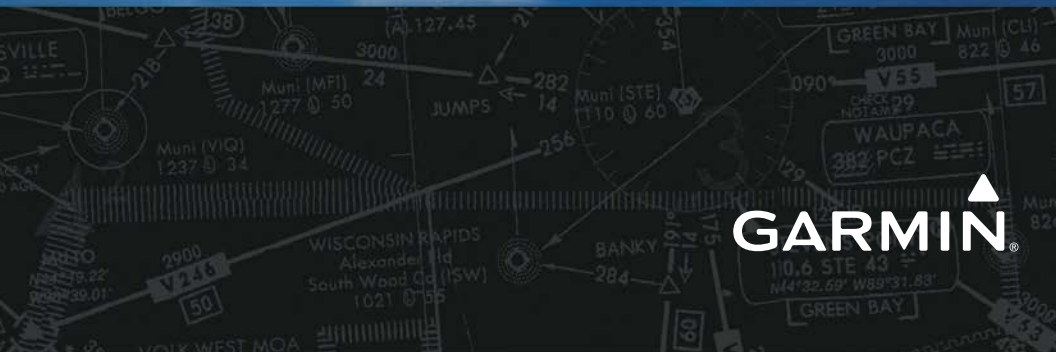




G1000® Integrated Flight Deck

Cockpit Reference Guide for Cessna Nav III



GARMIN ▲

FLIGHT INSTRUMENTS

ENGINE INDICATION SYSTEM

NAV/COM/TRANSPONDER/AUDIO PANEL

AUTOMATIC FLIGHT CONTROL SYSTEM

GPS NAVIGATION

FLIGHT PLANNING

PROCEDURES

HAZARD AVOIDANCE

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This manual reflects the operation of System Software version 0563.31 or later for Cessna 172R, 172S, 182T, T182T, J182T, 206H, and T206H aircraft. Some differences in operation may be observed when comparing the information in this manual to earlier or later software versions.

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WARNING: Navigation and terrain separation must NOT be predicated upon the use of the terrain avoidance feature. The terrain avoidance feature is NOT intended to be used as a primary reference for terrain avoidance and does not relieve the pilot from the responsibility of being aware of surroundings during flight. The terrain avoidance feature is only to be used as an aid for terrain avoidance. Terrain data is obtained from third party sources. Garmin is not able to independently verify the accuracy of the terrain data.



WARNING: The displayed minimum safe altitudes (MSAs) are only advisory in nature and should not be relied upon as the sole source of obstacle and terrain avoidance information. Always refer to current aeronautical charts for appropriate minimum clearance altitudes.



WARNING: The altitude calculated by G1000 GPS receivers is geometric height above Mean Sea Level and could vary significantly from the altitude displayed by pressure altimeters, such as the GDC 74A Air Data Computer, or other altimeters in the aircraft. GPS altitude should never be used for vertical navigation. Always use pressure altitude displayed by the G1000 PFD or other pressure altimeters in aircraft.



WARNING: Do not use outdated database information. Databases used in the G1000 system must be updated regularly in order to ensure that the information remains current. Pilots using any outdated database do so entirely at their own risk.



WARNING: Do not use basemap (land and water data) information for primary navigation. Basemap data is intended only to supplement other approved navigation data sources and should be considered as an aid to enhance situational awareness.



WARNING: Do not rely solely upon the display of traffic information for collision avoidance maneuvering. The traffic display does not provide collision avoidance resolution advisories and does not under any circumstances or conditions relieve the pilot's responsibility to see and avoid other aircraft.



WARNING: Do not rely solely upon the display of traffic information to accurately depict all of the traffic within range of the aircraft. Due to lack of equipment, poor signal reception, and/or inaccurate information from aircraft or ground stations, traffic may be present that is not represented on the display.



WARNING: Do not use data link weather information for maneuvering in, near or around areas of hazardous weather. Information contained within data link weather products may not accurately depict current weather conditions.



WARNING: Do not use the indicated data link weather product age to determine the age of the weather information shown by the data link weather product. Due to time delays inherent in gathering and processing weather data for data link transmission, the weather information shown by the data link weather product may be significantly older than the indicated weather product age.



WARNING: Do not rely on information from the lightning detection system display as the sole basis for hazard weather avoidance. Range limitations and interference may cause the system to display inaccurate or incomplete information. Refer to the documentation from the lightning detection system manufacturer for detailed information about the system.



WARNING: The Garmin G1000, as installed in the Cessna Nav III aircraft, has a very high degree of functional integrity. However, the pilot must recognize that providing monitoring and/or self-test capability for all conceivable system failures is not practical. Although unlikely, it may be possible for erroneous operation to occur without a fault indication shown by the G1000. It is thus the responsibility of the pilot to detect such an occurrence by means of cross-checking with all redundant or correlated information available in the cockpit.



WARNING: For safety reasons, G1000 operational procedures must be learned on the ground.



WARNING: The United States government operates the Global Positioning System and is solely responsible for its accuracy and maintenance. The GPS system is subject to changes which could affect the accuracy and performance of all GPS equipment. Portions of the Garmin G1000 utilize GPS as a precision electronic NAVigation AID (NAVAID). Therefore, as with all NAVAIDs, information presented by the G1000 can be misused or misinterpreted and, therefore, become unsafe.



WARNING: To reduce the risk of unsafe operation, carefully review and understand all aspects of the G1000 Pilot's Guide documentation. Thoroughly practice basic operation prior to actual use. During flight operations, carefully compare indications from the G1000 to all available navigation sources, including the information from other NAVAIDs, visual sightings, charts, etc. For safety purposes, always resolve any discrepancies before continuing navigation.



WARNING: The illustrations in this guide are only examples. Never use the G1000 to attempt to penetrate a thunderstorm. Both the FAA Advisory Circular, Subject: Thunderstorms, and the Aeronautical Information Manual (AIM) recommend avoiding "by at least 20 miles any thunderstorm identified as severe or giving an intense radar echo."



WARNING: Lamp(s) inside this product may contain mercury (HG) and must be recycled or disposed of according to local, state, or federal laws. For more information, refer to our website at www.garmin.com/aboutGarmin/environment/disposal.jsp.



WARNING: Because of variation in the earth's magnetic field, operating the system within the following areas could result in loss of reliable attitude and heading indications. North of 72° North latitude at all longitudes. South of 70° South latitude at all longitudes. North of 65° North latitude between longitude 75° W and 120° W. (Northern Canada). North of 70° North latitude between longitude 70° W and 128° W. (Northern Canada). North of 70° North latitude between longitude 85° E and 114° E. (Northern Russia). South of 55° South latitude between longitude 120° E and 165° E. (Region south of Australia and New Zealand).



WARNING: Do not use GPS to navigate to any active waypoint identified as a 'NON WGS84 WPT' by a system message. 'NON WGS84 WPT' waypoints are derived from an unknown map reference datum that may be incompatible with the map reference datum used by GPS (known as WGS84) and may be positioned in error as displayed.



CAUTION: The PFD and MFD displays use a lens coated with a special anti-reflective coating that is very sensitive to skin oils, waxes, and abrasive cleaners. **CLEANERS CONTAINING AMMONIA WILL HARM THE ANTI-REFLECTIVE COATING.** It is very important to clean the lens using a clean, lint-free cloth and an eyeglass lens cleaner that is specified as safe for anti-reflective coatings.



CAUTION: The Garmin G1000 does not contain any user-serviceable parts. Repairs should only be made by an authorized Garmin service center. Unauthorized repairs or modifications could void both the warranty and the pilot's authority to operate this device under FAA/FCC regulations.



NOTE: All visual depictions contained within this document, including screen images of the G1000 panel and displays, are subject to change and may not reflect the most current G1000 system and aviation databases. Depictions of equipment may differ slightly from the actual equipment.



NOTE: This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.



NOTE: The data contained in the terrain and obstacle databases comes from government agencies. Garmin accurately processes and cross-validates the data, but cannot guarantee the accuracy and completeness of the data.



NOTE: This product, its packaging, and its components contain chemicals known to the State of California to cause cancer, birth defects, or reproductive harm. This notice is being provided in accordance with California's Proposition 65. If you have any questions or would like additional information, please refer to our web site at www.garmin.com/prop65.



NOTE: Interference from GPS repeaters operating inside nearby hangars can cause an intermittent loss of attitude and heading displays while the aircraft is on the ground. Moving the aircraft more than 100 yards away from the source of the interference should alleviate the condition.



NOTE: Use of polarized eyewear may cause the flight displays to appear dim or blank.



NOTE: The purpose of this Cockpit Reference Guide is to provide the pilot a resource with which to find operating instructions on the major features of the G1000 system more easily. It is not intended to be a comprehensive operating guide. Complete operating procedures for the system are found in the G1000 Pilot's Guide for this aircraft.



NOTE: The pilot should read and thoroughly understand the Cessna Pilot's Operating Handbook (POH) for limitations, procedures and operational information not contained in this Cockpit Reference Guide. The Cessna POH always takes precedence over the information found in this guide.

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| Part Number | Change Summary |
|--------------------------|--|
| 190-00384-03 (Rev. A) | <ul style="list-style-type: none"> Added XM Radio and XM Weather Added ADF capability Added DME capability Added BRG1/BRG2 pointers Added dual audio panel operation Added C172 parameters Changed Airspeed Trend Vector Changed Altitude Trend Vector Added Checklist capability Added Flight ID capability |
| (Rev. B) | Updated system software numbers |
| 190-00384-04 (Rev. A) | <ul style="list-style-type: none"> Reformatted manual to new format Added TAS capability |
| (Rev. B) | Added DONE Softkey, XM-INFORMATION Page, and XM-RADIO Page operation. |
| 190-00384-05 (Rev. A) | <ul style="list-style-type: none"> Added explanation of EIS display behavior upon exceedances Added better explanation of Intercom System Isolation Added Stormscope operation upon loss of heading input Added TAWS-B Added CO Guardian Added new Fuel Totalizer Updated G1000 System Messages |
| 190-00384-06 (Rev. A) | <ul style="list-style-type: none"> Added GDU 7.00 (WAAS, VNAV & Charts) software parameters. Added AFCS for the 182 and 206 Added database loading instructions Updated G1000 System Messages Combined previous system software numbers into 0563.00 |
| 190-00384-07 (Rev. A) | Added GDU 8.02 parameters, Airways, and ADS-B |
| 190-00384-08 (Rev. A) | Added GDU 8.20 parameters, including gradient background on the PFD and GFC 700 for the C172. |

| Part Number | Change Summary |
|--------------------------|--|
| 190-00384-09 (Rev. A) | Added GDU 9.03 parameters. Removed gradient background. Added Additional Features section including SVS Changed tab structure |
| 190-00384-10 (Rev. A) | Added GDU 9.15 Added new page navigation Added flight plan import/export Added new EIS displays Added CDI use in Dead Reckoning Mode Various clerical changes |
| 190-00384-11 (Rev. A) | Added GDU 10.01 Added Auxiliary Video Added AOPA Airport Directory Added Flight Data Logging |
| 190-00384-12 (Rev. A) | Added GDU 12.02 parameters Added FIS-B Weather Added GTS 800 Added GFDS Weather (GSR 56) Added Arrival Alerts Updated database synchronization |
| 190-00384-13 (Rev. A) | Added GDU 13.01 parameters Converted to small format Added User-defined Holds Added Satellite Telephone Added J182T |

| Revision | Date of Revision | Affected Pages | Description |
|----------|------------------|----------------|---------------------|
| B | October, 2013 | All | CAS and EIS updates |

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FLIGHT INSTRUMENTS

SELECTING THE ALTIMETER BAROMETRIC PRESSURE SETTING

Turn the **BARO** Knob to select the desired setting.

SELECTING STANDARD BAROMETRIC PRESSURE (29.92 IN HG)

- 1) Select the **PFD** Softkey to display the second-level softkeys.
- 2) Select the **STD BARO** Softkey.

METRIC DISPLAY

Display altitude in meters and barometric pressure in hectopascals:

- 1) Press the **PFD** Softkey to display the second level softkeys.
- 2) Press the **ALT UNIT** Softkey.
- 3) Press the **METERS** Softkey to display altitude in meters.
- 4) Press the **HPA** Softkey to display the barometric setting in hectopascals. Press the **IN** Softkey to display the barometric setting in inches of mercury.
- 5) Press the **BACK** Softkey to return to the previous level softkeys.

CHANGE NAVIGATION SOURCES

- 1) Press the **CDI** Softkey to change from GPS to VOR1 or LOC1. This places the light blue tuning box over the NAV1 standby frequency in the upper left corner of the PFD.
- 2) Press the **CDI** Softkey again to change from VOR1 or LOC1 to VOR2 or LOC2. This places the light blue tuning box over the NAV2 standby frequency.
- 3) Press the **CDI** Softkey a third time to return to GPS.

ENABLE/DISABLE OBS MODE WHILE NAVIGATING WITH GPS

- 1) Press the **OBS** Softkey to select OBS Mode.
- 2) Turn a **CRS** Knob to select the desired course to/from the waypoint. Press a **CRS** Knob to synchronize the Selected Course with the bearing to the next waypoint.
- 3) Press the **OBS** Softkey again to disable OBS Mode.

GENERIC TIMER

- 1) Press the **TMR/REF** Softkey, then turn the large **FMS** Knob to select the time field (hh/mm/ss). Turn the **FMS** Knobs to set the desired time, then press the **ENT** Key. The UP/DOWN field is now highlighted.
- 2) Turn the small **FMS** Knob to display the UP/DOWN window. Turn the **FMS** Knob to select 'UP' or 'DOWN', then press the **ENT** Key. 'START?' is now highlighted.
- 3) Press the **ENT** Key to START, STOP, or RESET the timer (if the timer is counting DOWN, it starts counting UP after reaching zero). Press the **CLR** Key or the **TMR/REF** Softkey to remove the window.

CONFIGURE VSPEED BUGS INDIVIDUALLY

- 1) Press the **TMR/REF** Softkey.
- 2) Turn the large **FMS** Knob to highlight the desired Vspeed.
- 3) Use the small **FMS** Knob to change the Vspeed in 1-kt increments (when a speed has been changed from a default value, an asterisk appears next to the speed).
- 4) Press the **ENT** Key or turn the large **FMS** Knob to highlight the ON/OFF field
- 5) Turn the small **FMS** Knob clockwise to ON or counterclockwise to OFF.
- 6) To remove the window, press the **CLR** Key or the **TMR/REF** Softkey.

TURN ALL VSPEED BUGS ON OR OFF

- 1) Select the **TMR/REF** Softkey.
- 2) Press the **MENU** Key.
- 3) Turn the **FMS** Knob to highlight the desired option.
- 4) Press the **ENT** Key. Select the **TMR/REF** Softkey to remove the window.

SET BAROMETRIC MINIMUM DESCENT ALTITUDE

- 1) Press the **TMR/REF** Softkey.
- 2) Turn the large **FMS** Knob to highlight the Minimums field.
- 3) Turn the small **FMS** Knob to select BARO, or TEMP COMP. OFF is selected by default. Press the **ENT** Key or turn the large **FMS** Knob to highlight the next field.
- 4) Use the small **FMS** Knob to enter the desired altitude (from zero to 16,000 feet).
- 5) If TEMP COMP was selected, press the **ENT** Key or turn the large **FMS** Knob to highlight the next field and then enter the destination airport temperature (-59°C to 59°C). The temperature compensated altitude minimum is displayed below the previously enter minimum altitude value.
- 6) To remove the window, press the **CLR** Key or the **TMR/REF** Softkey.

DISPLAYING WIND DATA

- 1) Press the **PFD** Softkey.
- 2) Press the **WIND** Softkey to display wind data to the left of the HSI.
- 3) Press one of the **OPTN** softkeys to change how wind data is displayed.
- 4) To remove the Wind Data Window, press the **OFF** Softkey.

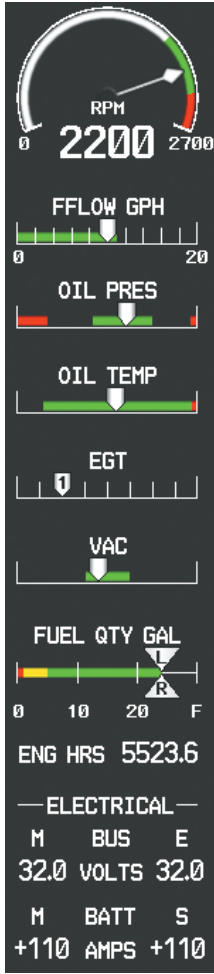
CHANGING HSI FORMAT

- 1) Press the **PFD** Softkey.
 - 2) Press the **HSI FRMT** Softkey.
 - 3) Press the **360 HSI** Softkey to display the full size HSI.
- Or:**
Press the **ARC HSI** Softkey to display the arc style HSI.

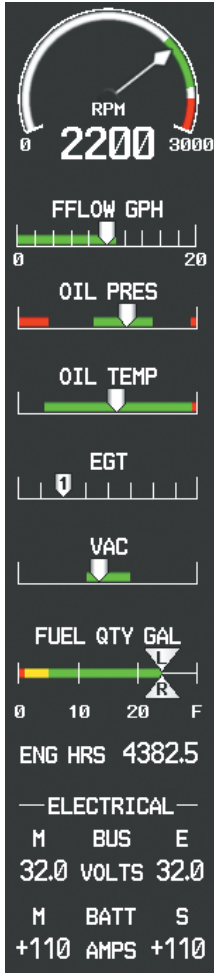
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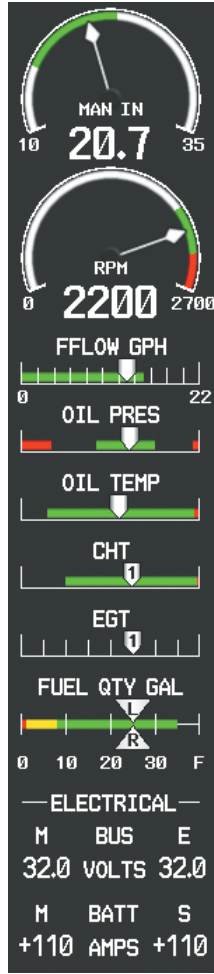
ENGINE INDICATION SYSTEM



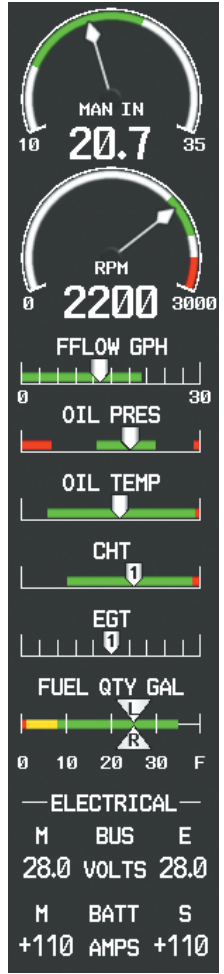
Model 172R



Model 172S



Model 182T

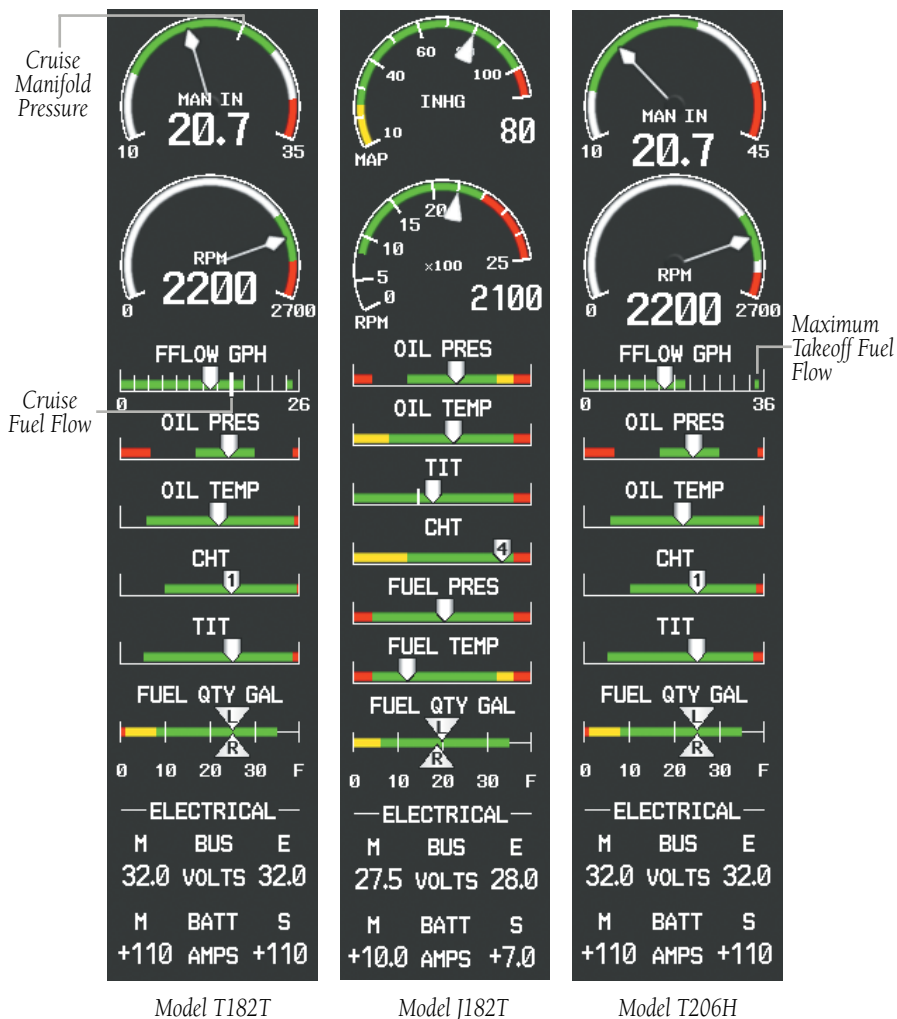


Model 206H

Engine Display (Normally-aspirated Aircraft)

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Engine Display (Turbocharged Aircraft)

ENGINE DISPLAY



NOTE: Refer to the Pilot's Operating Handbook (POH) for limitations.

The Engine Display is the default EIS display and can be displayed after viewing other EIS displays by pressing the **ENGINE** Softkey.

EIS information is presented in three displays, accessed using the **ENGINE** Softkey on the MFD.

The 172R, 172S, 182T, 206H, T182T, J182T (Engine and System Only), and T206H display the following:

- **Engine Display** – Default display, shows all critical engine, fuel, and electrical indicators
- **Lean Display** – Provides engine leaning information
- **System Display** – Shows numeric readouts of critical engine, fuel, and electrical indicators

Green and white bands indicate normal ranges of operation; yellow and red bands indicate caution and warning, respectively. If sensory data to an instrument becomes invalid or unavailable, a red "X" is shown across the instrument.

ENGINE LEANING



NOTE: The pilot should follow the engine manufacturer's recommended leaning procedures in the Pilot's Operating Handbook (POH).

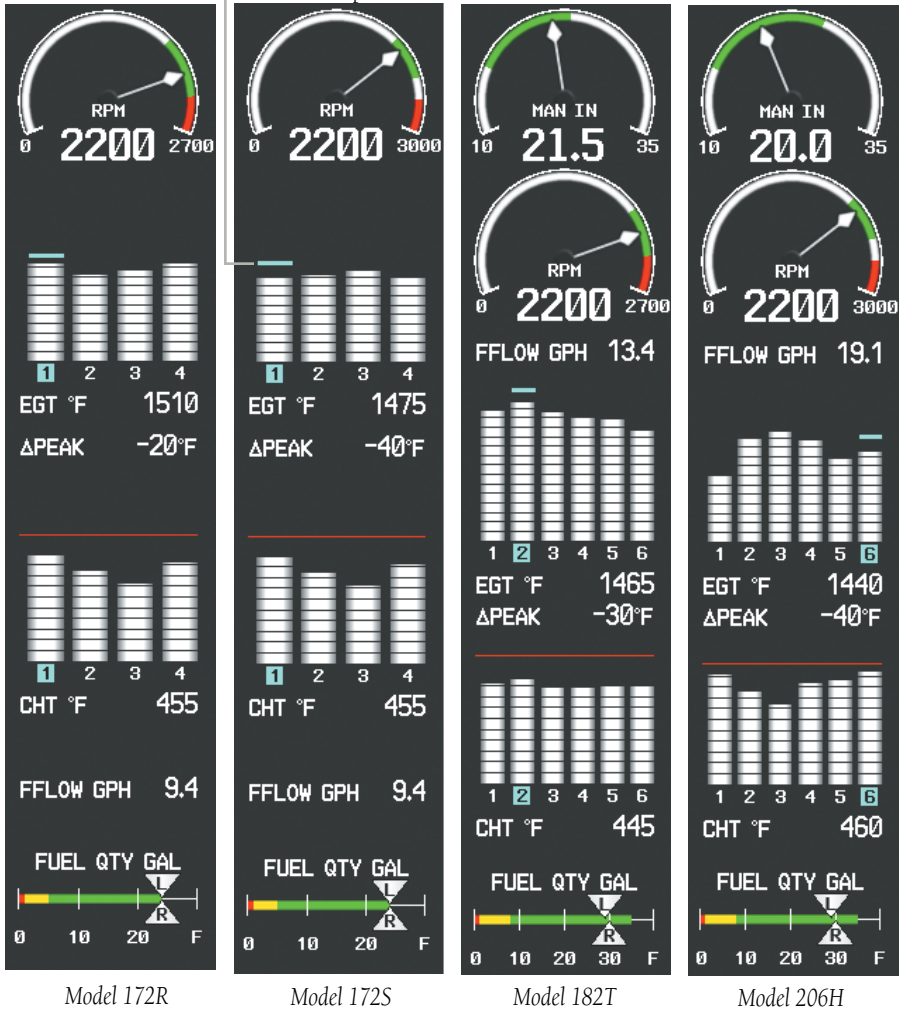
The Lean Display is accessed by pressing the **ENGINE** Softkey followed by the **LEAN** Softkey and provides information for performing engine leaning.

From the Lean Display, the pilot can utilize the **CYL SLCT** and **ASSIST** softkeys to obtain information about specific cylinders. Pressing the **CYL SLCT** (Cylinder Select) Softkey cycles through the cylinders (i.e., places a light blue box around the cylinder number). This softkey is disabled when the **ASSIST** Softkey is pressed or when a cylinder experiences a caution or warning condition; the softkey remains disabled until the temperature returns to normal.

The **ASSIST** Softkey aids in the leaning process by identifying the peak of the first cylinder whose temperature falls. If the temperature of the peaked cylinder exceeds the peak value, the peak value is not updated. Press the **ASSIST** Softkey to stop peak monitoring.

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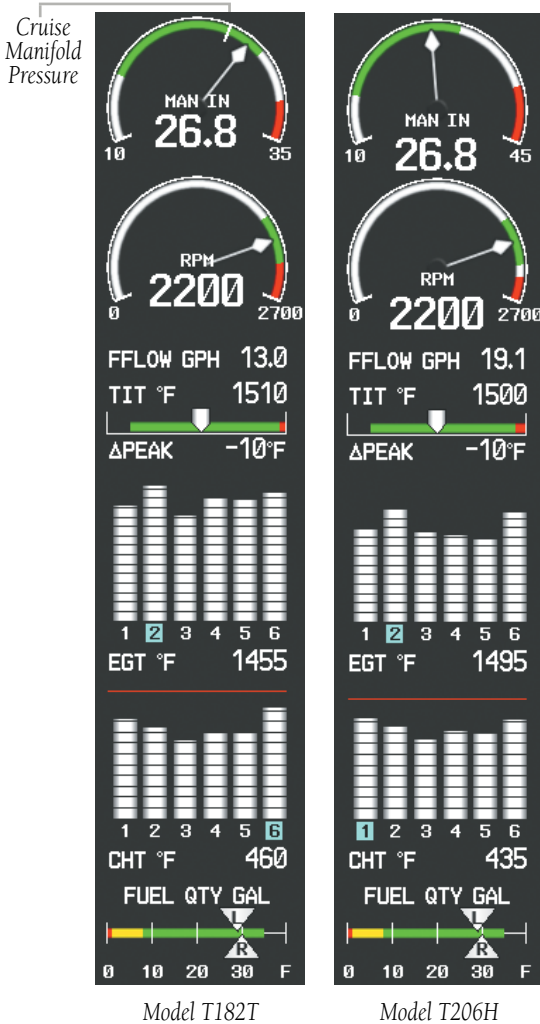
Blue Block Represents Peak



Engine Lean Display (Normally-aspirated Aircraft)

Normally-aspirated Aircraft

For normally-aspirated aircraft, when a cylinder peaks, its peak is represented by a hollow block on the EGT Bar Graph. The EGT readout for the peaked cylinder, indicated on the bar graph in light blue, appears directly beneath the bar graph. The system automatically switches to the first peak obtained and displays the temperature deviation from peak (Δ PEAK) in degrees Fahrenheit ($^{\circ}$ F) below the EGT readout.



