GARMIN

CIRRUS PERSPECTIVE+

Cockpit Reference Guide

Cirrus SR2x

System Software Version 2647.N3 or later

This manual reflects the operation of System Software version 2647.N3 or later for the Cirrus Perspective+ by Garmin Integrated Avionics System. Where used, references to 'SR2x' are inclusive of the SR20, SR22, and SR22T. Some differences in operation may be observed when comparing the information in this manual to earlier or later software versions. Always refer to the approved current pertinent flight manual for a description of systems, limitations, and procedures.

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WARNING: *Do not operate this equipment without first obtaining qualified instruction.*

WARNING: *Always refer to current aeronautical charts and NOTAMs for verification of displayed aeronautical information. Displayed aeronautical data may not incorporate the latest NOTAM information.*

WARNING: *Do not use geometric altitude for compliance with air traffic control altitude requirements. The primary barometric altimeter must be used for compliance with all air traffic control altitude regulations, requirements, instructions, and clearances.*

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

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 older than the indicated weather product age.*

WARNING: *Do not use terrain avoidance displays as the sole source of information for maintaining separation from terrain and obstacles. Garmin obtains terrain and obstacle data from third party sources and cannot independently verify the accuracy of the information.*

WARNING: *Do not rely on the displayed minimum safe altitude (MSAs) as the sole source of obstacle and terrain avoidance information. Always refer to current aeronautical charts for appropriate minimum clearance altitudes.*

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.*

WARNING: *Do not rely on the autopilot to level the aircraft at the MDA/DH when flying an approach with vertical guidance. The autopilot will not level the aircraft at the MDA/DH even if the MDA/DH is set in the altitude preselect.*

WARNING: *Do not rely on the accuracy of attitude and heading indications in the following geographic areas (due to variations in the earth's magnetic field): 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: *Use appropriate primary systems for navigation, and for terrain, obstacle, and traffic avoidance. Garmin SVT is intended as an aid to situational awareness only and may not provide either the accuracy or reliability upon which to solely base decisions and/or plan maneuvers to avoid terrain, obstacles, or traffic.*

WARNING: *Do not use the Garmin 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.*

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

WARNING: *Do not use TAWS information for primary terrain or obstacle avoidance. TAWS is intended only 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 use a QFE altimeter setting with this system. System functions will not operate properly with a QFE altimeter setting. Use only a QNH altimeter setting for height above mean sea level, or the standard pressure setting, as applicable.*

CAUTION: *Do not clean display surfaces with abrasive cloths or cleaners containing ammonia. They will harm the anti-reflective coating.*

CAUTION: *Do not allow repairs to be made by anyone other than an authorized Garmin service center. Unauthorized repairs or modifications could void both the warranty and affect the airworthiness of the aircraft.*

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

NOTE: *Do not rely solely upon data link services to provide Temporary Flight Restriction (TFR) information. Always confirm TFR information through official sources such as Flight Service Stations or Air Traffic Control.*

NOTE: *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 system utilize GPS as a precision electronic NAVigation AID (NAVAID). Therefore, as with all NAVAIDs, information presented by the system can be misused or misinterpreted and, therefore, become unsafe.*

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

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: *Operating the system in the vicinity of metal buildings, metal structures, or electromagnetic fields can cause sensor differences that may result in nuisance mis-compare annunciations during start up, shut down, or while taxiing. If one or more of the sensed values are unavailable, the annunciation indicates no comparison is possible.*

NOTE: *The system responds to a terminal procedure based on data coded within that procedure in the Navigation Database. Differences in system operation may be observed among similar types of procedures due to differences in the Navigation Database coding specific to each procedure.*

NOTE: *The FAA has asked Garmin to remind pilots who fly with Garmin database-dependent avionics of the following:*

- *It is the pilot's responsibility to remain familiar with all FAA regulatory and advisory guidance and information related to the use of databases in the National Airspace System.*
- *Garmin equipment will only recognize and use databases that are obtained from Garmin or Jeppesen. Databases obtained from Garmin or Jeppesen that have a Type 2 Letter of Authorization (LOA) from the FAA are assured compliance with all data quality requirements (DQRs). A copy of the Type 2 LOA is available for each applicable database and can be viewed at http://fly.garmin.com by selecting 'Aviation Database Declarations.'*
- *Use of a current Garmin or Jeppesen database in your Garmin equipment is required for compliance with established FAA regulatory guidance, but does not constitute authorization to fly any and all terminal procedures that may be presented by the system. It is the pilot's responsibility to operate in accordance with established AFM(S) and regulatory guidance or limitations as applicable to the pilot, the aircraft, and installed equipment.*

NOTE: *The pilot/operator must review and be familiar with Garmin's database exclusion list as discussed in SAIB CE-14-04 to determine what data may be incomplete. The database exclusion list can be viewed at flygarmin.com by selecting 'Database Exclusions List.'*

NOTE: *The pilot/operator must have access to Garmin and Jeppesen database alerts and consider their impact on the intended aircraft operation. The database alerts can be viewed at flygarmin.com by selecting 'Aviation Database Alerts.'*

NOTE: *If the pilot/operator wants or needs to adjust the database, contact Garmin Product Support.*

NOTE: *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 flygarmin.com and select 'Aviation Data Error Report'.*

NOTE: *Electronic aeronautical charts displayed on this system have been shown to meet the guidance in AC 120-76D as a Type B Electronic Flight Bag (EFB) for FliteCharts and ChartView. The accuracy of the charts is subject to the chart data provider. Own-ship position on airport surface charts cannot be guaranteed to meet the accuracy specified in AC 120-76D. Possible additional requirements may make a secondary source of aeronautical charts, such as traditional paper charts or an additional electronic display, necessary on the aircraft and available to the pilot. If the secondary source of aeronautical charts is a Portable Electronic Device (PED), its use must be consistent with the guidance in AC 120-76D.*

NOTE: *The navigation databases used in Garmin navigation systems contain Special Procedures. Prior to flying these procedures, pilots must have specific FAA authorization, training, and possession of the corresponding current, and legitimately-sourced chart (approach plate, etc.). Inclusion of the Special Procedure in the navigation database DOES NOT imply specific FAA authorization to fly the procedure.*

NOTE: *Terrain and obstacle alerting is not available north of 89° North latitude and south of 89° South latitude. This is due to limitations present within the Terrain database and the system's ability to process the data representing the affected areas.*

NOTE: *The nose of the 'own ship' symbol represents the location of the aircraft. The center of any traffic symbol represents the location of that traffic. The traffic and own ship symbols are an abstract representation and do not reflect the physical extent of the aircraft/traffic, and should not replace other methods for identifying traffic.*

NOTE: *When using Stormscope, there are several atmospheric phenomena in addition to nearby thunderstorms that can cause isolated discharge points in the strike display mode. However, clusters of two or more discharge points in the strike display mode do indicate thunderstorm activity if these points reappear after the screen has been cleared.*

NOTE: *Intruder aircraft at or below 500 ft. AGL may not appear on the Garmin SVT display or may appear as a partial symbol.*

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: *Operate Perspective+ system power through at least one cycle in a period of four days of continuous operation to avoid an autonomous system reboot.*

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 system more easily. It is not intended to be a comprehensive operating guide. Complete operating procedures for the system are found in the Pilot's Guide for this aircraft.*

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Part Number	Rev.	Date	Page Range	Description
190-02184-00	A	December, 2016	All	Production release at GDU 20.03
190-02184-01	A	December 2017	All	Production release at GDU 20.70 - Added Bluetooth - Added WireAware - Added other GDU 20.70 parameters
190-02184-02	A	January 2019	All	Production release at GDU 21.16 - Updated Takeoff Mode - Flexibility added to Along Track Waypoint placement - Added VNAV Guidance for Non-precision NAVAID-based Approaches - Added Enhanced Descent Only VNAV - Added Glide Range Ring - Further defined Quick Select Box and Insertion Point Indicator - Redefined Procedures for Flight Planning and Instrument Procedures - Added GMA 350H/350Hc - Added CAS messages - Added System messages - Updated Database Management - Updated Warnings/Cautions/ Advisories - Made clerical changes
190-02184-03	A	November 2019	All	Production Release for GDU 21.30 Added Stabilized Approaches Updated EIS Updated GAGL Altitude Display Updated CRG Formatting

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FLIGHT INSTRUMENTS

AIRSPEED INDICATOR

Turning Vspeed bugs on/off:

1) Press the **TMR/REF** Softkey.
2) Turn the large **FMS** Knob to highlight the 'On/Off' Field.
3) Turn the small **FMS** Knob clockwise to On or counterclockwise to Off.
4) To remove the window, press the **CLR** Key or the **TMR/REF** Softkey.

Turning all Vspeed bugs on/off:

1) Press the **TMR/REF** Softkey.
2) Press the **MENU** Key.
3) To activate all Vspeed bugs, press the **ENT** Key with 'All References On' highlighted.
4) To remove all Vspeed bugs, turn the **FMS** Knob to highlight 'All References Off' and press the **ENT** Key.

Modifying Vy and Vrotate bugs (only available on SR20):

1) Press the **TMR/REF** Softkey to show the 'References' Window.
2) Turn the large **FMS** Knob to highlight the desired Vspeed bug value.
3) Turn the small **FMS** Knobs to adjust the value for the selected Vspeed bug and press the **ENT** Key.
4) To remove the window, press the **CLR** Key or the **TMR/REF** Softkey.

Restoring all Vspeed defaults:

1) Press the **TMR/REF** Softkey.
2) Press the **MENU** Key.
3) Turn the **FMS** Knob to highlight 'Restore Defaults' and press the **ENT** Key.

ALTIMETER

Setting the Selected Altitude:

1) Turn the **ALT SEL** Knob to set the Selected Altitude in 100-ft increments (up to the aircraft's service ceiling. When meters are displayed, Selected Altitude is adjusted in 50 meter increments. If set, the Minimum Descent Altitude/Decision Height (MDA/DH) value is also available for the Selected Altitude.
2) If desired, press the **ALT SEL** Knob to synchronize the selected altitude to the displayed altitude to the nearest 10 ft.

Displaying altitude in meters:

1) Press the **PFD Opt** Softkey to display the second-level softkeys.
2) Press the **ALT Units** Softkey.

3) Press the **Meters** Softkey to turn on metric altitude displays.
4) Press the **Back** Softkey twice to return to the top-level softkeys.

WARNING: *Do not use a QFE altimeter setting with this system. System functions will not operate properly with a QFE altimeter setting. Use only a QHN altimeter setting for the height above mean sea level, or the standard pressure setting, as applicable.*

Selecting the altimeter barometric pressure setting:

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

Selecting standard barometric pressure:

Press the **BARO** Knob to select standard pressure; STD BARO is displayed in the Barometric Setting box.

Or:

1) Press the **PFD Opt** Softkey to display the second-level softkeys.
2) Press the **STD Baro** Softkey; STD BARO is displayed in the Barometric Setting box.

Changing altimeter barometric pressure setting units:

1) Press the **PFD Opt** Softkey to display the second-level softkeys.
2) Press the **ALT Units** Softkey.
3) Press the **IN** Softkey to display the barometric pressure setting in inches of mercury (in Hg).

   Or:

   Press the **HPA** Softkey to display the barometric pressure setting in hectopascals (hPa).
4) Press the **Back** Softkey twice to return to the top-level softkeys.

Setting the Baro Transition Alert:

1) Use the **FMS** Knob to select the 'AUX - System Setup 1' Page on the MFD.
2) Press the **FMS** Knob to activate the cursor.
3) To enable/disable the Baro Transition Alert based on altitude, turn the large **FMS** Knob to highlight the 'On' or 'Off' Field for the BARO Transition Alert Altitude in the 'BARO Transition Alert' Box.
4) If desired, turn the small **FMS** Knob to set the BARO Transition Alert Altitude 'On' or 'Off'.
5) Turn the large **FMS** Knob to highlight the 'Altitude' Field.
6) Use the **FMS** Knobs to change the altitude and press the **ENT** Key to accept or press the **CLR** Key to return to the previous altitude selection.
7) Turn the large **FMS** Knob to highlight the 'On' or 'Off' Field for the BARO Transition Alert Level.

8) If desired, turn the small **FMS** Knob to set the BARO Transition Alert Flight Level 'On' or 'Off'.
9) Turn the large **FMS** Knob to highlight the 'Flight Level' Field.
10) Use the **FMS** Knobs to change the Flight Level for the alert and press the **ENT** Key to accept or press the **CLR** Key to return to the previous altitude selection.
11) Push the **FMS** Knob to deactivate the cursor.

HORIZONTAL SITUATION INDICATOR (HSI)

Enabling/disabling the HSI Map on the PFD:

1) Press the **Map/HSI** Softkey.
2) Press the **Layout** Softkey.
3) Press the **HSI Map** Softkey to enable the HSI Map.

   Or:

   Press the **Map Off** Softkey to disable the HSI Map.
4) Press the **Back** Softkey twice to return to the top-level softkeys.

Adjusting the Selected Heading:

1) Turn the **HDG** Knob to set the Selected Heading.
2) Press the **HDG** Knob to synchronize the bug to the current heading.

Adjusting the Selected Course:

1) Turn the **CRS** Knob to set the Selected Course.
2) Press the **CRS** Knob to re-center the CDI and return the course pointer to the bearing of the active waypoint or navigation station (see OBS Mode for adjusting a GPS course).

Changing the navigation angle setting:

1) Use the **FMS** Knob to select the 'AUX - System Setup 1' Page on the MFD.
2) Press the **FMS** Knob to activate the cursor.
3) Turn the large **FMS** Knob to highlight Nav Angle in the Display Units box.
4) Turn the small **FMS** Knob to highlight the desired setting and press the **ENT** Key.
   - MAGNETIC (º)- Angles corrected to the computed magnetic variation (Mag Var).
   - TRUE (ºT)- References angles to true north (T).

GPS CDI Scaling

Changing the selected GPS CDI setting:

1) Use the **FMS** Knob to select the 'AUX - System Setup 1' Page on the MFD.
2) Press the **FMS** Knob to activate the cursor.
3) Turn the large **FMS** Knob to highlight Selected in the 'GPS CDI' Box.
4) Turn the small **FMS** Knob to highlight the desired setting and press the **ENT** Key.
5) To cancel the selection, press the **FMS** Knob or the **CLR** Key.

OBS Mode

Enabling/disabling OBS Mode while navigating a GPS flight plan:

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 return to automatic waypoint sequencing.

SUPPLEMENTAL FLIGHT DATA

TEMPERATURE DISPLAY

Changing temperature display units:

1) Select the 'AUX - System Setup' Page on the MFD using the **FMS** Knob.
2) Press the **FMS** Knob to activate the cursor.
3) Turn the large **FMS** Knob to highlight the Temperature field in the Display Units box.
4) Turn the small **FMS** Knob to highlight either Celsius (°C) or Fahrenheit (°F) and press the **ENT** Key to confirm the selection.
5) To cancel the selection, press the **FMS** Knob or the **CLR** Key.

WIND DATA

Displaying wind data:

1) Press the **PFD Opt** Softkey.
2) Press the **Wind** Softkey.
3) Press one of the option softkeys to change how wind data is displayed:
   - **Option 1**: Wind direction arrow with numeric True direction and speed.
   - **Option 2:** Headwind/tailwind and crosswind arrows with numeric speed components.
4) To remove the window, press the **Off** Softkey.

Selecting the AOA Indicator display mode:

1) Press the **PFD Opt** Softkey.
2) Press the **AOA** Softkey.
3) Press the **On, Off,** or **Auto** Softkey. Pressing the **Auto** Softkey shows the AOA Indicator when the normalized AOA is 0.2 or greater, or when the flaps are partially or fully extended.
4) Press the **Back** Softkey to return to the top-level PFD softkeys.

MINIMUM DESCENT ALTITUDE/DECISION HEIGHT ALERTING

Setting the barometric minimum descent altitude and bug:

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 temperature (-59°C to 59°C)
6) To remove the window, press the **CLR** Key or the **TMR/REF** Softkey.

GARMIN SVT (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 either the accuracy or reliability upon which to solely base decisions and/or plan maneuvers to avoid terrain, obstacles, or traffic.*

SVT OPERATION

Activating and deactivating SVT:

1) Press the **PFD Opt** Softkey.
2) Press the **SVT** Softkey.
3) Press the **Terrain** Softkey. The SVT display will cycle on or off with the **Terrain** Softkey.

Activating and deactivating Pathways:

1) Press the **PFD Opt** Softkey.
2) Press the **SVT** Softkey.
3) Press the **Pathways** Softkey. The Pathway feature will cycle on or off with the **Pathways** Softkey.

Activating and deactivating Horizon Headings:

1) Press the **PFD Opt** Softkey.
2) Press the **SVT** Softkey.
3) Press the **HDG LBL** Softkey. The horizon heading display will cycle on or off with the **HDG LBL** Softkey.

Activating and deactivating Airport Signs:

1) Press the **PFD Opt** Softkey.
2) Press the **SVT** Softkey.
3) Press the **APT Sign** Softkey. Display of airport signs will cycle on or off with the **APT Sign** Softkey.

Enabling/disabling Wire Obstacles on SVT:

1) Press the **PFD Opt** Softkey.
2) Press the **SVT** Softkey.
3) Press the **Wire** Softkey.

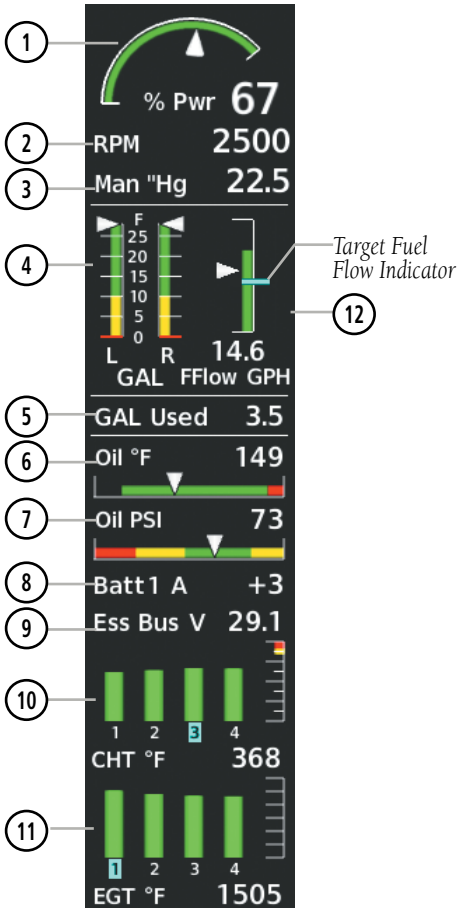
Enabling/disabling SVT Field of View on the 'Map - Navigation Map' Page:

1) While viewing the 'Map - Navigation Map' Page, press the **MENU** Key to display the page menu.
2) Turn the large **FMS** Knob to highlight 'Map Settings' and press the **ENT** Key.
3) Turn the small **FMS** Knob to select the 'Map' Group and press the **ENT** Key.
4) Turn the large **FMS** Knob to scroll through the 'Map' Group options to 'Field of View'.
5) Turn the small **FMS** Knob to select 'On' or 'Off'.
6) Press the **FMS** Knob to return to the 'Map - Navigation Map' page.

ENGINE INDICATION SYSTEM

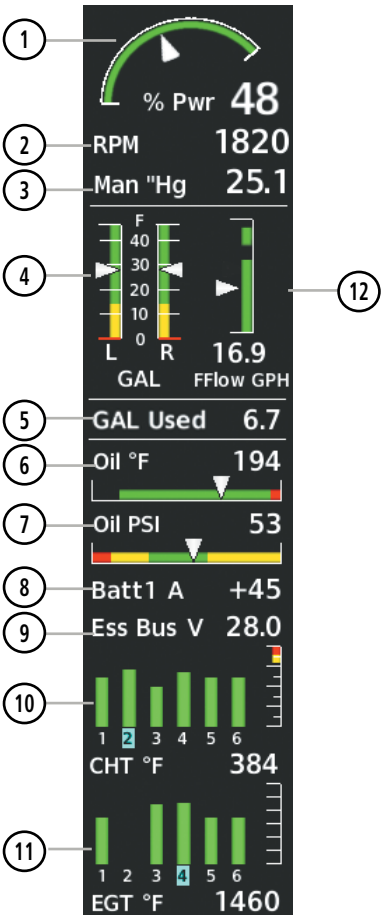
EIS DISPLAY

NOTE: *Refer to the current version of the pertinent flight manual for engine operating limitations.*

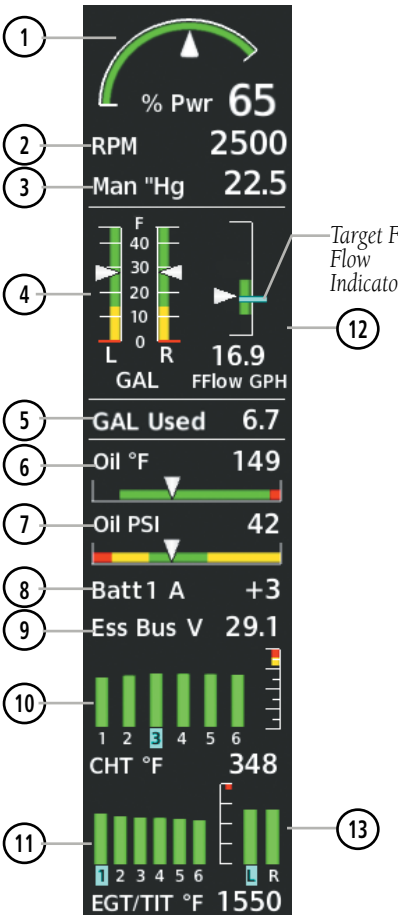


SR20

EIS Display

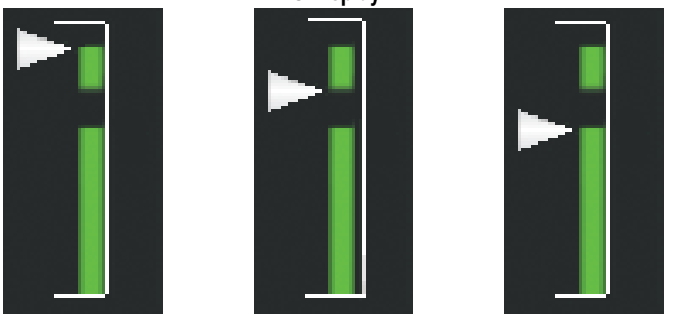


SR22
(Normally Aspirated)



SR22T

EIS Display



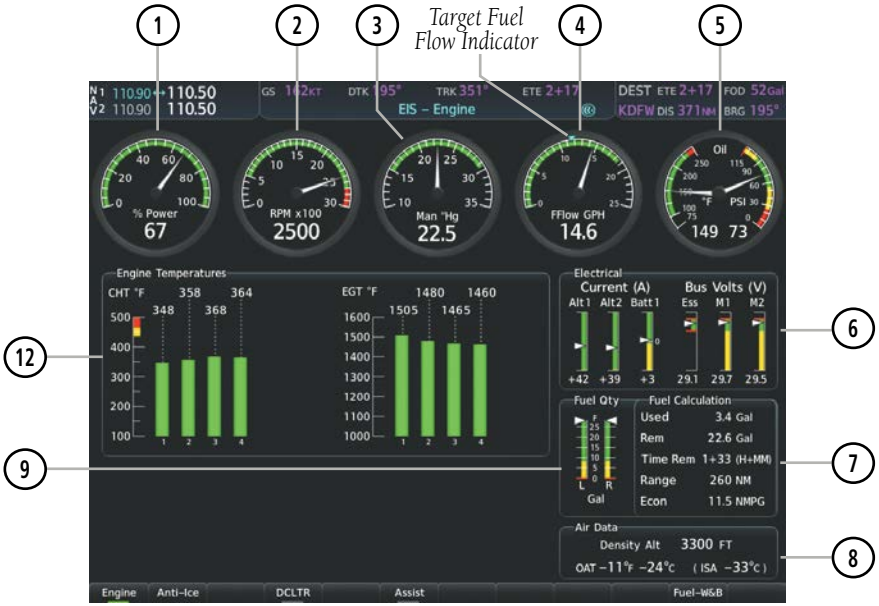
Max Continuous Flow | *Best Power* | *Best Economy*

Fuel Flow Examples

ENGINE PAGE

Pressing the **Engine** Softkey accesses the 'EIS - Engine' Page, which displays all engine, fuel, fuel calculation, electrical, air data, and optional ice protection information (second level softkeys). Pressing the optional **Anti-Ice** Softkey and the **Fuel-W&B** access third-level softkeys. Pressing the **W&B** Softkey access forth-level softkeys. Pressing the **Graph** Softkey access fifth-level softkeys.

NOTE: *The ice protection system (optional) must be operated in accordance with the limitations in the current version of the pertinent flight manual. This option is only available on SR22 and SR22T models.*



'Engine' Page (SR20)

'Engine' Page (SR22) with TKS FIKI and Oxygen

'Engine' Page (SR22T) with TKS FIKI and Oxygen

(1) **Percent Power**	Displays engine power as a percentage
(2) **Tachometer**	Displays propeller speed in revolutions per minute
(3) **Engine Manifold Pressure**	Displays manifold pressure in inches of Mercury to indicate engine power
(4) **Fuel Flow**	Displays fuel flow in gallons per hour. *(SR20, SR22T Only)* Displays a cyan target fuel flow indicator for Lean of Peak to the right of the fuel flow indicator strip. *(SR22 Only)* Displays black band indicator for Rich of Peak and Lean of Peak fuel flow targets.
(5) **Oil Temperature and Pressure**	Displays oil temperature in degrees Fahrenheit (°F) and pressure in pounds per square inch (psi)
(6) **Electrical Group**	Displays the alternator and battery current in amperes and the essential and main bus voltage
(7) **Fuel Calculation Group**	Displays calculated fuel at destination, fuel used, fuel remaining, time remaining, range (in nautical miles) and economy (in nautical miles per gallon) based on the displayed fuel remaining and the fuel flow totalizer
(8) **Air Data**	Displays density altitude, outside air temperature (OAT) in °F and °C, and international standard atmosphere (ISA) temperature deviation
(9) **Fuel Quantity**	Displays fuel quantities, in gallons, for the left (L) and right (R) fuel tanks
(10) **Oxygen Pressure**	Displays oxygen pressure in tank in pounds per square inch (*optional*)
(11) **Anti-Ice Fluid Quantity**	TKS FIKI – Displays the quantity of anti-ice fluid remaining in the left (L) and right (R) tanks in gallons (*optional – See Operational Note below*)
(12) **Engine Temperature Group**	Displays head (CHT) and exhaust gas temperatures (EGT) of all cylinders in °F (*all models*) and turbine inlet temperatures (*SR22T only*)

NOTE: *The ice protection system (optional) must be operated in accordance with the limitations in the current version of the pertinent flight manual. This option is only available on SR22 and SR22T models.*

NOTE: *Depictions of equipment may differ from the installed equipment. Examples shown may not represent all possible aircraft configurations.*

FUEL CALCULATIONS

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

Fuel used (Used), time remaining (Time Rem), range (in nautical miles), and economy (Econ) are calculated based on the displayed fuel remaining (Rem) and the fuel flow totalizer. The calculated range is based upon ground speed, distance, economy and fuel remaining. See the Flight Management Section for information regarding the map feature related to the EIS Fuel Calculations.

Adjusting the fuel totalizer quantity:

1) Press the **Engine** Softkey to display the 'Engine' Page.
2) Press the **Fuel-W&B** Softkey to access the Initial Usable Fuel Page.
3) Turn the **FMS** Knob (small knob adjusts in 1 gallon increments and large knob in 10 gallon increments) to increase or decrease the initial usable fuel displayed.

TKS FLIGHT INTO KNOWN ICING (FIKI) ANTI-ICE SYSTEM

The system interfaces with the optional TKS Flight Into Known Icing (FIKI) anti-ice system. Refer to the current version of the pertinent flight manual for a detailed system description of the installed ice protection system.

NOTE: *The ice protection system (optional) must be operated in accordance with the limitations in the current version of the pertinent flight manual. This option is only available on SR22 and SR22T models.*

The FIKI system offers five pilot-selectable (external to the system) modes of operation and a more sophisticated quantity indicator located on the full 'Engine' Page. To accommodate the additional modes, the TKS FIKI system employs several additional sensors. The system receives inputs from these sensors and provides indications as to the status of the TKS FIKI system.

Auto Tank Selection Mode

In the default tank selection mode (Auto), the system assures the fluid levels of the two tanks are kept relatively even by periodically closing the tank with the lowest level. The system uses the anti-ice fluid tank quantities to control the tank shut-off valves. When the system is on and operating in Auto mode, the shut-off valves close under the following conditions:

- The fluid quantity is empty (indicated from the fluid level sensor and level switch)
- The left and right tank level imbalance is greater than 0.25 gallons (low tank will be closed until level balance is within 0.15 gallons)
- The fluid quantity is unreliable (a miscompare between the level sensor and level switch or an out of range level sensor value)

While operating in Auto mode a white box is displayed around the 'L' and 'R', located on top of each fluid quantity indicator, when both tanks are open. During normal operation, the white box will highlight the left or right tanks as the fluid levels change.

If a fluid level comparison fault is detected (the fluid level sender disagrees with the fluid level switch for a particular tank) the corresponding fluid quantity indicator is grayed out and that quantity is not used in the endurance and range calculations. When the fluid level sender is out of range, the fluid quantity indicator is marked with an amber 'X'.

Manual Tank Mode

Manual tank mode allows the pilot to control either tank's shut-off valve. Manual may be selected by pressing the **Anti-Ice** Softkey to access the second-level softkeys **Left**, **Auto**, and **Right**. A cyan box is displayed around the selected tank, gallons remaining in the selected tank, and pump operating mode.

- **Left** Softkey – opens left tank valve and closes right tank valve
- **Auto** Softkey – returns to Auto tank mode
- **Right** Softkey – opens right tank valve and closes left tank valve

While operating in manual tank mode, only the selected/open tank's quantity is used for the range and endurance calculations.

Pump Operating Modes

The Ice Protection systems consists of various pump operating modes listed below.

NOTE: *The ice protection system (optional) must be operated in accordance with the limitations in the current version of the pertinent flight manual. This option is only available on SR22 and SR22T models.*

Operating Mode	System Operation	Comments
OFF	System Off	No modes selected
Norm	Both pumps operate on a timed, repeating cycle – 30 seconds ON and 90 seconds OFF	Provides 50% flow rate for light/moderate icing ☂
High	A single pump (#1) operates continuously	Provides 100% flow rate for moderate icing ☂
Max (momentary)	Both pumps operate continuously for 2 minutes	Provides 200% flow rate for severe icing or to expedite the removal of previous ice buildup ☂
Pump Bkup	A single pump (#2) operates continuously	This mode is used in the event of a timer box failure or when Backup mode is selected. Pump #2 provides 100% flow rate, bypassing the timer box ☂

☂ Refer to the *current version of the pertinent flight manual* for pilot recommended actions

FIKI System Operating Modes

LEANING ASSIST MODE

NOTE: *The pilot should follow the engine manufacturer's recommended leaning procedures in the current version of the pertinent flight manual.*

A leaning assist function is available on the 'Engine' Page to assist in the leaning process.

Access Leaning Assist Mode:

1) Press the **Engine** Softkey to display the 'Engine' Page.
2) Press the **Assist** Softkey to identify peaks.

When the **Assist** Softkey is pressed, the system initially highlights the number and places a cyan box around the EGT display of the cylinder with the hottest EGT. The Δ Peak temperature is the difference between the peak temperature and the present temperature for the peaked cylinder. When the first peak is detected, "1st" is annunciated below that cylinder's EGT bar and the temperature is enclosed in a cyan box.

The system continues to detect peak EGTs for each cylinder lean of peak as the fuel flow is decreased, and the peak of each cylinder's EGT is indicated by a cyan marker on the graph. Once all cylinders are lean of peak, the last cylinder to peak is denoted by the "Last" annunciation below its bar on the graph.

AUDIO PANEL AND CNS

COM OPERATION

COM TRANSCEIVER MANUAL TUNING

Manually tuning a COM frequency:

1) Turn the **COM** Knob to tune the desired frequency (large knob for MHz; small knob for kHz).
2) Press the **Frequency Transfer** Key to transfer the frequency to the active field.
3) Adjust the volume level with the COM **VOL/SQ** Knob.
4) Push the COM **VOL/SQ** Knob to turn automatic squelch on and off.

Manual frequency tuning from the PFD/MFD Controller:

1) Press the **COM** Key to select the COM frequency box.
2) Turn the **COM/NAV/CRS/XPDR** Knob to tune the desired frequency (large knob for MHz; small knob for kHz).
3) Press the **Frequency Transfer** Key to transfer the frequency to the active field.

AUTO-TUNING THE COM FREQUENCY

Auto-tuning a COM frequency for a nearby airport from the PFD:

1) Press the **Nearest** Softkey on the PFD to open the 'Nearest Airports' Window. A list of 25 nearest airport identifiers and COM frequencies is displayed.
2) Turn the **FMS** Knob to scroll through the list and highlight the desired COM frequency.
3) Press the **ENT** Key to load the COM frequency into the COM Standby Tuning Box.
4) Press the **Frequency Transfer** Key to transfer the frequency to the COM Active Frequency Field.

AUTO-TUNING FROM THE MFD

Auto-tuning a COM frequency from the WPT and NRST Pages:

1) From any page the COM frequency can be auto-tuned, activate the cursor by pushing the **FMS** Knob or pressing the appropriate softkey.
2) Turn the **FMS** Knob to place the cursor on the desired COM frequency.
3) Press the **ENT** Key to display the 'Load Frequency' Window.
4) Turn the **FMS** Knob to place the cursor on the desired COM frequency field.
5) Press the **ENT** Key to load the COM frequency into the selected COM frequency field.

FREQUENCY SPACING

Changing COM frequency channel spacing:

1) Select the 'AUX – System Setup 2' Page.
2) Push the **FMS** Knob to activate the flashing cursor.
3) Turn the large **FMS** Knob to highlight the Channel Spacing Field in the 'COM Configuration' Window
4) Turn the small **FMS** Knob to select the desired channel spacing.
5) Press the **ENT** Key to complete the channel spacing selection.

NAV OPERATION

NAV RECEIVER MANUAL TUNING

Manually tuning a NAV frequency:

1) Turn the **NAV** Knob to tune the desired frequency in the NAV Tuning Box.
2) Press the **Frequency Transfer** Key to transfer the frequency to the NAV Active Frequency Field.
3) Adjust the volume level with the NAV **VOL/ID** Knob.
4) Push the NAV **VOL/ID** Knob to turn the Morse code identifier audio on and off.

Manual frequency tuning from the PFD/MFD Controller:

1) Press the **NAV** Key to select the NAV frequency box.
2) Turn the **COM/NAV/CRS/XPDR** Knob to tune the desired frequency in the NAV Tuning Box (large knob for MHz; small knob for kHz).
3) Press the **Frequency Transfer** Key to transfer the frequency to the active field.

AUTO-TUNING A NAV FREQUENCY FROM THE MFD

Auto-tuning a NAV frequency from the WPT and NRST Pages:

1) From any page the NAV frequency can be auto-tuned, activate the cursor by pushing the **FMS** Knob or the appropriate softkey.
2) Turn the **FMS** Knob to place the cursor on the desired NAV identifier or NAV frequency.
3) On the Nearest VOR and Nearest Airports Pages, press the **FREQ** Softkey to place the cursor on the NAV frequency.
4) Press the **ENT** Key to display the 'Load Frequency' Window.
5) Turn the **FMS** Knob to place the cursor on the desired NAV frequency Field.
6) Press the **ENT** Key to load the NAV frequency into the selected NAV frequency Field.

DME TUNING

Selecting DME transceiver pairing:

1) Press the **DME** Softkey to display the 'DME Tuning' Window.
2) Turn the small **FMS** Knob to select the 'DME Tuning' mode.
3) Press the **ENT** Key to complete the selection.

MODE S TRANSPONDER

TRANSPONDER MODE SELECTION

Selecting a transponder mode:

1) Select the **XPDR** Softkey to display the Transponder Mode Selection Softkeys.
2) Select the desired softkey to activate the transponder mode.

ENTERING A TRANSPONDER CODE

Entering a transponder code with 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, for digit entry.
3) Press the digit softkeys to enter the code in the code field. When entering the code, the next softkey in sequence must be pressed within 10 seconds, or the entry is cancelled and restored to the previous code. Pressing the **BKSP** Softkey moves the code selection cursor to the previous digit. Five seconds after the fourth digit has been entered, the transponder code becomes active.

Entering a transponder code with the PFD FMS Knob:

1) Press the **XPDR** and the **CODE** Softkeys as in the previous procedure to enable code entry.
2) Turn the small **FMS** Knob on the PFD to enter the first two code digits.
3) Turn the large **FMS** Knob to move the cursor to the next code field.
4) Enter the last two code digits with the small **FMS** Knob.
5) Press the **ENT** Key to complete code digit entry.

Entering a transponder code with the PFD/MFD Controller FMS Knob:

1) Press the **XPDR** and the **CODE** Softkeys as in the previous procedure to enable code entry.
2) Turn the small **FMS** Knob to enter the first two code digits.
3) Turn the large **FMS** Knob to move the cursor to the next code field.
4) Enter the last two code digits with the small **FMS** Knob.
5) Press the **ENT** Key to complete code digit entry.

FLIGHT ID REPORTING

Entering a Flight ID:

1) Press the **TMR/REF** Softkey to display the 'References' Window.
2) Push the **FMS** Knob to activate the selection cursor, if not already activated.
3) Turn the large **FMS** Knob to scroll down to the Flight ID.
4) Turn the small **FMS** Knob to enter the desired Flight ID.
5) Press the **ENT** Key to complete Flight ID entry.

ADDITIONAL AUDIO PANEL FUNCTIONS

3D AUDIO

Enabling/Disabling 3D Audio:

1) Use the **FMS** Knob to select the 'Aux - System Setup 2' Page.
2) Push the **FMS** Knob momentarily to activate the flashing cursor.
3) Turn the large **FMS** Knob to highlight the 'Pilot 3D Audio' or 'Copilot 3D Audio' 'On/ Off' Field in the Audio Box.
4) Turn the small **FMS** Knob clockwise to turn 3D Audio On or counterclockwise to turn Off.

Swapping left/right headset audio:

1) Use the **FMS** Knob to select the 'Aux - System Setup 2' Page.
2) Push the **FMS** Knob momentarily to activate the flashing cursor.
3) Turn the large **FMS** Knob to highlight the 'Pilot L-R Swap' or 'Copilot L-R Swap' 'On/ Off' Field in the Audio Box.
4) Turn the small **FMS** Knob clockwise to turn the Swap On or counterclockwise to turn Off.

AUDIO PANEL PREFLIGHT PROCEDURE

Setting the Audio Panel during preflight:

1) Verify the PILOT , COPLT and PASS annunciations are illuminated.
2) Adjust radio volume levels (COM, NAV) to a suitable level.
3) Use the Blue-Select Mode to distribute the telephone/entertainment and music appropriately.
4) Use the **VOL/CRSR** Knobs to adjust the intercom volumes to the desired level.

FLIGHT MANAGEMENT

NAVIGATION STATUS BOX AND DATA BAR

Changing a field in the MFD Navigation Data Bar:

1) Select the 'Aux – System Setup 1' Page.
2) Push the **FMS** Knob to activate the flashing cursor.
3) Turn the large **FMS** Knob to highlight the desired field number in the 'MFD Data Bar Fields' Box.
4) Turn the small **FMS** Knob to display and scroll through the data options list to select the desired data.
5) Press the **ENT** Key. Pressing the **Defaults** Softkey returns all fields to the default setting.

USING MAP DISPLAYS

Changing the Navigation Map orientation:

1) With the 'Map – Navigation Map' Page displayed, press the **MENU** Key. The cursor flashes on the 'Map Settings' option.
2) Press the **ENT** Key to display the 'Map Settings' Window.
3) Select the 'Map' Group.
4) Press the **ENT** Key. The cursor is now highlighting the 'Orientation' Field.
5) Turn the small **FMS** Knob to select the desired orientation.
6) Press the **ENT** Key to select the new orientation.
7) Push the **FMS** Knob to return to the 'Map – Navigation Map' Page.

