

# G1000<sup>®</sup> NXi

## Cockpit Reference Guide





**FLIGHT INSTRUMENTS**

**ENGINE INDICATION SYSTEM (EIS)**

**NAV/COM/TRANSPONDER/AUDIO PANEL**

**FLIGHT MANAGEMENT SYSTEM**

**HAZARD AVOIDANCE**

**AUTOMATIC FLIGHT CONTROL SYSTEM**

**ADDITIONAL FEATURES**

**ANNUNCIATIONS & ALERTS**

**ABNORMAL OPERATION**

**APPENDIX**

**INDEX**



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This manual reflects the operation of System Software version 2501.00 or later for the Cessna Nav III. Some differences in operation may be observed when comparing the information in this manual to earlier or later software versions.

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**WARNING:** 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.

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**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.

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**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.

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**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.

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**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.

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**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.

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**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.

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

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**WARNING:** Always obtain qualified instruction prior to operational use of this equipment.

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**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.

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**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.

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**WARNING:** When using the autopilot to fly 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.

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**WARNING:** Traffic information shown on system displays is provided as an aid in visually acquiring traffic. Traffic avoidance maneuvers are based upon TCAS II Resolution Advisories, ATC guidance, or positive visual acquisition of conflicting traffic.

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**WARNING:** Because of variation in the earth's magnetic field, do not rely on the accuracy of attitude and heading indications (GRS 77 installations only) in the following geographic areas: 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).

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**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.

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**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.

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**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.

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

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**WARNING:** Do not operate the weather radar in a transmitting mode when personnel or objects are within the MPEL boundary.

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**WARNING:** Always position the weather radar gain setting to Calibrated for viewing the actual intensity of precipitation. Changing the gain in weather mode causes precipitation intensity to be displayed as a color not representative of the true intensity.

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**WARNING:** Do not use TAWS information for primary terrain or obstacle avoidance. TAWS is intended only to enhance situational awareness.

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

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**CAUTION:** Repairs should only be made by an authorized Garmin service center. Unauthorized repairs or modifications could void both the warranty and affect the airworthiness of the aircraft.

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**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.

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**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.

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**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.

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**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.

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**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.

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

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**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](http://www.garmin.com/prop65).

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**NOTE:** Operating the system in the vicinity of metal buildings, metal structures, or electromagnetic fields can cause sensor differences that may result in nuisance miscompare 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.

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**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.

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**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 are assured compliance with all data quality requirements (DQRs) by virtue of a Type 2 Letter of Authorization (LOA) from the FAA. A copy of the Type 2 LOA is available for each database and can be viewed at <http://fly.garmin.com> by selecting 'Type 2 LOA Status.'
  - 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.
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**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 [www.flygarmin.com](http://www.flygarmin.com) by selecting 'Database Exclusions List.'

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**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 [www.flygarmin.com](http://www.flygarmin.com) by selecting 'Aviation Database Alerts.'

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

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**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](http://FlyGarmin.com) and select 'Aviation Data Error Report'.

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**NOTE:** When operating the system with the magnetic sensor uncoupled from the AHRS, the displayed heading and heading information used by some system components (e.g. traffic system, AFCS, and weather radar) will be different from the heading calculated by the AHRS. The difference is an amount equal to the difference between the current Magnetic Field Variation Database (MV DB) value, and the MV DB value when the magnetic sensor was uncoupled. Due to the convergence of isogonic lines, this condition is most noticeable at or near the north and south magnetic poles.

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**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.

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**NOTE:** Operate G1000 NXi system power through at least one cycle in a period of four days of continuous operation to avoid an autonomous system reboot.

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**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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**NOTE:** *The system supports approval of AC 120-76C Hardware Class 3, Software Type B Electronic Flight Bag (EFB) electronic aeronautical chart applications. Possible additional requirements may make a secondary source (traditional paper or additional electronic display) necessary onboard the aircraft. If the secondary source is a Portable Electronic Device (PED), its use must be consistent with guidance in AC 120-76C.*

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<b>Part Number</b>	<b>Change Summary</b>
190-02178-00	Production Release

<b>Revision</b>	<b>Date of Revision</b>	<b>Affected Pages</b>	<b>Description</b>
A	November 2016	All	Initial release at GDU 20.00
B	December 2016	All	Added CAS Messages Added SurfaceWatch Alerts Added AFCS Alerts Updated other messages

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<b>FLIGHT INSTRUMENTS</b> .....	1
Selecting the Altimeter Barometric Pressure Setting .....	1
Selecting Standard Barometric Pressure (29.92 in Hg) .....	1
Change Altimeter Barometric Pressure Setting Units .....	1
Displaying the Metric Altitude Overlay .....	1
Setting Baro transition alerts .....	2
Change Navigation Sources .....	2
Enable/Disable OBS Mode While Navigating with A GPS Flight Plan .....	3
Displaying The DME Information Window .....	3
Generic Timer .....	3
Configure Vspeed Bugs Individually .....	3
Modifying Vspeeds as a Group (All On, All Off, Restore Defaults) .....	4
Set Barometric Minimum Descent Altitude/Decision Height .....	4
Displaying Wind Data .....	4
<b>ENGINE INDICATION</b> .....	5
Engine Displays .....	5
Engine Page .....	18
Turbine Inlet Temperature .....	19
Exhaust Gas Temperature .....	19
Cylinder Head Temperature .....	19
Lean Engine Page .....	20
Fuel Calculations .....	21
Oil Pressure and Temperature Gauges .....	23
Fuel Quantity .....	23
Crew Alerting System (CAS) .....	24
<b>NAV/COM/TRANSPONDER/AUDIO PANEL</b> .....	25
Enter or Change a Flight ID (Optional) .....	25
ADF Tuning (Optional) .....	25
DME Tuning (Optional) .....	25
Selecting Transponder Mode .....	25
Enter a Transponder Code .....	26
Selecting a COM Radio .....	26
Selecting a NAV Radio .....	26
NAV/COM Tuning .....	26
Auto-Tuning Radios On The PFD .....	27
Auto-Tuning Radios On The MFD .....	27
Split COM .....	27
Digital Clearance Recorder and Player .....	28
Intercom System (ICS) Isolation .....	28

**FLIGHT MANAGEMENT** ..... 29

**Changing A Field In The MFD Navigation Status Box** ..... 29

**USING MAP DISPLAYS** ..... 29

**Changing The Navigation Map Orientation** ..... 29

**Configuring Automatic Zoom** ..... 29

**Panning The Map** ..... 30

**Reviewing Information For An Airport, NAVAID, Or User Waypoint** ..... 30

**Viewing Airspace Information For A Special-Use Or Controlled Airspace** ..... 30

**Displaying/Removing Topographic Data On The PFD Inset Map Or The HSI Map** ..... 31

**Displaying/Removing Topographic Data Using The Navigation Map Page Menu** ..... 31

**Setting Up The ‘Land’, ‘Aviation’ Or ‘Airspace’ Group Items** ..... 31

**Decluttering The Map** ..... 32

**Decluttering The PFD Inset Map** ..... 32

**Displaying/Removing Airways** ..... 32

**Selecting An Airway Range (Low ALT Airways or High ALT Airways)** ..... 32

**Displaying/Removing The Track Vector** ..... 33

**Displaying/Removing The Fuel Range Ring And Selecting A Fuel Range Time** ..... 33

**Displaying/Removing The Selected Altitude Intercept Arc** ..... 33

**WAYPOINTS** ..... 34

**Selecting An Airport For Review By Identifier, Facility Name, Or Location** ..... 34

**Selecting A Runway** ..... 34

**Viewing A Destination Airport** ..... 34

**Viewing Information For A Nearest Airport On The PFD** ..... 34

**Viewing Information For A Nearest Airport On The MFD** ..... 35

**Viewing Runway Information For A Specific Airport** ..... 35

**Selecting An Intersection** ..... 35

**Selecting An NDB** ..... 36

**Selecting A VOR** ..... 36

**Selecting A VRP** ..... 36

**Selecting A User Waypoint** ..... 36

**Creating User Waypoints From The User Waypoint Information Page** ..... 36

**Creating User Waypoints From Map Pages** ..... 37

**Changing The Altitude Buffer Distance Setting** ..... 38

**AIRSPACES** ..... 38

**Turning An Airspace Alert On Or Off** ..... 38

**Selecting And Viewing An Airspace Alert With Its Associated Information** ..... 39

**Turning Smart Airspace On Or Off** ..... 39

**DIRECT-TO NAVIGATION** ..... 39

**Entering A Waypoint Identifier, Facility Name, Or City As A Direct-To Destination** ..... 39

**Selecting An Active Flight Plan Waypoint As A Direct-To Destination** ..... 40

- Selecting A Nearest, Recent Or User Waypoint As A Direct-To Destination ..... 40
- Cancelling A Direct-To..... 41
- Selecting A Manual Direct-To Course..... 41
- Entering A VNV Altitude And Along-Track Offset For The Waypoint..... 41
- Removing A VNV Altitude Constraint..... 41
- FLIGHT PLANNING ..... 42**
  - Creating An Active Flight Plan ..... 42
  - Adding A Waypoint To The Active Flight Plan ..... 43
  - Creating And Adding User Waypoints To The Active Flight Plan..... 43
  - Adding An Airway To A Flight Plan ..... 44
  - Collapse/Expand Airways in a Flight Plan ..... 44
  - Storing An Active Flight Plan From The Active Flight Plan Page or  
the Active Flight Plan Window..... 44
  - Activating A Stored Flight Plan On The MFD..... 45
  - Inverting And Activating A Stored Flight Plan On The MFD..... 45
  - Import a Flight Plan from an SD Card..... 45
  - Export a Flight Plan to an SD Card ..... 46
  - Previewing a flight plan transfer from a wireless connection:..... 46
  - Ignoring a flight plan transfer from a wireless connection:..... 47
  - Storing a pending flight plan: ..... 47
  - Activating a pending flight plan:..... 47
  - Deleting a pending flight plan: ..... 48
  - Deleting all pending flight plans: ..... 48
  - Deleting The Active Flight Plan ..... 48
  - Deleting An Individual Waypoint From The Active Flight Plan..... 49
  - Deleting An Entire Airway From The Active Flight Plan..... 49
  - Deleting An Entire Procedure From The Active Flight Plan ..... 49
  - Entering An Along Track Offset Distance ..... 50
  - Activating Parallel Track ..... 50
  - Cancelling Parallel Track ..... 50
  - Activating A Flight Plan Leg ..... 51
  - Inverting The Active Flight Plan ..... 51
  - Inverting And Activating A Stored Flight Plan..... 51
  - Switching Between Leg-To-Leg Waypoint Distance And  
Cumulative Waypoint Distance..... 52
  - Determining The Closest Point Along The Active Flight Plan  
To A Selected Waypoint..... 52
  - Creating A User-Defined Hold At An Active Flight Plan Waypoint..... 52
  - Creating A User-Defined Hold At The Aircraft Present Position..... 53
  - Creating A User-Defined Hold At A Direct-To Waypoint..... 53
  - Exiting A User-Defined Hold Inserted Into The Active Flight Plan..... 54
  - Removing A User-Defined Hold Inserted Into The Active Flight Plan ..... 54
  - Removing A User-Defined Hold At An Off-Route Direct-To..... 54

<b>VERTICAL NAVIGATION</b> .....	55
Enabling VNV Guidance .....	55
Disabling VNV Guidance .....	55
Altitude Constraints .....	56
Designating A Waypoint Altitude To Be Used For Vertical Guidance .....	57
Designating A Procedure Waypoint Altitude To Be Used For Vertical Guidance .....	58
Entering/Modifying An Altitude Constraint .....	58
Activating A Vertical Navigation Direct-To .....	59
Modifying The VS TGT And FPA .....	59
Deleting An Altitude Constraint Provided By The Navigation Database .....	59
Deleting An Altitude Constraint That Has Been Manually Entered .....	59
Reverting A Manually Entered Altitude Constraint Back To The Navigation Database Value .....	60
Modifying A System Calculated Altitude Constraint .....	60
<b>PROCEDURES</b> .....	60
Loading A Departure Into The Active Flight Plan Using The PROC Key .....	60
Viewing Available Departures At An Airport .....	61
Removing A Departure Procedure From The Active Flight Plan .....	61
Loading An Arrival Into The Active Flight Plan Using The PROC Key .....	62
Viewing Available Arrivals At An Airport .....	62
Loading An Approach Into The Active Flight Plan Using The PROC Key .....	63
Viewing Available Approaches At An Airport .....	64
Activating A Previously Loaded Approach With Vectors To Final .....	65
Removing An Approach From The Active Flight Plan .....	65
Activating A Missed Approach In The Active Flight Plan .....	65
Activating Temperature Compensated Altitude .....	65
Cancelling Temperature Compensated Altitude .....	66
<b>TRIP PLANNING</b> .....	66
Selecting Automatic Or Manual Page Mode .....	66
Selecting Flight Plan Or Waypoint Mode .....	66
Selecting A Flight Plan And Leg For Trip Statistics .....	66
Selecting Waypoints For Waypoint Mode .....	66
Entering Manual Data For Trip Statistics Calculations .....	67
<b>RAIM PREDICTION</b> .....	67
Predicting RAIM Availability At A Selected Waypoint .....	67
Predicting RAIM Availability At The Aircraft Present Position .....	68
Enabling/Disabling SBAS .....	68

<b>HAZARD AVOIDANCE</b> .....	69
<b>Customizing the Hazard Displays on the Navigation Map Page:</b> .....	69
<b>STORMSCOPE® (Optional)</b> .....	69
<b>SiriusXM Weather (Optional)</b> .....	70
<b>FIS-B Weather</b> .....	75
<b>Terrain Avoidance (Terrain Proximity, Terrain-SVT, TAWS)</b> .....	84
<b>AUTOMATIC FLIGHT CONTROL SYSTEM</b> .....	87
<b>Activating The Flight Director</b> .....	87
<b>Vertical Modes</b> .....	88
<b>Lateral Modes</b> .....	88
<b>Combination Modes (VNV, APR, NAV, BC, GA)</b> .....	89
<b>ADDITIONAL FEATURES</b> .....	91
<b>Synthetic Vision</b> .....	91
<b>Terminal Procedure Charts</b> .....	92
<b>Airport Directory</b> .....	95
<b>SiriusXM™ Radio Entertainment</b> .....	95
<b>Scheduler</b> .....	97
<b>SurfaceWatch (Optional)</b> .....	99
<b>Pilot Profiles</b> .....	99
<b>Bluetooth® Management</b> .....	102
<b>Electronic Checklists</b> .....	104
<b>Auxiliary Video (Optional)</b> .....	106
<b>ABNORMAL OPERATION</b> .....	109
<b>Reversionary Mode</b> .....	109
<b>Abnormal COM Operation</b> .....	109
<b>Hazard Displays with Loss of GPS Position</b> .....	109
<b>Unusual Attitudes</b> .....	110
<b>Dead Reckoning</b> .....	110
<b>ANNUNCIATIONS &amp; ALERTS</b> .....	113
<b>System Annunciations</b> .....	113
<b>CAS Annunciations</b> .....	115
<b>WARNING Annunciation</b> .....	115
<b>CAUTION Annunciation</b> .....	115
<b>Safe Operating Annunciation (T182, T206, and 206 with Prop De-Ice Only)</b> .....	115
<b>Alert Message</b> .....	116
<b>CO Guardian Messages</b> .....	116
<b>Terrain-SVT Alerts</b> .....	116
<b>Terrain-SVT System Status Annunciations</b> .....	117
<b>TAWS-B Alerts</b> .....	118

<b>TAWS-B System Status Annunciations .....</b>	<b>119</b>
<b>GDL 69A SXM Data Link Receiver Messages .....</b>	<b>120</b>
<b>SurfaceWatch Alerts .....</b>	<b>121</b>
<b>AFCS Alerts .....</b>	<b>121</b>
<b>Voice Alerts .....</b>	<b>122</b>
<b>System Message Advisories .....</b>	<b>123</b>
<b>Flight Plan Import/Export Messages .....</b>	<b>141</b>
<b>APPENDIX .....</b>	<b>143</b>
<b>PFD Softkey Maps .....</b>	<b>143</b>
<b>Loading Updated Databases .....</b>	<b>150</b>
<b>Magnetic Field Variation Database Update .....</b>	<b>155</b>
<b>INDEX .....</b>	<b>Index-1</b>

# FLIGHT INSTRUMENTS

## SELECTING THE ALTIMETER BAROMETRIC PRESSURE SETTING

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

## SELECTING STANDARD BAROMETRIC PRESSURE (29.92 IN HG)

- 1) Press the **PFD Opt** Softkey.
- 2) Press the **STD Baro** Softkey to set standard barometric pressure.

## CHANGE 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.

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

## DISPLAYING THE METRIC ALTITUDE OVERLAY

- 1) Press the **PFD Opt** Softkey to display the second-level softkeys.
- 2) Press the **ALT Units** Softkey
- 3) Press the **Meters** Softkey to enable metric altitude overlays.
- 4) Press the **Back** Softkey twice to return to the top-level PFD softkeys.

## SETTING BARO TRANSITION ALERTS

- 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.

## CHANGE NAVIGATION SOURCES

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

## ENABLE/DISABLE OBS MODE WHILE NAVIGATING WITH 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 the **CRS** Knob to synchronize the Selected Course with the bearing to the next waypoint.
- 3) Press the **OBS** Softkey again to disable OBS Mode.

## DISPLAYING THE DME INFORMATION WINDOW

- 1) Press the **PF D Opt** Softkey.
- 2) Press the **DME** Softkey to display the DME Information Window above the BRG1 Information Window.
- 3) To remove the DME Information Window, press the **DME** Softkey again.

## GENERIC TIMER

- 1) Press the **Tmr/Ref** Softkey, then turn the large **FMS** Knob to select the timer field (hh/mm/ss). Turn the **FMS** Knobs to set the desired time, then press the **ENT** Key. The Up/Dn field is now highlighted.
- 2) Turn the small **FMS** Knob to display the Up/Down window. Turn the **FMS** Knob to select 'Up' or 'Dn', then press the **ENT** Key. 'Start?' is now highlighted.
- 3) Press the **ENT** Key to Start, Stop, or Reset the timer (if the timer is counting down, it will start counting up after reaching zero). Press the **CLR** Key or the **Tmr/Ref** Softkey to remove the window.

## CONFIGURE VSPEED BUGS INDIVIDUALLY

- 1) Press the **Tmr/Ref** Softkey.
- 2) Turn the large **FMS** Knob to highlight the desired Vspeed.
- 3) Use the small **FMS** Knob to change the highlighted Vspeed in 1-kt increments. When a speed has been changed from its default value, an asterisk appears next to the changed speed.
- 4) Press the **ENT** Key or turn the large **FMS** Knob to highlight the On/Off field
- 5) Turn the small **FMS** Knob clockwise to 'On' or counterclockwise to 'Off'.
- 6) To remove the window, press the **CLR** Key or the **Tmr/Ref** Softkey.

**MODIFYING VSPEEDS AS A GROUP (ALL ON, ALL OFF, RESTORE DEFAULTS)**

- 1) Press the **Tmr/Ref** Softkey.
- 2) Press the **MENU** Key.
- 3) Turn the **FMS** Knob to highlight the desired selection.
- 4) Press the **ENT** Key.
- 5) To remove the window, press the **CLR** Key or the **Tmr/Ref** Softkey.

**SET BAROMETRIC MINIMUM DESCENT ALTITUDE/DECISION HEIGHT**

- 1) Press the **Tmr/Ref** Softkey.
- 2) Turn the large **FMS** Knob to highlight the Off/BARO/TEMP COMP field to the right of 'MINS'.
- 3) Turn the small **FMS** Knob clockwise to select BARO or TEMP COMP. Off is selected by default.
- 4) Press the **ENT** Key or turn the **FMS** Knob to highlight the next field.
- 5) Use the small **FMS** Knob to enter the desired altitude (BARO or TEMP COMP from zero to 16,000 feet). If TEMP COMP was selected, a field for entering the airport temperature appears. Press the **ENT** Key or turn the large **FMS** Knob to highlight this field, and use the small **FMS** Knob to enter the temperature.
- 6) Press the **ENT** Key.
- 7) To remove the window, press the **CLR** Key or the **Tmr/Ref** Softkey.

**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.
- 4) To remove the Wind Data Window, press the **Off** Softkey.
- 5) Press the **Back** Softkey twice to return to the top-level PFD softkeys.

## ENGINE INDICATION

### ENGINE DISPLAYS

Engine displays for the 172R, 172S, 182T, T182T, 206H & T206H variants are shown on the subsequent pages.