Engine Lean Display (Turbocharged Aircraft)

Turbocharged Aircraft (except J182T)

Leaning for turbocharged aircraft is done with reference to the Turbine Inlet Temperature (TIT) (except J182T). When the temperature peaks, the numeric readout (ΔPEAK) appears below the TIT Indicator and displays the difference between peak and current TITs, in degrees Fahrenheit (°F). If a peak is not displayed, underscores are shown until one is established.

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SYSTEM DISPLAY



NOTE: Fuel calculations do not use the aircraft fuel quantity indicators and are calculated from the last time the fuel was reset.



NOTE: The pilot should refer to the Pilot's Operating Handbook (POH) for fuel values and limitations. The displayed fuel remaining can be adjusted up to 53 gal (Models 172R, 172S) or 87 gal (Models 182T, T182T, J182T, 206H, T206H).

The System Display is accessed by pressing the **ENGINE** Softkey followed by the **SYSTEM** Softkey and shows critical engine, fuel, and electrical parameters.

Fuel calculations are based on the fuel flow totalizer and the displayed fuel remaining, adjusted by the pilot using the following softkeys:

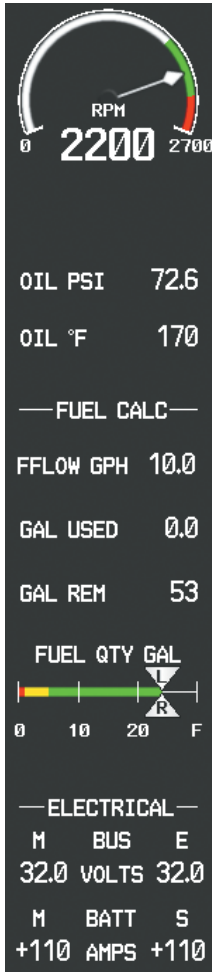
- **RST FUEL** – Resets totalizer-based fuel remaining (GAL REM) and the fuel used (GAL USED) to zero (not available on the J182T).
- **GAL REM** – Gives access to softkeys for adjusting the amount of fuel remaining for purposes of fuel calculations (not available on the J182T).

Fuel remaining can be adjusted in one or ten-gallon increments using the appropriate softkeys. Softkeys also allow entering the full tank quantity for the aircraft or the tab quantity, which is 35 gallons (Models 172R and 172S) or 64 gallons (Models 182T, T182T, 206H, and T206H).

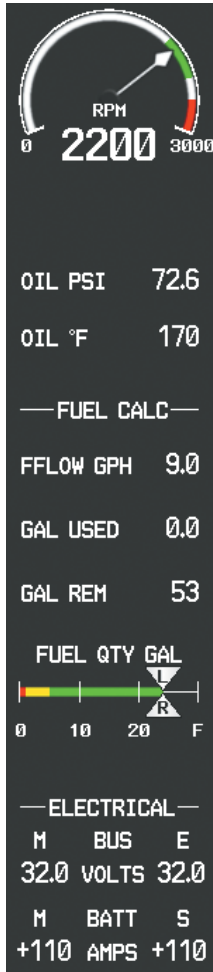
J182T System Display

From the System Display (model J182T only), the pilot can use the **CYL SLCT** softkey to get information about specific cylinders. Pressing the **CYL SLCT** (Cylinder Select) Softkey cycles through the cylinders (i.e., changes the cylinder number indicated on the bar graphs in light blue).

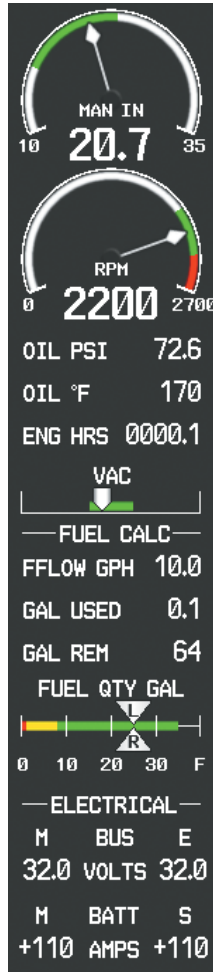
The **ECU CLR** Softkey (model J182T only) is only available when the engine is off and the aircraft is on the ground. When the **ECU CLR** Softkey is pressed, the ECU FAULT CLEAR Advisory CAS message appears for 5 seconds.



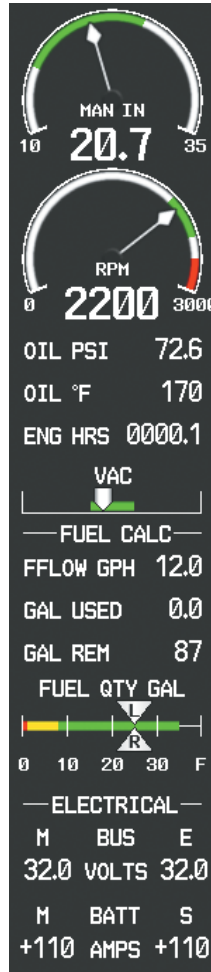
Model 172R



Model 172S



Model 182T

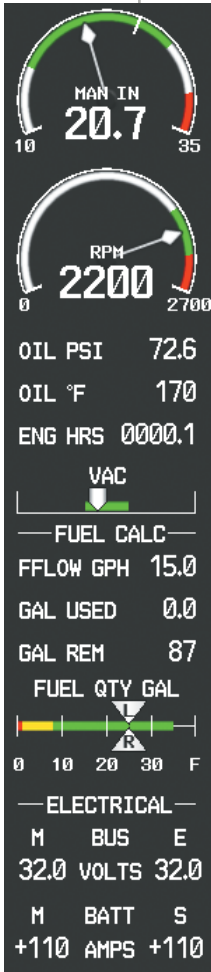


Model 206H

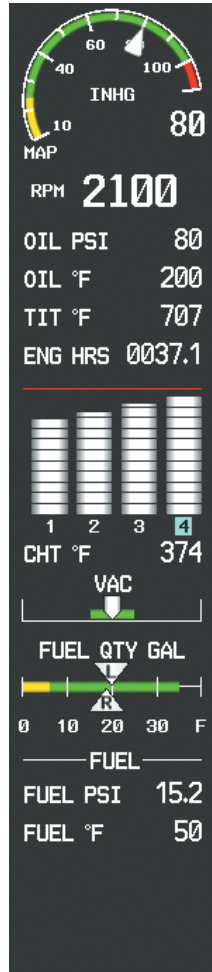
System Display (Normally-aspirated Aircraft)

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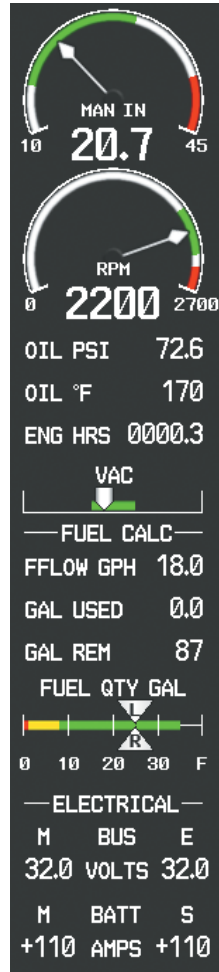
Cruise
Manifold
Pressure



Model T182T



Model J182T



Model T206H

System Display (Turbocharged Aircraft)

ECU MECHANICAL BACKUP MODE (J182T)

The Electronic Control Unit (ECU) communicates with the G1000 via a RS-232 data bus. The Engine Display and the System Display on the J182T will revert to Mechanical Backup Mode when the ECU MAJOR FAULT (warning) CAS message is triggered.

When in Mechanical Backup Mode, the red warning area of the Manifold Pressure Gauge changes dynamically based on the current outside air temperature (OAT) and pressure altitude.



ECU Mechanical Backup Mode (Model J182T)

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NAV/COM/TRANSPONDER/AUDIO PANEL

ADF RADIO (OPTIONAL)

The G1000 does not support tuning of the ADF in Nav III aircraft. ADF tuning is accomplished through the Bendix/King KR 87 ADF Radio. ADF volume must also be adjusted through the KR 87.

DME TUNING (OPTIONAL)

- 1) Press the **DME** Softkey.
- 2) Turn the large **FMS** Knob to select the DME source field.
- 3) Turn the small **FMS** Knob to select the desired Nav radio.
- 4) Press the **ENT** Key to complete the selection.

ENTER A TRANSPONDER CODE

VFR Code Selection

- 1) Press the **XPDR** Softkey to display the transponder Mode Selection softkeys.
- 2) Press the **VFR** Softkey to enter the VFR code. Pressing the **VFR** Softkey again restores the previous identification code.



NOTE: The pre-programmed VFR Code is set at the factory to 1200.

Enter Code Using Softkeys

- 1) Press the **XPDR** Softkey to display the transponder Mode Selection softkeys.
- 2) Press the **CODE** Softkey to display the transponder Code Selection softkeys, which includes the digit softkeys.
- 3) Press the appropriate digit softkeys to enter the code in the four-digit code field of the Transponder Status Box. When the last digit is entered, the transponder code becomes active.

When entering a code, press the **BKSP** Softkey as needed to back up and change code digits.

Enter Code Using the FMS Knob

- 1) Press the **XPDR** Softkey to display the transponder Mode Selection softkeys.
- 2) Press the **CODE** Softkey to display the transponder Code Selection softkeys, which includes the digit softkeys.
- 3) Turn the small **FMS** Knob to enter the first two digits.
- 4) Turn the large **FMS** Knob to place the cursor in position to change the second two digits.
- 5) Turn the small **FMS** Knob to enter the second two digits.
- 6) Press the **ENT** Key to activate the code immediately, or wait 10 seconds and the code will become active.

SELECTING A COM RADIO

Transmit/Receive

Press the **COM1 MIC** or **COM2 MIC** on the audio panel.

Receive Only

Press the **COM1** or **COM2** on the audio panel.

NAV/COM TUNING

- 1) Press the small tuning knob to select the desired radio for tuning. A light blue box highlights the radio frequency to be tuned.
- 2) Turn the respective tuning knobs to enter the desired frequency into the standby frequency field. The large knob enters MHz and the small knob enters kHz.
- 3) Press the **Frequency Transfer** Key to place the frequency into the active frequency field.

SELECTING A NAV RADIO

- 1) To begin navigating using a navigation radio, press the **CDI** Softkey on the PFD to select VOR1/LOC1 (NAV1) or VOR2/LOC2 (NAV2).
- 2) Press the **NAV1**, **NAV2**, **DME**, or **ADF** Key on the audio panel to select or deselect the navigation radio audio source. All radio keys can be selected individually or together.

Auto-tuning on the PFD

- 1) Press the **NRST** Softkey to display the Nearest Airports Window.
- 2) Turn either **FMS** Knob to highlight the desired frequency.
- 3) Press the **ENT** Key to place the frequency in the standby field of the active COM.
- 4) Press the **Frequency Transfer** Key to place the frequency in the active field.

NAV frequencies are entered automatically in the NAV frequency active or standby field (depending in CDI selection) upon approach loading or approach activation.

Auto-tuning on the MFD

Auto-tuning on the MFD is done in much the same way as on the PFD. Use the **FMS** Knobs to select the desired frequency on any of the information pages. Pressing the **ENT** Key then loads the selected frequency in the tuning box as a standby frequency.

DIGITAL CLEARANCE RECORDER AND PLAYER



NOTE: Only the audio for the selected **COM MIC** Key is recorded.

- Pressing the **PLAY** Key once plays the latest recorded memory block, then returns to normal operation.
- Pressing the **MKR/MUTE** Key while playing a memory block stops play.
- Pressing the **PLAY** Key during play begins playing the previously recorded memory block. Each subsequent press of the **PLAY** Key begins playing the next previously recorded block.

INTERCOM SYSTEM (ICS) ISOLATION

Press the **PILOT** and/or **COPLT** Key to select those isolated from hearing the Nav/Com radios and music.

| Mode | PILOT KEY ANNUNCIATOR | COPLT KEY ANNUNCIATOR | Pilot Hears | Copilot Hears | Passenger Hears |
|----------------|-----------------------|-----------------------|--|--|--|
| ALL | OFF | OFF | Selected radios; pilot; copilot; passengers; music | Selected radios; pilot; copilot; passengers; music | Selected radios; pilot; copilot; passengers; music |
| PILOT | ON | OFF | Selected radios; pilot | Copilot; passengers; music | Copilot; passengers; music |
| COPILOT | OFF | ON | Selected radios; pilot; passengers; music | Copilot | Selected radios; pilot; passengers; music |
| CREW | ON | ON | Selected radios; pilot; copilot | Selected radios; pilot; copilot | Passengers; music |

CABIN SPEAKER

Pressing the **SPKR** Key selects and deselects the cabin speaker. All of the radios can be heard over the cabin speaker. Speaker audio is muted when the PTT is pressed. Certain aural alerts and warnings (autopilot, traffic, altitude) are always heard on the speaker, even when the speaker is not selected.

PASSENGER ADDRESS (PA) SYSTEM (182T, T182T, J182T, 206H, AND T206H)

A passenger address system is available for delivering voice messages over the cabin speaker. When the **PA** Key is selected on the Audio Panel, the COM MIC Annunciator is extinguished, and the active COM frequency changes to white, indicating that there is no COM selected. A Push-to-Talk (PTT) must be pressed to deliver PA announcements. The PA Annunciator flashes about once per second while the PTT is depressed.

GFC 700 AUTOMATIC FLIGHT CONTROL SYSTEM



NOTE: The Aircraft Flight Manual (AFM) always supersedes the information in this guide. This section only applies to the GFC 700 Automatic Flight Control System (AFCS).



NOTE: If sensor information (other than attitude) required for a flight director mode becomes invalid or unavailable, the flight director automatically reverts to the default mode for that axis.



NOTE: If the attitude information required for the default flight director modes becomes invalid or unavailable, the autopilot automatically disengages.

FLIGHT DIRECTOR ACTIVATION

An initial press of a key listed in the following table (when the flight director is not active) activates the pilot-side flight director in the listed modes.

| Control Pressed | Modes Selected | | | |
|-------------------|---------------------|-----|-------------------------|------|
| | Lateral | | Vertical | |
| FD Key | Roll Hold (default) | ROL | Pitch Hold (default) | PIT |
| AP Key | Roll Hold (default) | ROL | Pitch Hold (default) | PIT |
| CWS Button | Roll Hold (default) | ROL | Pitch Hold (default) | PIT |
| GA Switch | Takeoff (on ground) | TO | Takeoff (on ground) | TO |
| | Go Around (in air) | GA | Go Around (in air) | GA |
| ALT Key | Roll Hold (default) | ROL | Altitude Hold | ALT |
| VS Key | Roll Hold (default) | ROL | Vertical Speed | VS |
| VNV Key | Roll Hold (default) | ROL | Vertical Path Tracking* | VPTH |
| NAV Key | Navigation** | GPS | Pitch Hold (default) | PIT |
| | | VOR | | |
| | | LOC | | |
| BC Key | Backcourse*** | BC | Pitch Hold (default) | PIT |

| Control Pressed | Modes Selected | | | |
|-----------------|----------------|-------------------|----------------------|-----|
| | Lateral | | Vertical | |
| APR Key | Approach** | GPS VOR LOC | Pitch Hold (default) | PIT |
| HDG Key | Heading Select | HDG | Pitch Hold (default) | PIT |

*Valid VNV flight plan must be entered before **VNV** Key press activates flight director.

The selected navigation receiver must have a valid VOR or LOC signal or active GPS course before **NAV or **APR** Key press activates flight director.

***The selected navigation receiver must have a valid LOC signal before **BC** Key press activates flight director.

VERTICAL MODES

| Vertical Mode | Description | Control | Annunciation | |
|-----------------------------|--|------------------|--------------|----------|
| Pitch Hold | Holds aircraft pitch attitude; may be used to climb/descend to the Selected Altitude | (default) | PIT | |
| Selected Altitude Capture | Captures the Selected Altitude | * | ALTS | |
| Altitude Hold | Holds current Altitude Reference | ALT Key | ALT | nnnnn FT |
| Vertical Speed | Holds aircraft vertical speed; may be used to climb/descend to the Selected Altitude | VS Key | VS | nnnn FPM |
| Flight Level Change | Holds aircraft airspeed while aircraft is climbing/descending to the Selected Altitude | FLC Key | FLC | nnn KT |
| Vertical Path Tracking | Captures and tracks descent legs of an active vertical profile | VNV Key | VPTH | |
| VNV Target Altitude Capture | Captures the Vertical Navigation (VNV) Target Altitude | ** | ALTV | |
| Glidepath*** | Captures and tracks the SBAS glidepath on approach | APR Key | GP | |
| Glideslope | Captures and tracks the ILS glideslope on approach | | GS | |
| Go Around | Disengages the autopilot and commands a constant pitch angle and wings level | GA Switch | GA | |

* ALTS is armed automatically when PIT, VS, FLC, or GA is active, and under VPTH when the Selected Altitude is to be captured instead of the VNV Target Altitude.

** ALTV is armed automatically under VPTH when the VNV Target Altitude is to be captured instead of the Selected Altitude.

***GP is available in when SBAS is available.

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LATERAL MODES

| Lateral Mode | Description | Control | Annunciation |
|--|--|------------------|--------------|
| Roll Hold | Holds the current aircraft roll attitude or rolls the wings level, depending on the commanded bank angle | (default) | ROL |
| Heading Select | Captures and tracks the Selected Heading | HDG Key | HDG |
| Navigation, GPS | Captures and tracks the selected navigation source (GPS, VOR, LOC) | NAV Key | GPS |
| Navigation, VOR (Enroute Mode) | | | VOR |
| Navigation, LOC (Glideslope will not arm or capture) | | | LOC |
| Navigation, Backcourse | Captures and tracks a localizer signal for backcourse approaches | BC Key | BC |
| Approach, GPS (Glidepath mode automatically armed if vertical guidance is available) | Captures and tracks the selected navigation source (GPS, VOR, LOC) | APR Key | GPS |
| Approach, VOR | | | VAPP |
| Approach, LOC (Glideslope Mode automatically armed) | | | LOC |
| Go Around | Disengages the autopilot and commands a constant pitch angle and wings level | GA Switch | GA |

GPS NAVIGATION

DIRECT-TO NAVIGATION

Direct-to Navigation from the MFD


- 1) Press the **Direct-to** (D➤) Key.
- 2) Enter the destination waypoint identifier.
- 3) Press the **ENT** Key to confirm the identifier. The 'Activate?' field is highlighted.
- 4) If no altitude constraint or course is desired, press the **ENT** Key to activate. To enter an altitude constraint, proceed to step 5.
- 5) Turn the large **FMS** Knob to place the cursor over the 'VNAV' altitude field.
- 6) Enter the desired altitude.
- 7) Press the **ENT** Key. The option to select 'MSL' or 'AGL' is now displayed.
- 8) Turn the small **FMS** Knob to select 'MSL' or 'AGL'.
- 9) Press the **ENT** Key. The cursor is placed in the 'VNV' offset distance field.
- 10) Enter the desired target altitude offset from the selected Direct-to.
- 11) Press the **ENT** Key to highlight 'Activate?' or turn the large **FMS** Knob to highlight the 'COURSE' field.
- 12) Enter the desired course to the waypoint.
- 13) Press the **ENT** Key to highlight 'ACTIVATE?'.
- 14) Press the **ENT** Key again to activate the Direct-to.

Direct-to Navigation from the PFD

- 1) Press the **Direct-to** Key (D➤).
- 2) Turn the large **FMS** Knob to place the cursor in the desired selection field.
- 3) Turn the small **FMS** Knob to begin selecting the desired identifier, location, etc.
- 4) Press the **ENT** Key.
- 5) The cursor is now flashing on 'ACTIVATE?'. If no altitude constraint or course is desired, press the **ENT** Key to activate. To enter an altitude constraint, proceed to step 6.

- 6) Turn the large **FMS** Knob to place the cursor over the 'ALT' altitude field.
- 7) Turn the small **FMS** Knob to enter the desired altitude.
- 8) Press the **ENT** Key. If the waypoint entered is an airport, the option to select MSL or AGL is now displayed. If the waypoint is not an airport, proceed to step 10.
- 9) Turn the small **FMS** Knob to select 'MSL' or 'AGL'.
- 10) Press the **ENT** Key. The cursor is placed in the 'OFFSET' field.
- 11) Turn the small **FMS** Knob to enter the desired target altitude offset from the selected Direct-to.
- 12) Press the **ENT** Key to highlight 'Activate?' or turn the large **FMS** Knob to highlight the 'CRS' field.
- 13) Turn the small **FMS** Knob to enter the desired course to the waypoint.
- 14) Press the **ENT** Key to highlight 'ACTIVATE?'.
- 15) Press the **ENT** again to activate the Direct-to.

Canceling Direct-to Navigation

- 1) Press the **Direct-to** () Key.
- 2) Press the **MENU** Key to display the Direct-to options menu.
- 3) With 'Cancel Direct-To NAV' highlighted, press the **ENT** Key. If a flight plan is still active, the G1000 resumes navigating the flight plan along the closest leg.

ACTIVATE A STORED FLIGHT PLAN

- 1) Press the **FPL** Key on the MFD and turn the small **FMS** Knob to display the Flight Plan Catalog Page.
- 2) Press the **FMS** Knob to activate the cursor.
- 3) Turn the large **FMS** Knob to highlight the desired flight plan
- 4) Press the **ACTIVE** Softkey. The confirmation window is now displayed.
- 5) With 'OK' highlighted, press the **ENT** Key to activate the flight plan. To cancel the flight plan activation, turn the large **FMS** Knob to highlight 'CANCEL' and press the **ENT** Key.

ACTIVATE A FLIGHT PLAN LEG

- 1) From the Active Flight Plan Page, press the **FMS** Knob to activate the cursor and turn the large **FMS** Knob to highlight the desired waypoint.
- 2) On the MFD, press the **ACT LEG** Softkey.

Or:

Press the **MENU** Key, select the 'Activate Leg' option from the page menu and press the **ENT** Key. This step must be used when activating a leg from the PFD.

- 3) With 'Activate' highlighted, press the **ENT** Key.

STOP NAVIGATING A FLIGHT PLAN

- 1) Press the **FPL** Key to display the Active Flight Plan Page.
- 2) Press the **MENU** Key to display the Page Menu Window.
- 3) Turn the large **FMS** Knob to highlight 'Delete Flight Plan' and press the **ENT** Key. With 'OK' highlighted, press the **ENT** Key to deactivate the flight plan. This does not delete the stored flight plan, only the active flight plan.

VERTICAL NAVIGATION (VNAV)

The navigation database only contains altitudes for procedures that call for "Cross at" altitudes. If the procedure states "Expect to cross at," the altitude is not in the database. In this case the altitude may be entered manually.



NOTE: *Temperature Compensated (TEMP COMP) altitudes are depicted as slanted text.*

5000FT

Cross AT or ABOVE 5,000 ft

2300FT

Cross AT 2,300 ft

3000FT

Cross AT or BELOW 3,000 ft

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| ACTIVE FLIGHT PLAN | | | |
|----------------------------------|------|--------|---------------|
| KIXD / KDFW | | | |
| | DTK | DIS | ALT |
| KARLA | 221° | 11.7NM | 13000FT |
| COVIE | 221° | 9.0NM | 12400FT |
| LEMVN | 220° | 8.0NM | 9900FT |
| Approach - KDFW-RNAV 17L GPS LPV | | | |
| RIVET <i>iaf</i> | 259° | 18.8NM | 4000FT |
| DRAAK | 176° | 3.3NM | 2000FT |
| INWOD | 176° | 3.2NM | 3000FT |
| MENOL <i>faf</i> | 176° | 3.9NM | <u>2300FT</u> |
| RW17L <i>map</i> | 176° | 5.3NM | |
| 990FT | 174° | 0.8NM | <u>990FT</u> |
| POLKE | | | |

Insertion Point Indicator

Large White Text

Large Light Blue Text

Small Light Blue Text

Small Light Blue Subdued Text

Small White Text with Altitude Restriction Bar

Altitudes associated with approach procedures are “auto-designated”. This means the system automatically uses the altitudes loaded with the approach for giving vertical flight path guidance outside the FAF. Note these altitudes are displayed as small light blue text.

Altitudes associated with arrival procedures are “manually-designated”. This means the system does not use the altitudes loaded with the arrival for giving vertical flight path guidance until designated to do so by the pilot. Note that these altitudes are initially displayed as white text. These altitudes may be “designated” by placing the cursor over the desired altitude and pressing the **ENT** Key. After designation, the text changes to light blue.

Altitudes that have been designated for use in vertical navigation may also be made “non-designated” by placing the cursor over the desired altitude and pressing the **CLR** Key. The altitude is now displayed only as a reference. It will not be used to give vertical flight path guidance. Other displayed altitudes may change due to re-calculations or rendered invalid as a result of manually changing an altitude to a non-designated altitude.

The system updates vertical path guidance continuously using ground speed and the calculated distance to the Bottom of Descent (BOD). Due to turn anticipation guidance (turn-smoothing), distance to the BOD can be affected by course changes greater than approximately 5 degrees. Ground speed can be affected by factors such as shifts in wind direction, aircraft power management, pitch angle, and course changes. Abrupt and/or substantial changes to either the distance to the BOD, ground speed, or both can cause similarly abrupt/substantial changes in vertical path guidance.

Because of turn-smoothing, changes to both distance to the BOD and ground speed tend to be more extreme when the BOD is also a waypoint that marks a large course change. These speed and distance changes will be accounted for in the computed required vertical path and reflected in the vertical guidance indications.

| | White Text | Light Blue Text | Light Blue Subdued Text |
|------------|---|--|---|
| Large Text | Altitude calculated by the system estimating the altitude of the aircraft as it passes over the navigation point. This altitude is provided as a reference and is not designated to be used in determining vertical flight path guidance. | Altitude has been entered by the pilot. Altitude is designated for use in giving vertical flight path guidance. Altitude does not match the published altitude in navigation database or no published altitude exists. | The system cannot use this altitude in determining vertical flight path guidance. |
| Small Text | Altitude is not designated to be used in determining vertical flight path guidance. Altitude has been retrieved from the navigation database and is provided as a reference. | Altitude is designated for use in giving vertical flight path guidance. Altitude has been retrieved from the navigation database or has been entered by the pilot and matches a published altitude in the navigation database. | The system cannot use this altitude in determining vertical flight path guidance. |

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FLIGHT PLANNING

TRIP PLANNING

- 1) Turn the large **FMS** Knob to select the 'AUX' page group.
- 2) If necessary, turn the small **FMS** Knob to select the Trip Planning Page.
- 3) The current 'PAGE MODE' is displayed at the top of the page: 'AUTOMATIC' or 'MANUAL'. To change the page mode, press the **AUTO** or **MANUAL** Softkey.
- 4) For Direct-to planning:
 - a) Press the **WPTS** Softkey and verify that the starting waypoint field indicates 'P.POS' (present position).
 - b) If necessary, press the **MENU** Key and select 'Set WPT to Present Position' to display 'P.POS'.
 - c) Press the **ENT** Key and the flashing cursor moves to the ending waypoint field.
 - d) Enter the identifier of the ending waypoint and press the **ENT** Key to accept the waypoint.

Or:

For point-to-point planning:

- a) Enter the identifier of the starting waypoint.
- b) Once the waypoint's identifier is entered, press the **ENT** Key to accept the waypoint. The flashing cursor moves to the ending waypoint.
- c) Again, enter the identifier of the ending waypoint.
- d) Press the **ENT** Key to accept the waypoint.

Or:

For flight plan leg planning:

- a) Press the **FPL** Softkey (at the bottom of the display).
- b) Turn the small **FMS** Knob to select the desired flight plan (already stored in memory), by number.
- c) Turn the large **FMS** Knob to highlight the 'LEG' field.
- d) Turn the small **FMS** Knob to select the desired leg of the flight plan, or select 'CUM' to apply trip planning calculations to the entire flight plan. Selecting 'FPL 00' displays the active flight plan. If an active flight plan is selected, 'REM' is an available option to display planning data for the remainder of the flight plan.