Enabling/disabling North Up Above and selecting the minimum switching range:

1) Press the **MENU** Key with the 'Map – Navigation Map' Page displayed. The cursor flashes on the 'Map Settings' option.
2) Press the **ENT** Key. The 'Map Settings' Window is displayed.
3) Select the 'Map' Group.
4) Press the **ENT** Key.
5) Highlight the 'North Up Above' Field.
6) Select 'On' or 'Off' using the small **FMS** Knob.
7) Press the **ENT** Key to accept the selected option. The flashing cursor highlights the range field.
8) Use the small **FMS** Knob to select the desired range.
9) Press the **ENT** Key to accept the selected option.
10) Push the **FMS** Knob to return to the 'Map – Navigation Map' Page.

Configuring automatic zoom:

1) Press the **MENU** Key with the 'Map – Navigation Map' Page displayed. The cursor flashes on the 'Map Settings' option.
2) Press the **ENT** Key. The 'Map Settings' Window is displayed.
3) If necessary, turn the small **FMS** Knob to select the 'Map' Group.
4) Press the **ENT** Key.
5) Turn the large **FMS** Knob to highlight the 'Auto Zoom' On/Off Field, and select 'Off' or 'On' using the small **FMS** Knob.
6) Press the **ENT** Key to accept the selected option. The flashing cursor highlights the 'Auto Zoom' display selection field.
7) Select 'MFD', 'PFD', or 'All' using the small **FMS** Knob.
8) Press the **ENT** Key to accept the selected option. The flashing cursor highlights the 'Max Look FWD' Field. Times are from zero to 999 minutes.
9) Use the **FMS** Knobs to set the time. Press the **ENT** Key.
10) Repeat step 9 for 'Min Look FWD' (zero to 99 minutes) and 'Time Out' (zero to 99 minutes).
11) Push the **FMS** Knob to return to the 'Map – Navigation Map' Page.

Panning the map:

1) With the desired map page displayed, push the **Joystick** to display the Map Pointer.
2) Move the **Joystick** to move the Map Pointer around the map.
3) Push the **Joystick** to remove the Map Pointer and recenter the map on the aircraft's current position.

Reviewing information for an airport, NAVAID, or user waypoint:

1) With the desired map page displayed on the MFD, push the **Joystick** to display the Map Pointer and place the Map Pointer on a waypoint.
2) Press the **ENT** Key to display the Information Page for the selected waypoint.
3) Press the **Go Back** Softkey, the **CLR** Key, or the **ENT** Key to exit the Information Page and return to the 'Map – Navigation Map' Page.

Viewing airspace information for a special-use or controlled airspace:

1) With the desired map page displayed on the MFD, push the **Joystick** to display the Map Pointer. Place the Map Pointer on the boundary of an airspace. Information about the airspace is displayed on the map next to the map pointer.
2) Push the **Joystick** to remove the Map Pointer and center the map on the aircraft.

Measuring bearing and distance between any two points:

1) Press the **MENU** Key (with the 'Map – Navigation Map' Page displayed).
2) Highlight the 'Measure Bearing/Distance' Field.

3) Press the **ENT** Key. A Measure Pointer is displayed on the map at the aircraft's present position.
4) Move the **Joystick** to place the reference pointer at the desired location. The bearing and distance are displayed at the top of the map. Elevation at the current pointer position is also displayed. Pressing the **ENT** Key changes the starting point for measuring.
5) To exit the Measure Bearing/Distance option, push the **Joystick**; or select 'Stop Measuring' from the Page Menu and press the **ENT** Key.

Displaying/removing topographic data on all MFD pages displaying navigation maps:

1) Press the **Map Opt** Softkey.
2) Press the **TER** Softkey until 'Topo' is shown on the softkey to display topographic data.
3) Press the **TER** Softkey until 'Off' is shown on the softkey to remove topographic data from the navigation map. When topographic data is removed from the page, all navigation data is presented on a black background.

Displaying/removing topographic data on the PFD Map:

1) Press the **Map/HSI** Softkey on the PFD.
2) Press the **TER** Softkey until 'Topo' is shown on the softkey to display topographic data.
3) Press the **TER** Softkey until 'Off' is shown on the softkey to remove topographic data from the navigation map. When topographic data is removed from the page, all navigation data is presented on a black background.

Selecting a topographical data range (Terrain Display):

1) Press the **MENU** Key with the 'Map – Navigation Map' Page displayed. The cursor flashes on the 'Map Settings' option.
2) Press the **ENT** Key. The 'Map Settings' Window is displayed.
3) Select the 'Map' Group.
4) Press the **ENT** Key.
5) Highlight the 'Terrain Display' range field. Ranges are from 1 nm to 1000 nm.
6) To change the Terrain Display range setting, turn the small **FMS** Knob to display the range list.
7) Select the desired range using the small **FMS** Knob.
8) Press the **ENT** Key.
9) Push the **FMS** Knob to return to the 'Map – Navigation Map' Page.

Displaying/removing the topographic scale (Topo Scale):

1) Press the **MENU** Key with the 'Map – Navigation Map' Page displayed. The cursor flashes on the 'Map Settings' option.
2) Press the **ENT** Key. The 'Map Settings' Window is displayed.

3) Select the 'Map' Group and press the **ENT** Key.
4) Highlight the 'Topo Scale' Field.
5) Select 'On' or 'Off'.
6) Push the **FMS** Knob to return to the 'Map – Navigation Map' Page.

Setting up the 'Land', 'Aviation' or 'Airspace' Group items:

1) Press the **MENU** Key with the 'Map – Navigation Map' Page displayed. The cursor flashes on the 'Map Settings' option.
2) Press the **ENT** Key. The 'Map Settings' Window is displayed.
3) Turn the small **FMS** Knob to select the desired Group.
4) Press the **ENT** Key. The cursor flashes on the first field.
5) Turn the large **FMS** Knob to select the desired option.
6) Turn the small **FMS** Knob to select the desired setting (e.g. On/Off or maximum range).
7) Press the **ENT** Key to accept the selected option and move the cursor to the next item.
8) Repeat steps 5-7 as necessary for subsequent fields.
9) Push the **FMS** Knob to return to the 'Map – Navigation Map' Page.

Decluttering the map:

Press the **Detail** Softkey with the 'Map – Navigation Map' Page displayed. The current declutter level is shown. With each softkey press, another level of map information is removed.

Decluttering the PFD Map:

1) Press the **Map/HSI** Softkey on the PFD.
2) Press the **Detail** Softkey. The current declutter level is shown. With each selection, another level of map information is removed.

Displaying/removing airways:

1) Press the **Map Opt** Softkey.
2) Press the **AWY** Softkey. Both High and Low Altitude Airways are displayed (AWY On).
3) Press the softkey again to display Low Altitude Airways only ('AWY LO').
4) Press the softkey again to display High Altitude Airways only ('AWY HI').
5) Press the softkey again to remove High Altitude Airways. No airways are displayed ('AWY Off').

Selecting an airway range (Low ALT Airways or High ALT Airways):

1) Press the **MENU** Key with the 'Map – Navigation Map' Page displayed. The cursor flashes on the 'Map Settings' option.
2) Press the **ENT** Key. The 'Map Settings' Window is displayed.
3) Turn the small **FMS** Knob to select the 'Airways' Group, and press the **ENT** Key.

4) Turn the large **FMS** Knob to highlight the 'Low ALT Airways' or 'High ALT Airways' range field.
5) To change the range setting, turn the small **FMS** Knob to display the range list.
6) Select the desired range using the small **FMS** Knob.
7) Press the **ENT** Key.
8) Push the **FMS** Knob to return to the 'Map – Navigation Map' Page

Setting up additional 'Map' Group items:

1) Press the **MENU** Key with the 'Map – Navigation Map' Page displayed. The cursor flashes on the 'Map Settings' option.
2) Press the **ENT** Key. The 'Map Settings' Window is displayed.
3) Turn the small **FMS** Knob to select the 'Map' Group.
4) Press the **ENT** Key. The cursor flashes on the first field.
5) Turn the large **FMS** Knob to select the desired option.
6) Turn the small **FMS** Knob to select 'On' or 'Off'.

   Or:

   If it is a data field, use the **FMS** Knob to select the range or time value.
7) Press the **ENT** Key to accept the selected option and move the cursor to the next item.
8) Repeat steps 5-7 as necessary.
9) Push the **FMS** Knob to return to the Navigation Map.

WAYPOINTS

AIRPORTS

Selecting an airport for review by identifier, facility name, or location:

1) From the 'WPT – Airport Information' Page (**Info 1** Softkey), push the **FMS** Knob.
2) Use the **FMS** Knobs and enter an identifier, facility name, or location within the 'Airport' Box.
3) Press the **ENT** Key.
4) Push the **FMS** Knob to remove the cursor.

Selecting a runway:

1) With the 'WPT – Airport Information' Page (**Info 1** Softkey) displayed, push the **FMS** Knob to activate the cursor.
2) Turn the large **FMS** Knob to place the cursor in the 'Runways' Box, on the runway designator.
3) Turn the small **FMS** Knob to display the desired runway (if more than one) for the selected airport.
4) To remove the flashing cursor, push the **FMS** Knob.

Viewing a destination airport:

From the 'WPT – Airport Information' Page (**Info 1** Softkey) press the **MENU** Key. Select 'View Destination Airport'. The Destination Airport is displayed.

Viewing information for a nearest airport on the PFD:

1) Press the **Nearest** Softkey to display the 'Nearest Airports' Window.
2) Highlight the airport identifier with the **FMS** Knob and press the **ENT** Key to display the 'Airport Information' Window.
3) To return to the 'Nearest Airports' Window press the **ENT** Key (with the cursor on 'BACK') or press the **CLR** Key. The cursor is now on the next airport in the nearest airports list. (Repeatedly pressing the **ENT** Key moves through the airport list, alternating between the 'Nearest Airports' Window and the 'Airport Information' Window.)
4) Press the **CLR** Key or the **Nearest** Softkey to close the PFD 'Nearest Airports' Window.

Viewing information for a nearest airport on the MFD:.

1) Turn the **FMS** Knobs to select the 'NRST – Nearest Airports' Page (it is the first page of the group, so it may already be selected). If there are no Nearest Airports available, "None Within 200nm" is displayed.
2) Press the **APT** Softkey; or push the **FMS** Knob; or press the **MENU** Key, highlight 'Select Airport Window' and press the **ENT** Key. The cursor is placed in the 'Nearest Airports' Box. The first airport in the nearest airports list is highlighted.
3) Turn the **FMS** Knob to highlight the desired airport. (Pressing the **ENT** Key also moves to the next airport.)
4) Push the **FMS** Knob to remove the flashing cursor.

Viewing runway information for a specific airport:

1) With the 'NRST – Nearest Airports' Page displayed, press the **RNWY** Softkey; or press the **MENU** Key, highlight 'Select Runway Window'; and press the **ENT** Key. The cursor is placed in the 'Runways' Box.
2) Turn the small **FMS** Knob to select the desired runway.
3) Push the **FMS** Knob to remove the flashing cursor.

Selecting nearest airport surface and minimum runway length matching criteria:

1) Use the **FMS** Knob to select the 'Aux – System Setup 1' Page.
2) Push the **FMS** Knob momentarily to activate the flashing cursor.
3) Turn the large **FMS** Knob to highlight the 'Runway Surface' Field in the 'Nearest Airport' Box.
4) Turn the small **FMS** Knob to select the desired runway option (Any, Hard Only, Hard/ Soft).
5) Press the **ENT** Key. The cursor moves to the 'Minimum Length' Field in the 'Nearest Airport' Box.

6) Use the **FMS** Knob or keypad to enter the minimum runway length (zero to 25,000 feet) and press the **ENT** Key.

7) Push the **FMS** Knob to remove the flashing cursor.

NON-AIRPORT AND USER CREATED WAYPOINTS

Viewing Waypoint Information:

1) Turn the **FMS** Knobs to select the 'WPT – (Intersection, NDB, VOR, VRP, or User WPT) Information' Page.
2) Push the **FMS** Knob to display the flashing cursor in the Intersection, NDB, VOR, VRP, or User Waypoint Box.
3) Use the **FMS** Knobs and enter an identifier, facility name, or location.
4) Press the **ENT** Key, if needed.
5) Push the **FMS** Knob to remove the flashing cursor.

Viewing Nearest Non-Airport Waypoints:

1) Turn the large **FMS** Knob to select the 'NRST' Page Group.
2) Turn the small **FMS** Knob to select the desired page (Intersections, NDB, VOR, VRP, or User WPTS).
3) Push the **FMS** Knob to display the flashing cursor.
4) If needed, press the **ENT** Key or turn either **FMS** Knob to select an identifier.
5) Push the **FMS** Knob to remove the flashing cursor.

Creating user waypoints from the 'WPT – User WPT Information' Page:

1) Press the **New** Softkey, or press the **MENU** Key and select 'Create New User Waypoint'.
2) Use the **FMS** Knobs or keypad to enter a user waypoint name.
3) Press the **ENT** Key to finish entering the waypoint name. By default, the new waypoint is created as a Route waypoint type using the RAD/DIS mode of reference. The current aircraft position is the default location of the new waypoint.
4) Setting the Waypoint Type:

   If the waypoint will be a 'Route' waypoint, press the **ENT** Key.

   Or:

   a) If the waypoint will be an 'Airport' waypoint, turn the **FMS** Knobs to highlight 'Airport' press the **ENT** Key. Press the **ENT** Key again to close the popup window regarding valid elevation.

   b) Use the **FMS** Knobs or keypad to enter the airport elevation and press the **ENT** Key.
5) With the 'Temporary' Field highlighted, press the **ENT** Key to check or uncheck the box to change the storage method to temporary or normal, as desired.

6) Use the large **FMS** Knob to highlight the 'Waypoint Mode' Field. If desired, change the waypoint mode of reference in one of the following ways:

   Select 'RAD/RAD' using the small **FMS** Knob, press the **ENT** Key, and enter the two reference waypoint identifiers and radials into the 'Reference Waypoints' Box using the **FMS** Knobs or keypad.

   Or:

   Select 'RAD/DIS' using the small **FMS** Knob, press the **ENT** Key, and enter the reference waypoint identifier, the radial, and the distance into the 'Reference Waypoints' Box using the **FMS** Knobs or keypad.

   Or:

   Select 'LAT/LON' using the small **FMS** Knob, press the **ENT** Key, and enter the latitude and longitude into the 'Information' Box using the **FMS** Knobs or keypad.

7) Use the large **FMS** Knob to highlight the field in the 'Comment' Box. If desired, use the **FMS** Knobs or keypad to change the comment (limited to 25 characters).

8) When finished, push the **FMS** Knob to remove the flashing cursor.

Creating a user waypoint from the 'FPL – Active Flight Plan' Page:

1) Press the **FPL** Key.

2) Using either the FMS Knob or Quick Select box, select the point in the flight plan before which to add the new user waypoint.

3) If necessary, push the **FMS** Knob to activate the cursor (not required on PFD).

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 name of the new user waypoint (a waypoint that does not match any existing waypoint in the database) and press the **ENT** Key.

6) The message 'AAAAA does not exist. Create User Waypoint?' is displayed. Press the **ENT** Key with 'Yes' highlighted.

7) The 'WPT – User WPT Information' Page is displayed. By default, the new waypoint is created as a Route waypoint type using the RAD/DIS mode of reference. The current aircraft position is the default location of the new waypoint.

8) Setting the Waypoint Type:

   If the waypoint will be a 'Route' waypoint, press the **ENT** Key.

   Or:

   a) If the waypoint will be an 'Airport' waypoint, turn small **FMS** Knobs to highlight 'Airport' press the **ENT** Key. Press the **ENT** Key again to close the popup window regarding valid elevation.

b) Use the **FMS** Knobs or keypad to enter the airport elevation and press the **ENT** Key.

9) With the 'Temporary' Field highlighted, press the **ENT** Key to check or uncheck the box to change the storage method to temporary or normal, as desired.

10) Use the large **FMS** Knob to highlight the 'Waypoint Mode' Field. If desired, change the waypoint mode of reference in one of the following ways:

Select 'RAD/RAD' using the small **FMS** Knob, press the **ENT** Key, and enter the two reference waypoint identifiers and radials into the 'Reference Waypoints' Box using the **FMS** Knobs or keypad.

Or:

Select 'RAD/DIS' using the small **FMS** Knob, press the **ENT** Key, and enter the reference waypoint identifier, the radial, and the distance into the 'Reference Waypoints' Box using the **FMS** Knobs or keypad.

Or:

Select 'LAT/LON' using the small **FMS** Knob, press the **ENT** Key, and enter the latitude and longitude into the 'Information' Box using the **FMS** Knobs or keypad.

11) Use the large **FMS** Knob to highlight the field in the 'Comment' Box. If desired, use the **FMS** Knobs or keypad to change the comment (limited to 25 characters).

12) Turn the large **FMS** Knob to highlight 'Load WPT to FPL' and press the **ENT** Key. The 'FPL – Active Flight Plan' Page is displayed with the new user waypoint added to the flight plan.

Creating user waypoints from map pages:

1) Push the **Joystick** to activate the panning function and pan to the map location of the desired user waypoint.

2) Press the **ENT** Key. If the map pointer is within the boundaries of an airspace, a menu pops. Use the **FMS** Knob to highlight 'Create User Waypoint' and press the **ENT** Key. The 'WPT – User WPT Information' Page is displayed with the captured position.

3) Use the **FMS** Knobs or keypad to enter the waypoint name. Press the **ENT** Key to accept the waypoint name. By default, the new waypoint is created as a Route waypoint type using the RAD/DIS mode of reference.

4) Setting the Waypoint Type:

If the waypoint will be a 'Route' waypoint, press the **ENT** Key.

Or:

a) If the waypoint will be an 'Airport' waypoint, turn the **FMS** Knobs to highlight 'Airport' press the **ENT** Key. Press the **ENT** Key again to close the popup window regarding valid elevation.

b) Use the **FMS** Knobs or keypad to enter the airport elevation and press the **ENT** Key.

5) With the 'Temporary' Field highlighted, press the **ENT** Key to check or uncheck the box to change the storage method to temporary or normal, as desired.

6) Use the large **FMS** Knob to highlight the 'Waypoint Mode' Field. If desired, change the waypoint mode of reference in one of the following ways:

   Select 'RAD/RAD' using the small **FMS** Knob, press the **ENT** Key, and enter the two reference waypoint identifiers and radials into the 'Reference Waypoints' Box using the **FMS** Knobs or keypad.

   Or:

   Select 'RAD/DIS' using the small **FMS** Knob, press the **ENT** Key, and enter the reference waypoint identifier, the radial, and the distance into the 'Reference Waypoints' Box using the **FMS** Knobs or keypad.

   Or:

   Select 'LAT/LON' using the small **FMS** Knob, press the **ENT** Key, and enter the latitude and longitude into the 'Information' Box using the **FMS** Knobs or keypad.

7) Use the large **FMS** Knob to highlight the field in the 'Comment' Box. If desired, use the **FMS** Knobs or keypad to change the comment (limited to 25 characters).

8) When finished, push the **FMS** Knob to remove the flashing cursor.

Editing a user waypoint comment or location:

1) With the 'WPT – User WPT Information' Page displayed, push the **FMS** Knob to activate the cursor.
2) Select a user waypoint in the 'User Waypoint List' Box, if required, and press the **ENT** Key.
3) Use the large **FMS** Knob to move the cursor to the desired field.
4) Use the **FMS** Knobs or keypad to make any changes.
5) Press the **ENT** Key to accept the changes.
6) Push the **FMS** Knob to remove the flashing cursor.

Changing the user waypoint storage duration default setting:

1) With the 'WPT – User WPT Information' Page displayed, press the **MENU** Key.
2) Move the cursor to select 'Waypoint Setup' and press the **ENT** Key.
3) Use the small **FMS** Knob to select 'Normal' or 'Temporary' as desired, and press the **ENT** Key.
4) Push the **FMS** Knob to remove the flashing cursor and return to the 'WPT – User WPT Information' Page.

Deleting a single user waypoint:

1) With the 'WPT – User WPT Information' Page displayed, highlight a User Waypoint in the 'User Waypoint List' Box, or enter a waypoint in the 'User Waypoint' Box.

2) Press the **Delete** Softkey or press the **CLR** Key. 'Yes' is highlighted in the confirmation window.
3) Press the **ENT** Key.
4) Push the **FMS** Knob to remove the flashing cursor.

Or:

1) With the 'WPT – User WPT Information' Page displayed, push the **FMS** Knob to activate the cursor.
2) Use the large **FMS** Knob to highlight a User Waypoint in the 'User Waypoint List' Box, or use the **FMS** Knobs or keypad to enter a waypoint in the 'User Waypoint' Box.
3) Press the **MENU** Key. Use the **FMS** Knobs to highlight 'Delete User Waypoint'.
4) Press the **ENT** Key twice to confirm the selection.
5) Push the **FMS** Knob to remove the flashing cursor.

Deleting all user waypoints:

1) With the 'WPT – User WPT Information' Page displayed, highlight a User Waypoint in the 'User Waypoint List' Box.
2) Press the **MENU** Key.
3) Use the **FMS** Knobs to highlight 'Delete All User Waypoints.'
4) Press the **ENT** Key twice to confirm the selection.

AIRSPACES

Displaying and removing airspace altitude labels:

1) Press the **MENU** Key with the 'Map – Navigation Map' Page displayed. The cursor flashes on the 'Map Settings' option.
2) Press the **ENT** Key. The 'Map Settings' Window is displayed.
3) Turn the small **FMS** Knob to select the 'Airspace' Group, if necessary, and press the **ENT** Key.
4) Turn the large **FMS** Knob to select the 'Airspace ALT LBL' Field.
5) Turn the small **FMS** Knob to select 'On' to display labels and 'Off' to remove labels.
6) Push the **FMS** Knob to return to the 'Map – Navigation Map' Page.

Enabling/disabling airspace alerts:

1) Use the **FMS** Knob to select the 'Aux – System Setup 1' Page (**Setup 1** Softkey).
2) Push the **FMS** Knob momentarily to activate the flashing cursor.
3) Turn the large **FMS** Knob to highlight the desired field in the 'Airspace Alerts' Box.
4) Turn the small **FMS** Knob clockwise to turn the airspace alert On or counterclockwise to turn the alert Off.
5) Push the **FMS** Knob to remove the flashing cursor.

Changing the altitude buffer distance setting:

1) Use the **FMS** Knob to select the 'Aux – System Setup 1' Page (**Setup 1** Softkey).
2) Push the **FMS** Knob momentarily to activate the flashing cursor.
3) Turn the large **FMS** Knob to highlight the 'Altitude Buffer' Field in the 'Airspace Alerts' Box.
4) Use the **FMS** Knobs or keypad to enter an altitude buffer value and press the **ENT** Key.
5) Push the **FMS** Knob to remove the flashing cursor.

Selecting and viewing an airspace alert with its associated information:

1) Use the **FMS** Knob to select the 'NRST – Nearest Airspaces' Page.
2) Press the **Alerts** Softkey on the MFD; or push the **FMS** Knob; or press the **MENU** Key, highlight 'Select Alerts Window', and press the **ENT** Key. The cursor is placed in the 'Airspace Alerts' Box.
3) Use the **FMS** Knob to highlight the desired airspace.
4) Push the **FMS** Knob to remove the flashing cursor.

Turning smart airspace on or off:

1) Use the **FMS** Knob to select the 'Map – Navigation Map' Page.
2) Press the **MENU** Key, and press the **ENT** Key. The 'Map Settings' Window is displayed.
3) Turn the small **FMS** Knob to highlight the 'Airspace' and press the **ENT** Key.
4) Turn the large **FMS** Knob to highlight the 'Smart Airspace' Field.
5) Turn the small **FMS** Knob clockwise to turn smart airspace On or counterclockwise to turn smart airspace Off.
6) Push the **FMS** Knob to remove the flashing cursor.

DIRECT-TO NAVIGATION

Entering a waypoint identifier, facility name, or city as a direct-to destination:

1) Press the D→ Key. The 'Direct To' Window is displayed (with the active flight plan waypoint as the default selection or a blank waypoint field if no flight plan is active).
2) Turn the small **FMS** Knob clockwise to begin entering a waypoint identifier (turning it counter-clockwise brings up the waypoint selection submenu – press the **CLR** Key to remove it), or use the keypad to begin entering a waypoint identifier, or turn the large **FMS** Knob to select the facility name, or city field and turn the small **FMS** Knob or use the keypad to begin entering a facility name or city. If duplicate entries exist for the entered facility or city name, additional entries can be viewed by turning the small **FMS** Knob during the selection process.
3) Press the **ENT** Key. 'Activate?' is highlighted.
4) Press the **ENT** Key to activate the direct-to.

Selecting an active flight plan waypoint as a direct-to destination:

1) While navigating an active flight plan, press the ⊕ Key. The 'Direct To' Window is displayed with the active flight plan waypoint as the default selection.
2) Turn the small **FMS** Knob counter-clockwise to display the waypoint submenu window with a list of flight plan waypoints.
3) Turn the large **FMS** Knob to select the desired waypoint.
4) Press the **ENT** Key. The cursor is now displayed on 'Activate?'.
5) Press the **ENT** Key again to activate the direct-to.

Selecting a Nearest, Recent or User waypoint as a direct-to destination:

1) Press the ⊕ Key. The 'Direct To' Window is displayed (with the active flight plan destination as the default selection or a blank destination if no flight plan is active).
2) Turn the small **FMS** Knob counter-clockwise to display the waypoint submenu window.
3) Turn the small **FMS** Knob clockwise to display the Nearest, Recent or User waypoints.
4) Turn the large **FMS** Knob clockwise to select the desired waypoint.
5) Press the **ENT** Key. The cursor is now displayed on 'Activate?'.
6) Press the **ENT** Key again to activate the direct-to.

Selecting any waypoint as a direct-to destination:

1) Select the page or window containing the desired waypoint type and select the desired waypoint.
2) Press the ⊕ Key to display the 'Direct To' Window with the selected waypoint as the direct-to destination.
3) Press the **ENT** Key. The cursor is now displayed on 'Activate?'.
4) Press **ENT** again to activate the direct-to.

Selecting a nearby airport as a direct-to destination:

1) Press the **Nearest** Softkey on the PFD; or turn the **FMS** Knob to display the 'NRST – Nearest Airports' Page for the MFD and push the **FMS** Knob.
2) Use the **FMS** Knob to select the desired airport (the nearest one is already selected).
3) Press the ⊕ Key.
4) Press the **ENT** Key. The cursor is now displayed on 'Activate?'.
5) Press the **ENT** Key again to activate the direct-to.

Selecting a manual direct-to course:

1) Press the ⊕ Key. The 'Direct To' Window is displayed.
2) Turn the large **FMS** Knob to highlight the 'CRS' or 'Course' Field.
3) Use the small **FMS** Knob or keypad to enter the desired course.

4) Press the **ENT** Key. The cursor is now displayed on 'Activate?'.
5) Press the **ENT** Key again to activate the direct-to.

Reselecting the direct course from the current position:

1) Press the ⊣D▸ Key. The 'Direct To' Window is displayed.
2) Press the **ENT** Key. The cursor is now displayed on 'Activate?'.
3) Press the **ENT** Key again to activate the direct-to.

Selecting a waypoint as a direct-to destination using the pointer:

1) From a navigation map page, push the **Joystick** to display the pointer.
2) Move the **Joystick** to place the pointer at the desired destination location.
3) If the pointer is placed on an existing airport, NAVAID, VRP, or user waypoint, the waypoint name is highlighted.
4) Press the ⊣D▸ Key to display the 'Direct To' Window with the selected point entered as the direct-to destination.
5) Press the **ENT** Key. The cursor is now displayed on 'Activate?'.
6) Press the **ENT** Key again to activate the direct-to.

Cancelling a Direct-to:

1) Press the ⊣D▸ Key to display the 'Direct To' Window.
2) Press the **MENU** Key.
3) With 'Cancel Direct-To NAV' highlighted, press the **ENT** Key. If a flight plan is still active, the system resumes navigating the flight plan along the closest leg.

FLIGHT PLAN DISPLAY

Displaying/removing the active flight plan progress on the navigation map:

1) Select the 'Map – Navigation Map' Page.
2) Press the **Map Opt** Softkey.
3) Press the **Inset** Softkey.
4) Press the **FPL PROG** Softkey to display the active flight plan progress.
5) To remove the active flight plan progress from the navigation map, press the **Off** Softkey.

Changing the flight plan view:

1) Turn the **FMS** Knob to display the 'FPL – Active Flight Plan' Page or the 'FPL – Standby Flight Plan' Page.
2) Press the **View** Softkey to display the **Wide**, **Narrow**, **Leg-Leg**, and **CUM** Softkeys.
3) Press the **CUM** Softkey to view cumulative waypoint distance, or press the **Leg-Leg** Softkey to view leg-to-leg waypoint distance.

4) Press the **Wide** Softkey to display the wide view, or press the **Narrow** Softkey to display the narrow view.
5) Press the **Back** Softkey to return to the top level flight plan softkeys.

Viewing charts and 'FPL – Active Flight Plan' Page in split screen mode:

1) Press the **FPL** Key for the MFD to display the 'FPL – Active Flight Plan' Page.
2) Press the **Charts** Softkey. If necessary, push the **FMS** Knob to deactivate the flashing cursor. Split screen mode is now enabled showing two display panes. The Chart Pane is highlighted by a cyan box indicating it is the active pane. If a full screen view of charts was selected as the last viewing mode, it will need to be disabled for Split Screen Mode by pressing the **CHRT Opt** Softkey and press the **Full SCN** Softkey to disable full screen mode.
3) To quickly view the chart corresponding to the active flight plan leg, press the **SYNC** Softkey; then, press the **ENT** Key to select the chart.

Displaying the flight plan map on the 'FPL – Active Flight Plan' Page in split screen mode:

1) Press the **FPL** Key for the MFD to display the 'FPL – Active Flight Plan' Page.
2) Press the **Charts** Softkey. If necessary, push the **FMS** Knob to deactivate the flashing cursor. Split screen mode is now enabled showing two display panes. The Chart Pane is highlighted by a cyan box indicating it is the active pane. If a full screen view of charts was selected as the last viewing mode, it will need to be disabled for Split Screen Mode by pressing the **CHRT Opt** Softkey and press the **Full SCN** Softkey to disable full screen mode.
3) Move the **Joystick** to the right to select the 'Active Flight Plan' Pane as the active display pane.
4) Press the **MENU** Key. 'Show Flight Plan Map' is highlighted. Press the **ENT** Key.
5) To remove the Flight Plan Map, press the **MENU** Key and select 'Hide Flight Plan Map'. Press the **ENT** Key.

Changing the flight plan map orientation in split screen mode:

1) If necessary, use the **Joystick** to select the 'FPL – Active Flight Plan' Pane as the active display pane.
2) Press the **MENU** Key. Turn the **FMS** Knob to highlight 'FPL Map Orientation to (Track Up, HDG Up, North Up)'.
3) Press the **ENT** Key to select the orientation setting and return to the 'FPL – Active Flight Plan' Pane.
4) Repeat steps 2 through 3 to cycle through the different orientation settings.

CREATING A FLIGHT PLAN

Creating an active, standby, or stored flight plan:

1) For the active flight plan, press the **FPL** Key. If necessary, push the **FMS** Knob to activate the cursor (not required if using the Quick Select Box, and not required on PFD).

Or:

For the standby flight plan, press the **FPL** Key for the MFD. Turn the small **FMS** Knob to select the 'FPL – Standby Flight Plan' Page and push the **FMS** Knob to activate the cursor.

Or:

For a stored flight plan:

a) Press the **FPL** Key for the MFD. Turn the small **FMS** Knob to select the 'FPL – Flight Plan Catalog' Page.

b) Press 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.

2) If the system auto-designated the Origin, proceed to Step 3.

Or:

Enter or modify the origin airport and runway as follows:

a) Select the field below the Origin header to enter the origin airport identifier.

b) Use the **FMS** Knob, alphanumeric keypad, or the waypoint submenu to enter the identifier, facility, or city name of the airport.

c) Press the **ENT** Key. The 'Set Runway' Window is displayed with the 'Runway' Field highlighted.

d) Turn the small **FMS** Knob to select the runway, and press the **ENT** Key.

e) Press the **ENT** Key again to add the airport/runway to the flight plan.

3) Select the destination airport and runway by highlighting the field below the Destination header and completing Steps 2b through 2e.

4) Select the enroute waypoints:

a) Select the location to insert the waypoint.

b) Use the **FMS** Knob, alphanumeric keypad, or the waypoint submenu to enter the identifier, facility, or city name of the waypoint.

c) Press the **ENT** Key. The flight plan is modified as each waypoint is entered.

5) Repeat step number 4 to enter each additional enroute waypoint.

6) When all waypoints have been entered, push the **FMS** Knob to remove to deactivate the cursor, if necessary.

FLIGHT PLAN WAYPOINT AND AIRWAY MODIFICATIONS

Adding a waypoint to the flight plan:

1) For the active flight plan, press the **FPL** Key. If necessary, push the **FMS** Knob to activate the cursor (not required if using the Quick Select Box, and not required on PFD).

   Or:

   For the standby flight plan, press the **FPL** Key for the MFD. Turn the small **FMS** Knob to select the 'FPL – Standby Flight Plan' Page and push the **FMS** Knob to activate the cursor.

   Or:

   For a stored flight plan:

   a) Press the **FPL** Key for the MFD. Turn the small **FMS** Knob to select the 'FPL – Flight Plan Catalog' Page and push the **FMS** Knob to activate the cursor.

   b) Turn the **FMS** Knob to highlight the desired flight plan.

   c) Press the **EDIT** Softkey; or press the **ENT** Key, turn the large **FMS** Knob clockwise to select 'Edit' and press the **ENT** Key. The 'FPL – Stored Flight Plan' Page is displayed.

2) Select the location to insert the waypoint.

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 waypoint or select a waypoint from the submenu of waypoints and press the **ENT** Key. The flight plan is modified as each waypoint is entered.

Creating and adding user waypoints to the flight plan using the map pointer on the MFD:

1) For the active flight plan, press the **FPL** Key. If necessary, push the **FMS** Knob to activate the cursor (not required if using the Quick Select Box, and not required on PFD).

   Or:

   For a standby flight plan, press the **FPL**. Turn the small **FMS** Knob to select the 'FPL – Standby Flight Plan' Page and push the **FMS** Knob to activate the cursor.

   Or:

   For a stored flight plan:

   a) Press the **FPL** Key. Turn the small **FMS** Knob to select the 'FPL – Flight Plan Catalog' Page and push the **FMS** Knob to activate the cursor.

   b) Turn the **FMS** Knob to highlight the desired flight plan.

   c) Press the **EDIT** Softkey; or press the **ENT** Key, turn the large **FMS** Knob clockwise to select 'Edit' and press the **ENT** Key. The 'FPL – Stored Flight Plan' Page is displayed.

2) Select the location to insert the waypoint.
3) Push the **Joystick** for the MFD to activate the panning function on the flight plan map and pan to the location of the desired user waypoint.
4) Press the **LD WPT** Softkey; or press the **MENU** Key, select 'Load Waypoint', and press the **ENT** Key. The user waypoint is created with a name of MAPxxx (using the next available in sequence) and is added to the flight plan.

Removing an individual waypoint from the flight plan:

1) For the active flight plan, press the **FPL** Key. If necessary, push the **FMS** Knob to activate the cursor (not required if using the Quick Select Box, and not required on PFD).

   Or:

   For the standby flight plan, press the **FPL** Key for the MFD. Turn the small **FMS** Knob to select the 'FPL – Standby Flight Plan' Page and push the **FMS** Knob to activate the cursor.

   Or:

   For a stored flight plan:

   a) Press the **FPL** Key for the MFD. Turn the small **FMS** Knob to select the 'FPL – Flight Plan Catalog' Page and push the **FMS** Knob to activate the cursor.
   b) Turn the **FMS** Knob to highlight the desired flight plan.
   c) Press the **EDIT** Softkey; or press the **ENT** Key, turn the large **FMS** Knob clockwise to select 'Edit' and press the **ENT** Key. The 'FPL – Stored Flight Plan' Page is displayed.
2) Select the waypoint to be removed.
3) Press the **CLR** Key. The 'Remove XXXXX? is displayed.
4) With 'OK' highlighted, press the **ENT** Key. To cancel the request, press the **CLR** Key, or highlight 'Cancel' and press the **ENT** Key.
5) Push the **FMS** Knob to remove the flashing cursor, if necessary.

Designating a fly-over waypoint:

1) For the active flight plan, press the **FPL** Key. If necessary, push the **FMS** Knob to activate the cursor (not required if using the Quick Select Box, and not required on PFD).

   Or:

   For the standby flight plan, press the **FPL** Key for the MFD. Turn the small **FMS** Knob to select the 'FPL – Standby Flight Plan' Page and push the **FMS** Knob to activate the cursor.

   Or:

   For a stored flight plan:

   a) Press the **FPL** Key for the MFD. Turn the small **FMS** Knob to select the 'FPL – Flight Plan Catalog' Page and push the **FMS** Knob to activate the cursor.
   b) Turn the **FMS** Knob to highlight the desired flight plan.
   c) Press the **EDIT** Softkey; or press the **ENT** Key, turn the large **FMS** Knob clockwise to select 'Edit' and press the **ENT** Key. The 'FPL – Stored Flight Plan' Page is displayed.

2) Select the location to insert the waypoint.
3) Press the **MENU** Key, highlight 'Set Fly-Over Waypoint', and press the **ENT** Key. The 'Set <waypoint> to be a fly-over waypoint?' Window is displayed.
4) With 'OK' highlighted, press the **ENT** Key. To cancel the request, press the **CLR** Key, or highlight 'Cancel' and press the **ENT** Key.
5) To change the waypoint back to a fly-by waypoint, highlight the desired waypoint. Press the **MENU** Key, highlight 'Set Fly-By Waypoint', and press the **ENT** Key. The 'Set <waypoint> to be a fly-by waypoint?' Window is displayed. With 'OK' highlighted, press the **ENT** Key.

Adding an airway to the flight plan:

1) For the active flight plan, press the **FPL** Key. If necessary, push the **FMS** Knob to activate the cursor (not required if using the Quick Select Box, and not required on PFD).

   Or:

   For the standby flight plan, press the **FPL** Key for the MFD. Turn the small **FMS** Knob to select the 'FPL – Standby Flight Plan' Page and push the **FMS** Knob to activate the cursor.

   Or:

   For a stored flight plan:

   a) Press the **FPL** Key for the MFD. Turn the small **FMS** Knob to select the 'FPL – Flight Plan Catalog' Page and push the **FMS** Knob to activate the cursor.
   b) Turn the **FMS** Knob to highlight the desired flight plan.
   c) Press the **EDIT** Softkey; or press the **ENT** Key, turn the large **FMS** Knob clockwise to select 'Edit' and press the **ENT** Key. The 'FPL – Stored Flight Plan' Page is displayed.
2) Select the location to insert the waypoint. If there is no valid airway entry waypoint in the flight plan, one must be entered first.
3) Turn the small **FMS** Knob for the MFD one click clockwise and press the **LD AIRWY** Softkey, or press the **MENU** Key for the and select "Load Airway"(PFD or MFD). The **LD AIRWY** Softkey or the "Load Airway" menu item is available only when a valid airway entry waypoint has already been entered in the flight plan.
4) Turn the **FMS** Knob to highlight 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.
5) Turn the **FMS** Knob to highlight the desired airway exit point from the list, and press the **ENT** Key. 'Load?' is highlighted.
6) Press the **ENT** Key. The system returns to editing the flight plan with the new airway inserted.

Removing an entire airway from the flight plan:

1) For the active flight plan, press the **FPL** Key. If necessary, push the **FMS** Knob to activate the cursor (not required if using the Quick Select Box, and not required on PFD).

   Or:

   For the standby flight plan, press the **FPL** Key for the MFD. Turn the small **FMS** Knob to select the 'FPL – Standby Flight Plan' Page and push the **FMS** Knob to activate the cursor.