Flight Instruments

EIS

Nav/Com/XPDR/Audio

Flight Management

Hazard Avoidance

AFCs

Additional Features

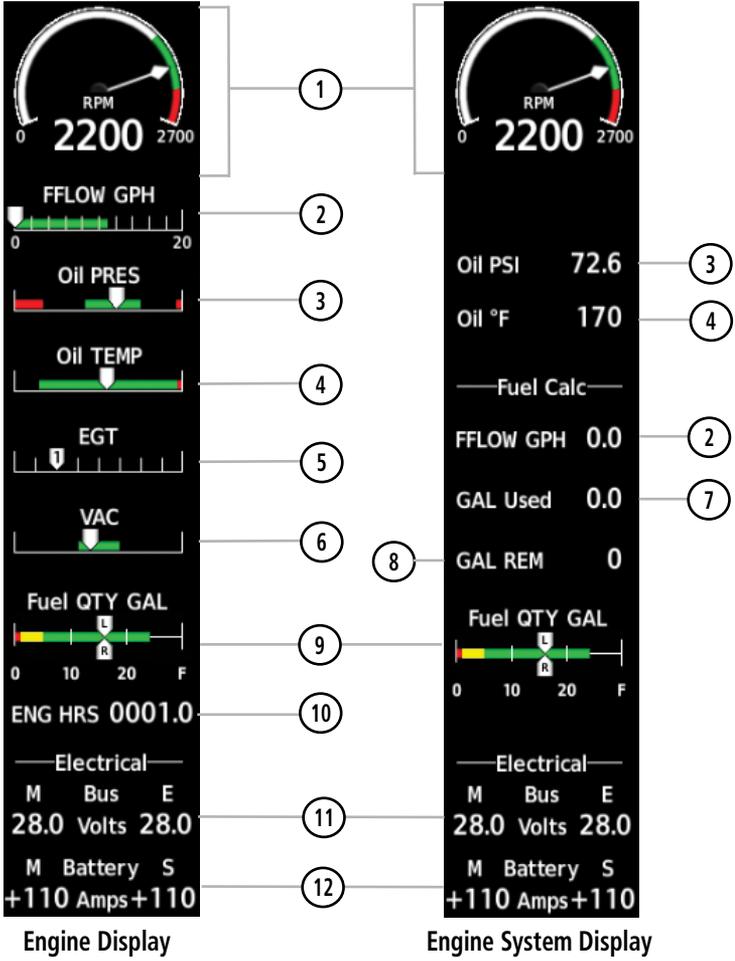
Abnormal Operation

Annun/Alerts

Appendix

Index

- Flight Instruments
- EIS
- Nav/Com/XPDR/Audio
- Flight Management
- Hazard Avoidance
- AFCS
- Additional Features
- Abnormal Operation
- Annun/Alerts
- Appendix
- Index



- |   |  |   |
|---|--|---|
| ① | <b>Tachometer Indicator (RPM)</b>              | Displays engine tachometer in revolutions per minute (RPM)  |
| ② | <b>Fuel Flow Indicator (FFLOW GPH)</b>         | Displays fuel flow in gallons per hour (gph)  |
| ③ | <b>Oil Pressure Indicator (OIL PSI)</b>        | Displays oil pressure in pounds per square inch (psi)   |
| ④ | <b>Oil Temperature Indicator (OIL °F)</b>      | Displays oil temperature in degrees Fahrenheit (°F)   |
| ⑤ | <b>Exhaust Gas Temperature Indicator (EGT)</b> | Displays exhaust gas temperature in degrees Fahrenheit (°F)   |
| ⑥ | <b>Vacuum Pressure Indicator (VAC)</b>         | Displays standby vacuum pump pressure)  |
| ⑦ | <b>Calculated Fuel Used (GAL Used)</b>         | Displays fuel used in gallons, based on fuel flow   |
| ⑧ | <b>Calculated Fuel Remaining (GAL REM)</b>     | Displays the totalizer-based fuel remaining in gallons, adjusted using the DEC FUEL and INC FUEL Softkeys |
| ⑨ | <b>Fuel Quantity Indicator (Fuel QTY GAL)</b>  | Displays the amount of fuel in gallons (gal) for each side of a standard fuel tank                        |
| ⑩ | <b>Engine Hour Indicator (ENG HRS)</b>         | Displays a numeric readout for the time in hours (hrs) the engine has been in service                     |
| ⑪ | <b>Voltmeter (M, S Bus Volts)</b>              | Displays the main and essential bus voltages  |
| ⑫ | <b>Ammeter (M, S Battery Amps)</b>             | Displays the main and standby battery load in amperes   |

Flight Instruments

EIS

Nav/Com/XPDR/Audio

Flight Management

Hazard Avoidance

AFCS

Additional Features

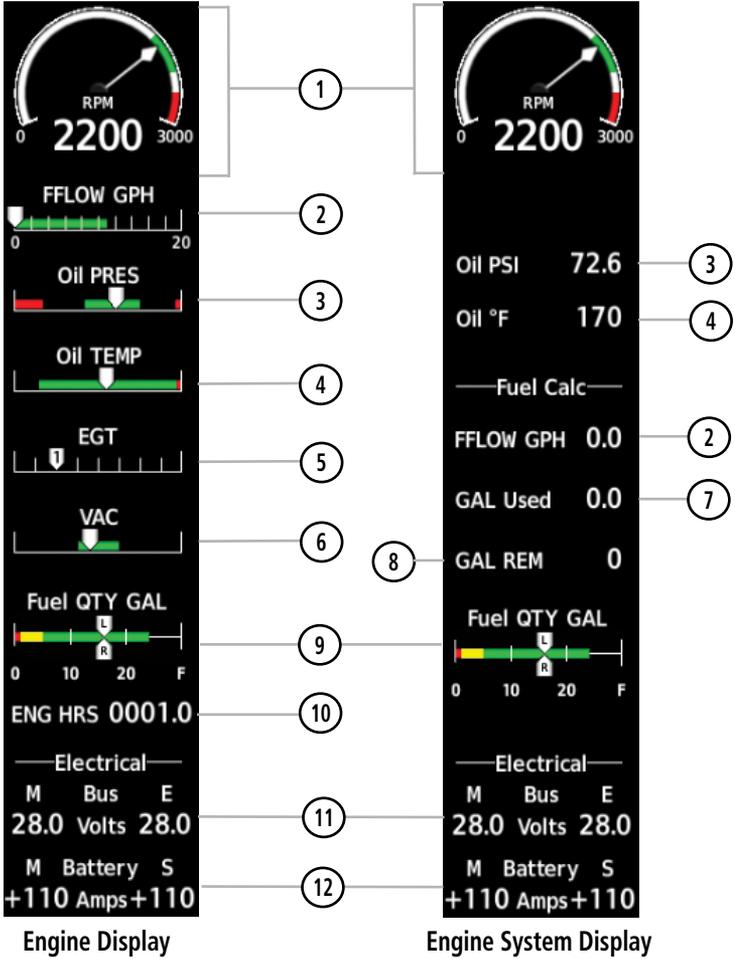
Abnormal Operation

Annun/Alerts

Appendix

Index

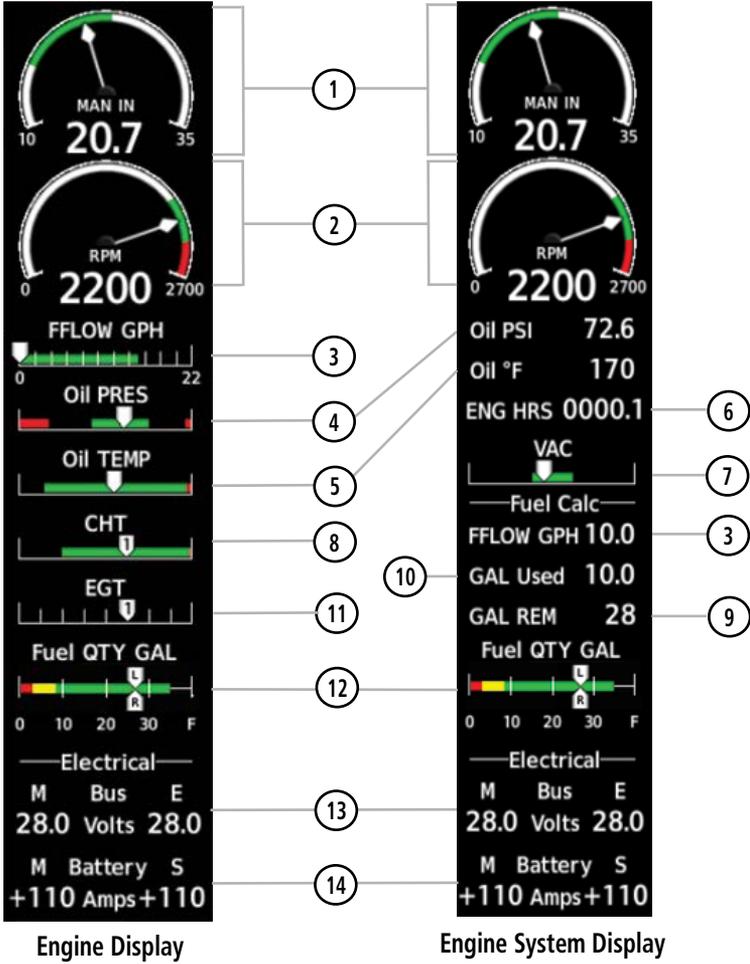
- Flight Instruments
- EIS
- Nav/Com/XPDR/Audio
- Flight Management
- Hazard Avoidance
- AFCs
- Additional Features
- Abnormal Operation
- Annun/Alerts
- Appendix
- Index



Model 172S

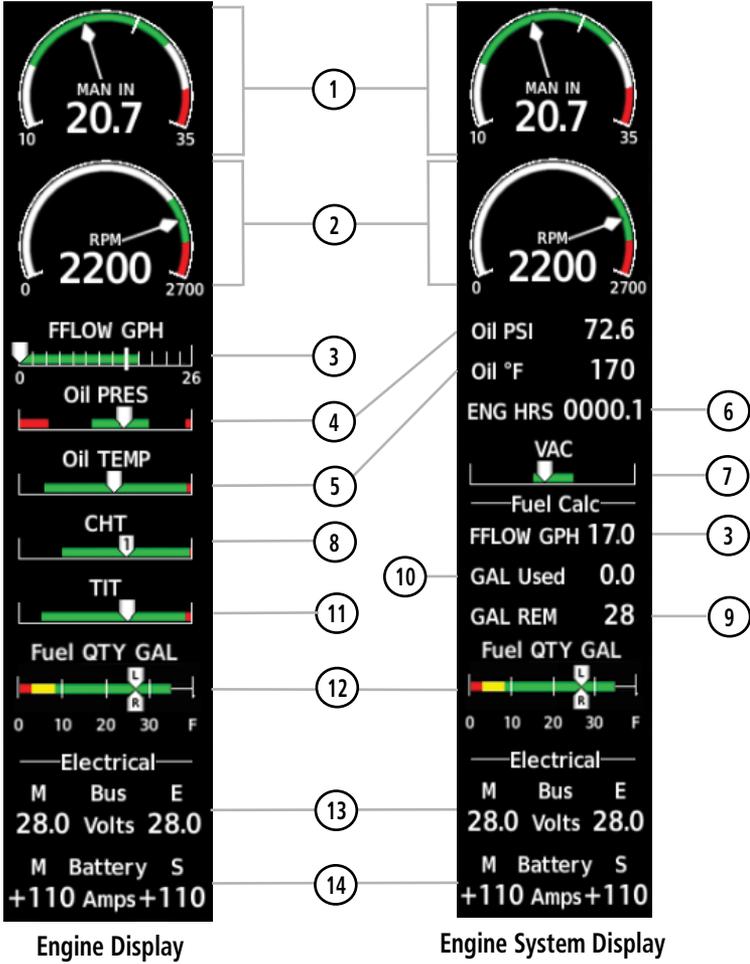
- |   |  |   |                     |
|---|--|---|---------------------|
| ① | <b>Tachometer Indicator (RPM)</b>              | Displays engine tachometer in revolutions per minute (RPM)  | Flight Instruments  |
| ② | <b>Fuel Flow Indicator (FFLOW GPH)</b>         | Displays fuel flow in gallons per hour (gph)  | EIS                 |
| ③ | <b>Oil Pressure Indicator (OIL PSI)</b>        | Displays oil pressure in pounds per square inch (psi)   | Nav/Com/XPDR/Audio  |
| ④ | <b>Oil Temperature Indicator (OIL °F)</b>      | Displays oil temperature in degrees Fahrenheit (°F)   | Flight Management   |
| ⑤ | <b>Exhaust Gas Temperature Indicator (EGT)</b> | Displays exhaust gas temperature in degrees Fahrenheit (°F)   | Hazard Avoidance    |
| ⑥ | <b>Vacuum Pressure Indicator (VAC)</b>         | Displays standby vacuum pump pressure   | AFCS                |
| ⑦ | <b>Calculated Fuel Used (GAL Used)</b>         | Displays fuel used in gallons, based on fuel flow   | Additional Features |
| ⑧ | <b>Calculated Fuel Remaining (GAL REM)</b>     | Displays the totalizer-based fuel remaining in gallons, adjusted using the DEC FUEL and INC FUEL Softkeys | Abnormal Operation  |
| ⑨ | <b>Fuel Quantity Indicator (Fuel QTY GAL)</b>  | Displays the amount of fuel in gallons (gal) for each side of a standard fuel tank                        | Annun/Alerts        |
| ⑩ | <b>Engine Hour Indicator (ENG HRS)</b>         | Displays a numeric readout for the time in hours (hrs) the engine has been in service                     | Appendix            |
| ⑪ | <b>Voltmeter (M, S Bus Volts)</b>              | Displays the main and essential bus voltages  | Index               |
| ⑫ | <b>Ammeter (M, S Battery Amps)</b>             | Displays the main and standby battery load in amperes   |                     |

- Flight Instruments
- EIS
- Nav/Com/XPDR/Audio
- Flight Management
- Hazard Avoidance
- AFCS
- Additional Features
- Abnormal Operation
- Annun/Alerts
- Appendix
- Index



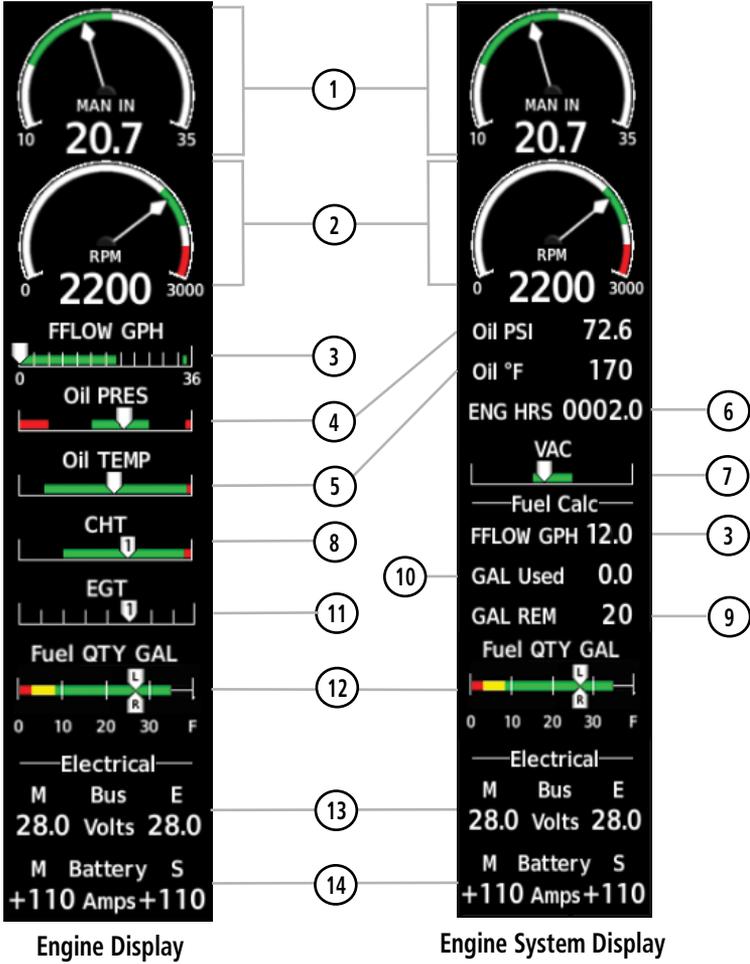
1	<b>Manifold Pressure Indicator (IN HG)</b>	Displays engine manifold pressure inches of mercury (IN HG)	Flight Instruments
2	<b>Tachometer Indicator (RPM)</b>	Displays engine tachometer in revolutions per minute (RPM)	EIS
3	<b>Fuel Flow Indicator (FFLOW GPH)</b>	Displays fuel flow in gallons per hour (gph)	Nav/Com/XPDR/Audio
4	<b>Oil Pressure Indicator (OIL PSI)</b>	Displays oil pressure in pounds per square inch (psi)	Flight Management
5	<b>Oil Temperature Indicator (OIL °C)</b>	Displays oil temperature in degrees Celsius (°C)	Hazard Avoidance
6	<b>Engine Hour Indicator (ENG HRS)</b>	Displays a numeric readout for the time in hours (hrs) the engine has been in service	AFCIS
7	<b>Vacuum Pressure Indicator (VAC)</b>	Displays standby vacuum pump pressure)	Additional Features
8	<b>Cylinder Head Temperature Indicator (CHT)</b>	Displays cylinder head temperature in degrees Celsius (°C)	Abnormal Operation
9	<b>Calculated Fuel Remaining (GAL REM)</b>	Displays the totalizer-based fuel remaining in gallons, adjusted using the DEC FUEL and INC FUEL Softkeys	Annun/Alerts
10	<b>Calculated Fuel Used (GAL Used)</b>	Displays fuel used in gallons, based on fuel flow	Appendix
11	<b>Exhaust Gas Temperature Indicator (EGT)</b>	Displays exhaust gas temperature in degrees Fahrenheit (°F)	Index
12	<b>Fuel Quantity Indicator (Fuel QTY GAL)</b>	Displays the amount of fuel in gallons (gal) for each side of a standard fuel tank.	
13	<b>Voltmeter (M, S Bus Volts)</b>	Displays the main and essential bus voltages	
14	<b>Ammeter (M, S Battery Amps)</b>	Displays the main and standby battery load in amperes	

- Flight Instruments
- EIS
- Nav/Com/XPDR/Audio
- Flight Management
- Hazard Avoidance
- AFCS
- Additional Features
- Abnormal Operation
- Annun/Alerts
- Appendix
- Index



1	<b>Manifold Pressure Indicator (IN HG)</b>	Displays engine manifold pressure inches of mercury (IN HG)	Flight Instruments
2	<b>Tachometer Indicator (RPM)</b>	Displays engine tachometer in revolutions per minute (RPM)	EIS
3	<b>Fuel Flow Indicator (FFLOW GPH)</b>	Displays fuel flow in gallons per hour (gph)	Nav/Com/XPDR/Audio
4	<b>Oil Pressure Indicator (OIL PSI)</b>	Displays oil pressure in pounds per square inch (psi)	Flight Management
5	<b>Oil Temperature Indicator (OIL °C)</b>	Displays oil temperature in degrees Celsius (°C)	Hazard Avoidance
6	<b>Engine Hour Indicator (ENG HRS)</b>	Displays a numeric readout for the time in hours (hrs) the engine has been in service	AFCIS
7	<b>Vacuum Pressure Indicator (VAC)</b>	Displays standby vacuum pump pressure)	Additional Features
8	<b>Cylinder Head Temperature Indicator (CHT)</b>	Displays cylinder head temperature in degrees Celsius (°C)	Abnormal Operation
9	<b>Calculated Fuel Remaining (GAL REM)</b>	Displays the totalizer-based fuel remaining in gallons, adjusted using the DEC FUEL and INC FUEL Softkeys	Annun/Alerts
10	<b>Calculated Fuel Used (GAL Used)</b>	Displays fuel used in gallons, based on fuel flow	Appendix
11	<b>Turbine Inlet Temperature Indicator (TIT)</b>	Displays turbine inlet temperature in degrees Fahrenheit (°F)	Index
12	<b>Fuel Quantity Indicator (Fuel QTY GAL)</b>	Displays the amount of fuel in gallons (gal) for each side of a standard fuel tank.	
13	<b>Voltmeter (M, S Bus Volts)</b>	Displays the main and essential bus voltages	
14	<b>Ammeter (M, S Battery Amps)</b>	Displays the main and standby battery load in amperes	