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NOTE: The page mode must be set to 'MANUAL' to perform the following steps.

- 5) Turn the large **FMS** Knob to highlight the departure time (DEP TIME) field.



NOTE: The departure time on the Trip Planning Page is used for preflight planning. Refer to the Utility Page for the actual flight departure time.

- 6) Enter the departure time. Press the **ENT** Key when finished. Departure time may be entered in local or UTC time, depending upon system settings.
- 7) The flashing cursor moves to the ground speed (GS) field. Enter the ground speed. Press the **ENT** Key when finished. Note that in 'automatic' page mode, ground speed is provided by the system.
- 8) The flashing cursor moves to the fuel flow field. Enter the fuel flow. Press the **ENT** Key when finished. Note that in 'AUTOMATIC' page mode, fuel flow is provided by the system.
- 9) The flashing cursor moves to the fuel onboard field. Enter the fuel onboard. Press the **ENT** Key when finished. Note that in 'AUTOMATIC' page mode, fuel onboard is provided by the fuel totalizer.
- 10) The flashing cursor moves to the calibrated airspeed (CALIBRATED AS) field. Enter the calibrated airspeed. Press the **ENT** Key when finished. Note that in 'AUTOMATIC' page mode, calibrated airspeed is provided by the system.
- 11) The flashing cursor moves to the altitude (IND ALTITUDE) field. Enter the altitude. Press the **ENT** Key when finished. Note that in 'AUTOMATIC' page mode, altitude is provided by the system.
- 12) The flashing cursor moves to the barometric setting (PRESSURE) field. Enter the desired baro setting. Press the **ENT** Key when finished. Note that in 'AUTOMATIC' page mode, the baro setting is provided by the setting entered on the PFD.
- 13) The flashing cursor moves to the air temperature (TOTAL AIR TEMP) field. Enter the desired air temperature. Press the **ENT** Key when finished. Note that in 'AUTOMATIC' page mode, air temperature is provided by the system outside air temperature.

CREATE A USER WAYPOINT DEFINED BY LATITUDE & LONGITUDE

- 1) Turn the large **FMS** Knob on the MFD to select the 'WPT' page group.
- 2) Turn the small **FMS** Knob to select the User WPT Information Page.

- 3) Press the **NEW** Softkey. A waypoint is created at the current aircraft position.
- 4) Enter the desired waypoint name.
- 5) Press the **ENT** Key.
- 6) The cursor is now in the 'WAYPOINT TYPE' field. If desired, the waypoint can be made temporary (deleted automatically when the system is turned off). If the waypoint is to remain in the system, proceed to step 7.
 - a) Turn the large **FMS** Knob one click to the left to highlight 'TEMPORARY'.
 - b) Press the **ENT** Key to place a check-mark in the box. Turn the large **FMS** Knob to place the cursor back in the 'WAYPOINT TYPE' field.
- 7) With the cursor in the 'WAYPOINT TYPE' field, turn the small **FMS** Knob to display a list of waypoint types.
- 8) Turn the small **FMS** Knob to select LAT/LON (latitude and longitude).
- 9) Press the **ENT** Key.

CREATE A USER WAYPOINT DEFINED BY RADIALS FROM OTHER WAYPOINTS

- 1) Turn the large **FMS** Knob on the MFD to select the 'WPT' page group.
- 2) Turn the small **FMS** Knob to select the User WPT Information Page.
- 3) Press the **NEW** Softkey. A waypoint is created at the current aircraft position.
- 4) Enter the desired waypoint name.
- 5) Press the **ENT** Key.
- 6) The cursor is now in the 'WAYPOINT TYPE' field. If desired, the waypoint can be made temporary (deleted automatically when the system is turned off). If the waypoint is to remain in the system, proceed to step 7.
 - a) Turn the large **FMS** Knob one click to the left to highlight 'TEMPORARY'.
 - b) Press the **ENT** Key to place a check-mark in the box. Turn the large **FMS** Knob to place the cursor back in the 'WAYPOINT TYPE' field.
- 7) With the cursor in the 'WAYPOINT TYPE' field, turn the small **FMS** Knob to display a list of waypoint types.
- 8) Turn the small **FMS** Knob to select RAD/RAD (radial/radial).

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- 9) Press the **ENT** Key.
- 10) The cursor moves to the 'REFERENCE WAYPOINTS' field. With the first waypoint name highlighted, use the **FMS** Knobs to enter the desired waypoint name. Waypoints may also be selected as follows:
- a) When a flight plan is active, turning the small **FMS** Knob to the left will display a list of the flight plan waypoints.
 - b) Turn the large **FMS** Knob to select the desired waypoint.
 - c) Press the **ENT** Key.
- Or:**
- a) Turn the small **FMS** Knob to the left. Initially, a flight plan waypoint list is displayed.
 - b) Turn the small **FMS** Knob to the right to display the 'NRST' airports to the aircraft's current position.
 - c) Turn the large **FMS** Knob to select the desired waypoint.
 - d) Press the **ENT** Key.
- Or:**
- a) Turn the small **FMS** Knob to the left. Initially, a flight plan waypoint list is displayed.
 - b) Turn the small **FMS** Knob to the right to display the 'RECENT' waypoints.
 - c) Turn the large **FMS** Knob to select the desired waypoint.
 - d) Press the **ENT** Key.
- Or:**
- a) Turn the small **FMS** Knob to the left. Initially, a flight plan waypoint list is displayed.
 - b) Turn the small **FMS** Knob to the right to display the 'USER' waypoints.
 - c) Turn the large **FMS** Knob to select the desired waypoint.
 - d) Press the **ENT** Key.
- 11) Press the **ENT** Key. The cursor is displayed in the 'RAD' (radial) field. Enter the desired radial from the reference waypoint.
- 12) Press the **ENT** Key.
- 13) Repeat step 10 to enter the next waypoint name.

- 14) Press the **ENT** Key. The cursor is displayed in the 'RAD' (radial) field for the second waypoint. Enter the desired radial from the reference waypoint.
- 15) Press the **ENT** Key.
- 16) Press the **FMS** Knob to remove the flashing cursor.

CREATE A USER WAYPOINT DEFINED BY A RADIAL & DISTANCE FROM ANOTHER WAYPOINT

- 1) Turn the large **FMS** Knob on the MFD to select the 'WPT' page group.
- 2) Turn the small **FMS** Knob to select the User WPT Information Page.
- 3) Press the **NEW** Softkey. A waypoint is created at the current aircraft position.
- 4) Enter the desired waypoint name.
- 5) Press the **ENT** Key.
- 6) The cursor is now in the 'WAYPOINT TYPE' field. If desired, the waypoint can be made temporary (deleted automatically when the system is turned off). If the waypoint is to remain in the system, proceed to step 7.
 - a) Turn the large **FMS** Knob one click to the left to highlight 'TEMPORARY'.
 - b) Press the **ENT** Key to place a check-mark in the box. Turn the large **FMS** Knob to place the cursor back in the 'WAYPOINT TYPE' field.
- 7) With the cursor in the 'WAYPOINT TYPE' field, turn the small **FMS** Knob to display a list of waypoint types.
- 8) Turn the small **FMS** Knob to select RAD/DIS (radial/distance).
- 9) Press the **ENT** Key.
- 10) The cursor moves to the 'REFERENCE WAYPOINTS' field. With the first waypoint name highlighted, use the **FMS** Knobs to enter the desired waypoint name. Waypoints may also be selected as follows:
 - a) When a flight plan is active, turning the small **FMS** Knob to the left will display a list of the flight plan waypoints.
 - b) Turn the large **FMS** Knob to select the desired waypoint.
 - c) Press the **ENT** Key.

Or:

- a) Turn the small **FMS** Knob to the left. Initially, a flight plan waypoint list is displayed.
- b) Turn the small **FMS** Knob to the right to display the 'NRST' airports to the aircraft's current position.
- c) Turn the large **FMS** Knob to select the desired waypoint.
- d) Press the **ENT** Key.

Or:

- a) Turn the small **FMS** Knob to the left. Initially, a flight plan waypoint list is displayed.
- b) Turn the small **FMS** Knob to the right to display the 'RECENT' waypoints.
- c) Turn the large **FMS** Knob to select the desired waypoint.
- d) Press the **ENT** Key.

Or:

- a) Turn the small **FMS** Knob to the left. Initially, a flight plan waypoint list is displayed.
 - b) Turn the small **FMS** Knob to the right to display the 'USER' waypoints.
 - c) Turn the large **FMS** Knob to select the desired waypoint.
 - d) Press the **ENT** Key.
- 11) Press the **ENT** Key. The cursor is displayed in the 'RAD' (radial) field. Enter the desired radial from the reference waypoint.
 - 12) Press the **ENT** Key.
 - 13) The cursor is now displayed in the 'DIS' (distance) field. Enter the desired distance from the reference waypoint.
 - 14) Press the **ENT** Key.
 - 15) Press the **FMS** Knob to remove the flashing cursor.

CREATE A USER WAYPOINT USING THE MAP POINTER

- 1) Press the **Joystick** to activate the panning function and pan to the map location of the desired user waypoint.
- 2) Press the **ENT** Key. The User Waypoint Information Page is displayed with the captured position.



NOTE: If the pointer has highlighted a map database feature, one of three things happens upon pressing the **ENT** Key: 1) information about the selected feature is displayed instead of initiating a new waypoint, 2) a menu pops up allowing a choice between 'Review Airspaces' or 'Create User Waypoint', or 3) a new waypoint is initiated with the default name being the selected map item.

- 3) Enter a user waypoint name (up to six characters).
- 4) Press the **ENT** Key to accept the selected name.
- 5) If desired, define the type and location (i.e., LAT/LON, RAD/RAD or RAD/DIS) of the waypoint.
- 6) Press the **ENT** Key to accept the new waypoint.
- 7) If desired, change the storage method of the waypoint to "TEMPORARY" or "NORMAL" by moving the cursor to "TEMPORARY" and selecting the **ENT** Key to check or uncheck the box.
- 8) Press the **FMS** Knob to remove the flashing cursor.
- 9) Press the **GO BACK** Softkey to return to the map page.

DELETE A USER WAYPOINT

- 1) Turn the large **FMS** Knob to select the 'WPT' page group.
- 2) Turn the small **FMS** Knob to select the User WPT Information Page.
- 3) Press the **FMS** Knob to activate the cursor.
- 4) Turn the large **FMS** Knob to the place the cursor in the 'USER WAYPOINT LIST' field.
- 5) Turn the small **FMS** Knob to highlight the desired waypoint.
- 6) Press the **DELETE** Softkey.
- 7) The message 'Would you like to delete the user waypoint?' is displayed. With 'YES' highlighted, press the **ENT** Key.

CREATE A FLIGHT PLAN



NOTE: When creating a flight plan in the Active Flight Plan Window, the first leg is activated automatically after it is created.

Creating an active flight plan:

- 1) Press the **FPL** Key.
- 2) Press the **FMS** Knob to activate the cursor (only on MFD).
- 3) Turn the small **FMS** Knob to display the Waypoint Information Window. (Turning it clockwise displays a blank Waypoint Information Window, turning it counter-clockwise displays the Waypoint Information Window with a waypoint selection submenu allowing selection of active flight plan, nearest, recent, user, or airway waypoints).
- 4) Enter the identifier, facility, or city name of the departure waypoint or select a waypoint from the submenu of waypoints and press the **ENT** Key. The active flight plan is modified as each waypoint is entered.
- 5) Repeat step numbers 3 and 4 to enter each additional flight plan waypoint.
- 6) When all waypoints have been entered, press the **FMS** Knob to remove the cursor.

Creating a stored flight plan:

- 1) Press the **FPL** Key.
- 2) Turn the small **FMS** Knob clockwise to display the Flight Plan Catalog Page.
- 3) Select the **NEW** Softkey; or press the **MENU** Key, highlight 'Create New Flight Plan', and press the **ENT** Key to display a blank flight plan for the first empty storage location.
- 4) Turn the small **FMS** Knob to display the Waypoint Information Window. (Turning it clockwise displays a blank Waypoint Information Window, turning it counter-clockwise displays the Waypoint Information Window with a waypoint selection submenu allowing selection of active flight plan, nearest, recent, user, or airway waypoints).
- 5) Enter the identifier, facility, or city name of the departure waypoint or select a waypoint from the submenu of waypoints and press the **ENT** Key.
- 6) Repeat step numbers 4 and 5 to enter each additional flight plan waypoint.
- 7) When all waypoints have been entered, press the **FMS** Knob to return to the Flight Plan Catalog Page. The new flight plan is now in the list.

IMPORT A FLIGHT PLAN FROM AN SD CARD



NOTE: See the *Annunciations & Alerts* section for flight plan import message descriptions.

- 1) Insert the SD card containing the flight plan in the top card slot on the MFD.
- 2) Press the **FPL** Key on the MFD to display the Active Flight Plan Page.
- 3) Turn the small **FMS** Knob to select the Flight Plan Catalog Page.
- 4) Press the **FMS** Knob to activate the cursor.
- 5) Turn either **FMS** Knob to highlight an empty or existing flight plan.
- 6) Press the **IMPORT** Softkey.

If an empty flight plan is selected, a list of the available flight plans on the SD card will be displayed.

Or:

If an existing flight plan is selected, an 'Overwrite existing flight plan? OK or CANCEL' prompt is displayed. Press the **ENT** Key to choose to overwrite the selected flight plan and see a list of the available flight plans on the SD card. If overwriting the existing flight plan is not desired, select 'CANCEL' using the **FMS** Knob, press the **ENT** Key, select another existing or empty flight plan, and again press the **IMPORT** Softkey.

- 7) Turn the small **FMS** Knob to highlight the desired flight plan for importing.
- 8) Press the **ENT** Key.

INSERT A WAYPOINT IN THE ACTIVE FLIGHT PLAN

- 1) Press the **FPL** Key to display the active flight plan.
- 2) If necessary, press the **FMS** Knob to activate the cursor.
- 3) Turn the large **FMS** Knob to highlight the desired flight plan waypoint. The new waypoint is inserted before the highlighted waypoint (shown by the insertion point indicator).
- 4) Turn the small **FMS** Knob. The Waypoint Information Window is now displayed.
- 5) Enter the new flight plan waypoint by one of the following:

- a) Enter the user waypoint identifier, facility, or city.
- b) Press the **ENT** Key.

Or:

- a) Turn the small **FMS** Knob to the left. Initially, a flight plan waypoint list is displayed.
- b) Turn the small **FMS** Knob to the right to display the 'NRST' airports to the aircraft's current position.
- c) Turn the large **FMS** Knob to select the desired waypoint.
- d) Press the **ENT** Key.

Or:

- a) Turn the small **FMS** Knob to the left. Initially, a flight plan waypoint list is displayed.
- b) Turn the small **FMS** Knob to the right to display the 'RECENT' waypoints.
- c) Turn the large **FMS** Knob to select the desired waypoint.
- d) Press the **ENT** Key.

Or:

- a) Turn the small **FMS** Knob to the left. Initially, a flight plan waypoint list is displayed.
 - b) Turn the small **FMS** Knob to the right to display the 'USER' waypoints.
 - c) Turn the large **FMS** Knob to select the desired user waypoint.
 - d) Press the **ENT** Key.
- 6) Press the **ENT** Key again to "accept" the waypoint.

ENTER AN AIRWAY IN A FLIGHT PLAN

- 1) Press the **FPL** Key.
- 2) Press the **FMS** Knob to activate the cursor (not required on the PFD).
- 3) Turn the large **FMS** Knob to highlight the waypoint after the desired airway entry point. The airway is inserted before the highlighted waypoint (as shown by the insertion point indicator). If this waypoint is not a valid airway entry point, a valid entry point should be entered at this time.

- 4) Turn the small **FMS** Knob one click clockwise and press the **LD AIRWY** Softkey, or press the **MENU** Key and press "Load Airway". The Select Airway Page is displayed. The **LD AIRWY** Softkey or the "Load Airway" menu item is available only when an acceptable airway entry waypoint has been chosen (the waypoint ahead of the cursor position as indicated by the insertion point indicator).
- 5) Turn the **FMS** Knob to select the desired airway from the list, and press the **ENT** Key. Low altitude airways are shown first in the list, followed by "all" altitude airways, and then high altitude airways.
- 6) Turn the **FMS** Knob to select the desired airway exit point from the list, and press the **ENT** Key. 'LOAD?' is highlighted.
- 7) Press the **ENT** Key. The system returns to editing the flight plan with the new airway inserted.

USER-DEFINED HOLDING PATTERNS

A holding pattern can be defined at any active flight plan waypoint, or at the aircraft present position.

Creating a user-defined hold at an active flight plan waypoint:

- 1) Press the **FPL** Key to display the Active Flight Plan Page (MFD) or the Active Flight Plan Window (PFD).
- 2) Press the **FMS** Knob to activate the cursor (not required on the PFD) and turn the large **FMS** Knob to highlight the waypoint for the hold.
- 3) Press the **MENU** Key, highlight 'Hold At Waypoint', and press the **ENT** Key. The HOLD AT window appears with the course field highlighted.
- 4) Use the **FMS** Knobs to edit the entry course, and press the **ENT** Key.
- 5) Use the small **FMS** Knob to select 'INBOUND' or 'OUTBOUND' course direction, and press the **ENT** Key.
- 6) Use the small **FMS** Knob to select 'TIME' or 'DIST' length mode, and press the **ENT** Key.
- 7) Use the **FMS** Knobs to edit the length, and press the **ENT** Key.
- 8) Use the small **FMS** Knob to select 'RIGHT' or 'LEFT' turn direction, and press the **ENT** Key.

- 9) Use the **FMS** Knobs to edit the Expect Further Clearance Time (EFC TIME), and press the **ENT** Key.
- 10) Press the **ENT** Key while 'LOAD?' is highlighted to add the hold into the flight plan.

Creating a user-defined hold at the aircraft present position:

- 1) Press the **FPL** Key to display the Active Flight Plan Page (MFD) or the Active Flight Plan Window (PFD).
- 2) Press the **MENU** Key, highlight 'Hold At Present Position', and press the **ENT** Key. The HOLD AT window appears with the course field highlighted.
- 3) Use the **FMS** Knobs to edit the entry course, and press the **ENT** Key.
- 4) Use the small **FMS** Knob to select 'INBOUND' or 'OUTBOUND' course direction, and press the **ENT** Key.
- 5) Use the small **FMS** Knob to select 'TIME' or 'DIST' length mode, and press the **ENT** Key.
- 6) Use the **FMS** Knobs to edit the length, and press the **ENT** Key.
- 7) Use the small **FMS** Knob to select 'RIGHT' or 'LEFT' turn direction, and press the **ENT** Key.
- 8) Use the **FMS** Knobs to edit the Expect Further Clearance Time (EFC TIME), and press the **ENT** Key.
- 9) Press the **ENT** Key while 'ACTIVATE?' is highlighted to create an Offroute Direct-to hold waypoint and activate the hold.

Creating a user-defined hold at a Direct To waypoint:

- 1) Press a **Direct-to** Key and set up the Direct To waypoint as desired, but select 'HOLD?' instead of 'ACTIVATE?' when finished (MFD or PFD).
- 2) Use the **FMS** Knobs to edit the entry course, and press the **ENT** Key.
- 3) Use the small **FMS** Knob to select 'INBOUND' or 'OUTBOUND' course direction, and press the **ENT** Key.
- 4) Use the small **FMS** Knob to select 'TIME' or 'DIST' length mode, and press the **ENT** Key.
- 5) Use the **FMS** Knobs to edit the length, and press the **ENT** Key.
- 6) Use the small **FMS** Knob to select 'RIGHT' or 'LEFT' turn direction, and press the **ENT** Key.

- 7) Use the **FMS** Knobs to edit the Expect Further Clearance Time (EFC TIME), and press the **ENT** Key.
- 8) Press the **ENT** Key while 'ACTIVATE?' is highlighted to activate the Direct To with the user-defined hold defined at the Direct To waypoint.

Removing a user-defined hold (created at an active flight plan waypoint):

- 1) Press the **FPL** Key to display the Active Flight Plan Page (MFD) or the Active Flight Plan Window (PFD).
- 2) Press the **FMS** Knob to activate the cursor (not required on the PFD) and turn the large **FMS** Knob to highlight the HOLD waypoint.
- 3) Press the **CLR** Key. A 'Remove Holding Pattern?' confirmation window is displayed.
- 4) Select 'OK' and press the **ENT** Key. The holding pattern is removed from the active flight plan. Select 'CANCEL' and press the **ENT** Key to cancel the removal of the holding pattern.

Removing a user-defined hold (created at the aircraft present position or at a Direct-To waypoint):

- 1) Press the **Direct To** Key to display the DIRECT TO Window (PFD or MFD).
- 2) Press the **MENU** Key to display the PAGE MENU with the cursor on the 'Cancel Direct To NAV' selection.
- 3) Press the **ENT** Key. The holding pattern is removed.

INVERT AN ACTIVE FLIGHT PLAN

- 1) Press the **FPL** Key to display the active flight plan.
- 2) Press the **MENU** Key to display the Page Menu.
- 3) Turn the large **FMS** Knob to highlight 'Invert Flight Plan'.
- 4) Press the **ENT** Key. The original flight plan remains intact in its flight plan catalog storage location.
- 5) With 'OK' highlighted, press the **ENT** Key to invert the flight plan.

REMOVE A DEPARTURE, ARRIVAL, APPROACH, OR AIRWAY FROM A FLIGHT PLAN

- 1) Press the **FPL** Key to display the active flight plan. Press the **FMS** Knob to activate the cursor.

Or, for a stored flight plan:

- a) Press the **FPL** Key on the MFD and turn the small **FMS** Knob to select the Flight Plan Catalog Page.
 - b) Press the **FMS** Knob to activate the cursor.
 - c) Turn the large **FMS** Knob to highlight the desired flight plan.
 - d) Press the **EDIT** Softkey.
- 2) Turn the large **FMS** Knob to highlight the title for the approach, departure, arrival, or airway to be deleted. Titles appear in white directly above the procedure's waypoints.
 - 3) Press the **CLR** Key to display a confirmation window.
 - 4) With 'OK' highlighted, press the **ENT** Key to remove the selected procedure or airway.

STORE A FLIGHT PLAN

- 1) After creating a flight plan on either the PFD or MFD, it may be saved by pressing the **MENU** Key.
- 2) Turn the large **FMS** Knob to highlight 'Store Flight Plan' and press the **ENT** Key.
- 3) With 'OK' highlighted, press the **ENT** Key to store the flight plan.

EDIT A STORED FLIGHT PLAN

- 1) Press the **FPL** Key on the MFD and turn the small **FMS** Knob to display the Flight Plan Catalog Page.
- 2) Press the **FMS** Knob to activate the cursor.
- 3) Turn the large **FMS** Knob to highlight the desired flight plan.
- 4) Press the **EDIT** Softkey.
- 5) Turn the large **FMS** Knob to place the cursor in the desired location.
- 6) Enter the changes, then press the **ENT** Key.
- 7) Press the **FMS** Knob to return to the Flight Plan Catalog Page.

DELETE A WAYPOINT FROM THE FLIGHT PLAN

- 1) Press the **FPL** Key to display the active flight plan. Press the **FMS** Knob to activate the cursor.
Or, for a stored flight plan:
 - a) Press the **FPL** Key on the MFD and turn the small **FMS** Knob to select the Flight Plan Catalog Page.
 - b) Press the **FMS** Knob to activate the cursor.
 - c) Turn the large **FMS** Knob to highlight the desired flight plan.
 - d) Press the **EDIT** Softkey.
- 2) Turn the large **FMS** Knob to highlight the waypoint to be deleted.
- 3) Press the **CLR** Key to display a 'REMOVE (Wpt Name)?' confirmation window.
- 4) With 'OK' highlighted, press the **ENT** Key to remove the waypoint. To cancel the delete request, turn the large **FMS** Knob to highlight 'CANCEL' and press the **ENT** Key.
- 5) Once all changes have been made, press the **FMS** Knob to remove the cursor.

INVERT AND ACTIVATE A STORED FLIGHT PLAN

- 1) Press the **FPL** Key on the MFD.
- 2) Turn the small **FMS** Knob to select the Flight Plan Catalog Page.
- 3) Press the **FMS** Knob to activate the cursor.
- 4) Turn the large **FMS** Knob to highlight the desired flight plan.
- 5) Press the **INVERT** Softkey. 'Invert and activate stored flight plan?' is displayed.
- 6) With 'OK' highlighted, press the **ENT** Key. The selected flight plan is now inverted and activated. The original flight plan remains intact in its flight plan catalog storage location.

COPY A FLIGHT PLAN

- 1) Press the **FPL** Key on the MFD.
- 2) Turn the small **FMS** Knob to select the Flight Plan Catalog Page.

- 3) Press the **FMS** Knob to activate the cursor.
- 4) Turn the large **FMS** Knob to highlight the flight plan to be copied.
- 5) Press the **COPY** Softkey. A 'Copy to flight plan #?' confirmation window is displayed.
- 6) With 'OK' highlighted, press the **ENT** Key to copy the flight plan. To cancel, turn the large **FMS** Knob to highlight 'CANCEL' and press the **ENT** Key.

DELETE A FLIGHT PLAN

- 1) Press the **FPL** Key on the MFD.
- 2) Turn the small **FMS** Knob to select the Flight Plan Catalog Page.
- 3) Press the **FMS** Knob to activate the cursor.
- 4) Turn the large **FMS** Knob to highlight the flight plan to be deleted.
- 5) Press the **DELETE** Softkey. A 'Delete flight plan #?' confirmation window is displayed.
- 6) With 'OK' highlighted, press the **ENT** Key to delete the flight plan. To cancel, turn the large **FMS** Knob to highlight 'CANCEL' and press the **ENT** Key.

GRAPHICAL FLIGHT PLAN CREATION

- 1) Press the **FPL** Key to display the Active Flight Plan Page on the MFD.
- 2) Press the **Joystick** to activate the map pointer. Use the **Joystick** to move the pointer to the desired point on the map to be inserted as a waypoint in the flight plan.
- 3) The default insertion point is at the end of the flight plan. If the selected waypoint is to be placed anywhere other than the end of the flight plan, press the **FMS** Knob to activate the cursor. Waypoints are inserted *ABOVE* the cursor (as indicated by the insertion point indicator). Turn the large **FMS** Knob to select the desired insertion point.
- 4) Press the **LD WPT** Softkey. The selected waypoint is inserted at the selected point. The default user waypoint naming is USR000, USR001, USR002, and so on.
- 5) To change the user waypoint name, follow the procedure for modifying a user waypoint.

EXPORT A FLIGHT PLAN TO AN SD CARD



NOTE: See the *Annunciations & Alerts* section for flight plan export message descriptions.

- 1) Insert the SD card into the top card slot on the MFD.
- 2) Press the **FPL** Key to display the Active Flight Plan Page on the MFD.
- 3) Turn the small **FMS** Knob to select the Flight Plan Catalog Page.
- 4) Press the **FMS** Knob to activate the cursor.
- 5) Turn the large **FMS** Knob to highlight the flight plan to be exported.
- 6) Press the **EXPORT** Softkey.
- 7) Press the **ENT** Key to confirm the export.

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PROCEDURES

LOAD AND ACTIVATE A DEPARTURE PROCEDURE

- 1) Press the **PROC** Key.
- 2) Turn the large **FMS** Knob to highlight 'SELECT DEPARTURE'.
- 3) Press the **ENT** Key. The cursor is displayed in the 'DEPARTURE' field with a list of available departures.
- 4) Turn the large **FMS** Knob to highlight the desired departure.
- 5) Press the **ENT** Key. A list of runways may be displayed for the departure. If so, turn either **FMS** Knob to select the desired runway.
- 6) Press the **ENT** Key. The cursor is displayed in the 'TRANSITION' field with a list of available transitions.
- 7) Turn the large **FMS** Knob to highlight the desired transition.
- 8) Press the **ENT** Key.
- 9) With 'LOAD?' highlighted, press the **ENT** Key. The departure is active when the flight plan is active.