   Or:

   For a stored flight plan:

   a) Press the **FPL** Key for the MFD. Turn the small **FMS** Knob to select the 'FPL – Flight Plan Catalog' Page and push the **FMS** Knob to activate the cursor.

   b) Turn the **FMS** Knob to highlight the desired flight plan.

   c) Press the **EDIT** Softkey; or press the **ENT** Key, turn the large **FMS** Knob clockwise to select 'Edit' and press the **ENT** Key. The 'FPL – Stored Flight Plan' Page is displayed.

2) Select the header of the airway to be removed.
3) Press the **CLR** Key. The 'Remove <airway name> from flight plan? is displayed.
4) With 'OK' highlighted, press the **ENT** Key. To cancel the request, press the **CLR** Key, or highlight 'Cancel' and press the **ENT** Key.
5) Push the **FMS** Knob to remove the flashing cursor, if necessary.

Collapsing/expanding the airways in the flight plan:

1) For the active flight plan, press the **FPL** Key.

   Or:

   For the standby flight plan, press the **FPL** Key for the MFD. Turn the small **FMS** Knob to select the 'FPL – Standby Flight Plan' Page.

   Or:

   For a stored flight plan:

   a) Press the **FPL** Key for the MFD. Turn the small **FMS** Knob to select the 'FPL – Flight Plan Catalog' Page and push the **FMS** Knob to activate the cursor.

   b) Turn the **FMS** Knob to highlight the desired flight plan.

   c) Press the **EDIT** Softkey; or press the **ENT** Key, turn the large **FMS** Knob clockwise to select 'Edit' and press the **ENT** Key. The 'FPL – Stored Flight Plan' Page is displayed.

2) Press the **MENU** Key, highlight 'Collapse Airways' or 'Expand Airways', and press the **ENT** Key. The airways are collapsed/expanded.

FLIGHT PLAN OPERATIONS

Activating a Flight Plan Leg

Activating a flight plan leg:

1) For the active flight plan, press the **FPL** Key. If necessary, push the **FMS** Knob to activate the cursor (not required if using the Quick Select Box, and not required on PFD).
2) Select the end waypoint for the desired leg.
3) Press the **ACT Leg** Softkey (MFD only); or press the **MENU** Key, highlight 'Activate Leg', and press the **ENT** Key. A confirmation window is displayed with 'Activate' highlighted.
4) Press the **ENT** Key to activate the flight plan leg. To cancel, press the **CLR** Key, or highlight 'Cancel' and press the **ENT** Key.
5) Push the **FMS** Knob to deactivate the flashing cursor, if necessary.

Utilizing the Standby Flight Plan

Viewing the active and standby flight plan:

For the active flight plan, press the **FPL** Key. The active flight plan may be viewed on either the PFD or the MFD.

Or:

For the standby flight plan, press the **FPL** Key for the MFD. Turn the small **FMS** Knob to select the 'FPL – Standby Flight Plan' Page.

Copy the active flight plan to the standby flight plan:

1) Press the **FPL** Key for the MFD to display the active flight plan.
2) Press the **Menu** Key. Turn the **FMS** Knob to highlight 'Copy to Standby Flight Plan'.
3) Press the **ENT** Key. If a standby flight plan already exists, the message 'Copy to Standby Flight Plan and Replace Current Standby Flight Plan?' is displayed. Press the **ENT** Key to continue. The 'FPL – Standby Flight Plan' Page is displayed showing the copied flight plan.

Activating the standby flight plan:

1) Press the **FPL** Key for the MFD. Turn the small **FMS** Knob to select the 'FPL - Standby Flight Plan' Page.
2) Press the **Activate** Softkey.
3) If an active flight plan already exists, the message 'Activate standby flight plan and replace current active route?' is displayed. Press the **ENT** Key to continue. The 'FPL – Active Flight Plan' Page is displayed showing the copied flight plan.

Linking aircraft present position ('Join from Present Position') to the standby flight plan:

1) Press the **FPL** Key for the MFD. Turn the small **FMS** Knob to select the 'FPL - Standby Flight Plan' Page.
2) Push the **FMS** Knob to activate the flashing cursor. Turn the large **FMS** Knob to highlight the desired waypoint for linking the aircraft present position to.
3) Press the **Menu** Key. Turn the **FMS** Knob to highlight 'Join From Present Position'.
4) Press the **ENT** Key. The 'P. POS' reference is added to the standby flight plan prior to the linked waypoint. To change the waypoint that P. POS is linked to, repeat steps 2-4 for the desired waypoint.

Removing P. POS link from the standby flight plan:

1) Press the **FPL** Key for the MFD. Turn the small **FMS** Knob to select the 'FPL - Standby Flight Plan' Page.
2) Push the **FMS** Knob to activate the flashing cursor. Turn the large **FMS** Knob to highlight the 'P. POS' reference.
3) Press the **CLR** Key. The message, 'Remove Link?' is displayed. Press the **ENT** Key to remove the link from the standby flight plan.

Along Track Offsets

Entering an along track offset distance:

1) For the active flight plan, press the **FPL** Key. If necessary, push the **FMS** Knob to activate the cursor (not required if using the Quick Select Box, and not required on PFD).

   Or:

   For the standby flight plan, press the **FPL** Key for the MFD. Turn the small **FMS** Knob to select the 'FPL – Standby Flight Plan' Page and push the **FMS** Knob to activate the cursor.
2) Select the waypoint for the along track offset.
3) Press the **ATK OFS** Softkey (MFD only); or press the **MENU** Key, highlight 'Create ATK Offset Waypoint', and press the **ENT** Key.
4) Enter a positive or negative offset distance in the range of ±1 to 999 nm (offset must fall between the first and last waypoint within the flight plan).
5) Press the **ENT** Key to create the offset waypoint.
6) Push the **FMS** Knob to deactivate the flashing cursor, if necessary.

Removing an along track offset distance:

1) For the active flight plan, press the **FPL** Key. If necessary, push the **FMS** Knob to activate the cursor (not required if using the Quick Select Box, and not required on PFD).

   Or:

For the standby flight plan, press the **FPL** Key for the MFD. Turn the small **FMS** Knob to select the 'FPL – Standby Flight Plan' Page and push the **FMS** Knob to activate the cursor.

2) Turn the large **FMS** Knob to highlight the along track offset.
3) Press the **CLR** Key. The 'Remove VNAV along-track waypoint' Window is displayed.
4) With 'OK' highlighted, press the **ENT** Key. To cancel the request, press the **CLR** Key, or highlight 'Cancel' and press the **ENT** Key.

Entering a VNV altitude and along-track offset for the waypoint:

1) Press the ⊣D→ Key to display the 'Direct To' Window.
2) Turn the large **FMS** Knob to place the cursor in the altitude field ('VNV' or 'ALT').
3) Enter the desired altitude.
4) Press the **ENT** Key to accept the altitude constraint; if the selected waypoint is an airport, an additional choice is displayed. Turn the small **FMS** Knob to choose 'MSL' or 'AGL', and press the **ENT** Key to accept the altitude.
5) The cursor is now flashing in offset distance field.
6) Enter the desired along-track distance.
7) Press the **ENT** Key. 'Activate?' is highlighted.
8) Press the **ENT** Key to activate.

Removing an altitude constraint from an along track offset:

1) For the active flight plan, press the **FPL** Key. If necessary, push the **FMS** Knob to activate the cursor (not required if using the Quick Select Box, and not required on PFD).

   Or:

   For the standby flight plan, press the **FPL** Key for the MFD. Turn the small **FMS** Knob to select the 'FPL – Standby Flight Plan' Page and push the **FMS** Knob to activate the cursor.
2) Select the altitude constraint for along track offset.
3) Press the **CLR** Key. The 'Remove VNV altitude?' Window is displayed.
4) With 'OK' highlighted, press the **ENT** Key. To cancel the request, press the **CLR** Key, or highlight 'Cancel' and press the **ENT** Key.

Closest Point of FPL

Determining the closest point along the flight plan to a selected waypoint:

1) For the active flight plan, press the **FPL** Key.

   Or:

   For the standby flight plan, press the **FPL** Key for the MFD. Turn the small **FMS** Knob to select the 'FPL – Standby Flight Plan' Page.

   Or:

For a stored flight plan:

a) Press the **FPL** Key for the MFD. Turn the small **FMS** Knob to select the 'FPL – Flight Plan Catalog' Page and push the **FMS** Knob to activate the cursor.

b) Turn the **FMS** Knob to highlight the desired flight plan.

c) Press the **EDIT** Softkey; or press the **ENT** Key, turn the large **FMS** Knob clockwise to select 'Edit' and press the **ENT** Key. The 'FPL – Stored Flight Plan' Page is displayed.

2) Press the **MENU** Key, highlight 'Closest Point Of FPL", and press the **ENT** Key. A window appears with the reference waypoint field highlighted.

3) Enter the identifier of the reference waypoint and press the **ENT** Key. The system displays the bearing (BRG) and distance (DIS) to the closest point along the flight plan to the selected reference waypoint and creates a user waypoint at this location. The name for the new user waypoint is derived from the identifier of the reference waypoint.

Parallel Track

Activating parallel track:

1) Press the **FPL** Key.

2) Press the **MENU** Key, highlight 'Parallel Track', and press the **ENT** Key. The 'Parallel Track' Window is displayed with the 'Direction' Field highlighted.

3) Turn the small **FMS** Knob to select 'LEFT' or 'RIGHT' and press the **ENT** Key. The 'Distance' Field is highlighted.

4) Turn the small **FMS** Knob or use the keypad to enter a distance from 1-99 nm and press the **ENT** Key. 'Activate Parallel Track' is highlighted.

5) Press the **ENT** Key to activate parallel track. Push the **FMS** Knob or the **CLR** Key to cancel the parallel track activation.

Cancelling parallel track:

1) Press the **FPL** Key.

2) Press the **MENU** Key, highlight 'Parallel Track', and press the **ENT** Key. The 'Parallel Track' Window is displayed with 'Cancel Parallel Track?' highlighted.

3) Press the **ENT** Key.

User-Defined Holding Patterns

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

1) For the active flight plan, press the **FPL** Key. If necessary, push the **FMS** Knob to activate the cursor (not required if using the Quick Select Box, and not required on PFD).

Or:

For the standby flight plan, press the **FPL** Key for the MFD. Turn the small **FMS** Knob to select the 'FPL – Standby Flight Plan' Page and push the **FMS** Knob to activate the cursor.

Or:

For a stored flight plan:

a) Press the **FPL** Key for the MFD. Turn the small **FMS** Knob to select the 'FPL – Flight Plan Catalog' Page and push the **FMS** Knob to activate the cursor.

b) Turn the **FMS** Knob to highlight the desired flight plan.

c) Press the **EDIT** Softkey; or press the **ENT** Key, turn the large **FMS** Knob clockwise to select 'Edit' and press the **ENT** Key. The 'FPL – Stored Flight Plan' Page is displayed.

2) Select 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 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 'Distance' 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 insert the hold into the flight plan.

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

1) Press the **FPL** Key.

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) If desired, use the **FMS** Knobs to edit the 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 'Distance' 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 at the aircraft present position and activate the hold.

Creating a user-defined hold at a direct-to waypoint:

1) Press a D→ Key and set up the direct-to waypoint as desired, then select 'Hold?' when finished.
2) Use the **FMS** Knobs to edit the 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 'Distance' 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. (If the direct-to waypoint is part of the active flight plan, 'HOLD' is inserted into the active flight plan. If the direct-to waypoint is not part of the active flight plan, an off-route direct-to hold is created.)

Exiting a user-defined hold inserted into the active flight plan:

Press the **SUSP** Softkey. The system will provide guidance to follow the holding pattern to the inbound course and resume automatic waypoint sequencing.

Removing a user-defined hold from the flight plan:

1) For the active flight plan, press the **FPL** Key. If necessary, push the **FMS** Knob to activate the cursor (not required if using the Quick Select Box, and not required on PFD).

   Or:

   For the standby flight plan, press the **FPL** Key for the MFD. Turn the small **FMS** Knob to select the 'FPL – Standby Flight Plan' Page and push the **FMS** Knob to activate the cursor.

   Or:

   For a stored flight plan:

   a) Press the **FPL** Key for the MFD. Turn the small **FMS** Knob to select the 'FPL – Flight Plan Catalog' Page and push the **FMS** Knob to activate the cursor.
   b) Turn the **FMS** Knob to highlight the desired flight plan.
   c) Press the **EDIT** Softkey; or press the **ENT** Key, turn the large **FMS** Knob clockwise to select 'Edit' and press the **ENT** Key. The 'FPL – Stored Flight Plan' Page is displayed.
2) Highlight the 'HOLD' in the flight plan.
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 flight plan. Select 'Cancel' and press the **ENT** Key to cancel the removal of the holding pattern.

Removing a user-defined hold at an off-route direct-to:

1) Press a Direct-To Key to display the 'Direct To' Window.
2) Press the **MENU** Key to display the 'Page Menu' Window with the cursor on the 'Cancel Direct-To NAV' selection.
3) Press the **ENT** Key. The holding pattern is removed.

MANAGING FLIGHT PLANS

Importing and Exporting Flight Plans

Ignoring a pending flight plan transferred from a mobile device:

1) When a flight plan transfer has been initiated from a mobile device, a 'PENDING FLIGHT PLAN' pop-up alert appears in the lower right corner of the MFD, and a Connext annunciation appears to the right of the MFD page title.
2) Press the **CLR** Key to remove the pop-up alert and ignore the pending flight plan. The pending flight plan will still be available on the 'FPL – Flight Plan Catalog' Page.

Previewing a pending flight plan transferred from a mobile device:

1) When a flight plan transfer has been initiated from a mobile device, a 'PENDING FLIGHT PLAN' pop-up alert appears in the lower right corner of the MFD, and a Connext annunciation appears to the right of the MFD page title.
2) Press the **ENT** Key to display the 'FPL – Preview Flight Plan' Page on the MFD.

Storing a pending flight plan transferred from a mobile device:

1) Press the **FPL** Key.
2) Turn the small **FMS** Knob to display the 'FPL – Flight Plan Catalog' Page.
3) Push the **FMS** Knob to activate the cursor.
4) Turn the **FMS** Knob to highlight the pending flight plan.
5) Press the **ENT** Key to display the 'FPL – Preview Flight Plan' Page on the MFD.
6) Press the **Store** Softkey to store the flight plan. The pending flight plan is stored and the pending annunciation is removed.

Activating a pending flight plan transferred from a mobile device:

1) Press the **FPL** Key and turn the small **FMS** Knob to display the 'FPL – Flight Plan Catalog' Page.
2) Push the **FMS** Knob to activate the cursor, and turn the **FMS** Knob to highlight the pending flight plan.
3) Press the **ENT** Key to display the 'FPL – Preview Flight Plan' Page on the MFD.
4) Press the **Activate** Softkey. The 'Activate Flight Plan? is displayed.
5) With 'OK' highlighted, press the **ENT** Key to activate the pending flight plan. The pending flight plan becomes the active flight plan and is removed from the 'FPL – Flight Plan Catalog' Page. To cancel the request, press the **CLR** Key, or highlight 'Cancel' and press the **ENT** Key.

Deleting a pending flight plan:

1) Press the **FPL** Key.
2) Turn the small **FMS** Knob to display the 'FPL – Flight Plan Catalog' Page.
3) Push the **FMS** Knob to activate the cursor.
4) Turn the **FMS** Knob to highlight the desired pending flight plan.
5) Press the **Delete** Softkey. The 'Delete Flight Plan XX? is displayed.
6) With 'OK' highlighted, press the **ENT** Key to delete the pending flight plan. The pending flight plan is removed from the 'FPL – Flight Plan Catalog' Page. To cancel the request, press the **CLR** Key, or highlight 'Cancel' and press the **ENT** Key.

Deleting all pending flight plans:

1) Press the **FPL** Key.
2) Turn the small **FMS** Knob to display the 'FPL – Flight Plan Catalog' Page.
3) Press the **MENU** Key.
4) Turn the **FMS** Knob to highlight 'Delete All Pending'.
5) Press the **ENT** Key. A 'Delete all pending flight plans?' confirmation window is displayed.
6) With 'OK' highlighted, press the **ENT** Key to delete all pending flight plans. To cancel the request, press the **CLR** Key, or highlight 'Cancel' and press the **ENT** Key.

Importing a Flight Plan from an SD Card:

1) Insert the SD card containing the flight plan in the top card slot on the MFD.
2) Press the **FPL** Key to display the 'FPL – Active Flight Plan' Page on the MFD.
3) Turn the small **FMS** Knob to select the 'FPL – Flight Plan Catalog' Page.
4) Push 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; or press the **MENU** Key, select "Import Flight Plan", and press the **ENT** Key.

   If an empty slot 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 the list of 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 flight plan slot, and press the **Import** Softkey again.
7) Turn the small **FMS** Knob to highlight the desired flight plan for importing.
8) Press the **ENT** Key to initiate the import.
9) Press the **ENT** Key again to confirm the import.

Exporting a flight plan to an SD Card:

1) Insert the SD card into the top card slot on the MFD.
2) Press the **FPL** Key to display the 'FPL – Active Flight Plan' Page on the MFD.
3) Turn the small **FMS** Knob to select the 'FPL – Flight Plan Catalog' Page.
4) Push 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; or press the **MENU** Key, select "Export Flight Plan".
7) If desired, change the name for the exported file by turning the large **FMS** Knob to the left to highlight the name, then use the small and large **FMS** knobs or keypad to enter the new name, and press the **ENT** Key.
8) Press the **ENT** Key to initiate the export.
9) Press the **ENT** Key to confirm the export.

Inverting the Active or Standby Flight Plan

Inverting the active flight plan:

1) Press the **FPL** Key.
2) Press the **MENU** Key, highlight 'Invert Flight Plan', and press the **ENT** Key. An 'Invert Active Flight Plan?' confirmation window is displayed.
3) Highlight 'OK'.
4) Press the **ENT** Key to invert and activate the active flight plan. To cancel, press the **CLR** Key, or highlight 'Cancel' and press the **ENT** Key.

Inverting the standby flight plan:

1) Press the **FPL** Key.
2) Press the **MENU** Key, highlight 'Invert Flight Plan', and press the **ENT** Key to invert the flight plan.

Deleting the Active or Standby Flight Plan

Deleting the active or standby flight plan:

1) For the active flight plan, press the **FPL** Key.

   Or:

   For the standby flight plan, press the **FPL** Key for the MFD. Turn the small **FMS** Knob to select the 'FPL – Standby Flight Plan' Page.
2) Press the **MENU** Key, highlight 'Delete Flight Plan', and press the **ENT** Key. The 'Delete all waypoints in flight plan? is displayed.
3) With 'OK' highlighted, press the **ENT** Key to delete the active flight plan. To cancel the request, press the **CLR** Key, or highlight 'Cancel' and press the **ENT** Key.

Stored Flight Plan Functions

Viewing information about a stored flight plan:

1) Press the **FPL** Key for the MFD.
2) Turn the small **FMS** Knob clockwise one click to display the 'FPL – Flight Plan Catalog' Page.
3) Push the **FMS** Knob to activate the cursor and turn the **FMS** Knob to highlight the desired flight plan.
4) Information is displayed in the 'Flight Plan Info' Box showing departure, destination, total distance, and enroute safe altitude information for the selected flight plan.
5) Press the **Edit** Softkey to open the 'FPL – Stored Flight Plan' Page and view the waypoints in the flight plan.
6) Push the **FMS** Knob to exit the 'FPL – Stored Flight Plan' Page.

Viewing information about a stored flight plan:

1) Press the **FPL** Key for the MFD.
2) Turn the small **FMS** Knob clockwise one click to display the 'FPL – Flight Plan Catalog' Page.
3) Push the **FMS** Knob to activate the cursor and turn the **FMS** Knob to highlight the desired flight plan.
4) Information is displayed in the 'Flight Plan Info' Box showing departure, destination, total distance, and enroute safe altitude information for the selected flight plan.
5) Press the **Edit** Softkey to open the 'FPL – Stored Flight Plan' Page and view the waypoints in the flight plan.
6) Push the **FMS** Knob to exit the 'FPL – Stored Flight Plan' Page.

Storing an active flight plan or a standby flight plan:

1) For the active flight plan, press the **FPL** Key.

   Or:

   For the standby flight plan, press the **FPL** Key for the MFD. Turn the small **FMS** Knob to select the 'FPL – Standby Flight Plan' Page.
2) Press the **Menu** Key. Highlight 'Store Flight Plan'.
3) Press the **ENT** Key.
4) With 'OK' highlighted, press the **ENT** Key. The flight plan is stored in the next available position in the flight plan list on the 'FPL – Flight Plan Catalog' Page.

Activating a stored flight plan on the MFD:

1) Press the **FPL** Key and turn the small **FMS** Knob to display the 'FPL – Flight Plan Catalog' Page.

2) Push the **FMS** Knob to activate the cursor, and turn the **FMS** Knob to highlight the desired flight plan.
3) Press the **Activate** Softkey; or press the **ENT** Key twice; or press the **MENU** Key, highlight 'Activate Flight Plan', and press the **ENT** Key. The 'Activate stored flight plan? is displayed.
4) With 'OK' highlighted, press the **ENT** Key. To cancel the request, press the **CLR** Key.

Inverting and activating a stored flight plan on the MFD:

1) Press the **FPL** Key and turn the small **FMS** Knob to display the 'FPL – Flight Plan Catalog' Page.
2) Push the **FMS** Knob to activate the cursor, and turn the **FMS** Knob to highlight the desired flight plan.
3) Press the **Invert** Softkey; or press the **MENU** Key, highlight 'Invert & Activate FPL?', and press the **ENT** Key. The 'Invert and activate stored flight plan? is displayed.
4) With 'OK' highlighted, press the **ENT** Key. To cancel the request, press the **CLR** Key, or highlight 'Cancel' and press the **ENT** Key.

Copying a stored flight plan to another flight plan memory slot, on the MFD:

1) Press the **FPL** Key and turn the small **FMS** Knob to display the 'FPL – Flight Plan Catalog' Page.
2) Push the **FMS** Knob to activate the cursor, and turn the **FMS** Knob to highlight the desired flight plan.
3) Press the **Copy** Softkey; or press the **MENU** Key, highlight 'Copy Flight Plan', and press the **ENT** Key. The 'Copy to Flight Plan XX? is displayed.
4) With 'OK' highlighted, press the **ENT** Key to copy the flight plan. To cancel the request, press the **CLR** Key, or highlight 'Cancel' and press the **ENT** Key.

Deleting a stored flight plan:

1) Press the **FPL** Key and turn the small **FMS** Knob to display the 'FPL – Flight Plan Catalog' Page.
2) Push the **FMS** Knob to activate the cursor, and turn the **FMS** Knob to highlight the desired flight plan.
3) Press the **Delete** Softkey; press the **CLR** Key; or press the **MENU** Key, highlight 'Delete Flight Plan', and press the **ENT** Key. The 'Delete Flight Plan #? is displayed.
4) With 'OK' highlighted, press the **ENT** Key to delete the flight plan. To cancel the request, press the **CLR** Key, or highlight 'Cancel' and press the **ENT** Key.

Deleting all stored flight plans:

1) Press the **FPL** Key and turn the small **FMS** Knob to display the 'FPL – Flight Plan Catalog' Page.
2) Press the **MENU** Key.

3) Highlight 'Delete All' and press the **ENT** Key. A 'Delete all flight plans?' confirmation window is displayed.

4) With 'OK' highlighted, press the **ENT** Key to delete all flight plans. To cancel the request, press the **CLR** Key, or highlight 'Cancel' and press the **ENT** Key.

Changing a Flight Plan Comment (Name)

Changing the flight plan comment:

1) For the active flight plan:

   Press the **FPL** Key. If necessary, push the **FMS** Knob to activate the cursor (not required if using the Quick Select Box, and not required on PFD).

   Or:

   For the standby flight plan, press the **FPL** Key for the MFD. Turn the small **FMS** Knob to select the 'FPL – Standby Flight Plan' Page and push the **FMS** Knob to activate the cursor.

   Or:

   For a stored flight plan:

   a) Press the **FPL** Key for the MFD. Turn the small **FMS** Knob to select the 'FPL – Flight Plan Catalog' Page and push the **FMS** Knob to activate the cursor.

   b) Turn the **FMS** Knob to highlight the desired flight plan.

   c) Press the **EDIT** Softkey; or press the **ENT** Key, turn the large **FMS** Knob clockwise to select 'Edit' and press the **ENT** Key. The 'FPL – Stored Flight Plan' Page is displayed.

2) Select the comment field.

3) Use the **FMS** Knobs or alphanumeric keys on the PFD/MFD Controller to edit the comment.

4) Press the **ENT** Key to accept the changes.

5) Push the **FMS** Knob to deactivate the flashing cursor, if necessary.

VERTICAL NAVIGATION

Enabling and Disabling VNV guidance:

1) Press the **FPL** Key for the MFD.

2) Press the **ENBL VNV** Softkey; or press the **MENU** Key, highlight 'Enable VNV', and press the **ENT** Key. Vertical navigation is enabled, and vertical guidance begins with the waypoint shown in the 'Active VNV Profile' Box (defaults first waypoint in the active flight plan with an altitude enabled for vertical navigation (e.g., FALUR)).

3) To disable VNV guidance, press the **Cncl VNV** Softkey; or press the **MENU** Key, highlight 'Cancel VNV', and press the **ENT** Key. Vertical navigation is disabled.

CONSTRAINTS

Altitude Constraints

Altitude Constraint Examples

5000FT
Cross AT or ABOVE 5,000 ft

3000FT
Cross AT or BELOW 3,000 ft

2300FT
Cross AT 2,300 ft

6646FT
Temperature Compensated

Waypoint Altitude Constraints

White Text	Cyan Text
5000FT Advisory altitude calculated by the system estimating the altitude of the aircraft as it passes over the navigation point. 5000FT Altitude retrieved from the navigation database. White line above or below indicates the type of constraint. These altitudes are provided as a reference, and are not designated for vertical guidance.	8100FT Altitude is designated for vertical guidance. Cyan line(s) above and/or below indicate the type of constraint as shown in the preceding figure. A pencil icon indicates manual designation or manually modified data entry. 8100FT The system cannot use this altitude in determining vertical guidance because of an invalid constraint condition.

Altitude Constraint Color Coding

Entering or modifying an altitude constraint:

1) Press the **FPL** Key. If necessary, push the **FMS** Knob to activate the cursor (not required if using the Quick Select Box, and not required on PFD).
2) Select the desired waypoint altitude constraint field.
3) Edit the constraint using the **FMS** Knobs or alphanumeric keypad:
   a) Select the 'Type' Field and choose 'AT', 'ABOVE', 'BELOW', or 'BETWEEN' as the type of constraint and press the **ENT** Key to accept. The 'ALT' Field is now highlighted.
   b) Enter the desired altitude(s) and press the **ENT** Key. To enter altitudes as a flight level, turn the small **FMS** Knob counter-clockwise past zero or clockwise past 9 on the first character, and the system automatically changes to show units of Flight Level. Turn the large **FMS** Knob clockwise to highlight the first zero and enter the three digit flight level. To enter altitudes as a flight level using the keypad, enter 'F' as the first character.
4) Press the **ENT** Key to accept the constraint Type and Altitude. If the selected waypoint is an airport without a runway selected, an additional choice is displayed. Turn the small **FMS** Knob to choose 'MSL' or 'AGL', and press the **ENT** Key to accept the altitude. For AGL altitudes, a popup window will appear, requesting the confirmation of an AGL to MSL altitude value conversion. With 'OK' highlighted, press the **ENT** Key
5) Press the **ENT** Key to accept the altitude constraint.

Removing/undesignating an altitude constraint:

1) Press the **FPL** Key. If necessary, push the **FMS** Knob to activate the cursor (not required if using the Quick Select Box, and not required on PFD).
2) Select the desired waypoint altitude constraint ('ALT').
3) Press the **CLR** Key. A 'Remove VNV altitude?' confirmation window is displayed.
4) Select 'OK' and press the **ENT** Key.

Reverting a manually entered altitude constraint back to the navigation database value:

1) Press the **FPL** Key. If necessary, push the **FMS** Knob to activate the cursor (not required if using the Quick Select Box, and not required on PFD).
2) Select the desired waypoint altitude constraint.
3) Press the **CLR** Key. A 'Remove or Revert to published VNV altitude of nnnnnFT?' confirmation window is displayed.
4) Select 'Revert' and press the **ENT** Key. The altitude is changed to the navigation database value.

Vertical Speed and Flight Path Angle Constraints

Modifying the VS TGT and FPA:

1) Press the **FPL** Key for the MFD.
2) Press the **VNV Prof** Softkey; or press the **MENU** Key, highlight 'Select VNV Profile Window', and press the **ENT** Key. The cursor is now located in the 'Active VNV Profile' Box.
3) Turn the **FMS** Knobs or use the alphanumeric keypad as needed to edit the values.
4) Push the **FMS** Knob to remove the flashing cursor.

Modifying the default FPA:

1) Use the **FMS** Knob and **Setup 2** Softkey to select the 'Aux – System Setup 2' Page.
2) Push the **FMS** Knob to activate the flashing cursor.
3) Turn the large **FMS** Knob to highlight the 'DEFAULT FPA' Field in the 'VNV' Box.
4) Turn the small **FMS** Knob to set the desired flight path angle.

VERTICAL SITUATION DISPLAY (VSD)

Enabling the Vertical Situation Display

1) Select the 'Map – Navigation Map' Page.
2) Press the **Map Opt** Softkey.
3) Press the **Inset** Softkey.
4) Press the **VSD** Softkey to enable the Vertical Situation Display.
5) Press the VSD mode softkey to choose between **Auto**, **FPL**, or **TRK**.

Disabling the Vertical Situation Display

1) Select the 'Map – Navigation Map' Page.
2) Press the **Map Opt** Softkey.
3) Press the **Inset** Softkey.
4) Press the **Off** Softkey.

VERTICAL NAVIGATION DIRECT TO

Activating a vertical navigation direct-to:

1) Press the **FPL** Key. If necessary, push the **FMS** Knob to activate the cursor (not required if using the Quick Select Box, and not required on PFD).
2) Select the desired waypoint.
3) Press the **VNV** ⊣D▸ Softkey; or press the **MENU** Key, highlight 'VNV ⊣D▸', and press the **ENT** Key. An 'Activate vertical ⊣D▸ to: NNNNNFT at XXXXXX?' confirmation window is displayed.

4) Press the **ENT** Key. Vertical guidance begins to the altitude constraint for the selected waypoint.
5) Push the **FMS** Knob to remove the flashing cursor, if necessary.

Removing a VNV direct-to altitude constraint:

1) Press the ⊣D→ Key to display the 'Direct To' Window.
2) Press the **MENU** Key.
3) With 'Clear Vertical Constraints' highlighted, press the **ENT** Key.

PROCEDURES

Viewing available procedures at an airport:

1) From the 'WPT – Airport Information' Page (**Info 1** Softkey):

   Press the **DP** Softkey. The 'WPT – Departure Information' Page is displayed, defaulting to the airport displayed on the 'WPT – Airport Information' Page.

   Or:

   Press the **STAR** Softkey. The 'WPT – Arrival Information' Page is displayed, defaulting to the airport displayed on the 'WPT – Airport Information' Page.

   Or:

   Press the **APR** Softkey. The 'WPT – Approach Information' Page is displayed, defaulting to the airport displayed on the 'WPT – Airport Information' Page.
2) To select another airport, push the **FMS** Knob to activate the cursor, enter an identifier/ facility name/city, and press the **ENT** Key.
3) Turn the large **FMS** Knob to highlight the procedure. The procedure is previewed on the map.
4) Turn the small **FMS** Knob to view the available procedures. Press the **ENT** Key to select the procedure. The cursor moves to the next box (runway or transition). The procedure is previewed on the map.
5) Turn the small **FMS** Knob to view the available runway or transition. Press the **ENT** Key to select the runway or transition. The cursor moves to the next box (if available). The procedure is previewed on the map.
6) Turn the small **FMS** Knob to view the available runway or transition. Press the **ENT** Key to select the runway or transition. The cursor moves to the 'Sequence' Box or the 'Minimums' Box. The procedure is previewed on the map.
7) Press the **Info 1** Softkey to return to the 'WPT – Airport Information' Page.

DEPARTURES

Loading a departure into the active flight plan using the PROC Key:

1) Press the **PROC** Key. The 'Procedures' Window is displayed.

2) Highlight 'Select Departure'.
3) Press the **ENT** Key. The 'PROC – Departure Loading' Page is displayed.
4) The cursor is activated in the 'Departure' Field. If desired, the airport may be changed by pushing the **FMS** Knob, turning the large **FMS** Knob to highlight the airport identifier, facility, or city, and using the **FMS** Knobs or alphanumeric keypad to select the desired airport. When finished, press the **ENT** Key.
5) Select a departure from the list and press the **ENT** Key.
6) Select a runway (if required) and press the **ENT** Key.
7) Select a transition (if required) and press the **ENT** Key. 'Load?' is highlighted.
8) Press the **ENT** Key to load the departure procedure.

Loading a departure into the active flight plan from the 'WPT – Departure Information' Page:

1) From the 'WPT – Airport Information' Page (first page in the 'WPT' Page Group), press the **DP** Softkey. The 'WPT – Departure Information' Page is displayed, defaulting to the airport displayed on the 'WPT – Airport information' Page.
2) To select another airport, push the **FMS** Knob to activate the cursor, enter an identifier/facility name/city, and press the **ENT** Key.
3) Select a different departure, if desired.
   a) Turn the large **FMS** Knob to highlight the Departure. The departure is previewed on the map.
   b) Turn the small **FMS** Knob to view the available departures. Press the **ENT** Key to select the departure. The cursor moves to the 'Runway' Box. The departure is previewed on the map.
   c) Turn the small **FMS** Knob to view the available runways. Press the **ENT** Key to select the runway. The cursor moves to the 'Transition' Box (only if there are available transitions). The departure is previewed on the map.
   d) Turn the small **FMS** Knob to view the available transitions. Press the **ENT** Key to select the transition. The cursor moves to the 'Sequence' Box. The departure is previewed on the map.
4) Press the **MENU** Key to display the 'Page Menu' Window.
5) Turn the **FMS** Knob to highlight 'Load Departure'.
6) Press the **ENT** Key to load the departure procedure into the active flight plan.

Loading a departure procedure into a standby flight plan or a stored flight plan:

1) For the standby flight plan, press the **FPL** Key for the MFD. Turn the small **FMS** Knob to select the 'FPL – Standby Flight Plan' Page.

   Or:

For a stored flight plan:

a) Press the **FPL** Key for the MFD. Turn the small **FMS** Knob to select the 'FPL – Flight Plan Catalog' Page and push the **FMS** Knob to activate the cursor.

b) Turn the **FMS** Knob to highlight the desired flight plan.

c) Press the **EDIT** Softkey; or press the **ENT** Key, turn the large **FMS** Knob clockwise to select 'Edit' and press the **ENT** Key. The 'FPL – Stored Flight Plan' Page is displayed.

2) Press the **LD DP** Softkey; or press the **MENU** Key, select 'Load Departure', and press the **ENT** Key. The 'PROC – Departure Loading' Page is displayed.

3) Select a departure. Press the **ENT** Key.

4) Select a runway served by the selected departure, if required. Press the **ENT** Key.

5) Select a transition for the selected departure. Press the **ENT** Key.

6) Press the **ENT** Key to load the selected departure procedure.

Removing a departure procedure from the active, standby, or stored flight plan:

1) For the active flight plan, press the **FPL** Key.

Or:

For the standby flight plan, press the **FPL** Key for the MFD. Turn the small **FMS** Knob to select the 'FPL – Standby Flight Plan' Page.

Or:

For a stored flight plan:

a) Press the **FPL** Key for the MFD. Turn the small **FMS** Knob to select the 'FPL – Flight Plan Catalog' Page and push the **FMS** Knob to activate the cursor.

b) Turn the **FMS** Knob to highlight the desired flight plan.

c) Press the **EDIT** Softkey; or press the **ENT** Key, turn the large **FMS** Knob clockwise to select 'Edit' and press the **ENT** Key. The 'FPL – Stored Flight Plan' Page is displayed.

2) Press the **MENU** Key, and highlight 'Remove Departure'.

3) Press the **ENT** Key. A confirmation window is displayed listing the departure procedure.

4) With 'OK' highlighted, press the **ENT** Key. To cancel the removal request, highlight 'Cancel' and press the **ENT** Key.

ARRIVALS

Loading an arrival into the active flight plan using the PROC Key:

1) Press the **PROC** Key. The 'Procedures' Window is displayed.

2) Highlight 'Select Arrival'.

3) Press the **ENT** Key.

4) The cursor is activated in the 'Arrival' Field. If desired, the airport may be changed by pushing the **FMS** Knob, turning the large **FMS** Knob to highlight the airport identifier, facility, or city, and using the **FMS** Knobs or alphanumeric keypad to select the desired airport. When finished, press the **ENT** Key.
5) Select an arrival from the list and press the **ENT** Key.
6) Select a transition (if required) and press the **ENT** Key.
7) Select a runway (if required) and press the **ENT** Key. 'Load' is highlighted.
8) Press the **ENT** Key to load the arrival procedure.

Loading an arrival into the active flight plan from the 'WPT – Arrival Information' Page:

1) From the 'WPT – Airport Information' Page (first page in the 'WPT' Page Group), press the **STAR** Softkey. The 'WPT – Arrival Information' Page is displayed, defaulting to the airport displayed on the 'WPT – Airport Information' Page.
2) To select another airport, push the **FMS** Knob to activate the cursor, enter an identifier/facility name/city, and press the **ENT** Key.
3) Select a different arrival, if desired.
   a) Turn the large **FMS** Knob to highlight the arrival. The arrival is previewed on the map.
   b) Turn the small **FMS** Knob to view the available arrivals. Press the **ENT** Key to select the arrival. The cursor moves to the 'Transition' Box (only if there are available transitions). The arrival is previewed on the map.
   c) Turn the small **FMS** Knob to view the available transitions. Press the **ENT** Key to select the transition. The cursor moves to the 'Runway' Box. The arrival is previewed on the map.
   d) Turn the small **FMS** Knob to view the available runways. Press the **ENT** Key to select the runway. The cursor moves to the 'Sequence' Box. The arrival is previewed on the map.
4) Press the **MENU** Key to display the Arrival Information 'Page Menu' Window.
5) Turn the **FMS** Knob to highlight 'Load Arrival'.
6) Press the **ENT** Key to load the arrival procedure into the active flight plan.

Loading an arrival procedure into the standby flight plan or stored flight plan:

1) For the standby flight plan, press the **FPL** Key for the MFD. Turn the small **FMS** Knob to select the 'FPL – Standby Flight Plan' Page.

   Or:

   For a stored flight plan:

   a) Press the **FPL** Key for the MFD. Turn the small **FMS** Knob to select the 'FPL – Flight Plan Catalog' Page and push the **FMS** Knob to activate the cursor.

b) Turn the **FMS** Knob to highlight the desired flight plan.

c) Press the **EDIT** Softkey; or press the **ENT** Key, turn the large **FMS** Knob clockwise to select 'Edit' and press the **ENT** Key. The 'FPL – Stored Flight Plan' Page is displayed.

2) Press the **LD STAR** Softkey; or press the **MENU** Key, select 'Load Arrival', and press the **ENT** Key. The 'PROC – Arrival Loading' Page is displayed.

3) Select an arrival. Press the **ENT** Key.

4) Select a transition for the selected arrival. Press the **ENT** Key.

5) Select a runway served by the selected arrival, if required. Press the **ENT** Key.

6) Press the **ENT** Key to load the selected arrival procedure.

Removing an arrival from the active, standby, or stored flight plan:

1) For the active flight plan, press the **FPL** Key. If necessary, push the **FMS** Knob to activate the cursor (not required if using the Quick Select Box, and not required on PFD).

Or:

For the standby flight plan, press the **FPL** Key for the MFD. Turn the small **FMS** Knob to select the 'FPL – Standby Flight Plan' Page.

Or:

For a stored flight plan:

a) Press the **FPL** Key for the MFD. Turn the small **FMS** Knob to select the 'FPL – Flight Plan Catalog' Page and push the **FMS** Knob to activate the cursor.

b) Turn the **FMS** Knob to highlight the desired flight plan.

c) Press the **EDIT** Softkey; or press the **ENT** Key, turn the large **FMS** Knob clockwise to select 'Edit' and press the **ENT** Key. The 'FPL – Stored Flight Plan' Page is displayed.