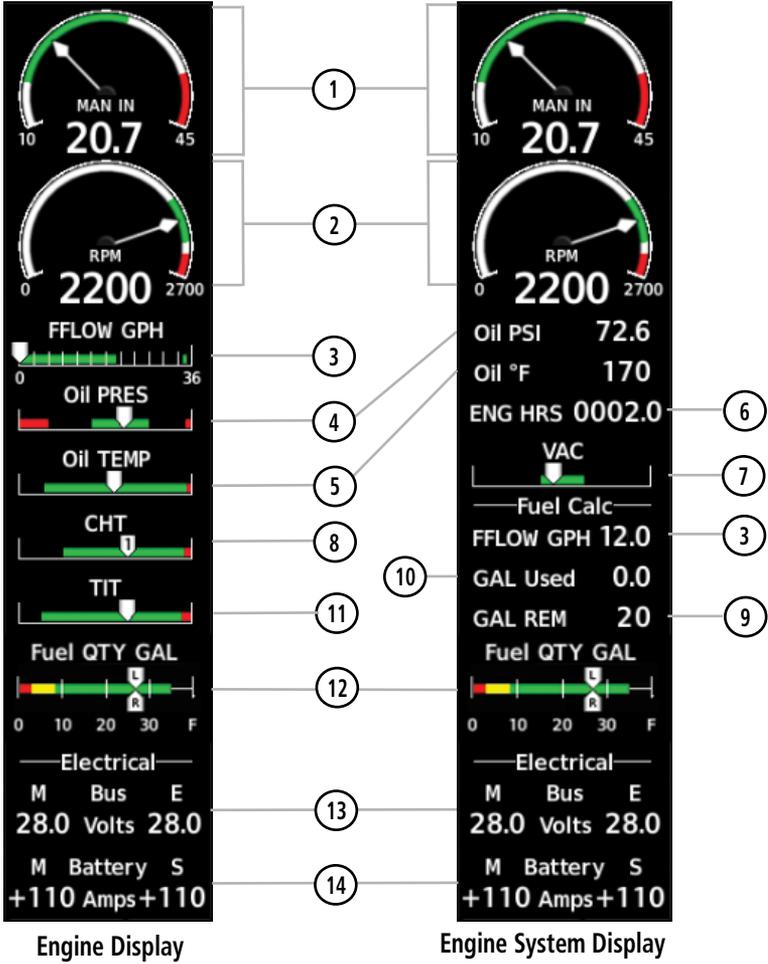
- Flight Instruments
- EIS
- Nav/Com/XPDR/Audio
- Flight Management
- Hazard Avoidance
- AFCS
- Additional Features
- Abnormal Operation
- Annun/Alerts
- Appendix
- Index



Model 206H

1	<b>Manifold Pressure Indicator (IN HG)</b>	Displays engine manifold pressure inches of mercury (IN HG)	Flight Instruments
2	<b>Tachometer Indicator (RPM)</b>	Displays engine tachometer in revolutions per minute (RPM)	EIS
3	<b>Fuel Flow Indicator (FFLOW GPH)</b>	Displays fuel flow in gallons per hour (gph)	Nav/Com/XPDR/Audio
4	<b>Oil Pressure Indicator (OIL PSI)</b>	Displays oil pressure in pounds per square inch (psi)	Flight Management
5	<b>Oil Temperature Indicator (OIL °C)</b>	Displays oil temperature in degrees Celsius (°C)	Hazard Avoidance
6	<b>Engine Hour Indicator (ENG HRS)</b>	Displays a numeric readout for the time in hours (hrs) the engine has been in service	AFCIS
7	<b>Vacuum Pressure Indicator (VAC)</b>	Displays standby vacuum pump pressure)	Additional Features
8	<b>Cylinder Head Temperature Indicator (CHT)</b>	Displays cylinder head temperature in degrees Celsius (°C)	Abnormal Operation
9	<b>Calculated Fuel Remaining (GAL REM)</b>	Displays the totalizer-based fuel remaining in gallons, adjusted using the DEC FUEL and INC FUEL Softkeys	Annun/Alerts
10	<b>Calculated Fuel Used (GAL Used)</b>	Displays fuel used in gallons, based on fuel flow	Appendix
11	<b>Exhaust Gas Temperature Indicator (EGT)</b>	Displays exhaust gas temperature in degrees Fahrenheit (°F)	Index
12	<b>Fuel Quantity Indicator (Fuel QTY GAL)</b>	Displays the amount of fuel in gallons (gal) for each side of a standard fuel tank.	
13	<b>Voltmeter (M, S Bus Volts)</b>	Displays the main and essential bus voltages	
14	<b>Ammeter (M, S Battery Amps)</b>	Displays the main and standby battery load in amperes	

- Flight Instruments
- EIS
- Nav/Com/XPDR/Audio
- Flight Management
- Hazard Avoidance
- AFCS
- Additional Features
- Abnormal Operation
- Annun/Alerts
- Appendix
- Index



Model T206H

1	<b>Manifold Pressure Indicator (IN HG)</b>	Displays engine manifold pressure inches of mercury (IN HG)	Flight Instruments
2	<b>Tachometer Indicator (RPM)</b>	Displays engine tachometer in revolutions per minute (RPM)	EIS
3	<b>Fuel Flow Indicator (FFLOW GPH)</b>	Displays fuel flow in gallons per hour (gph)	Nav/Com/XPDR/Audio
4	<b>Oil Pressure Indicator (OIL PSI)</b>	Displays oil pressure in pounds per square inch (psi)	Flight Management
5	<b>Oil Temperature Indicator (OIL °C)</b>	Displays oil temperature in degrees Celsius (°C)	Hazard Avoidance
6	<b>Engine Hour Indicator (ENG HRS)</b>	Displays a numeric readout for the time in hours (hrs) the engine has been in service	AFCs
7	<b>Vacuum Pressure Indicator (VAC)</b>	Displays standby vacuum pump pressure)	Additional Features
8	<b>Cylinder Head Temperature Indicator (CHT)</b>	Displays cylinder head temperature in degrees Celsius (°C)	Abnormal Operation
9	<b>Calculated Fuel Remaining (GAL REM)</b>	Displays the totalizer-based fuel remaining in gallons, adjusted using the DEC FUEL and INC FUEL Softkeys	Annun/Alerts
10	<b>Calculated Fuel Used (GAL Used)</b>	Displays fuel used in gallons, based on fuel flow	Appendix
11	<b>Turbine Inlet Temperature Indicator (TIT)</b>	Displays turbine inlet temperature in degrees Fahrenheit (°F)	Index
12	<b>Fuel Quantity Indicator (Fuel QTY GAL)</b>	Displays the amount of fuel in gallons (gal) for each side of a standard fuel tank.	
13	<b>Voltmeter (M, S Bus Volts)</b>	Displays the main and essential bus voltages	
14	<b>Ammeter (M, S Battery Amps)</b>	Displays the main and standby battery load in amperes	

## ENGINE PAGE

In all cases green indicates normal operation, amber indicates caution, and red indicates warning.

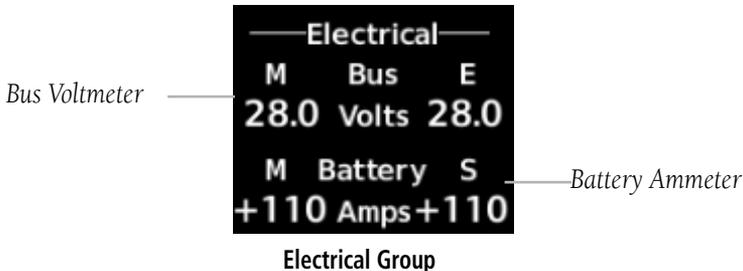
Pressing the **ENGINE** Softkey, makes available the **LEAN** and **SYSTEM** softkeys that provides access to the Lean Page and the System Page.



Engine Page

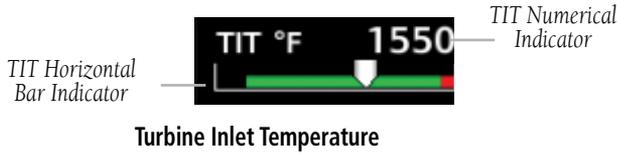
## Electrical

Current for the battery (Battery Amps) and bus voltage (Bus Volts) are displayed in numerical digits and are located on the Engine System Page.



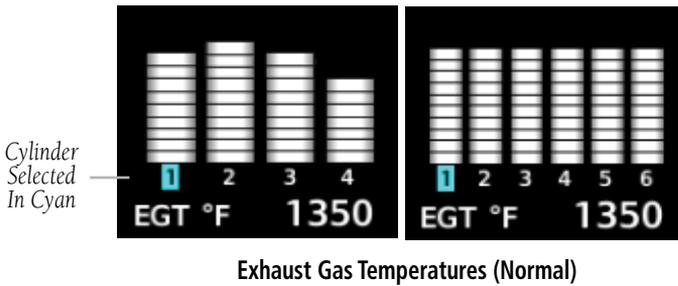
**TURBINE INLET TEMPERATURE**

Turbine Inlet Temperature (TIT) horizontal bar indicators is displayed on the main Engine Page and on the Engine Lean page. The Engine Lean page also displays the numerical temperature in degrees of Fahrenheit (°F).



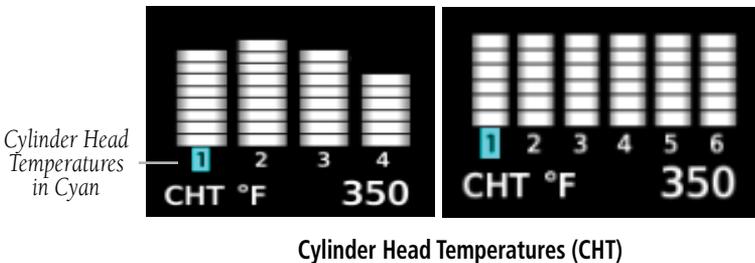
**EXHAUST GAS TEMPERATURE**

Exhaust Gas Temperature (EGT) readout for the selected cylinder is displayed on the Engine Lean Page. The temperature readout is displayed in degrees of Fahrenheit (°F).



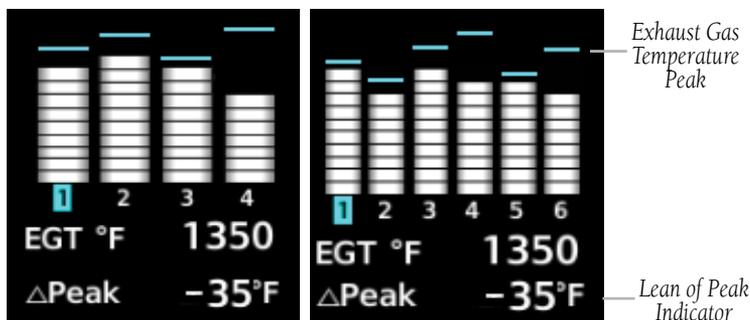
**CYLINDER HEAD TEMPERATURE**

Cylinder Head Temperature (CHT) readout is shown near the bottom Engine Lean Page.



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

## LEAN ENGINE PAGE



Exhaust Gas Temperatures (Lean Assist)

- 1) From the MFD Navigation Map Page.
- 2) Press the **Engine** softkey.
- 3) Press the **Lean** softkey.

From the Lean Page, the **CYL SLCT** and **Assist** Softkeys can be utilized to obtain information about specific cylinders on both the EGT and CHT graphs. Pressing the **CYL SLCT** Softkey cycles through the cylinders; the selected cylinder number is displayed in cyan. The **CYL SLCT** Softkey is disabled during warning or caution conditions or when the **ASSIST** Softkey is pressed.

### Monitoring the desired cylinder's EGT and CHT:

From the Lean Page, press the **CYL SLCT** Softkey to cycle through each cylinder and view its EGT and CHT. The selected cylinder is shown in cyan.

When the **ASSIST** Softkey is selected, the system initially highlights and selects the cylinder number with the hottest EGT and displays its temperature below the EGT bar graph. A readout showing the difference between peak ( $\Delta$ PEAK) and the current temperature for the selected cylinder is displayed the EGT numerical temperature indication.

As the mixture is leaned, a cyan line will appear above each cylinder to indicate EGT peak. Refer to the POH and AFM for the recommended mixture adjustment procedures.

Monitoring of the cylinder continues until the **ASSIST** Softkey is pressed again which disables lean assist and removes the peak lines from the bar graph and the temperature deviation from peak ( $\Delta$ PEAK). The system then returns to seeking the hottest cylinder.

**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 (GAL Used) and range (in nautical miles) are calculated based on the displayed fuel remaining (GAL REM) and the fuel flow totalizer. The calculated range also takes into account the aircraft's heading and the wind direction and speed.

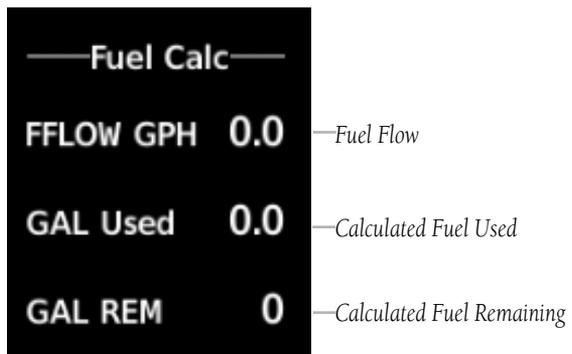
**Adjusting the fuel totalizer quantity:**

- 1) From the MFD Navigation Map Page.
- 2) Press the **Engine** softkey.
- 3) Press the **System** softkey.
- 4) Press the **GAL REM** softkey.

Select the softkey that best describes the current fuel load desired Once selected, press the **BACK** softkey.

**Resetting the fuel totalizer:**

On the Engine System Page, press the **RST Fuel** Softkey; this resets displayed fuel remaining (GAL REM) to the maximum fuel capacity for the aircraft and fuel used to zero.



**Fuel Calculations Group**

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

A map feature related to the EIS Fuel Calculations is the Fuel Range Ring, which graphically illustrates the aircraft's remaining range based on heading, groundspeed, and wind direction and speed. The solid green circle represents the range until all the remaining fuel is depleted. The dashed green circle indicates the aircraft range until only reserve fuel remains. Once on reserve fuel, the range is indicated by a solid amber circle.

The Fuel Range Ring shifts position in relation to the aircraft according to wind effects. For example, more fuel is required for flying into a headwind, and the aircraft's decreased range in that direction is indicated by the Fuel Range Ring shifting toward the tail of the Aircraft Symbol.

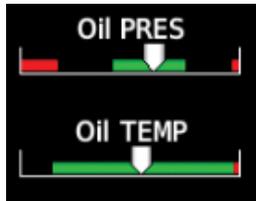
The amount of reserve fuel (only for purposes of the Fuel Range Ring) is set on the Navigation Map Page Setup Menu in terms of remaining flight time. When enabled the Fuel Range Ring appears on the Navigation Map Page, the Weather Data Link Page, and PFD Inset Map.

### Enabling/disabling the Fuel Range Ring and selecting a reserve fuel time:

- 1) Display the Navigation Map Page (press and hold the **CLR** Key for 2 seconds to quickly select this map).
- 2) Press the **MENU** Key.
- 3) Highlight 'Map Settings' and press the **ENT** Key. The Map Settings Menu is displayed.
- 4) Use the small **FMS** Knob to select the 'Map' group and press the **ENT** Key.
- 5) Highlight the 'FUEL RNG (RSV)' field.
- 6) Turn the small **FMS** Knob to select 'On' or 'Off'.
- 7) Turn the large **FMS** Knob to highlight the reserve fuel time, how long the aircraft can fly after reaching the reserve fuel.
- 8) Enter the desired reserve fuel time (00:00 to 23:59; hours:minutes) and press the **ENT** Key.
- 9) Press the **FMS** Knob to return to the Navigation Map Page.

**OIL PRESSURE AND TEMPERATURE GAUGES**

Engine oil pressure and temperature are shown along horizontal bar indicators on the MFD, and are shown in numerical digit readouts when Engine System is displayed. Oil pressure is shown in pounds per square inch (psi) and temperature in degrees of Fahrenheit (°F).. If the oil pressure pointer enters the amber band, a caution is issued. If the oil pressure or oil temperature pointers enter the red band, a warning is issued.



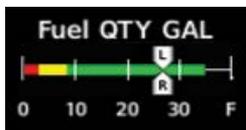
Engine Displayed Oil Pressure and Temperature Gauges Displayed on MFD



Engine System Displayed Oil Pressure and Temperature Gauges

**FUEL QUANTITY**

The fuel display shows the fuel quantity in each tank in gallons (gal). Fuel quantity for each tank is normally shown along a horizontal bar indicator. A caution or warning is issued for low fuel quantity.



Fuel Display

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

## CREW ALERTING SYSTEM (CAS)



**NOTE:** Refer to the Pilot's Operating Handbook (POH) for corrective pilot actions.

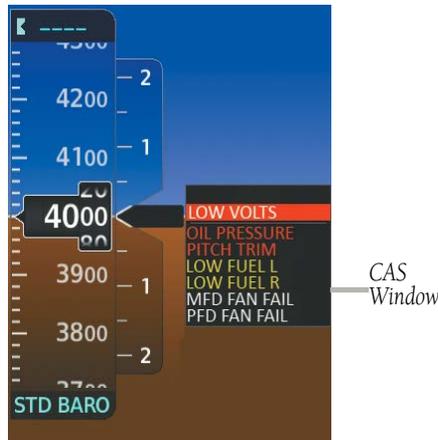


**NOTE:** Any CAS messages that are generated when the system is first powered on are considered already acknowledged. They do not flash or trigger the Master Warning or Master Caution.

The Crew Alerting System (CAS) Display is located on the right side of the PFD. Up to 14 messages can be displayed; when more than 14 messages accumulate, the scrolling **CAS** softkeys become available.

CAS messages are grouped by criticality (warning, caution) and sorted by order of appearance (most recent messages on top). The color of the message is based on its urgency and on required action:

- **Warning** (red) – Immediate crew awareness and action required; Master Warning triggered
- **Caution** (amber) – Immediate crew awareness and possible future corrective action required; Master Caution triggered
- **Advisory** (white) – Crew awareness required and subsequent action may be required



# NAV/COM/TRANSPONDER/AUDIO PANEL

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

## ENTER OR CHANGE A FLIGHT ID (OPTIONAL)

- 1) Press the **TMR/REF** Softkey, then turn the large **FMS** Knob to highlight the Flight ID field.
- 2) Turn the small **FMS** Knob to enter the first character.
- 3) Turn the large **FMS** Knob to select the next field.
- 4) Turn the small **FMS** Knob to enter the next desired character.
- 5) Repeat steps 3 and 4 until the desired Flight ID is entered.
- 6) Press the **ENT** Key to update the Flight ID. Do not perform any other system functions until 'updating' is no longer displayed.

## ADF TUNING (OPTIONAL)

Tune the ADF using the remote ADF control head.

## DME TUNING (OPTIONAL)

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

## SELECTING TRANSPONDER MODE

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

## ENTER A TRANSPONDER CODE

- 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 key in sequence must be pressed within 10 seconds, or the entry is cancelled and restored to the previous code. Five seconds after the fourth digit has been entered, the transponder code becomes active.

## SELECTING A COM RADIO

### Transmit/Receive

Press the **COM1 MIC**, **COM2 MIC**, or **COM3 MIC** (optional COM, if installed) Key on the audio panel.

### Receive Only

Press the **COM1**, **COM2**, or **COM3** (optional COM, if installed) Key on the audio panel.

## SELECTING A NAV RADIO

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

## NAV/COM TUNING

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

## AUTO-TUNING RADIOS ON THE PFD

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

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

## AUTO-TUNING RADIOS ON THE MFD

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

## SPLIT COM

During Split COM operation, both the pilot and the copilot can transmit simultaneously over separate radios. The pilot can still monitor NAV1, NAV2, ADE, DME, and MKR Audio as selected, but the copilot is only able to monitor COM2.

When Split COM operation is selected, COM1 is used by the pilot and COM2 is used by the copilot. The COM1 MIC Annunciator flashes when the pilot's microphone PTT is pressed. The COM2 MIC Annunciator flashes when the copilot's microphone PTT is pressed.

Pressing the **COM 1/2** Key selects Split COM operation. The COM 1/2 Annunciator is illuminated indicating Split COM operation. COM1 and COM2 frequencies are displayed in green indicating that both transceivers are active. Split COM operation is cancelled by pressing the **COM 1/2** Key again, at which time the annunciator is extinguished.