ACTIVATE A DEPARTURE LEG

- 1) Press the **FPL** Key on the MFD to display the active flight plan.
- 2) Press the **FMS** Knob to activate the cursor.
- 3) Turn the large **FMS** Knob to highlight the TO waypoint of the desired leg within the departure.
- 4) Press the **ACT LEG** Softkey. A confirmation window showing the selected leg is displayed.
- 5) With 'ACTIVATE' highlighted, press the **ENT** Key.

LOAD AN ARRIVAL PROCEDURE

- 1) Press the **PROC** Key.
- 2) Turn the large **FMS** Knob to highlight 'SELECT ARRIVAL'.
- 3) Press the **ENT** Key. The cursor is displayed in the 'ARRIVAL' field with a list of available arrivals.

- 4) Turn the large **FMS** Knob to highlight the desired arrival.
- 5) Press the **ENT** Key. A list of transitions is displayed for the selected arrival.
- 6) Turn either **FMS** Knob to select the desired transition.
- 7) Press the **ENT** Key. A list of runways may be displayed for the selected arrival.
- 8) Turn the large **FMS** Knob to highlight the desired runway.
- 9) Press the **ENT** Key.
- 10) With 'LOAD?' highlighted, press the **ENT** Key.
- 11) The arrival becomes part of the active flight plan.
- 12) If an altitude associated with a waypoint in an arrival procedure is to be used to calculate vertical guidance perform the following steps:
 - a) Press the **FMS** Knob to activate the cursor.
 - b) Turn the large **FMS** Knob to highlight the desired waypoint altitude.
 - c) Press the **ENT** Key to designate the altitude for use in giving vertical guidance.

ACTIVATE AN ARRIVAL LEG

- 1) Press the **FPL** Key to display the active flight plan.
- 2) Press the **FMS** Knob to activate the cursor.
- 3) Turn the large **FMS** Knob to highlight the TO waypoint of the desired leg within the arrival.
- 4) Press the **ACT LEG** Softkey. A confirmation window showing the selected leg is displayed.
- 5) With 'ACTIVATE' highlighted, press the **ENT** Key.

LOAD AND/OR ACTIVATE AN APPROACH PROCEDURE



NOTE: If certain GPS parameters (SBAS, RAIM, etc.) are not available, some published approach procedures for the desired airport may not be displayed in the list of available approaches.

- 1) Press the **PROC** Key.
- 2) Turn the large **FMS** Knob to highlight 'SELECT APPROACH'.
- 3) Press the **ENT** Key. A list of available approaches for the destination airport is displayed.
- 4) Turn either **FMS** Knob to highlight the desired approach.
- 5) Press the **ENT** Key. A list of available transitions for the selected approach procedure is now displayed.
- 6) Turn either **FMS** Knob to select the desired transition. The "Vectors" option assumes vectors will be received to the final course segment of the approach and will provide navigation guidance relative to the final approach course.
- 7) Press the **ENT** Key. The cursor moves to the MINIMUMS field.
- 8) If desired, the DA/MDA for the selected approach procedure may be entered and displayed on the PFD. Turn the small **FMS** Knob in the direction of the green arrow to change the display from OFF to BARO, or TEMP COMP.
- 9) Press the **ENT** Key. The cursor moves to the altitude field. Turn the small **FMS** Knob to enter the published DA/MDA for the selected approach procedure.
- 10) Press the **ENT** Key. If BARO, or OFF was selected step 8, proceed to step 11. If TEMP COMP was selected in step 8, the cursor moves to the 'TEMP AT...' field. Turn the small **FMS** Knob to enter the temperature at the destination airport. The temperature compensated altitude minimum is displayed below the previously enter minimum altitude value.
- 11) Press the **ENT** Key. 'LOAD? or ACTIVATE?' is now displayed with 'LOAD?' highlighted.

- 12) Turn the large **FMS** Knob to select either 'LOAD?' or 'ACTIVATE?'.
Selecting 'LOAD?' enters the selected approach procedure into the active flight plan, but is not currently active. Selecting 'ACTIVATE?' enters the selected approach procedure into the active flight plan and activates the first leg of the approach.

- 13) Press the **ENT** Key.

ACTIVATE AN APPROACH IN THE ACTIVE FLIGHT PLAN

- 1) Press the **PROC** Key.
- 2) Turn the large **FMS** Knob to highlight 'ACTIVATE APPROACH'.
- 3) Press the **ENT** Key.

ACTIVATE A VECTOR TO FINAL APPROACH FIX

- 1) Press the **PROC** Key.
- 2) Turn the large **FMS** Knob to highlight 'ACTIVATE VECTOR-TO-FINAL'.
- 3) Press the **ENT** Key.
- 4) The final approach course becomes the active leg.

ACTIVATE A MISSED APPROACH IN THE ACTIVE FLIGHT PLAN

- 1) Press the **PROC** Key.
- 2) Turn the large **FMS** Knob to highlight 'ACTIVATE MISSED APPROACH'.
- 3) Press the **ENT** Key. A confirmation window is displayed.
- 4) With 'ACTIVATE' highlighted, press the **ENT** Key.

Or:

Press the Go-around Switch.

TEMPERATURE COMPENSATED ALTITUDE

When temperature compensated altitude is enabled for the loaded approach, the altitudes associated with the approach waypoints are displayed in slanted text.

| Approach - KCOS-RNAVGPS 35R LPV | | | |
|---------------------------------|------|------|---------------------|
| HABUK | iaf | 021° | 5.7NM <u>9000FT</u> |
| FALUR | | 261° | 4.7NM <u>8600FT</u> |
| CEGIX | faf | 351° | 5.9NM <u>7800FT</u> |
| RW35R | map | 351° | 5.1NM |
| 6368FT | | 348° | 0.5NM <u>6368FT</u> |
| MOGAL | mahp | | <u>10000FT</u> |
| HOLD | | 168° | 6.0NM |

Altitudes Displayed Without Temperature Compensation

| Approach - KCOS-RNAVGPS 35R LPV | | | |
|---------------------------------|------|------|---------------------|
| HABUK | iaf | 021° | 5.7NM <i>8788FT</i> |
| FALUR | | 261° | 4.7NM <i>8418FT</i> |
| CEGIX | faf | 351° | 5.9NM <i>7679FT</i> |
| RW35R | map | 351° | 5.1NM |
| 6368FT | | 348° | 0.5NM <i>6355FT</i> |
| MOGAL | mahp | | <i>9712FT</i> |
| HOLD | | 168° | 6.0NM |

Altitudes Displayed With Temperature Compensation

Enabling temperature compensated altitude:

- 1) From the Active Flight Plan Page, press the **MENU** Key. The Page Menu is displayed.
- 2) Turn the **FMS** Knob to highlight 'Temperature Compensation'.
- 3) Press the **ENT** Key. The TEMPERATURE COMPENSATION Window is displayed.
- 4) Use the small **FMS** Knob to select the temperature at the <airport>. The compensated altitude is computed as the temperature is selected.
- 5) Press the **ENT** Key. 'ACTIVATE COMPENSATION?' is highlighted.
- 6) Press the **ENT** Key. The compensated altitudes for the approach are shown in the flight plan.

Disabling temperature compensated altitude:

- 1) From the Active Flight Plan Page, press the **MENU** Key. The Page Menu is displayed.
- 2) Turn the **FMS** Knob to highlight 'Temperature Compensation'.
- 3) Press the **ENT** Key. The TEMPERATURE COMPENSATION Window is displayed.
- 4) Press the **ENT** Key. 'CANCEL COMPENSATION?' is highlighted.
- 5) Press the **ENT** Key. The temperature compensated altitude at the FAF is cancelled.

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HAZARD AVOIDANCE

CUSTOMIZING THE HAZARD DISPLAYS ON THE NAVIGATION MAP

- 1) With the Navigation Map Page displayed, press the **MENU** Key to display the Navigation Map Page Menu. The cursor flashes on the 'Map Setup' option.
- 2) Press the **ENT** Key. The Map Setup Menu is displayed. Turn the small **FMS** Knob to select 'Weather' to customize the display of weather features. Select 'Traffic' to customize the display of traffic.
- 3) Press the small **FMS** Knob to return to the Navigation Map Page.





STORMSCOPE® (OPTIONAL)



WARNING: The Stormscope system is not intended to be used for hazardous thunderstorm penetration. Weather information on the G1000 MFD is approved for weather avoidance only. Refer to the WX-500 Pilot's Guide for detailed operation.

Displaying Stormscope Lightning Data on the Navigation Map Page

- 1) Press the **MAP** Softkey.
- 2) Press the **STRMSCP** Softkey. Press the **STRMSCP** Softkey again to remove Stormscope Lightning Data from the Navigation Map Page.

| Lightning Age | Symbol |
|--|---|
| Strike is less than 6 seconds old |  |
| Strike is between 6 and 60 seconds old |  |
| Strike is between 1 and 2 minutes old |  |
| Strike is between 2 and 3 minutes old |  |

Select 'Cell' or 'Strike' as the Stormscope Lightning Mode

- 1) Press the **MENU** Key (with the Navigation Map Page displayed).
- 2) Turn either **FMS** Knob to highlight 'Map Setup'.
- 3) Press the **ENT** Key.
- 4) Turn the small **FMS** Knob to highlight 'Weather'.

- 5) Press the **ENT** Key.
- 6) Turn the large **FMS** Knob to place the cursor in the 'STRMSCP MODE' field.
- 7) Turn the small **FMS** Knob to display the 'Cell/Strike' window.
- 8) Turn either **FMS** Knob to select 'Cell' or 'Strike'. Press the **ENT** Key.
- 9) Push the **FMS** Knob to return to the Navigation Map Page.

Clear Stormscope Lightning Data from the Navigation Map Page

- 1) Press the **MENU** Key (with the Navigation Map Page displayed).
- 2) Turn either **FMS** Knob to highlight the 'Clear Stormscope® Lightning' field and press the **ENT** Key.



NOTE: If heading input is lost, strikes and/or cells must be cleared manually after the execution of each turn. This is to ensure that the strike and/or cell positions are depicted accurately in relation to the nose of the aircraft.

Stormscope Page

- 1) Turn the large **FMS** Knob until the Map Page group is selected.
- 2) Turn the small **FMS** Knob until the Stormscope Page is selected.

Change the Stormscope Lightning Mode Between 'Cell' and 'Strike'

- 1) Select the Stormscope Page.
- 2) Press the **MODE** Softkey. The **CELL** and **STRIKE** Softkeys are displayed. Press the **CELL** Softkey to display 'CELL' data or press the **STRIKE** Softkey to display 'STRIKE' data. 'CELL' or 'STRIKE' is displayed in the mode box located in the upper left corner of the Stormscope Page.



NOTE: "Cell mode" uses a clustering program to identify clusters of electrical activity that indicate cells.

Change the Viewing Mode Between 360° and 120°

- 1) Select the Stormscope Page.
- 2) Press the **VIEW** Softkey. The **360** and **ARC** Softkeys are displayed. Press the **360** Softkey to display a 360° viewing area or press the **ARC** Softkey to display a 120° viewing area.
Press the **CLEAR** Softkey to remove all Stormscope lightning data from the display.

DATA LINK WEATHER PRODUCTS

Data Link Weather products include: SiriusXM, FIS-B, and Connex.



WARNING: Do not use data link weather information for maneuvering in, near or around areas of hazardous weather. Information contained within data link weather products may not accurately depict current weather conditions.



WARNING: Do not use the indicated data link weather product age to determine the age of the weather information shown by the data link weather product. Due to time delays inherent in gathering and processing weather data for data link transmission, the weather information shown by the data link weather product may be significantly older than the indicated weather product age.

Setting Up and Customizing Weather Data for the Navigation Map Page

- 1) Select the Navigation Map Page.
- 2) Press the **MENU** Key.
- 3) With 'Map Setup' highlighted, press the **ENT** Key.
- 4) Turn the small **FMS** Knob to select the 'Weather' Group and press the **ENT** Key.
- 5) Turn the large **FMS** Knob or press the **ENT** Key to scroll through product selections.
- 6) Turn the small **FMS** Knob to scroll through options for each product (ON/OFF, range settings).
- 7) Press the **ENT** Key to select an option.
- 8) Press the **FMS** Knob or **CLR** Key to return to the Navigation Map Page with the changed settings.

Switching Between FIS-B, Connex, and SiriusXM Weather Sources

- 1) Turn the large **FMS** Knob on the MFD to select the MAP page group.
- 2) Turn the small **FMS** Knob to select the desired Weather Data Link Page.
- 3) Press the **MENU** Key.
- 4) Turn the large **FMS** Knob to select 'Display FIS-B Weather', 'Display Connex Weather', or 'Display XM Weather' (choice dependent on current weather source) and press the **ENT** Key.

SIRIUSXM WEATHER (SUBSCRIPTION OPTIONAL)

Displaying SiriusXM weather on the Navigation Map Page

- 1) Press the **MAP** Softkey.
- 2) Press the **NEXRAD** or **XM LTNG** Softkey to display the desired weather. Press the applicable softkey again to remove weather data from the Navigation Map Page.

Display METAR and TAF information on the Airport Information Page

- 1) Turn the large **FMS** Knob to select the WPT Page Group.
- 2) Turn the small **FMS** Knob to select the Airport Information Page.
- 3) Press the **WX** Softkey to display METAR and TAF text (METAR and TAF information is updated every 12 minutes).

Displaying Weather on the Weather Data Link Page

- 1) Turn the large **FMS** Knob to select the Map Page Group.
- 2) Turn the small **FMS** Knob to select the Weather Data Link Page.
- 3) Press the available softkeys to select the desired XM weather product.
- 4) Press the **LEGEND** Softkey to view the legends for the selected products. If necessary, turn either **FMS** Knob to scroll through the list. Press the small **FMS** Knob or the **ENT** Key to return to the map.

Map Panning Information – Weather Data Link Page

- 1) Push in the **Joystick** to display the panning arrow.
- 2) Move the **Joystick** to place the panning arrow on AIRMETS, TFRs, METARs, or SIGMETs.
- 3) Press the **ENT** Key to display pertinent information for the selected product.

Note that pressing the **ENT** Key when panning over an AIRMET or a SIGMET displays an information box that shows the text of the report. Panning over an airport with METAR information does not display more information but allows the user to press the **ENT** Key and select that Airport's Information Page to display the text of the report. Pressing the **ENT** Key when panning over a TFR displays TFR specific information.





Displaying TFR Data:

- 1) Select the Weather Data Link (XM) Page or Navigation Map Page.
- 2) Press the **RANGE** Knob and pan the map pointer over a TFR to highlight it. The system displays TFR summary information above the map.
- 3) Press the **ENT** Key. The system displays a pop-up menu.
- 4) If necessary, turn the **FMS** Knob to select 'Review Airspaces' and press the **ENT** Key. The system displays the TFR Information window.
- 5) Press the **FMS** Knob or the **CLR** Key to remove the TFR Information window.


Enabling/disabling winds aloft data display in Profile View:

- 1) Select the Navigation Map Page.
- 2) Press the **MENU** Key.
- 3) With Map Setup highlighted, press the **ENT** Key
- 4) Turn the small **FMS** Knob to select the Profile Group and press the **ENT** Key
- 5) Turn the large **FMS** Knob to select 'Profile Winds'.
- 6) Turn the small **FMS** Knob to select 'On' or 'Off'.
- 7) Press the **FMS** Knob or **CLR** Key to return to the Navigation Map Page with the changed settings.

SiriusXM Weather Products and Symbols

| Wx Product Status Icons | Description | Expiration Time (Minutes) | Refresh Rate (Minutes) |
|--|---|---------------------------|-------------------------|
|  | NEXRAD - Available for the US and Canada. The age of the displayed data for each is shown at the right. | 30 | 5 (U.S.) 10 (Canada) |
|  | ECHO TOP - The age of the displayed data is shown at the right. Not displayed when CLOUD TOP is displayed. | 30 | 7.5 |
|  | CLOUD TOP - The age of the displayed data is shown at the right. Not displayed when ECHO TOP is displayed. | 60 | 15 |
|  | XM LIGHTNING - The age of the displayed data is shown at the right. | 30 | 5 |

| | Wx Product Status Icons | Description | Expiration Time (Minutes) | Refresh Rate (Minutes) |
|---------------------|-------------------------|--|---------------------------|------------------------|
| Flight Instruments | | CELL MOVEMENT - The age of the displayed data is shown at the right. | 30 | 12 |
| EIS | | SIGMET & AIRMET - The age of the displayed data for each is shown at the right. | 60 | 12 |
| Nav/Com/XPDR/Audio | | METAR - Available for the US and Canada. The age of the displayed data for each is shown at the right. | 90 | 12 |
| AFCs | | SURFACE ANALYSIS with CITY FORECAST - The upper symbol depicts Surface Analysis. The lower symbol depicts City Forecast. The age of the displayed data for each is shown at the right. The selected forecast period is shown at the bottom. | 90 | 12 |
| GPS Nav | | FREEZING LEVEL - The age of the displayed data is shown at the right. | 120 | 12 |
| Flight Planning | | WINDS ALOFT - Available for the US and Canada. The age of the displayed data for each is shown at the right. The altitude selection is shown at the bottom. | 90 | 12 |
| Procedures | | COUNTY WARNING - The age of the displayed data is shown at the right. | 60 | 5 |
| Hazard Avoidance | | CYCLONE WARNING - The age of the displayed data is shown at the right. | 60 | 12 |
| Additional Features | | AIREP - The age of the displayed data is shown at the right. | 90 | 12 |
| Abnormal Operation | | PIREP - The age of the displayed data is shown at the right. Urgent Pireps are displayed in yellow. | 90 | 12 |
| Annun/Alerts | | TURBULENCE - The age of the displayed data is shown at the right. The altitude selection is shown at the bottom. | 180 | 12 |
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| Wx Product Status Icons | Description | Expiration Time (Minutes) | Refresh Rate (Minutes) |
|--|--|---------------------------|------------------------|
|  | ICING POTENTIAL - The age of the displayed data is shown at the right. The altitude selection is shown at the bottom. | 90 | 22 |
| No Status Icon | TFR - Depicted as an area outlined in yellow | 60 | 12 |

FIS-B WEATHER (OPTIONAL)

Accessing FIS-B Weather Products



- 1) Turn the large **FMS** Knob to select the Map Page Group.
- 2) Turn the small **FMS** Knob to select the Weather Data Link Page.
- 3) Press the **MENU** Key.
- 4) Turn the large **FMS** Knob to select 'Display FIS-B Weather', and press the **ENT** Key.

When a weather product is selected for display on the FIS-B Weather Data Link Page, a box containing a symbol for the product and its age (in minutes) are shown in the upper right. If weather data has not been requested, 'N/A' is shown next to the product symbol instead of age. The age of the weather product is based on the time difference between when the data was assembled on the ground and the current GPS time. Weather products are updated continuously or refreshed at specific intervals (defined in the **Broadcast Interval** column in the following table).

If for any reason, a weather product is not refreshed within the defined **Expiration Time** intervals, the data is considered expired and is removed from the display. The age of the expired product is replaced by dashes. If more than half of the expiration time has elapsed, the color of the product age readout changes to yellow.

The broadcast interval represents the interval at which the servers make available the most current known weather data. It does not necessarily represent the rate at which new content is received from weather sources.

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| Weather Product | Symbol | Expiration Time (Minutes) | Broadcast Interval (Minutes) |
|--|---|---------------------------|------------------------------|
| Radar Precipitation (PRECIP) |  | 30 | 2.5 |
| Meteorological Aerodrome Report (METARs) |  | 90 | 5 |
| Radar Coverage (RADAR CVRG) | no product image | 30 | 2.5 |
| Terminal Aerodrome Reports (TAFs) | no product image | 60 | 10 |

Setting Up and Customizing the FIS-B Weather Data Link Page

- 1) Select the FIS-B Weather Data Link Page.
- 2) Press the **MENU** Key.
- 3) With 'Weather Setup' highlighted, press the **ENT** Key.
- 4) Turn the small **FMS** Knob to select 'Product Group 1' and press the **ENT** Key.
- 5) Turn the large **FMS** Knob or press the **ENT** Key to scroll through product selections.
- 6) Turn the small **FMS** Knob to scroll through options for each product (ON/OFF, range settings, etc.).
- 7) Press the **ENT** Key to select an option.
- 8) Press the **FMS** Knob or **CLR** Key to return to the FIS-B Weather Data Link Page with the changed settings.

Restoring Default FIS-B Weather Data Link Page Settings

- 1) Select the FIS-B Weather Data Link Page.
- 2) Press the **MENU** Key.
- 3) With 'Weather Setup' highlighted, press the **ENT** Key.
- 4) Press the **MENU** Key.
- 5) Highlight the desired default(s) to restore (all or for selection) and press **ENT** Key.

Viewing Legends for Displayed FIS-B Weather Products

- 1) Select the FIS-B Weather Data Link Page.
- 2) Select the **LEGEND** Softkey to display the legends for the displayed weather products.
Or:
 - a) Press the **MENU** Key.
 - b) Select 'Weather Legend' and press the **ENT** Key.
- 3) Turn the **FMS** Knob to scroll through the legends if more are available than fit in the window.
- 4) To remove the Legend Window, select the **LEGEND** Softkey, the **ENT** or the **CLR** Key, or press the **FMS** Knob.

FIS-B Weather Products

Precipitation

Precipitation data is not real-time. The lapsed time between collection, processing, and dissemination of radar images can be significant and may not reflect the current radar synopsis. Due to the inherent delays and the relative age of the data, it should be used for long-range planning purposes only.



NOTE: Precipitation data cannot be displayed on the Navigation Map Page at the same time as terrain data.

Displaying Precipitation Weather Information

- 1) Select the **MAP** Softkey (for the PFD Inset Map, select the **INSET** Softkey). This step is not necessary on the FIS-B Weather Data Link Page.
- 2) Select the **PRECIP** Softkey.

Radar data shown represents lowest level, base reflectivity, of radar returns. The display of the information is color-coded to indicate the weather severity level. For the Precipitation legend, select the **LEGEND** Softkey when Precipitation is selected for display.

PRECIPITATION LIMITATIONS

Radar images may have certain limitations:

- Radar base reflectivity does not provide sufficient information to determine cloud layers or precipitation characteristics (wet hail vs. rain). For example, it is not possible to distinguish between wet snow, wet hail, and rain.
- Radar base reflectivity is sampled at the minimum antenna elevation angle. An individual radar site cannot depict high altitude storms at close ranges. It has no information about storms directly over the site.
- When zoomed in to a range of 30 nm, each square block on the display represents an area of four square kilometers.

The following may cause abnormalities in displayed radar images:

- Ground clutter
- Strokes and spurious radar data
- Sun strobes (when the radar antenna points directly at the sun)
- Interference from buildings or mountains, which may cause shadows
- Metallic dust from military aircraft, which can cause alterations in radar scans

METARs and TAFs



NOTE: METAR information is only displayed within the installed navigation database service area.

METAR and TAF text are displayed on the WPT-Weather Information Page. TAF information is displayed in its raw form when it is available.

Displaying METAR and TAF text

- 1) On the FIS-B Weather Data Link Page, select the **METAR** Softkey.
- 2) Press the **RANGE** Knob and pan to the desired airport.
- 3) Press the **ENT** Key. The Weather Information Page is shown with METAR and TAF text.
- 4) Use the **FMS** Knob or the **ENT** Key to scroll through the METAR and TAF text. METAR text must be completely scrolled through before scrolling through the TAF text.
- 5) Press the **FMS** Knob or the **CLR** Key to return to the FIS-B Weather Data Link Page.

Or:

- 1) Select the WPT-Weather Information Page.
 - a) Turn the large **FMS** Knob to select the Waypoint Page Group.
 - b) If needed, turn the small **FMS** Knob to select the Airport Information Page. If it is not already active, press the **WX** Softkey to select the Weather Information Page.
- 2) Press the **FMS** Knob to display the cursor.
- 3) Use the **FMS** Knob to enter the desired airport and press the **ENT** Key.
- 4) Use the **FMS** Knob or the **ENT** Key to scroll through the METAR and TAF text. Note that the METAR text must be completely scrolled through before scrolling through the TAF text.

To display the METAR legend on the FIS-B Weather Data Link Page, select the **LEGEND** Softkey when METARs are selected for display.

CONNEXT™ WEATHER (OPTIONAL)



NOTE: The availability of specific Garmin Connex Weather products varies by region. For product coverage information, refer to fly.garmin.com/fly-garmin/gfds-weather.

Weather data is provided when the pilot initiates either a manual or automatic Connex data request on the Weather Data Link (CNXT) Page on the MFD. No weather data is displayed until the first Connex Weather Data Request is made.

Registering with Garmin Flight Data Services

A subscriber account must be established prior to receiving Connex Weather products. Contact Garmin Flight Data Services at <https://fly.garmin.com/fly-garmin/support/applications/satelliteservices/> or by calling 1-866-739-5687 in the United States or (011) 913-440-1135. The following information is required to register for Connex Weather services: G1000 System ID, GSR56 (GSR1) Serial Number(s), Tail Number, Serial/Airframe Number, Country of Registration, Aircraft Manufacturer, and Aircraft Model.

- 1) Turn the large **FMS** Knob on the MFD to select the AUX page group.
- 2) Turn the small **FMS** Knob to select the AUX-SYSTEM STATUS page. Note the System ID in the AIRFRAME window and the GSR1 Serial Number shown in the LRU INFO window. Press the LRU softkey and use the **FMS** knob to scroll down to the GSR1 information.

Activating Connex Weather Registration:

After a subscriber account has been established, the system must be activated for data link features such as reporting services or Connex Weather. Activation is accomplished by entering the required access code. This process is only performed when initially setting up the system for Connex services.

- 1) With the aircraft outside and having a clear view of the sky.
- 2) Turn the large **FMS** Knob to select the MAP Page group.
- 3) Turn the small **FMS** Knob to select the MAP-WEATHER DATA LINK Page.
- 4) Press the **MENU** Key. If Connex information is not already displayed, select 'Display Connex Weather'. If the Connex weather page is already displayed, select 'Register with Connex'.
- 5) Press **ENT** Key. The 'CONNEX REGISTRATION' Window is now displayed.
- 6) Using the **FMS** Knob enter the access code obtained from Garmin Flight Data Services in the ACCESS CODE field.
- 7) Press the **ENT** Key. REGISTER will now be highlighted.
- 8) Press the **ENT** Key. System registration is complete when 'REGISTERED' is displayed in the STATUS field.








Accessing Connex Weather Products

- 1) Turn the large **FMS** Knob to select the Map Page Group.
- 2) Turn the small **FMS** Knob to select the Weather Data Link (CNXT) Page.

When a weather product is selected for display on the Weather Data Link (CNXT) Page, a box containing a symbol for the product and its age (in minutes) are shown in the upper right. If weather data has not been requested, 'N/A' is shown next to the product symbol instead of age. The age of the weather product is based on the time difference between when the data was assembled on the ground and the current GPS time. Weather products are updated continuously or refreshed at specific intervals (defined in the **Broadcast Rate** column in the following table).

If for any reason, a weather product is not refreshed within the defined **Expiration Time** intervals, the data is considered expired and is removed from the display. The age of the expired product is replaced by dashes. If more than half of the expiration time has elapsed, the color of the product age readout changes to yellow.

The broadcast rate represents the interval at which the Garmin ConnexT ground-based servers make available the most current known weather data. It does not necessarily represent the rate at which new content is received from weather sources.

| Garmin ConnexT Weather Product | Symbol | Expiration Time (Minutes) | Broadcast Rate (Minutes) |
|--|---|---------------------------|---|
| Radar Precipitation (PRECIP) |  | 30 | U.S.: 3* Canada: 3** Europe: 15 Australia: 15^ |
| Infrared Satellite (IR SAT) |  | 60 | 30 |
| Data Link Lightning (DL LTNG) |  | 30 | Continuous |
| SIGMETs/AIRMETs (SIG/AIR) |  | 60 | Continuous |
| Meteorological Aerodrome Report (METARs) |  | 90 | Continuous |
| Winds Aloft (WIND) |  | 90 | Continuous |
| Pilot Weather Report (PIREPs) |  | 90 | Continuous |
| Temporary Flight Restrictions (TFRs) | no product image | 60 | Continuous |
| Terminal Aerodrome Reports (TAFs) | no product image | 60 | Continuous |

* The composite precipitation image is updated every 3 minutes, but individual radar sites may take between 3 and 10 minutes to provide new data.
 † Canadian radar precipitation data provided by Environment Canada.
 ^ Australian radar precipitation data provided by the Australia Bureau of Meteorology

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Setting Up and Customizing the Connex Weather Data Link (CNXT) Page

- 1) Select the Weather Data Link (CNXT) Page.
- 2) Press the **MENU** Key.
- 3) With 'Weather Setup' highlighted, press the **ENT** Key.
- 4) Turn the small **FMS** Knob to select 'Product Group 1' or 'Product Group 2', and press the **ENT** Key.
- 5) Turn the large **FMS** Knob or press the **ENT** Key to scroll through product selections.
- 6) Turn the small **FMS** Knob to scroll through options for each product (ON/OFF, range settings, etc.).
- 7) Press the **ENT** Key to select an option.
- 8) Press the **FMS** Knob or **CLR** Key to return to the Weather Data Link (CNXT) Page with the changed settings.