2) Press the **MENU** Key, and highlight 'Remove Arrival'.

3) Press the **ENT** Key. A confirmation window is displayed listing the arrival procedure.

4) With 'OK' highlighted, press the **ENT** Key. To cancel the removal request, highlight 'Cancel' and press the **ENT** Key.

APPROACHES

Instrument Approach

Loss of SBAS

Approach	SBAS Becomes Unavailable	Description	Action Required	Downgrade
LNAV	Approach phase not specified	SBAS not required. The approach is continued.	None	N/A
LNAV+V				

Approach	SBAS Becomes Unavailable	Description	Action Required	Downgrade
LNAV/ VNAV	Prior to the FAF	HSI displays amber 'L/VNAV'; VDI displays 'NO GP'. **	Acknowledge message to display Baro VNAV Glidepath	N/A
	At/after the FAF	HSI displays magenta 'LNAV'; VDI displays 'NO GP'.	None	LNAV*
LP	More than 1 min prior to the FAF	HSI displays amber 'LP'	None	N/A
	Within 1 min prior to the FAF	HSI displays magenta 'LNAV'; CDI is removed. **	Acknowledge message to redisplay CDI with LNAV	LNAV*
	At/after the FAF	CDI is removed **	Abort	N/A
LP+V	More than 1 min prior to the FAF	HSI displays amber 'LP+V'; VDI displays 'NO GP'.	None	N/A
	Within 1 min prior to the FAF	HSI displays magenta 'LNAV'; CDI is removed. VDI displays 'NO GP'. **	Acknowledge message to redisplay CDI with LNAV	LNAV*
	At/after the FAF	CDI is removed; VDI displays 'NO GP'. **	Abort	N/A
LPV	More than 1 min prior to the FAF	HSI displays amber 'LPV'	None	N/A
	Within 1 min prior to the FAF	HSI displays magenta 'L/VNAV'; VDI displays 'NO GP'. **	Acknowledge message to display Baro VNAV Glidepath	LNAV/ VNAV
	At/after the FAF	HSI displays magenta 'LNAV'; VDI displays 'NO GP'.	None	LNAV*

**If there are no LNAV minimums available for the approach, abort.*

***System message is generated.*

Approach Downgrade Behavior

Loading an approach into the active flight plan using the PROC Key:

1) Press the **PROC** Key. The 'Procedures' Window is displayed.
2) Highlight 'Select Approach', and press the **ENT** Key.
3) Select the airport and approach:
   a) The cursor is activated in the 'Approach' Field. If desired, the airport may be changed by pushing the **FMS** Knob, turning the large **FMS** Knob to highlight the airport identifier, facility, or city, and using the **FMS** Knobs or alphanumeric keypad to select the desired airport. When finished, press the **ENT** Key.
   b) Select an approach from the list and press the **ENT** Key.

   Or:

   b) Push the **FMS** Knob to exit the approach list, and use the large **FMS** Knob to move the cursor to the 'Approach Channel' Field. Use the **FMS** Knob or keypad to enter the approach channel number, and press the **ENT** Key to accept the approach channel number. The airport and approach are selected.
4) Select a transition (if required) and press the **ENT** Key.
5) Minimums
   a) To set 'Minimums', turn the small **FMS** Knob to select 'BARO' or 'TEMP COMP' and press the **ENT** Key. Turn the small **FMS** Knob to select the altitude, and press the **ENT** Key.
   b) If 'TEMP COMP' was selected, the cursor moves to the temperature field. Turn the small **FMS** Knob to select the temperature, and press the **ENT** Key.

   Or:

   To skip setting minimums, press the **ENT** Key.
6) Press the **ENT** Key with 'Load' highlighted to load the approach procedure; or turn the large **FMS** Knob to highlight 'Activate' and press the **ENT** Key to load and activate the approach procedure.

   When a visual approach is selected, the message 'Obstacle clearance is not provided for visual approaches' is displayed. With 'OK' highlighted, press the **ENT** Key.

Loading an approach into the active flight plan from the 'NRST – Nearest Airports' Page:

1) Select the 'NRST – Nearest Airports' Page.
2) Push the **FMS** Knob, then turn the large **FMS** Knob to highlight the desired nearest airport. The airport is previewed on the map.
3) Press the **APR** Softkey; or press the **MENU** Key, highlight 'Select Approach Window', and press the **ENT** Key.
4) Turn the **FMS** Knob to highlight the desired approach.

5) Press the **LD APR** Softkey; or press the **MENU** Key, highlight 'Load Approach', and press the **ENT** Key. The 'PROC – Approach Loading' Page is displayed with the transitions field highlighted.
6) Turn the **FMS** Knob to highlight the desired transition, and press the **ENT** Key.
7) Minimums
   a) To set 'Minimums', turn the small **FMS** Knob to select 'BARO' or 'TEMP COMP' and press the **ENT** Key. Turn the small **FMS** Knob to select the altitude, and press the **ENT** Key.
   b) If 'TEMP COMP' was selected, the cursor moves to the temperature field. Turn the small **FMS** Knob to select the temperature, and press the **ENT** Key.

   Or:

   To skip setting minimums, press the **ENT** Key. The 'LOAD?' Field is highlighted.
8) Press the **ENT** Key with 'Load?' highlighted to load the approach procedure; or turn the large **FMS** Knob to highlight 'Activate?' and press the **ENT** Key to load and activate the approach procedure.

   When a visual approach is selected, the message 'Obstacle clearance is not provided for visual approaches' is displayed. With 'OK' highlighted, press the **ENT** Key.

Loading an approach procedure into a standby flight plan or a stored flight plan:

1) For the standby flight plan, press the **FPL** Key for the MFD. Turn the small **FMS** Knob to select the 'FPL – Standby Flight Plan' Page.

   Or:

   For a stored flight plan:
   a) Press the **FPL** Key for the MFD. Turn the small **FMS** Knob to select the 'FPL – Flight Plan Catalog' Page and push the **FMS** Knob to activate the cursor.
   b) Turn the **FMS** Knob to highlight the desired flight plan.
   c) Press the **EDIT** Softkey; or press the **ENT** Key, turn the large **FMS** Knob clockwise to select 'Edit' and press the **ENT** Key. The 'FPL – Stored Flight Plan' Page is displayed.
2) Press the **LD APR** Softkey; or press the **MENU** Key, select "Load Approach", and press the **ENT** Key. The 'PROC – Approach Loading' Page is displayed.
3) Select the airport and approach:
   a) Use the **FMS** Knob to select an airport and press the **ENT** Key.
   b) Select an approach from the list and press the **ENT** Key.

   Or:

   a) If necessary, push the **FMS** Knob to exit the approach list, and use the large **FMS** Knob to move the cursor to the Approach 'Channel' Field.
   b) Use the **FMS** Knob or keypad to enter the approach channel number, and press the **ENT** Key to accept the approach channel number. The airport and approach are selected.

4) Select a transition for the selected approach. Press the **ENT** Key.
5) Press the **ENT** Key to load the selected approach procedure.

Activating a previously loaded approach:

1) Press the **PROC** Key. The 'Procedures' Window is displayed with 'Activate Approach' highlighted.
2) Press the **ENT** Key to activate the approach.

Activating a previously loaded approach with vectors to final:

1) Press the **PROC** Key to display the 'Procedures' Window.
2) Highlight 'Activate Vector-to-Final' and press the **ENT** Key.

Loading and activating an approach using the MENU Key:

1) Press the **PROC** Key.
2) Use the large **FMS** Knob to highlight 'Select Approach' and press the **ENT** Key.
3) From the 'PROC – Approach Loading' Page, press the **MENU** Key for the MFD. The 'Page Menu' Window is displayed with 'Load & Activate Approach' highlighted.
4) Press the **ENT** Key.

   When a visual approach is selected, the message 'Obstacle clearance is not provided for visual approaches' is displayed. With 'OK' highlighted, press the **ENT** Key.

Removing an approach from the active, standby, or stored flight plan:

1) For the active flight plan, press the **FPL** Key.

   Or:

   For the standby flight plan, press the **FPL** Key for the MFD. Turn the small **FMS** Knob to select the 'FPL – Standby Flight Plan' Page.

   Or:

   For a stored flight plan:

   a) Press the **FPL** Key for the MFD. Turn the small **FMS** Knob to select the 'FPL – Flight Plan Catalog' Page and push the **FMS** Knob to activate the cursor.
   b) Turn the **FMS** Knob to highlight the desired flight plan.
   c) Press the **EDIT** Softkey; or press the **ENT** Key, turn the large **FMS** Knob clockwise to select 'Edit' and press the **ENT** Key. The 'FPL – Stored Flight Plan' Page is displayed.
2) Press the **MENU** Key, and highlight 'Remove Approach'.
3) Press the **ENT** Key. A confirmation window is displayed listing the approach procedure.
4) With 'OK' highlighted, press the **ENT** Key. To cancel the removal, highlight 'Cancel' and press the **ENT** Key.

Missed Approach

Activating a missed approach in the active flight plan:

Fly past the MAP, and press the **SUSP** Softkey on the PFD.

Or:

Press the Go-Around Button.

Or:

1) Press the **PROC** Key.
2) Turn the **FMS** Knob to highlight 'Activate Missed Approach'.
3) Press the **ENT** Key. Prior to the MAP, the aircraft will continue to laterally navigate to the MAP before executing the missed approach. Otherwise, the aircraft automatically sequences to the MAHP.

Temperature Compensation

Temperature Compensation for approach altitudes

Manually enabling temperature compensation for approach waypoint altitudes:

1) From the 'FPL – Active Flight Plan' Page, press the **MENU** Key. The 'Page Menu' Window is displayed.
2) Turn the **FMS** Knob to highlight 'Temperature Compensation'.
3) Press the **ENT** Key. The 'Temperature Compensation' Window is displayed with the temperature highlighted.
4) Use the small **FMS** Knob to change the 'Temperature at <airport>' Field. 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.

Canceling temperature compensation for approach waypoint altitudes:

1) From the 'FPL – Active Flight Plan' Page, press the **MENU** Key. The 'Page Menu' Window 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.

Temperature Compensation for Approach Minimums

Entering a temperature compensated minimum into an approach:

1) From the 'FPL – Active Flight Plan' Page, press the **PROC** Key. The 'Procedures' Window is displayed.
2) If necessary, turn the large **FMS** Knob to highlight 'Select Approach'. Press the **ENT** Key.
3) If necessary, use the **FMS** Knob and the **ENT** Key to select the desired airport, approach, and transition.
4) Use the **FMS** Knob to place the flashing cursor in the 'Minimums' Box. Turn the small **FMS** Knob to select 'TEMP COMP'. Press the **ENT** Key.
5) Turn the small **FMS** Knob to enter the minimums altitude. Press the **ENT** Key. The cursor is placed in the 'TEMP AT <destination airport>' Field.
6) Turn the small **FMS** Knob to enter the temperature at the destination. Press the **ENT** Key.
7) Press the **ENT** Key with either 'Load' or 'Activate?' highlighted. The approach is added to the active flight plan, and the temperature compensated minimums are displayed on the PFD.

WEIGHT AND BALANCE PLANNING

Viewing the zoomed CG Graph:

1) From the 'Aux – Weight and Balance' Page, press the **Graph** Softkey.
2) Press the **Zoom** Softkey to switch between the zoomed and normal view for the 'Station vs Weight' graph.

Entering aircraft load:

1) Push the **FMS** Knob to activate the cursor.
2) Turn the large **FMS** Knob to highlight the desired field within the 'Aircraft Load' Box.
3) Turn the small **FMS** Knob or use the keypad to enter the weight.
4) Press the **ENT** Key to confirm the entry.
5) Repeat Steps 2 through 4 until all seat, fluid, and baggage weight values are accurate.
6) Push the **FMS** Knob to remove the flashing cursor.

Entering the fuel on board weight on the 'Initial Usable Fuel' Page:

1) Press the **Fuel** Softkey to display the 'Initial Usable Fuel' Page.
2) Add or subtract fuel:

   Turn the **FMS** Knobs to match the fuel quantity.

   Or:

   Press the **Full** Softkey if the fuel tanks are full

   Or:

Press the **Tabs** Softkey if the fuel level visually matches the physical tab level within each fuel tank.

3) Press the **ENT** Key or the **W&B** Softkey to return to the 'Aux – Weight and Balance' Page.
4) Press the **ENT** Key or the **Confirm** Softkey to confirm the 'Aux – Weight and Balance' Page entries, or press the **Undo** Softkey to remove any fuel quantity changes that were made.

Entering the fuel reserves weight:

1) Push the **FMS** Knob to activate the cursor and highlight the 'Fuel Reserves' Field.
2) Turn the small **FMS** Knob or use the keypad to enter the fuel reserves weight.
3) Press the **ENT** Key to confirm the entry.
4) Push the **FMS** Knob to remove the flashing cursor

TRIP PLANNING

Selecting automatic or manual page mode:

From the 'Aux – Trip Planning' Page, press the **Auto** Softkey or the **Manual** Softkey; or press the **MENU** Key, highlight 'Auto Mode' or 'Manual Mode', and press the **ENT** Key.

Selecting flight plan or waypoint mode:

From the 'Aux – Trip Planning' Page, press the **FPL** Softkey or the **WPTs** Softkey; or press the **MENU** Key, highlight 'Flight Plan Mode' or 'Waypoints Mode', and press the **ENT** Key.

Selecting a flight plan and leg for trip statistics:

1) From the 'Aux – Trip Planning' Page, Push the **FMS** Knob to activate the cursor in the 'FPL' Field.
2) Turn the small **FMS** Knob to select the desired flight plan number.
3) Turn the large **FMS** Knob to highlight 'CUM' or 'REM'. The statistics for each leg can be viewed by turning the small **FMS** Knob to select the desired leg. The Trip Planning map also displays the selected data.

Selecting waypoints for waypoint mode:

1) From the 'Aux – Trip Planning' Page, press the **WPTs** Softkey; or press the **MENU** Key, highlight 'Waypoints Mode', and press the **ENT** Key. The cursor is positioned in the waypoint field directly next to the 'FPL' Field.
2) Turn the **FMS** Knobs to select the desired waypoint (or press the **MENU** Key and highlight 'Set WPT to Present Position' if that is what is desired), and press the **ENT** Key. The cursor moves to the second waypoint field.
3) Turn the **FMS** Knobs to select the desired waypoint, and press the **ENT** Key. The statistics for the selected leg are displayed.

Entering manual data for trip statistics calculations:

1) From the 'Aux – Trip Planning' Page, press the **Manual** Softkey or select 'Manual Mode' from the 'Page Menu' Window, and press the **ENT** Key. The cursor may now be positioned in any field in the top right two boxes.
2) Turn the **FMS** Knobs to move the cursor onto the 'Departure Time' Field and enter the desired value. Press the **ENT** Key. The statistics are calculated using the new value and the cursor moves to the next entry field. Repeat until all desired values have been entered.

RAIM PREDICTION

In most cases performing a RAIM prediction is not necessary. However, in some cases, the selected approach may be outside the SBAS coverage area, and it may be necessary to perform a RAIM prediction for the intended approach.

Receiver Autonomous Integrity Monitoring (RAIM) is a GPS receiver function that performs a consistency check on all tracked satellites. RAIM ensures the available satellite geometry allows the receiver to calculate a position within a specified RAIM protection limit (2.0 nautical miles for oceanic and enroute, 1.0 nm for terminal, and 0.3 nm for non-precision approaches). During oceanic, enroute, and terminal phases of flight, RAIM is available nearly 100% of the time.

The RAIM prediction function also indicates whether RAIM is available at a specified date and time. RAIM computations predict satellite coverage within ±15 min of the specified arrival date and time.

Because of the tighter protection limit on approaches, there may be times when RAIM is not available. The system automatically monitors RAIM and warns with an alert message when it is not available. If RAIM is not predicted to be available for the final approach course, the approach does not become active, as indicated by the messages, "Approach is not active" and "RAIM not available from FAF to MAP". If RAIM is not available when crossing the FAF, the missed approach procedure must be flown.

NOTE: *The system RAIM prediction capability does not meet all RAIM prediction requirements. Reference the RAIM/Fault Detection and Exclusion (FDE) Prediction Tool at flygarmin.com as required.*

Predicting RAIM availability at a selected waypoint:

1) Select the 'Aux - GPS Status' Page.
2) If necessary, press the **RAIM** Softkey.
3) Push the **FMS** Knob. The 'Waypoint' Field is highlighted.
4) Turn the small **FMS** Knob to display the 'Waypoint Information' Window.
5) Enter the desired waypoint:

   Use the **FMS** Knob to enter the desired waypoint by identifier, facility, or city name and press the **ENT** Key.

   Or:

   a) Turn the small **FMS** Knob counter-clockwise to display a list of flight plan waypoints (the FPL list is populated only when navigating a flight plan).
   b) Turn the small **FMS** Knob clockwise to display the Flight Plan, Nearest, Recent, or User waypoints, if required.
   c) Turn the large **FMS** Knob clockwise to select the desired waypoint. The system automatically fills in the identifier, facility, and city fields with the information for the selected waypoint.
   d) Press the **ENT** Key to accept the waypoint entry.
6) Use the **FMS** Knob to enter an arrival time and press the **ENT** Key.
7) Use the **FMS** Knob to enter an arrival date and press the **ENT** Key.
8) With the cursor highlighting 'Compute RAIM?', press the **ENT** Key. Once RAIM availability is computed, one of the following is displayed:

   • 'Compute RAIM?'—RAIM has not been computed for the current waypoint, time, and date combination

   • 'Computing Availability'—RAIM calculation in progress

   • 'RAIM Available'—RAIM is predicted to be available for the specified waypoint, time, and date

   • 'RAIM not Available'—RAIM is predicted to be unavailable for the specified waypoint, time, and date

Predicting RAIM availability at present position:

1) Select the 'Aux - GPS Status' Page.
2) If necessary, press the **RAIM** Softkey.
3) Push the **FMS** Knob. The 'Waypoint' Field is highlighted.
4) Press the **MENU** Key.
5) With 'Set WPT to Present Position' highlighted, press the **ENT** Key.
6) Press the **ENT** Key to accept the waypoint entry.
7) Use the **FMS** Knob to enter an arrival time and press the **ENT** Key.
8) Use the **FMS** Knob to enter an arrival date and press the **ENT** Key.
9) With the cursor highlighting 'Compute RAIM?', press the **ENT** Key. Once RAIM availability is computed, one of the following is displayed:
   - 'Compute RAIM?'—RAIM has not been computed for the current waypoint, time, and date combination
   - 'Computing Availability'—RAIM calculation in progress
   - 'RAIM Available'—RAIM is predicted to be available for the specified waypoint, time, and date
   - 'RAIM not Available'—RAIM is predicted to be unavailable for the specified waypoint, time, and date

HAZARD AVOIDANCE

DATA LINK WEATHER

ACTIVATING DATA LINK WEATHER SERVICES

Establishing an account for SiriusXM services:

1) Select the 'Aux - XM Radio' Page in the Auxiliary Page Group.
2) If necessary, press the **Info** Softkey to display the 'Aux - XM Information' Page.
3) Note the Data Radio ID (for SiriusXM Weather data) and/or the Audio Radio ID (for SiriusXM Satellite Radio). These IDs may be the same.
4) Contact SiriusXM customer service through the phone number listed on its website, www.siriusxm.com.
5) Provide SiriusXM customer service the Data Radio ID and/or Audio Radio ID, in addition to payment information, and the desired weather product subscription package.

After SiriusXM has been contacted, it may take approximately 15 minutes until the activation occurs.

Verifying the SiriusXM Weather service activation:

1) Once a SiriusXM Weather account has been established, select the XM Radio Page in the Auxiliary Page Group.
2) If necessary, press the **Info** Softkey to display the 'Aux - XM Information' Page.
3) View the list of supported Weather Products. A white empty box appears next to an unavailable weather product; a green filled box appears next to an available weather product. During activation, it may take several minutes for weather products in the selected subscription package to become available.

Activating Garmin Connext Weather

Obtaining the LRU serial numbers and System ID:

1) Select the 'Aux - System Status' Page.
2) Press the **LRU** Softkey.
3) Turn the **FMS** Knob to scroll the cursor until 'GSR 1' is visible in the 'LRU Information' window.
4) Note the serial number displayed for 'GSR 1'.
5) Push the **FMS** Knob to deactivate the cursor.

Registering the system to receive Garmin Connext Weather:

1) Go to flygarmin.com. Locate the information for subscribing to Garmin Connext Satellite Services on the website.

2) Choose a desired service which includes weather data and enter the requested information about the aircraft.
3) Note the Access Code provided during the registration process and any additional instructions received.
4) With the aircraft outside and having a clear view of the sky, turn the large **FMS** Knob on the MFD to select the Map page group.
5) Turn the small **FMS** Knob to select the 'Map - Weather Data Link (CNXT)' Page. If another data link weather source such as 'XM' or 'FIS-B' is displayed in the page title, it will be necessary to change the data link weather source to CNXT before continuing. Refer to 'Viewing the Weather Data Link (CNXT) Page' procedure to change the data link source to prior to registration.
6) If the system displays the Connext Registration Window, proceed to step 8. Otherwise, press the **MENU** Key. The page menu window is now displayed.
7) Turn the large **FMS** Knob to select 'Register With Connext' in the menu list.
8) Press the **ENT** Key. The Connext Registration Window appears as shown in Figure 6-3.
9) Enter the access code provided by Garmin in the 'Access Code' field.
10) Press the **ENT** Key. 'Register' is highlighted.
11) Press the **ENT** Key. The system contacts Garmin through the Iridium network. System registration is complete when the Current Registration Window displays the correct information for the Airframe, Tail Number, Airframe Serial Number, and Iridium Serial Number.
12) When finished, push the **FMS** Knob to remove the Connext Registration Window.

WEATHER PRODUCT AGE

Enabling/disabling the weather product age for PFD Maps:

1) Press the **Map/HSI** Softkey.
2) Press the **Layout** Softkey.
3) Press the **WX LGND** to show/remove the weather product age information for PFD maps.
4) Press the **Back** Softkey twice to return to the top-level softkeys.

SiriusXM Weather Product	Symbol	Expiration Time (Minutes)
NEXRAD		30
Cloud Top (CLD TOP)		60

SiriusXM Weather Product Symbols and Data Timing

SiriusXM Weather Product	Symbol	Expiration Time (Minutes)
Echo Top (ECHO TOP)		30
SiriusXM Lightning (LTNG)		30
Cell Movement		30
SIGMETs/AIRMETs		60
METARs		90
City Forecast		90
Surface Analysis		60
Freezing Levels		120
Winds Aloft		90
County Warnings		60
Cyclone Warnings		60
Icing Potential (CIP and SLD)		90
Pilot Weather Report (PIREP)		90
Air Report(AIREP)		90

SiriusXM Weather Product Symbols and Data Timing

SiriusXM Weather Product	Symbol	Expiration Time (Minutes)
Turbulence		180
Radar Coverage Not Available	No product image	30
Temporary Flight Restriction (TFR)		60
Terminal Aerodrome Forecast (TAF)	No product image	60

SiriusXM Weather Product Symbols and Data Timing

FIS-B Weather Product	Symbol	Expiration Time (Minutes)	Broadcast Rate (Minutes)
NEXRAD Composite (US)		30	15
NEXRAD Composite (Regional)		30	2.5
METARs		90	5
Pilot Weather Report (PIREP)		90	10
Winds Aloft		90	10
SIGMETs/AIRMETs		60	5
No Radar Coverage	No product symbol	30	2.5
Terminal Aerodrome Forecast (TAF)	No product symbol	60	10
Temporary Flight Restriction (TFR)		60	10

FIS-B Weather Product Symbols and Data Timing

Garmin Connext Weather Product	Symbol	Expiration Time (Minutes)	Refresh Rate (Minutes)
Radar Precipitation		30	U.S.: 3* Canada: 3*† Europe: 15 Australia: 15ˆ
Infrared Satellite		60	30
Datalink Lightning		30	Continuous
SIGMETs/AIRMETs		60	Continuous
METARs		90	Continuous
Winds Aloft		90	Continuous
Pilot Weather Report (PIREPs)		90	Continuous
Temporary Flight Restrictions (TFRs)		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.
ˆ Australian radar precipitation data provided by the Australian Bureau of Meteorology.

Garmin Connext Weather Product Symbols and Data Timing

DISPLAYING DATA LINK WEATHER PRODUCTS

Weather Data Link Page

Viewing the Weather Data Link Page and changing the data link weather source, if applicable:

1) Turn the large **FMS** Knob to select the Map Page Group.
2) Turn the small **FMS** Knob to select the 'Map - Weather Data Link (XM, CNXT, or FIS-B)' Page. The currently selected data link weather source appears in the page title.

3) If the page title does not contain the desired weather source, press the **MENU** Key.
   a) Turn the **FMS** Knob to highlight 'Display XM Weather', 'Display Connext Weather', or 'Display FIS-B Weather' (choices may vary depending on the installed equipment).
   b) Press the **ENT** Key.

Viewing legends for displayed weather products on the Weather Data Link Page:

1) Select the Weather Data Link Page.
2) Press 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 Weather Legends Window, press the **Legend** Softkey, the **ENT** or the **CLR** Key, or press the **FMS** Knob.

Setting up and customizing the Weather Data Link Page:

1) Select the Weather Data Link Page.
2) Press the **MENU** Key.
3) Turn the **FMS** Knob to highlight 'Weather Setup', then 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) Push the **FMS** Knob or **CLR** Key to return to the Weather Data Link Page with the changed settings.

The pilot can select a map orientation for the Weather Data Link Page, or choose to synchronize the map orientation to the same orientation used on the 'Map - Navigation Map' Page.

Selecting a map orientation for the Weather Data Link Page:

1) Select the Weather Data Link Page.
2) Press the **MENU** Key.
3) Turn the **FMS** Knob to highlight 'Weather Setup'.
4) Turn the small **FMS** Knob to display the Group options.

5) If SiriusXM is the selected data link weather source, turn the small FMS Knob to highlight the 'Map' Group and press the ENT Key.

   Or:

   If FIS-B or Garmin Connext is the selected data link weather source, turn the large **FMS** Knob to highlight the 'Orientation ' field at the bottom of the Product Group 1 list.

6) Turn the small **FMS** Knob to highlight the desired map orientation: North up, Track up, HDG up, or SYNC, then press the **ENT** Key.

Restoring default Weather Data Link Page settings:

1) Select the Weather Data Link Page.
2) Press the **MENU** Key.
3) Turn the FMS Knob to highlight 'Weather Setup', then 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.
6) When finished, push the **FMS** Knob or press the **CLR** Key.

Displaying Data Link Weather Products on the 'Map - Navigation Map' Page:

1) Select the 'Map - Navigation Map' Page.
2) Press the **Map Opt** Softkey.
3) Press the softkey to enable/disable the desired weather product.

Showing/removing the weather legend on the 'Map - Navigation Map' Page:

1) Select the 'Map - Navigation Map' Page.
2) Press the **Map Opt** Softkey.
3) Press the **Legend** Softkey to show the weather legends window.
4) When finished, press the **Legend** Softkey again, or press the **FMS** Knob or the **CLR** Key to remove the window.

Setting up and customizing weather data for the navigation maps:

1) Select the 'Map - Navigation Map' Page.
2) Press the **MENU** Key.
3) With 'Map Settings' 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) Push the **FMS** Knob or **CLR** Key to return to the 'Map - Navigation Map' Page with the changed settings.

The system can also display data link weather information on the PFD navigation maps.

Displaying Data Link Weather products on the PFD:

1) On the PFD, press the **Map/HSI** Softkey.
2) Press the desired weather product softkey(s) to enable/disable the display of data link products on the PFD map.

On the MFD maps, the weather product icon and age appear automatically when a weather is enabled and the range is within the maximum display limits. On PFD maps, this information is available using the PFD softkeys.

Enabling/disabling the weather product icon and age display (PFD maps):

1) On the PFD, press the **Map/HSI** Softkey.
2) Press the **Layout** Softkey.
3) Press the **WX LGND** Softkey to enable/disable the weather product age, source, and icon box display on PFD Maps.

Manually Requesting Garmin Connext Weather information:

1) Select the 'Map - Weather Data Link (CNXT)' Page.
2) Press the **MENU** Key.
3) With 'Connext 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 show or hide a green check mark to select one of more of the following coverage selections:
   - Present Position – Requests data based on current location.
   - Destination – Requests data based on the active flight plan destination (Direct-To destinations excluded). See the Flight Management section for more information about entering and activating flight plans.
   - FPL – Requests data along an active flight plan, if one currently exists. Turn the small FMS Knob to select the desired flight plan look-ahead distance option (or choose 'Remaining FPL' to request weather data for the remainder of the flight plan), then press the **ENT** Key.
   - Waypoint – Requests data based on a waypoint (which may be off-route). Turn the large and small FMS Knobs to enter a waypoint, then press the **ENT** Key.
5) Turn the large **FMS** Knob highlight to the 'Diameter / Route 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 Request' field is highlighted. Press the **ENT** Key to initiate the request immediately or press the **FMS** Knob to return to the 'Map - Weather Data Link (CNXT)' Page without requesting weather data.

Cancelling a Connext Data Request in Progress:

1) Select the 'Map - Weather Data Link (CNXT)' Page.
2) Press the **MENU** Key.
3) With 'Connext Data Request' highlighted, press the **ENT** Key.
4) Turn the large **FMS** Knob to select the 'Cancel Request' field and press the **ENT** Key. The request status box indicates 'Request Cancelled'.
5) Push the **FMS** Knob to return to the 'Map - Weather Data Link (CNXT)' Page.

Enabling/disabling automatic Connext Data Requests:

1) Select the 'Map - Weather Data Link (CNXT)' Page.
2) Press the **MENU** Key.
3) With 'Connext 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' field. Then turn the small **FMS** Knob to highlight the desired automatic update frequency (Off, 5 Min, 10 Min, 15 Min, 20 Min, 30 Min, 45 Min, or 60 Min), then press the **ENT** Key.
6) The 'Send Request' field is highlighted and a countdown timer is displayed in the 'Request Status' Window based on the currently selected update rate. Press the **ENT** Key to immediately send an immediate Connext Data Request.

NEXRAD (SiriusXM)

Enabling/disabling NEXRAD weather information on the 'Map - Weather Data Link (XM)' Page:

1) Select the 'Map - Weather Data Link (XM)' Page.
2) Press the **NEXRAD** Softkey.

Enabling/disabling NEXRAD weather information on MFD navigation maps:

1) Press the **Map Opt** Softkey.
2) Press the **NEXRAD** Softkey.

Enabling/disabling NEXRAD weather information on PFD maps:

1) Press the **Map/HSI** Softkey.
2) Press the **NEXRAD** Softkey.

Changing the NEXRAD coverage region:

1) Select the 'Map - Weather Data Link (XM)' Page.
2) Press the **MENU** Key.
3) Turn the large **FMS** Knob to highlight 'Weather Setup' and press the **ENT** Key.
4) Turn the large **FMS** Knob to highlight the NEXRAD Region datafield.
5) Turn the small **FMS** Knob to highlight 'COMP' or 'BASE' and press the **ENT** Key.

Displaying Time-Lapse NEXRAD Animation on the 'Map - Weather Data Link (XM)' Page:

1) Press the **MENU** Key.
2) Turn the **FMS** Knob to select 'Weather Setup' and press the **ENT** Key.
3) With 'Product Group 1' selected, turn the large **FMS** Knob to highlight the NEXRAD Animation On/Off field.
4) Turn the small FMS Knob to select 'On' or 'Off', then press the **ENT** Key.
5) To remove the menu, push the **FMS** Knob or the **CLR** Key.

The pilot enables/disables the NEXRAD animation feature for navigation maps from the 'Map - Navigation Map' Page.

Displaying Time-Lapse NEXRAD Animation on navigation maps:

1) Select the 'Map - Navigation Map' Page.
2) Press the **MENU** Key.
3) With 'Map Settings' highlighted, press the **ENT** Key.
4) Turn the **FMS** Knob to select the 'Weather' Group and press the **ENT** Key.
5) Turn the large **FMS** Knob to highlight the NEXRAD Animation On/Off field.
6) Turn the small **FMS** Knob to highlight 'On' or 'Off' and press the **ENT** Key.
7) To remove the menu, push the **FMS** Knob or the **CLR** Key.

NEXRAD (FIS-B)

Displaying the NEXRAD weather product on the 'Map - Weather Data Link (FIS-B)' Page:

1) Select the 'Map - Weather Data Link (FIS-B)' Page.
2) Press the **NXRD** Softkey. Each selection cycles though a coverage option displayed in cyan on the softkey ('Off', 'US', or 'REG', or 'All').

Or:

1) Press the **MENU** Key.
2) Turn the **FMS** Knob to highlight 'Weather Setup' and press the **ENT** Key.
3) To enable/disable the display of NEXRAD information for the continental United States, turn the small **FMS** Knob to highlight the NEXRAD On/Off field.
   a) Turn the small **FMS** Knob to highlight 'On' to enable the display of NEXRAD for the continental United States or 'Off' to disable.
   b) Press the **ENT** Key.

4) To enable/disable the display of Regional NEXRAD information, turn the small **FMS** Knob to highlight the Regional On/Off field.

   a) Turn the small **FMS** Knob to highlight 'On' to enable the display of Regional NEXRAD or 'Off' to disable.

   b) Press the **ENT** Key.

5) When finished, push the **FMS** Knob.

Displaying the FIS-B NEXRAD weather product on the 'Map - Navigation Map' Page:

1) Press the **Map Opt** Softkey.
2) Press the **NEXRAD** Softkey.
3) To change the type of NEXRAD displayed, press the **MENU** Key.
4) With 'Map Settings' highlighted, press the ENT Key.
5) Turn the small **FMS** Knob to select the 'Weather' Group, then press the **ENT** Key.
6) Turn the large **FMS** Knob to highlight the NEXRAD Data Region field.
7) Turn the small **FMS** Knob to highlight 'CONUS' (continental United States), 'RGNL' (regional), or 'Combined', then press the **ENT** Key. This selection also affects display of NEXRAD on the PFD Maps.
8) When finished, Push the **FMS** Knob or press the **CLR** Key.

Displaying the FIS-B NEXRAD weather product on PFD maps:

1) Press the **Map/HSI** Softkey.
2) Press the **NEXRAD** Softkey to enable/disable the display of NEXRAD information.

Precipitation (Garmin Connext)

Displaying Precipitation weather information:

1) Press the **Map Opt** Softkey (for PFD maps, press the **Map/HSI** or **Map Opt** Softkey). This step is not necessary on the 'Map - Weather Data Link (CNXT)' Page.
2) Press the **PRECIP** Softkey.

Echo Tops (SirisuXM)

Displaying Echo Tops information:

1) Select the 'Map - Weather Data Link (XM)' Page.
2) Press the **Echo Top** Softkey.

Cloud Tops (SiriusXM)

Displaying Cloud Tops information:

1) Select the 'Map - Weather Data Link (XM)' Page with the **FMS** Knob.
2) Press the **CLD Top** Softkey.

Data Link Lightning (SiriusXM, Garmin Connext)

Displaying Data Link Lightning information on Weather Data Link Page:

1) Turn the **FMS** Knob to select the Map - Weather Data Link (XM or CNXT) Page.
2) Press the **XM LTNG** or **DL LTNG** Softkey.

Displaying Data Link Lightning information on the 'Map - Navigation Map' Page:

1) Turn the **FMS** Knob to select the 'Map - Navigation Map' Page.
2) Press the **Map Opt** Softkey.
3) Press the **XM LTNG** or **DL LTNG** Softkey.

Displaying Data Link Lightning information on PFD maps:

1) On the PFD, press the **Map/HSI** Softkey.
2) Press the **Lightning** Softkey.
3) Press the **Datalink** Softkey.
4) When finished, press the **Back** Softkey.

Cell Movement (SiriusXM)

Displaying Cell Movement information on the 'Map - Weather Data Link (XM)' Page:

1) Select the 'Map - Weather Data Link (XM)' Page using the **FMS** Knob.
2) Press the **Cell MOV** Softkey.

Setting up the system to display Cell Movement with NEXRAD on navigation maps:

1) Use the **FMS** Knob to select the 'Map - Navigation Map' Page.
2) Press the **MENU** Key.
3) With 'Map Settings' highlighted, press the **ENT** Key.
4) Turn the small **FMS** Knob to highlight 'Weather' and press the **ENT** Key.
5) Turn the large **FMS** Knob to 'On' or 'Off' for the Cell Movement menu option. When set to 'On', Cell Movement is enabled/disabled with the NEXRAD weather product on navigation maps. When set to 'Off', Cell Movement is not displayed on navigation maps.
6) When finished, push the **FMS** Knob or **CLR** Key to remove the menu.

Infrared Satellite (Garmin Connext)

Displaying Infrared Satellite information:

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

SIGMETs and AIRMETs

Displaying SIGMETs and AIRMETs:

1) Select the 'Map- Weather Data Link (XM, CNXT, or FIS-B)' Page.
2) Press the **SIG/AIR** Softkey.
3) To view the text of the SIGMET or AIRMET, push the **Joystick** and move the Map Pointer over the icon.
4) Press the **ENT** key. The following figure shows sample SIGMET text.

METARs and TAFs

Displaying METAR and TAF text on the MFD:

1) On the 'Map - Weather Data Link (XM or FIS-B or CNXT)' Page, press the **METAR** Softkey.
2) Push the **Joystick** 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) Push the **FMS** Knob or the **CLR** Key to return to the Weather Data Link Page.

Displaying original METAR text on the 'Map - Active Flight Plan' Page:

1) Select the 'FPL - Active Flight Plan' Page on the MFD.
2) Push the **FMS** Knob to activate the cursor.
3) Turn the large **FMS** Knob to highlight a waypoint with an available METAR (indicated with a METAR flag next to it). The METAR text will appear in the 'Selected Waypoint Weather' Window below.
4) When finished, push the **FMS** Knob to remove the cursor or press the **FPL** Key to exit the Active Flight Plan Page.

Original METAR text is also accessible on navigation maps displaying METAR flags. When the map pointer is panned over a METAR flag, the METAR text is shown in a box near the flag.

Displaying original METAR text information on the PFD Inset Map:

1) On the PFD, press the **Map/HSI** Softkey.
2) Press the **METAR** Softkey.
3) Push the **Joystick** and pan to the desired METAR flag. Original METAR text appears on the map.
4) When finished, push the **Joystick** to remove the Map Pointer.

Surface Analysis and City Forecast (SiriusXM)

Displaying Surface Analysis and City Forecast information:

1) Select the 'Map - Weather Data Link (XM)' Page.
2) Press the **More WX** Softkey.

3) Press the **SFC** Softkey.
4) Press the softkey for the desired forecast time: **Current**, **12 HR**, **24 HR**, **36 HR**, or **48 HR**. The **SFC** Softkey label changes to show the forecast time selected.

   Or:

   Press the **Off** Softkey to disable the display of the weather product.

Freezing Level (SiriusXM)

Displaying Freezing Level information:

1) Select the 'Map - Weather Data Link (XM)' Page.
2) Press the **More WX** Softkey.
3) Press the **FRZ LVL** Softkey.

Winds Aloft

Displaying the Winds Aloft weather product:

1) Select the 'Map - Weather Data Link (XM)' Page.
2) Press the **More WX** Softkey.
3) Press the **Wind** Softkey.
4) Select a softkey for the desired altitude level: **SFC** (surface) up to 42,000 feet. Press the **Next** or **Prev** Softkey to cycle through the altitude softkeys. The **Wind** Softkey label changes to reflect the altitude selected.

Headwind Symbol	Tailwind Symbol	Headwind/Tailwind Component
None	None	Less than 5 knots
		5 knots
		10 knots
		50 knots

VSD Headwind/Tailwind Component Symbols

Enabling/disabling the Vertical Situation Display (containing winds aloft data):

1) Select the 'Map - Navigation Map' Page.
2) Press the **Map Opt** Softkey.

3) Press the **Inset** Softkey.
4) Press the **VSD** Softkey to enable/disable the Vertical Situation Display.