- Flight Instruments
- FIS
- Nav/Com/XPDR/Audio
- Flight Management
- Hazard Avoidance
- AFCIS
- Additional Features
- Abnormal Operation
- Annun/Alerts
- Appendix
- Index

## DIGITAL CLEARANCE RECORDER AND PLAYER



**NOTE:** Only the audio for the selected **COM MIC** Key is recorded. Audio is not recorded for COM3 MIC.

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

## INTERCOM SYSTEM (ICS) ISOLATION

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

Mode	PILOT KEY ANNUNCIATOR	COPLT KEY ANNUNCIATOR	Pilot Hears	Copilot Hears	Passenger Hears
<b>ALL</b>	OFF	OFF	Selected radios; pilot; copilot; passengers; music	Selected radios; pilot; copilot; passengers; music	Selected radios; pilot; copilot; passengers; music
<b>PILOT</b>	ON	OFF	Selected radios; pilot	Copilot; passengers; music	Copilot; passengers; music
<b>COPILOT</b>	OFF	ON	Selected radios; pilot; passengers; music	Copilot	Selected radios; pilot; passengers; music
<b>CREW</b>	ON	ON	Selected radios; pilot; copilot	Selected radios; pilot; copilot	Passengers; music

# FLIGHT MANAGEMENT

- Flight Instruments
- EIS
- Nav/Com/XPDR/Audio
- Flight Management
- Hazard Avoidance
- AFCS
- Additional Features
- Abnormal Operation
- Annun/Alerts
- Appendix
- Index

## Changing A Field In The MFD Navigation Status Box

- 1) Use the **FMS** Knob to select the AUX - System Setup 1 Page.
- 2) Press the **FMS** Knob momentarily 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 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) Turn the large **FMS** Knob, or press the **ENT** Key once, to select the 'Orientation' field.
- 4) Turn the small **FMS** Knob to select the desired orientation.
- 5) Press the **ENT** Key to select the new orientation.
- 6) Press the **FMS** Knob to return to the base page.

### CONFIGURING AUTOMATIC ZOOM

- 1) Press the **MENU** Key with the Navigation Map Page displayed. The cursor flashes on the 'Map Settings' option.
- 2) Press the **ENT** Key. The Map Settings Menu is displayed.
- 3) Select the 'Map' group.
- 4) Press the **ENT** Key.
- 5) 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) Press the **FMS** Knob to return to the Navigation Map Page.

## PANNING THE MAP

- 1) 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) Place the Map Pointer on a waypoint.
- 2) Press the **ENT** Key to display the Waypoint Information Page for the selected waypoint.
- 3) Press the **Go Back** Softkey, the **CLR** Key, or the **ENT** Key to exit the Waypoint Information Page and return to the Navigation Map showing the selected waypoint.

## VIEWING AIRSPACE INFORMATION FOR A SPECIAL-USE OR CONTROLLED AIRSPACE

- 1) Place the Map Pointer on the boundary of an airspace.
- 2) Push the **Joystick** to remove the Map Pointer and center the map on the aircraft.

## DISPLAYING/REMOVING TOPOGRAPHIC DATA ON THE PFD INSET MAP OR THE HSI MAP

- 1) Press the **Map/HSI** Softkey.
- 2) Press the **Topo** Softkey.
- 3) Press the **Topo** Softkey again to remove topographic data from the PFD Inset Map or the HSI Map. When topographic data is removed from the PFD Map or HSI Map, all navigation data is presented on a black background.

## DISPLAYING/REMOVING TOPOGRAPHIC DATA USING THE NAVIGATION MAP PAGE MENU

- 1) Press the **MENU** Key with the Navigation Map Page displayed. The cursor flashes on the 'Map Settings' option.
- 2) Press the **ENT** Key. The Map Settings Menu is displayed.
- 3) Select the 'Map' group.
- 4) Press the **ENT** Key.
- 5) Highlight the 'Terrain Display' field.
- 6) Select 'Topo' or 'Off'.
- 7) Press the **FMS** Knob to return to the Navigation Map Page.

## SETTING UP THE 'LAND', 'AVIATION' OR 'AIRSPACE' GROUP ITEMS

- 1) Press the **MENU** Key with the Navigation Map Page displayed. The cursor flashes on the 'Map Settings' option.
- 2) Press the **ENT** Key. The Map Settings Menu 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.
- 9) Press the **FMS** Knob to return to the Navigation Map Page.

## DECLUTTERING THE MAP

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

## DECLUTTERING THE PFD INSET MAP

- 1) Press the **Map/HSI** Softkey.
- 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 Navigation Map Page displayed. The cursor flashes on the 'Map Settings' option.
- 2) Press the **ENT** Key. The Map Settings Menu is displayed.
- 3) Turn the small **FMS** Knob to select the 'Airways' group, and press the **ENT** Key.
- 4) 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) Press the **FMS** Knob to return to the Navigation Map Page.

## DISPLAYING/REMOVING THE TRACK VECTOR

- 1) Press the **MENU** Key with the Navigation Map Page displayed. The cursor flashes on the 'Map Setting' option.
- 2) Press the **ENT** Key. The Map Settings Menu is displayed.
- 3) Select the 'Map' group.
- 4) Press the **ENT** Key.
- 5) Highlight the 'Track Vector' field.
- 6) Select 'On' or 'Off'. Press the **ENT** Key to accept the selected option. The flashing cursor highlights the look ahead time field. Use the **FMS** Knob to select the desired time. Press the **ENT** Key.
- 7) Press the **FMS** Knob to return to the Navigation Map Page.

## DISPLAYING/REMOVING THE FUEL RANGE RING AND SELECTING A FUEL RANGE TIME

- 1) Press the **MENU** Key with the Navigation Map Page displayed. The cursor flashes on the 'Map Settings' option.
- 2) Press the **ENT** Key. The Map Settings Menu is displayed.
- 3) Select the 'Map' group.
- 4) Press the **ENT** Key.
- 5) Highlight the 'Fuel Range (RSV)' field.
- 6) Select 'On' or 'Off'.
- 7) Highlight the fuel reserve time field. This time should be set to the amount of flight time equal to the amount of fuel reserve desired.
- 8) To change the reserve fuel time, enter a time (00+00 to 23+59; hours+minutes). The default setting is 00+45 minutes.
- 9) Press the **ENT** Key.
- 10) Press the **FMS** Knob to return to the Navigation Map Page.

## DISPLAYING/REMOVING THE SELECTED ALTITUDE INTERCEPT ARC

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

- 3) Select the 'Map' group.
- 4) Press the **ENT** Key.
- 5) Highlight the 'Select ALT Arc' field.
- 6) Select 'On' or 'Off'.
- 7) Press the FMS Knob to return to the Navigation Map Page.

## WAYPOINTS

### SELECTING AN AIRPORT FOR REVIEW BY IDENTIFIER, FACILITY NAME, OR LOCATION

- 1) From the Airport Information Page, press the **FMS** Knob.
- 2) Use the **FMS** Knobs and enter an identifier, facility name, or location.
- 3) Press the **ENT** Key.
- 4) Press the **FMS** Knob to remove the cursor.

### SELECTING A RUNWAY

- 1) With the Airport Information Page displayed, press 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, press the **FMS** Knob.

### VIEWING A DESTINATION AIRPORT

From the Airport Information Page 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 large **FMS** Knob to select the NRST page group.
- 2) Turn the small **FMS** Knob to select the 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.
- 3) Press the **APT** Softkey; or press 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.
- 4) Turn the **FMS** Knob to highlight the desired airport. (Pressing the **ENT** Key also moves to the next airport.)
- 5) Press the **FMS** Knob to remove the flashing cursor.

## VIEWING RUNWAY INFORMATION FOR A SPECIFIC AIRPORT

- 1) With the Nearest Airports Page displayed, press the **RNWX** 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) Press the **FMS** Knob to remove the flashing cursor.

## SELECTING AN INTERSECTION

- 1) With the Intersection Information Page displayed, enter an identifier in the Intersection Box.
- 2) Press the **ENT** Key.
- 3) Press the **FMS** Knob to remove the flashing cursor.

## SELECTING AN NDB

- 1) With the NDB Information Page displayed, enter an identifier, the name of the NDB, or the city in which it's located in the NDB Box.
- 2) Press the **ENT** Key.
- 3) Press the **FMS** Knob to remove the flashing cursor.

## SELECTING A VOR

- 1) With the VOR Information Page displayed, enter an identifier, the name of the VOR, or the city in which it's located in the VOR Box.
- 2) Press the **ENT** Key.
- 3) Press the **FMS** Knob to remove the flashing cursor.

## SELECTING A VRP

- 1) With the VRP Information Page displayed, enter the identifier or the name of the VRP in the VRP Box.
- 2) Press the **ENT** Key.
- 3) Press the **FMS** Knob to remove the flashing cursor.

## SELECTING A USER WAYPOINT

- 1) With the User Waypoint Information Page displayed, enter the name of the User Waypoint, or scroll to the desired waypoint in the User Waypoint List using the large **FMS** Knob.
- 2) Press the **ENT** Key.
- 3) Press the **FMS** Knob to remove the flashing cursor.

## CREATING USER WAYPOINTS FROM THE USER WAYPOINT INFORMATION PAGE

- 1) With the User Waypoint Information Page displayed, press the **New** Softkey, **or** press the **MENU** Key and select 'Create New User Waypoint'.
- 2) Enter a user waypoint name (up to six characters).
- 3) Press the **ENT** Key. The current aircraft position is the default location of the new waypoint.

- 4) If desired, define the type and location of the waypoint 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 window using the **FMS** Knobs.

**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 window using the **FMS** Knobs.

**Or:**

Select "LAT/LON" using the small **FMS** Knob, press the **ENT** Key, and enter the latitude and longitude into the Information window using the **FMS** Knobs.

- 5) Press the **ENT** Key to accept the new waypoint.
- 6) If desired, change the storage method of the waypoint to Temporary or Normal by moving the cursor to "Temporary" and selecting the **ENT** Key to check or uncheck the box.
- 7) Press the **FMS** Knob to remove the flashing cursor.

## 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. The User Waypoint Information Page is displayed with the captured position.
- 3) Enter a user waypoint name (up to six characters).
- 4) Press the **ENT** Key to accept the selected name. The first reference waypoint box is highlighted.
- 5) If desired, define the type and location of the waypoint 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 window using the **FMS** Knobs.

**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 window using the **FMS** Knobs.

**Or:**

Select "LAT/LON" using the small **FMS** Knob, press the **ENT** Key, and enter the latitude and longitude into the Information window using the **FMS** Knobs.

- 6) Press the **ENT** Key to accept the new waypoint.
- 7) If desired, change the storage method of the waypoint to "Temporary" or "Normal" by moving the cursor to "Temporary" and selecting the **ENT** Key to check or uncheck the box.
- 8) Press the **FMS** Knob to remove the flashing cursor.
- 9) Press the **Go Back** Softkey to return to the map page.

## CHANGING THE ALTITUDE BUFFER DISTANCE SETTING

- 1) Use the **FMS** Knob to select the AUX - System Setup 1 Page.
- 2) Press 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** Knob to enter an altitude buffer value and press the **ENT** Key.
- 5) Press the **FMS** Knob to remove the flashing cursor.

## AIRSPACES

### TURNING AN AIRSPACE ALERT ON OR OFF

- 1) Use the **FMS** Knob to select the AUX - System Setup 1 Page.
- 2) Press 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) Press the **FMS** Knob to remove the flashing cursor.

- Flight Instruments
- FIS
- Nav/Com/XPDR/Audio
- Flight Management
- Hazard Avoidance
- AFCS
- Additional Features
- Abnormal Operation
- Annun/Alerts
- Appendix
- Index

## SELECTING AND VIEWING AN AIRSPACE ALERT WITH ITS ASSOCIATED INFORMATION

- 1) Select the Nearest Airspaces Page.
- 2) Press the **Alerts** Softkey; or press 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) Select the desired airspace.
- 4) Press the **FMS** Knob to remove the flashing cursor.

## TURNING SMART AIRSPACE ON OR OFF

- 1) Use the **FMS** Knob to select the Navigation Map Page.
- 2) Press the **MENU** Key, and press the **ENT** Key. The cursor is placed in the 'Group' Box.
- 3) Turn the small **FMS** Knob to highlight the 'Airspace' in the 'Group' Box and press the **ENT** Key.
- 4) Turn the large **FMS** Knob to highlight the 'Smart Airspace' field in the Aviation Map Setup Window.
- 5) Turn the small **FMS** Knob clockwise to turn smart airspace 'On' or counterclockwise to turn smart airspace 'Off'.
- 6) Press 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 **Direct-to** 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 turn the large **FMS** Knob to select the facility name, or city field and turn the small **FMS** Knob 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. The 'Activate?' field 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 **Direct-to** 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 a list of flight plan waypoints (the FPL list is populated only when navigating a flight plan).
- 3) 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 **Direct-to** 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 a list of flight plan waypoints (the FPL list is populated only when navigating a flight plan).
- 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.

## CANCELLING A DIRECT-TO

- 1) Press the **Direct-to** 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.

## SELECTING A MANUAL DIRECT-TO COURSE

- 1) Press the **Direct-to** Key. The Direct-to Window is displayed with the destination field highlighted.
- 2) Highlight the course field.
- 3) 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.

## ENTERING A VNV ALTITUDE AND ALONG-TRACK OFFSET FOR THE WAYPOINT

- 1) Press the **Direct-to** Key to display the Direct-to Window.
- 2) Turn the large **FMS** Knob to place the cursor over the 'VNV' altitude field.
- 3) Enter the desired altitude.
- 4) Press the **ENT** Key. The option to select MSL or AGL is now displayed if the entry was an airport. Turn the small **FMS** Knob to select 'MSL' or 'AGL'.
- 5) Press the **ENT** Key. The cursor is now flashing in the VNV offset distance field.
- 6) Enter the desired along-track distance before the waypoint.
- 7) Press the **ENT** Key. The 'Activate?' field is highlighted.
- 8) Press the **ENT** Key to activate.

## REMOVING A VNV ALTITUDE CONSTRAINT

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

## FLIGHT PLANNING

### CREATING AN ACTIVE FLIGHT PLAN

- 1) Press the **FPL** Key.
- 2) Press the small **FMS** Knob to activate the cursor (only on MFD).
- 3) Select the origin airport and runway.
  - a) 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, or user waypoints).
  - b) Enter the identifier, facility, or city name of the departure waypoint or select a waypoint from the submenu of waypoints and press the **ENT** Key. The Set Runway Window is displayed with the Runway field highlighted.
  - c) Turn the small **FMS** Knob to select the runway and press the **ENT** Key.
  - d) Press the **ENT** Key again to add the runway to the flight plan.
- 4) Turn the large **FMS** Knob to highlight the destination airport identifier field.
- 5) Select the destination airport and runway.
  - a) 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, or user waypoints).
  - b) Enter the identifier, facility, or city name of the departure waypoint or select a waypoint from the submenu of waypoints and press the **ENT** Key. The Set Runway Window is displayed with the Runway field highlighted.
  - c) Turn the small **FMS** Knob to select the runway and press the **ENT** Key.
  - d) Press the **ENT** Key again to add the runway to the flight plan.
- 6) Turn the large **FMS** Knob to highlight the Enroute Header, an enroute waypoint, or the dashes below the header. (If the header is selected, the new waypoint is placed following the header. If an enroute waypoint or the dashes are selected, the new waypoint will be placed ahead of the selected item.)

- a) 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, or user waypoints).
  - b) Enter the identifier, facility, or city name of the departure waypoint or select a waypoint from the submenu of waypoints and press the **ENT** Key. The active flight plan is modified as each waypoint is entered.
- 7) Repeat step number 6 to enter each additional enroute waypoint.
  - 8) When all waypoints have been entered, press the **FMS** Knob to remove the cursor.

## ADDING A WAYPOINT TO THE ACTIVE FLIGHT PLAN

- 1) Press the **FPL** Key.
- 2) Press the **FMS** Knob to activate the cursor (not required on the PFD).
- 3) Select the point in the flight plan before which to add the new waypoint. The new waypoint is placed directly in front of the highlighted waypoint.
- 4) Turn the small **FMS** Knob to display the Waypoint Information Window. (Turning it clockwise displays a blank Waypoint Information Window, turning it counter-clockwise displays the Waypoint Information Window with a waypoint selection submenu allowing selection of active flight plan, nearest, recent, user, or airway waypoints).
- 5) Enter the identifier, facility, or city name of the waypoint or select a waypoint from the submenu of waypoints and press the **ENT** Key. The active flight plan is modified as each waypoint is entered.

## CREATING AND ADDING USER WAYPOINTS TO THE ACTIVE FLIGHT PLAN

- 1) Push the **Joystick** to activate the panning function on the Active Flight Plan Page and pan to the map location of the desired user waypoint.
- 2) 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 **USRxxx** (using the next available in sequence) and is added to the end of the active flight plan.

## ADDING AN AIRWAY TO A FLIGHT PLAN

- 1) Press the **FPL** Key.
- 2) Press the **FMS** Knob to activate the cursor (not required on the PFD).
- 3) Turn the large **FMS** Knob to highlight the waypoint after the desired airway entry point. If this waypoint is not a valid airway entry point, a valid entry point should be entered at this time.
- 4) Press the **MENU** Key and select "Load Airway". The Select Airway Page is displayed.
- 5) Turn the **FMS** Knob to select the desired airway from the list, and press the **ENT** Key. Low altitude airways are shown first in the list, followed by "all" altitude airways, and then high altitude airways.
- 6) Turn the **FMS** Knob to select the desired airway exit point from the list, and press the **ENT** Key. 'Load?' is highlighted.
- 7) Press the **ENT** Key. The system returns to editing the flight plan with the new airway inserted.

## COLLAPSE/EXPAND AIRWAYS IN A FLIGHT PLAN

- 1) Press the **FPL** Key.
- 2) Press the **FMS** Knob to activate the cursor (not required on the PFD).
- 3) Press the **MENU** Key, highlight 'Collapse Airways' or 'Expand Airways' and press the **ENT** Key. All airways are collapsed/expanded.

## STORING AN ACTIVE FLIGHT PLAN FROM THE ACTIVE FLIGHT PLAN PAGE OR THE ACTIVE FLIGHT PLAN WINDOW

- 1) Press the **MENU** Key.
- 2) 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 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 Flight Plan Catalog Page.
- 2) Press 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?' 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.

## INVERTING AND ACTIVATING A STORED FLIGHT PLAN ON THE MFD

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

## IMPORT 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 on the MFD to display the Active Flight Plan Page on the MFD.
- 3) Turn the small **FMS** Knob to select the Flight Plan Catalog Page.
- 4) Press the **FMS** Knob to activate the cursor.
- 5) Turn either **FMS** Knob to highlight an empty or existing flight plan.
- 6) Press the **Import** Softkey.

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

**Or:**

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

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

### EXPORT 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 Active Flight Plan Page on the MFD.
- 3) Turn the small **FMS** Knob to select the Flight Plan Catalog Page.
- 4) Press the **FMS** Knob to activate the cursor.
- 5) Turn the large **FMS** Knob to highlight the flight plan to be exported.
- 6) Press the **Export** Softkey.
- 7) Press the **ENT** Key to confirm the export.

Flight plans can be transferred to or from a mobile device via the Flight Stream 510 Bluetooth wireless connection. Transfer of a flight plan to a mobile device is controlled by the mobile device.

### PREVIEWING A FLIGHT PLAN TRANSFER FROM A WIRELESS CONNECTION:

- 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 Connex announcement appears to the right of the MFD page name.
- 2) Press the **ENT** Key to display the Preview Flight Plan Page on the MFD.

## IGNORING A FLIGHT PLAN TRANSFER FROM A WIRELESS CONNECTION:

- 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 an Connex announcement appears to the right of the MFD page name.
- 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 Flight Plan Catalog page.

## STORING A PENDING FLIGHT PLAN:

- 1) Press the **FPL** Key.
- 2) Turn the small **FMS** Knob to display the Flight Plan Catalog Page.
- 3) Press the **FMS** Knob to activate the cursor, and
- 4) Turn the **FMS** Knob to highlight the pending flight plan.
- 5) Press the **ENT** Key to display the 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 announcement is removed.

## ACTIVATING A PENDING FLIGHT PLAN:

- 1) Press the **FPL** Key and turn the small **FMS** Knob to display the Flight Plan Catalog Page.
- 2) Press 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 Preview Flight Plan Page on the MFD.
- 4) Press the **Activate** Softkey. The 'Activate Flight Plan?' window 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 Flight Plan Catalog Page. To cancel the request, press the **CLR** Key, or highlight 'CANCEL' and press the **ENT** Key.

Flight Instruments

EIS

Nav/Com/XPDR/Audio

Flight Management

Hazard Avoidance

AFCs

Additional Features

Abnormal Operation

Annun/Alerts

Appendix

Index

**DELETING A PENDING FLIGHT PLAN:**

- 1) Press the **FPL** Key.
- 2) Turn the small **FMS** Knob to display the Flight Plan Catalog Page.
- 3) Press 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?' window is displayed.
- 6) With 'OK' highlighted, press the **ENT** Key to delete the pending flight plan. The pending flight plan is removed from the 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 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.