Restoring Default Connex Weather Data Link Page (CNXT) Settings

- 1) Select the Weather Data Link (CNXT) Page.
- 2) Press the **MENU** Key.
- 3) With 'Weather Setup' highlighted, press the **ENT** Key.
- 4) Press the **MENU** Key.
- 5) Highlight the desired default(s) to restore (all or for selection) and press **ENT** Key.

Viewing Legends for Displayed Connex Weather Products

- 1) Select the Weather Data Link (CNXT) Page.
- 2) Select the **LEGEND** Softkey to display the legends for the displayed weather products.
Or:
 - a) Press the **MENU** Key.
 - b) Select 'Weather Legend' and press the **ENT** Key.
- 3) Turn the **FMS** Knob to scroll through the legends if more are available than fit in the window.
- 4) To remove the Legend Window, select the **LEGEND** Softkey, the **ENT** or the **CLR** Key, or press the **FMS** Knob.

Connex Weather Data Requests

The Connex Data Request window provides the flight crew with the options to define the requested weather coverage area(s), choose automatic weather update intervals (if desired), and the ability to send or cancel weather data requests. The window also displays the status of the Connex data request process.

Requesting Connex Weather Data Manually

- 1) Select the Weather Data Link (CNXT) Page.
- 2) Press the **MENU** Key.
- 3) With 'Connex Data Request' highlighted, press the **ENT** Key.
- 4) Turn the large **FMS** Knob to highlight the desired coverage option(s) and press the **ENT** Key to check or uncheck one of more of the following coverage selections:
 - PRESENT POSITION – Requests data based on current location.
 - DESTINATION – Requests data based on active flight plan destination (if the flight plan contains no destination, dashes '-----' are displayed.)
 - FPL – Requests data based on active flight plan. Turn the small **FMS** Knob to select the desired flight plan look-ahead distance option (or choose 'REMAINING FPL' to request the remainder of the flight plan).
 - WAYPOINT – Requests data based on any valid waypoint.
- 5) Turn the large **FMS** Knob highlight to the 'DIAMETER / RTE WIDTH' distance field and turn the small **FMS** Knob to select the desired diameter and route width of the request, then press the **ENT** Key.
- 6) Turn the large **FMS** Knob until the 'SEND REQ' button is highlighted. Press the **ENT** Key to initiate the request immediately or press the **FMS** Knob to return to the Connex Data Link Page without requesting data.

During a Connex Data Request, the REQUEST STATUS window initially displays "Contacting Connex...". Once a connection is established, the REQUEST STATUS window displays "Receiving Wx Data... Time Remaining:" with an estimated data transfer time (either in minutes or seconds). If desired, the Connex Data Request window may be closed while the data request is processing by pressing the **FMS** Knob; the data request will continue to process in the background. Connex Data Requests typically take between 1 to 4 minutes to complete depending on the size of

the selected weather coverage area(s), the amount of weather activity present (such as precipitation), and the Iridium signal strength.

The system retrieves all available Garmin Connex weather products within the selected coverage area(s) during an initial Connex Data Request. Enabling or disabling the display of the weather product does not affect which weather products are retrieved during a Connex Data Request.

To reduce data usage during subsequent requests, the system retains previously retrieved textual weather products such as METARs and TAFs, so long as they have not expired. The system also retrieves any new textual weather products matching the current coverage area, and all graphical weather products during each data request.

If the Connex Data Request was successful, the REQUEST STATUS window (if shown) indicates 'OK'. Refer to the Abnormal Operations discussion later in this section for more information on the messages received if the request is unsuccessful, with possible causes.

| Weather Request Status Message | Description |
|--|--|
| Auto requests inhibited Send manual request to reset. | The system has disabled automatic weather data requests due to excessive errors. Automatic weather data requests have stopped. Send a manual weather data request to resume automatic updates. |
| Request Failed - Try Again | The weather data request timed-out. Re-send data request. |
| Auto update retry: ## Seconds | The system will attempt another automatic weather data request after an error occurred during the previous request. Timer counts down until the next automatic request occurs. |
| Connex Comm Error [2] | A communications error has occurred with the GIA. The system should be serviced. |
| Connex Comm Error [4] | This occurs if multiple automatic weather data requests have recently failed, or the GIA is off-line. |
| Connex Comm Error [5] | The Iridium or Garmin Connex services are not accessible. Check Iridium signal strength. If this error persists, the system should be serviced. |
| Connex Comm Error [6] | A communications error has occurred. If this error persists, the system should be serviced. |

| Weather Request Status Message | Description |
|--|---|
| Connex Comm Error [7] | A weather data transfer has timed out. Check Iridium signal strength and re-send the Connex Data Request. |
| Connex Comm Error [8] | A server error has occurred or invalid data received. |
| Connex Login Invalid | There is a problem with the Garmin Connex registration. Contact Garmin Connex at 1-866-739-5687 in the United States or 913-440-1135 for assistance. |
| Connex Server Temporarily Inop | The Garmin Connex weather data server is temporarily out of service, but is expected to return to service in less than 30 minutes. |
| Connex Server Inop | The Garmin Connex weather data server will be out of service for at least 30 minutes. |
| Invalid Coverage Area | The weather data request coverage area does not contain at least one of the following: a waypoint, a flight plan, or a flight plan destination. Verify at least one of the coverage options is enabled and contains required criteria, then re-send the data request. |
| No Connex Subscription | The system is not be currently subscribed to the Garmin Connex Weather service, or the access code is incorrect. Verify the access code. Contact Garmin Connex at 1-866-739-5687 in the United States or 913-440-1135 for assistance. |
| Reduce Request Area | The weather data request area exceeds size limits. Reduce weather coverage area and re-send data request. |
| Request Cancelled | The user has cancelled a weather data request. |
| Requested area too large. Reduce coverage area. | The size of the weather data request has exceeded limits. Reduce the size of the coverage area and try the weather data request again. |
| Transfer Preempted | The data link is busy. Retry request later. |

Abnormal Weather Data Request Status Messages

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Canceling Connex Data Request in Progress:

- 1) Select the Weather Data Link (CNXT) Page.
- 2) Press the **MENU** Key.
- 3) With 'Connex Data Request' highlighted, press the **ENT** Key.
- 4) With the 'CANCEL REQ' option highlighted, press the **ENT** Key. The REQUEST STATUS window indicates 'Request Canceled'.
- 5) Press the **FMS** Knob to return to the Weather Data Link (CNXT) Page.

Enabling Automatic Connex Data Requests

- 1) Select the Weather Data Link (CNXT) Page.
- 2) Press the **MENU** Key.
- 3) With 'Connex Data Request' highlighted, press the **ENT** Key.
- 4) Choose the desired weather coverage options.
- 5) Turn the large **FMS** Knob to select the 'UPDATE RATE' setting. Then turn the small **FMS** Knob to highlight the desired automatic update frequency (OFF, 5 Min, 10 Min, 15 Min, 20 Min, 25 Min, 30 Min, 45 Min, or 60 Min), then press the **ENT** Key.
- 6) The 'SEND REQ' button is highlighted and a countdown timer is displayed in the 'REQUEST STATUS' based on the currently selected update rate. Press the **ENT** Key to immediately send an immediate Connex Data Request.

Or:

Press the **FMS** Knob to return to the Connex Weather Data Link Page.

Connex Weather Products

Precipitation

Precipitation data is not real-time. The lapsed time between collection, processing, and dissemination of radar images can be significant and may not reflect the current radar synopsis. Due to the inherent delays and the relative age of the data, it should be used for long-range planning purposes only.



NOTE: Precipitation data cannot be displayed on the Navigation Map Page at the same time as terrain.

Displaying Precipitation Weather Information

- 1) Select the **MAP** Softkey (for the PFD Inset Map, select the **INSET** Softkey). This step is not necessary on the Connex Weather Data Link Page.
- 2) Select the **PRECIP** Softkey.

Radar data shown represents lowest level, base reflectivity, of radar returns. The display of the information is color-coded to indicate the weather severity level. All weather product legends can be viewed on the Connex Weather Data Link Page. For the Precipitation legend, select the **LEGEND** Softkey when Precipitation is selected for display.

Precipitation Limitations

Radar images may have certain limitations:

- Radar base reflectivity does not provide sufficient information to determine cloud layers or precipitation characteristics (wet hail vs. rain). For example, it is not possible to distinguish between wet snow, wet hail, and rain.
- Radar base reflectivity is sampled at the minimum antenna elevation angle. An individual radar site cannot depict high altitude storms at close ranges. It has no information about storms directly over the site.
- When zoomed in to a range of 30 nm, each square block on the display represents an area of four square kilometers.

The following may cause abnormalities in displayed radar images:

- Ground clutter
- Strokes and spurious radar data
- Sun strobes (when the radar antenna points directly at the sun)
- Interference from buildings or mountains, which may cause shadows
- Metallic dust from military aircraft, which can cause alterations in radar scans

Infrared Satellite

Infrared Satellite (IR SAT) data depicts cloud top temperatures from satellite imagery. Brighter cloud top colors indicate cooler temperatures occurring at higher altitudes.

Displaying Cloud Tops information

- 1) Select the Weather Data Link (CNXT) Page.
- 2) Select the **IR SAT** Softkey.

To display the Infrared Satellite legend, select the **LEGEND** Softkey when Infrared Satellite data is selected for display.

Data Link Lightning

Lightning data shows the approximate location of cloud-to-ground lightning strikes. A strike icon represents a strike that has occurred within a two-kilometer region. Neither cloud-to-cloud nor the exact location of the lightning strike is displayed.

If the aircraft is also equipped with an on-board lightning detection system (e.g., L-3 WX-500 Stormscope®), only one lightning product may be enabled for display at a time.

Displaying Data Link Lightning information

- 1) Select the **MAP** Softkey (for the PFD Inset Map, select the **INSET** Softkey). This step is not necessary on the Connex Weather Data Link Page.

- 2) Select the **DL LTNG** Softkey.

To display the Data Link Lightning legend on the Weather Data Link (CNXT) Page, select the **LEGEND** Softkey when Data Link Lightning is selected for display.

SIGMETs and AIRMETS

The entire SIGMET or AIRMET is displayed as long as any portion of it is occurring within the coverage area of the Connex data request.

Displaying SIGMETs and AIRMETS

- 1) Select the Weather Data Link (CNXT) Page.
- 2) Select the **SIG/AIR** Softkey.
- 3) To view the text of the SIGMET or AIRMET, press the **RANGE** Knob and move the Map Pointer over the icon.
- 4) Press the **ENT** key.

To display the SIGMET and AIRMET legend on the Weather Data Link (CNXT) Page, select the **LEGEND** Softkey when SIGMETs and AIRMETS are selected for display.

METARs and TAFs



NOTE: METAR information is only displayed within the installed navigation database service area.

METAR and TAF text are displayed on the WPT-Weather Information Page. TAF information is displayed in its raw form when it is available.

Displaying METAR and TAF text

- 1) On the Weather Data Link (CNXT) Page, select the **METAR** Softkey.
- 2) Press the **RANGE** Knob and pan to the desired airport.
- 3) Press the **ENT** Key. The Weather Information Page is shown with METAR and TAF text.
- 4) Use the **FMS** Knob or the **ENT** Key to scroll through the METAR and TAF text. METAR text must be completely scrolled through before scrolling through the TAF text.
- 5) Press the **FMS** Knob or the **CLR** Key to return to the Connex Weather Data Link Page.

Or:

- 1) Select the Weather Information Page.
 - a) Turn the large **FMS** Knob to select the Waypoint Page Group.
 - b) If needed, turn the small **FMS** Knob to select the Airport Information Page. If it is not already active, press the **WX** Softkey to select the Weather Information Page.
- 2) Press the **FMS** Knob to display the cursor.
- 3) Use the **FMS** Knob to enter the desired airport and press the **ENT** Key.
- 4) Use the **FMS** Knob or the **ENT** Key to scroll through the METAR and TAF text. Note that the METAR text must be completely scrolled through before scrolling through the TAF text.

To display the METAR legend on the Weather Data Link (CNXT) Page, select the **LEGEND** Softkey when METARs are selected for display.

Winds Aloft

Winds Aloft data shows the forecasted wind speed and direction at the surface and at selected altitudes. Altitude can be displayed in 3,000-foot increments up to 42,000 feet MSL.

Displaying Winds Aloft data

- 1) Select the Weather Data Link (CNXT) Page.
- 2) Select the **MORE WX** Softkey.

- 3) Select the **WIND** Softkey.
- 4) Select the desired altitude level: SFC (surface) up to 42,000 feet. Select the **NEXT** or **PREV** Softkey to cycle through the altitude softkeys. The **WIND** Softkey label changes to reflect the altitude selected.

To display the Winds Aloft legend on the Weather Data Link (CNXT) Page, select the **LEGEND** Softkey when Winds Aloft is selected for display.

PIREPs

Pilot Weather Reports (PIREPs) describe in-flight weather encountered by pilots. A PIREP may contain unforecast adverse weather conditions, such as low in-flight visibility, icing conditions, wind shear, turbulence, and type of aircraft flown. PIREPs are issued as either Routine (UA) or Urgent (UUA).

Displaying PIREP text

- 1) Select the Weather Data Link (CNXT) Page.
- 2) Select the **MORE WX** Softkey.
- 3) Select the **PIREPS** Softkey.
- 4) Press the **RANGE** Knob and pan to the desired weather report. A gray circle will appear around the weather report when it is selected.
- 5) Press the **ENT** Key. The PIREP text is first displayed in a decoded fashion, then as raw text.
- 6) Use the **FMS** Knob or the **ENT** Key to scroll through the PIREP text.
- 7) Press the **FMS** Knob or the **CLR** Key to close the PIREP text window and return to the Connex Weather Data Link Page.

To display the PIREP or AIREP legend, select the **LEGEND** Softkey when PIREPs or AIREPs are selected for display. The PIREP color is determined by the type (routine or urgent).

TRAFFIC SYSTEMS







WARNING: Do not rely solely upon the display of traffic information for collision avoidance maneuvering. The traffic display does not provide collision avoidance resolution advisories and does not under any circumstances or conditions relieve the pilot's responsibility to see and avoid other aircraft.



WARNING: Do not rely solely upon the display of traffic information to accurately depict all of the traffic within range of the aircraft. Due to lack of equipment, poor signal reception, and/or inaccurate information from aircraft or ground stations, traffic may be present that is not represented on the display.

- If Traffic information Service (TIS) is configured, a **STANDBY**, **OPERATE**, and **TNA MUTE** Softkeys are displayed on the Traffic Map Page.
- If a Traffic Advisory System (TAS) is configured, **STANDBY**, **NORMAL**, **TEST**, and **ALT MODE** Softkeys are displayed on the Traffic Map Page.
- If an ADS-B traffic system is configured, only the **ALT MODE** Softkey is displayed on the Traffic Map Page.

| Traffic Symbol | Description |
|---|--|
|  | Non-Threat Traffic (intruder is beyond 5 nm and greater than 1200' vertical separation) |
|  | Proximity Advisory (PA) (Not available with TIS system) (intruder is within 5 nm and less than 1200' vertical separation) |
|  | Traffic Advisory (TA) (closing rate, distance, and vertical separation meet TA criteria) |
|  | Traffic Advisory Off Scale |

Traffic Symbol Description

Traffic Information Service (TIS)



NOTE: If the G1000 is configured to use an optional Traffic Advisory System (TAS), TIS is not available for use.



NOTE: Traffic Information Service (TIS) is only available when the aircraft is within the service volume of a TIS capable terminal radar site.

Displaying Traffic on the Traffic Map Page

- 1) Turn the large **FMS** Knob to select the Map Page Group.
- 2) Turn the small **FMS** Knob to select the Traffic Map Page.
- 3) Press the **OPERATE** Softkey to begin displaying traffic. 'OPERATING' is displayed in the Traffic Mode field.
- 4) Press the **STANDBY** Softkey to place the system in the Standby Mode. 'STANDBY' is displayed in the Traffic Mode field.
- 5) Rotate the **Joystick** clockwise to display a larger area or rotate counter-clockwise to display a smaller area.
- 6) Press the **TNA MUTE** Softkey to mute the "Traffic Not Available" aural alert, if desired.

Displaying Traffic on the Navigation Map

- 1) Ensure TIS is operating. With the Navigation Map displayed, press the **MAP** Softkey.
- 2) Press the **TRAFFIC** Softkey. Traffic is now displayed on the map.

GTS 800 (Optional)



WARNING: The Traffic Advisory System (TAS) is intended for advisory use only to aid the pilot in visually acquiring traffic. No avoidance maneuvers should be based solely upon TAS traffic information. It is the responsibility of the pilot in command to see and maneuver to avoid traffic.



NOTE: Pilots should be aware of TAS system limitations. TAS systems require transponders of other aircraft to respond to system interrogations. If the transponders do not respond to interrogations due to phenomena such as antenna shading or marginal transponder performance, traffic may be displayed intermittently, or not at all. Aircraft without altitude reporting capability are shown without altitude separation data or climb descent indication. Pilots should remain vigilant for traffic at all times.

System Self Test

- 1) Turn the large **FMS** Knob to select the Map Page Group.
- 2) Turn the small **FMS** Knob to select the Traffic Map Page.
- 3) Turn the **RANGE** Knob to set the range to show an inner diameter of 2 nm and an outer diameter of 6 nm.”
- 4) Press the **STANDBY** Softkey.
- 5) Press the **TEST** Softkey.
- 6) Self test takes approximately eight seconds to complete. When completed successfully, traffic symbols display and a voice alert “Traffic Advisory System Test Passed” is heard. If the self test fails, the system reverts to Standby Mode and a voice alert “Traffic Advisory System Test Failed” is heard.

Enabling/Disabling Flight ID Display

On the Traffic Map Page, press the **FLT ID** Softkey.

Displaying Traffic on the Traffic Map Page

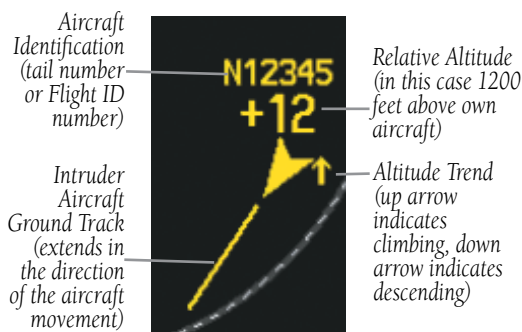
- 1) Turn the large **FMS** Knob to select the Map Page Group.
- 2) Turn the small **FMS** Knob to select the Traffic Map Page.
- 3) Press the **OPERATE** Softkey to begin displaying traffic. OPERATING is displayed in the Traffic mode field.
- 4) Press the **ALT MODE** Softkey to change the altitude volume.
- 5) Press the **STANDBY** Softkey to place the system in the Standby mode. STANDBY is displayed in the Traffic mode field.
- 6) Turn the **RANGE** Knob clockwise to display a larger area or counter-clockwise to display a smaller area.

Displaying Traffic on the Navigation Map

- 1) Ensure TAS is operating.
- 2) With the Navigation Map displayed, press the **MAP** Softkey.
- 3) Press the **TRAFFIC** Softkey. Traffic is now displayed on the map.



NOTE: A 1090 MHz extended squitter transponder is required to display ADS-B symbology for aircraft providing ADS-B data.



Example ADS-B Traffic Advisory (GTS 800 only)

| Symbol | Description |
|--------|--|
| | Traffic Advisory with ADS-B directional information. Points in the direction of the intruder aircraft track. (GTS 800 only) |
| | Traffic Advisory without directional information. |
| | Traffic Advisory out of the selected display range. Displayed at outer range ring at proper bearing. |
| | Non-threat traffic with ADS-B directional information. Points in the direction of the aircraft track. (GTS 800 only) |
| | Non-threat traffic with ADS-B directional information. Points in the direction of the intruder aircraft track. (GTS 800 only) |
| | Non-threat traffic with no directional information. |
| | Traffic with ADS-B directional information, but positional accuracy is degraded. Points in the direction of the aircraft track. (GTS 800 only) |

Traffic Advisory System (TAS) (Optional)

Refer to the Honeywell KTA 870 Pilot's Guide for a detailed discussion of the KTA 870 system.



WARNING: *The Traffic Advisory System (TAS) is intended for advisory use only to aid the pilot in visually acquiring traffic. No avoidance maneuvers should be based solely upon TAS traffic information. It is the responsibility of the pilot in command to see and maneuver to avoid traffic.*



NOTE: *Pilots should be aware of TAS system limitations. TAS systems require transponders of other aircraft to respond to system interrogations. If the transponders do not respond to interrogations due to phenomena such as antenna shading or marginal transponder performance, traffic may be displayed intermittently, or not at all. Aircraft without altitude reporting capability are shown without altitude separation data or climb descent indication. Pilots should remain vigilant for traffic at all times.*

System Self Test

- 1) Turn the large **FMS** Knob to select the Map Page Group.
- 2) Turn the small **FMS** Knob to select the Traffic Map Page.
- 3) Turn the **RANGE** Knob to set the range to show an inner diameter of 2 nm and an outer diameter of 6 nm.”
- 4) Press the **STANDBY** Softkey.
- 5) Press the **TEST** Softkey.
- 6) Self test takes approximately eight seconds to complete. When completed successfully, traffic symbols are displayed and a voice alert “TAS System Test OK” is heard. If the self test fails, the system reverts to Standby Mode and a voice alert “TAS System Test Fail” is heard.

Displaying Traffic on the Traffic Map Page

- 1) Turn the large **FMS** Knob to select the ‘MAP’ page group.
- 2) Turn the small **FMS** Knob to select TRAFFIC MAP.
- 3) Press the **NORMAL** Softkey to begin displaying traffic. ‘OPERATING’ is displayed in the Traffic Mode field.

- 4) Press the **ALT MODE** Softkey to change the altitude volume. Select the desired altitude volume by pressing the **BELOW, NORMAL, ABOVE,** or **UNREST** (unrestricted) Softkey. The selection is displayed in the Altitude Mode field.
- 5) Press the **STANDBY** Softkey to place the system in the Standby Mode. 'STANDBY' is displayed in the Traffic Mode field.
- 6) Rotate the **Joystick** clockwise to display a larger area or rotate counter-clockwise to display a smaller area.

Displaying Traffic on the Navigation Map

- 1) Ensure the KTA 870 system is operating. With the Navigation Map displayed, press the **MAP** Softkey.
- 2) Press the **TRAFFIC** Softkey. Traffic is now displayed on the map.

ADS-B TRAFFIC GDL 90 (OPTIONAL)

Displaying traffic on the Traffic Map Page

- 1) Turn the large **FMS** knob to select the Map Page Group.
- 2) Turn the small **FMS** knob to select the Traffic Map Page.

Changing the altitude display mode

- 1) On the Traffic Page, press the **ALT MODE** Softkey.
- 2) Press one of the following softkeys:
 - **BELOW, NORMAL, ABOVE,** or **UNREST** (unrestricted)
- 3) To return to the Traffic Page, press the **BACK** Softkey.
OR:
 - 1) Press the **MENU** Key and turn the small **FMS** Knob to select one of the following:
 - **BELOW, NORMAL, ABOVE,** or **UNREST** (unrestricted)
 - 2) Press the **ENT** Softkey.

Enabling/Disabling Flight ID Display

On the Traffic Map Page, press the **FLT ID** Softkey.

OR:

On the Traffic Map Page, press the **MENU** Key and turn the small FMS Knob to select 'Show Flight IDs'










Displaying Traffic on the Navigation Map

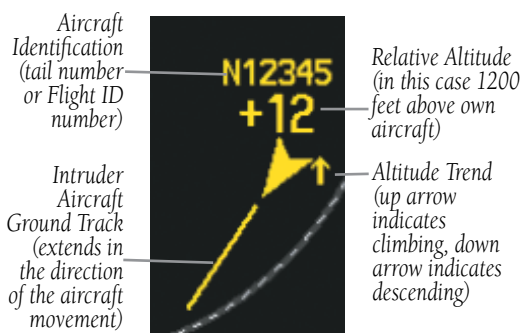


NOTE: *The Navigation Map orientation must be set to 'HDG-up' to allow display of the traffic overlay.*

- 1) With the Navigation Map displayed, press the **MAP** Softkey.
- 2) Press the **TRAFFIC** Softkey. Traffic is now displayed on the map.

The following traffic symbols are used to display traffic with the ADS-B traffic system.

| Symbol | Description |
|---|---|
|  | Traffic Advisory with directional information. Points in the direction of the intruder aircraft track. |
|  | Traffic Advisory without directional information. |
|  | Traffic Advisory out of the selected display range. Displayed at outer range ring at proper bearing. |
|  | Non-threat traffic with directional information. Points in the direction of the aircraft track. |
|  | Non-threat traffic with no directional information. |
|  | Traffic located on the ground with directional information. Points in the direction of the aircraft track. Ground traffic is only displayed when own aircraft is below 1,000 feet AGL or on the ground. |
|  | Ground traffic without directional information. Ground traffic is only displayed when own aircraft is below 1,000 feet AGL or on the ground. |
|  | Non-aircraft ground traffic. Ground traffic is only displayed when own aircraft is below 1,000 feet AGL or on the ground. |
|  | Traffic with directional information, but positional accuracy is degraded. Points in the direction of the aircraft track. |



Example ADS-B Traffic Advisory

TERRAIN AND OBSTACLE PROXIMITY



NOTE: Terrain data is not displayed when the aircraft is outside the installed terrain database coverage area.

Displaying Terrain and Obstacles on the Terrain Proximity Page

- 1) Turn the large **FMS** Knob to select the Map Page Group.
- 2) Turn the small **FMS** Knob to select TERRAIN PROXIMITY.
- 3) If desired, press the **VIEW** Softkey to access the **ARC** and **360** Softkeys. When the **ARC** Softkey is pressed, a radar-like 120° view is displayed. Press the **360** Softkey to return to the 360° default display.
- 4) Rotate the **Joystick** clockwise to display a larger area or rotate counter-clockwise to display a smaller area.

| Color | Terrain/Obstacle Location |
|--------|--|
| Red | Terrain/Obstacle above or within 100' below current aircraft altitude. |
| Yellow | Terrain/Obstacle between 100' and 1000' below current aircraft altitude. |
| Black | Terrain/Obstacle is more than 1000' below aircraft altitude. |

Displaying Terrain and Obstacles on the Navigation Map

- 1) With the Navigation Map displayed, press the **MAP** Softkey.
- 2) Press the **TERRAIN** Softkey. Terrain and obstacle proximity will now be displayed on the map.
- 3) Terrain and obstacles may be displayed in the Profile View by selecting the **PROFILE** Softkey.

TERRAIN-SVS (OPTIONAL)



NOTE: Terrain-SVS is only available when the Synthetic Vision Technology (SVT) option is installed and the TAWS option has not been installed.



NOTE: Terrain data is not displayed when the aircraft is outside the installed terrain database coverage area.

Display Terrain on the TERRAIN-SVS Page

- 1) Turn the large **FMS** Knob to select the Map Page Group.
- 2) Turn the small **FMS** Knob to select the Terrain-SVS Page.
- 3) If desired, press the **VIEW** Softkey to access the **ARC** and **360** softkeys. When the **ARC** Softkey is selected, a radar-like 120° view is displayed. Press the **360** Softkey to return to the 360° default display.
- 4) Rotate the **Joystick** clockwise to display a larger area or rotate counter-clockwise to display a smaller area.

| Color | Terrain/Obstacle Location |
|--------|--|
| Red | Terrain/Obstacle above or within 100' below current aircraft altitude. |
| Yellow | Terrain/Obstacle between 100' and 1000' below current aircraft altitude. |
| Black | Terrain/Obstacle is more than 1000' below aircraft altitude. |

Enable/Disable Aviation Data

- 1) While the Terrain-SVS Page is displayed, press the **MENU** Key.
- 2) Turn the small **FMS** Knob to select "Show (or Hide) Aviation Data".
- 3) Press the **ENT** Key.