Enabling/disabling winds aloft data display for the VSD:

1) Select the 'Map - Navigation Map' Page.
2) Press the **MENU** Key.
3) With 'Map Settings' highlighted, press the **ENT** Key.
4) Turn the small **FMS** Knob to select 'VSD' and press the **ENT** Key.
5) Turn the large **FMS** Knob to highlight the Winds on/off field.
6) Turn the small **FMS** Knob to select 'On' or 'Off'.
7) Push the **FMS** Knob or **CLR** Key to return to the 'Map - Navigation Map' Page with the changed settings.

County Warnings (SiriusXM)

Displaying County Warning information:

1) Select the 'Map - Weather Data Link (XM)' Page.
2) Press the **More WX** Softkey.
3) Press the **County** Softkey.

Cyclone (SiriusXM)

Displaying cyclone (hurricane) track information:

1) Select the 'Map - Weather Data Link (XM)' Page.
2) Press the **More WX** Softkey.
3) Press the **Cyclone** Softkey.

Icing (CIP & SLD) (SiriusXM)

Displaying Icing data:

1) Select the 'Map - Weather Data Link (XM)' Page.
2) Press the **More WX** Softkey.
3) Press the **ICNG** Softkey.
4) Select a softkey for the desired altitude level: 1,000 feet up to 30,000 feet. Press the **Next** or **PREV** Softkey to cycle through the altitude softkeys. The **ICNG** Softkey label changes to indicate the altitude selected.

Turbulence (SiriusXM)

Displaying Turbulence data:

1) Select the 'Map - Weather Data Link (XM)' Page.
2) Press the **More WX** Softkey.

3) Press the **TURB** Softkey.
4) Select a softkey for the desired altitude: 21,000 feet up to 45,000 feet. Press the **Next** or **PREV** Softkey to cycle through the altitude softkeys. The **TURB** Softkey label changes to indicate the altitude selection.

PIREPs and AIREPs

Displaying PIREP and AIREP text:

1) Select the 'Map - Weather Data Link (XM or FIS-B or CNXT)' Page.
2) Press the **More WX** Softkey.
3) Press the **PIREPS** or **AIREPS** Softkey. (Note the **AIREPS** Softkey is only available with the SiriusXM Weather service.)
4) Push the **Joystick** 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 Weather Information Page is shown with PIREP or AIREP text. The data is first displayed in a decoded fashion, followed by the original text. Note the original text may contain additional information not present in the decoded version.
6) Use the **FMS** Knob or the **ENT** Key to scroll through the PIREP or AIREP text.
7) Push the **FMS** Knob or the **CLR** Key to return to the Weather Data Link Page.

TFRS

Displaying TFR Data:

1) Select the 'Map - Weather Data Link (XM. CNXT, or FIS-B)' Page or Navigation Map' Page.
2) Push the **Joystick** 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) Push the **FMS** Knob or the **CLR** Key to remove the TFR Information window.

Setting up and customizing TFR data for maps on which TFR data can be displayed:

1) Select the 'Map - Navigation Map' Page.
2) Press the **MENU** Key.
3) With 'Map Settings' highlighted, press the **ENT** Key.
4) Turn the small **FMS** Knob to select the 'Aviation' Group and press the **ENT** Key.
5) Turn the large **FMS** Knob to scroll to the TFR product range settings.
6) Turn the small **FMS** Knob to scroll through options (Off, range settings).
7) Press the **ENT** Key to select an option.

8) Push the **FMS** Knob or **CLR** Key to return to the 'Map - Navigation Map' Page with the changed settings.

FIS-B WEATHER STATUS

Viewing FIS-B status:

1) Turn the large **FMS** Knob to select the Aux Page Group.
2) Turn the small **FMS** Knob to select the 'Aux - ADS-B Status' Page.

Enabling/disabling the FIS-B weather feature:

1) Select the 'Map - Weather Data Link (FIS-B)' Page.
2) Press the **MENU** Key.
3) Turn the small **FMS** Knob to highlight 'Enable FIS-B Weather' or 'Disable FIS-B Weather', and press the **ENT** Key.

STORMSCOPE LIGHTNING DETECTION SYSTEM

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	

Lightning Age and Symbols

USING THE STORMSCOPE PAGE

Adjusting the 'Map - Stormscope®' Page Range:

1) Turn the large **FMS** Knob to select the Map Page Group.
2) Turn the small **FMS** Knob to select the 'Map - Stormscope®' Page.
3) Turn the **Joystick** clockwise to increase the map range or counter-clockwise to decrease the map range.

Selecting 'cell' or 'strike' mode: on the 'Map - Stormscope®' Page:

1) Select the 'Map - Stormscope®' Page.
2) Press the **Mode** Softkey. The **Cell** and **Strike** softkeys are displayed.

3) Press the **Cell** Softkey to display 'CELL' data or select the **Strike** Softkey to display 'STRIKE' data. 'CELL' or 'STRIKE' is displayed in the mode box in the upper right corner of the 'Map - Stormscope®' Page.

4) Press the **Back** Softkey to return to the top level softkeys for the 'Map - Stormscope®' Page.

ADDITIONAL STORMSCOPE DISPLAYS

Displaying Stormscope information on MFD navigation maps:

1) Press the **Map Opt** Softkey.
2) Press the **STRMSCP** Softkey.

Setting up Stormscope options on the 'Map - Navigation Map' Page:

1) On the 'Map - Navigation Map' Page, press the **MENU** Key.
2) With 'Map Settings' selected, press the **ENT** Key.
3) Turn the small **FMS** Knob to display the group selection window. Turn the small **FMS** Knob to select 'Weather', and press the **ENT** Key.
4) Turn the large **FMS** Knob to highlight and move between the product selections:
   - Stormscope On/Off field – Enables/disables the display of Stormscope lightning symbols.
   - Stormscope maximum display range – Selects the maximum map range to display Stormscope symbols. Stormscope data is removed when a map range greater than this value is selected.
   - Stormscope Mode – Selects the Cell or Strike mode of lightning activity. Cell mode identifies clusters or cells of electrical activity. Strike mode indicates the approximate location of lightning strikes.
5) When an item is highlighted, turn the small **FMS** Knob to select the option.
6) Press the **ENT** Key.
7) Push the **FMS** Knob to remove the menu.

Displaying Stormscope information on PFD maps:

1) On the PFD, press the **Map/HSI** Softkey.
2) Press the **Lightning** Softkey.
3) Press the **STRMSCP** Softkey.

STORMSCOPE ABNORMAL OPERATIONS

Manually clearing Stormscope lightning symbols from map displays:

1) Select the 'Map - Stormscope®' Page.
2) Press the **Clear** Softkey.

TERRAIN DISPLAYS

On-Ground Legend

In-Air Legend

Relative Terrain Legend

TERRAIN PAGE

Displaying the terrain page:

1) Turn the large **FMS** Knob to select the Map Page Group.
2) Turn the small **FMS** Knob to select the 'Map - Terrain Proximity/Terrain-SVT/TAWS-B' Page.

Showing/hiding aviation information on the terrain page:

1) Press the **MENU** Key.
2) Turn the **FMS** Knob to highlight 'Show Aviation Data' or 'Hide Aviation Data' (choice dependent on current state) and press the **ENT** Key.

Customizing terrain and obstacle display on the 'Map - Navigation Map' Page:

1) Select the 'Map - Navigation Map' Page.
2) Press the **MENU** Key.
3) With 'Map Settings' highlighted, press the **ENT** Key.
4) Turn the small **FMS** Knob to select the 'Map' Group and press the **ENT** Key.
5) Turn the large **FMS** Knob or press the **ENT** Key to scroll through product selections.
   - Terrain Display – Enables the display of relative ('REL') terrain data or select 'Off' to disable; also sets maximum map range at which terrain is shown.
   - Point Obstacle – Enables/disables the display of obstacle data on or off and sets maximum range at which obstacles are shown.
   - Wire Obstacle – Enables/disables the display of wire obstacle data and sets maximum range at which wire obstacles are shown.

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) Push the **FMS** Knob or **CLR** Key to return to the 'Map - Navigation Map' Page with the changed settings.

VERTICAL SITUATION DISPLAY (VSD) TERRAIN

Enabling/Disabling the Vertical Situation Display (VSD):

1) Select the 'Map - Navigation Map' Page.
2) Press the **Map Opt** Softkey.
3) Press the **Inset** Softkey.
4) Press the **VSD** Softkey to enable or disable the VSD.

Selecting a VSD Mode:

1) Select the 'Map - Navigation Map' Page.
2) Press the **Inset** Softkey.
3) Press the **VSD** Softkey displaying the VSD mode in cyan. Each press of the softkey cycles through a mode selection: FPL (flight plan), TRK (track), or Auto.

Customizing the Track Mode Boundary display on the 'Map - Navigation Map' Page:

1) Select the 'Map - Navigation Map' Page.
2) Press the **MENU** Key.
3) With 'Map Settings' highlighted, press the **ENT** Key.
4) Turn the small **FMS** Knob to select the 'VSD' Group, then press the **ENT** Key.
5) Turn the large **FMS** Knob or press the **ENT** Key to scroll through product selections.
   - TRK Mode BNDRY – Enables/disables the display of the Track Mode Boundary and sets maximum range at which Track Mode Boundary is shown.
6) Turn the small **FMS** Knob to scroll through options (On/Off range settings).
7) Press the **ENT** Key to select an option.
8) Push the **FMS** Knob or **CLR** Key to return to the 'Map - Navigation Map' Page with the changed settings.

INHIBITING ALERTING

Inhibiting/enabling TAWS-B or Terrain-SVT Alerting:

1) Select the Terrain page.
2) Press the **Inhibit** Softkey. Alerting is inhibited when softkey annunciator is green.

   Or:

a) Press the **MENU** Key.

b) Turn the **FMS** Knob to highlight the desired inhibit or enable option and press the **ENT** Key.

SYSTEM STATUS

Manually testing the TAWS-B System:

1) Select the 'Map - TAWS-B' Page.
2) Press the **MENU** Key.
3) Select 'Test TAWS System' and press the **ENT** Key to confirm the selection.

TAS TRAFFIC

Symbol	Description
	Traffic Advisory with ADS-B directional information. Arrow points in the direction of the intruder aircraft track.
	Traffic Advisory without directional information.
	Traffic Advisory with ADS-B directional information is beyond the selected display range. Displayed at outer range ring at proper bearing. Arrow points in the direction of the intruder aircraft track.
	Traffic Advisory out of the selected display range without directional information. Displayed at outer range ring at proper bearing.
	Proximity Advisory with ADS-B directional information. Arrow points in the direction of the aircraft track.
	Proximity Advisory without directional information.
	Other Non-Threat traffic with ADS-B directional information. Arrow points in the direction of the intruder aircraft track.
	Other Non-Threat traffic without directional information.
	Traffic located on the ground with ADS-B directional information. Arrow points in the direction of the aircraft track. Ground traffic is only displayed when ADS-B is in Surface (SURF) Mode or own aircraft is on the ground.

Symbol	Description
	Ground traffic without ADS-B directional information. Ground traffic is only displayed when ADS-B is in Surface (SURF) Mode or own aircraft is on the ground.
	Non-aircraft ground traffic with ADS-B directional information. Pointed end indicates direction of travel. Ground traffic is only displayed when ADS-B is in Surface (SURF) Mode or own aircraft is on the ground.
	Non-aircraft ground traffic without ADS-B directional information. Ground traffic is only displayed when ADS-B is in Surface (SURF) Mode or own aircraft is on the ground.

TAS Traffic with ADS-B Traffic Symbology with GTX 345R Transponder

TAS Symbol	Description
	Non-Threat Traffic
	Proximity Advisory (PA)
	Traffic Advisory (TA)
	Traffic Advisory Off Scale

TAS Symbol Description with GTX 335 Transponder

'MAP - TRAFFIC MAP' PAGE

Displaying traffic on the 'Map - Traffic Map' Page:

1) Turn the large **FMS** Knob to select the Map Page Group.
2) Turn the small **FMS** Knob to select the 'Map - Traffic Map' Page.
3) Press the **Operate** or **TAS OPER** Softkey to begin displaying traffic.
4) Press the **Standby** or **TAS STBY** Softkey to place the system in the Standby mode.

Testing the Traffic System:

1) Turn the large **FMS** Knob to select the 'Map - Traffic Map' Page.
2) Turn the Joystick to adjust the map range to 2 NM for the inner range ring, and 6 NM for the outer range ring. This ensures the full traffic test pattern is depicted on the map.
3) If the traffic system is in Operating Mode, press the **Standby** or **TAS STBY** Softkey.

4) Select the **Test** Softkey.

Selecting a TAS Operating Mode:

1) Select the 'Map - Traffic Map' Page.
2) To select Standby Mode, press the **Standby** or **TAS STBY** Softkey.

Changing the altitude range of traffic display:

1) On the 'Map - Traffic Map' Page, select the **ALT Mode** Softkey.
2) Select one of the following Softkeys:
   - **Above:** Displays non-threat and proximity traffic from 9000 feet above the aircraft to 2700 feet below the aircraft. Typically used during climb phase of flight.
   - **Normal:** Displays non-threat and proximity traffic from 2700 feet above the aircraft to 2700 feet below the aircraft. Typically used during enroute phase of flight.
   - **Below:** Displays non-threat and proximity traffic from 2700 feet above the aircraft to 9000 feet below the aircraft. Typically used during descent phase of flight.
   - **UNREST** (unrestricted)**:** All traffic is displayed from 9900 feet above and 9900 feet below the aircraft.
3) To return to the 'Map - Traffic Map' Page, press the **Back** Softkey.

Changing the display range on the 'Map - Traffic Map' Page:

1) Turn the **Joystick**.
2) The following range options are available:
1) Turn the **Joystick**.
2) The following range options are available:
   - 750 ft (with optional ADS-B).
   - 750 ft and 1500 ft (with optional ADS-B).
   - 1500 ft and 0.5 nm (with optional ADS-B).
   - 0.5 nm and 1 nm (with optional ADS-B).
   - 1 nm and 2 nm (with optional ADS-B).
   - 2 and 6 nm.
   - 6 and 12 nm.
   - 12 and 24 nm.
   - 24 and 40 nm.

Additional Traffic Displays

Enabling/disabling traffic information (MFD navigation map):

1) Select the **Map Opt** Softkey.
2) Select the **Traffic** Softkey to enable/disable the traffic overlays.

3) Press the **Back** Softkey to return to the top-level softkeys.

Customizing the traffic display on the 'Map - Navigation Map' Page:

1) Select the 'Map - Navigation Map' Page.
2) Press the **MENU** Key.
3) With 'Map Settings' highlighted, press the **ENT** Key.
4) Turn the small **FMS** Knob to select the Traffic Group and press the **ENT** Key.
5) Turn the large **FMS** Knob or press the **ENT** Key to scroll through the selections.
   - Traffic – Turns the display of traffic data on or off.
   - Traffic Mode – Selects the traffic mode for display; select from:
     - All Traffic - Displays all traffic.
     - TA/PA - Displays Traffic Advisories and Proximity Advisories.
     - TA Only - Displays Traffic Advisories only.
   - Traffic Symbols – Selects the maximum range at which traffic symbols are shown.
   - Traffic Labels – Selects the maximum range at which traffic labels are shown with the option to turn off.
6) Turn the small **FMS** Knob to scroll through options (On/Off, range settings, etc.).
7) Press the **ENT** Key to select an option.
8) Push the **FMS** Knob or **CLR** Key to return to the 'Map - Navigation Map' Page.

Enabling/disabling traffic information on HSI map:

1) With the Inset Map or HSI Map displayed, press the **Map/HSI** Softkey.
2) Press the **Traffic** Softkey to enable/disable the traffic overlay.
3) Press the **Back** Softkey to return to the top-level PFD softkeys.

Enabling/disabling traffic overlay on PFD navigation maps:

1) With the Inset Map or HSI Map displayed, press the **Map/HSI** Softkey.
2) Press the **Traffic** Softkey to enable/disable the display traffic information.

ADS-B TRAFFIC

Symbol	Description
	Traffic Advisory with directional information. Points in the direction of the intruder aircraft track.
	Traffic Advisory without directional information.

Symbol	Description
	Traffic Advisory out of the selected display range with directional information. Displayed at outer range ring at proper bearing.
	Traffic Advisory out of the selected display range without directional information. Displayed at outer range ring at proper bearing.
	Proximity Advisory with directional information. Points in the direction of the aircraft track.
	Proximity Advisory without directional information.
	Other Non-Threat traffic with directional information. Points in the direction of the intruder aircraft track.
	Other Non-Threat traffic without directional information.
	Traffic located on the ground with directional information. Points in the direction of the aircraft track. Ground traffic is only displayed when ADS-B is in Surface (SURF) Mode or own aircraft is on the ground.
	Ground traffic without directional information. Ground traffic is only displayed when ADS-B is in Surface (SURF) Mode or own aircraft is on the ground.
	Non-aircraft ground traffic with ADS-B directional information. Pointed end indicates direction of travel. Ground traffic is only displayed when ADS-B is in Surface (SURF) Mode or own aircraft is on the ground.
	Non-aircraft ground traffic. Ground traffic is only displayed when ADS-B is in Surface (SURF) Mode or own aircraft is on the ground.

ADS-B Traffic Symbology

OPERATION

'Map - Traffic MAP' Page

Enabling/disabling the display of ADS-B traffic.

1) Select the 'Map - Traffic Map' Page.
2) Press the **ADS-B** Softkey.

   Or:

   a) Press the **MENU** Key and turn the small **FMS** Knob to highlight 'ADS-B On' or 'ADS-B Off'.

   b) Press the **ENT** Key.

Testing the display of ADS-B traffic:

1) Select the 'Map - Traffic Map' Page.
2) If necessary, turn the Joystick to select a map range of 2 and 6 nm to ensure full test pattern display.
3) Ensure the **ADS-B** Softkey is disabled. Otherwise the test mode is not available.
4) If the optional TAS is installed, ensure the **TAS STBY** Softkey is enabled.
5) Press the **Test** Softkey.

   Or:

   a) Press the **MENU** Key.
   b) Turn the small **FMS** Knob to highlight 'Test Mode'.
   c) Press the **ENT** Key.

Changing the altitude range:

1) On the 'Map - Traffic Map' Page, select the **ALT Mode** Softkey.
2) Select one of the following softkeys:

   - **Above:** Displays Other Non-Threat and proximity traffic from 9900 feet above the aircraft to 2700 feet below the aircraft. Typically used during climb phase of flight.
   - **Normal:** Displays Other Non-Threat and proximity traffic from 2700 feet above the aircraft to 2700 feet below the aircraft. Typically used during enroute phase of flight.
   - **Below:** Displays Other Non-Threat and proximity traffic from 2700 feet above the aircraft to 9900 feet below the aircraft. Typically used during descent phase of flight.
   - **UNREST** (unrestricted)**:** All traffic is displayed from 9900 feet above and 9900 feet below the aircraft.

3) To return to the 'Map - Traffic Map' Page, select the **Back** Softkey.

Enabling/disabling the Motion Vector display:

1) Select the 'Map - Traffic Map' Page.
2) Select the **Motion** Softkey.
3) Press one of the following softkeys:

   - **Absolute:** Displays the motion vector pointing in the absolute direction.
   - **Relative**: Displays the motion vector relative to own aircraft.
   - **Off**: Disables the display of the motion vector.

Adjusting the duration for the Motion Vector projected time:

1) Select the 'Map -Traffic Map' Page.
2) Press the **Motion** Softkey.
3) Press the **Duration** Softkey.
4) Press a softkey for the desired duration (**30 SEC**, **1 MIN**, **2 MIN**, **5 MIN**).

5) When finished, select the **Back** Softkey to return to the 'Map -Traffic Map' Page.

Showing additional traffic information:

1) Select the 'Map -Traffic Map' Page.
2) Push the **FMS** Knob. The first selected traffic symbol is highlighted in cyan. Additional information appears in a window in the upper-right corner of the 'Map - Traffic Map' Page.
3) To select a different aircraft symbol, turn the **FMS** Knob to move the cyan bracket until the selected aircraft traffic symbol is highlighted.
4) When finished, push the **FMS** Knob again to disable the traffic selection.

Changing the display range on the 'Map - Traffic Map' Page:

1) Turn the **Joystick**.
2) The following range options are available:
   - 750 ft.
   - 750 ft and 1500 ft.
   - 1500 ft and 0.5 nm.
   - 0.5 nm and 1 nm.
   - 1 and 2 nm.
   - 2 and 6 nm.
   - 6 and 12 nm.
   - 12 and 24 nm.
   - 24 and 40 nm.

Viewing ADS-B Traffic Status:

1) Turn the large **FMS** Knob to select the Aux Page Group.
2) Turn the small **FMS** Knob to select the 'Aux - ADS-B Status' Page.

Blank Page

AUTOMATIC FLIGHT CONTROL SYSTEM

FLIGHT DIRECTOR OPERATION

ACTIVATING THE FLIGHT DIRECTOR

An initial press of a key listed in the table below (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
TO/GA Switch	Takeoff (on ground) Go Around (in air)	TO GA	Takeoff (on ground) Go Around (in air)	TO 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 VOR LOC BC	Pitch Hold (default)	PIT
APR Key	Approach**	GPS VOR LOC	Pitch Hold (default)	PIT
HDG Key	Heading Select	HDG	Pitch Hold (default)	PIT
LVL Key	Level	LVL	Level	LVL

*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.

Flight Director Activation

AFCS MODES

VERTICAL MODES

Vertical Mode	Description	Control	Annunciation	
Pitch Hold	Holds the current 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 the current Altitude Reference	**ALT** Key	ALT	nnnnn FT
Vertical Speed	Maintains the current aircraft vertical speed; may be used to climb/descend to the Selected Altitude	**VS** Key	VS	nnnn FPM
Flight Level Change, IAS Hold	Maintains the current aircraft airspeed while the aircraft is climbing/descending to the Selected Altitude	**FLC** Key	FLC	nnn KT

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

Flight Director Vertical Modes

LATERAL MODES

The following table relates each Garmin AFCS lateral mode to its respective control and annunciation.

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

Lateral Mode	Description	Control	Annunciation
Navigation, GPS Arm/ Capture/Track	Captures and tracks the selected navigation source (GPS, VOR, LOC)	**NAV** Key	GPS
Navigation, VOR Enroute Arm/Capture/Track			VOR
Navigation, LOC Arm/ Capture/Track (No Glideslope)			LOC

Flight Director Lateral Modes

COMBINATION MODES (VNV, APR, NAV, BC, GA)

The following table lists the modes that operating by using both Vertical and Lateral Modes with their corresponding controls and annunciations.

Mode	Description	Control	Annunciation
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
Backcourse Arm/Capture/ Track	Captures and tracks a localizer signal for backcourse approaches	**NAV** Key	BC
Approach, GPS Arm/ Capture/Track	Captures and tracks the selected navigation source (GPS, VOR, LOC)	**APR** Key	GPS
Approach, VOR Arm/ Capture/Track			VAPP
Approach, ILS Arm/Capture/ Track (Glideslope Mode automatically armed)			LOC

Mode	Description	Control	Annunciation
Takeoff	Commands a constant pitch angle and wings level on the ground in preparation for takeoff	**TO/GA** Switch	TO
Go Around	Commands a constant pitch angle and wings level in the air		GA

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

Flight Director Combination Modes

Approach Modes (GPS, VAPP, LOC)

Selecting VOR Approach Mode:

1) Ensure a valid VOR frequency is tuned.
2) Ensure that VOR is the selected navigation source (use the **CDI** Softkey to cycle through navigation sources if necessary).
3) Press the **APR** Key.

Selecting GPS Approach Mode without a Glidepath:

1) Ensure a SBAS approach is loaded into the active flight plan. The active waypoint must be part of the flight plan (cannot be a direct-to a waypoint not in the flight plan).
2) Ensure that GPS is the selected navigation source (use the **CDI** Softkey to cycle through navigation sources if necessary).
3) Press the **NAV** Key.

Glidepath Mode (GP)

Glidepath Mode is used to track the WAAS-based glidepath. When Glidepath Mode is armed, 'GP' is annunciated in white in the AFCS Status Box.

Selecting GPS Approach Mode with a Glidepath:

1) Ensure a SBAS approach with vertical guidance (LPV, LNAV/VNAV, LP+V, LNAV+V) is loaded into the active flight plan. The active waypoint must be part of the flight plan (cannot be a direct-to a waypoint not in the flight plan).
2) Ensure that GPS is the selected navigation source (use the **CDI** Softkey to cycle through navigation sources if necessary).
3) Press the **APR** Key.

WARNING: *Do not rely on the autopilot to level the aircraft at the MDA/DH when flying an approach with vertical guidance. The autopilot will not level the aircraft at the MDA/DH even if the MDA/DH is set in the altitude preselect.*

Glideslope Mode (GS)

Selecting LOC Approach Mode without a Glideslope:

1) Ensure a valid localizer frequency is tuned.
2) Ensure that LOC is the selected navigation source (use the **CDI** Softkey to cycle through navigation sources if necessary).
3) Press the **NAV** Key.

Or:

1) Ensure that GPS is the selected navigation source (use the **CDI** Softkey to cycle through navigation sources if necessary).
2) Ensure a LOC/ILS approach is loaded into the active flight plan.
3) Ensure the corresponding LOC frequency is tuned.
4) Press the **APR** Key.

Selecting LOC Approach Mode with a Glideslope:

1) Ensure a valid localizer frequency is tuned.
2) Ensure that LOC is the selected navigation source (use the **CDI** Softkey to cycle through navigation sources if necessary).
3) Press the **APR** Key.

Or:

1) Ensure that GPS is the selected navigation source (use the **CDI** Softkey to cycle through navigation sources if necessary).
2) Ensure a LOC/ILS approach is loaded into the active flight plan.
3) Ensure the corresponding LOC frequency is tuned.
4) Press the **APR** Key.

Blank Page

ADDITIONAL FEATURES

SAFETAXI

SafeTaxi is an enhanced feature that gives greater map detail when viewing airports at close range. The maximum map ranges for enhanced detail are pilot configurable. When viewing at ranges close enough to show the airport detail, the map reveals taxiways with identifying letters/numbers, airport Hot Spots, and airport landmarks including ramps, buildings, control towers, and other prominent features. Resolution is greater at lower map ranges. When the MFD display is within the SafeTaxi ranges, the airplane symbol on the airport provides enhanced position awareness.

Designated Hot Spots are recognized at airports with many intersecting taxiways and runways, and/or complex ramp areas. Airport Hot Spots are outlined to caution pilots of areas on an airport surface where positional awareness confusion or runway incursions happen most often. Hot Spots are defined with a magenta circle or outline around the region of possible confusion.

Configuring SafeTaxi range:

1) While viewing the 'Map - Navigation Map' Page, press the **MENU** Key to display the 'Page Menu.'
2) Turn the large **FMS** Knob to highlight the 'Map Settings' Menu Option and press the **ENT** Key.
3) Turn the **FMS** Knob to select the 'Aviation' Group and press the **ENT** Key.
4) Turn the large **FMS** Knob to scroll through the 'Aviation' Group options to SafeTaxi.
5) Turn the small **FMS** Knob to display the SafeTaxi range of distances.
6) Turn the large **FMS** Knob to select the desired distance for maximum SafeTaxi display range.
7) Press the **ENT** Key to complete the selection.
8) Push the **FMS** Knob to return to the 'Map - Navigation Map' Page.

CHARTS

Selecting preferred charts source:

1) While viewing a chart press the **MENU** Softkey to display the Page Menu options.
2) Turn the large **FMS** Knob to highlight the 'Charts Setup' menu option and press the **ENT** Key.
3) Turn the large **FMS** Knob to move to the 'Preferred Charts Source' option.
4) Turn the small **FMS** Knob to choose between the available options (FliteCharts, ChartView).

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 approach charts and on airport diagrams. Airport Hot Spots are outlined in magenta.

NOTE: *Do not maneuver the aircraft based solely upon the georeferenced aircraft symbol.*

Selecting terminal procedures charts:

While viewing the 'Map - Navigation Map' Page, 'NRST - Nearest Airport' Page, or 'FPL - Active Flight Plan' Page, press the **Charts** Softkey.

Or:

1) Press the **MENU** Key to display the Page Menu.
2) Turn the large **FMS** Knob to scroll through the 'Options' Menu and select Show Charts.
3) Press the **ENT** Key to display the charts.
4) Use the softkeys at the bottom of the screen to select the appropriate chart.

Selecting a chart:

1) While viewing the 'Map - Navigation Map' Page, 'FPL - Active Flight Plan' Page, or 'NRST - Nearest Airports' Page, press the **Charts** Softkey. The airport diagram or approach chart is displayed on the 'WPT - Airport Information' Page. (Press the **APR** Softkey if not already selected).
2) Push the **FMS** Knob to activate the cursor.
3) Turn the large **FMS** Knob to select either the Airport Identifier Box or the 'Charts' Box.
4) Turn the small and large **FMS** Knob to enter the desired airport identifier.
5) Press the **ENT** Key to complete the airport selection.
6) Turn the large **FMS** Knob to select the 'Charts' Box.
7) Turn the small **FMS** Knob to show the approach chart selection choices.
8) Turn either **FMS** Knob to scroll through the available charts.
9) Press the **ENT** Key to complete the chart selection.

Day/Night View

Selecting day, night, or automatic view:

1) While viewing a terminal chart press the **MENU** Key to display the Page Menu Options.
2) Turn the large **FMS** Knob to highlight the 'Charts Setup' Menu Option and press the **ENT** Key.

3) Turn the large **FMS** Knob to move to the 'Color Scheme' Option.
4) Turn the small **FMS** Knob to choose between 'Day', 'Auto', and 'Night' Options.
5) If Auto Mode is selected, turn the large **FMS** Knob to select the percentage field. Use the small **FMS** Knob to change the percentage value. The percentage value is the day/night crossover point based on the percentage of backlighting intensity. For example, if the value is set to 15%, the day/night display changes when the display backlight reaches 15% of full brightness.

   The display must be changed in order for the new setting to become active. This may be accomplished by selecting another page or changing the display range.
6) Push the **FMS** Knob when finished to remove the 'Charts Setup' Menu.

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 georeferenced aircraft position is indicated by an aircraft symbol displayed on the chart when the current position is within the boundaries of the chart. Not all charts are georeferenced. These charts will display an Aircraft Not Shown Icon in the lower right corner of the MFD.

NOTE: *Do not maneuver the aircraft based solely upon the georeferenced aircraft symbol.*

Terminal Procedures Charts

Selecting terminal procedures charts:

While viewing the 'Map - Navigation Map' Page, 'NRST - Nearest Airport' Page, or 'FPL - Active Flight Plan' Page, press the **Charts** Softkey.

Or:

1) Press the **MENU** Key to display the Page Menu.
2) Turn the large **FMS** Knob to scroll through the 'Options' Menu to 'Show Charts.'
3) Press the **ENT** Key to display the chart.

Selecting a chart:

1) While viewing the 'Map - Navigation Map' Page, 'FPL - Active Flight Plan' Page, or 'NRST - Nearest Airports' Page, press the **Charts** Softkey. The airport diagram or approach chart is displayed on the 'WPT - Airport Information' Page.
2) Push the **FMS** Knob to activate the cursor.
3) Turn the large **FMS** Knob to select either the Airport Identifier Box or the 'Charts' Box. (Press the **APR** Softkey if not already selected).
4) Turn the small and large **FMS** Knob to enter the desired airport identifier.

5) Press the **ENT** Key to complete the airport selection.
6) Turn the large **FMS** Knob to select the 'Charts' Box.
7) Turn the small **FMS** Knob to show the approach chart selection choices.
8) Turn either **FMS** Knob to scroll through the available charts.
9) Press the **ENT** Key to complete the chart selection.

Selecting full screen On or Off:

1) While viewing a terminal chart press the **MENU** Key to display the Page Menu Options.
2) Turn the large **FMS** Knob to highlight the 'Full Screen Off' Option and press the **ENT** Key.

The full screen view can be turned back on by following the previous steps and selecting 'Full Screen On' Option.

Day/Night View

Selecting day, night, or automatic view:

1) While viewing a terminal chart press the **MENU** Key to display the Page Menu 'Options.'
2) Turn the large **FMS** Knob to highlight the 'Charts Setup' Menu Option and press the **ENT** Key.
3) Turn the large **FMS** Knob to move to the 'Color Scheme' Option.
4) Turn the small **FMS** Knob to choose between 'Day', 'Auto', and 'Night' Options.
5) If Auto Mode is selected, turn the large **FMS** Knob to select the percentage field. Use the small **FMS** Knob to change the percentage value. The percentage value is the day/night crossover point based on the percentage of backlighting intensity. For example, if the value is set to 15%, the day/night display changes when the display backlight reaches 15% of full brightness.

   The display must be changed in order for the new setting to become active. This may be accomplished by selecting another page or changing the display range.
6) Push the **FMS** Knob when finished to remove the 'Charts Setup' Menu.

IFR/VFR CHARTS

Selecting IFR Low, IFR High, VFR Charts:

1) Select the 'Map - IFR/VFR Charts' Page.
2) Press the **VFR**, **IFR Low**, or **IFR High** Softkey to display the desired chart.

Or:

1) Press the **MENU** Key to display the 'Page Menu.'
2) Select 'Display VFR', 'Display IFR Low' or 'Display IFR High' to display the desired chart.
3) Press the **ENT** Key.

SATELLITE PHONE AND SMS MESSAGING

REGISTERING WITH GARMIN CONNEXT

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 (GSR 1) and the System ID by selecting the 'Aux - System Status' Page. Contact Garmin at flygarmin.com.

Disabling/enabling telephone and low speed data services:

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 - Satellite Phone' Page.
3) If necessary, press the **Phone** Softkey to display the 'Aux - Telephone' Page.
4) Press the **MENU** Key. The Page Menu window is now displayed.
5) Turn the **FMS** Knob to select 'Disable Iridium Transmission' in the menu list.
6) Press the **ENT** Key. The Iridium transceiver is now disabled.
7) To enable the Iridium transceiver, repeat steps 1 through 4, then select 'Enable Iridium Transceiver'.

TELEPHONE COMMUNICATION

Viewing the Satellite Phone Page:

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 - Satellite Phone' page.
3) If necessary, press the **Phone** Softkey to display the 'Aux - Satellite Phone' Page.

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

Internal Phone	External Phone	Description
		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

Contacts

Entering a new contact:

1) With the 'Aux - Satellite Phone' Page displayed, press the **FMS** Knob to display the cursor.
2) If necessary, turn either **FMS** Knob to place the cursor on 'New Entry'.
3) Press the **ENT** Key. The cursor moves the 'Name' field of the 'Contact Details' window.
4) Enter the desired name of the new contact. Entry can be accomplished through the alphanumeric keys on the PFD/MFD Controller, the **FMS** Knob on the PFD/MFD Controller, or via the **FMS** Knob on the MFD.
5) Press the **ENT** Key. The cursor moves to the 'Phone Number' field.
6) Enter the desired telephone number. Entry can be accomplished through the alphanumeric keys on the PFD/MFD Controller, the **FMS** Knob on the PFD/MFD Controller, or via the **FMS** Knob on the MFD.
7) Press the **ENT** Key. The cursor moves to the 'Email' field.

8) Enter the desired email address. Entry can be accomplished through the alphanumeric keys on the PFD/MFD Controller, the **FMS** Knob on the PFD/MFD Controller, or via the **FMS** Knob on the MFD.
9) Press the **Symbols** Softkey to display the "at" symbol, the period, and other special characters.
10) Press the **ENT** Key. The **Save** Button is highlighted.
11) Press the **ENT** Key. The new contact entry is added to the list of saved contacts.

Deleting a contact:

1) With the 'Aux - Satellite Phone' Page displayed, press the **FMS** Knob to display the cursor.
2) Turn either **FMS** Knob to place the cursor on the desired contact name.
3) Press the **Delete** Softkey. A confirmation window is displayed.
4) With 'OK' highlighted, press the **ENT** Key to delete the selected contact.

Editing a contact:

1) With the 'Aux - Satellite Phone Page' displayed, press the **FMS** Knob to display the cursor.
2) Turn either **FMS** Knob to place the cursor on the desired contact name.
3) Press the **Edit** Softkey. The cursor is placed in the 'Name' field. Enter the desired changes. Entry can be accomplished through the alphanumeric keys on the PFD/MFD Controller, the **FMS** Knob on the PFD/MFD Controller, or via the **FMS** Knob on the MFD.
4) Press the **ENT** Key when each field is complete. The **Save** Button is now highlighted.
5) Press the **ENT** Key to save the changes.

Incoming Calls

Answering an incoming call in the cockpit:

1) Press the **Phone** Key on the audio panel.
2) Press the **Answer** Softkey on the MFD.

Or:

While viewing the 'Aux - Satellite Phone' Page:

1) Press the **Phone** 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.

Muting incoming call alerts:

1) With the 'Aux - Satellite Phone' 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

Making an external call from the cockpit using the Iridium satellite network:

1) Press the **Phone** Key on the audio panel.
2) With the 'Aux - Satellite Phone' Page displayed, press the **Dial** Softkey on the MFD.
3) Enter the desired telephone number (country code first) by using the **FMS** Knob on the MFD..
4) Press the **ENT** Key. 'OK' is highlighted.
5) Press the **ENT** Key. The system will begin calling the number.

Making an external call from the cockpit by using the Contact List:

1) Press the **Phone** Key on the audio panel.
2) With the 'Aux - Satellite Phone' Page displayed, press the **FMS** Knob to activate the cursor.
3) Turn the small **FMS** Knob to select the desired contact name in the list of contacts.
4) Press the **Call** Softkey. The external call is initiated and the number associated with the contact name is dialed.

Placing a call on hold:

Press the **Hold** Softkey on the MFD.

Or:

1) Press the **MENU** Key to display the Page Menu.
2) Turn either **FMS** Knob to place the cursor on 'Put Current Call On Hold'.
3) Press the **ENT** Key.

TEXT MESSAGING (SMS)

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 the 'Aux - 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

Message Symbol	Description
	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

Text Message Symbols

Enabling/disabling 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

Replying to a text message:

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

Or:

1) Press the **MENU** Key to display the Page Menu.
2) Turn either **FMS** Knob to place the cursor on 'Reply To Message'.
3) Press the **ENT** Key.

Sending a Text Message

Sending a new 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 SMS 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 use of the **FMS** Knob and softkeys on the MFD. The **FMS** Knob is used to enter letters, numbers and the "at" symbol, or numbers can be entered from the MFD by pressing the **Numbers** Softkey. Press the **CapsLock** 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 after confirming you want the message to be sent, 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

Creating 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 use of the **FMS** Knob and softkeys on the MFD. The **FMS** Knob is used to enter letters, numbers and the "at" symbol, or numbers can be entered from the MFD by pressing the **Numbers** Softkey. Press the **CapsLock** 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.

Or:

10) Press the **MENU** Key to display the Page Menu.
11) Turn either **FMS** Knob to place the cursor on 'Cancel Drafting Message'.
12) Press the **ENT** Key.

Sending a predefined text message:

1) While viewing the 'Aux - Text Messaging' Page, select the **New** Softkey.
2) The SMS Text Message Window is now displayed with the cursor in the 'To' field. Enter the desired telephone number or email address. Entry can be accomplished through use of the **FMS** Knob and softkeys on the MFD. The **FMS** Knob is used to enter letters, numbers and the "at" symbol, or numbers can be entered from the MFD by pressing the **Numbers** Softkey. Press the **CapsLock** 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) Turn either **FMS** Knob to select the desired predefined message.
6) 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.
7) Press the **ENT** Key.
8) Press the **Send** Softkey to transmit the message.

Text Message Boxes

Showing Inbox messages:

While viewing the 'Aux - Text Messaging' Page, press the **Arrange** Softkey, then press the **Outbox** Softkey and the **Drafts** Softkey to only display the Inbox.

Or:

1) If the Inbox is not already displayed, press the **MENU** Key to display the Page Menu.
2) Turn either **FMS** Knob to place the cursor on 'Show Inbox Messages'.
3) Press the **ENT** Key. The message box selected for viewing is indicated at the bottom left of the list window.

Showing Outbox messages:

While viewing the 'Aux - Text Messaging' Page, press the **Arrange** Softkey, then press the **Inbox** Softkey and the **Drafts** Softkey to only display the Outbox.

Or:

1) If the Outbox is not already displayed, press the **MENU** Key to display the Page Menu.
2) Turn either **FMS** Knob to place the cursor on 'Show Outbox Messages'.
3) Press the **ENT** Key. The message box selected for viewing is indicated at the bottom left of the list window.