**DELETING THE ACTIVE FLIGHT PLAN**

- 1) Press the **FPL** Key to display the Active Flight Plan Page (MFD) or the Active Flight Plan Window (PFD).
- 2) Press the **MENU** Key, highlight 'Delete Flight Plan', and press the **ENT** Key. The 'Delete all waypoints in flight plan?' window 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.

## DELETING AN INDIVIDUAL WAYPOINT FROM THE ACTIVE FLIGHT PLAN

- 1) Press the **FPL** Key to display the Active Flight Plan Page (MFD) or the Active Flight Plan Window (PFD).
- 2) Press the **FMS** Knob to activate the cursor (not required on the PFD) and turn the large **FMS** Knob to highlight the waypoint to be deleted.
- 3) Press the **CLR** Key. The 'Remove XXXXX?' 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) Press the **FMS** Knob to remove the flashing cursor.

## DELETING AN ENTIRE AIRWAY FROM THE ACTIVE FLIGHT PLAN

- 1) Press the **FPL** Key to display the Active Flight Plan Page (MFD) or the Active Flight Plan Window (PFD).
- 2) Press the **FMS** Knob to activate the cursor (not required on the PFD) and turn the large **FMS** Knob to highlight the cyan header of the airway to be deleted.
- 3) Press the **CLR** Key. The 'Remove <airway name> from flight plan?' 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) Press the **FMS** Knob to remove the flashing cursor.

## DELETING AN ENTIRE PROCEDURE FROM THE ACTIVE FLIGHT PLAN

- 1) Press the **FPL** Key to display the Active Flight Plan Page (MFD) or the Active Flight Plan Window (PFD).
- 2) Press the **FMS** Knob to activate the cursor (not required on the PFD) and turn the large **FMS** Knob to highlight the cyan header of the procedure to be deleted.
- 3) Press the **CLR** Key. The 'Remove <procedure name> from flight plan?' 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) Press the **FMS** Knob to remove the flashing cursor.

## ENTERING AN ALONG TRACK OFFSET DISTANCE

- 1) Press the **FPL** Key to display the Active Flight Plan Page (MFD) or the Active Flight Plan Window (PFD).
- 2) Press the **FMS** Knob to activate the cursor (not required on the PFD) and turn the large **FMS** Knob to highlight the waypoint for the 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 (limited by leg distances).
- 5) Press the **ENT** Key to create the offset waypoint.
- 6) Press the **FMS** Knob to remove the flashing cursor.

## ACTIVATING PARALLEL TRACK

- 1) Press the **FPL** Key to display the Active Flight Plan Page (MFD) or the Active Flight Plan Window (PFD).
- 2) Press the **MENU** Key, highlight '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 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. Press the **FMS** Knob or the **CLR** Key to cancel the parallel track activation.

## CANCELLING PARALLEL TRACK

- 1) Press the **FPL** Key to display the Active Flight Plan Page (MFD) or the Active Flight Plan Window (PFD).
- 2) Press the **MENU** Key, highlight 'Parallel Track', and press the **ENT** Key. The Parallel Track Window is displayed with 'Cancel Parallel Track?' highlighted.
- 3) Press the **ENT** Key.

## ACTIVATING A FLIGHT PLAN LEG

- 1) Press the **FPL** Key to display the Active Flight Plan Page (MFD) or the Active Flight Plan Window (PFD).
- 2) Press the **FMS** Knob to activate the cursor (not required on the PFD) and turn the large **FMS** Knob to highlight the destination 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) Press the **FMS** Knob to remove the flashing cursor.

## INVERTING THE ACTIVE FLIGHT PLAN

- 1) Press the **FPL** Key to display the Active Flight Plan Page (MFD) or the Active Flight Plan Window (PFD).
- 2) Press the **MENU** Key, highlight 'Invert Flight Plan', and press the **ENT** Key. An 'Invert Active Flight Plan?' confirmation window is displayed.
- 3) Select '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 AND ACTIVATING A STORED FLIGHT PLAN

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

## SWITCHING BETWEEN LEG-TO-LEG WAYPOINT DISTANCE AND CUMULATIVE WAYPOINT DISTANCE

- 1) Press the **FPL** Key on the MFD to display the Active Flight Plan Page.
- 2) Press the **View** Softkey to display the **CUM** and **Leg-Leg** Softkeys.
- 3) Press the **CUM** Softkey to view cumulative waypoint distance, or select the **Leg-Leg** Softkey to view leg-to-leg waypoint distance.
- 4) Press the **Back** Softkey to return to the top level active flight plan softkeys.

## DETERMINING THE CLOSEST POINT ALONG THE ACTIVE FLIGHT PLAN TO A SELECTED WAYPOINT

- 1) Press the **FPL** Key to display the Active Flight Plan Page (MFD) or the Active Flight Plan Window (PFD).
- 2) Press the **MENU** Key, highlight '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.

## CREATING A USER-DEFINED HOLD AT AN ACTIVE FLIGHT PLAN WAYPOINT

- 1) Press the **FPL** Key to display the Active Flight Plan Page (MFD) or the Active Flight Plan Window (PFD).
- 2) Press the **FMS** Knob to activate the cursor (not required on the PFD) and turn the large **FMS** Knob to highlight the waypoint for the hold.
- 3) Press the **MENU** Key, highlight 'Hold At Waypoint', and press the **ENT** Key. The 'Hold at' window appears with the course field highlighted.
- 4) Use the **FMS** Knobs to edit the entry course, and press the **ENT** Key.
- 5) Use the small **FMS** Knob to select 'Inbound' or 'Outbound' course direction, and press the **ENT** Key.
- 6) Use the small **FMS** Knob to select 'Time' or '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 to display the Active Flight Plan Page (MFD) or the Active Flight Plan Window (PFD).
- 2) Press the **MENU** Key, highlight 'Hold At Present Position', and press the **ENT** Key. The 'Hold at' window appears with the course field highlighted.
- 3) If desired, use the **FMS** Knobs to edit the entry course, and press the **ENT** Key.
- 4) Use the small **FMS** Knob to select 'Inbound' or 'Outbound' course direction, and press the **ENT** Key.
- 5) Use the small **FMS** Knob to select 'Time' or '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 **Direct-to** Key and set up the direct-to waypoint as desired, but select 'Hold?' instead of 'Activate?' when finished (MFD or PFD).
- 2) Use the **FMS** Knobs to edit the entry course, and press the **ENT** Key.
- 3) Use the small **FMS** Knob to select 'Inbound' or 'Outbound' course direction, and press the **ENT** Key.
- 4) Use the small **FMS** Knob to select 'Time' or 'Distance' length mode, and press the **ENT** Key.

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

- 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, the 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 INSERTED INTO THE ACTIVE FLIGHT PLAN

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

## REMOVING A USER-DEFINED HOLD AT AN OFF-ROUTE DIRECT-TO

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

## VERTICAL NAVIGATION

### ENABLING VNV GUIDANCE

- 1) Press the **FPL** Key to display the Active Flight Plan Page on 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).

### DISABLING VNV GUIDANCE

- 1) Press the **FPL** Key to display the Active Flight Plan Page on the MFD.
- 2) Press the **Cncl VNV** Softkey; or press the **MENU** Key, highlight 'Cancel VNV', and press the **ENT** Key. Vertical navigation is disabled.

## ALTITUDE CONSTRAINTS

The system can use altitude constraints associated with lateral waypoints to give guidance for vertical navigation. These altitudes are, depending on the specific instance, manually entered or retrieved from the published altitudes in the navigation database.

Active Flight Plan  
**KMKC / KCOS**

	DTK	DIS	ALT
<b>BRK</b>	353°	21.5NM	12000FT
<b>KCOS-RNAV<sub>GPS</sub> Y 35R LPV</b>			
<b>HABUK</b> iaf	164°	8.0NM	10280FT
<b>FALUR</b>	290°	5.3NM	<b>8600FT</b>
<b>CEGIX</b> faf	352°	6.4NM	<b>8100FT</b>
<b>RW35R</b> map	352°	6.1NM	
<b>6600FT</b>	352°	0.9NM	<b>6600FT</b>
<b>ADANE</b> mahp	056°	15.6NM	<u>9000FT</u>
<b>HOLD</b>	297°	7.0NM	

**Displayed Text Examples**

- White Text
- Cyan Text with Pencil Icon
- Cyan Text
- White Text with Altitude Restriction Bar

### Altitude Constraint Examples

**2300FT**  
Cross AT 2,300 ft

**5000FT**  
Cross AT or ABOVE 5,000 ft

**3000FT**  
Cross AT or BELOW 3,000 ft

**6646FT** ❄️  
Temperature Compensated

White Text	Cyan Text
<p style="text-align: center;"><b>5000FT</b></p> <p>Altitude calculated by the system estimating the altitude of the aircraft as it passes over the navigation point. No white line above or below to indicate a potential constraint.</p> <p style="text-align: center;"><b>5000FT</b></p> <p>Altitude retrieved from the navigation database. White line above or below indicates the type of constraint, as shown in the preceding figure. These altitudes are provided as a reference, and are not designated to be used in determining vertical guidance.</p>	<p style="text-align: center;"><b>5000FT</b></p> <p>Altitude is designated for use in determining vertical guidance. A pencil icon indicates manual designation or manual data entry.</p> <p style="text-align: center;"><b>5000FT</b></p> <p>The system cannot use this altitude in determining vertical guidance because of an invalid constraint condition.</p>

Altitudes associated with arrival and approach procedures are “auto-designated”. This means the system automatically uses the altitudes loaded with the arrival or approach for giving vertical speed and deviation guidance. Note that these altitudes are displayed as cyan text up to, but not including, the FAF. The FAF is always a “reference only” altitude and cannot be designated, unless the selected approach does not provide vertical guidance. In this case, the FAF altitude can be designated.

Altitudes that have been designated for use in vertical guidance can be “un-designated” using the **CLR** Key. The altitude is now displayed only as a reference. It is not used to give vertical guidance. Other displayed altitudes may change due to re-calculations or be rendered invalid as a result of manually changing an altitude to a non-designated altitude.

### **DESIGNATING A WAYPOINT ALTITUDE TO BE USED FOR VERTICAL GUIDANCE**

- 1) Press the **FPL** Key to display the Active Flight Plan Page on the MFD.
- 2) Press the **FMS** Knob, and turn to highlight the desired waypoint altitude.
- 3) Turn the small **FMS** Knob to enter editing mode.
- 4) Press the **ENT** Key. The altitude is now shown in cyan, indicating it is usable for vertical guidance.

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

## DESIGNATING A PROCEDURE WAYPOINT ALTITUDE TO BE USED FOR VERTICAL GUIDANCE

- 1) Press the **FPL** Key to display the Active Flight Plan Page on the MFD.
- 2) Press the **FMS** Knob, and turn to highlight the desired waypoint altitude.
- 3) Turn the small **FMS** Knob to enter editing mode.
- 4) Press the **ENT** Key. The altitude is now shown in cyan, indicating it is usable for vertical guidance.

## ENTERING/MODIFYING AN ALTITUDE CONSTRAINT

- 1) Press the **FPL** Key to display the Active Flight Plan Page on the MFD.
- 2) Press the **FMS** Knob, and turn to highlight the desired waypoint altitude constraint.
- 3) Enter an altitude constraint value using the **FMS** Knobs. 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.
- 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.

An altitude constraint is invalid if:

- Meeting the constraint requires the aircraft to climb
- Meeting the constraint requires the maximum flight path angle (6° down) or maximum vertical speed (-6000 fpm) to be exceeded
- The altitude constraint results in a TOD behind the aircraft present position
- The constraint is within a leg type for which altitude constraints are not supported
- The altitude constraint is added to the FAF of an approach that provides vertical guidance (i.e., ILS or GPS SBAS approach)
- The altitude constraint is added to a waypoint past the FAF

## ACTIVATING A VERTICAL NAVIGATION DIRECT-TO

- 1) Press the **FPL** Key to display the Active Flight Plan Page on the MFD.
- 2) Press the **FMS** Knob to activate the cursor and turn the **FMS** Knob to highlight the desired waypoint.
- 3) Press the **VNV Direct-To** Softkey; or press the **MENU** Key, highlight 'VNV Direct-To', and press the **ENT** Key. An 'Activate vertical Direct-to 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) Press the **FMS** Knob to remove the flashing cursor.

## MODIFYING THE VS TGT AND FPA

- 1) Press the **FPL** Key to display the Active Flight Plan Page on 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 as needed to edit the values.
- 4) Press the **FMS** Knob to remove the flashing cursor.

## DELETING AN ALTITUDE CONSTRAINT PROVIDED BY THE NAVIGATION DATABASE

- 1) Press the **FPL** Key to display the Active Flight Plan Page on the MFD.
- 2) Press the **FMS** Knob, and turn to highlight the desired waypoint altitude constraint.
- 3) Press the **CLR** Key. A 'Remove VNV altitude?' confirmation window is displayed.
- 4) Select 'OK' and press the **ENT** Key.

## DELETING AN ALTITUDE CONSTRAINT THAT HAS BEEN MANUALLY ENTERED

- 1) Press the **FPL** Key to display the Active Flight Plan Page on the MFD.
- 2) Press the **FMS** Knob, and turn to highlight 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 'REMOVE' and press the **ENT** Key. The manually entered altitude is deleted (it is replaced by a system calculated altitude, if available).

## REVERTING A MANUALLY ENTERED ALTITUDE CONSTRAINT BACK TO THE NAVIGATION DATABASE VALUE

- 1) Press the **FPL** Key to display the Active Flight Plan Page on the MFD.
- 2) Press the **FMS** Knob, and turn to highlight 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.
- 5) Press the **FMS** Knob to remove the flashing cursor.

## MODIFYING A SYSTEM CALCULATED ALTITUDE CONSTRAINT

- 1) Press the **FPL** Key to display the Active Flight Plan Page on the MFD.
- 2) Press the **FMS** Knob, and turn to highlight the desired waypoint altitude constraint.
- 3) Press the **CLR** Key. An 'Edit or Revert to published VNV altitude of nnnnnFT?' confirmation window is displayed.
- 4) Select 'EDIT' and press the **ENT** Key.
- 5) Edit the value using the **FMS** Knobs, and press the **ENT** Key.
- 6) Press the **FMS** Knob to remove the flashing cursor.

## PROCEDURES

### 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 Departure Loading Page is displayed.

- 4) Use the **FMS** Knob to select an airport and 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.

## VIEWING AVAILABLE DEPARTURES AT AN AIRPORT

- 1) From the Airport Information Page (first page in the WPT group), press the **DP** Softkey. The Departure Information Page is displayed, defaulting to the airport displayed on the Airport information Page.
- 2) To select another airport, press 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 Departure. The departure is previewed on the map.
- 4) 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.
- 5) 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.
- 6) 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.
- 7) Press the **Info-1** Softkey or the **Info-2** Softkey to return to the Airport Information Page.

## REMOVING A DEPARTURE PROCEDURE FROM THE ACTIVE FLIGHT PLAN

- 1) Press the **FPL** Key to display the Active Flight Plan Page (MFD) or the Active Flight Plan Window (PFD).
- 2) Press the **MENU** Key, 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.

**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. The Arrival Loading Page is displayed.
- 4) Use the **FMS** Knob to select an airport and 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.

**VIEWING AVAILABLE ARRIVALS AT AN AIRPORT**

- 1) From the Airport Information Page (first page in the WPT group), press the **STAR** Softkey. The Arrival Information Page is displayed, defaulting to the airport displayed on the Airport Information Page.
- 2) To select another airport, press 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 Arrival. The arrival is previewed on the map.
- 4) 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. The arrival is previewed on the map.
- 5) 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.
- 6) 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.
- 7) Press the **Info-1** Softkey or the **Info-2** Softkey to return to the Airport Information Page.

HSI Annunciation	Description
LNAV	RNAV GPS approach using published LNAV minima
LNAV+V	RNAV GPS approach using published LNAV minima. Advisory vertical guidance is provided
L/VNAV (available only if SBAS available)	RNAV GPS approach using published LNAV/VNAV minima (downgrades to L/VNAV (Baro VNAV) if SBAS unavailable)
LP (available only if SBAS available)	RNAV GPS approach using published LP minima (downgrades to LNAV if SBAS unavailable)
LP+V (available only if SBAS available)	RNAV GPS approach using published LP minima Advisory vertical guidance is provided (downgrades to LNAV if SBAS unavailable)
LPV (available only if SBAS available)	RNAV GPS approach using published LPV minima (downgrades to L/VNAV (Baro VNAV) if SBAS unavailable)

### Approach Service Levels

## 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. The 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 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.

## VIEWING AVAILABLE APPROACHES AT AN AIRPORT

- 1) From the Airport Information Page (first page in the WPT group), press the **APR** Softkey. The Approach Information Page is displayed, defaulting to the airport displayed on the Airport information Page.
- 2) To select another airport, press the **FMS** Knob to activate the cursor, enter an identifier/facility name/city, and press the **ENT** Key.
- 3) Press the **FMS** Knob, then turn the large **FMS** Knob to highlight the Approach. The approach is previewed on the map.
- 4) Turn the small **FMS** Knob to view the available approaches. Press the **ENT** Key to select the approach. The cursor moves to the Transition box. The approach is previewed on the map.
- 5) Turn the small **FMS** Knob to view the available transitions. Press the **ENT** Key to select the transition. The cursor moves to the Minimums box. The approach is previewed on the map.
- 6) Turn the small **FMS** Knob to select minimums on or off. Press the **ENT** Key.
  - a) When minimums are selected on, the cursor moves to the minimum altitude field. Use the small **FMS** Knob to select the altitude. Press the **ENT** Key.
  - b) If temperature compensated minimums was selected, the cursor moves to the temperature field. Use the small **FMS** Knob to select the temperature. Press the **ENT** Key. The cursor moves to the Sequence box. The approach is previewed on the map.

**Or:**

When minimums are selected off, the cursor moves to the Sequence box. The approach is previewed on the map.

- 7) Press the **Info-1** or the **Info-2** Softkey to return to the Airport Information Page.

## 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.

## REMOVING AN APPROACH FROM THE ACTIVE FLIGHT PLAN

- 1) Press the **FPL** Key to display the Active Flight Plan Page (MFD) or the Active Flight Plan Window (PFD).
- 2) Press the **MENU** Key, 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.
- 5) Press the **FMS** Knob to remove the flashing cursor.

## ACTIVATING A MISSED APPROACH IN THE ACTIVE FLIGHT PLAN

- 1) Press the **PROC** Key.
- 2) Turn the **FMS** Knob to highlight 'Activate Missed Approach'.
- 3) Press the **ENT** Key. The aircraft automatically sequences to the MAHP.

**Or:**

Press the Go-Around Button.

## ACTIVATING TEMPERATURE COMPENSATED ALTITUDE

- 1) From the Active Flight Plan Page, press the **MENU** Key. The Page Menu is displayed.
- 2) Turn the **FMS** Knob to highlight 'Temperature Compensation'.
- 3) Press the **ENT** Key. The Temperature Compensation Window is displayed.
- 4) Use the small FMS Knob to select the temperature at the <airport>. The compensated altitude is computed as the temperature is selected.

- 1) 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.

## CANCELLING TEMPERATURE COMPENSATED ALTITUDE

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

## TRIP PLANNING

### SELECTING AUTOMATIC OR MANUAL PAGE MODE

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

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) Press the **FMS** Knob to activate the cursor in the flight plan number 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 Inset Map also displays the selected data.

### SELECTING WAYPOINTS FOR WAYPOINT MODE

- 1) 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 below the FPL field.

- 2) Turn the **FMS** knobs to select the desired waypoint (or select from the Page Menu '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) Press the **Manual** Softkey or select 'Manual Mode' from the Page Menu, 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

### PREDICTING RAIM AVAILABILITY AT A SELECTED WAYPOINT

- 1) Select the AUX-GPS Status Page.
- 2) Press the **FMS** Knob. The RAIM Prediction 'Waypoint' field is highlighted.
- 3) Turn the small **FMS** Knob to display the Waypoint Information Window. (Turning it clockwise displays a blank Waypoint Information Window, turning it counter-clockwise displays the Waypoint Information Window with a waypoint selection submenu allowing selection of active flight plan, nearest, recent, user, or airway waypoints).
- 4) Enter the identifier, facility, or city name of the departure waypoint; or select a waypoint from the submenu of waypoints and press the **ENT** Key to accept the waypoint entry.
- 5) Turn the FMS Knobs to enter an arrival time and press the **ENT** Key.
- 6) Turn the FMS Knobs to enter an arrival date and press the **ENT** Key.
- 7) Press the **ENT** Key with 'Compute RAIM?' highlighted to begin the computation.