Terrain-SVS Inhibit

Inhibit Terrain

While the Terrain-SVS Page is displayed, press the **INHIBIT** Softkey.

Or:

- 1) Press the **MENU** Key.
- 2) Turn the small **FMS** Knob to select 'Inhibit Terrain'.
- 3) Press the **ENT** Key.

Enable Terrain

While the Terrain-SVS Page is displayed, press the **INHIBIT** Softkey.

Or:

- 1) While the Terrain-SVS Page is displayed, press the **MENU** Key.
- 2) Turn the small **FMS** Knob to select 'Enable Terrain'.
- 3) Press the **ENT** Key.



NOTE: If Terrain-SVS alerts are inhibited when the Final Approach Fix is the active waypoint in a GPS SBAS approach, a LOW ALT annunciation may appear on the PFD next to the altimeter if the current aircraft altitude is at least 164 feet below the prescribed altitude at the Final Approach Fix.

TERRAIN AWARENESS & WARNING SYSTEM (TAWS) DISPLAY (OPTIONAL)



NOTE: Terrain data is not displayed when the aircraft is outside the installed terrain database coverage area.



NOTE: TAWS operation is only available when the G1000 is configured for a TAWS-B installation.

Manual System Test

- 1) While the TAWS-B Page is displayed, press the **MENU** Key.
- 2) Turn the small **FMS** Knob to select 'Test TAWS'.
- 3) Press the **ENT** Key. During the test 'TAWS TEST' is displayed in the center of the TAWS-B Page.

When all is in working order, "TAWS System Test, OK" is heard.

Display Terrain on the TAWS-B Page

- 1) Turn the large **FMS** Knob to select the Map Page Group.
- 2) Turn the small **FMS** Knob to select the TAWS-B Page.
- 3) If desired, press the **VIEW** Softkey to access the **ARC** and **360** softkeys. When the **ARC** Softkey is selected, a radar-like 120° view is displayed. Press the **360** Softkey to return to the 360° default display.
- 4) Rotate the **Joystick** clockwise to display a larger area or rotate counter-clockwise to display a smaller area.

| Color | Terrain/Obstacle Location |
|--------|--|
| Red | Terrain/Obstacle above or within 100' below current aircraft altitude. |
| Yellow | Terrain/Obstacle between 100' and 1000' below current aircraft altitude. |
| Black | Terrain/Obstacle is more than 1000' below aircraft altitude. |

Enable/Disable Aviation Data

- 1) While the TAWS-B Page is displayed, press the **MENU** Key.
- 2) Turn the small **FMS** Knob to select "Show (or Hide) Aviation Data".
- 3) Press the **ENT** Key.

TAWS Inhibit

Inhibit TAWS

While the TAWS-B Page is displayed, press the **INHIBIT** Softkey.

Or:

- 1) Press the **MENU** Key.
- 2) Turn the small **FMS** Knob to select 'Inhibit TAWS'.
- 3) Press the **ENT** Key.

Enable TAWS

While the TAWS-B Page is displayed, press the **INHIBIT** Softkey.

Or:

- 1) While the TAWS-B Page is displayed, press the **MENU** Key.
- 2) Turn the small **FMS** Knob to select 'Enable TAWS'.
- 3) Press the **ENT** Key.



NOTE: If TAWS alerts are inhibited when the Final Approach Fix is the active waypoint in a GPS SBAS approach, a LOW ALT annunciation may appear on the PFD next to the altimeter if the current aircraft altitude is at least 164 feet below the prescribed altitude at the Final Approach Fix.

ADDITIONAL FEATURES

SYNTHETIC VISION (OPTIONAL)



WARNING: Use appropriate primary systems for navigation, and for terrain, obstacle, and traffic avoidance. SVT is intended as an aid to situational awareness only and may not provide the accuracy and/or fidelity upon which to solely base decisions and/or plan maneuvers to avoid terrain, obstacles, or traffic.



WARNING: Do not use SVT runway depiction as the sole means for determining the proximity of the aircraft to the runway or for maintaining the proper approach path angle during landing.

Synthetic Vision Technology (SVT) functionality is offered as an optional enhancement to the G1000 Integrated Flight Deck System.

SVT is primarily comprised of a computer-generated forward-looking, attitude aligned view of the topography immediately in front of the aircraft from the pilot's perspective. SVT information is shown on the primary flight display (PFD).

SVT offers a three-dimensional view of terrain and obstacles. Terrain and obstacles that pose a threat to the aircraft in flight are shaded yellow or red.

In addition to SVT enhancement to the PFD, the following feature enhancements have been added to the PFD:

- Pathways
- Flight Path Marker
- Horizon Heading Marks
- Terrain and Obstacle Alerting
- Three-dimensional Traffic
- Airport Signs
- Runway Display

Displaying SVT Terrain

- 1) Press the **PFD** Softkey.
- 2) Press the **SYN VIS** Softkey.
- 3) Press the **SYN TERR** Softkey.
- 4) Press the **BACK** Softkey to return to the previous page.

Displaying Pathways

- 1) Press the **PFD** Softkey.
- 2) Press the **SYN VIS** Softkey.
- 3) If not already enabled, press the **SYN TERR** Softkey.
- 4) Press the **PATHWAY** Softkey.
- 5) Press the **BACK** Softkey to return to the previous page.

Displaying Heading on the Horizon

- 1) Press the **PFD** Softkey.
- 2) Press the **SYN VIS** Softkey.
- 3) If not already enabled, press the **SYN TERR** Softkey.
- 4) Press the **HRZN HDG** Softkey.
- 5) Press the **BACK** Softkey to return to the previous page.

Displaying Airport Signs

- 1) Press the **PFD** Softkey.
- 2) Press the **SYN VIS** Softkey.
- 3) If not already enabled, press the **SYN TERR** Softkey.
- 4) Press the **APTSIGNS** Softkey.
- 5) Press the **BACK** Softkey to return to the previous page.

TERMINAL PROCEDURE CHARTS



NOTE: With the availability of SafeTaxi®, ChartView, or FliteCharts®, it may be necessary to carry another source of charts on-board the aircraft.

SafeTaxi®

SafeTaxi® is an enhanced feature that gives greater map detail as the map range is adjusted in on the airport. The airport display on the map reveals runways with numbers, taxiways identifiers, and airport landmarks including ramps, buildings, control towers, and other prominent features. Resolution is greater at lower map ranges. The aircraft symbol provides situational awareness while taxiing.

Pressing the **DCLTR** Softkey (declutter) once removes the taxiway markings and airport identification labels. Pressing the **DCLTR** Softkey twice removes VOR station ID, the VOR symbol, and intersection names if within the airport plan view. Pressing

the **DCLTR** Softkey a third time removes the airport runway layout, unless the airport in view is part of an active route structure. Pressing the **DCLTR** Softkey again cycles back to the original map detail.

The SafeTaxi database contains detailed airport diagrams for selected airports. These diagrams provide the pilot with situational awareness by displaying the aircraft position in relation to taxiways, ramps, runways, terminals, and services. This information should not be used by the pilot as the basis for maneuvering the aircraft on the ground. This database is updated on a 56-day cycle.

ChartView

ChartView resembles the paper version of Jeppesen terminal procedures charts. The charts are displayed in full color with high-resolution. The MFD depiction shows the aircraft position on the moving map in the plan view of most approach charts and on airport diagrams.

The ChartView database is updated on a 14-day cycle. If the ChartView database is not updated within 70 days of the expiration date, ChartView will no longer function.

FliteCharts®

FliteCharts® resemble the paper version of AeroNav Services terminal procedures charts. The charts are displayed with high-resolution and in color for applicable charts. The MFD depiction shows the aircraft position on the moving map in the plan view of most approach charts and on airport diagrams.

The FliteCharts database contains procedure charts for the United States only. This database is updated on a 28-day cycle. If not updated within 180 days of the expiration date, FliteCharts will no longer function.

View Charts from the Navigation Map Page

- 1) Press the **SHW CHRT** Softkey when displayed.

Or:

Move the map pointer to point to a desired point on the map and press the **SHW CHRT** Softkey.

- 2) Select the **DP, STAR, APR, WX,** and **NOTAM** softkeys to access charts for departures, arrivals, approaches, weather and NOTAMS. Note that NOTAMS are only available with ChartView.
- 3) Press the **GO BACK** Softkey to return to the previous page.

View Charts from the Active Flight Plan Page

- 1) While viewing the Active Flight Plan Page, press the **FMS** Knob to activate the cursor.
- 2) Turn the large **FMS** Knob to select the departure airport, destination airport, departure, arrival, or approach.
- 3) Press the **SHW CHRT** Softkey. The appropriate chart is displayed, if available for the item selected.
- 4) Press the **GO BACK** Softkey to return to the previous page.

Change Day/Night View

- 1) While viewing a chart press the **MENU** Key to display the Page Menu **OPTIONS**.
- 2) Turn the large **FMS** Knob to highlight the 'Chart Setup' Menu Option and press the **ENT** Key.
- 3) Turn the large **FMS** Knob to move between the 'FULL SCREEN' and 'COLOR SCHEME' Options.
- 4) Turn the small **FMS** Knob to choose between the 'On' and 'Off' Full Screen Options.
- 5) Turn the small **FMS** Knob to choose between 'Day', 'Auto', and 'Night' Options.
- 6) In Auto Mode, turn the large **FMS** Knob to select the percentage field and change percentage with the small **FMS** Knob. The percentage of change is the day/night crossover point based on backlighting intensity.
- 7) Press the **FMS** Knob when finished to remove the Chart Setup Menu.

AIRPORT DIRECTORY

The Aircraft Owners and Pilots Association (AOPA) or AC-U-KWIK Airport Directory database offers detailed information regarding services, hours of operation, lodging options, and more for various airports. This information is viewed on the WPT-Airport Information Page.

The Airport Directory databases are revised every 56 days. The Airport Directory is always available for use after the expiration date. Check fly.garmin.com for the current database.

View Airport Directory Information

While viewing the WPT-Airport Information Page, if necessary, select the **INFO-1** Softkey to change the softkey label to display **INFO-2**. Airport Directory information is displayed on the right half of the display.

SIRIUSXM RADIO ENTERTAINMENT

The XM Radio Page provides information and control of the audio entertainment features of the SiriusXM Satellite Radio.

Selecting the XM Radio Page

- 1) Turn the large **FMS** Knob to select the Auxiliary Page Group.
- 2) Turn the small **FMS** Knob to select the displayed AUX - XM Information Page.
- 3) Press the **RADIO** Softkey to show the XM Radio Page where audio entertainment is controlled.

Active Channel and Channel List

The Active Channel Box on the XM Radio Page displays the currently selected channel. The Channels List Box of the XM Radio Page shows a list of the available channels for the selected category.

Selecting a Category

The Category Box of the XM Radio Page displays the currently selected category of audio.

- 1) Press the **CATGRY** Softkey on the XM Radio Page.
- 2) Press the **CAT +** and **CAT -** Softkeys to cycle through the categories.

Or:

Turn the small **FMS** Knob to display the 'Categories' list. Highlight the desired category with the small **FMS** Knob.

- 3) Press the **ENT** Key.

Select an Available Channel within the Selected Category

- 1) While on the XM Radio Page, press the **CHNL** Softkey.
- 2) Press the **CH +** Softkey to go up through the list in the Channel Box, or move down the list with the **CH -** Softkey.

Or:

Press the **FMS** Knob to highlight the channel list and turn the large **FMS** Knob to scroll through the channels.

- 3) With the desired channel highlighted, press the **ENT** Key.

Entering a Channel Directly

- 1) While on the XM Radio Page, press the **CHNL** Softkey.
- 2) Press the **DIR CH** Softkey. The channel number in the Active Channel Box is highlighted.
- 3) Press the numbered softkeys located on the bottom of the display to directly select the desired channel number.
- 4) Press the **ENT** Key to activate the selected channel.

Assigning Channel Presets

Up to 15 channels from any category can be assigned a preset number.

- 1) On the XM Radio Page, with the desired channel active, press the **PRESETS** Softkey to access the first five preset channels (**PS1 - PS5**).
- 2) Press the **MORE** Softkey to access the next five channels (**PS6 - PS10**), and again to access the last five channels (**PS11 - PS15**). Pressing the **MORE** Softkey repeatedly cycles through the preset channels.
- 3) Press any one of the (**PS1 - PS15**) softkeys to assign a number to the active channel.
- 4) Press the **SET** Softkey on the desired channel number to save the channel as a preset.

Adjusting Volume

- 1) On the XM Radio Page, press the **RADIO** Softkey.
 - 2) Press the **VOL** Softkey to access the volume control softkeys.
- Or:** Press the **MUTE** Softkey to mute the radio audio.
- 3) Press **VOL +** or **VOL -** softkeys to adjust the volume level.

SATELLITE TELEPHONE & SMS MESSAGING SERVICE (OPTIONAL)

Operation of these features in the cockpit is accomplished through the AUX-TELEPHONE, and the AUX-TEXT MESSAGING Pages.

Registering With Garmin Flight Data Services

A subscriber account must be established prior to using the Iridium Satellite System. Before setting up an Iridium account, obtain the serial number of the Iridium Transceiver (GSRI) and the SYSTEM ID by viewing the AUX- SYSTEM STATUS Page. Contact Garmin Flight Data Services at 1-866-739-5687 in the United States or 913-397-8200, ext. 1135.

Disable/Enable Iridium Transceiver

Iridium telephone may be turned on or off by performing the following steps.

To enable the Iridium telephone system:

- 1) With the AUX-TELEPHONE Page displayed, select the **MENU** Key on the MFD to display the Page Menu.
- 2) Turn either **FMS** Knob to place the cursor on 'Enable Iridium Transmission'.
- 3) Press the **ENT** Key.

To disable the Iridium telephone system:

- 1) With the AUX-TELEPHONE Page displayed, select the **MENU** Key on the MFD to display the Page Menu.
- 2) Turn either **FMS** Knob to place the cursor on 'Disable Iridium Transmission'.
- 3) Press the **ENT** Key.

Telephone Communication

The pilot or copilot can place and answer calls on the Iridium satellite network. Control and monitoring of telephone functions are accomplished through the AUX-TELEPHONE Page.

To view the Telephone Page:

- 1) Turn the large **FMS** Knob on the MFD to select the AUX page group.
- 2) Turn the small **FMS** Knob to select SATELLITE PHONE.

- Flight Instruments
- EIS
- Nav/Com/XPDR/Audio
- AFCs
- GPS Nav
- Flight Planning
- Procedures
- Hazard Avoidance
- Additional Features
- Abnormal Operation
- Annun/ Alerts
- Appendix
- Index

| Internal Phone | External Phone | Description |
|----------------|----------------|--|
| | | Phone is Idle |
| | | Phone is ringing |
| | | Phone has a dial tone (off hook) or connected to another phone |
| | | Phone dialed is busy |
| | | Phone is dialing another phone |
| | | Phone has failed |
| | | Phone status not known |
| | | Phone is disabled |
| | | Phone is reserved for data transmission |
| | | Calling other phone or incoming call from other phone |
| | | Other phone is on hold |
| | | Phones are connected |

Incoming Calls

When viewing MFD pages other than the AUX-TELEPHONE Page, a pop-up alert will be displayed. The pop-up alert may be inhibited at times, such as during takeoff. In addition to the pop-up alert, a ringing phone symbol will be displayed to the right of the MFD page title. Also, the voice alert “Incoming Call” will be heard on the selected cockpit audio. The **TEL** key on the audio panel must be activated to hear telephone audio.



NOTE: *The Push-to-Talk switch is not utilized for telephone communication. The microphone is active after selecting the **ANSWER** Softkey, and stays active until the call is terminated.*

Answering an incoming call:

- 1) Press the **TEL** Key on the audio panel.
- 2) Select the **ANSWER** Softkey on the MFD.

Or:

While viewing the AUX-TELEPHONE Page:

- 1) Press the **TEL** Key on the audio panel.
- 2) Press the **MENU** Key to display the Page Menu.
- 3) Turn either **FMS** Knob to place the cursor on ‘Answer Incoming Call’.
- 4) Press the **ENT** Key.

Selecting the **IGNORE** Softkey will extinguish the pop-up window and leave the current call unanswered. Selecting the **IGNRE ALL** Softkey will extinguish the pop-up window for the current and all future incoming calls and leave the current call unanswered. Selecting the **TEL** Softkey will display the AUX-TELEPHONE Page allowing additional call information to be viewed before answering.

Disabling incoming call alerts:

- 1) With the AUX-TELEPHONE Page displayed, press the **MENU** Key on the MFD to display the Page Menu.
- 2) Turn either **FMS** Knob to place the cursor on ‘Disable Incoming Call Alerts’.
- 3) Press the **ENT** Key. The voice and pop-up alert will not be displayed now when an incoming call is received.

Outgoing Calls

Voice calls can be made from the cockpit through the Iridium Satellite Network.

To make a call:

- 1) Press the **TEL** Key on the audio panel.
- 2) Select the **DIAL** Softkey on the MFD.

Or:

While viewing the AUX-TELEPHONE Page:

- a) Press the **TEL** Key on the audio panel.
 - b) Press the **MENU** Key to display the Page Menu.
 - c) Turn either **FMS** Knob to place the cursor on 'Dial a Phone Call'.
 - d) Press the **ENT** Key.
- 3) Enter the desired number string (typically, country code + area code + phone number) by selecting the number softkeys on the MFD, or turning the FMS Knobs. The GSR 56 may be configured by an authorized repair facility to automatically enter a default county code when the dialing window is displayed. To replace the default country code, move the cursor to the first (furthest left) number in the dialing window and enter the desired country code.
 - 4) Press the **ENT** Key. 'OK' is highlighted.
 - 5) Press the **ENT** Key. The system will begin calling the number.

When the phone is answered, the connection is established. To exit the call, select the **HANGUP** Softkey and press the **TEL** Key on the audio panel.








Text Messaging (SMS)

Messages may be sent to an email address or text message capable cellular telephone. Message length is limited to 160 characters, including the email address.

The text messaging user interface is mainly through the AUX-TEXT MESSAGING Page.

Viewing the Text Messaging Page

- 1) Turn the large **FMS** Knob on the MFD to select the AUX page group.
- 2) Turn the small **FMS** Knob to select SATELLITE PHONE.
- 3) If necessary, press the **SMS** Softkey to display the AUX-TEXT MESSAGING Page.

| Message Symbol | Description |
|---|--|
|  | Received text message that has not been opened |
|  | Received text message that has been opened |
|  | Saved text message, draft not sent |
|  | System is sending text message |
|  | Text message has been sent |
|  | System failed to send text message |
|  | Predefined text message |

Viewing a Text Message When Received

When viewing MFD pages other than the AUX-TEXT MESSAGING Page, a pop-up alert will be displayed when a new text message is received.

Press the **VIEW** Softkey to view the message. Pressing the **IGNORE** Softkey will extinguish the pop-up window and leave the text message unopened. Pressing the **IGNR ALL** Softkey will extinguish the pop-window and ignore all future incoming text messages. Pressing the **SMS** Softkey will display the AUX-TEXT MESSAGING Page.

The pop-up alerts may be enabled or disabled through the Page Menu.

Enable/Disable Incoming Text Message Pop-Up Alerts

- 1) With the AUX-TEXT MESSAGING Page displayed, press the **MENU** Key on the MFD to display the Page Menu.
- 2) Turn either **FMS** Knob to place the cursor on 'Disable New Message Popups' or 'Enable New Message Popups'.
- 3) Press the **ENT** Key. The pop-up alert will not be displayed when an incoming text message is received.

Reply to a Text Message

While viewing the text message, press the **REPLY** Softkey.

Or:

- a) Press the **MENU** Key to display the Page Menu.
- b) Turn either **FMS** Knob to place the cursor on 'Reply To Message'.
- c) Press the **ENT** Key.

Sending a Text Message

- 1) While viewing the AUX-TEXT MESSAGING Page, press the **NEW** Softkey.

Or:

- a) Press the **MENU** Key to display the Page Menu.
 - b) Turn either **FMS** Knob to place the cursor on 'Draft New Message'.
 - c) Press the **ENT** Key.
- 2) The TEXT MESSAGE DRAFT Window is now displayed with the cursor in the 'TO' field. Enter the desired telephone number or email address. Entry can be accomplished through the **FMS** Knob and softkeys on the MFD. The **FMS** Knob is used to enter letters and numbers, or numbers can be entered from the MFD by pressing the **NUMBERS** Softkey. Press the **CAP LOCK** Softkey to create upper and lower case alpha characters. Special characters can be accessed by pressing the **SYMBOLS** Softkey.
 - 3) Press the **ENT** Key. The cursor is now displayed in the 'MESSAGE' field.
 - 4) Enter the desired message using any combination of entry methods as described in step 2.
 - 5) Press the **ENT** Key.
 - 6) Press the **SEND** Softkey to send the message immediately, or press the **SAVE** Softkey to save the message in Outbox for sending at a later time. Press the **CANCEL** Softkey to delete the message.

Predefined Text Messages

Time and effort can be saved in typing text messages that are used repeatedly by saving these messages as a predefined message.

Create a Predefined Text Message

- 1) While viewing the AUX-TEXT MESSAGING Page, press the **MENU** Key to display the Page Menu.
- 2) Turn either **FMS** Knob to select 'Edit Predefined Messages'.
- 3) Press the **ENT** Key. The PREDEFINED MESSAGES view is now displayed.
- 4) Press the **NEW** Softkey.
 - Or:**
 - a) Press the **MENU** Key to display the Page Menu.
 - b) Turn either **FMS** Knob to place the cursor on 'Draft New Predefined Message'.
 - c) Press the **ENT** Key. The PREDEFINED SMS TEXT MESSAGE Window is now displayed.
- 5) The cursor is displayed in the 'TITLE' field. Enter the desired message title. Entry can be accomplished through the **FMS** Knob and softkeys on the MFD. The **FMS** Knob is used to enter letters and numbers, or numbers can be entered from the MFD by pressing the **NUMBERS** Softkey. Press the **CAP LOCK** Softkey to create upper and lower case alpha characters. Special characters can be accessed by pressing the **SYMBOLS** Softkey.
- 6) Press the **ENT** Key. The cursor is now displayed in the 'MESSAGE' field.
- 7) Enter the desired message using any combination of entry methods as described in step 5.
- 8) Press the **ENT** Key.
- 9) Press the **SAVE** Softkey. The new predefined message is now shown in the displayed list. Pressing the **CANCEL** Softkey will delete the message without saving.
- 10) Press the **MENU** Key to display the Page Menu.
- 11) Turn either **FMS** Knob to place the cursor on 'Stop Editing Predefined Message'.
- 12) Press the **ENT** Key.

Send a Predefined Text Message

- 1) While viewing the AUX-TEXT MESSAGING Page, press the **NEW** Softkey.
- 2) The TEXT MESSAGE DRAFT Window is now displayed with the cursor in the 'TO' field. Enter the desired telephone number or email address. Entry can be accomplished through the **FMS** Knob and softkeys on the MFD. The **FMS** Knob is used to enter letters and numbers, or numbers can be entered from the MFD by pressing the **NUMBERS** Softkey. Press the **CAP LOCK** Softkey to create upper and lower case alpha characters. Special characters can be accessed by pressing the **SYMBOLS** Softkey.
- 3) Press the **ENT** Key. The cursor is now displayed in the 'MESSAGE' field.
- 4) Press the **PREDEFD** Softkey. The PREDEFINED MESSAGE MENU Window is displayed.
- 5) Press the **ENT** Key. The predefined message text is inserted into the message field. If desired, the message can be edited by using the FMS Knobs.
- 6) Press the **ENT** Key.
- 7) Press the **SEND** Softkey to transmit the message.

Text Message Boxes

Received text messages reside in the Inbox as 'Read' or 'Unread' messages. The Outbox contains 'Sent' and 'Unsent' text messages. Saved messages that are meant to be sent later are stored as Drafts. Each text message box may be viewed separately, or together in any combination.

Show Inbox Messages

While viewing the AUX-TEXT MESSAGING Page, press the **ARRANGE** Softkey, then press the **INBOX** Softkey.

Or:

- a) Press the **MENU** Key to display the Page Menu.
- b) Turn either **FMS** Knob to place the cursor on 'Show Inbox Messages'.
- c) Press the **ENT** Key. The message box selected for viewing is indicated at the bottom left of the list window.

Show Outbox Messages

While viewing the AUX-TEXT MESSAGING Page, press the **ARRANGE** Softkey, then press the **OUTBOX** Softkey.

Or:

- a) Press the **MENU** Key to display the Page Menu.
- b) Turn either **FMS** Knob to place the cursor on 'Show Outbox Messages'.
- c) Press the **ENT** Key. The message box selected for viewing is indicated at the bottom left of the list window.

Show Draft Messages

While viewing the AUX-TEXT MESSAGING Page, press the **ARRANGE** Softkey, then press the **DRAFTS** Softkey.

Or:

- a) Press the **MENU** Key to display the Page Menu.
- b) Turn either **FMS** Knob to place the cursor on 'Show Draft Messages'.
- c) Press the **ENT** Key. The message box selected for viewing is indicated at the bottom left of the list window.

Arranging Text Messages

The viewed messages may be listed according to the date/time the message was sent or received, the type of message (read, unread, sent, unsent, etc.), or by message address.

View Messages Sorted by Message Date/Time:

While viewing the AUX-TEXT MESSAGING Page, press the **ARRANGE** Softkey, then press the **TIME** Softkey.

Or:

- a) Press the **MENU** Key to display the Page Menu.
- b) Turn either **FMS** Knob to place the cursor on 'Sort By Date/Time'.
- c) Press the **ENT** Key. The sorting selection is indicated at the bottom center of the list window.

View Messages Sorted by Message Type

While viewing the AUX-TEXT MESSAGING Page, press the **ARRANGE** Softkey, then press the **TYPE** Softkey.

Or:

- a) Press the **MENU** Key to display the Page Menu.
- b) Turn either **FMS** Knob to place the cursor on 'Sort By Type'.
- c) Press the **ENT** Key. The sorting selection is indicated at the bottom center of the list window.

View Messages Sorted by Address:

While viewing the AUX-TEXT MESSAGING Page, press the **ARRANGE** Softkey, then press the **ADDRESS** Softkey.

Or:

- a) Press the **MENU** Key to display the Page Menu.
- b) Turn either **FMS** Knob to place the cursor on 'Sort By Address'.
- c) Press the **ENT** Key. The sorting selection is indicated at the bottom center of the list window.

Viewing The Content of a Text Message

- 1) While viewing the AUX-TEXT MESSAGING Page, select the desired message box.
- 2) Press the **FMS** Knob to activate the cursor.
- 3) Turn either **FMS** Knob to select the desired message.
- 4) Press the **VIEW** Softkey.

Or:

Press the **ENT** Key.

Or:

- a) Press the **MENU** Key to display the Page Menu.
 - b) Turn either **FMS** Knob to place the cursor on 'View Selected Message'.
 - c) Press the **ENT** Key.
- 5) To close the text message, press the **CLOSE** Softkey.

Or:

- a) Press the **MENU** Key to display the Page Menu.
- b) Turn either **FMS** Knob to place the cursor on 'Close Message'.
- c) Press the **ENT** Key.

Mark Selected Message As Read

- 1) While viewing the Inbox on the AUX-TEXT MESSAGING Page, press the **FMS** Knob to activate the cursor.
- 2) Turn either **FMS** Knob to select the desired message.
- 3) Press the **MRK READ** Softkey.

Or:

- a) Press the **MENU** Key to display the Page Menu.
- b) Turn either **FMS** Knob to place the cursor on 'Mark Selected Message As Read'.
- c) Press the **ENT** Key.

The message symbol now indicates the message has been opened.

Mark All Messages As Read

- 1) While viewing the Inbox on the AUX-TEXT MESSAGING Page, press the **MENU** Key to display the Page Menu.
- 2) Turn either **FMS** Knob to place the cursor on 'Mark All New Messages As Read'.
- 3) Press the **ENT** Key. A confirmation window is displayed.
- 4) With cursor highlighting 'YES', press the **ENT** Key. The message symbols now indicate all the message have been opened.