Showing Draft messages:

While viewing the 'Aux - Text Messaging' Page, press the **Arrange** Softkey, then press the **Inbox** Softkey and the **Outbox** Softkey to only display the Draft messages.

Or:

1) If the Draft messages are not already displayed, press the **MENU** Key to display the Page Menu.
2) Turn either **FMS** Knob to place the cursor on 'Show Draft Messages'.
3) Press the **ENT** Key. The message box selected for viewing is indicated at the bottom left of the list window.

Managing Text Messages

Viewing messages sorted by message date/time:

While viewing the 'Aux - Text Messaging' Page, press the **Arrange** Softkey, then press the **Time** Softkey if not already selected.

Or:

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

Viewing messages sorted by message type:

While viewing the 'Aux - Text Messaging' Page, press the **Arrange** Softkey, then press the **Type** Softkey.

Or:

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

Viewing messages sorted by address:

While viewing the 'Aux - Text Messaging' Page, press the **Arrange** Softkey, then press the **Address** Softkey.

Or:

1) Press the **MENU** Key to display the Page Menu.
2) Turn either **FMS** Knob to place the cursor on 'Sort By Address'.
3) 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) Push 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.

   Message content is displayed.
5) To close the text message, press the **Cancel** Softkey.

   Or:

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

Marking 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.

Marking 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.

Deleting 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. A confirmation window is displayed.
4) With cursor highlighting 'YES', press the **ENT** Key. The message is now deleted.

   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. A confirmation window is displayed.
5) With cursor highlighting 'YES', press the **ENT** Key. The message is now deleted.

SURFACEWATCH

The SurfaceWatch™ feature provides visual annunciations to help the flight crew maintain situational awareness and avoid potential runway incursions and excursions during ground and air operations in the airport environment.

The full SurfaceWatch feature is not available in Reversionary Mode.

Inhibiting/uninhibiting SurfaceWatch:

1) Select the 'Aux - System Setup 1' Page.
2) Push the **FMS** Knob momentarily to activate the flashing cursor..
3) Turn the large **FMS** Knob to highlight the SurfaceWatch field.
4) Turn the small **FMS** Knob to toggle the SurfaceWatch alerts on or off.

SURFACEWATCH SETUP

Entering origin/destination airport:

1) Select the 'FPL - SurfaceWatch Setup' Page.
2) Push the **FMS** Knob momentarily to activate the flashing cursor.
3) Turn the large **FMS** Knob if necessary to highlight the Origin or Destination Airport field.
4) Use the **FMS** Knobs to input the desired Origin or Destination Airport.

Selecting origin/destination runway:

1) Select the 'FPL - SurfaceWatch Setup' Page.
2) Push the **FMS** Knob momentarily to activate the flashing cursor.
3) Turn the large **FMS** Knob if necessary to highlight the Runway or Landing Runway field.
4) Turn the small **FMS** Knob to select the desired available Runway or Landing Runway. As the small **FMS** Knob is turned, the preview of the selected runway or landing runway is also displayed.

Selecting required takeoff/landing distance:

1) Select the 'FPL - SurfaceWatch Setup' Page.
2) Push the **FMS** Knob momentarily to activate the flashing cursor.
3) Turn the large **FMS** Knob if necessary to highlight the REQD Takeoff DIS or REQD Landing DIS field.
4) Use the **FMS** Knobs to enter the required takeoff or landing distance. Upon pressing the **FMS** Knob and committing the required takeoff or landing distance, the Runway Length field will turn amber if an insufficient runway length exists.

STABILIZED APPROACH

The Stabilized Approach functionality provides aural and visual annunciations to the flight crew of potentially unstable conditions during an approach and assist in recognition of factors that can lead to loss of control.

Inhibiting 'Flaps Not in Landing Configuration' or All Stabilized Approach Alerts:

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 Setup' Page.
3) Press the **Setup 2** Softkey to display the 'Aux - System Setup 2' Page.
4) Turn the large **FMS** Knob to place the cursor in the 'Stabilized Approach Inhibit' field.
5) Turn the small **FMS** Knob to select 'On' or 'Off'.

Editing a saved network:

1) While viewing list of saved networks, press the **FMS** Knob to activate the cursor.
2) Turn either **FMS** Knob to highlight the network to be edited.
3) Pressing the **ENT** Key at this point will check or uncheck the Auto Connect checkbox. When a checkmark is present, the system will automatically connect to the network when within range.
4) Select the **Edit** Softkey. The cursor now appears in the Connection Settings window.
5) Turn the large **FMS** Knob to select the network attribute to be edited.
6) Turn the small **FMS** Knob to begin editing the field.
7) When the entry is complete, press the **ENT** Key.
8) Turn the large **FMS** Knob or press the **ENT** Key until 'Save' is highlighted.

9) Press the **ENT** Key.

Disconnecting a WiFi network:

Select the **DISCNCT** Softkey.

Or:

1) Press the **MENU** Key to display the Page Menu.
2) Turn either **FMS** Knob to place the cursor on 'Disconnect From Network'.
3) Press the **ENT** Key.

Deleting a saved WiFi network:

1) While viewing the list of saved networks, press the **FMS** Knob to activate the cursor.
2) Turn either **FMS** Knob to highlight the network to be deleted.
3) Select the **Delete** Softkey. The selected network is removed from the list.

CONNEXT SETUP

The Connext Setup Page allows for setting up the optional Bluetooth Transceiver for a Bluetooth connection between the system and a mobile device running the Garmin Pilot™ application.

Viewing the Connext Setup Page

1) Turn the large **FMS** Knob on the MFD to select the Aux page group.
2) Turn the small **FMS** Knob to select the Connext Setup page.

Changing the Bluetooth Name

1) While viewing the 'Aux - Connext Setup' Page, press the **FMS** Knob to activate the cursor.
2) Turn the large **FMS** Knob to place the cursor in the 'Bluetooth Name' field.
3) Enter the desired name by using the large **FMS** Knob to select the character field, and the small **FMS** Knob select the desired alphanumeric character for that field.
4) Press the **ENT** Key. The cursor is removed and the new name is displayed.

Enabling/disabling Flight Plan Importing from Garmin Pilot

1) While viewing the 'Aux - Connext Setup' Page, press the **FMS** Knob to activate the cursor.
2) Turn the large **FMS** Knob to place the cursor in the 'Flight Plan Import' field.
3) Turn the small **FMS** Knob to select 'Enabled' or 'Disabled'.
4) Push the **FMS** Knob to remove the cursor.

Enabling/disabling WiFi Database Importing from Garmin Pilot

1) While viewing the 'Aux - Connext Setup' Page, press the **FMS** Knob to activate the cursor.
2) Turn the large **FMS** Knob to place the cursor in the 'WiFi Database Import' field.
3) Turn the small **FMS** Knob to select 'Enabled' or 'Disabled'.
4) Push the **FMS** Knob to remove the cursor.

Enabling/disabling Automatic Reconnection of a Specific Paired Device

1) While viewing the 'Aux - Connext Setup' Page, press the **FMS** Knob to activate the cursor.
2) Turn the large **FMS** Knob to highlight the desired paired device.
3) Turn the small **FMS** Knob to select 'Enabled' or 'Disabled'. Selecting 'Enabled' allows the system to automatically connect to a previously paired device when detected.
4) Push the **FMS** Knob to remove the cursor.

Removing a Specific Paired Device from the List of Paired Devices:

1) While viewing the 'Aux - Connext Setup' Page, press the **FMS** Knob to activate the cursor.
2) Turn the large **FMS** Knob to highlight the desired paired device.
3) Press the **Remove** Softkey. A confirmation screen is displayed.
4) If necessary, turn the large **FMS** Knob to select 'Yes'.
5) Press the **ENT** Key to remove the device from the list of paired devices.

POSITION REPORTING

The Position Reporting feature allows the system to send position reporting information to a provider, such as FlightAware.com.

Viewing the Connext Page:

1) Turn the large **FMS** Knob to select the Aux page group.
2) Turn the small **FMS** Knob to select the 'Aux - Connext' Page.

Setting up Position Reporting:

1) With the 'Aux - Connext' Page displayed, press the **FMS** Knob to display the cursor in the Transmission Period field.
2) Turn the small **FMS** Knob to select 'Auto' for automatic transmission of position or 'Off' to disable transmission of position reports.
3) Press the **ENT** Key.
4) Turn the large **FMS** Knob to select the Transmission Rate field.
5) Turn the small **FMS** Knob to highlight the first digit.
6) Turn the small **FMS** Knob to enter the desired number.
7) Turn the large **FMS** Knob to highlight the second digit.
8) Turn the small **FMS** Knob to enter the desired number.
9) Press the **ENT** Key.
10) Turn the large **FMS** Knob to select the Passengers On Board field.
11) Turn the small **FMS** Knob left or right to select 'Yes' or 'No.'
12) Push the **FMS** Knob to remove the cursor.

Sending a position report manually:

1) Turn the large **FMS** Knob to select the Aux page group.
2) Turn the small **FMS** Knob to select 'Aux - Connext' Page.
3) If necessary, set the Transmission Period to 'Auto.'
4) Press the **Send REP** Softkey.SiriusXM Radio Entertainment

ACTIVATING SIRIUSXM SATELLITE RADIO SERVICES

The service is activated by providing SiriusXM Satellite Radio with either one or two coded IDs, depending on the equipment. Either the Audio Radio ID or the Data Radio ID, or both, must be provided to SiriusXM Satellite Radio to activate the entertainment subscription.

It is not required to activate both the entertainment and weather service subscriptions with the GDL 69A. Either or both services can be activated. SiriusXM Satellite Radio uses one or both of the coded IDs to send an activation signal that, when received by the GDL 69A, allows it to play entertainment programming.

These IDs are located:

– On the label on the back of the Data Link Receiver
– On the XM Information Page on the MFD
– On the XM Satellite Radio Activation Instructions included with the unit (available at www.garmin.com, P/N 190-00355-04)

Contact the installer if the Data Radio ID and the Audio Radio ID cannot be located.

Activating the SiriusXM Satellite Radio services:

1) Contact SiriusXM Satellite Radio. Follow the instructions provided by SiriusXM Satellite Radio services.
2) Select the Auxiliary Page Group.
3) Select the 'Aux - XM Radio' page.
4) Select the **INFO** Softkey to display the XM Information Page.
5) Verify the desired services are activated.
6) Select the **Lock** Softkey.
7) Turn the large **FMS** Knob to highlight YES.
8) To complete activation, press the **ENT** Key.

USING SIRIUSXM 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 XM Radio Page.
3) Select the **Radio** Softkey to show the XM Radio Page where audio entertainment is controlled.

Selecting a channel from the channel list:

1) While on the XM Radio Page, select the **Channel** Softkey.
2) Select the **CH +** Softkey to go up through the list in the Channel Box, or move down the list with the **CH –** Softkey.

   Or:

1) Push the **FMS** Knob to highlight the channel list and turn the large **FMS** Knob to scroll through the channels.
2) Press the **ENT** Key to activate the selected channel.

Selecting a channel directly:

1) While on the XM Radio Page, select the **Channel** Softkey.
2) Select the **Direct CH** Softkey. The channel number in the Active Channel Box is highlighted.
3) Select 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.

Category

Selecting a category:

1) Select the **Category** Softkey on the XM Radio Page.
2) Select 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 and press the **ENT** Key. Selecting All Categories places all channels in the list.

Presets

Setting a preset channel number:

1) On the XM Radio Page, while listening to an Active Channel that is wanted for a preset, select the **Presets** Softkey to access the first five preset channels (**Preset 1 - Preset 5**).
2) Select the **More** Softkey to access the next five channels (**Preset 6 – Preset 10**), and again to access the last five channels (**Preset 11 – Preset 15**). Selecting the **More** Softkey repeatedly cycles through the preset channels.
3) Select any one of the (**Preset 1 - Preset 15**) Softkeys to assign a number to the active channel.
4) Select the **Set** Softkey on the desired channel number to save the channel as a preset.

Volume

Adjusting the volume:

1) With the XM Radio Page displayed, select the **Volume** Softkey.
2) Select the **VOL –** Softkey to reduce volume or select the **VOL +** Softkey to increase volume. (Once the **VOL** Softkey is selected, the volume can also be adjusted using the small **FMS** Knob.) Volume can also be adjusted with the GMA 350c **Volume** Knob when the **MUS1** Button is pressed.

Muting SiriusXM audio:

Refer to the GMA 350c Audio Panel Controls in Section 4 for SiruisXM muting instructions.

ELECTRONIC CHECKLISTS

Accessing and navigating checklists:

1) From any page on the MFD (except the EIS Pages), press the **Checklist** 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 be 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.

Accessing emergency procedures:

1) From any page on the MFD (except the EIS Pages), press the **Checklist** Softkey or turn the large **FMS** Knob to select the Checklist Page.
2) Press the **EMER** 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 be 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)

The system provides a control and display interface to an optional auxiliary video system. The system can display video for up to two inputs.

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.

Control of the 'Aux - Video' Page can also be accessed through the Page Menu.

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

Adjusting the video settings:

1) With the 'Aux - Video' Page displayed, press the **Setup** Softkey.

2) Press the **Contrast -** or **Contrast +**, to adjust display contrast in five percent increments from 0 to 100%.

3) Press the **Bright -** or **Bright +**, to adjust display brightness 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.

ELECTRONIC STABILITY & PROTECTION (ESP™)

Enabling/disabling ESP:

1) Turn the large **FMS** Knob to select the Aux Page Group.
2) Turn the small **FMS** Knob to select the System Setup Page.
3) If necessary, press the **SETUP 2** Softkey to display the 'Aux - System Setup 2' Page.
4) Push the **FMS** Knob to activate the cursor.
5) Turn the large **FMS** Knob to place the cursor in the Stability & Protection field.
6) Turn the small **FMS** Knob to select 'Enabled' or 'Disabled'.
7) Push the **FMS** Knob to remove the cursor.

CREW PROFILES

System settings may be saved under a crew profile. When the system is powered on, the last selected crew profile is shown on the MFD. Crew profiles may also be exported from the system to an SD card, or imported from an SD card into the system.

Crew Profile Import/Export Messages

'No crew profile plan files found to import.'	Displayed if the SD card does not have one or more valid pilot profile filenames.
'Overwrite existing profile?'	Displayed if the profile name matches the name of existing profile.
'Profile name invalid. Enter a different profile name.'	Displayed if the profile name is invalid.
'All available crew profiles in use. Delete a profile before importing another.'	Displayed if the maximum number for pilot profiles has been reached.
'Crew profile import failed.'	Displayed if the importing operation fails for any other reason.
'Crew profile import succeeded.'	Displayed if the importing operation succeeds.
'Overwrite existing file?'	Displayed if the filename matches the name of an existing file on the SD card.
'Crew profile export failed.'	Displayed if the export operation fails.
'Crew profile export succeeded.'	Displayed if the export operation succeeds.

Creating a profile:

1) Select the 'Aux - System Setup 1 or 2' Page.
2) Push the **FMS** Knob momentarily to activate the flashing cursor.
3) Turn the large **FMS** Knob to highlight 'Create' in the 'Crew Profile' Box.
4) Press the **ENT** Key. A 'Create Profile' Window is displayed.
5) Use the **FMS** Knob to enter a profile name up to 16 characters long and press the **ENT** Key. Crew profile names cannot begin with a blank as the first letter.
6) In the next field, use the small **FMS** Knob to select the desired settings upon which to base the new profile. Profiles can be created based on Garmin factory defaults, default profile settings (initially based on Garmin factory defaults unless edited by the pilot), or other previously created profile settings.
7) Press the **ENT** Key.
8) With 'Create' highlighted, press the **ENT** Key to create the profile.

   Or:

   Use the large **FMS** Knob to select 'Create & Activate' and press the **ENT** Key to activate the new profile.
9) To cancel the process, select 'Cancel' with the large **FMS** Knob and press the **ENT** Key.

Selecting an active profile:

1) Select the 'Aux - System Setup 1 or 2' Page.
2) Push the **FMS** Knob momentarily to activate the flashing cursor.
3) Turn the large **FMS** Knob to highlight the 'Active' profile Field in the 'Crew Profile' Box.
4) Turn the small **FMS** Knob to display the crew profile list and highlight the desired profile.
5) Press the **ENT** Key. The system loads and displays the system settings for the selected profile.

Renaming a profile:

1) Select the 'Aux - System Setup 1 or 2' Page.
2) Push the **FMS** Knob momentarily to activate the flashing cursor.
3) Turn the large **FMS** Knob to highlight 'Rename' in the 'Crew Profile' Box.
4) Press the **ENT** Key.
5) In the 'Rename Profile' Window, turn the **FMS** Knob to select the profile to rename.
6) Press the **ENT** Key.
7) Use the **FMS** Knob to enter a new profile name up to 16 characters long and press the **ENT** Key.
8) With 'Rename' highlighted, press the **ENT** Key.
9) To cancel the process, use the large **FMS** Knob to select 'Cancel' and press the **ENT** Key.

Deleting a profile:

1) Select the 'Aux - System Setup 1 or 2' Page.
2) Push the **FMS** Knob momentarily to activate the flashing cursor.
3) Turn the large **FMS** Knob to highlight 'Delete' in the 'Crew Profile' Box.
4) Press the **ENT** Key.
5) In the 'Delete Profile' Window, turn the **FMS** Knob to select the profile to delete.
6) Press the **ENT** Key.
7) With 'Delete' highlighted, press the **ENT** Key.
8) To cancel the process, use the large **FMS** Knob to select 'Cancel' and press the **ENT** Key.

Importing a profile from an SD card:

1) Insert an SD card containing the crew profile(s) into the top card slot on the MFD.
2) Turn the **FMS** Knob to select the 'Aux - System Setup 1 or 2' Page.
3) Press the **Import** Softkey.

   Or:

   a) Press the **MENU** Key.
   b) Turn the **FMS** Knob to highlight 'Import Crew Profile' and press the **ENT** Key.
4) The system displays the 'Crew Profile Importing' Window with 'Import' highlighted. Turn the large **FMS** Knob to highlight the 'Profile Name' Field, then scroll to the desired profile name with the large and small **FMS** Knobs, then press the **ENT** Key. Then press the **ENT** Key with 'Import' highlighted.
5) If the imported profile name is the same as an existing profile on the system, the system displays an 'Overwrite existing profile? OK or CANCEL' prompt. Press the **ENT** Key to replace profile on the system with the profile imported from the SD card, or turn the **FMS** Knob to highlight 'CANCEL' and press the **ENT** Key to return to the 'Crew Profile Importing' Window.
6) If successful, the system displays 'Crew profile import succeeded.' in the Window below. With 'OK' highlighted, press the **ENT** or **CLR** Keys or push the **FMS** Knob to return to the 'Aux - System Setup 1 or 2' Page. The imported profile becomes the active profile.

Exporting a profile to an SD card:

1) Insert the SD card for storing the Crew Profile into the top card slot on the MFD.
2) Turn the **FMS** Knob to select the 'Aux - System Setup 1 or 2' Page.
3) Press the **Export** Softkey. The system displays the 'Crew Profile Exporting' Window.

   Or:

   a) Press the **MENU** Key.
   b) Turn the **FMS** Knob to highlight 'Export Crew Profile' and press the **ENT** Key.

4) To export the crew profile using the current selected profile, press the **ENT** Key with 'Export' highlighted. To change the selected profile, turn the large **FMS** Knob to highlight the 'Profile Name' Field, then scroll to the desired profile name with the large and small **FMS** Knobs, then press the **ENT** Key. Then press the **ENT** Key with 'Export' highlighted.

5) If the selected profile to be exported is the same as an existing profile file name on the SD card, the system displays an 'Overwrite existing profile? OK or CANCEL' prompt. Press the **ENT** Key to replace the profile on the SD card with the profile to be exported, or turn the **FMS** Knob to highlight 'CANCEL' and press the **ENT** Key to return to the 'Pilot Profile Exporting' Window without exporting the profile.

6) If successful, the window displays 'Crew profile export succeeded'. With 'OK' highlighted, press the **ENT** or **CLR** Keys, or push the **FMS** Knob to return to the 'Aux - System Setup 1 or 2' Page.

SCHEDULER

The system's Scheduler feature can be used to enter and display reminder messages (e.g., "Switch fuel tanks", "Overhaul", etc.) in the 'Messages' Window on the PFD. Scheduler messages appear in the 'Alerts' Window on the PFD and cause the **Alerts** Softkey label to change to a flashing Message label. Pressing the **Message** Softkey opens the 'Alerts' Window and acknowledges the scheduler message. The softkey reverts to the Alerts label. Pressing the **Alerts** Softkey again removes the 'Alerts' Window from the display and the scheduler message is deleted from the message queue.

Entering a scheduler message:

1) Select the 'Aux - Utility' Page.
2) Push the **FMS** Knob momentarily to activate the flashing cursor.
3) Turn the large **FMS** Knob to highlight the first empty field within the 'Scheduler' Box.
4) Use the **FMS** Knob to enter text within the 'Message' Field to be displayed in the 'Messages' Window and press the **ENT** Key.
5) Press the **ENT** Key again or use the large **FMS** Knob to move the cursor to the 'Type' Field.
6) Turn the small **FMS** Knob to select set the message alert type:
   - Event—Message issued at the specified date/time
   - One-time—Message issued when the message timer reaches zero (default setting)
   - Periodic—Message issued each time the message timer reaches zero
7) Press the **ENT** Key again or use the large **FMS** Knob to move the cursor to the next field.

8) For periodic and one-time message, use the **FMS** Knob to enter the timer value (HHH:MM:SS) from which to countdown and press the **ENT** Key.

9) For event-based messages:

   a) Use the **FMS** Knob to enter the desired date (DD-MMM-YYY) and press the **ENT** Key.

   b) Press the **ENT** Key again or use the large **FMS** Knob to move the cursor to the next field.

   c) Use the **FMS** Knob to enter the desired time (HH:MM) and press the **ENT** Key.

10) Press the **ENT** Key again or use the large **FMS** Knob to move the cursor to enter the next message.

Deleting a scheduler message:

1) Select the 'Aux - Utility' Page.

2) Push the **FMS** Knob momentarily to activate the flashing cursor.

3) Turn the large **FMS** Knob to highlight the 'Message' Field of the scheduler message to be deleted.

4) Press the **CLR** Key to clear the message text. If the **CLR** Key is pressed again, the message is restored.

5) Press the **ENT** Key to confirm message deletion.

ABNORMAL OPERATIONS

REVERSIONARY MODE

NOTE: *The system alerts the pilot when backup paths are utilized by the LRUs. Refer to the Appendices for further information regarding system-specific alerts.*

In the event of an MFD failure, the system automatically switches to reversionary (backup) mode. In reversionary mode, all important flight information is presented on the remaining display in the same format as in normal operating mode.

If a display fails, the appropriate GIA Ethernet interface is cut off. Thus, the IAU can no longer communicate with the remaining display (refer to Figure 1-1), and the NAV and COM functions provided to the failed display by the IAU are flagged as invalid on the remaining display. The system reverts to backup paths for the Attitude Indicator, ADC, Engine/Airframe Unit, and Transponder, as required. The change to backup paths is completely automated for all LRUs and no crew action is required.

Reversionary Mode may also be manually activated by pressing the red **DISPLAY BACKUP** Button. Pressing this button again deactivates Reversionary Mode.

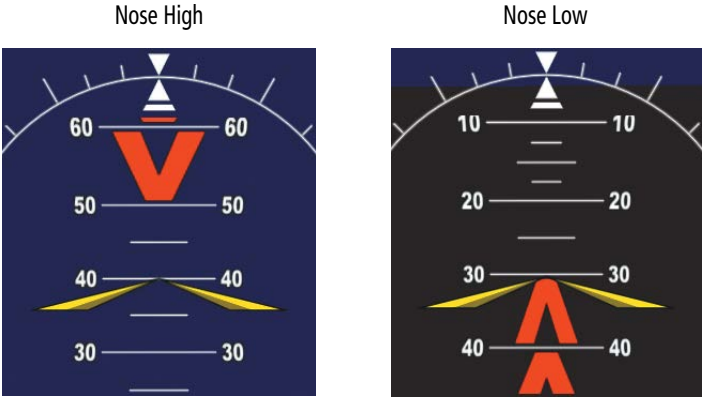
ABNORMAL GPS CONDITIONS

Annunciation	Location	Description
GPS LOI	Lower left of aircraft symbol	Loss of Integrity Monitoring–GPS integrity is insufficient for the current phase of flight.
GPS INTEG OK	Lower left of aircraft symbol	Integrity OK–GPS integrity has been restored to within normal limits (annunciation displayed for 5 seconds).
DR	Upper right of aircraft symbol	Dead Reckoning–System is using projected position rather than GPS position to compute navigation data and sequence active flight plan waypoints.

Abnormal GPS Conditions Annunciated on HSI

UNUSUAL ATTITUDES

When the aircraft enters an unusual pitch attitude, red chevrons pointing toward the horizon warn of extreme pitch. The chevrons are displayed on the Attitude Indicator, starting at 50° above and 30° below the horizon line.



Pitch Attitude Warnings

If pitch exceeds +30°/-20° or bank exceeds 65°, some information displayed on the PFD is removed. The Altimeter and Airspeed, Attitude, Vertical Speed, and Horizontal Situation indicators remain on the display and the Bearing Information, Alerts, and Annunciation windows can be displayed during such situations. The following information is removed from the PFD and its softkeys are disabled when the aircraft experiences unusual attitudes:

- Traffic Annunciations
- AFCS Annunciations
- Inset Map
- Outside Air Temperature (OAT)
- Wind data
- Selected Heading
- Selected Course
- Transponder Status Box
- System Time
- PFD Setup Menu
- Windows displayed in the lower right corner of the PFD:
  - » References Window
  - » Nearest Airports
  - » Flight Plan
  - » Messages
  - » Procedures
- Minimum Descent Altitude/Decision Height display
- Vertical Deviation, Glideslope, and Glidepath Indicators
- Altimeter Barometric Setting
- Selected Altitude
- VNV Target Altitude
- Ground Speed
- True Airspeed

AUDIO PANEL FAIL-SAFE OPERATION

If there is a failure of the audio panel, a fail-safe circuit connects the pilot's headset and microphone directly to the COM1 transceiver. Audio is not available on the speaker during fail-safe operation.

STUCK MICROPHONE

If the push-to-talk (PTT) Key becomes stuck, the COM transmitter stops transmitting after 35 seconds of continuous operation. An alert appears on the PFD to advise the crew of a stuck microphone.

The MIC Key Annunciation on the audio panel flashes as long as the PTT Key remains stuck.

COM TUNING FAILURE

In case of a COM system tuning failure, the emergency frequency (121.500 MHz) is automatically tuned in the radio in which the tuning failure occurred. Depending on the failure mode, an amber or red X may appear on the frequency display.

DEAD RECKONING

While in Enroute or Oceanic phase of flight, if the system 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 system 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.

It is important to note that estimated navigation data supplied by the system 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 accurately tracking estimated 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 system 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 compound the relative inaccuracy of DR Mode. Because of this degraded accuracy, other navigation equipment must be relied upon for position awareness until GPS-derived position data is restored.

DR Mode is indicated on the system by the appearance of the letters 'DR' superimposed in amber over the 'own aircraft' symbol. In addition, 'DR' is prominently displayed in amber on the HSI slightly below and to the left of the aircraft symbol on the CDI. The CDI deviation bar remains, but is displayed in amber. Furthermore, 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.

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

Also, while the system is in DR Mode, some terrain functions are not available. Additionally, the accuracy of all nearest information (airports, airspaces, and waypoints) is questionable. Finally, airspace alerts continue to function, but with degraded accuracy.

UNDERSPEED PROTECTION

Underspeed Protection is available when the optional Electronic Stability and Protection (ESP) system is installed and the autopilot is on. It is designed to discourage aircraft operation below minimum established airspeeds.

When the aircraft reaches a predetermined airspeed (see pertinent flight manual for airspeeds which are dependant upon flap setting, and anti-ice system onboard), a flashing yellow 'MINSPD' annunciation will appear above the airspeed indicator.

When the airspeed trend vector reaches the predetermined airspeed, a single aural "AIRSPEED" will sound, alerting the pilot to the impending underspeed condition.

OVERSPEED PROTECTION

While Pitch Hold, Vertical Speed, Flight Level Change, Vertical Path Tracking, or an altitude capture mode is active, airspeed is monitored by the flight director. Pitch commands are not changed until overspeed protection becomes active. Overspeed protection is provided in situations where the flight director cannot acquire and maintain the mode reference for the selected vertical mode without exceeding Vne.

When an autopilot overspeed condition occurs, the Airspeed Reference appears in a box above the Airspeed Indicator, flashing a yellow 'MAXSPD' annunciation. Engine power should be reduced and/or the pitch reference adjusted to slow the aircraft. The annunciation disappears when the overspeed condition is resolved.

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 stick.
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.

GDL 69A SXM TROUBLESHOOTING

For troubleshooting purposes, check the LRU Information Box on the 'Aux - System Status' Page for GDL 69A SXM status, serial number, and software version number. If a failure has been detected in the GDL 69A SXM the status is marked with a red X.

Selecting the 'Aux - System Status' Page:

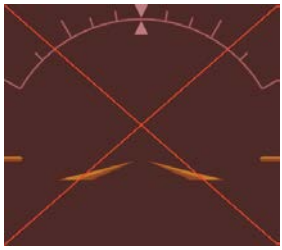
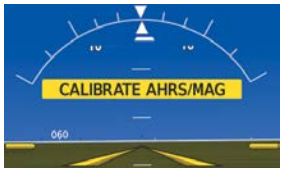
1) Turn the large **FMS** Knob to select the Aux Page Group.
2) Turn the small **FMS** Knob to select the 'Aux - System Status' Page.

Blank Page

ANNUNCIATIONS & ALERTS

SYSTEM ANNUNCIATIONS

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

System Annunciation	Comment
	ADAHRS is aligning.
	Display system is not receiving attitude information from the ADAHRS (GRS unit).
	ADAHRS calibration incomplete or configuration module failure.
	GPS information is either not present or is invalid for navigation use. Note that ADAHRS utilizes GPS inputs during normal operation. ADAHRS operation may be degraded if GPS signals are not present (see the current version of the pertinent flight manual).

System Annunciation	Comment
	Display system is not receiving valid groundspeed information.
	Display system is not receiving airspeed input from the air data computer.
	Display system is not receiving vertical speed input from the air data computer.
	Display system is not receiving valid heading input from the ADAHRS or magnetometer.
	Display system is not receiving altitude input from the ADAHRS or magnetometer.
	Display system is not receiving valid OAT information from the air data computer.
Other Various Red/Amber X Indications	A red or amber 'X' through any other display field (such as engine instrumentation fields) indicates the field is not receiving valid data.

AUTOMATIC GPS CDI SCALING

Flight Phase	Annunciation*	Automatic CDI Full-scale Deflection
Departure	DPRT	0.3 nm
Terminal	TERM	1.0 nm
Enroute	ENR	2.0 nm
Oceanic	OCN	2.0 nm
Approach (Nonprecision)	LNAV	1.0 nm decreasing to 350 feet depending on variables (see Figure 2-24).
Approach (Nonprecision with Advisory Vertical Guidance)	LNAV+V	
Approach (Nonprecision with Advisory Vertical Guidance)	VISUAL	
Approach (LNAV/VNAV)	L/VNAV	1.0 nm decreasing to a specified course width, then 0.3 nm, depending on variables (see Figure 2-25).
Approach (LPV)	LPV	
Approach (Nonprecision with Advisory Vertical Guidance)	LP+V	
Approach (LP)	LP	
Missed Approach	MAPR	0.3 nm

* Flight phase annunciations are normally shown in magenta, but when cautionary conditions exist the color changes to yellow.

COMPARATOR ANNUNCIATIONS

Annunciation	Condition
ALT	Difference in altitude sensors is > 200 ft.
IAS	If either airspeed sensor detects > 35 knots, and the difference in sensors is > 10 knots.
	If either airspeed sensor detects > 80 knots, and the difference in sensors is > 7 knots.
HDG	Difference in heading sensors is > 6 degrees.
PIT	Difference in pitch sensors is > 5 degrees.
VDI	Difference in temperature compensated altitudes is > 50 ft.

Annunciation	Condition
ROL	Difference in roll sensors is > 6 degrees.
ALT	No data from one or both altitude sensors.
IAS	No data from one or both airspeed sensors.
HDG	No data from one or both heading sensors.
PIT	No data from one or both pitch sensors.
ROL	No data from one or both roll sensors.
VDI	No temperature compensated altitude data available.

REVERSIONARY SENSOR ANNUNCIATIONS

Reversionary Sensor Window Text	Condition
USING ADC2	PFD1 is displaying data from the #2 Air Data Computer.
USING AHRS2	PFD1 is displaying data from the #2 AHRS.

TERRAIN AND OBSTACLE ANNUNCIATIONS

Unlighted Obstacle		Lighted Obstacle		Obstacle Location
< 1000' AGL	> 1000' AGL	< 1000' AGL	> 1000' AGL	
				Red obstacle is above or within 100 ft below the aircraft altitude
				Yellow obstacle is between 100 ft and 1000 ft below the aircraft altitude
				White obstacle is more than 1000 ft below aircraft altitude

Relative Obstacle Symbols and Colors

Wire Obstacle	Wire Obstacle Location
	Red wire obstacle is at or above the aircraft altitude
	Yellow wire obstacle is between the aircraft altitude to within 250 feet below the aircraft altitude
	White wire obstacle is more than 250 ft below the aircraft altitude

Relative Wire Obstacles and Colors

Unlighted Wind Turbine Obstacle	Lighted Wind Turbine Obstacle	Wind Turbine Obstacle Location
		Red obstacle is above or within 100 ft below the aircraft altitude
		Yellow obstacle is between 100 ft and 1000 ft below the aircraft altitude
		White obstacle is more than 1000 ft below aircraft altitude

Wind Turbine Obstacles and Colors

Potential Impact Area Examples	Alert Type	Example Annunciation
 or	Warning	TAWS-B Warning PULL UP Terrain-SVT Warning TERRAIN
 or	Caution	TERRAIN

Terrain-SVT and TAWS-B Potential Impact Area with Annunciations

TERRAIN ALERTS

Alert Type	PFD/'Map - Terrain- SVT' Page Alert	MFD Pop-Up Alert (except 'Map - Terrain- SVT' Page)	Voice Alert
Reduced Required Terrain Clearance Warning (RTC)	TERRAIN	WARNING - TERRAIN	"Warning; Terrain, Terrain"
Reduced Required Line Clearance (RLC) Warning	TERRAIN	WARNING - WIRE	"Warning; Wire, Wire"
Imminent Terrain Impact Warning (ITI)	TERRAIN	WARNING - TERRAIN	"Warning; Terrain, Terrain"
Reduced Required Obstacle Clearance Warning (ROC)	TERRAIN	WARNING - OBSTACLE	"Warning; Obstacle, Obstacle"
Imminent Obstacle Impact Warning (IOI)	TERRAIN	WARNING - OBSTACLE	"Warning; Obstacle, Obstacle"
Imminent Line Impact Warning (ILI)	TERRAIN	WARNING - WIRE	"Warning; Wire, Wire"
Reduced Required Terrain Clearance Caution (RTC)	TERRAIN	CAUTION - TERRAIN	"Caution; Terrain, Terrain"
Imminent Line Impact Caution (ILI)	TERRAIN	CAUTION - WIRE	"Caution; Wire, Wire"
Imminent Terrain Impact Caution (ITI)	TERRAIN	CAUTION - TERRAIN	"Caution; Terra in, Terrain"
Reduced Required Line Clearance Caution (RLC)	TERRAIN	CAUTION - WIRE	"Caution; Wire, Wire"
Reduced Required Obstacle Clearance Caution (ROC)	TERRAIN	CAUTION - OBSTACLE	"Caution; Obstacle, Obstacle"
Imminent Obstacle Impact Caution (IOI)	TERRAIN	CAUTION - OBSTACLE	"Caution; Obstacle, Obstacle"

Terrain SVT Alerts Summary

Alert Type	PFD/'Map - TAWS-B' Page Alert Annunciation	MFD Pop-Up Alert (except 'Map - TAWS-B' Page)	Voice Alert
Excessive Descent Rate Warning (EDR)	PULL UP	PULL-UP	"Pull Up"
Reduced Required Terrain Clearance Warning (RTC)	PULL UP	TERRAIN - PULL-UP	"Terrain, Terrain; Pull Up, Pull Up"
Imminent Line Impact Warning (ILI)	PULL UP	WIRE AHEAD - PULL-UP	"Wire Ahead; Pull Up, Pull Up"
Reduced Required LIne Clearance Warning (RLC)	PULL UP	WARNING - WIRE	"Wire, Wire; Pull Up, Pull Up"
Imminent Terrain Impact Warning (ITI)	PULL UP	TERRAIN AHEAD - PULL-UP	"Terrain Ahead, Pull Up; Terrain Ahead, Pull Up"
Reduced Required Obstacle Clearance Warning (ROC)	PULL UP	OBSTACLE - PULL-UP	"Obstacle, Obstacle; Pull Up, Pull Up"
Imminent Obstacle Impact Warning (IOI)	PULL UP	OBSTACLE AHEAD - PULL-UP	"Obstacle Ahead, Pull Up; Obstacle Ahead, Pull Up"
Reduced Required Terrain Clearance Caution (RTC)	TERRAIN	CAUTION - TERRAIN	"Caution, Terrain; Caution, Terrain"
Imminent Terrain Impact Caution (ITI)	TERRAIN	TERRAIN - AHEAD	"Terrain Ahead; Terrain Ahead"
Required Reduced Line Clearance Impact Caution (RLC)	TERRAIN	CAUTION - WIRE	"Caution, Wire; Caution, Wire"
Imminent Line Clearance Impact Caution (ILI)	TERRAIN	WIRE AHEAD	"Wire Ahead; Wire Ahead"
Reduced Required Obstacle Clearance Caution (ROC)	TERRAIN	CAUTION - OBSTACLE	"Caution, Obstacle; Caution, Obstacle"

Alert Type	PFD/'Map - TAWS-B' Page Alert Annunciation	MFD Pop-Up Alert (except 'Map - TAWS-B' Page)	Voice Alert
Imminent Obstacle Impact Caution (IOI)	TERRAIN	OBSTACLE AHEAD	"Obstacle Ahead; Obstacle Ahead"
Premature Descent Alert Caution (PDA)	TERRAIN	TOO LOW - TERRAIN	"Too Low, Terrain"
Touchdown Callout (VCO) "500"	None	None	"Five-Hundred"
Excessive Descent Rate Caution (EDR)	TERRAIN	SINK RATE	"Sink Rate"
Negative Climb Rate Caution (NCR)	TERRAIN	DONT SINK	"Don't Sink"

TAWS-B Alerts Summary

TERRAIN SYSTEM STATUS ANNUNCIATIONS

Alert Type	PFD/'Map - Terrain-SVT' Page Annunciation	'Map - Terrain-SVT' Page Center Banner Annunciation	Voice Alert
System Test in Progress	TER TEST	TERRAIN TEST	None
System Test Pass	None	None	Single Aural Chime
Terrain Alerting Inhibited	TER INH	None	None
No GPS position	TER N/A	NO GPS POSITION	"Terrain System Not Available"*
Excessively degraded GPS signal; or Out of database coverage area	TER N/A	None	"Terrain System Not Available"*

Alert Type	PFD/'Map - Terrain-SVT' Page Annunciation	'Map - Terrain-SVT' Page Center Banner Annunciation	Voice Alert
Terrain System Test Fail; Terrain or Obstacle database unavailable or invalid; Invalid software configuration; or System audio fault	TER FAIL	TERRAIN FAIL	"Terrain System Failure"
MFD Terrain or Obstacle database unavailable or invalid, and Terrain-SVT operating with PFD Terrain or Obstacle databases	None	TERRAIN DATABASE FAIL	None

* "Terrain System Available" will be heard when sufficient GPS signal is received, or Terrain database coverage area re-entered.