**PREDICTING RAIM AVAILABILITY AT THE AIRCRAFT PRESENT POSITION**

- 1) Select the AUX-GPS Status Page.
- 2) Press the **FMS** Knob. The RAIM Prediction 'Waypoint' field is highlighted.
- 3) Press the **MENU** Key, highlight 'Set WPT to Present Position', and press the **ENT** Key.
- 4) Press the **ENT** Key to accept the waypoint entry.
- 5) Turn the FMS Knobs to enter an arrival time and press the **ENT** Key.
- 6) Turn the FMS Knobs to enter an arrival date and press the **ENT** Key.
- 7) Press the **ENT** Key with 'Compute RAIM?' highlighted to begin the computation.

**ENABLING/DISABLING SBAS**

- 1) Select the AUX-GPS Status Page.
- 2) Press the **SBAS** Softkey.
- 3) Press the **FMS** Knob, and turn the large FMS Knob to highlight 'EGNOS', 'MSAS' or 'WAAS'.
- 4) Press the **ENT** Key to disable SBAS. Press the **ENT** Key again to enable SBAS.

# HAZARD AVOIDANCE

- Flight Instruments
- FIS
- Nav/Com/XPDR/Audio
- Flight Management
- Hazard Avoidance
- AFCs
- Additional Features
- Abnormal Operation
- Annun/Alerts
- Appendix
- Index

## Customizing the Hazard Displays on the Navigation Map Page:

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

## STORMSCOPE® (OPTIONAL)



**WARNING:** Do not rely on information from the 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 the documentation from the lightning detection system manufacturer for detailed information about the system.

## Displaying Stormscope Lightning Data on the Navigation Map Page

- 1) Select the **Map Opt** Softkey.
- 2) Select the **STRMSCP** Softkey.

## Enabling/disabling Stormscope information on PFD maps:

- 1) On the PFD, press the **Map/HSI** Softkey.
- 2) Press the **Lightning** Softkey.
- 3) Press the **STRMSCP** Softkey to enable Stormscope lightning information, or press the **LTNG Off** Softkey to disable Stormscope lightning information.

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	

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

- 1) Turn the large **FMS** Knob to select the Map Page Group.
- 2) Turn the small **FMS** Knob to select the Stormscope Page.
- 2) Press the **Mode** Softkey. The **Cell** and **Strike** Softkeys are displayed. Press the **Cell** Softkey to display 'CELL' data or press the **Strike** Softkey to display 'STRIKE' data. 'CELL' or 'STRIKE' is displayed in the mode box located in the upper right corner of the Stormscope Page.



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

## Manually Clearing Stormscope Data on the Stormscope Page

Press the **Clear** Softkey.

## Manually Clearing Stormscope Data on the Navigation Map Page

- 1) Press the **MENU** Key.
- 2) Turn the **FMS** Knob to highlight 'Clear Stormscope® Lightning'.
- 3) Press the **ENT** Key.

## SIRIUSXM WEATHER (OPTIONAL)



**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.

## Changing the Data Link Weather Source to display SiriusXM Weather

- 1) Turn the large **FMS** Knob to select the Map Page Group.
- 2) Turn the small **FMS** Knob to select the Weather Data Link Page. If the name of another source besides '(XM)' is in the page title, continue to Step 3.

- 3) Press the **MENU** Key.
- 4) If necessary, turn the large **FMS** Knob to highlight 'Display XM Weather' and press the **ENT** Key.

## Displaying SiriusXM Weather on the Navigation Map Page

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

## Displaying SiriusXM Weather on PFD maps

- 1) Press the **Map/HSI** Softkey.
- 2) Press the **NEXRAD** or **METAR** Softkey to display the desired weather product. Press the applicable softkey again to remove weather product from the map.
- 3) Press the **Lightning** Softkey to display softkeys for lightning weather products.
- 4) Press the **Datalink** Softkey to enable SiriusXM lightning information on the PFD Maps or press the **LTNG Off** Softkey to disable lightning information.

## Displaying/Removing the Weather Product Information Box on PFD Maps

- 1) On the PFD, press the **Map/HSI** Softkey.
- 2) Press the **Layout** Softkey.
- 3) Press the **WX LGND** Softkey to display/remove the weather product information box.

## Displaying Sirius Weather Legends on the Navigation Map Page

- 1) Press the **Map Opt** Softkey.
- 2) Press the **Legend** Softkey to display or remove the legend.

## Display METAR and TAF information on the Airport Information Page

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

- 4) Press the **FMS** Knob to enable the cursor, then turn the small **FMS** Knob as needed to **FMS** knob to scroll through the text.
- 5) After viewing text, press the **FMS** Knob to disable the cursor.

## Displaying Weather on the Weather Data Link (XM) Page

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

## Enabling/disabling NEXRAD Animation on the Weather Data Link (XM) Page

- 1) Turn the large **FMS** Knob to select the Map Page Group.
- 2) Turn the small **FMS** Knob to select the Weather Data Link (XM) Page.
- 3) Press the **MENU** Key.
- 4) Turn the **FMS** Knob to select 'Weather Setup' 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 select 'On' or 'Off' then press the ENT Key.

## Map Panning Information – Weather Data Link (XM) Page

- 1) Push in the **Joystick** to activate the Map Pointer.
- 2) Move the **Joystick** to place the Map Pointer over graphical weather information. For Cloud Tops, Echo Tops, METAR flags, Storm Cells, and County Warnings, an information box appears near the Map Pointer. If the Map Pointer has highlighted a SIGMET, AIRMET, PIREP, AIREP, or TFR, press the **ENT** Key to view additional information such as report text, then press the **ENT** Key or the **CLR** Key to remove the information.

Note when a METAR flag or airport is highlighted, pressing the **ENT** Key shows the WPT - Weather Information Page. The decoded and original METAR text is available on this page as well as the TAF, if provided. When finished, press the **Go Back** Softkey or press the **CLR** Key to return to the Weather Data Link (XM) Page.

**Enabling/disabling winds aloft data display in the Vertical Situation Display (VSD):**

- 1) Select the 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 and press the **ENT** Key
- 5) Turn the large **FMS** Knob to select the Winds On/Off field.
- 6) Turn the small **FMS** Knob to select 'On' or 'Off'.
- 7) Press the **FMS** Knob or **CLR** Key to return to the Navigation Map Page with the changed settings.



**NOTE:** NEXRAD data cannot be displayed simultaneously on the same map as relative terrain, echo tops, turbulence, or icing is displayed.

**SiriusXM Weather Products and Symbols**

Weather Product	Symbol	Expiration Time (Minutes)	Refresh Rate (Minutes)
NEXRAD		30	5 (U.S.) 10 (Canada)
Cloud Top (CLD TOP)		60	15 (69/69A) 30 (69/69A SXM)
Echo Top (ECHO TOP)		30	7.5
SiriusXM Lightning (LTNG)		30	5
Cell Movement (CELL MOV)		30	1.25
SIGMETs/AIRMETs (SIG/ AIR)		60	12
METARs		90	12

	Weather Product	Symbol	Expiration Time (Minutes)	Refresh Rate (Minutes)
Flight Instruments	City Forecast (CITY)		90	12
EIS	Surface Analysis (SFC)		60	12
Nav/Com/XPDR/Audio	Freezing Levels (FRZ LVL)		120	12
Flight Management	Winds Aloft (WIND)		90	12
Hazard Avoidance	County Warnings (COUNTY)		60	5
	Cyclone Warnings (CYCLONE)		60	12
AFCS	Icing Potential (CIP and SLD) (ICNG)		90	22
Additional Features	Pilot Weather Report (PIREPs)		90	12
	Air Report (AIREPs)		90	12
Abnormal Operation	Turbulence (TURB)		180	12
Annun/Alerts	Radar Coverage Not Available	No product image	30	5
	TFRs	No product image	60	12
Appendix	TAFs	No product image	60	12

## FIS-B WEATHER



**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.

The optional GTX 345R transponder receives Flight Information Services - Broadcast (FIS-B) weather data from a network of UAT ground-based transceivers (GBTs).

FIS-B weather data reception requires the aircraft being within range and line-of-sight of an operating GBT broadcasting FIS-B weather data. Reception may be affected by factors including altitude or terrain.

Reception of FIS-B weather data occurs automatically without any pilot action. FIS-B broadcasts provide weather data in a repeating cycle which may take approximately ten minutes to transmit all available weather data. Therefore, not all available weather data may be available immediately upon initial FIS-B signal acquisition.

### Viewing the Weather Data Link (FIS-B) Page

- 1) Turn the large **FMS** Knob to select the Map Page Group.
- 2) Turn the small **FMS** Knob to select the Weather Data Link (FIS-B or XM) Page.
- 3) If the page title displays a weather data link weather source other than 'FIS-B', such as 'XM', proceed to the following steps to change the data link weather source.
- 4) Press the **MENU** Key.
- 5) Turn the small **FMS** Knob to select 'Display FIS-B Weather'.
- 6) Press the **ENT** Key. The page title will display 'Map - Weather Data Link (FIS-B)' to indicate FIS-B is now the selected data link weather source.

- Flight Instruments
- FIS
- Nav/Com/XPDR/Audio
- Flight Management
- Hazard Avoidance
- AFCs
- Additional Features
- Abnormal Operation
- Annun/Alerts
- Appendix
- Index

## Enabling/Disabling FIS-B Weather weather reception

- 1) Select the 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.

FIS-B Weather Product	Symbol	Expiration Time (Minutes)	Broadcast Rate (Minutes)
NEXRAD Composite (US)		30	15
NEXRAD Composite (Regional)		30	2.5
Meteorological Aerodrome Report (METARs)		90	5
Pilot Weather Report (PIREPs)		90	10
Winds and Temperatures Aloft (WIND)		90	10
SIGMETs/AIRMETs (SIG/AIR)		60	5
No Radar Coverage	no product image	30	2.5
Terminal Aerodrome Forecast	no product image	60	10
Temporary Flight Restriction (TFR)	no product image		10

Weather Product Symbols and Data Timing

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

- 1) Select the Weather Data Link (FIS-B) Page.
- 2) Press the **MENU** Key.
- 3) With 'Weather Setup' highlighted, press the **ENT** Key.
- 4) Turn the small **FMS** Knob to select 'Product Group 1', and press the **ENT** Key.

- 5) Turn the large **FMS** Knob or press the **ENT** Key to scroll through product selections.
- 6) Turn the small **FMS** Knob to scroll through options for each product (On/Off, range settings, etc.).
- 7) Press the **ENT** Key to select an option.
- 8) Press the **FMS** Knob or **CLR** Key to return to the Weather Data Link (FIS-B) Page with the changed settings.

## Setting Up and Customizing FIS-B Weather on the Navigation Map Page

- 1) Select the 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) Press the **FMS** Knob or **CLR** Key to return to the Navigation Map Page with the changed settings.

## Displaying/Removing the Weather Product Information Box on PFD Maps

- 1) On the PFD, press the **Map/HSI** Softkey.
- 2) Press the **Layout** Softkey.
- 3) Press the **WX LGND** Softkey to display/remove the weather product information box.

## Viewing Legends for Displayed Weather Products on the Weather Data Link (FIS-B) Page

- 1) Select the Weather Data Link (FIS-B) 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) To remove the Legend Window, press the **Legend** Softkey, the **ENT** or the **CLR** Key, or press the **FMS** Knob.

## Viewing Legends for Displayed Weather Products on the Navigation Map Page

- 1) Select the Navigation Map Page.
- 2) Press the **Map Opt** Softkey.
- 3) Press the **Legend** Softkey (available if one or more FIS-B weather products are enabled for display).
- 4) To remove the Legend Window, press the **Legend** Softkey, the **ENT** or the **CLR** Key, or press the **FMS** Knob.

## Displaying Weather on the Weather Data Link (FIS-B) Page

- 1) Turn the large **FMS** Knob to select the Map Page Group.
- 2) Turn the small **FMS** Knob to select the Weather Data Link (FIS-B) Page.
- 3) Press the available softkeys to enable/disable the display of the desired FIS-B Weather product.

## Displaying the NEXRAD weather product on the Weather Data Link (FIS-B) Page

- 1) Select the Weather Data Link (FIS-B) Page.
- 2) Press the **NEXRAD** Softkey. Each softkey press cycles through a coverage option as the softkey name changes (**US**, **RGNL**, or **US/RGNL**).

## Displaying the NEXRAD weather product on the 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, press the **FMS** Knob or press the **CLR** Key.

## Display METAR and TAF information on the Airport Information Page

- 1) Turn the large **FMS** Knob to select the WPT Page Group.
- 2) Turn the small **FMS** Knob to select the Airport Information Page.
- 3) Press the **WX** Softkey to display METAR and TAF text.
- 4) Press the **FMS** Knob to enable the cursor, then turn the small **FMS** Knob as needed to **FMS** knob to scroll through the text.
- 5) After viewing text, press the **FMS** Knob to disable the cursor.

## Map Panning Information – Weather Data Link (FIS-B) Page

- 1) Push in the **Joystick** to activate the Map Pointer.
- 2) Move the **Joystick** to place the Map Pointer over graphical weather information. For Cloud Tops, Echo Tops, METAR flags, Storm Cells, and County Warnings, an information box appears near the Map Pointer. If the Map Pointer has highlighted a SIGMET, AIRMET, PIREP, or TFR, press the **ENT** Key to view additional information such as report text, then press the **ENT** Key or the **CLR** Key to remove the information.

Note when a METAR flag or airport is highlighted, pressing the **ENT** Key shows the WPT - Weather Information Page. The decoded and original METAR text is available on this page as well as the TAF, if provided. When finished, press the **Go Back** Softkey or press the **CLR** Key to return to the Weather Data Link (FIS-B) Page.

## Enabling/disabling winds aloft data display in the Vertical Situation Display (VSD)

- 1) Select the 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 and press the **ENT** Key
- 5) Turn the large **FMS** Knob to select the Winds On/Off field.
- 6) Turn the small **FMS** Knob to select 'On' or 'Off'.
- 7) Press the **FMS** Knob or **CLR** Key to return to the Navigation Map Page with the changed settings.

## Traffic Information Service (TIS)



**NOTE:** If the aircraft has a Traffic Advisory System (TAS) or the capability to receive Automatic Dependent Surveillance-Broadcast (ADS-B) traffic reports, including TIS-B, these features supersede TIS.



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

Traffic Symbol	Description
	Non-Threat Traffic (intruder is beyond 5 nm and greater than 1200' vertical separation)
	Traffic Advisory (TA) (closing rate, distance, and vertical separation meet TA criteria)
	Traffic Advisory Off Scale

### TIS Traffic Symbol Description

## Displaying TIS traffic on the Traffic Map Page

- 1) Turn the large **FMS** Knob to select the Map Page Group.
- 2) Turn the small **FMS** Knob to select the Traffic Map Page.
- 3) Press the **Operate** Softkey to begin displaying traffic. 'OPERATING' is displayed in the Traffic Mode field.
- 4) Press the **Standby** Softkey to place the system in the Standby Mode. 'STANDBY' is displayed in the Traffic Mode field.
- 5) Rotate the **Joystick** clockwise to increase the map range or rotate counter-clockwise to decrease the map range.
- 6) Press the **TNA Mute** Softkey to mute/unmute the "TIS Not Available" voice alert.

## Displaying TIS Traffic on the Navigation Map Page

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

## Displaying TIS Traffic on PFD Maps

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

**TRAFFIC ADVISORY SYSTEM (TAS)**



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



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



**NOTE:** ADS-B traffic symbols are only displayed if the equipment installed in the aircraft is capable of receiving ADS-In traffic reports.

Symbol	Description
	Traffic Advisory with ADS-B directional information. Points in the direction of the intruder aircraft track.
	Traffic Advisory without ADS-B directional information.
	Traffic Advisory out of the selected display range with ADS-B directional information. Displayed at outer range ring at proper bearing.
	Traffic Advisory out of the selected display range without ADS-B directional information. Displayed at outer range ring at proper bearing.
	Proximity Advisory with ADS-B directional information. Points in the direction of the aircraft track.
	Proximity Advisory without ADS-B directional information.
	Other Non-Threat traffic with ADS-B directional information. Points in the direction of the intruder aircraft track.
	Other Non-Threat traffic without ADS-B directional information.

Symbol	Description
	Traffic located on the ground with ADS-B 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 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. 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.

### Displaying Traffic on the Traffic Map Page:

- 1) Turn the large **FMS** Knob to select the Map Page Group.
- 2) Turn the small **FMS** Knob to select the Traffic Map Page.
- 3) Press the **Operate** or **TAS OPER** Softkey to begin displaying TAS traffic. 'OPERATING' is displayed in the Traffic Mode field.
- 4) Press the **ADS-B** Softkey to begin display ADS-B traffic (if equipped).
- 5) Press the **ALT Mode** Softkey to change the altitude volume. Select the desired altitude volume by pressing the **Above, Normal, Below, or UNREST** (unrestricted) Softkey. The selection is displayed in the Altitude Mode field. Press the **Back** Softkey to return to the previous level softkeys.
- 6) Press the **Motion** Softkey (if equipped).
- 7) 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.
- 8) Press the **Back** Softkey to return to the previous level softkeys.
- 9) Press the **TAS STBY** or **Standby** Softkey to place the system in the Standby Mode. 'STANDBY' is displayed in the Traffic Mode field.
- 10) Rotate the **Joystick** clockwise to display a larger area or rotate counter-clockwise to display a smaller area.

- Flight Instruments
- EIS
- Nav/Com/XPDR/Audio
- Flight Management
- Hazard Avoidance
- AFCS
- Additional Features
- Abnormal Operation
- Annun/Alerts
- Appendix
- Index

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

## System Self Test

- 1) With the Traffic Map Page displayed, set the range to 2/6 nm.
- 2) Press the **Standby** or **TAS STBY** Softkey.
- 3) Press the **Test** Softkey.
- 4) Self test takes approximately eight seconds to complete. When completed successfully, traffic symbols are displayed and a voice alert "TAS System Test OK" is heard. If the self test fails, the system reverts to Standby Mode and a voice alert "TAS System Test Fail" is heard.

## Displaying Traffic on the Navigation Map

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

## TERRAIN AVOIDANCE (TERRAIN PROXIMITY, TERRAIN-SVT, TAWS)



**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.



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



**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.

## Enabling/disabling relative terrain information on MFD navigation maps

- 1) Press the **Map Opt** Softkey.
- 2) Press the **TER** Softkey to cycle through a terrain option with each press. The selected mode is displayed in cyan: Off, Topo, REL. Press the **TER** Softkey as needed until 'REL' is displayed on the softkey.

## Displaying relative terrain information (PFD Maps)

- 1) Press the **Map/HSI** Softkey.
- 2) Press the **Rel Ter** Softkey.

*Relative Terrain On-Ground Legend*



*Relative Terrain In-Air Legend*



**Relative Terrain Legends (Terrain Proximity, Terrain-SVT, TAWS-B)**

## Customizing terrain and obstacle display on the Navigation Map Page:

- 1) Select the 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 – Selects terrain 'Off' for no terrain, 'Topo' for topographic information, or relative terrain 'Rel'. The distance field selects the maximum map range to display terrain information before it is removed from the map.
  - Obstacle Data – Turns the display of obstacles on or off. The distance field selects the maximum map range to display obstacle symbols before they are removed from the map.
- 6) Turn the small **FMS** Knob to scroll through options for each product (ON/OFF, range settings).
- 7) Press the **ENT** Key to select an option.
- 8) Press the **FMS** Knob or **CLR** Key to return to the Navigation Map Page with the changed settings.

Flight Instruments

EIS

Nav/Com/XPDR/Audio

Flight Management

Hazard Avoidance

AFCs

Additional Features

Abnormal Operation

Annun/Alerts

Appendix

Index

## Displaying the terrain page (Terrain Proximity, Terrain-SVT, TAWS-B)

- 1) Turn the large **FMS** Knob to select the Map Page Group.
- 2) Turn the small **FMS** Knob to select the Terrain Proximity, Terrain-SVT, or 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.

## Manually testing the terrain system (TAWS-B only)

- 1) With the aircraft on the ground, select the TAWS-B Page.
- 2) Press the **MENU** Key.
- 3) Turn the FMS Knob to highlight 'Test TAWS System' and press the **ENT** Key to confirm the selection.

## Inhibiting/enabling terrain/obstacle alerting (Terrain SVT and TAWS-B only)

- 1) Select the Terrain-SVT or TAWS-B Page.
- 2) Press the **Inhibit** Softkey to inhibit or enable terrain/obstacle alerting.