Delete a Message

- 1) While viewing the Inbox on the AUX-TEXT MESSAGING Page, press the **FMS** Knob to activate the cursor.
 - 2) Turn either **FMS** Knob to select the desired message.
 - 3) Press the **DELETE** Softkey.
- Or:**
- a) Press the **MENU** Key to display the Page Menu.
 - b) Turn either **FMS** Knob to place the cursor on 'Delete Selected Message'.
 - c) Press the **ENT** Key.

ELECTRONIC CHECKLISTS



NOTE: The checklists presented here are for example only and may not reflect checklists actually available for the Cessna NAV III Aircraft. This material is not intended to replace the checklist information presented in the AFM or the Pilot Safety and Warning Supplements document.



NOTE: Garmin is not responsible for the content of checklists. Cessna NAV III Aircraft checklists are created, modified, and updated by the aircraft manufacturer.

The optional checklist functions are displayed on two levels of softkeys that are available on any MFD page.

The MFD is able to display optional electronic checklists which allow a pilot to quickly find the proper procedure on the ground and during each phase of flight. The G1000 accesses the checklists from an SD card inserted into the bezel slot. If the SD card contains an invalid checklist file or no checklist, the Power-up Page messages display 'Checklist File: Invalid' or 'Checklist File: N/A' (not available) and the **CHKLIST** Softkey is not available.

Accessing and navigating checklists:

- 1) From any page on the MFD, press the **CHKLIST** Softkey or turn the large **FMS** Knob to select the Checklist Page.
- 2) Turn the large **FMS** Knob to select the 'GROUP' field.
- 3) Turn the small **FMS** Knob to select the desired procedure and press the **ENT** Key.
- 4) Turn the large **FMS** Knob to select the 'CHECKLIST' field.
- 5) Turn the **FMS** Knob to select the desired checklist and press the **ENT** Key. The selected checklist item is indicated with white text surrounded by a white box.
- 6) Press the **ENT** Key or **CHECK** Softkey to check the selected checklist item. The line item turns green and a checkmark is placed in the associated box. The next line item is automatically selected for checking.

Either **FMS** Knob can be used to scroll through the checklist and select the desired checklist item.

Press the **CLR** Key or **UNCHECK** Softkey to remove a check mark from an item.

- 7) When all checklist items have been checked, '*Checklist Finished*' is displayed in green text at the bottom left of the checklist window. If all items in the checklist have not been checked, '*CHECKLIST NOT FINISHED*' will be displayed in yellow text.
- 8) Press the **ENT** Key. 'GO TO NEXT CHECKLIST?' will be highlighted by the cursor.
- 9) Press the **ENT** Key to advance to the next checklist.
- 10) Press the **EXIT** Softkey to exit the Checklist Page and return to the page last viewed.

Immediately Accessing Emergency Procedures

- 1) From any page on the MFD, press the **CHKLIST** Softkey or turn the large **FMS** Knob to select the Checklist Page.
- 2) Press the **EMERGENCY** Softkey.
- 3) Turn the **FMS** Knob to select the desired emergency checklist and press the **ENT** Key.
- 4) Press the **ENT** Key or **CHECK** Softkey to check the selected emergency checklist item. The line item turns green and a checkmark is placed in the box next to it. The next line item is automatically highlighted for checking. Either **FMS** Knob can be used to scroll through the checklist and select the desired checklist item.
Press the **CLR** Key or **UNCHECK** Softkey to remove a check mark from an item.
- 5) When all checklist items have been checked, '*Checklist Finished*' is displayed in green text at the bottom left of the checklist window. If all items in the checklist have not been checked, '*CHECKLIST NOT FINISHED*' will be displayed in yellow text.\
- 6) Press the **ENT** Key. 'GO TO NEXT CHECKLIST?' will be highlighted by the cursor.
- 7) Press the **ENT** Key to advance to the next checklist.
- 8) Press the **RETURN** Softkey to return to the previous checklist.
- 9) Press the **EXIT** Softkey to exit the Checklist Page and return to the page last viewed.

AUXILIARY VIDEO (OPTIONAL)

There are four modes of operation of the optional auxiliary video display: Full-Screen, Full-Screen with Digital Zoom, Split-Screen with Map, and Split-Screen with Map and Digital Zoom.

Displaying auxiliary video:

- 1) Turn the large **FMS** Knob to select the AUX page group.
- 2) Turn the small **FMS** Knob to select VIDEO and display the AUX-VIDEO Page.

Selecting video menu options:

- 1) While viewing the AUX - VIDEO Page press the **MENU** Key to display the Page Menu OPTIONS.
- 2) Turn the large **FMS** Knob to highlight the desired video adjustment option and press the **ENT** Key.

Once the **ENT** key is pressed on any option, the page menu closes and returns to the AUX - VIDEO Page.

Video Setup

Video brightness, contrast, and saturation may be adjusted by selecting the setup function. While viewing the setup function softkeys, after 45 seconds of softkey inactivity, the system reverts to the AUX - VIDEO Page softkeys.

Adjusting the video settings:

- 1) With the AUX-VIDEO Page displayed, press the **SETUP** Softkey.
- 2) Press the **BRIGHT** - or **BRIGHT +**, to adjust display brightness in five percent increments from 0 to 100%.
- 3) Press the **CNTRST-** or **CNTRST +**, to adjust display contrast in five percent increments from 0 to 100%.
- 4) Press the **SAT** - or **SAT +**, to adjust display saturation in five percent increments from 0 to 100%.
- 5) If desired, return the display to the default settings by pressing the **RESET** Softkey.
- 6) Press the **BACK** Softkey to return to the previous softkey level.

Display Selection

Pressing the **HIDE MAP** Softkey removes the map and displays video on the full screen. The softkey label changes to grey with black characters. Pressing the **HIDE MAP** Softkey again restores the map view and the small video image. The softkey label returns to white characters on a black background.

Zoom/Range

Pressing the **VID ZM +** or **VID ZM -** Softkeys increases or decreases video display magnification between 1x and 10x.

The **RANGE** Knob can be used to increase or decrease the range setting on the map display or zoom in and out on the video display. While in the Split-Screen mode, pressing the **MAP ACTV** or **VID ACTV** Softkey determines which display the **RANGE** Knob adjusts. Pressing the softkey to display MAP ACTV allows the **RANGE** Knob to control the range setting of the map display. Pressing the softkey to display VID ACTV allows the **RANGE** Knob to control the zoom setting of the video display.

Input Selection

While on the AUX - VIDEO Page, press the **INPUT** Softkey to select the EVS or AUX video source.



NOTE: Images provided on the Aux-Video page are for supplemental use only.

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ABNORMAL OPERATION

REVERSIONARY MODE

Should a system detected failure occur in either display, the G1000 automatically enters reversionary mode. In reversionary mode, critical flight instrumentation is combined with engine instrumentation on the remaining display.

Reversionary display mode can also be manually activated by the pilot if the system fails to detect a display problem. The Reversionary Mode is activated manually by pressing the red **DISPLAY BACKUP** Button on the bottom of the audio panel (GMA 1347). Pressing the red **DISPLAY BACKUP** Button again deactivates Reversionary Mode.



NOTE: *The Cessna Pilot's Operating Handbook (POH) always takes precedence over the information found in this section.*

ABNORMAL COM OPERATION

When a COM tuning failure is detected by the system, the emergency frequency (121.500 MHz) is automatically loaded into the active frequency field of the COM radio for which the tuning failure was detected. In the event of a dual display failure, the emergency frequency (121.500 MHz) automatically becomes the active frequency to the pilot through the pilot headset.

HAZARD DISPLAYS WITH LOSS OF GPS POSITION

If GPS position is lost, or becomes invalid, selected hazards being displayed on the Navigation Map Page are removed until GPS position is again established.



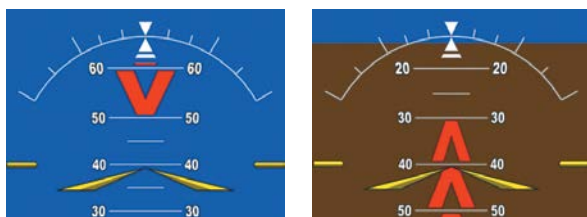
**Loss of Hazard Functions
with Loss of GPS Position**

UNUSUAL ATTITUDES

The PFD ‘declutters’ when the aircraft enters an unusual attitude. Only the primary functions are displayed in these situations.

The following information is removed from the PFD (and corresponding softkeys are disabled) when the aircraft experiences unusual attitudes:

- Traffic Annunciations
- AFCS Annunciations
- Flight director Command Bars
- Inset Map
- Temperatures
- DME Information Window
- Wind Data
- Selected Heading Box
- Selected Course Box
- Transponder Status Box
- System Time
- PFD Setup Menu
- Windows displayed in the lower right corner of the PFD:
 - Timer/References
 - Nearest Airports
 - Flight Plan
 - Messages
 - Procedures
 - ADF/DME Tuning
- Barometric Minimum Descent Altitude Box
- Glideslope, Glide-path, and Vertical Deviation Indicators
- Altimeter Barometric Setting
- Selected Altitude
- VNV Target Altitude



Extreme Pitch Indication

STORMSCOPE OPERATION WITH LOSS OF HEADING INPUT

If heading is lost, strikes and/or cells must be cleared manually after the execution of each turn. This is to ensure that the strike and/or cell positions are depicted accurately in relation to the nose of the aircraft.

DEAD RECKONING



WARNING: *DR Mode is inherently less accurate than the standard GPS/SBAS Mode due to the lack of satellite measurements needed to determine a position. Changes in wind speed and/or wind direction compound the relative inaccuracy of DR Mode.*

While in Enroute or Oceanic phase of flight, if the G1000 detects an invalid GPS solution or is unable to calculate a GPS position, the system automatically reverts to Dead Reckoning (DR) Mode. In DR Mode, the G1000 uses its last-known position combined with continuously updated airspeed and heading data (when available) to calculate and display the aircraft's current estimated position.



NOTE: *Dead Reckoning Mode only functions in Enroute (ENR) or Oceanic (OCN) phase of flight. In all other phases, an invalid GPS solution produces a "NO GPS POSITION" annunciation on the map and the G1000 stops navigating in GPS Mode.*

DR Mode is indicated on the G1000 by the appearance of the letters 'DR' superimposed in yellow over the 'own aircraft' symbol as shown in the following figure. In addition, 'DR' is prominently displayed, also in yellow, on the HSI slightly above and to the right of the aircraft symbol on the CDI as shown in the following figure. Also, the CDI deviation bar is removed from the display. Lastly, but at the same time, a 'GPS NAV LOST' alert message appears on the PFD.

Normal navigation using GPS/SBAS source data resumes automatically once a valid GPS solution is restored.

It is important to note that estimated navigation data supplied by the G1000 in DR Mode may become increasingly unreliable and must not be used as a sole means of navigation. If, while in DR Mode, airspeed and/or heading data is also lost or not available, the DR function may not be capable of estimating your position and, consequently, the system may display a path that is different than the actual movement of the aircraft. Estimated position information displayed by the G1000 through DR while there is no heading and/or airspeed data available should not be used for navigation.

DR Mode is inherently less accurate than the standard GPS/SBAS Mode due to the lack of satellite measurements needed to determine a position. Changes in wind speed and/or wind direction compounds the relative inaccuracy of DR Mode. Because of this degraded accuracy, the crew must maintain position awareness using other navigation equipment until GPS-derived position data is restored.



CDI 'DR' Indication on PFD



Symbolic Aircraft
(Map pages and Inset Map)

Dead Reckoning Indications

As a result of operating in DR Mode, all GPS-derived data is computed based upon an estimated position and is displayed as yellow text on the display to denote degraded navigation source information. This data includes the following:

- Navigation Status Box fields except Active Leg, TAS, and DTK
- GPS Bearing Pointer
- Wind data and pointers in the Wind Data Box on the PFD
- Track Indicator
- All Bearing Pointer Distances
- Active Flight Plan distances, bearings, and ETE values

Also, while the G1000 is in DR Mode, the autopilot will not couple to GPS, and Terrain Proximity, TERRAIN-SVS, and TAWS are disabled. Additionally, the accuracy of all nearest information (airports, airspaces, and waypoints) is questionable. Finally, airspace alerts continue to function, but with degraded accuracy.

SUSPECTED AUTOPILOT MALFUNCTION



NOTE: Consult the aircraft documentation for the location of circuit breakers as well as specifics that may supplement or amplify this procedure.

If an autopilot failure or trim failure is suspected to have occurred, perform the following steps:

- 1) Firmly grasp the control wheel.
- 2) Press and hold the **AP DISC** Switch. The autopilot will disconnect and power is removed from the trim motor. Power is also removed from all primary servo motors and engaged solenoids. Note the visual and aural alerting indicating autopilot disconnect.
- 3) Retrim the aircraft as needed. Substantial trim adjustment may be needed.
- 4) Pull the appropriate circuit breaker(s) to electrically isolate the servo and solenoid components.
- 5) Release the **AP DISC** Switch.

OVERPOWERING AUTOPILOT SERVOS

In the context of this discussion, “overpowering” refers to any pressure or force applied to the pitch controls when the autopilot is engaged. A small amount of pressure or force on the pitch controls can cause the autopilot automatic trim to run to an out-of-trim condition. Therefore, any application of pressure or force to the controls should be avoided when the autopilot is engaged.

Overpowering the autopilot during flight will cause the autopilot’s automatic trim to run, resulting in an out-of-trim condition or cause the trim to hit the stop if the action is prolonged. In this case, larger than anticipated control forces are required after the autopilot is disengaged.

The following steps should be added to the preflight check:

- 1) Check for proper autopilot operation and ensure the autopilot can be overpowered.
- 2) Note the forces required to overpower the autopilot servo clutches.

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ANNUNCIATIONS & ALERTS

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* | Continuous Aural Tone |
| ECU MAJOR FAULT† | |
| HIGH VOLTS | |
| LOW VOLTS* | |
| OIL PRESSURE | |
| START ENGAGE† | |
| LOW FUEL PRESS† | |
| FUEL TEMP† | |
| INDUCT TMP HI† | |
| PITCH TRIM** | No Tone |

*Aural tone is inhibited while the aircraft is on the ground.

** KAP 140 installations only

† J182T only

♣ Not applicable to J182T

CAUTION Alerts

| Annunciation Window Text | Audio Alert |
|--------------------------|-------------------|
| ECU MINOR FAULT* | Single Aural Tone |
| LOW FUEL L | |
| LOW FUEL R | |
| LOW POWER* | |
| LOW VACUUM | |
| PROP HEAT** | |
| STBY BATT | |
| INDUCT TMP INOP** | |
| INDUCT TMP LO** | |

*J182T only

**T182, T206, and 206 with prop de-ice only

Advisory Alerts (J182T only)

| Annunciation Window Text | Audio Alert |
|--------------------------|-------------|
| ECU FAULT CLEAR | No Tone |
| ENGINE PREHEAT | |
| ALT INDUCT ON | |

Safe Operating Annunciation (T182, T206, and 206 with Prop De-Ice Only)

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

Message Advisory (J182T only)








| Alerts Window Message | Comments |
|---|---|
| FUEL RNG RING UNAVAIL – Fuel Range Rings are unavailable | The J182T does not support the display of Fuel Range Rings. |

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 service. |
| CO DET FAIL – The carbon monoxide detector is inoperative. | Loss of communication between the system and the CO Guardian. |

♣ Not applicable to J182T

AFCS ALERTS

| Condition | Annunciation | Description |
|--|---|---|
| Pitch Failure |  | Pitch axis control failure. AP is inoperative. |
| Roll Failure |  | Roll axis control failure. AP is inoperative. |
| MET Switch Stuck, or Pitch Trim Axis Control Failure |  | 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 |  | AP and MET are unavailable. FD may still be available. |
| Elevator Mistrim Up |  | 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 |  | 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 |  | 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. |

| Condition | Annunciation | Description |
|-----------------------|--------------|--|
| Aileron Mistrim Right | | 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 | | Performing preflight system test. Upon completion, the aural alert will be heard. |
| | | Preflight system test has failed. |

TERRAIN-SVT ALERTS

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

TERRAIN-SVT 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 ALERTS

| Alert Type | PFD/MFD TAWS-B Page Annunciation | MFD 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 or TERRAIN AHEAD - PULL-UP | "Terrain, Terrain; Pull Up, Pull Up" or "Terrain Ahead, Pull Up; Terrain Ahead, Pull Up" |
| Imminent Terrain Impact Warning (ITI) | PULL UP | TERRAIN AHEAD - PULL-UP or TERRAIN - PULL-UP | Terrain Ahead, Pull Up; Terrain Ahead, Pull Up" or "Terrain, Terrain; Pull Up, Pull Up" |
| Reduced Required Obstacle Clearance Warning (ROC) | PULL UP | OBSTACLE - PULL-UP or OBSTACLE AHEAD - PULL-UP | "Obstacle, Obstacle; Pull Up, Pull Up" or "Obstacle Ahead, Pull Up; Obstacle Ahead, Pull Up" |
| Imminent Obstacle Impact Warning (IOI) | PULL UP | OBSTACLE AHEAD - PULL-UP or OBSTACLE - PULL-UP | "Obstacle Ahead, Pull Up; Obstacle Ahead, Pull Up" or "Obstacle, Obstacle; Pull Up, Pull Up" |
| Reduced Required Terrain Clearance Caution (RTC) | TERRAIN | CAUTION - TERRAIN or TERRAIN AHEAD | "Caution, Terrain; Caution, Terrain" or "Terrain Ahead; Terrain Ahead" |
| Imminent Terrain Impact Caution (ITI) | TERRAIN | TERRAIN AHEAD or CAUTION - TERRAIN | "Terrain Ahead; Terrain Ahead" or "Caution, Terrain; Caution, Terrain" |

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| Alert Type | PFD/MFD TAWS-B Page Annunciation | MFD Pop-Up Alert | Aural Message |
|---|----------------------------------|--|--|
| Reduced Required Obstacle Clearance Caution (ROC) | TERRAIN | CAUTION - OBSTACLE or OBSTACLE AHEAD | "Caution, Obstacle; Caution, Obstacle" or "Obstacle Ahead; Obstacle Ahead" |
| Imminent Obstacle Impact Caution (IOI) | TERRAIN | OBSTACLE AHEAD or CAUTION - OBSTACLE | "Obstacle Ahead; Obstacle Ahead" or "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 or TOO LOW - TERRAIN | "Don't Sink" or "Too Low, Terrain" |

TAWS 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 |

| Alert Type | PFD/MFD Alert Annunciation | TAWS-B Page Annunciation | Aural Message |
|---|----------------------------|--------------------------|-----------------------|
| 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" |

VOICE ALERTS

| Voice 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" | Played when a Traffic Advisory (TA) is issued. (TIS and ADS-B) |
| "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 (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. |
| "One o'clock" through "Twelve o'clock" or "No Bearing" | Played to indicate bearing of traffic from own aircraft (GTS 800 only). |

| Voice Alert | Description |
|--|---|
| "High", "Low", "Same Altitude" (if within 200 feet of own altitude), or "Altitude not available" | Played to indicate altitude of traffic relative to own aircraft (GTS 800 only). |
| "Less than one mile", "One Mile" through "Ten Miles", or "More than ten miles" | Played to indicate distance of traffic from own aircraft (GTS 800 only). |

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. |
| SW MISMATCH – GDU software version mismatch. Xtalk is off. | The MFD and PFD have different software versions installed. The system should be serviced. |

| Message | Comments |
|--|--|
| 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. | |

| Message | Comments |
|--|---|
| 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. | |
| 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 SafeTaxi 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. |

| Message | Comments |
|--|--|
| 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 version mismatch. Xtalk is off. | The PFD and MFD have different navigation database versions or regions installed. Crossfill is off. Check the AUX-SYSTEM STATUS Page to determine versions or regions. Also, check the AUX-SYSTEM STATUS Page for a database synchronization function not completed. After synchronization is complete, power must be turned off, then on. |
| DB MISMATCH – Standby Navigation database mismatch. | The PFD and MFD have different standby navigation database versions or regions installed. Check the AUX-SYSTEM STATUS Page to determine versions or regions. Also, check the AUX-SYSTEM STATUS Page for a database synchronization function not completed. After synchronization is complete, power must be turned off, then on. |
| DB MISMATCH – Terrain database mismatch. | The PFDs and MFD have different terrain database versions or types installed. Install correct terrain database version or type in all displays. Check the AUX-SYSTEM STATUS Page to determine versions or regions. Also, check the AUX-SYSTEM STATUS Page for a database synchronization function not completed. After synchronization is complete, power must be turned off, then on. |

| Message | Comments |
|--|--|
| DB MISMATCH – Obstacle database mismatch. | The PFDs and MFD have different obstacle database installed. Install correct obstacle database in all displays. Check the AUX-SYSTEM STATUS Page to determine versions or regions. Also, check the AUX-SYSTEM STATUS Page for a database synchronization function not completed. After synchronization is complete, power must be turned off, then on. |
| DB MISMATCH – Airport Terrain database mismatch. | The PFD and MFD have different airport terrain databases installed. Check the AUX-SYSTEM STATUS Page to determine versions or regions. Also, check the AUX-SYSTEM STATUS Page for a database synchronization function not completed. After synchronization is complete, power must be turned off, then on. |
| NAV DB UPDATED – Active navigation database updated. | System has updated the active navigation database from the standby navigation database. |
| TERRAIN DISABLED – Terrain Awareness DB resolution too low. | Terrain database of sufficient resolution (9 arc-second or better) is not currently installed. |
| 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. |

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| Message | Comments |
|---|---|
| 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 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. | |

| 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 CONFIG – COM1 config error. Config service req'd.. | The COM1 and/or COM2 configuration settings do not match backup configuration memory. The system should be serviced. |
| COM2 CONFIG – COM2 config error. Config service req'd. | |
| 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. | |

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| | Message | Comments |
|---------------------|--|---|
| Flight Instruments | 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. |
| EIS | COM2 RMT XFR – COM2 remote transfer key is stuck. | |
| Nav/Com/XPDR/Audio | LOI – GPS integrity lost. Crosscheck with other NAVS. | GPS integrity is insufficient for the current phase of flight. |
| AFCs | GPS NAV LOST – Loss of GPS navigation. Insufficient satellites. | Loss of GPS navigation due to insufficient satellites. |
| GPS Nav | GPS NAV LOST – Loss of GPS navigation. Position error. | Loss of GPS navigation due to position error. |
| Flight Planning | GPS NAV LOST – Loss of GPS navigation. GPS fail. | Loss of GPS navigation due to GPS failure. |
| Procedures | ABORT APR – Loss of GPS navigation. Abort approach. | Abort approach due to loss of GPS navigation. |
| Hazard Avoidance | APR DWNGRADE – Approach downgraded. | Vertical guidance generated by SBAS is unavailable, use LNAV only minimums. |
| Additional Features | 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’. |
| Abnormal Operation | 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. |
| Annun/Alerts | GPS2 SERVICE – GPS2 needs service. Return unit for repair. | |
| Appendix | 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. |
| Index | 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. | |

| Message | Comments |
|---|---|
| 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. | |
| 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. |

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 33/33ES 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 SERVICE – XPDR1 needs service. Return unit for repair. | The #1 transponder should be serviced when possible. |

| Message | Comments |
|--|---|
| XPDR1 FAIL – XPDR1 is inoperative. | There is no communication with the #1 transponder. |
| XPDR1 ADS-B FAIL – XPDR1 unable to transmit ADS-B messages. | GTX 33ES only. ADS-B is inoperative. Other transponder functions may be available. Service when possible. |

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 SERVICE – AHRS1 needs service. Return unit for repair. | A failure has been detected in the #1 AHRS. 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. |
| AHRS1 CONFIG – AHRS1 config error. Config service req'd. | AHRS configuration settings do not match those of backup configuration memory. The system should be serviced. |

| Message | Comments |
|---|---|
| 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. |

GDC 74A MESSAGE ADVISORIES

| Message | Comments |
|---|--|
| ADC1 SERVICE – ADC1 needs service. Return unit for repair. | The #1 Air Data Computer should be serviced when possible. |
| MANIFEST – GDC1 software mismatch, communication halted. | The GDC 74A has incorrect software installed. The G1000 system should be serviced. |

GSR 56 MESSAGE ADVISORIES

| Message | Comments |
|--|--|
| GSR1 FAIL – GSR1 has failed. | A failure has been detected in the #1 GSR 56. The system should be serviced. |
| REGISTER CONNEXT – Data services are inoperative, register w/ Connex. | The GSR 56 is not registered with Connex, or it's current registration data has failed authentication. |

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. |

GTS 800 MESSAGE ADVISORIES

| Message | Comments |
|--|---|
| GTS CONFIG – GTS config error. Config service req'd. | The GTS and GDU have incompatible configurations. This alert is also set when the GTS has an invalid mode S address configured or the mode S address does not match both XPDR mode S addresses. |
| MANIFEST – GTS software mismatch, communication halted. | The GTS has incorrect software installed. The system should be serviced. |

GDL 90 MESSAGE ADVISORIES

| Message | Comments |
|--|---|
| GDL90 CONFIG – GDL 90 config error. Config service req'd. | GDL 90 configuration settings do not match those of backup configuration memory. The system should be serviced. |
| GDL90 FAIL – GDL 90 has failed. | A failure has been detected in the GDL 90. The receiver is unavailable. The system should be serviced |
| MANIFEST – GDL software mismatch, communication halted. | The GDL 90 has incorrect software installed. The 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. Remove the waypoint from the flight plan if it no longer exists in any database, Or 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. |

| Message | Comments |
|---|--|
| 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. |
| 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. |
| PTK FAIL – Parallel track unavailable: past IAF. | IAF waypoint for parallel offset has been passed. |

| Message | Comments |
|--|---|
| 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 63W has failed. |

| Message | Comments |
|---|---|
| MAG VAR – 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°. |
| SVT DISABLED – Out of available terrain region. | Synthetic Vision is disabled because the aircraft is not within the boundaries of the installed terrain database. |
| SVT 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. |
| HOLD EXPIRED – Holding EFC time expired. | Expect Further Clearance (EFC) time has expired for the User Defined Hold. |
| [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. |
| [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. |

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FLIGHT PLAN IMPORT/EXPORT MESSAGES

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

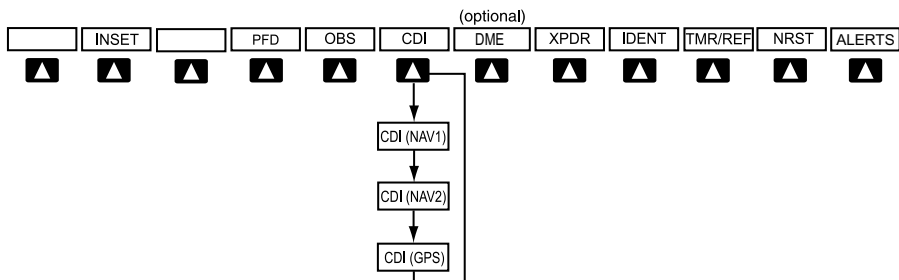
| Flight Plan Import/Export Results | Description |
|--|---|
| 'Flight plan successfully imported.' | A flight plan file stored on the SD card was successfully imported as a stored flight plan. |
| 'File contained user waypoints only. User waypoints imported successfully. No stored flight plan data was 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. |

| Flight Plan Import/Export Results | Description |
|--|--|
| '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. |

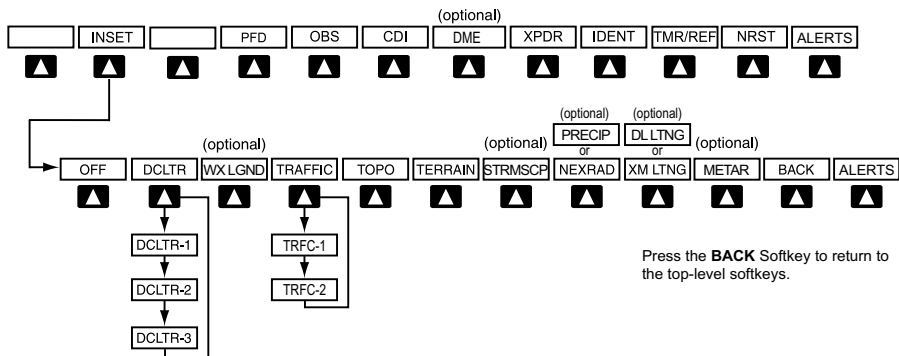
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APPENDIX