Terrain-SVT System Status Annunciations

Alert Type	PFD/'Map - TAWS-B ' Page Annunciation	'Map - TAWS-B' Page Center Banner Annunciation	Voice Alert
System Test in progress	TAWS TEST	TAWS TEST	None
System Test pass	None	None	Single Aural Chime
TAWS-B FLTA Alerting Inhibited	TAWS INH	None	None
No GPS position	TAWS N/A	NO GPS POSITION	"TAWS Not Available"
Excessively degraded GPS signal; or Out of database coverage area	TAWS N/A	None	"TAWS Not Available"

Alert Type	PFD/'Map - TAWS-B ' Page Annunciation	'Map - TAWS-B' Page Center Banner Annunciation	Voice Alert
TAWS-B System Test Fail; Terrain or Obstacle database unavailable or invalid; Invalid software configuration; or System audio fault	TAWS FAIL	TAWS FAIL	"TAWS System Failure"
MFD Terrain or Obstacle database unavailable or invalid. TAWS-B operating with PFD Terrain or Obstacle databases	None	TERRAIN DATABASE FAILURE	None

TAWS-B System Status Annunciations

TRAFFIC ANNUNCIATIONS AND ALERTS

Mode	Traffic Mode Annunciation ('Map - Traffic Map' Page)	Traffic Display Status Icon (Other Maps)
Traffic System Test Initiated	TEST ('TEST MODE' shown in center of page)	
Operating	OPERATING	
Standby	STANDBY (also shown in white in center of page)	
Traffic System Failed*	FAIL	

Traffic Modes

'Map - Traffic Map' Page Center Annunciation	Description
NO DATA	Data is not being received from the traffic unit
DATA FAILED	Data is being received from the traffic unit, but the unit is self-reporting a failure
FAILED	Incorrect data format received from the traffic unit

TAS Failure Annunciations

Traffic Status Banner Annunciation	Description
TA OFF SCALE	A Traffic Advisory is outside the selected display range*. Annunciation is removed when traffic comes within the selected display range.
TA X.X ± XX ↕	System cannot determine bearing of Traffic Advisory**. Annunciation indicates distance in nm, altitude separation in hundreds of feet, and altitude trend arrow (climbing/descending).
TRFC FAIL	TAS unit has failed (unit is self-reporting a failure or sending incorrectly formatted data)
NO TRFC DATA	Data is not being received from the traffic unit

*Shown as symbol on 'Map - Traffic Map' Page
**Shown in center of 'Map - Traffic Map' Page

TAS Traffic Status Annunciations

ADS-B Mode	Traffic Mode Annunciation (Traffic Map Page)	Traffic Map Page Center Banner Annunciation	Traffic Display Status Icon (Other Maps)
ADS-B System Test Initiated	ADS-B: TEST	TEST MODE	
ADS-B Operating in Airborne Mode	ADS-B: AIRB	None	
ADS-B Operating in Surface Mode	ADS-B: SURF	None	

ADS-B Mode	Traffic Mode Annunciation (Traffic Map Page)	Traffic Map Page Center Banner Annunciation	Traffic Display Status Icon (Other Maps)
ABS-B Traffic Off	ADS-B: OFF	ADS-B TRFC OFF	
ADS-B Traffic Not Available	ADS-B: N/A	NO TRK/HDG	
ADS-B Failed*	ADS-B: FAIL	FAILED	

ADS-B Modes

ADS-B Ground Station Reception Status	Traffic Map Pane Icon
Receiving ADS-B traffic services from a ground station	
Not receiving ADS-B traffic services from a ground station	

ADS-B Ground Station Reception Status

Traffic Map Page Center Annunciation	Description
NO DATA	Data is not being received from the traffic unit
DATA FAILED	Data is being received from the traffic unit, but the unit is self-reporting a failure
FAILED	Incorrect data format received from the traffic unit

Traffic Failure Annunciations

Traffic Status Banner Annunciation	Description
TA OFF SCALE	A Traffic Advisory is outside the selected display range*. Annunciation is removed when traffic comes within the selected display range.

Traffic Status Banner Annunciation	Description
TA X.X ± XX	System cannot determine bearing of Traffic Advisory**. Annunciation indicates distance in nm, altitude separation in hundreds of feet, and altitude trend arrow (climbing/descending).
TRFC FAIL	Traffic unit has failed (unit is self-reporting a failure or sending incorrectly formatted data)
NO TRFC DATA	Data is not being received from the traffic unit

*Shown as symbol on 'Map - Traffic Map' Page
**Shown in center of 'Map - Traffic Map' Page

Traffic Status Annunciations

AFCS ANNUNCIATIONS

Condition	Annunciation	Description
Pitch Failure	PTCH	Pitch axis control failure; AP inoperative.
Roll Failure	ROLL	Roll axis control failure; AP inoperative.
Pitch Trim Failure (or stuck **MEPT** Switch)	PTRM	If AP engaged, take control of the aircraft and disengage AP. If AP disengaged, move **MEPT** switches separately to unstick.
Yaw Damper Failure	YAW	YD control failure.
System Failure	AFCS	AP and MEPT are unavailable; FD may still be available.
Elevator Mistrim Down	↓ELE	Pitch servo providing sustained force in the indicated direction. May indicate a failure of the pitch trim servo or trim system.
Elevator Mistrim Up	↑ELE	
Aileron Mistrim Right	AIL→	Roll servo providing sustained force in the indicated direction.
Aileron Mistrim Left	←AIL	
Rudder Mistrim Right	RUD→	Yaw servo providing sustained force in the indicated direction. Aircraft rudder retrim after substantial pitch and power changes required.
Rudder Mistrim Left	←RUD	

Condition	Annunciation	Description
Preflight Test	PFT	Performing preflight system test; aural alert sounds at completion Do not press the **AP DISC** Switch during servo power-on and preflight system tests as this may cause the preflight system test to fail or never to start (if servos fail their power-on tests). Power must be cycled to the servos to remedy the situation.
	PFT	Preflight system test failed; aural alert sounds at failure.
Hypoxia Recognition System is Activated	EDM	Activated only by the Hypoxia Recognition System.

AFCS Status Alerts

GARMIN AFCS CONDITION/STALL ALERT

Condition	Annunciation	Description
Overspeed	MAXSPD	Flashing annunciation indicating aircraft overspeed condition. The autopilot, if engaged, will follow the pitch up command for the flight director. Engine power should be reduced and/or the pitch reference adjusted to slow the aircraft. The annunciation disappears when the overspeed condition is resolved.
Underspeed/ Stall	MINSPD	Flashing annunciation indicating aircraft underspeed or imminent stall condition. An underspeed condition initiates flight director commands for pitch down and, if engaged, the autopilot will follow the pitch down command. Engine power should be increased and/or the pitch reference adjusted to increase airspeed. A stall condition causes the flight director to capture the Stall Warning Reference Airspeed (i.e., the speed at which Stall Warning Mode was entered) and commands a pitch attitude to follow the reference speed. The Stall Warning Reference Airspeed is increased at a rate of one kt/sec. The annunciation disappears when the condition is resolved.

STABILIZED APPROACH ALERT/WARNING ANNUNCIATIONS

Stabilized Approach Alert Annunciation	Stabilized Approach Warning Annunciation	Associated Voice Alert	Description
BARO	BARO	"Baro"	Barometric/GPS Altitude Mismatch Alert
CROSSWIND	CROSSWIND	"Crosswind"	Crosswind Alert

Stabilized Approach Alert Annunciation	Stabilized Approach Warning Annunciation	Associated Voice Alert	Description
FLAPS	FLAPS	"Flaps"	Flaps Not in Landing Configuration Alert
COURSE	COURSE	'Course"	Lateral Deviation Alert
TAILWIND	TAILWIND	"Tailwind"	Tailwind Alert
GLIDEPATH	GLIDEPATH	"Glidepath"	GPS Vertical Deviation Alert
GLIDESLOPE	GLIDESLOPE	"Glideslope"	Non-GPS Vertical Deviation Alert

Stabilized Approach Alert/Warning Annunciations

SURFACEWATCH ALERTS

SurfaceWatch Alert Annunciation	Associated Voice Alert	Description
TWY TAKEOFF	"Taxiway"	Issued when the aircraft is taking off from a non-runway (e.g. a taxiway).
RWY TOO SHORT	"Runway too short"	Issued when the aircraft is taking off from a runway with a length less than needed as calculated by the PERF function.
CHECK RUNWAY	"Check runway"	Issued when the aircraft is taking off from a runway different than that entered in PERF.
TWY LANDING	"Taxiway"	Issued when the aircraft is landing on a non-runway (e.g. a taxiway).
RWY TOO SHORT	"Runway too short"	Issued when the aircraft is landing on a runway with a length less than needed as calculated by the PERF function.
CHECK RUNWAY	"Check runway"	Issued when the aircraft is landing on a runway different than that entered in PERF.

Message	Message Location	Description
CHECK ANTENNA	XM Information Page (MFD)	Data Link Receiver antenna error; service required
UPDATING	XM Information Page (MFD)	Data Link Receiver updating encryption code
NO SIGNAL	XM Information Page Weather Datalink Page (MFD)	Loss of signal; signal strength too low for receiver
LOADING	XM Radio Page (MFD)	Acquiring channel audio or information
OFF AIR	XM Radio Page (MFD)	Channel not in service
--------	XM Radio Page (MFD)	Missing channel information
WEATHER DATA LINK FAILED	Weather Datalink Page (MFD)	No communication from Data Link Receiver within last 5 minutes
ACTIVATION REQUIRED	XM Information Page (MFD)	SiriusXM subscription is not activated
DETECTING ACTIVATION	Weather Datalink Page (MFD)	SiriusXM subscription is activating
WAITING FOR DATA...	Weather Datalink Page (MFD)	SiriusXM subscription confirmed downloading weather data

GDL 69/69A SXM Data Link Receiver Messages

CAS MESSAGE PRIORITIZATION

NOTE: *Refer to the current version of the pertinent flight manual for corrective pilot actions.*

NOTE: *Any CAS messages that are generated when the system is first powered on are considered already acknowledged. They do not flash or trigger the* ***Warning*** *or* ***Caution*** *Softkeys.*

WARNING MESSAGES

NOTE: *The ice protection system (optional) must be operated in accordance with the current version of the pertinent flight manual. This option is only available on the SR22 and SR22T models.*

CAS Window Text	Alerts Window Text
ANTI ICE CTRL☂	Tank valves cannot be controlled (closed) (TKS).
ANTI ICE QTY☂	Left and right fluid quantities are unknown (TKS).
ANTI ICE QTY☂	Fluid quantity is low (TKS).
AOA OVERHEAT☂	AOA probe is overheated.
AUTO DESCENT†	Automatic descent to 14,000FT in 60 seconds.
AUTO DESCENT†	Aircraft descending to 14,000FT.
AUTO DESCENT†	Aircraft descending to 12,500FT.
AUTO DESCENT†	Aircraft descended due to pilot incapacitation.
BRAKE TEMP	Brake temperature is high.
CHT	Cylinder head temperature is high.
CO LVL HIGH	Carbon monoxide level is too high.
ESS BUS	Check essential power bus voltage.
FLAPS ICE☂	Full flap prohibited in icing conditions.
FUEL FLOW*	Check fuel flow.
FUEL IMBALANCE	Fuel quantity imbalance has been detected.
FUEL LOW LEFT	Check left fuel tank level.
FUEL LOW RIGHT	Check right fuel tank level.
FUEL LOW TOTAL	Check fuel tank levels.
M BUS 1	Check main power bus 1 voltage.
M BUS 2	Check main power bus 2 voltage.
MAN PRESSURE*	Check manifold pressure.
OIL PRESS	Oil pressure is out of range.
OIL TEMP	Oil temperature is high.
OXYGEN FAULT✧	Oxygen system fault.
OXYGEN QTY✧	Oxygen quantity is low.

✧ Optional / * Not applicable to all models / ☂ TKS FIKI (optional) / [1] In air only / ^ SR22T only / † Garmin AFCS required

CAS Window Text	Alerts Window Text
OXYGEN RQD✧	Oxygen usage is required.
RPM	Check engine RPM.
SPIN SPIN SPIN	Spin entry detected - initiate recovery.
STALL	Stall warning.
STALL WARNING	Stall warning is inoperative.
START ENGAGED	Starter is engaged.
TIT*	TIT temperature is high.
TRIM	Pitch Trim control has failed.
UNDERSPEED PROTECT ACTIVE†	None

✧ Optional / * Not applicable to all models / ☂ TKS FIKI (optional) / [1] In air only / ^ SR22T only / † Garmin AFCS required

CAUTION MESSAGES

CAS Window Text	Alerts Window Text
ALT 1	Check alternator 1 current.
ALT 2	Check alternator 2 current.
ALT AIR OPEN*	Alternate air door is open.
ANTI ICE HEAT☂	Stall warning/AoA heater has failed.
ANTI ICE LEVEL☂	Left tank fluid quantity is unreliable (TKS).
ANTI ICE LEVEL☂	Right tank fluid quantity is unreliable (TKS).
ANTI ICE PRESS☂	Tail pressure is low (TKS).
ANTI ICE PRESS☂	Pressure is high (TKS).
ANTI ICE QTY☂	Fluid quantity imbalance has been detected (TKS)
ANTI ICE QTY☂	Fluid quantity is low (TKS).
ANTI ICE SPEED☂	Airspeed is too low for ice protection (TKS).
ANTI ICE SPEED☂	Airspeed is to high for ice protection (TKS).
ANTI ICE TEMP	Temperature is too low for ice protection (TKS).
AOA/STALL	WARN AOA/stall warning input invalid.

✧ Optional / * Not applicable to all models / ☂ TKS FIKI (optional) / [1] In air only / † Garmin AFCS required

CAS Window Text	Alerts Window Text
AP MISCOMPARE✧	Autopilot miscompare, autopilot is not available.
AP/PFD DIF ADC✧	Autopilot and PFD are using different ADCs.
AP/PFD DIF AHRS✧	Autopilot and PFD are using different AHRSs.
AVIONICS OFF	Avionics master switch is off.
BATT 1	Check battery 1 current.
BRAKE TEMP	Brake temperature is high.
CHT	Cylinder head temperature is high.
FLAP OVERSPEED	Flaps are extended beyond airspeed limitations.
FUEL IMBALANCE	Fuel quantity imbalance has been detected.
FUEL LOW TOTAL	Total fuel quantity is low.
HYPOXIA ALERT†	Hypoxia caution alert.
ICE DETECT FAIL	Ice detector failure.
ICING DETECTED	Icing conditions have been detected.
LRG MAG VAR	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°.
M BUS 1	Check main power bus 1 voltage.
M BUS 2	Check main power bus 2 voltage.
MAN PRESSURE*	Check manifold pressure.
NO ADC MODES✧	Autopilot air data modes are not available.
NO VERT MODES✧	Autopilot vertical modes are not available.
OIL PRESS	Oil pressure is out of range.
OIL TEMP	Oil temperature is high.
OXYGEN QTY✧	Oxygen quantity is low.
OXYGEN RQD✧	Oxygen usage is required.
PARK BRAKE	Parking break is set.
PITOT HEAT FAIL	Pitot heat failure.
PITOT HEAT REQD	Pitot heat is required.
SLCT MAG	The system notifies the pilot to set the Nav Angle units on the 'Avionics Settings' Screen to Magnetic.
SLCT NON-MAG	The system notifies the pilot to set the Nav Angle units on the 'Avionics Settings' Screen to True.

✧ Optional / * Not applicable to all models / ☂ TKS FIKI (optional) / [1] In air only / † Garmin AFCS required

CAS Window Text	Alerts Window Text
START ENGAGED	Starter is engaged.
TAKEOFF FLAPS	Flaps not in takeoff configuration.

✧ Optional / * Not applicable to all models / ☂ TKS FIKI (optional) / [1] In air only / † Garmin AFCS required

Advisory Messages

NOTE: *The ice protection system (optional) must be operated in accordance with the current version of the pertinent flight manual limitations. This option is only available on SR22 and SR22T models.*

CAS Window Text	Alerts Window Text
ALTITUDE SEL✧	Climbing away from selected altitude.
ALTITUDE SEL✧	Descending away from selected altitude.
ANTI ICE QTY✧	Fluid quantity is low (TKS).
AOA FAIL☂	Dynamic stall speed band is unavailable.
ARE YOU ALERT?†	Are you alert?
CHECK OXYGEN✧	Check oxygen system status.
COURSE SELECT✧	Current track will not intercept selected course.
ESP CONFIG✧	ESP config error. Config service req'd.
EXIT ICING☂✧	Exit icing conditions.
FAILED PATH✧	An autopilot servo data path has failed.
FLAPS CLIMB	Flaps not set for enroute climb.
FUEL IMBALANCE	Fuel quantity imbalance has been detected.
HDG MODE	Heading mode active for extended period.
ICING DETECTED	Icing conditions have been detected.
OXYGEN LEFT ON✧	Oxygen system is left on after shutdown.
OXYGEN QTY✧	Oxygen quantity is low.
PUMP BACKUP☂	Anti-ice backup pump mode has been selected (TKS).
ROL MODE	Roll mode is active.

✧ Optional / * Not applicable to all models / ☂ TKS FIKI (optional)/ † Garmin AFCS required

CAS Window Text	Alerts Window Text
SFC WATCH DSBLD	Too far north/south.
SFC WATCH FAIL	Surfacewatch failed.
SFC WATCH INHIB	Surfacewatch inhibited.
VNAV ALT SEL	VNAV needs lower ALT SEL to capture VPATH.
VNAV NOT ARMED	Press VNV to arm VPATH capture.

✧ **Optional / * Not applicable to all models / ☂ TKS FIKI (optional)/ † Garmin AFCS required**

MESSAGE ADVISORY ALERTS

Alerts Window Message
CO DET FAIL – The carbon monoxide detector is inoperative.
CO DET SRVC – The carbon monoxide detector needs service.
ESP DEGRADE† – ESP IAS mode is inoperative.
ESP FAIL† – ESP is inoperative.
ESP OFF† – ESP selected off.
MFD FAN FAIL – MFD cooling fan is inoperative.
PFD FAN FAIL – PFD cooling fan is inoperative.

✧ Optional/ ☂ TKS FIKI (*optional*)/ † Garmin AFCS required

NOTE: *The ice protection system (optional) must be operated in accordance with the current version of the pertinent flight manual limitations. This option is only available on the SR22 and SR22T models.*

VOICE ALERTS

The following aural alerts are announced by the system using a voice of female gender. If an optional terrain system is installed, voice alerts are also generated (refer to the appropriate terrain alerts section in the Hazard Avoidance Section).

Message	Description
"Airspeed"	Airspeed trend vector below minimum commandable autopilot airspeed.
"Altitude"	Issued when the aircraft transitions beyond the set altitude limit.
"Baro, Baro"	The magnitude of the difference between the barometric altitude with altimeter setting and the GPS altitude is greater than 150 ft.
"Check runway"	Issued when the aircraft is landing on a non-runway (e.g. a taxiway).

Message	Description
"Course, Course"	The magnitude of the lateral deviation is greater than 75% of full scale.
"Crosswind"	The magnitude of the landing runway crosswind sourced from SXM METAR within 20 NM of destination airport is greater than 20 kts.
"Engaging autopilot"	The ESP system is engaging the autopilot. See the Additional Features section for more details.
"Flaps"	The flaps are not in a landing configuration (50% or 100%).
"Glidepath, Glidepath"	The magnitude of the vertical deviation is greater than 75% of full scale. (GPS)
"Glideslope, Glideslope"	The magnitude of the vertical deviation is greater than 75% of full scale. (Non-GPS)
"Minimums, minimums"	Aircraft has descended below the preset barometric minimum descent altitude.
"Incoming Call"	A call has been received via the Iridium system.
"Runway too short"	Issued when the aircraft is taking off from a non-runway (e.g. a taxiway).
"Six hundred"	The aircraft is 600 feet above terrain or runway.
"Spin, spin, spin"	Spin entry detected.
"Stall"	Imminent stall is sensed by stall vane.
"Tailwind"	The landing runway tailwind is greater than 10 kts.
"TAS System Test Passed"	Played when the optional GTS traffic system passes a pilot-initiated self test.
"TAS System Test Failed"	Played when the optional GTS traffic system fails a pilot-initiated self test.
"Taxiway"	Issued when the aircraft is taking off from, or landing on, a runway with a length less than needed as entered.
"Taxiway"	Issued when the aircraft is taking off from, or landing on, a runway different than that entered in the Takeoff Data or Landing Data screen.
"Timer Expired"	Countdown timer on the PFD has reached zero.
"TIS Not Available"	Aircraft is outside TIS coverage area.
"Traffic"	TIS Traffic Advisory (TA) is issued with the TIS system.
"Traffic, (distance, bearing, altitude)"	TAS Traffic Advisory (TA) is issued with the optional GTS TAS system. See the Hazard Avoidance section for additional details on GTS voice alerts.
"Traffic System Test Passed"	Played when the GTX traffic system passes a pilot-initiated self test.
"Traffic System Test Failed"	Played when the GTX traffic system fails a pilot-initiated self test.
"Vertical track"	Aircraft is one minute from Top of Descent. Issued only when vertical navigation is enabled.

Selecting the audio alert voice:

1) Use the **FMS** Knob to select the 'AUX - System Setup' Page.
2) Press the **Setup 2** Softkey.
3) Push the **FMS** Knob to activate the cursor.
4) Turn the large **FMS** Knob to highlight the voice in the 'Audio' Box.
5) Turn the small **FMS** Knob to select the desired voice, press the **ENT** Key.

SYSTEM MESSAGE ADVISORIES

NOTE: *This section provides information regarding system message advisories that may be displayed by the system. Knowledge of the aircraft, systems, flight conditions, and other existing operational priorities must be considered when responding to a message.*

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

Message	Comments
ABORT APR – Loss of GPS navigation. Abort approach.	Abort approach due to loss of GPS navigation.
ADC1 ALT EC – ADC1 altitude error correction is unavailable.	The AHRS is reporting the altitude error correction is unavailable.
ADC1 AS EC – ADC1 airspeed error correction is unavailable.	The AHRS is reporting the airspeed error correction is unavailable.
ADC1 SERVICE – ADC1 needs service. Return unit for repair.	The AHRS should be serviced.
ADC2 ALT EC – ADC1 altitude error correction is unavailable.	The AHRS is reporting the altitude error correction is unavailable.
ADC2 AS EC – ADC2 airspeed error correction is unavailable.	The AHRS is reporting the airspeed error correction is unavailable.

Message	Comments
ADC2 SERVICE – ADC2 needs service. Return unit for repair.	The AHRS should be serviced.
AHRS MAG DB – AHRS magnetic model database version mismatch.	The AHRS earth magnetic field model is out of date. Update magnetic field model when practical.
AHRS1 CAL – AHRS1 calibration version error. Srvc req'd.	The AHRS calibration version error. The system should be serviced.
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.
AHRS1 GPS – AHRS1 using backup GPS source.	The 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 AHRS is not receiving any or any useful GPS information. Check current version of pertinent flight manual limitations. The system should be serviced.
AHRS1 GPS – AHRS1 not receiving backup GPS information.	The AHRS is not receiving backup GPS information. The system should be serviced.
AHRS1 GPS – AHRS1 operating exclusively in no-GPS mode.	The AHRS is operating exclusively in no-GPS mode. The system should be serviced.
AHRS1 SERVICE – AHRS1 Magnetic-field model needs update.	The AHRS earth magnetic field model is out of date. Update magnetic field model when practical.
AHRS1 TAS – AHRS1 not receiving airspeed.	The 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.
AHRS2 GPS – AHRS2 using backup GPS source.	The AHRS is using the backup GPS path. Primary GPS path has failed. The system should be serviced when possible.
AHRS2 GPS – AHRS2 not receiving any GPS information.	The AHRS is not receiving any or any useful GPS information. Check current version of pertinent flight manual limitations. The system should be serviced.

Message	Comments
AHRS2 GPS – AHRS2 not receiving backup GPS information.	The AHRS is not receiving backup GPS information. The system should be serviced.
AHRS2 GPS – AHRS2 operating exclusively in no-GPS mode.	The AHRS is operating exclusively in no-GPS mode. The system should be serviced.
AHRS2 SERVICE – AHRS2 Magnetic-field model needs update.	The AHRS earth magnetic field model is out of date. Update magnetic field model when practical.
AHRS2 TAS – AHRS2 not receiving airspeed.	The 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.
APPR INACTV – Approach is not active.	The system notifies the pilot the loaded approach is not active. Activate approach when required.
APR DWNGRADE – Approach downgraded.	Vertical guidance generated by SBAS is unavailable, use LNAV only minimums.
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.
AUDIO MANIFEST - Audio software mismatch, communication halted.	Incorrect audio software installed. The system should be serviced.
CO DET SRVC – The carbon monoxide detector needs service.	A failure has been detected in carbon monoxide detector has been detected. The detector may still be available. The system should be serviced when possible.
CO DET FAIL – The carbon monoxide detector is inoperative.	A failure in the carbon monoxide detector has been detected. The system should be serviced.
CHECK CRS – Database course for LOC1 / [LOC ID] is [CRS]°.	Selected course for LOC1 differs from published localizer course by more than 10 degrees.

Message	Comments
CHECK CRS – Database course for LOC2 / [LOC ID] is [CRS]°.	Selected course for LOC2 differs from published localizer course by more than 10 degrees.
CNFG MODULE – PFD1 configuration module is inoperative.	The PFD1 configuration module backup memory has failed. The system should be serviced.
COM #[1, 2] INOP - CAL - Check COM calibration.	COM 1 and/or COM 2 calibration version error. Check COM calibration.
COM #[1, 2] INOP - CRNT - Check COM current.	COM 1 and/or COM 2 current is low. Check COM current.
COM #[1, 2] INOP - INTRL - Com internal fault.	COM 1 and/or COM 2 has an internal fault.
COM #[1, 2] REDUCED TX POWER - COM synthesizer lock fault.	COM 1 and/or COM 2 has a reduced transmission power.
COM #[1, 2] INOP - SYNTH - COM synthesizer lock fault.	The COM 1 and/or COM 2 has a synthesizer lock fault.
COM1 CONFIG – COM1 config error. Config service req'd.	The COM1 configuration settings do not match backup configuration memory. The system should be serviced.
COM1 MANIFEST – COM1 software mismatch, communication halted.	COM1 software mismatch. The system should be serviced.
COM1 PTT – COM1 push-to-talk key is stuck.	The COM1 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.
COM1 RMT XFR – COM1 remote transfer key is stuck.	The COM1 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.
COM1 SERVICE – COM1 needs service. Return unit for repair.	The system has detected a failure in COM1. COM1 may still be usable. The system should be serviced when possible.

Message	Comments
COM1 TEMP – COM1 over temp. Reducing transmitter power.	The system has detected an over temperature condition in COM1. The transmitter operates at reduced power. If the problem persists, the system should be serviced.
COM2 CONFIG – COM2 config error. Config service req'd.	The COM2 configuration settings do not match backup configuration memory. The system should be serviced.
COM2 MANIFEST – COM2 software mismatch, communication halted.	COM2 software mismatch. The system should be serviced.
COM2 PTT – COM2 push-to-talk key is stuck.	The 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 RMT XFR – COM2 remote transfer key is stuck.	The COM2 transfer switch is stuck in the enabled (or "pressed") position. Press the transfer switch again to cycle its operation. If the problem persists, the system should be serviced.
COM2 SERVICE – COM2 needs service. Return unit for repair.	The system has detected a failure in COM2. COM2 may still be usable. The system should be serviced when possible.
COM2 TEMP – COM2 over temp. Reducing transmitter power.	The system has detected an over temperature condition in COM2. The transmitter operates at reduced power. If the problem persists, the system should be serviced.
COPILOT PRIM PTT KEYSTK - Copilot primary push-to-talk key is stuck.	The GMA 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.
COPILOT SEC PTT KEYSTK - Copilot secondary push-to-talk key is stuck.	The GMA 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.
COPILOT RADIOS MUTED - Copilot radios are muted.	The copilot radios are set on mute.

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 & PFD with preferred settings, if desired.
DB CHANGE – Database changed. Verify user modified procedures.	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 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.
DB MISMATCH – Navigation database 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 PFD and MFD have different terrain 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.

Message	Comments
DB MISMATCH – Obstacle database mismatch.	The PFD and MFD have different obstacle 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.
FAILED PATH – A data path has failed.	A data path connected to the GDU or the GIA has failed.
FPL WPT LOCK – Flight plan waypoint is locked.	Upon power-on, 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 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.
FS510 CARD ERROR – FS510 not detected in MFD Bottom Slot.	The multimedia card was removed from the bottom card slot of the MFD. The multimedia card needs to be reinserted.
G/S1 FAIL – G/S1 is inoperative.	A fault has been detected in glideslope receiver 1. The system should be serviced.
G/S1 SERVICE – G/S1 needs service. Return unit for repair.	A fault has been detected in glideslope receiver 1. The receiver may still be available. The system should be serviced when possible.
G/S2 FAIL – G/S2 is inoperative.	A fault has been detected in glideslope receiver 2. The system should be serviced.
G/S2 SERVICE – G/S2 needs service. Return unit for repair.	A fault has been detected in glideslope receiver 2. The receiver may still be available. The system should be serviced when possible.

Message	Comments
GCU CNFG – GCU Config error. Config service req'd.	GCU configuration settings do not match those of backup configuration memory. The system should be serviced.
GCU FAIL – GCU is inoperative.	A fault has been detected in the GCU. The GCU is unavailable.
GCU KEYSTK – GCU [key name] Key is stuck.	A key is stuck on the GCU bezel. Attempt to free the stuck key by pressing it several times. The system should be serviced if the problem persists.
GCU1 MANIFEST – GCU software mismatch, ommunication halted.	The GCU has incorrect software installed. The system should be serviced.
GDC1 MANIFEST – GDC1 software mismatch, communication halted.	The GDC has incorrect software installed. The system should be serviced.
GDC2 MANIFEST – GDC2 software mismatch, communication halted.	The GDC has incorrect software installed. The system should be serviced.
GDL69 CONFIG – GDL 69 config error. Config service req'd.	GDL 69A SXM configuration settings do not match those of backup configuration memory. The system should be serviced.
GDL69 FAIL – GDL 69 has failed.	A fault has been detected in the GDL 69A SXM. The receiver is unavailable. The system should be serviced.
GDL69 MANIFEST – GDL69 software mismatch, communication halted.	The GDL 69A SXM has incorrect software installed. The system should be serviced.
GEA #1 INOP- CAL - Check GEA rigging.	There is a problem with the GEA 1 rigging. Check the rigging.
GEA #1 INOP - CNFG - Check GEA software and configuration.	There is a problem with the GEA 1 software configuration. Check the configuration. If the problem persists, the system should be serviced.
GEA #1 CM INOP - COMM - Check GEA config module connection.	There is a problem with the GEA 1 config module connection. Check the connection.

Message	Comments
GEA #1 CM INOP - INTRL - GEA internal fault.	GEA 1 has an internal fault. The system should be serviced.
GEA #1 CM INOP - SENS - Check GEA configuration.	There is an error in the GEA 1 configuration. Check the configuration. If the problem persists, the system should be serviced.
GEA #1 CM INOP - TEMP - Check GEA config module cooling.	The GEA 1 configuration module has insufficient cooling. If the problem persists, the system should be serviced.
GEA #1 CM INOP - VOLT - Check GEA voltages.	The GEA 1 voltage is low. Check GEA voltages.
GEA1 CONFIG – GEA1 config error. Config service req'd.	The GEA1 configuration settings do not match those of backup configuration memory. The system should be serviced.
GEA1 MANIFEST – GEA1 software mismatch, communication halted.	The #1 GEA has incorrect software installed. The system should be serviced.
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.
GEO LIMITS – AHRS2 too far North/South, no magnetic compass.	
GFC MANIFEST – GFC software mismatch, communication halted.	Incorrect servo software is installed, or gain settings are incorrect.
GIA #[1, 2] INOP - CRNT - Check GIA current.	GIA 1 and/or GIA 2 current is low. The current should be checked.
GIA #[1, 2] OVER TEMP - Check GIA temperature.	GIA 1 and/or GIA 2 is reporting an over-temperature condition.
GIA #[1, 2] INOP - SERIAL - Check GIA serial communication.	Loss of GIA 1 and/or GIA 2 serial communication. Check GIA serial communication.
GIA #[1, 2] INOP - VOLT - Check GIA voltage.	GIA 1 and/or GIA 2 low voltage. Check voltage.

Message	Comments
GMA1 AUX MANIFEST – GMA 1 AUX software mismatch, communication halted.	The digital audio controller has incorrect software installed. 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.
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 MANIFEST – GMA1 software mismatch, communication halted.	The audio panel has incorrect software installed. The system should be serviced.
GMA1 SERVICE – GMA1 needs service. Return unit for repair.	The audio panel self-test has detected a problem in the unit. Certain audio functions may still be available, and the audio panel may still be usable. The system should be serviced when possible.
GMU1 MANIFEST – GMU1 software mismatch, communication halted.	The GMU has incorrect software installed. The system should be serviced.
GMC CONFIG – GMC Config error. Config service req'd.	Error in the configuration of the GMC.
GMC KEYSTK – GCU [key name] Key is stuck.	A key is stuck on the GMC bezel. Attempt to free the stuck key by pressing it several times. The system should be serviced if the problem persists.
GMC MANIFEST – GMC software mismatch, communication halted.	The GMC has incorrect software installed. The system should be serviced.
GPS #[1, 2] INSPECT RQRD - BATT - Check GPS battery.	The GPS battery needs to be checked.

Message	Comments
GPS #[1, 2] INSPECT INOP - CAL - Check GPS battery.	GPS 1 and/or GPS 2 calibration version error. Check GPS calibration.
GPS NAV LOST – Loss of GPS navigation. Insufficient satellites.	Loss of GPS navigation due to insufficient satellites.
GPS NAV LOST – Loss of GPS navigation. Position error.	Loss of GPS navigation due to position error.
GPS NAV LOST – Loss of GPS navigation. GPS fail.	Loss of GPS navigation due to GPS fault.
GPS1 SERVICE – GPS1 needs service. Return unit for repair.	A fault has been detected in the GPS1 and/or GPS2 receiver. The receiver may still be available. The system should be serviced.
GPS2 SERVICE – GPS2 needs service. Return unit for repair.	
GSR2 FAIL – GSR2 has failed.	A fault has been detected in the GSR 56. The transceiver is unavailable. The system should be serviced.
GRS2 MANIFEST – GRS2 software mismatch, communication halted.	The AHRS has incorrect software installed. The system should be serviced.
GTS CONFIG – GTS Config error. Config service req'd.	The GTS and GDU have different copies of the GTS configuration, or the Mode S address is invalid. The system should be serviced.
GTS MANIFEST – GTS software mismatch, communication halted.	The GTS has incorrect software installed. The system should be serviced.
GTX1 MANIFEST – GTX1 software mismatch, communication halted.	The transponder has incorrect software installed. The system should be serviced.
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 system should be serviced.

Message	Comments
HDG FAULT – AHRS2 magnetometer fault has occurred.	A fault has occurred in the #2 GMU 44. Heading is flagged as invalid. The AHRS uses GPS for backup mode operation. The system should be serviced.
HOLD EXPIRED – Holding EFC time expired.	Expect Further Clearance (EFC) time has expired for the User Defined Hold.
HW MISMATCH – GIA hardware mismatch. GIA1 communication halted.	A GIA mismatch has been detected; only one is SBAS capable.
HW MISMATCH – GIA hardware mismatch. GIA2 communication halted.	
INSIDE ARSPC – Inside airspace.	The aircraft is inside the airspace.
LOCKED FPL – Cannot navigate locked flight plan.	This occurs when the pilot attempts to activate a stored flight plan that contains locked waypoint. Remove locked waypoint from flight plan. Update flight plan with current waypoint.
LOI – GPS integrity lost. Crosscheck with other NAVS.	GPS integrity is insufficient for the current phase of flight.
MANIFEST – MFD1 software mismatch. Communication halted.	The MFD has incorrect software installed. The system should be serviced.
MANIFEST – PFD1 software mismatch. Communication halted.	The PFD has incorrect software installed. The system should be serviced.
MFD SOFTWARE – MFD mismatch, communication halted.	The specified GDU has different software versions installed. The system should be serviced.
MFD TERRAIN DSP – MFD Terrain awareness display unavailable.	One of the terrain or obstacle databases required for TAWS in the specified GDU is missing or invalid.
MFD1 BACKLIGHT CALIBRATION – MFD1 calibration. Return for repair.	The specified GDU's backlight calibration cannot be found or is invalid. The system should be serviced.

Message	Comments
MFD1 CARD 1 ERR – Card 1 is invalid.	The SD card in the top card slot of the specified MFD contains invalid data.
MFD1 CARD 1 REM – Card 1 was removed. Reinsert card.	The SD card was removed from the top card slot of the specified MFD. The SD card needs to be reinserted.
MFD1 CARD 2 ERR – Card 2 is invalid.	The SD card in the bottom card slot of the specified MFD contains invalid data.
MFD1 CARD 2 REM – Card 2 was removed. Reinsert card.	The SD card was removed from the bottom card slot of the specified MFD. The SD card needs to be reinserted.
MFD1 CONFIG – MFD1 config error. Config service req'd.	The MFD configuration settings do not match backup configuration memory. The system should be serviced.
MFD1 COOLING – MFD1 has poor cooling. Reducing power usage.	The MFD is overheating and is reducing power consumption by dimming the display. If problem persists, the system should be serviced.
MFD1 DB ERR – MFD1 multiple database errors exists.	The MFD detected a failure in more than one database. If problem persists, the system should be serviced.
MFD1 DB ERR – MFD1 obstacle database error exists.	The MFD detected a failure in the obstacle database. Reload databases with new data card. If problem persists, delete databases and reload with a new card.
MFD1 DB ERR – MFD1 obstacle database missing.	The obstacle database is present on another LRU, but is missing on the specified LRU.
MFD1 DB ERR – MFD1 terrain database error exists.	The MFD detected a failure in the terrain database. Reload databases with new data card. If problem persists, delete databases and reload with a new card.
MFD1 DB ERR – MFD1 terrain database missing.	The terrain database is present on another LRU, but is missing on the specified LRU.
MFD1 DB ERR – MFD1 terrain database missing.	The terrain database is present on another LRU, but is missing on the specified LRU.
MFD1 INOP - DISABLE DISPLAY - CHECK DISABLE DISPLAY INPUT WIRING	The specified GDU has insufficient voltage. The system should be serviced.

Message	Comments
MFD1 INOP - ECC ERROR - INTERNAL MEMORY UNSTABLE - NEEDS REPAIR.	The internal memory of the specified GDU is unstable. The system should be serviced.
MFD1 INOP - HTR CRNT - HEATER CURRENT ERROR.	The specified GDU has a heater current error. The system should be serviced.
MFD1 INOP - LED STR FAULT - REDUCED BACKLIGHT LEVEL - NEEDS REPAIR.	The specified GDU has reduced backlight levels. The system should be serviced.
MFD1 INOP - TEMP - CHECK EXTERNAL COOLING FANS.	The specified GDU is over-temperature. The system should be serviced.
MFD1 INSPECT RQRD – BTM SD - Bottom SD Card Unstable - Install new card.	The bottom SD card is unstable and should be replaced.
MFD1 INSPECT RQRD - INTERN SD – Internal Micro SD Unstable - Install new card.	The internal SD card is unstable and should be replaced.
MFD1 INSPECT RQRD – TOP SD - Top SD Card Unstable - Install new card.	The top SD card is unstable and should be replaced.
MFD1 SERVICE – MFD1 needs service. Return unit for repair.	The MFD self-test has detected a problem. The system should be serviced.
MFD1 KEYSTK – MFD1 [key name] is stuck.	A key is stuck on the MFD bezel. Attempt to free the stuck key by pressing it several times. The system should be serviced if the problem persists.
MFD1 VOLTAGE – MFD1 has low voltage. Reducing power usage	The MFD voltage is low. The system should be serviced.
NAV #[1, 2] INOP - CAL - Check COM calibration.	NAV 1 and/or NAV 2 calibration version error. Check COM calibration.
NAV #[1, 2] INOP - CRNT - Check COM current.	NAV 1 and/or NAV 2 current is low. Check COM current.