Flight Instruments

EIS

Nav/Com/XPDR/Audio

Flight Management

Hazard Avoidance

AFCS

Additional Features

Abnormal Operation

Annun/Alerts

Appendix

Index

# AUTOMATIC FLIGHT CONTROL SYSTEM



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

## ACTIVATING THE FLIGHT DIRECTOR

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

Control Pressed	Modes Selected			
	Lateral		Vertical	
<b>FD</b> Key	Roll Hold (default)	ROL	Pitch Hold (default)	PIT
<b>AP</b> Key	Roll Hold (default)	ROL	Pitch Hold (default)	PIT
<b>CWS</b> Button	Roll Hold (default)	ROL	Pitch Hold (default)	PIT
<b>GA</b> Button	Go Around (in air)	GA	Go Around (in air)	GA
<b>ALT</b> Key	Roll Hold (default)	ROL	Altitude Hold	ALT
<b>VS</b> Key	Roll Hold (default)	ROL	Vertical Speed	VS
<b>FLC</b> Key	Roll Hold (default)	ROL	Flight Level Change	FLC
<b>VNV</b> Key	Roll Hold (default)	ROL	Vertical Path Tracking*	VPTH
<b>NAV</b> Key	Navigation**	GPS VOR LOC	Pitch Hold (default)	PIT
<b>BC</b> Key	Backcourse***	BC	Pitch Hold (default)	PIT
<b>APR</b> Key	Approach**	GPS VOR LOC	Pitch Hold (default)	PIT
<b>HDG</b> Key	Heading Select	HDG	Pitch Hold (default)	PIT

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

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

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

## VERTICAL MODES

Vertical Mode	Description	Control	Annunciation	
Pitch Hold	Holds 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	<b>ALT</b> Key	ALT	nnnnn FT
Vertical Speed	Maintains the current aircraft vertical speed; may be used to climb/descend to the Selected Altitude	<b>VS</b> Key	VS	nnnn FPM
Flight Level Change, IAS Hold	Maintains the current aircraft airspeed (in IAS or Mach) while the aircraft is climbing/descending to the Selected Altitude	<b>FLC</b> Key	FLC	nnn KT
Flight Level Change, Mach Hold			FLC	M .nnn

\* *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*

## LATERAL MODES

Lateral Mode	Description	Control	Annunciation	
Roll Hold	Holds the current aircraft roll attitude or rolls the wings level, depending on the commanded bank angle	(default)	ROL	
Heading Select	Captures and tracks the Selected Heading	<b>HDG</b> Key	HDG	
Navigation, GPS Arm/Capture/Track	Captures and tracks the selected navigation source (GPS, VOR, LOC)	<b>NAV</b> Key	GPS	
Navigation, VOR Enroute Arm/Capture/Track			VOR	
Navigation, LOC Arm/Capture/Track (No Glideslope)			LOC	

\* *No annunciation appears in the AFCS Status Box. The acceptable bank angle range is indicated in green along the Roll Scale of the Attitude Indicator.*

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

Lateral Mode	Description	Control	Annunciation
Vertical Path Tracking	Captures and tracks descent legs of an active vertical profile	<b>VNV</b> Key	VPTH
VNV Target Altitude Capture	Captures the Vertical Navigation (VNV) Target Altitude	*	ALTV
Glidepath	Captures and tracks the SBAS glidepath on approach	<b>APR</b> 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	<b>BC</b> Key	BC
Approach, GPS Arm/Capture/Track	Captures and tracks the selected navigation source (GPS, VOR, LOC)	<b>APR</b> Key	GPS
Approach, VOR Arm/Capture/Track			VAPP
Approach, ILS Arm/Capture/Track (Glideslope Mode automatically armed)			LOC
Go Around**	Commands a constant pitch angle and wings level in the air	<b>GA</b> Button	GA

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

\*\* *Go Around mode disengages the autopilot unless a compatible lift computer is installed.*

\*\*\* *Level mode can only become activated as a function of Electronic Stability and Protection (ESP). Refer to the Additional Features section for a detailed discussion of the optional ESP feature.*

- Flight Instruments
- EIS
- Nav/Com/XPDR/Audio
- Flight Management
- Hazard Avoidance
- AFCS
- Additional Features
- Abnormal Operation
- Annun/Alerts
- Appendix
- Index

Flight Instruments

EIS

Nav/Com/XPDR/Audio

Flight Management

Hazard Avoidance

AFCS

Additional Features

Abnormal Operation

Annun/Alerts

Appendix

Index

Blank Page

# ADDITIONAL FEATURES

## SYNTHETIC VISION



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



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

Synthetic Vision Technology (SVT) functionality is offered as an optional enhancement to the system.

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

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

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

### 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.

Flight Instruments

## 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.

EIS

Nav/Com/XPDR/Audio

## 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.

Flight Management

Hazard Avoidance

## 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.

AFCS

Additional Features



## TERMINAL PROCEDURE CHARTS

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

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Abnormal Operation

## SafeTaxi®

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

Annun/Alerts

Appendix

Pressing the DCLTR Softkey (declutter) once removes the taxiway markings and airport identification labels. Pressing the DCLTR Softkey twice removes VOR station ID, the VOR symbol, and intersection names if within the airport plan view. Pressing the DCLTR Softkey a third time removes the airport runway layout, unless the airport in view is part of an active route structure. Pressing the DCLTR Softkey again cycles back to the original map detail.

Index

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

## ChartView

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

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

## FliteCharts®

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

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

## Selecting Terminal Procedures Charts:

While viewing the Navigation Map Page, Nearest Airport Page, or Flight Plan Page, select 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 Charts.
- 3) Press the **ENT** Key to display the chart.

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

Flight Instruments

## Selecting Additional Information:

- 1) While viewing the Airport Taxi Diagram, select the **WX** Softkey to display the information windows (AIRPORT, INFO).
- 2) Press the **FMS** Knob to activate the cursor.
- 3) Turn the large **FMS** Knob to highlight the INFO Box.
- 4) Turn the small **FMS** Knob to select the INFO Box choices. When the INFO Box is selected the G1000NXi softkeys are blank. If multiple choices are available, scroll to the desired choice with the large **FMS** Knob and press the **ENT** Key to complete the selection.
- 5) Press the **FMS** Knob again to deactivate the cursor.

EIS

Nav/Com/XPDR/Audio

Flight Management

## 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 Chart Setup Menu Option and press the **ENT** Key.
- 3) Turn the large **FMS** Knob to move between the Full Screen and Color Scheme Options.
- 4) Turn the small **FMS** Knob to choose between the On and Off Full Screen Options.

Hazard Avoidance

AFCS

Additional Features

## 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 Chart 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.

Abnormal Operation

Annun/Alerts

Appendix

Index

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) Press the **FMS** Knob when finished to remove the Chart Setup Menu.

### AIRPORT DIRECTORY

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

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

#### Selecting the Airport Directory Page:

- 1) Turn the large **FMS** Knob to select the 'WPT' page group.
- 2) Turn the small **FMS** Knob to select the Airport Information Page. Initially, information for the airport closest to the aircraft's present position is displayed.
- 3) If necessary, select the Info softkey until **Info 2** is displayed.

### SIRIUSXM™ RADIO ENTERTAINMENT

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

#### Selecting the XM Radio Page

- 1) Turn the large **FMS** Knob to select the Auxiliary Page Group.
- 2) Turn the small **FMS** Knob to select the displayed Aux - XM Radio Page.

#### Active Channel and Channel List

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

Flight Instruments

EIS

Nav/Com/XPDR/Audio

Flight Management

Hazard Avoidance

AFCS

Additional Features

Abnormal Operation

Annun/Alerts

Appendix

Index

### 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) Press 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.

### Selecting a Category

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

- 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.

### 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.

### Adjusting 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.)

SiriusXM Radio volume may also be adjusted on each passenger headset.

### Mute SiriusXM audio:

- 1) Select the XM Radio Page or XM Information Page.
- 2) Select the **Mute** Softkey to mute the audio. Select the **Mute** Softkey again to unmute the audio.

## SCHEDULER

The Scheduler feature can be used to enter and display reminder messages (e.g., Change oil, Switch fuel tanks, or Altimeter-Transponder Check) in the Alerts Window on the PFD. Messages can be set to display based on a specific date and time (event), once the message timer reaches zero (one-time; default setting), or recurrently whenever the message timer reaches zero (periodic). Message timers set to periodic alerting automatically reset to the original timer value once the message is displayed. When power is cycled, all messages are retained until deleted, and message timer countdown is resumed

### Entering a scheduler message:

- 1) Select the Aux - Utility Page.
- 2) Press the **FMS** Knob momentarily to activate the flashing cursor.
- 3) Turn the large **FMS** Knob to highlight the first empty scheduler message naming field.
- 4) Use the **FMS** Knob to enter the message text 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 field next to Type.
- 6) Turn the small **FMS** Knob to select the message 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 messages, 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-MM-YY) 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) Press the **FMS** Knob momentarily to activate the flashing cursor.
- 3) Turn the large **FMS** Knob to highlight the name 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 while the message line is cleared to clear the message time.

## SURFACEWATCH (OPTIONAL)

The SurfaceWatch™ feature provides aural and 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.

### Inhibit/Uninhibit SurfaceWatch:

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

## PILOT PROFILES

### Creating a profile:

- 1) Select the Aux - System Setup Page.
- 2) Press 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.

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

### Selecting an active profile:

- 1) Select the Aux - System Setup Page.
- 2) Press 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 Page.
- 2) Press 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 Page.
- 2) Press 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 Page.
- 3) Select 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.
- 7) 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.
- 8) If successful, the system displays 'Crew profile import succeeded.' in the window below. With 'OK' highlighted, press the **ENT** or **CLR** Keys or press the **FMS** Knob to return to the Aux - System Setup 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 Page.
- 3) Select 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.
- 5) 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.
- 6) 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.
- 7) If successful, the window displays 'Crew profile export succeeded.' With 'OK' highlighted, press the **ENT** or **CLR** Keys, or press the **FMS** Knob to return to the Aux - System Setup Page.

## BLUETOOTH® MANAGEMENT

The Connex Setup Page allows for setting up the installed optional Flight Stream device for a Bluetooth connection between the system and a mobile device running the Garmin Pilot™ application.

The mobile device must be 'paired' with the system in order to use the various functions. Pairing is accomplished by first placing the system in pairing mode by displaying the Connex Setup Page. The system is 'discoverable' whenever this page is displayed. The pairing operation is completed from the mobile device and the Garmin Pilot application. See the device Bluetooth pairing instructions and the connection instructions in the Garmin Pilot application.

### Viewing the Connex 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 Connex Setup page.

### Changing the Bluetooth Name

- 1) While viewing the Connex 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 Connex 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) Press the **FMS** Knob to remove the cursor.

### Enabling/Disabling Automatic Reconnection of a Specific Paired Device

- 1) While viewing the Connex 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) Press the **FMS** Knob to remove the cursor.

### Remove a Specific Paired Device from the List of Paired Devices:

- 1) While viewing the Connex 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.

## ELECTRONIC CHECKLISTS



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



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

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

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

**Checklist** Softkey is not available.

### Accessing and navigating checklists:

- 1) From any page on the MFD, 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.

### Immediately Accessing Emergency Procedures

- 1) From any page on the MFD, press the **Checklist** Softkey or turn the large **FMS** Knob to select the Checklist Page.
- 2) Press the **Emergency** Softkey.
- 3) Turn the **FMS** Knob to select the desired emergency checklist and press the **ENT** Key.
- 4) Press the **ENT** Key or **Check** Softkey to check the selected emergency checklist item. The line item turns green and a checkmark is placed in the box next to it. The next line item is automatically highlighted for checking. Either **FMS** Knob can be used to scroll through the checklist and select the desired checklist item.  
Press the **CLR** Key or **Uncheck** Softkey to remove a check mark from an item.
- 5) When all checklist items have been checked, '\*Checklist Finished\*' is displayed in green text at the bottom left of the checklist window. If all items in the checklist have not 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)

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

### Displaying auxiliary video:

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

### Selecting video menu options:

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

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

### Video Setup

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

### Adjusting the video settings:

- 1) With the Aux-Video Page displayed, press the **Setup** Softkey.
- 2) Press the **Bright -** or **Bright +**, to adjust display brightness in five percent increments from 0 to 100%.
- 3) Press the **Contrast-** or **Contrast +**, to adjust display contrast in five percent increments from 0 to 100%.
- 4) Press the **SAT -** or **SAT +**, to adjust display saturation in five percent increments from 0 to 100%.
- 5) If desired, return the display to the default settings by pressing the **Reset** Softkey.
- 6) Press the **Back** Softkey to return to the previous softkey level.

## Display Selection

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

## Zoom/Range

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

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

## Input Selection

While on the Aux - Video Page, press the **Input** Softkey to select the EVS or Aux video source.




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

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Flight Instruments

EIS

Nav/Com/XPDR/Audio

Flight Management

Hazard Avoidance

AFCS

Additional Features

Abnormal Operation

Annun/Alerts

Appendix

Index

Blank Page

# ABNORMAL OPERATION

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

## REVERSIONARY MODE

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

Reversionary display mode can be manually activated by pressing the **DISPLAY BACKUP** Button on the audio panel.



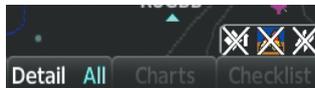
**NOTE:** *The Pilot's Operating Handbook (POH) always takes precedence over the information found in this section.*

## ABNORMAL COM OPERATION

When a COM tuning failure is detected by the system, the emergency frequency (121.500 MHz) is automatically loaded into the active frequency field of the COM radio for which the tuning failure was detected. In the event of a failure of both PFD and MFD, the emergency frequency (121.500 MHz) automatically becomes the active frequency on both COM radios.

## HAZARD DISPLAYS WITH LOSS OF GPS POSITION

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



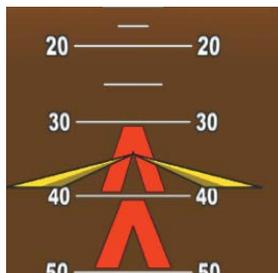
### Loss of Hazard Functions with Loss of GPS Position

## UNUSUAL ATTITUDES

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

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

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



**Extreme Pitch Indication**

## 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.



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

DR Mode is indicated on the system by the appearance of the letters 'DR' superimposed in yellow over the 'own aircraft' symbol as shown in the following figure. In addition, 'DR' is prominently displayed, also in yellow, on the HSI slightly above and to the right of the aircraft symbol on the CDI as shown in the following figure. The CDI deviation bar is displayed in yellow, but will be removed from the display after 20 minutes. Lastly, but at the same time, a 'GPS NAV LOST' alert message appears on the PFD.

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

It is important to note that estimated navigation data supplied by the 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 estimating your position and, consequently, the system may display a path that is different than the actual movement of the aircraft. Estimated position information displayed by the 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 compounds the relative inaccuracy of DR Mode. Because of this degraded accuracy, the crew must maintain position awareness using other navigation equipment until GPS-derived position data is restored.

- Flight Instruments
- EIS
- Nav/Com/XPDR/Audio
- Flight Management
- Hazard Avoidance
- AFCS
- Additional Features
- Abnormal Operation
- Annun/Alerts
- Appendix
- Index



CDI 'DR' Indication on PFD



Symbolic Aircraft  
(Map pages and Inset Map)

## Dead Reckoning Indications

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

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

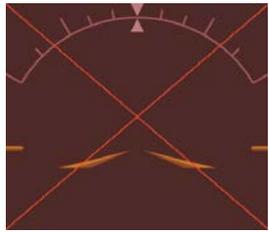
Also, while the system is in DR Mode, the autopilot will couple to GPS for up to 20 minutes. TAWS are also disabled. Additionally, the accuracy of all nearest information (airports, airspaces, and waypoints) is questionable. Finally, airspace alerts continue to function, but with degraded accuracy.

- Flight Instruments
- EIS
- Nav/Com/XPDR/Audio
- Flight Management
- Hazard Avoidance
- AFCS
- Additional Features
- Abnormal Operation
- Annun/Alerts
- Appendix
- Index

# ANNUNCIATIONS & ALERTS

## SYSTEM ANNUNCIATIONS

When an LRU or an LRU function fails, a large red “X” is typically displayed on windows associated with the failed data. Refer to the Pilot’s Operating Handbook (POH) for additional information regarding pilot responses to these annunciations

System Annunciation	Comment
 <p>AHRS ALIGN: Keep Wings Level</p>	Attitude and Heading Reference System is aligning.
	Display system is not receiving attitude information from the AHRS.
 <p>GPS LOI</p>	GPS information is either not present or is invalid for navigation use. Note that AHRS utilizes GPS inputs during normal operation. AHRS operation may be degraded if GPS signals are not present (see POH).
	Display system is not receiving valid heading input from AHRS.
 <p>XPDR FAIL</p>	Display system is not receiving valid transponder information.

Flight Instruments

EIS

Nav/Com/XPDR/Audio

Flight Management

Hazard Avoidance

AFCs

Additional Features

Abnormal Operation

Annun/Alerts

Appendix

Index

System Annunciation	Comment
<div style="display: flex; flex-direction: column; align-items: center;"> <div style="background-color: #e0e0e0; padding: 2px; margin-bottom: 5px;">Flight Instruments</div>  <div style="background-color: #e0e0e0; padding: 2px; margin-top: 5px;">EIS</div> </div>	<p>Display system is not receiving airspeed input from air data computer.</p>
<div style="display: flex; flex-direction: column; align-items: center;"> <div style="background-color: #e0e0e0; padding: 2px; margin-bottom: 5px;">Nav/Com/XPDR/Audio</div>  <div style="background-color: #e0e0e0; padding: 2px; margin-top: 5px;">Flight Management</div> </div>	<p>Display system is not receiving altitude input from the air data computer.</p>
<div style="display: flex; flex-direction: column; align-items: center;"> <div style="background-color: #e0e0e0; padding: 2px; margin-bottom: 5px;">Hazard Avoidance</div>  <div style="background-color: #e0e0e0; padding: 2px; margin-top: 5px;">AFCS</div> </div>	<p>Display system is not receiving vertical speed input from the air data computer.</p>
<div style="display: flex; flex-direction: column; align-items: center;"> <div style="background-color: #e0e0e0; padding: 2px; margin-bottom: 5px;">Additional Features</div> <p>Other Various Red X Indications</p> </div>	<p>A red 'X' through any other display field (such as engine instrumentation display) indicates that the field is not receiving valid data.</p>

## CAS ANNUNCIATIONS

The following annunciations are configured specifically for the NAV III Cessna aircraft. See the applicable NAV III POH for information regarding pilot responses.

### WARNING ANNUNCIATION

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

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

\*\* KAP 140 installations only

### CAUTION ANNUNCIATION

Annunciation Window Text	Audio Alert
<b>LOW FUEL L</b>	Single Aural Tone
<b>LOW FUEL R</b>	
<b>LOW VACUUM</b>	
<b>PROP HEAT*</b>	
<b>STBY BATT</b>	
<b>INDUCT TMP INOP*</b>	
<b>INDUCT TMP LO*</b>	

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

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

Annunciation Window Text	Audio Alert
<b>PROP HEAT</b>	No Tone

## ALERT MESSAGE

Alerts Window Message	Audio Alert
<b>PFD FAN FAIL</b> – The cooling fan for the PFD is inoperative.	None
<b>MFD FAN FAIL</b> – The cooling fan for the MFD is inoperative.	None
<b>AVIONICS FAN</b> – The cooling fan for remote avionics is inoperative.	None

## CO GUARDIAN MESSAGES

Alerts Window Message	Comments
<b>CO DET SRVC</b> – The carbon monoxide detector needs service.	There is a problem within the CO Guardian that requires service.
<b>CO DET FAIL</b> – The carbon monoxide detector is inoperative.	Loss of communication between the system and the CO Guardian.