PFD SOFTKEY MAP



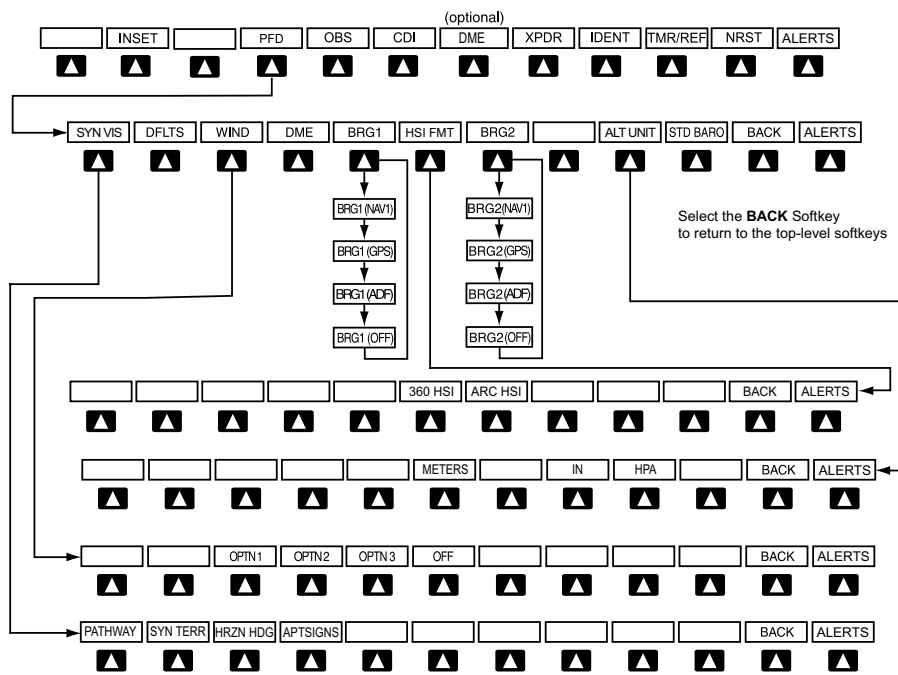
Top Level PFD Softkeys



Inset Map Softkeys

| Level 1 | Level 2 | Level 3 | Description |
|---------|-----------|---------|---|
| INSET | | | Displays Inset Map in PFD lower left corner |
| | OFF | | Removes Inset Map |
| | DCLTR (3) | | Selects desired amount of map detail; cycles through declutter levels: DCLTR (No Declutter): All map features visible DCLTR-1: Declutters land data DCLTR-2: Declutters land and SUA data DCLTR-3: Removes everything except the active flight plan |

| Level 1 | Level 2 | Level 3 | Description |
|---------|--|---------|--|
| | WX LGND | | Displays icon and age on the Inset Map for the selected weather products (optional) |
| | TRAFFIC | | Cycles through traffic display options: TRFC-1: Traffic displayed on inset map TRFC-2: Traffic Map Page is displayed in the inset map window |
| | TOPO | | Displays topographical data (e.g., coastlines, terrain, rivers, lakes) and elevation scale on Inset Map |
| | TERRAIN | | Displays terrain information on Inset Map |
| | STRMSCP | | Press to display the Stormscope lightning data on the Inset Map (within a 200 nm radius of the aircraft) |
| | NEXRAD or PRECIP | | Displays NEXRAD weather and coverage information on the Inset Map (optional) Displays Connex or FIS-B precipitation on the Inset Map (optional) |
| | XM LTNG or DL LTNG | | Displays XM lightning information on Inset Map (optional) Displays Connex lightning information on Inset Map (optional) |
| | METAR | | Displays METAR flags on airport symbols shown on the Inset Map (optional) |

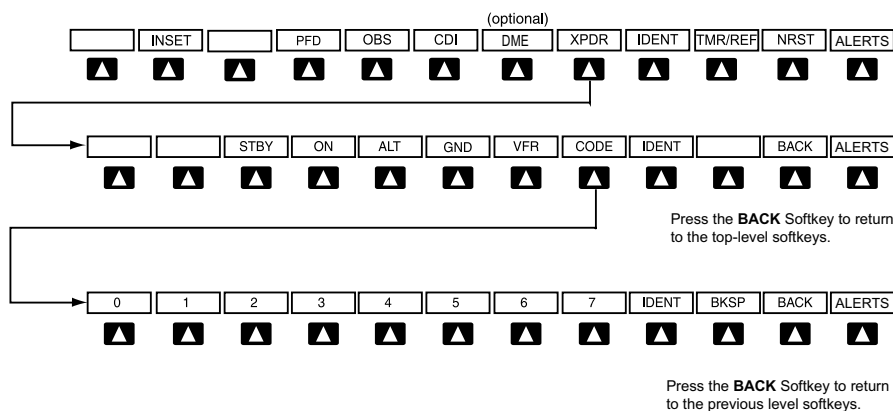


PFD Configuration Softkeys

| Level 1 | Level 2 | Level 3 | Description |
|------------|----------------|-----------------|---|
| PFD | | | Displays second-level softkeys for additional PFD configurations |
| | SYN VIS | | Displays the softkeys for enabling or disabling Synthetic Vision features |
| | | PATHWAY | Displays rectangular boxes representing the horizontal and vertical flight path of the active flight plan |
| | | SYN TERR | Enables synthetic terrain depiction |
| | | HRZN HDG | Displays compass heading along the Zero-Pitch line |

| | Level 1 | Level 2 | Level 3 | Description |
|---------------------|---------|-----------------|-----------------|--|
| Flight Instruments | | | APTSIGNS | Displays position markers for airports within approximately 15 nm of the current aircraft position. Airport identifiers are displayed when the airport is within approximately 9 nm. |
| EIS | | DFLTS | | Resets PFD to default settings, including changing units to standard |
| Nav/Com/XPDR/Audio | | WIND | | Displays softkeys to select wind data parameters |
| AFCs | | | OPTN 1 | Wind direction arrows with headwind and crosswind components |
| GPS Nav | | | OPTN 2 | Wind direction arrow and speed |
| Flight Planning | | | OPTN 3 | Wind direction arrow with direction and speed |
| Procedures | | | OFF | Information not displayed |
| Hazard Avoidance | | DME | | Displays the DME Information Window |
| Additional Features | | BRG1 | | Cycles the Bearing 1 Information Window through NAV1 or GPS/waypoint identifier and GPS-derived distance information, and ADF/frequency. |
| Abnormal Operation | | HSI FRMT | | Displays the HSI formatting softkeys |
| Annun/Alerts | | | 360 HSI | Displays the HSI in a 360 degree format |
| Appendix | | | ARC HSI | Displays the HSI in an arc format |
| Index | | BRG2 | | Cycles the Bearing 2 Information Window through NAV2 or GPS/waypoint identifier and GPS-derived distance information, and ADF/frequency. |
| | | ALT UNIT | | Displays softkeys for setting the altimeter and BARO settings to metric units |
| | | | METERS | When enabled, displays altimeter in meters |

| Level 1 | Level 2 | Level 3 | Description |
|---------|-----------------|------------|--|
| | | IN | Press to display the BARO setting as inches of mercury |
| | | HPA | Press to display the BARO setting as hectopascals |
| | STD BARO | | Sets barometric pressure to 29.92 in Hg (1013 hPa) |

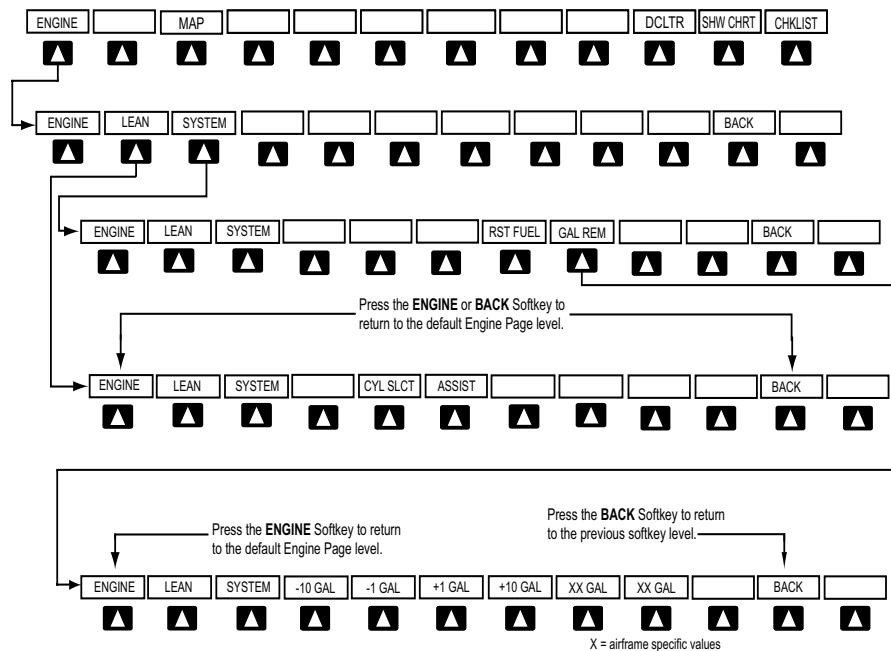


Transponder Softkeys

| Level 1 | Level 2 | Level 3 | Description |
|-------------|-------------|---------|--|
| XPDR | | | Displays transponder mode selection softkeys |
| | STBY | | Selects Standby Mode (transponder does not reply to any interrogations) |
| | ON | | Selects Mode A (transponder replies to interrogations) |
| | ALT | | Selects Mode C – Altitude Reporting Mode (transponder replies to identification and altitude interrogations) |

| Level 1 | Level 2 | Level 3 | Description |
|----------------|-------------|--------------|--|
| | GND | | Manually selects Ground Mode, the transponder does not allow Mode A and Mode C replies, but it does permit acquisition squitter and replies to discretely addressed Mode S interrogations. |
| | VFR | | Automatically enters the VFR code (1200 in the U.S.A. only) |
| | CODE | | Displays transponder code selection soft-keys 0-7 |
| | | 0 — 7 | Use numbers to enter code |
| | | BKSP | Removes numbers entered, one at a time |
| IDENT | | | Activates the Special Position Identification (SPI) pulse for 18 seconds, identifying the transponder return on the ATC screen |
| TMR/REF | | | Displays Timer/References Window |
| NRST | | | Displays Nearest Airports Window |
| ALERTS | | | Displays Alerts Window |

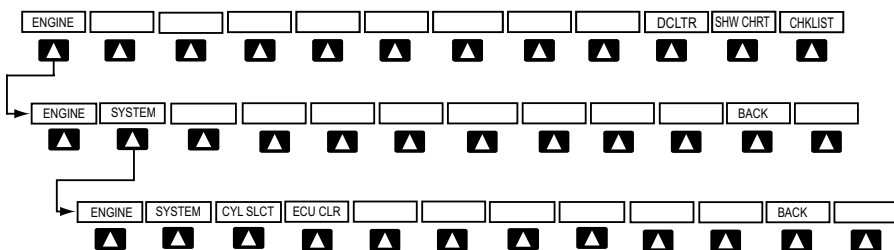
MFD SOFTKEY MAP



Engine Softkey Flowchart 172R, 172S, 182T, 206H, T182T, and T206H

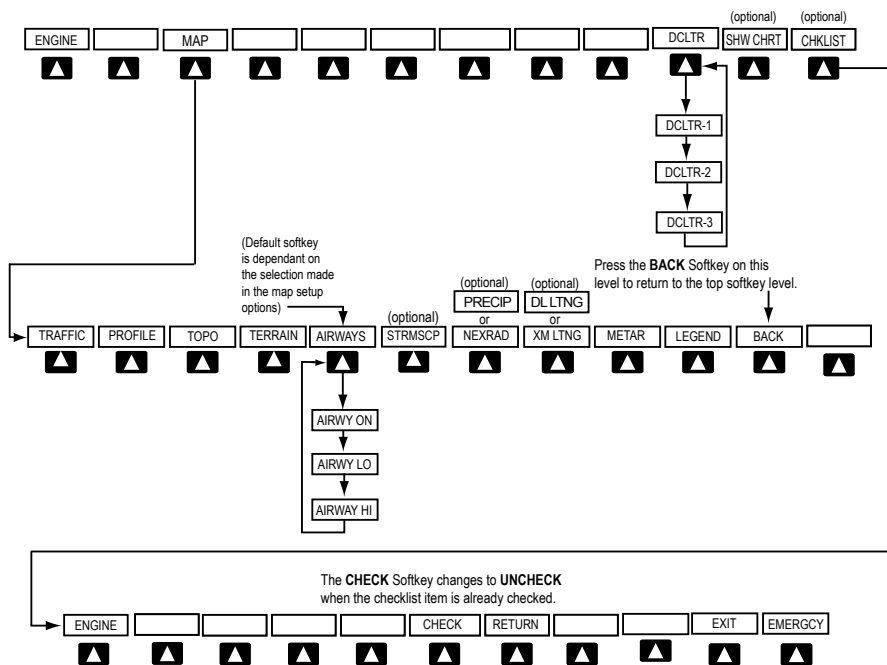
| Level 1 | Level 2 | Level 3 | Level 4 | Description |
|---------------|-------------|-----------------|---------|---|
| ENGINE | | | | Displays EIS-Engine Page |
| | LEAN | | | Selects the hottest cylinder and shows Δ PEAK for that cylinder |
| | | CYL SLCT | | Selects the desired cylinder for monitoring |
| | | ASSIST | | Highlights the first cylinder that peaks and displays information for that cylinder |
| | | BACK | | Press to return to the top level softkeys |

| Level 1 | Level 2 | Level 3 | Level 4 | Description |
|---------|---------------|-----------------|----------------|--|
| | SYSTEM | | | Press to access the Lean and Fuel softkeys |
| | | RST FUEL | | Press to reset fuel to full |
| | | GAL REM | | Press to display the fuel totalizer softkeys |
| | | | -10 GAL | Press to decrease remaining fuel quantity in 10-gallon increments |
| | | | -1 GAL | Press to decrease remaining fuel quantity in 1-gallon increments |
| | | | +1 GAL | Press to increase remaining fuel quantity in 1-gallon increments |
| | | | +10 GAL | Press to increase remaining fuel quantity in 10-gallon increments |
| | | | XX GAL | Press to decrease/increase remaining fuel quantity in XX-gallon increments |
| | | | XX GAL | Sets remaining fuel to XX-gallons |
| | | | BACK | Press to return to the top level softkeys |



Engine Softkey Flowchart (Model J182T)

| Level 1 | Level 2 | Level 3 | Level 4 | Description |
|---------|---------|----------|---------|---|
| ENGINE | | | | Displays EIS-Engine Page |
| | SYSTEM | | | Press to access the Lean and Fuel softkeys |
| | | CYL SLCT | | Selects the desired cylinder for monitoring |
| | | ECUCLR | | Press to clear ECU faults. The ECU FAULT CLEAR Advisory CAS message appears for 5 seconds. Only available if aircraft is on the ground and the engine is not running. |
| | | BACK | | Press to return to the top level softkeys |



Map Softkey Flowchart (All Models)

| | Level 1 | Level 2 | Level 3 | Level 4 | Description |
|---------------------|------------|--------------------------------------|---------|---------|---|
| Flight Instruments | MAP | | | | Enables second-level Navigation Map softkeys |
| EIS | | TRAFFIC | | | Displays traffic information on Navigation Map |
| Nav/Com/XPDR/Audio | | PROFILE | | | Displays/removes Profile View on Navigation Map Page |
| AFCs | | TOPO | | | Displays topographical data (e.g., coastlines, terrain, rivers, lakes) and elevation scale on Navigation Map |
| GPS Nav | | TERRAIN | | | Displays terrain information on Navigation Map |
| Flight Planning | | AIRWAYS | | | Displays airways on the map; cycles through the following: AIRWAYS: No airways are displayed AIRWY ON: All airways are displayed AIRWY LO: Only low altitude airways are displayed AIRWY HI: Only high altitude airways are displayed |
| Procedures | | | | | |
| Hazard Avoidance | | | | | |
| Additional Features | | STRMSCP | | | Displays Stormscope weather and coverage information on Navigation Map (optional feature) |
| Abnormal Operation | | | | | |
| Annun/Alerts | | NEXRAD or PRECIP | | | Displays NEXRAD weather and coverage information on the Navigation Map (optional) Displays Worldwide Weather or FIS-B precipitation on the Navigation Map (optional) |

| Level 1 | Level 2 | Level 3 | Level 4 | Description |
|------------------|---|---------|---------|---|
| | XM LTNG or DL LTNG | | | Displays XM lightning information on Inset Map (optional) Displays Worldwide Weather lightning information on Inset Map (optional) |
| | METAR | | | Displays METAR flags on airport symbols shown on the Navigation Map (optional) |
| | LEGEND | | | Displays the legend for the selected weather products. Available only when NEXRAD, XM LTNG, and/or METAR softkeys are selected. |
| | BACK | | | Returns to top-level softkeys |
| DCLTR (3) | | | | Selects desired amount of map detail; cycles through declutter levels: DCLTR (No Declutter): All map features visible DCLTR-1: Declutters land data DCLTR-2: Declutters land and SUA data DCLTR-3: Removes everything except the active flight plan |
| SHW CHRT | | | | When available, displays optional airport and terminal procedure charts |
| CHKLIST | | | | When available, displays optional checklists |
| | CHECK | | | When available, displays available checklists |

Flight Instruments

EIS

Nav/Com/XPDR/Audio

AFCS

GPS Nav

Flight Planning

Procedures

Hazard Avoidance

Additional Features

Abnormal Operation

Annun/Alerts

Appendix

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| Level 1 | Level 2 | Level 3 | Level 4 | Description |
|---------|------------------|---------|---------|---|
| | RETURN | | | Returns to the previous checklist |
| | EXIT | | | Exits checklist view |
| | EMERGENCY | | | When available, displays emergency checklists |

LOADING UPDATED DATABASES

Database information is obtained from third party sources. Inaccuracies in the data may be discovered from time to time. Garmin communicates this information by issuing a Database Alert. These notifications are available on <http://fly.garmin.com>.

Garmin requests the flight crew report any observed discrepancies related to database information. These discrepancies could come in the form of an incorrect procedure; incorrectly identified terrain, obstacles and fixes; or any other displayed item used for navigation or communication in the air or on the ground. Go to <http://fly.garmin.com> and select “Aviation Data Error Report”.



CAUTION: *Never disconnect power to the system when loading a database. Power interruption during the database loading process could result in maintenance being required to reboot the system.*



NOTE: *When loading database updates, the ‘DB Mismatch’ message will be displayed until database synchronization is complete, followed by turning system power off, then on. Synchronization can be monitored on the AUX-SYSTEM STATUS Page.*

In some cases it may be necessary to obtain an unlock code from Garmin in order to make the database product functional. It may also be necessary to have the system configured by a Garmin authorized service facility in order to use some database features.

If an error occurs during synchronization, an error message will be displayed, followed by the affected display in the Sync Status section of the Database Window. If synchronization completes on one display, but an error occurs on another, the error message will be displayed with the affected displays listed after it. When an error message is displayed, the problem must be corrected before synchronization can be completed. A power cycle is required to restart synchronization when ‘Card Full’ or ‘Err’ is shown.

| Error Message | Description |
|---------------|--|
| Canceled | Database synchronization has been canceled by removing the bottom SD card in display being updated |
| Card Full | SD card does not contain sufficient memory |
| Err | Displayed for all other errors that may cause the synchronization process to be halted |
| Timeout | System timed-out prior to the database transfer completing |

Updating Basemap, SafeTaxi, Obstacle, and Airport Directory Databases

These databases may be copied to one Supplemental Data Card, then automatically synchronized to other card in the system:

- 1) With system power OFF, remove the MFD database card from the bottom card slot of the MFD.
- 2) Update the basemap, SafeTaxi, airport terrain, obstacle and/or airport directory databases on the MFD card.
- 3) Insert the MFD database card into the bottom card slot of the MFD.
- 4) Apply power to the system, check that the databases are initialized and displayed on the power-up screen. If a 'Verifying' message is seen, wait for the system to finish loading before proceeding to step 5.
- 5) Acknowledge the Power-up Page agreement by pressing the **ENT** Key or the right most softkey.
- 6) Turn the large **FMS** Knob to select the AUX Page group on the MFD.
- 7) Turn the small **FMS** Knob to select the System Status Page.
- 8) Monitor the Sync Status in the Database Window. Wait for all databases to complete synching, indicated by 'Complete' being displayed.
- 9) Remove and reapply power to the system.
- 10) Turn the large **FMS** Knob to select the AUX Page group on the MFD.
- 11) Turn the small **FMS** Knob to select the System Status Page.
- 12) Press the Display Database Selection Softkey to show database information for each display (**MFD1 DB** or **PFD1 DB**). Verify the correct database cycle information is shown for each database for each display.

Updating Terrain, Airport Terrain, FliteCharts, and ChartView Databases

The Terrain, and Airport Terrain databases must be copied to both Supplemental Data Cards. The FliteCharts or ChartView databases should be copied to the MFD Supplemental Data Card only:

- 1) With system power OFF, remove the Supplemental Data Card from the bottom card slot of the MFD and PFD.
- 2) Update the terrain, airport terrain and/or FliteCharts or ChartView databases on the appropriate Supplemental Data Cards.
- 3) Insert the updated Supplemental Data Cards into the bottom card slot of the MFD and PFD.
- 4) Apply power to the system, check that the databases are initialized and displayed on the power-up screen. A 'Verifying' message may be seen. If this message is present, wait for the system to finish loading before proceeding to step 5.
- 5) Acknowledge the Power-up Page agreement by pressing the **ENT** Key or the right most softkey.
- 6) Turn the large **FMS** Knob to select the AUX Page group on the MFD.
- 7) Turn the small **FMS** Knob to select the System Status Page.
- 8) Press the Display Database Selection Softkey to show database information for each display (**MFD1 DB** or **PFD1 DB**). Verify the correct database cycle information is shown for each database for each display.
- 9) Remove power from the system.

Loading the Jeppesen Navigation Database as the Active Navigation Database

The Jeppesen Navigation Database that is loaded to internal memory as the active database will be used by the system.



NOTE: Loading the Jeppesen Navigation Database as the active database prior to its effective date will result in the expiration date on the power-up screen and the effective date on the AUX-System Status Page being displayed in yellow.



NOTE: After the navigation database is loaded or copied, the top SD card may be removed.

- 1) With the system OFF, insert the SD card containing the new navigation database version into the top card slot of the display (PFD or MFD) to be updated (label of SD card facing left).
- 2) Turn the system ON. A prompt is displayed in the upper left corner of the display:

```
DO YOU WANT TO UPDATE THE STANDBY NAVIGATION DATABASE ON THE BOTTOM CARD?
THE STANDBY DATABASE WILL BE ACTIVATED UPON THE FIRST ON-GROUND POWER CYCLE ON OR
AFTER 00:00 SYSTEM TIME ON THE EFFECTIVE DATE.
      FROM          TO
REGION:  WORLDWIDE  WORLDWIDE
CYCLE:   1204        1205
EFFECTIVE: 09-APR-2012  07-MAY-2012
EXPIRES:  07-MAY-2012  04-JUN-2012
NO WILL BE ASSUMED IN 21 SECONDS.
```

- 3) Press the **NO** Softkey to proceed to loading the active database.
- 4) A prompt similar to the following is displayed. Press the **YES** Softkey to update the active navigation database.

```
DO YOU WANT TO UPDATE THE ACTIVE NAVIGATION DATABASE?
SELECTING YES WILL OVERWRITE THE ACTIVE NAVIGATION DATABASE.
      FROM          TO
REGION:  WORLDWIDE  WORLDWIDE
CYCLE:   1204        1205
EFFECTIVE: 09-APR-2012  07-MAY-2012
EXPIRES:  07-MAY-2012  04-JUN-2012
NO WILL BE ASSUMED IN 8 SECONDS.
```

- 5) After the update completes, the display starts in normal mode.
- 6) Turn the system OFF and remove the SD card from the top card slot.
- 7) Repeat steps 1 through 6 for the other display (PFD or MFD).
- 8) Apply power to the system and press the **ENT** Key to acknowledge the startup screen.
- 9) Turn the large **FMS** Knob to select the AUX Page group on the MFD.
- 10) Turn the small **FMS** Knob to select the System Status Page.
- 11) Press the Display Database Selection Softkey to show active navigation database information for each display (**MFD1 DB, PFD1 DB**). Verify the correct active navigation database cycle information is shown for each display.

Loading the Jeppesen Navigation Database as the Standby Navigation Database

The purpose of the Standby Navigation Database is to allow the loading of the next cycle of the Jeppesen Navigation Database to the bottom SD card, prior to its effective date. (The Jeppesen Navigation Database is available from Jeppesen seven days prior to its effective date.)



NOTE: After the navigation database is loaded or copied, the top SD card may be removed.

- 1) With the system OFF, insert the SD card containing the new navigation database version into the top card slot of the MFD.
- 2) Verify that an SD card is inserted in the bottom slot of the PFD and the MFD.
- 3) Turn the system ON. A prompt is displayed.

```
DO YOU WANT TO UPDATE THE STANDBY NAVIGATION DATABASE ON THE BOTTOM CARD?
THE STANDBY DATABASE WILL BE ACTIVATED UPON THE FIRST ON-GROUND POWER CYCLE ON OR
AFTER 00:00 SYSTEM TIME ON THE EFFECTIVE DATE.
FROM TO
REGION: WORLDWIDE WORLDWIDE
CYCLE: 1204 1205
EFFECTIVE: 09-APR-2012 07-MAY-2012
EXPIRES: 07-MAY-2012 04-JUN-2012
NO WILL BE ASSUMED IN 21 SECONDS.
```

- 4) Press the **YES** Softkey. The navigation database is copied to the SD card in the bottom card slot of the MFD.
- 5) After the navigation database files are copied to the bottom SD card, press any key to verify, as instructed.
- 6) After database verification is complete, press any key to continue as instructed on the display.
- 7) Press the **NO** Softkey. The display now starts in normal mode. Since the database effective date is not yet valid, it should not be loaded as the active database. The display now starts in normal mode. Do not remove power while the display is starting.
- 8) Press the **ENT** Key to acknowledge the startup screen.

- 9) Turn the large **FMS** Knob to select the AUX Page group on the MFD.
- 10) Turn the small **FMS** Knob to select the System Status Page.
- 11) The new database is copied to the SD card in the bottom card slot of the PFD. Progress can be monitored in the SYNC STATUS field. When copying is finished, 'Complete' is displayed.

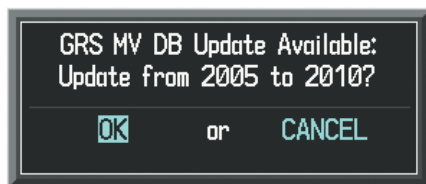


NOTE: *During the synchronization process, version differences between standby navigation databases will exist. This will result in the system displaying a 'DB Mismatch' alert for the standby navigation databases. This alert will remain until the next power cycle.*

- 12) Turn system power OFF.
- 13) Remove the SD card from the top card slot of the MFD.
- 14) Turn system power ON.
- 15) Press the **ENT** Key to acknowledge the startup screen.
- 16) Turn the large **FMS** Knob to select the AUX Page group on the MFD.
- 17) Turn the small **FMS** Knob to select the System Status Page.
- 18) Press the Display Database Selection Softkey to show standby navigation database information for each display (**MFD1 DB, PFD1 DB**). Verify the correct standby navigation database cycle information is shown for each display.

Magnetic Field Variation Database Update

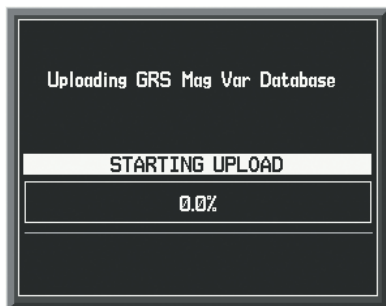
At startup, the system compares this version of the MV DB with that presently being used by the AHRS (GRS). If the system determines the MV DB needs to be updated, a prompt is displayed on the Navigation Map Page, as shown in the following figure.



GRS Magnetic Field Variation Database Update Prompt

Loading the magnetic field variation database update:

With 'OK' highlighted, as shown in the previous figure, press the **ENT** Key on the MFD. A progress monitor is displayed as shown in the following figure.



Uploading Database to GRS

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