight system test. Upon completion of the test, the aural alert is heard. |
| | PFT | Preflight system test has failed. |

***NOTE:*** *Do not press the AP DISC switch during servo power-up and preflight system tests as this may cause the preflight system test to fail or never to start (if servos fail their power-up tests). Power must be cycled to the servos to remedy the situation.*

## TERRAIN-SVS ALERTS

| Alert Type | PFD/MFD TERRAIN-SVS Page Annunciation | MFD Pop-Up Alert | Aural Message |
|---|---|---|---|
| Reduced Required Terrain Clearance Warning (RTC) | TERRAIN | WARNING - TERRAIN | "Warning; Terrain, Terrain" |
| Imminent Terrain Impact Warning (ITI) | TERRAIN | WARNING - TERRAIN | "Warning; Terrain, Terrain" |
| Reduced Required Obstacle Clearance Warning (ROC) | TERRAIN | WARNING - OBSTACLE | "Warning; Obstacle, Obstacle" |
| Imminent Obstacle Impact Warning (IOI) | TERRAIN | WARNING - OBSTACLE | "Warning; Obstacle, Obstacle" |
| Reduced Required Terrain Clearance Caution (RTC) | TERRAIN | CAUTION - TERRAIN | "Caution; Terrain, Terrain" |
| Imminent Terrain Impact Caution (ITI) | TERRAIN | CAUTION - TERRAIN | "Caution; Terrain, Terrain" |
| Reduced Required Obstacle Clearance Caution (ROC) | TERRAIN | CAUTION - OBSTACLE | "Caution; Obstacle, Obstacle" |
| Imminent Obstacle Impact Caution (IOI) | TERRAIN | CAUTION - OBSTACLE | "Caution; Obstacle, Obstacle" |

## TERRAIN-SVS SYSTEM STATUS ANNUNCIATIONS

| Alert Type | PFD/MFD Alert Annunciation | TERRAIN-SVS Page Annunciation | Aural Message |
|---|---|---|---|
| System Test in Progress | TER TEST | TERRAIN TEST | None |
| System Test Pass | None | None | "Terrain System Test OK" |
| Terrain Alerting is disabled | TER INH | None | None |
| MFD Terrain or Obstacle database unavailable or invalid. Terrain-SVS operating with PFD Terrain or Obstacle databases | None | TERRAIN DATABASE FAILURE | None |
| Terrain System Test Fail | TER FAIL | TERRAIN FAIL | "Terrain System Failure" |
| Terrain or Obstacle database unavailable or invalid, invalid software configuration, system audio fault | TER FAIL | TERRAIN FAIL | "Terrain System Failure" |
| No GPS position | TER N/A | NO GPS POSITION | "Terrain System Not Available" |
| Excessively degraded GPS signal, Out of database coverage area | TER N/A | None | "Terrain System Not Available" |
| Sufficient GPS signal received after loss | None | None | "Terrain System Available" |

## TAWS-B ALERTS

Annunciations appear on the PFD and MFD. Pop-up alerts appear only on the MFD.

| Alert Type | PFD/MFD TAWS Page Annunciation | MFD Map Page Pop-Up Alert | Aural Message |
|---|---|---|---|
| Excessive Descent Rate Warning (EDR) | PULL UP | PULL-UP | "Pull Up" |
| Reduced Required Terrain Clearance Warning (RTC) | PULL UP | TERRAIN - PULL-UP<br>or<br>TERRAIN AHEAD - PULL-UP | "Terrain, Terrain; Pull Up, Pull Up"<br>or<br>"Terrain Ahead, Pull Up; Terrain Ahead, Pull Up" |
| Imminent Terrain Impact Warning (ITI) | PULL UP | TERRAIN AHEAD - PULL-UP<br>or<br>TERRAIN - PULL-UP | Terrain Ahead, Pull Up; Terrain Ahead, Pull Up"<br>or<br>"Terrain, Terrain; Pull Up, Pull Up" |
| Reduced Required Obstacle Clearance Warning (ROC) | PULL UP | OBSTACLE - PULL-UP<br>or<br>OBSTACLE AHEAD - PULL-UP | "Obstacle, Obstacle; Pull Up, Pull Up"<br>or<br>"Obstacle Ahead, Pull Up; Obstacle Ahead, Pull Up" |
| Imminent Obstacle Impact Warning (IOI) | PULL UP | OBSTACLE AHEAD - PULL-UP<br>or<br>OBSTACLE - PULL-UP | "Obstacle Ahead, Pull Up; Obstacle Ahead, Pull Up"<br>or<br>"Obstacle, Obstacle; Pull Up, Pull Up" |
| Reduced Required Terrain Clearance Caution (RTC) | TERRAIN | CAUTION - TERRAIN<br>or<br>TERRAIN AHEAD | "Caution, Terrain; Caution, Terrain"<br>or<br>"Terrain Ahead; Terrain Ahead" |
| Imminent Terrain Impact Caution (ITI) | TERRAIN | TERRAIN AHEAD<br>or<br>CAUTION - TERRAIN | "Terrain Ahead; Terrain Ahead"<br>or<br>"Caution, Terrain; Caution, Terrain" |
| Reduced Required Obstacle Clearance Caution (ROC) | TERRAIN | CAUTION - OBSTACLE<br>or<br>OBSTACLE AHEAD | "Caution, Obstacle; Caution, Obstacle"<br>or<br>"Obstacle Ahead; Obstacle Ahead" |
| Imminent Obstacle Impact Caution (IOI) | TERRAIN | OBSTACLE AHEAD<br>or<br>CAUTION - OBSTACLE | "Obstacle Ahead; Obstacle Ahead"<br>or<br>"Caution, Obstacle; Caution, Obstacle" |
| Premature Descent Alert Caution (PDA) | TERRAIN | TOO LOW - TERRAIN | "Too Low, Terrain" |
| Altitude Callout "500" | None | None | "Five-Hundred" |
| Excessive Descent Rate Caution (EDR) | TERRAIN | SINK RATE | "Sink Rate" |
| Negative Climb Rate Caution (NCR) | TERRAIN | DON'T SINK<br>or<br>TOO LOW - TERRAIN | "Don't Sink"<br>or<br>"Too Low, Terrain" |

## TAWS-B SYSTEM STATUS ANNUNCIATIONS

| Alert Type | PFD/MFD Alert Annunciation | TAWS-B Page Annunciation | Aural Message |
|---|---|---|---|
| System Test in Progress | TAWS TEST | TAWS TEST | None |
| System Test Pass | None | None | "TAWS System Test OK" |
| TAWS Alerting is disabled | TAWS INH | None | None |
| MFD Terrain or Obstacle database unavailable or invalid. TAWS operating with PFD Terrain or Obstacle databases | None | TERRAIN DATABASE FAILURE | None |
| TAWS-B System Test Fail | TAWS FAIL | TAWS FAIL | "TAWS System Failure" |
| Terrain or Obstacle database unavailable or invalid, invalid software configuration, system audio fault | TAWS FAIL | TAWS FAIL | "TAWS System Failure" |
| No GPS position | TAWS N/A | NO GPS POSITION | "TAWS Not Available" |
| Excessively degraded GPS signal, Out of database coverage area | TAWS N/A | None | "TAWS Not Available" |
| Sufficient GPS signal received after loss | None | None | "TAWS Available" |

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