Message	Comments
NAV #[1, 2] INOP - INTRL - Com internal fault.	NAV 1 and/or NAV 2 has an internal fault.
NAV #[1, 2] INOP - SERIAL - Check NAV serial communication.	Loss of NAV 1 and/or NAV 2 serial communication. Check NAV serial communication.
NAV #[1, 2] INOP - SYNTH LOCK - COM synthesiser lock fault.	NAV 1 and/or NAV 2 has a synthesizer lock fault.
NAV1 MANIFEST – NAV1 software mismatch, communication halted.	NAV1 software mismatch. The system should be serviced.
NAV1 RMT XFR – NAV1 remote transfer key is stuck.	The remote NAV1 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.
NAV1 SERVICE – NAV1 needs service. Return unit for repair.	A failure has been detected in the NAV1 receiver. The receiver may still be available. The system should be serviced.
NAV2 MANIFEST – NAV2 software mismatch, communication halted.	NAV2 software mismatch. The system should be serviced.
NAV2 RMT XFR – NAV2 remote transfer key is stuck.	The remote 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 SERVICE – NAV2 needs service. Return unit for repair.	A failure has been detected in the NAV2 receiver. The receiver may still be available. The system should be serviced.
NON-MAG UNITS – Non-magnetic NAV ANGLE display units are active.	Navigation angle is not set to MAGNETIC at power-on.
NO RUNWAY POSITION DATA – Inhibit SurfaceWatch. No runway position data.	Inhibit SurfaceWatch.

Message	Comments
NON WGS84 WPT – Do not use GPS 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.
PFD1 BACKLIGHT CALIBRATION – PFD1 calibration lost. Return for repair.	The PFD1 backlight calibration cannot be found or is invalid. The system should be serviced.
PFD1 CONFIG – PFD1 config error. Config service req'd.	The PFD configuration settings do not match backup configuration memory. The system should be serviced.
PFD1 CARD 1 ERR – Card 1 is invalid.	The SD card in the top card slot of the specified PFD contains invalid data.
PFD1 CARD 1 REM – Card 1 was removed. Reinsert card.	The SD card was removed from the top card slot of the specified PFD. The SD card needs to be reinserted.
PFD1 CARD 2 ERR – Card 2 is invalid.	The SD card in the bottom card slot of the specified PFD contains invalid data.
PFD1 CARD 2 REM – Card 2 was removed. Reinsert card.	The SD card was removed from the bottom card slot of the specified PFD. The SD card needs to be reinserted.
PFD1 COOLING – PFD1 has poor cooling. Reducing power usage.	The PFD is overheating and is reducing power consumption by dimming the display. If problem persists, the system should be serviced.
PFD1 DB ERR – PFD1 obstacle database missing.	The obstacle database is present on another LRU, but is missing on the specified LRU.
PFD1 INOP - DISABLE DISPLAY - CHECK DISABLE DISPLAY INPUT WIRING	The specified GDU has insufficient voltage. The system should be serviced.
PFD1 INOP - ECC ERROR - INTERNAL MEMORY UNSTABLE - NEEDS REPAIR.	The internal memory of the specified GDU is unstable. The system should be serviced.
PFD1 INOP - HTR CRNT - HEATER CURRENT ERROR.	The specified GDU has a heater current error. The system should be serviced.

Message	Comments
PFD1 INOP - LED STR FAULT - REDUCED BACKLIGHT LEVEL - NEEDS REPAIR.	The specified GDU has reduced backlight levels. The system should be serviced.
PFD1 INOP - TEMP - CHECK EXTERNAL COOLING FANS.	The specified GDU is over-temperature. The system should be serviced.
PFD1 INSPECT RQRD – BTM SD - Bottom SD Card Unstable - Install new card.	The bottom SD card is unstable and should be replaced.
PFD1 INSPECT RQRD - INTERN SD – Internal Micro SD Unstable - Install new card.	The internal SD card is unstable and should be replaced.
PFD1 INSPECT RQRD – TOP SD - Top SD Card Unstable - Install new card.	The top SD card is unstable and should be replaced.
PFD1 KEYSTK – PFD1 [key name] is stuck.	A key is stuck on the PFD bezel. Attempt to free the stuck key by pressing it several times. The system should be serviced if the problem persists.
PFD1 SERVICE – PFD1 needs service. Return unit for repair.	The PFD self-test has detected a problem. The system should be serviced.
PFD1 TERRAIN DSP – PFD1 Terrain awareness display unavailable.	One of the terrain or obstacle databases required for TAWS in PFD1 is missing or invalid.
PFD1 VOLTAGE – PFD1 has low voltage. Reducing power usage	The PFD1 voltage is low. The system should be serviced.
PILOT PRIM PTT KEYSTK - Pilot primary push-to-talk key is stuck.	The GMA 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.
PILOT SEC PTT KEYSTK - Pilot secondary push-to-talk key is stuck.	The GMA 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.

Message	Comments
PILOT RADIOS MUTED – Pilot radios are muted.	The pilot radios are set on mute.
PTK FAIL – Parallel track unavailable: bad geometry.	Bad parallel track geometry.
PTK FAIL – Parallel track unavailable: invalid leg type.	Invalid leg type for parallel offset.
PTK FAIL – Parallel track unavailable: past IAF.	IAF waypoint for parallel offset has been passed.
REGISTER CONNEXT – Data services are inoperative, register w/ Connext.	The system is not registered with Garmin Connext or its current registration data has failed authentication.
SCHEDULER [#] – <message>.	Message criteria entered by the user.
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.
STEEP TURN – Steep turn ahead.	A steep turn is 15 seconds ahead. Prepare to turn.
STRMSCP FAIL – Stormscope has failed.	Stormscope has failed. The system should be serviced.
SURFACEWATCH DISABLED - Too far north/ south.	The SurfaceWatch system has been disabled.
SURFACEWATCH FAIL - Invalid audio configuration.	The SurfaceWatch system has failed due to an invalid audio configuration.
SURFACEWATCH FAIL - Invalid configurable alerts.	The SurfaceWatch system has failed due to invalid configurable alerts.
SURFACEWATCH FAIL - One or more inputs invalid.	The SurfaceWatch system has failed due to one or more invalid inputs.

Message	Comments
SURFACEWATCH INHIBITED - Surfacewatch inhibited.	The SurfaceWatch system has been inhibited.
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 (4.9 arc-second or better) is not currently installed.
SW MISMATCH – GDU software version mismatch. Xtalk is off.	The MFD and PFD have different software versions installed. The system should be serviced.
SYSTEM CONFIG – SYSTEM config error. Config service req'd.	The system configuration has changed unexpectedly. The system should be serviced.
TERRAIN AUD CFG – Trn Awareness audio config error. Service req'd.	Terrain audio alerts are not configured properly. The system should be serviced
TIMER EXPIRD – Timer has expired.	The system notifies the pilot the timer has expired.
TRAFFIC FAIL – Traffic device has failed.	The system is no longer receiving data from the traffic system. The traffic device should be serviced.
TRN AUD FAIL – Trn Awareness audio source unavailable.	The audio source for terrain awareness is offline. Check GIA1 or GIA 2.
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. 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. Excessive track angle error.	The current track angle error exceeds the limit, causing the vertical deviation to go invalid.

Message	Comments
VNV – Unavailable. Parallel course selected.	A parallel course has been selected, causing the vertical deviation to go invalid.
WPT ARRIVAL – Arriving at waypoint -[xxxx]	Arriving at waypoint [xxxx], where [xxxx] is the waypoint name.
XPDR1 ADS-B 1090 – Datalinik: ADS-B 1090 receiver has failed.	A failure has been detected in the 1090 receiver.
XPDR1 ADS-B FAIL – Transponder: XPDR1 is unable to transmit ADS-B messages.	ADS-B is inoperative. The transponder may not be receiving a valid GPS position. Other transponder functions may be available. Service when possible.
XPDR1 ADS-B NO POS – Transponder: ADS-B is not transmitting position.	The transponder is not able to receive position information.
XPDR1 ADS-B TRFC – Transponder: ADS-B traffic has failed	The Transponder is incapable of processing traffic information.
XPDR1 ADS-B UAT – Datalink: ADS-B in UAT receiver has failed.	A failure has been detected in the UAT receiver.
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.
XPDR1 CSA FAIL - Traffic: ADS-B In traffic alerting has failed.	ADS-B Conflict Situational Awareness (CSA) is unavailable.
XPDR1 FAIL – XPDR1 is inoperative.	There is no communication with the #1 transponder.
XPDR1 FAULT – Datalink: ADSB-B in has failed.	The transponder is unable to receive ADS-B information.
XPDR1 FIS-B WX – Datalink: FIS-B Weather has failed.	The transponder is unable to receive FIS-B weather information.

Message	Comments
XPDR1 OVER TEMP - Transponder: Transponder over temp.	The system has detected an over temperature condition in XPDR1. The transmitter operates at reduced power. If the problem persists, the system should be serviced.
XPDR1 PRES ALT – Transponder: ADS-B no pressure altitude.	Unable to provide pressure altitude information.
XPDR1 SRVC – XPDR1 needs service. Return unit for repair.	The #1 transponder should be serviced when possible.
XPDR1 UNDER TEMP - Transponder: Transponder under temp.	The system has detected an under temperature condition in XPDR1. The transmitter operates at reduced power. If the problem persists, the system should be serviced.
XTALK ERROR – A flight display crosstalk error has occurred.	The MFD and PFD are not communicating with each other. The system should be serviced.

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APPENDIX

DATABASE MANAGEMENT

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 flygarmin.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 flygarmin.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.*

The system uses Secure Digital (SD) cards to load various types of data. For basic flight operations, SD cards are required for database updates. Use only 8 GB, 16 GB, or 32 GB cards. If it is desired to leave the card in the system, only Garmin, OEM, or dealer provided cards should be used. SD Cards obtained elsewhere may be acceptable for database loading but must be removed when database loading is complete.

Databases may be loaded through Garmin Pilot™ and Wireless transceiver. When loading databases through Garmin Pilot and the Wireless transceiver, the Wireless transceiver must be enabled on the system and the multimedia card inserted in the bottom SD slot of the MFD.

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 – Databases' Page.*

NOTE: *Loading a database in the system prior to its effective date will result in the expiration date on the power-on screen and the effective date on the 'Aux – Databases' Page being displayed in amber.*

LOADING UPDATED DATABASES

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-Database' Page.*

The cycles and dates for both standby and active databases are displayed on the 'Aux – Databases' Page on the MFD. Any active databases with expiration dates in the past will be highlighted with amber text. When an expired active database has a standby database that is ready to become effective, a cyan double-sided arrow will be displayed between the database cycles. When this arrow is visible, it indicates the standby and active databases in that row will be switched on the next power cycle, activating the current standby database. Databases can also be manually selected (or deselected) by highlighting a list item and pressing the **ENT** Key, provided a valid, verified standby database is present.

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.

Update Databases Using a Supplemental Data Card

All databases are updated through a single SD card in the bottom slot of the MFD. When the card is inserted, the databases on the card will be copied to standby and synchronized across all powered, configured units. After update, the card is removed and the databases are stored on the system. When in standby, databases are not immediately available for use, but stored to be activated at a later time.

Database updates can be obtained by following the instructions detailed in the 'Aviation Databases' section of the Garmin website (flygarmin.com). Once the updated files have been downloaded from the website, a PC equipped with an appropriate SD card reader is used to unpack and program the new databases onto an existing Supplemental Data Card. When database files are loaded to the SD card, any previously loaded database files of the same type residing on the SD card will be overwritten. This includes loading a database of a different coverage area or data cycle than that currently residing on the SD card. Equipment required to perform the update is as follows:

- Windows-compatible PC computer
- SD Card Reader: SanDisk SDDR-93, SanDisk SDDR-99, Verbatim #96504, or equivalent
- Updated database obtained from the Garmin website
- Supplemental SD Cards

Update Databases:

1) With the system OFF, remove an SD Card from the bottom SD card slot of the MFD.

2) Download and install the databases on an SD card.
3) Put the SD Card in the bottom SD card slot of the MFD.
4) Turn the system ON.
5) Press the **ENT** Key or the right-most softkey on MFD display to acknowledge the startup screen.
6) Turn the large **FMS** Knob and select 'Aux'.
7) Turn the small **FMS** Knob and select 'Databases'.
8) Monitor the Sync Status on the 'Aux-Databases' Page. Wait for all databases to complete syncing, indicated by 'Sync Complete' being displayed. A cyan double-arrow will appear between the 'Standby' and 'Active' columns to show which Standby databases will be transferred to 'Active' at the next power cycle.
9) Verify the correct database cycle information is shown in the 'Standby' column.

*NOTE: The **Restart** Softkey is enabled only when the aircraft is on the ground.*

10) Press the **Restart** Softkey to restart the system and load the updated database(s), or remove power from the system if the **Restart** Softkey is subdued. A 10 second restart countdown will appear.
11) Press the **Restart** Button in the display window to continue with the restart of the system.
12) Press the **ENT** Key or the right-most softkey on MFD display to acknowledge the startup screen.
13) Turn the large **FMS** Knob and select 'Aux'.
14) Turn the small **FMS** Knob and select 'Databases'.
15) Verify the standby databases transferred and are now in the 'Active' column.
16) To manually activate any databases that did not transfer to the active column:
    a) Press the **FMS** Knob. The first database title on the screen will be selected.
    b) Turn the small **FMS** Knob as necessary to select the database title.
    c) Press the **ENT** Key. A cyan double-sided arrow will appear indicating the standby database will become active.

    Or:

    Press the **Menu** Key and select 'Swap Standby and Active' using the small **FMS** Knob and press the **ENT** Key. Press the **ENT** Key or the **FMS** Knob to exit.

*NOTE: The **Restart** Softkey is enabled only when the aircraft is on the ground.*

d) Press the **Restart** Softkey to restart the system and load the updated database(s), or remove power from the system if the **Restart** Softkey is subdued. A 10 second restart countdown will appear.

e) Press the **Restart** Button in the display window to continue with the restart of the system.

f) Press the **ENT** Key or the right-most softkey on MFD display to acknowledge the startup screen.

g) Turn the large **FMS** Knob and select 'Aux'.

h) Turn the small **FMS** Knob and select 'Databases'.

i) Verify the standby databases transferred and are now in the 'Active' column.

17) For additional information on each database, press and then turn the **FMS** Knob to select the database, and then press the **Details** Softkey. Press the **ENT** Key or the **FMS** Knob to exit.

Or:

Press the **Menu** Key and select 'Details' using the small **FMS** Knob and press the **ENT** Key. Press the **ENT** Key or the **FMS** Knob to exit.

18) To view database information for an individual display:

a) Turn the large **FMS** Knob and select 'Aux'.

b) Turn the small **FMS** Knob and select 'System Status'.

c) Press the Display Database Selection Softkey (MFD1 DB, PFD1 DB) to show database information for each display. Use the small **FMS** Knob to scroll through the database information. Press the **ENT** Key or the **FMS** Knob to exit.

Updating Databases Using the Wireless Transceiver

In order to load databases through Garmin Pilot and the Wireless Transceiver (also known as Flight Stream 510 or FS510), the Wireless Transceiver must be enabled on the system and inserted in the bottom SD slot of the MFD. A mobile device with Garmin Pilot must be paired with the wireless transceiver over Bluetooth (Refer to the Additional Features section). When there is at least one paired device available to connect, the wireless transceiver will automatically connect to the system's preferred mobile device. The preferred device can be selected on the 'Aux - Databases' Page from a menu list of paired devices.

Once a connection to the paired mobile device is made, Garmin Pilot makes available databases that can be transferred to the wireless transceiver. If any of these databases is more recent than the respective standby database on the system, (or if there is no standby database on the system) those databases will be automatically selected to load. The database updates may be initiated from the 'Aux - Databases' Page, or from other pages on the MFD.

NOTE: *The system will only provide a WIFI connection if new databases have been detected for download on Garmin Pilot WIFI a valid Bluetooth connection. If there are no database updates required the system will not provide a WiFi signal.*

NOTE: *If the mobile device has previously connected to the wireless transceiver, and is not connected to another WIFI source, the mobile device should connect automatically to the wireless transceiver. If the mobile device is connected to another WIFI source (i.e. hangar WIFI), then the wireless transceiver will not connect automatically.*

Update Databases from any MFD page (except the 'Aux - Databases' Page):

1) Insert the wireless transceiver SD Card in the bottom slot of the MFD if not already inserted.
2) Turn the system ON.
3) Press the **ENT** Key or the right-most softkey on MFD display to acknowledge the startup screen.
4) On the mobile device, start Garmin Pilot and touch **Home > Connext > Database Concierge.**
5) Turn the large **FMS** Knob and select 'Aux'.
6) Turn the small **FMS** Knob and select the 'Connext Setup'.
7) Ensure that WIFI Database Import is enabled in the 'Device' Window (Refer to Additional Features section for instructions to enable WIFI Database Import).
8) Verify the mobile device is enabled via Bluetooth in the Bluetooth settings on the mobile device.
9) In the 'Paired Devices' Window on the 'Connext Setup' Page, ensure the system is paired with the mobile device in use. (Refer to Additional Features for instructions on connection to a preferred device).

NOTE: *The database updates may now be continued from any MFD page, however, the update windows shown in these instructions will not be shown on the 'Aux - Databases' Page. Use the instructions for updating databases from the 'Aux - Databases' Page if desired.*

10) Press the **Update** Softkey when the following window appears. (Pressing the **View** Softkey will allow database updates to be viewed from the 'Aux Databases' Page, however, the windows shown below will not appear on the 'Aux Databases' Page. Pressing the **Ignore** Softkey will postpone the updates until further action is taken.)
11) If using a device that has not been previously paired with the system, a password prompt will appear on the mobile device. Enter the password shown in the 'Password' Field of the 'Aux - Connext Setup' Page.

12) The following window will appear. Database update progress may be monitored on the mobile device.

13) When the transfer is complete, the following screen will appear.

14) Press the **Close** Softkey.

NOTE: *The **Restart** Softkey is enabled only when the aircraft is on the ground.*

15) Select the **Restart** Softkey to restart the system and load the updated database(s), or remove power from the system if the **Restart** Softkey is subdued.

16) Press the **Restart** Button in the display window to continue with the restart of the system.

17) Press the **ENT** Key or the right-most softkey on MFD display to acknowledge the startup screen.

18) Turn the large **FMS** Knob and select 'Aux'.

19) Turn the small **FMS** Knob and select 'Databases'.

20) Verify the standby databases transferred and are now in the 'Active' column.

21) To manually activate any databases that did not transfer to the active column:

a) Push the **FMS** Knob. The first database title on the screen will be selected.

b) Turn the small **FMS** Knob as necessary to select the database title.

c) Verify the correct database cycle information is shown for each database for each display.

Or:

Press the **Menu** Key and select 'Details' using the small **FMS** Knob and press the **ENT** Key. Press the **ENT** Key or push the **FMS** Knob to exit.

NOTE: *The **Restart** Softkey is enabled only when the aircraft is on the ground.*

d) Press the **Restart** Softkey to restart the system and load the updated database(s), or remove power from the system if the **Restart** Softkey is subdued.

e) Press the **Restart** Button in the display window to continue with the restart of the system.

f) Press the **ENT** Key or the right-most softkey on MFD display to acknowledge the startup screen.

g) Turn the large **FMS** Knob and select 'Aux'.

h) Turn the small **FMS** Knob and select 'Databases'.

i) Verify the standby databases transferred and are now in the Active column.

22) For additional information on each database, press and then turn the **FMS** Knob to select the database, and then press the **Details** Softkey. Press the **ENT** Key or the **FMS** Knob to exit.

Or:

Press the **Menu** Key and select 'Details' using the small **FMS** Knob and press the **ENT** Key. Press the **ENT** Key or the **FMS** Knob to exit.

23) To view database information for an individual display:

a) Turn the large **FMS** Knob and select 'Aux'.

b) Turn the small **FMS** Knob and select 'System Status'.

c) Press the Display Database Selection Softkey (MFD1 DB, PFD1 DB) to show database information for each display. Use the small **FMS** Knob to scroll through the database information. Press the **ENT** Key or push the **FMS** Knob to exit.

Update Databases from the 'Aux - Databases' Page:

NOTE: *The system will only provide a WIFI connection if new databases have been detected for download on Garmin Pilot via a valid Bluetooth connection. If there are no database updates required the system will not provide a WIFI signal.*

NOTE: *If the mobile device has previously connected to the wireless transceiver, and is not connected to another WIFI source, the mobile device should connect automatically to the wireless transceiver. If the mobile device is connected to another WiFi source (i.e. hangar wifi), then the wireless transceiver will not connect automatically.*

1) Insert the wireless transceiver SD Card in the bottom slot of the MFD if not already inserted.

2) Turn the system ON.

3) Press the **ENT** Key or the right-most softkey on MFD display to acknowledge the startup screen.

4) On the mobile device, start Garmin Pilot and tap **Home > Connext > Database Concierge.**

5) Turn the large **FMS** Knob and select 'Aux'.

6) Turn the small **FMS** Knob and select the 'Connext Setup'.

7) Ensure that WIFI Database Import is enabled in the 'Device' Window (Refer to Additional Features section for instructions to enable WIFI Database Import).

8) Verify the mobile device is enabled via Bluetooth in the Bluetooth settings on the mobile device.

9) In the 'Paired Devices' Window on the 'Connext Setup' Page, ensure the system is paired with the mobile device in use. (Refer to Additional Features for instructions on connection to a preferred device).

10) Press the **Device** Softkey to view databases that are ready to be loaded from the mobile device (pressing the **Stby/Actv** Softkey will again display the current Standby and Active databases).

11) The 'Aux - Databases' Page will show the databases connected to the mobile device in place of the active databases on the system. Databases selected to load to the system will be indicated by a single cyan arrow.

12) Press the **Update** Softkey.

13) If using a device that has not been previously paired with the system, a password prompt will appear on the mobile device. Enter the password shown in the 'Password' Field of the 'Aux - Connext Setup' Page.

14) Database Update status will appear in the 'Status' Window at the top of the page. Monitor update progress in the 'Status' Window, or on the mobile device.

15) When all databases have been successfully transferred from the mobile device and appear in the Standby column, remove and reapply power to the system.

16) Press the **ENT** Key or the right-most softkey on MFD display to acknowledge the startup screen.

17) Turn the large **FMS** Knob and select 'Aux'.

18) Turn the small **FMS** Knob and select 'Databases'.

19) Verify the standby databases transferred and are now in the 'Active' column.

20) To manually activate any databases that did not transfer to the active column:

a) Push the **FMS** Knob. The first database title on the screen will be selected.

b) Turn the small **FMS** Knob as necessary to select the database title.

c) Verify the correct database cycle information is shown for each database for each display.

Or:

Press the **Menu** Key and select 'Details' using the small **FMS** Knob and press the **ENT** Key. Press the **ENT** Key or push the **FMS** Knob to exit.

NOTE: *The **Restart** Softkey is enabled only when the aircraft is on the ground.*

d) Press the **Restart** Softkey to restart the system and load the updated database(s), or remove power from the system if the **Restart** Softkey is subdued.

e) Press the **Restart** Button in the display window to continue with the restart of the system.

f) Press the **ENT** Key or the right-most softkey on MFD display to acknowledge the startup screen.

g) Turn the large **FMS** Knob and select 'Aux'.

h) Turn the small **FMS** Knob and select 'Databases'.

i) Verify the standby databases transferred and are now in the 'Active' column.

21) For additional information on each database, press and then turn the **FMS** Knob to select the database, and then press the **Details** Softkey. Press the **ENT** Key or the **FMS** Knob to exit.

Or:

Press the **Menu** Key and select 'Details' using the small **FMS** Knob and press the **ENT** Key. Press the **ENT** Key or push the **FMS** Knob to exit.

22) To view database information for an individual display:

a) Turn the large **FMS** Knob and select 'Aux'.

b) Turn the small **FMS** Knob and select 'System Status'.

c) Press the **ENT** Key. A cyan double-sided arrow will appear indicating the standby database will become active.

d) Press the Display Database Selection Softkey (MFD1 DB, PFD1 DB) to show database information for each display. Use the small **FMS** Knob to scroll through the database information. Press the **ENT** Key or push the **FMS** Knob to exit.

DATABASE DELETION FEATURE

If databases are not properly loading or functioning, and an attempt has been made to load the databases using a new SD card or multimedia card, it may be necessary to delete the databases from the system.

Deleting databases:

1) Turn the large **FMS** Knob and select 'Aux'.

2) Turn the small **FMS** Knob and select 'Databases'.

3) Press the **Menu** Key.

4) Turn the small **FMS** Knob to select 'Delete Databases.'

5) Press the **ENT** Key.

6) A prompt will appear to confirm deletion of all internal databases. Push the **ENT** Key.

7) Another prompt will appear to confirm deletion of all internal databases. Push the **ENT** Key.

*NOTE: The **Restart** Softkey is enabled only when the aircraft is on the ground.*

8) Press the **Restart** Softkey to restart the system and load the updated database(s), or remove power from the system if the **Restart** Softkey is subdued.
9) Press the **Restart** Button in the display window to continue with the restart of the system.
10) Press the **ENT** Key or the right-most softkey on MFD display to acknowledge the startup screen.
11) Turn the large **FMS** Knob and select 'Aux'.
12) Turn the small **FMS** Knob and select 'Databases'.
13) Confirm that all databases have been deleted from the system.

MAGNETIC FIELD VARIATION DATABASE UPDATE

A copy of the current magnetic field variation database (MV DB) is included with the navigation database. At startup, the system compares this version of the MV DB with that presently being used by each AHRS (GRS1 and GRS2). If the system determines the MV DB needs to be updated, a prompt is displayed on the MFD. Note, in the following example, GRS1 is the first AHRS to indicate an update is available. In actuality, this is dependent on which AHRS is the first to report status to the system. GRS2 may be displayed before GRS1. The order is not important, only that both AHRS be updated.

Load the magnetic field variation database update:

1) With 'OK' highlighted, press the **ENT** Key on the MFD. A progress monitor is displayed .
2) When the upload is complete, the prompt for the next GRS upload is displayed.
3) With 'OK' highlighted, press the **ENT** Key on the MFD. A progress monitor is displayed. When the upload is complete, the system is ready for use.

MAP SYMBOLS

Aviation Symbols

Item	Symbol
ARTCC Frequency or FSS Frequency	
Map Pointer (when panning)	
Elevation Pointer (on Topography Scale when panning)	
Measuring Pointer	

Item	Symbol
Wind Vector	
Overzoom Indicator	
User Waypoint	
Vertical Navigation Along Track Waypoint	
Parallel Track Waypoint	
Unanchored Flight Path Waypoint	
Top of Climb	
Bottom of Climb	
Top of Descent (TOD)	
Bottom of Descent (BOD)	
Navigating using Dead Reckoning	

PFD SOFTKEYS

Level 1	Level 2	Level 3	Level 4	Description
Map/ HSI				Displays the PFD Map display settings softkeys.
	Layout			Displays the PFD Map selection softkeys.
		Map Off		Removes the PFD map from display (Inset, HSI, or Traffic).

Level 1	Level 2	Level 3	Level 4	Description
		Inset Map		Displays the Inset Map.
		HSI Map		Displays the HSI Map.
		Inset Trfc		Replaces the PFD Map with a dedicated traffic display.
		HSI Trfc		Replaces the HSI Map with a dedicated traffic display.
	Detail			Selects desired amount of map detail: • **All** (No Declutter): All map features visible • **Detail 3**: Declutters land data • **Detail 2**: Declutters land and SUA data • **Detail 1**: Removes everything except for the active flight plan
	Traffic			Displays traffic information on PFD Map.
	Topo			Displays topographical data (e.g., coastlines, terrain, rivers, lakes) and elevation scale on PFD Map.
	TER			Displays relative terrain information on the PFD Map.
	WX LGND			Displays weather and coverage on PFD Map.
	NEXRAD			Displays XM NEXRAD weather and coverage on PFD Map (subscription optional).
	METAR			Displays METAR information on Inset Map (subscription optional).
	Lightning			Adds/removes the display of SiriusXM or Connext lightning information (based on data link weather source selection) on the PFD Map.
		LTNG Off		Disables lightning function on PFD Map. The softkey annunciator is green when the lightning function is off.
		Datalink		Selects the data link weather source for the PFD Map.
		STRMSCP		Adds or removes the display of Stormscope information on the PFD Map. The softkey annunciator is green when the function is on.
TFC Map				Replaces the PFD Map with a dedicated traffic display.
PFD Opt				Displays second-level softkeys for additional PFD options.
	SVT			Displays additional SVT overlay softkeys.

Level 1	Level 2	Level 3	Level 4	Description
		Pathways		Displays Pathway Boxes on the Synthetic Vision Display.
		Terrain		Enables synthetic terrain depiction.
		HDG LBL		Displays compass heading along the Zero-Pitch line.
		APT Sign		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.
		FPA Ref		Displays the FPA reference line on the SVT pitch scale at the selected angle.
		Wire		Displays power lines on the Synthetic Vision Display.
	AOA			Selects the display mode of the AOA Indicator (optional) • **Off**: Disables the display of the AOA Indicator on the PFD. • **Auto**: Enables automatic display of the AOA Indicator on the PFD when the angle of attack is ≥ 0.2, or when flaps are extended. • **On**: Enables the display of the AOA Indicator on the PFD.
	Wind			Displays the wind option softkeys.
		Off		Wind information not displayed.
		Option 1		Wind direction arrow with direction and speed.
		Option 2		Wind direction arrows with headwind and crosswind components.
	DME			Displays 'DME Information' Window.
	Bearing 1			Cycles the 'Bearing 1 Information' Window through NAV1, NAV2, GPS/waypoint ID and GPS-derived distance, and Off.
	Sensors			Displays the sensor selection softkeys.
		ADC		Displays ADC selection softkeys.
			ADC1	Selects the #1 ADC.
			ADC2	Selects the #2 ADC (optional).
		AHRS		Displays the AHRS selection softkeys.

Level 1	Level 2	Level 3	Level 4	Description
			AHRS1	Selects the #1 AHRS.
			AHRS2	Selects the #2 AHRS (optional).
	Bearing 2			Cycles the 'Bearing 2 Information' Window through NAV1, NAV2, GPS/waypoint ID and GPS-derived distance, and Off (optional).
	ALT Units			Displays softkeys to select altitude unit parameters.
		Meters		When enabled, displays altimeter in meters.
		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 if metric units are selected).
OBS				Selects OBS mode on the CDI when navigating by GPS (only available with active leg). When OBS is on, the softkey annunciator is green.
CDI				Cycles through GPS, NAV1, and NAV2 navigation modes on the CDI.
DME				Displays the 'DME Tuning' Window, allowing tuning and selection of the DME (optional).
XPDR				Displays the transponder selection softkeys.
	Standby			Selects transponder Standby Mode (transponder does not reply to any interrogations).
	On			Activates transponder (transponder replies to identification interrogations).
	ALT			Altitude Reporting Mode (transponder replies to identification and altitude interrogations).
	VFR			Automatically enters the VFR code (1200 in the U.S.A. only).
	Code			Displays transponder code selection softkeys 0-7.
		0 - 7		Use numbers to enter code.
		Ident		Activates the Special Position Identification (SPI) pulse for 18 seconds, identifying the transponder return on the ATC screen.
		BKSP		Removes numbers entered, one at a time.

Level 1	Level 2	Level 3	Level 4	Description
Ident				Activates the Special Position Identification (SPI) pulse for 18 seconds, identifying the transponder return on the ATC screen.
TMR/ REF				Displays 'References' Window to access the Timer, Vspeeds, Minimums, and Position.
Nearest				Displays 'Nearest Airports' Window.

MFD SOFTKEYS

Level 1	Level 2	Level 3	Description
Engine			Displays 'EIS - Engine' Page and second-level engine softkeys; select again to exit page (see the EIS Section for more information).
	Anti-Ice		Displays Anti-Ice Softkeys.
		Left	Selects manual mode and opens the left tank valve and closes the right tank valve.
		Auto	Selects Auto Tank Mode.
		Right	Selects manual mode and opens the right tank valve and closes the left tank valve.
	DCLTR		Declutters the 'Engine Temperatures' Box removing bars and temperatures displays.
	Assist		Identifies temperature peaks.
	Fuel-W&B		Displays 'Initial Usable Fuel' Page and softkeys.
		Full	Resets initial usable fuel to full.
		Tabs	Resets initial usable fuel to tabs.
		Undo	Rejects the last entry and resets to the previous entry.
		W&B	Saves the usable fuel amount shown on the 'Initial Usable Fuel' Page and displays the 'Aux - Weight and Balance' Page.
Map Opt			Displays second level Map Options softkeys.
	Traffic		Displays traffic information on 'Navigation - Map' Page.
	Inset		Displays inset window second level softkeys.
		Off	Removes the inset window from 'Navigation Map' Page.

Level 1	Level 2	Level 3	Description
		FPL PROG	Displays 'Flight Plan Progress' Window.
		VSD	Displays VSD inset on 'Navigation Map' Page. The softkey annunciator is green when the VSD is displayed.
		VSD	Selects VSD profile information to display: • **Auto**: Automatically displays either VSD profile information for active flight plan information or along current track with no active flight plan. • **FPL**: Displays VSD profile information for active flight plan. • **TRK**: Displays VSD profile information along current track.
	TER		Displays terrain on the map; cycles through the following: • **Off**: No terrain information shown on MFD Map. • **Topo**: Displays topographical data (e.g., coastlines, terrain, rivers, lakes) and elevation scale on MFD Map. • **REL**: Displays relative terrain information on the MFD Map.
	AWY		Displays airways on the map; cycles through the following: • **Off**: No airways are displayed. • **On**: All airways are displayed. • **LO**: Only low altitude airways are displayed. • **HI**: Only high altitude airways are displayed.
	STRMSCP		Displays Stormscope information on 'Navigation Map' Page (optional).
	NEXRAD or PRECIP		Displays XM NEXRAD weather and coverage on 'Navigation Map' Page (optional). Displays Garmin Connext radar precipitation and radar coverage information (optional).
	XM LTNG or DL LTNG		Displays XM lightning information on 'Navigation Map' Page (optional). Displays Connext Weather lightning information on the 'Navigation Map' Page (optional).

Level 1	Level 2	Level 3	Description
	METAR		Displays METAR information on Inset Map (subscription optional).
	Legend		Displays legends for the displayed XM Weather products (optional).
Detail			Selects desired amount of map detail; cycles through the following levels: • **Detail All**: All map features visible. • **Detail-3**: Declutters land data. • **Detail-2**: Declutters land and SUA data. • **Detail-1**: Removes everything except for the active flight plan.
Charts			When available, displays optional airport and terminal procedure charts.
	CHRT Opt		Displays chart display settings softkeys.
	SYNC		Displays the most pertinent chart based on the phase of flight and loaded procedures in the active flight plan.
	Info		Displays airport information: • **Info 1:** Displays 'Airport Information' Page • **Info 2:** Displays 'Airport Directory' Page
	DP		Displays departure procedure chart.
	STAR		Displays standard terminal arrival procedure chart.
	APR		Displays approach procedure chart.
	NOTAM		Displays NOTAM information for selected airport, when available.
Checklist			When available, displays optional checklists.
	DONE		Selects the highlighted checklist item.
	EXIT		Returns to the top-level softkeys.
	EMERGCY		Immediately accesses the emergency procedures.

MAP SYMBOLS

Land Symbols

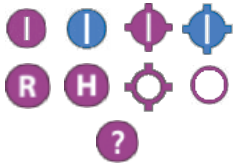
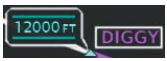
The following items are configured on the land menu:

Land Symbols	Symbol	Default Range (nm)	Maximum Range (nm)
User Waypoint	(Route) or (Airport)	25	40
Highways and Roads			
Interstate Highway (Freeway)		50	400
International Highway (Freeway)		50	400
US Highway (National Highway)		15	150
State Highway (Local Highway)		10	100
Local Road (Local Road)	N/A	4	25
Railroads (RAILROAD)		7.5	25
Large City (> 200,000)		100	1000
Medium City (> 50,000)		50	400
Small City (> 5,000)		25	100
State/Province		750	1000
River/Lake		75	100
Latitude/Longitude (LAT/LON)	N 39°10.00'	1	1000

Land Symbol Information

Aviation Symbols

The following items are configured on the aviation menu:

Aviation Symbols	Symbol	Default Range (nm)	Maximum Range (nm)
Large Airport (Longest Runway ≥ 8100 ft)		100	1000
Medium Airport (8100 ft > Longest Runway ≥ 5000 ft., or Longest Runway < 5000 ft. with control tower)		50	400
Small Airport (Longest Runway < 5000 ft without control tower) and Heliports		25	150
Taxiways (SafeTaxi)	See Additional Features	1.5	5
Runway Extension		7.5	150
Intersection (INT)		10	40
Non-directional Beacon (NDB)		25	50
VOR		50	250
Visual Reporting Point (VRP)		25	40
Temporary Flight Restriction (TFR)		250	1000
VNAV Constraints (manually modified) ('Show All' also displays auto-designated and published constraints)		1000	1000

Aviation Symbol Information

Airspace Symbols

The following items are configured on the airspace menu:

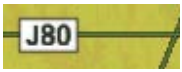
Airspace Symbols	Symbol	Default Range (nm)	Maximum Range (nm)
Class B Airspace Altitude Label (ceiling/floor)		*	*
Class C Airspace Altitude Label (ceiling/floor)		*	*
Class D Airspace Altitude Label (ceiling)		*	*
Class B/Terminal Manoeuvring Area** and surrounding airways** (CL B/TMA/AWY)		50	150
Class C Airspace/Control Area (CL C/CTA)		50	100
Class D Airspace/ Class A Airspace (CL A/D)		10	100
Restricted and Prohibited Areas (Restricted)		50	100
Military Operations Areas (MOA (Military))		50	250
ADIZ, Alert, Danger, and Warning (Other)	(see below)	50	250
ADIZ			
Alert			
Danger/Warning			

** Label placement and range is determined by the system for best display and minimal clutter*
*** Applies to European airspace only*

Airspace Symbol Information

AIRWAYS

The following items are configured on the airways menu:

Airways Symbols	Symbol	Default Range (nm)	Maximum Range (nm)
Low Altitude Airways (V Routes and T Routes)		50	100
High Altitude Airways (J Routes and Q Routes)		50	100

Airways Symbol Information

The flight plan is displayed on maps using different line widths, colors, and types, based on the type of leg and the segment of the flight plan currently being flown (departure, enroute, arrival, approach, or missed approach).

Flight Plan Leg Type	Symbol
Active Course Leg*	
Active Heading Leg*	
Active Roll Steering Path*†	
Course Leg in the current flight segment	
Course Leg not in the current flight segment	
Heading Leg	
Roll Steering Path †	

Flight Plan Leg Type	Symbol
Future Roll Steering Path ‡	
Turn Anticipation Arc	

* *The active leg or path is the one currently being flown, and is shown in magenta.*

† *A Roll Steering Path is displayed for: transitions between two disconnected legs (i.e. holding), some procedure turn segments, parallel track segments, or transitions after some fly-over waypoints (discussed later in this section).*

‡ *A Roll Steering Path that is beyond the next leg will appear as a Future Roll Steering Path. When a Future Roll Steering Path becomes the next leg, it appears as a Roll Steering Path.*

Flight Plan Leg Symbols

Importing and Exporting Flight Plans

Under certain conditions, some messages may appear when a flight plan is imported or exported.

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.

Flight Plan Import/Export Results	Description
'Some waypoints not loaded. Waypoints locked.'	The flight plan on the SD card contains one or more waypoints the system cannot find in the navigation database. The flight plan has been imported, but must be edited within the system before it can be activated for use.
'User waypoint database full. Not all loaded.'	The flight plan file on the SD card contains user waypoints. The quantity of stored user waypoints has exceeded system capacity, therefore not all the user waypoints on the SD card have been imported. Any flight plan user waypoints that were not imported are locked in the flight plan. The flight plan must be edited within the system before it can be activated for use.
'One or more user waypoints renamed.'	One or more imported user waypoints were renamed when imported due to naming conflicts with waypoints already existing in the system.
'Flight plan successfully exported.'	The stored flight plan was successfully exported to the SD card.
'Flight plan export failed.'	The stored flight plan was not successfully exported to the SD card. The SD card may not have sufficient available memory or the card may have been removed prematurely.

Flight Plan Import/Export Messages

Blank Page

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GARMIN

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