## TERRAIN-SVT ALERTS

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

TERRAIN-SVT SYSTEM STATUS ANNUNCIATIONS

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

Flight Instruments

EIS

Nav/Com/XPDR/Audio

Flight Management

Hazard Avoidance

AFCS

Additional Features

Abnormal Operation

Annun/Alerts

Appendix

Index

## TAWS-B ALERTS

Alert Type	PFD/MFD TAWS-B Page Annunciation	MFD Pop-Up Alert	Aural Message
Excessive Descent Rate Warning (EDR)	<b>PULL UP</b>	<b>PULL-UP</b>	"Pull Up"
Reduced Required Terrain Clearance Warning (RTC)	<b>PULL UP</b>	<b>TERRAIN - PULL-UP</b> or <b>TERRAIN AHEAD - PULL-UP</b>	"Terrain, Terrain; Pull Up, Pull Up" or "Terrain Ahead, Pull Up; Terrain Ahead, Pull Up"
Imminent Terrain Impact Warning (ITI)	<b>PULL UP</b>	<b>TERRAIN AHEAD - PULL-UP</b> or <b>TERRAIN - PULL-UP</b>	Terrain Ahead, Pull Up; Terrain Ahead, Pull Up" or "Terrain, Terrain; Pull Up, Pull Up"
Reduced Required Obstacle Clearance Warning (ROC)	<b>PULL UP</b>	<b>OBSTACLE - PULL-UP</b> or <b>OBSTACLE AHEAD - PULL-UP</b>	"Obstacle, Obstacle; Pull Up, Pull Up" or "Obstacle Ahead, Pull Up; Obstacle Ahead, Pull Up"
Imminent Obstacle Impact Warning (IOI)	<b>PULL UP</b>	<b>OBSTACLE AHEAD - PULL-UP</b> or <b>OBSTACLE - PULL-UP</b>	"Obstacle Ahead, Pull Up; Obstacle Ahead, Pull Up" or "Obstacle, Obstacle; Pull Up, Pull Up"
Reduced Required Terrain Clearance Caution (RTC)	<b>TERRAIN</b>	<b>CAUTION - TERRAIN</b> or <b>TERRAIN AHEAD</b>	"Caution, Terrain; Caution, Terrain" or "Terrain Ahead; Terrain Ahead"
Imminent Terrain Impact Caution (ITI)	<b>TERRAIN</b>	<b>TERRAIN AHEAD</b> or <b>CAUTION - TERRAIN</b>	"Terrain Ahead; Terrain Ahead" or "Caution, Terrain; Caution, Terrain"
Reduced Required Obstacle Clearance Caution (ROC)	<b>TERRAIN</b>	<b>CAUTION - OBSTACLE</b> or <b>OBSTACLE AHEAD</b>	"Caution, Obstacle; Caution, Obstacle" or "Obstacle Ahead; Obstacle Ahead"
Imminent Obstacle Impact Caution (IOI)	<b>TERRAIN</b>	<b>OBSTACLE AHEAD</b> or <b>CAUTION - OBSTACLE</b>	"Obstacle Ahead; Obstacle Ahead" or "Caution, Obstacle; Caution, Obstacle"

Alert Type	PFD/MFD TAWS-B Page Annunciation	MFD Pop-Up Alert	Aural Message
Premature Descent Alert Caution (PDA)	<b>TERRAIN</b>	<b>TOO LOW - TERRAIN</b>	"Too Low, Terrain"
Altitude Callout "500"	None	None	"Five-Hundred"
Excessive Descent Rate Caution (EDR)	<b>TERRAIN</b>	<b>SINK RATE</b>	"Sink Rate"
Negative Climb Rate Caution (NCR)	<b>TERRAIN</b>	<b>DON'T SINK</b> or <b>TOO LOW - TERRAIN</b>	"Don't Sink" or "Too Low, Terrain"

## TAWS-B SYSTEM STATUS ANNUNCIATIONS

Alert Type	PFD/MFD Alert Annunciation	TAWS-B Page Annunciation	Aural Message
System Test in Progress	<b>TAWS TEST</b>	<b>TAWS TEST</b>	None
System Test Pass	None	None	"TAWS System Test OK"
TAWS Alerting is disabled	<b>TAWS INH</b>	None	None
MFD Terrain or Obstacle database unavailable or invalid. TAWS operating with PFD Terrain or Obstacle databases	None	<b>TERRAIN DATABASE FAILURE</b>	None
TAWS-B System Test Fail	<b>TAWS FAIL</b>	<b>TAWS FAIL</b>	"TAWS System Failure"
Terrain or Obstacle database unavailable or invalid, invalid software configuration, system audio fault	<b>TAWS FAIL</b>	<b>TAWS FAIL</b>	"TAWS System Failure"
No GPS position	<b>TAWS N/A</b>	<b>NO GPS POSITION</b>	"TAWS Not Available"

Alert Type	PFD/MFD Alert Annunciation	TAWS-B Page Annunciation	Aural Message
Excessively degraded GPS signal, Out of database coverage area	<b>TAWS N/A</b>	None	"TAWS Not Available"
Sufficient GPS signal received after loss	None	None	"TAWS Available"

## GDL 69A SXM DATA LINK RECEIVER MESSAGES

Message	Message Location	Description
<b>CHECK ANTENNA</b>	XM Information Page (MFD)	Data Link Receiver antenna error; service required
<b>UPDATING</b>	XM Information Page (MFD)	Data Link Receiver updating encryption code
<b>NO SIGNAL</b>	XM Information Page Weather Datalink Page (MFD)	Loss of signal; signal strength too low for receiver
<b>LOADING</b>	XM Radio Page (MFD)	Acquiring channel audio or information
<b>OFF AIR</b>	XM Radio Page (MFD)	Channel not in service
-----	XM Radio Page (MFD)	Missing channel information
<b>WEATHER DATA LINK FAILED</b>	Weather Datalink Page (MFD)	No communication from Data Link Receiver within last 5 minutes
<b>ACTIVATION REQUIRED</b>	XM Information Page (MFD)	Sirius SXM subscription is not activated
<b>DETECTING ACTIVATION</b>	Weather Datalink Page (MFD)	Sirius SXM subscription is activating.
<b>WAITING FOR DATA...</b>	Weather Datalink Page (MFD)	Sirius SXM subscription confirmed downloading weather data.

## SURFACEWATCH ALERTS

SurfaceWatch Alert Annunciation	Associated Voice Alert	Description
<b>TWY TAKEOFF</b>	"Taxiway"	Issued when the aircraft is taking off from a non-runway (e.g. a taxiway)
<b>RWY TOO SHORT</b>	"Runway too short"	Issued when the aircraft is taking off from, or landing on, a runway with a length less than needed.
<b>CHECK RUNWAY</b>	"Check runway"	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.
<b>TWY LANDING</b>	"Taxiway"	Issued when the aircraft is landing on a non-runway (e.g. a taxiway).

## AFCS ALERTS

Condition	Annunciation	Description
Pitch Failure	<b>PTCH</b>	Pitch axis control failure. AP is inoperative.
Roll Failure	<b>ROLL</b>	Roll axis control failure. AP is inoperative.
MET Switch Stuck, or Pitch Trim Axis Control Failure	<b>PTRM</b>	If annunciated when AP is engaged, take control of the aircraft and disengage the autopilot. If annunciated when AP is not engaged, move each half of the MET switch separately to check if a stuck switch is causing the annunciation.
System Failure	<b>AFCS</b>	AP and MET are unavailable. FD may still be available.
Elevator Mistrim Up	<b>↑ELE</b>	A condition has developed causing the pitch servo to provide a sustained force. Be prepared to apply nose up control wheel force upon autopilot disconnect.
Elevator Mistrim Down	<b>↓ELE</b>	A condition has developed causing the pitch servo to provide a sustained force. Be prepared to apply nose down control wheel force upon autopilot disconnect.

- Flight Instruments
- EIS
- Nav/Com/XPDR/Audio
- Flight Management
- Hazard Avoidance
- AFCS
- Additional Features
- Abnormal Operation
- Annunciations
- Appendix
- Index

Condition	Annunciation	Description
Aileron Mistrim Left		A condition has developed causing the roll servo to provide a sustained left force. Ensure the slip/skid indicator is centered and observe any maximum fuel imbalance limits.
Aileron Mistrim Right		A condition has developed causing the roll servo to provide a sustained right force. Ensure the slip/skid indicator is centered and observe any maximum fuel imbalance limits.
Preflight Test		Performing preflight system test. Upon completion of the test, the aural alert will be heard.
		Preflight system test has failed.

## VOICE ALERTS

Voice Alert	Description
"Minimums, minimums"	The aircraft has descended below the preset barometric minimum descent altitude.
"Vertical track"	The aircraft is one minute from Top of Descent. Issued only when vertical navigation is enabled.
"Traffic"	Played when a Traffic Advisory (TA) is issued (TIS and ADS-B).
"Traffic Not Available"	The aircraft is outside the Traffic Information Service (TIS or ADS-B) coverage area.
"Traffic, Traffic"	Played when a Traffic Advisory (TA) is issued (TAS system).
"Traffic System Test"	Played during a pilot-initiated self test (GTX 345 only).
"TAS System Test Passed"	Played when the TAS system passes a pilot-initiated self test. (GTS 800 without GTX 345)
"TAS System Test Failed"	Played when the TAS system fails a pilot-initiated self test. (GTS 800 without GTX 345)
"One o'clock" through "Twelve o'clock" or "No Bearing"	Played to indicate bearing of traffic from own aircraft.
"High", "Low", "Same Altitude" (if within 200 feet of own altitude), or "Altitude not available"	Played to indicate altitude of traffic relative to own aircraft.

Voice Alert	Description
<p>"Less than one mile",                      "One Mile" through                      "Ten Miles", or "More                      than ten miles"</p>	<p>Played to indicate distance of traffic from own aircraft.</p>

## SYSTEM MESSAGE ADVISORIES

Message	Comments
<b>ABORT APR</b> – Loss of GPS navigation. Abort approach.	Abort approach due to loss of GPS navigation.
<b>ADC1 ALT EC</b> – ADC1 altitude error correction is unavailable	GDC1 is reporting that the altitude error correction is unavailable.
<b>ADC1 AS EC</b> – ADC1 airspeed error correction is unavailable.	GDC1 is reporting that the airspeed error correction is unavailable.
<b>AHRS1 CAL</b> – AHRS1 calibration version error. Svc req'd.	The #1 AHRS calibration version error. The system should be serviced.
<b>AHRS1 CONFIG</b> – AHRS1 config error. Config service req'd.	AHRS configuration settings do not match those of backup configuration memory. The system should be serviced.
<b>AHRS1 GPS</b> – AHRS1 using backup GPS source.	The #1 AHRS is using the backup GPS path. Primary GPS path has failed. The system should be serviced when possible.
<b>AHRS1 GPS</b> – AHRS1 not receiving any GPS information.	The #1 AHRS is not receiving any or any useful GPS information. Check AFMS limitations. The system should be serviced.
<b>AHRS1 GPS</b> – AHRS1 not receiving backup GPS information.	The #1 AHRS is not receiving backup GPS information. The system should be serviced.
<b>AHRS1 GPS</b> – AHRS1 operating exclusively in no-GPS mode.	The #1 AHRS is operating exclusively in no-GPS mode. The system should be serviced.
<b>AHRS1 SERVICE</b> – AHRS1 Magnetic-field model needs update.	The #1 AHRS earth magnetic field model is out of date. Update magnetic field model when practical.

- Flight Instruments
- EIS
- Nav/Com/XPDR/Audio
- Flight Management
- Hazard Avoidance
- AFCS
- Additional Features
- Abnormal Operation
- Annunciations
- Appendix
- Index

	Message	Comments
Flight Instruments	<b>AHRS1 TAS</b> – AHRS1 not receiving airspeed.	The #1 AHRS is not receiving true airspeed from the air data computer. The AHRS relies on GPS information to augment the lack of airspeed. The system should be serviced.
EIS	<b>APR DWNGRADE</b> – Approach downgraded.	Use LNAV minima when approach is downgraded.
Nav/Com/XPDR/Audio	<b>ARSPC AHEAD</b> – Airspace ahead less than 10 minutes.	Special use airspace is ahead of aircraft. The aircraft will penetrate the airspace within 10 minutes.
Flight Management	<b>ARSPC NEAR</b> – Airspace near – less than 2 nm.	Special use airspace is within 2 nm of the aircraft position.
Hazard Avoidance	<b>ARSPC NEAR</b> – Airspace near and ahead.	Special use airspace is near and ahead of the aircraft position.
AFCs	<b>APR INACTV</b> – Approach is not active.	The system notifies the pilot that the loaded approach is not active. Activate approach when required.
Additional Features	<b>CHECK CRS</b> – Database course for LOC2 / [LOC ID] is [CRS]°.	Selected course for LOC2 differs from published localizer course by more than 10 degrees.
Abnormal Operation	<b>CNFG MODULE</b> – PFD1 configuration module is inoperative.	The PFD1 configuration module backup memory has failed. The system should be serviced.
Annun/Alerts	<b>CO DET SRVC</b> – 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.
Appendix	<b>CO DET FAIL</b> – The carbon monoxide detector is inoperative.	A failure in the carbon monoxide detector has been detected. The system should be serviced.
Index	<b>COM1 CONFIG</b> – COM1 config error. Config service req'd.	The COM1 configuration settings do not match backup configuration memory. The system should be serviced

Message	Comments
<b>COM1 PTT</b> – 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.
<b>COM1 RMT XFR</b> – 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.
<b>COM1 SERVICE</b> – 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.
<b>COM1 TEMP</b> – 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.
<b>COM2 CONFIG</b> – COM2 config error. Config service req’d.	The COM2 configuration settings do not match backup configuration memory. The system should be serviced
<b>COM2 PTT</b> – 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.
<b>COM2 RMT XFR</b> – 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.

- Flight Instruments
- EIS
- Nav/Com/XPDR/Audio
- Flight Management
- Hazard Avoidance
- AFCS
- Additional Features
- Abnormal Operation
- Annun/Alerts
- Appendix
- Index

Message	Comments
<b>COM2 SERVICE</b> – 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.
<b>COM2 TEMP</b> – 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.
<b>COPILOT RADIOS MUTED</b> – Copilot radios are muted.	The copilot radios are set on mute.
<b>DATA LOST</b> – 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.
<b>DB CHANGE</b> – Database changed. Verify user modified procedures.	This occurs when a stored flight plan contains procedures that have been manually edited. This alert is issued only after an navigation database update. Verify that the user-modified procedures in stored flight plans are correct and up to date.
<b>DB CHANGE</b> – 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.
<b>DB MISMATCH</b> – Navigation database mismatch. Xtalk is off.	The PFD and MFD have different navigation database versions or types 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.

Message	Comments
<b>DB MISMATCH</b> – Obstacle database mismatch.	The PFD and MFD have different obstacle database versions or types 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.
<b>DB MISMATCH</b> – Standby Navigation database mismatch.	The PFD and MFD have different standby navigation database versions or types 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.
<b>DB MISMATCH</b> – Terrain database mismatch.	The PFD and MFD have different terrain database versions or types 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.
<b>DIG GMA1 MANIFEST</b> – DIG GMA 1 software mismatch, communication halted.	The digital audio controller has incorrect software installed. The system should be serviced.
<b>DME CHECK RANGE</b> – DME range disagreement. Check position sensors.	A failure or disagreement has been detected in a DME receiver. Check position sensors.
<b>FAILED PATH</b> – A data path has failed.	A data path connected to the GDU or the GIA 63W has failed.

- Flight Instruments
- EIS
- Nav/Com/XPDR/Audio
- Flight Management
- Hazard Avoidance
- AFCS
- Additional Features
- Abnormal Operation
- Annun/Alerts
- Appendix
- Index

	Message	Comments
Flight Instruments	<b>FPL TRUNC</b> – 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.
EIS		
Nav/Com/XPDR/Audio	<b>FPL WPT LOCK</b> – Flight plan waypoint is locked.	Upon power-up, the system detects that a stored flight plan waypoint is locked. This occurs when an navigation database update eliminates an obsolete waypoint. The flight plan cannot find the specified waypoint and flags this message. This can also occur with user waypoints in a flight plan that is deleted. Remove the waypoint from the flight plan if it no longer exists in any database, OR update the waypoint name/identifier to reflect the new information.
Flight Management		
Hazard Avoidance		
AFCS		
Additional Features	<b>FPL WPT MOVE</b> – Flight plan waypoint moved.	The system has detected that a waypoint coordinate has changed due to a new navigation database update. Verify that stored flight plans contain correct waypoint locations.
Abnormal Operation	<b>G/S1 FAIL</b> – G/S1 is inoperative.	A failure has been detected in glideslope receiver 1. The system should be serviced.
Annun/Alerts	<b>G/S1 SERVICE</b> – G/S1 needs service. Return unit for repair.	A failure has been detected in glideslope receiver 1. The receiver may still be available. The system should be serviced when possible.
Appendix	<b>G/S2 FAIL</b> – G/S2 is inoperative.	A failure has been detected in glideslope receiver 2. The system should be serviced.
Index	<b>G/S2 SERVICE</b> – G/S2 needs service. Return unit for repair.	A failure has been detected in glideslope receiver 2. The receiver may still be available. The system should be serviced when possible.

Message	Comments
<b>GDC1 MANIFEST</b> – GDC1 software mismatch, communication halted.	The ADAHRS has incorrect software installed. The system should be serviced.
<b>GDL69 CONFIG</b> – GDL 69 config error. Config service req'd.	GDL 69/69A SXM configuration settings do not match those of backup configuration memory. The system should be serviced.
<b>GDL69 FAIL</b> – GDL 69 has failed.	A failure has been detected in the GDL 69/69A or GDL 69/69A SXM. The receiver is unavailable. The system should be serviced.
<b>GDL69 MANIFEST</b> – GDL software mismatch, communication halted.	The GDL 69/69A SXM has incorrect software installed. The system should be serviced.
<b>GEA1 CONFIG</b> – GEA1 config error. Config service req'd.	The GEA1 configuration settings do not match those of backup configuration memory. The system should be serviced.
<b>GEA1 MANIFEST</b> – GEA1 software mismatch, communication halted.	The #1 GEA 71 has incorrect software installed. The system should be serviced.
<b>GEO LIMITS</b> – AHRS1 too far North/South, no magnetic compass.	The aircraft is outside geographical limits for approved ADAHRS operation. Heading is flagged as invalid.
<b>GFC MANIFEST</b> – GFC software mismatch, communication halted.	Incorrect servo software is installed, or gain settings are incorrect.
<b>GIA1 CONFIG</b> – GIA1 audio config error. Config service req'd.	The GIA1 have an error in the audio configuration. The system should be serviced.
<b>GIA1 CONFIG</b> – GIA1 config error. Config service req'd.	The GIA1 configuration settings do not match backup configuration memory. The system should be serviced.
<b>GIA1 COOLING</b> – GIA1 temperature too low.	The GIA1 and/or GIA2 temperature is too low to operate correctly. Allow units to warm up to operating temperature.
<b>GIA1 COOLING</b> – GIA1 over temperature.	The GIA1 temperature is too high. If problem persists, the system should be serviced.
<b>GIA1 MANIFEST</b> – GIA1 software mismatch, communication halted.	The GIA1 1 has incorrect software installed. The system should be serviced.

- Flight Instruments
- EIS
- Nav/Com/XPDR/Audio
- Flight Management
- Hazard Avoidance
- AFCS
- Additional Features
- Abnormal Operation
- Annunciations
- Appendix
- Index

	Message	Comments
Flight Instruments	<b>GIA1 SERVICE</b> – GIA1 needs service. Return the unit for repair.	The GIA1 self-test has detected a problem in the unit. The system should be serviced.
EIS	<b>GIA2 CONFIG</b> – GIA2 audio config error. Config service req'd.	The GIA2 have an error in the audio configuration. The system should be serviced.
Nav/Com/XPDR/Audio	<b>GIA2 CONFIG</b> – GIA2 config error. Config service req'd.	The GIA2 configuration settings do not match backup configuration memory. The system should be serviced.
Flight Management	<b>GIA2 COOLING</b> – GIA2 over temperature.	The GIA2 temperature is too high. If problem persists, the system should be serviced.
	<b>GIA2 COOLING</b> – GIA2 temperature too low.	The GIA2 temperature is too low to operate correctly. Allow units to warm up to operating temperature.
Hazard Avoidance	<b>GIA2 MANIFEST</b> – GIA2 software mismatch, communication halted.	The GIA 2 has incorrect software installed. The system should be serviced.
AFCs	<b>GIA2 SERVICE</b> – GIA2 needs service. Return the unit for repair.	The GIA2 self-test has detected a problem in the unit. The system should be serviced.
Additional Features	<b>GMA1 AUX MANIFEST</b> – GMA 1 AUX software mismatch, communication halted.	The digital audio controller has incorrect software installed. The system should be serviced.
Abnormal Operation	<b>GMA1 CONFIG</b> – GMA1 config error. Config service req'd.	The audio panel configuration settings do not match backup configuration memory. The system should be serviced.
Annun/Alerts	<b>GMA1 FAIL</b> – GMA1 is inoperative.	The audio panel self-test has detected a failure. The audio panel is unavailable. The system should be serviced.
	<b>GMA1 MANIFEST</b> – GMA1 software mismatch, communication halted.	The audio panel has incorrect software installed. The system should be serviced.
Appendix	<b>GMA1 SERVICE</b> – 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.

Message	Comments
<b>GMU1 MANIFEST</b> – GMU1 software mismatch, communication halted.	The GMU 44 has incorrect software installed. The system should be serviced.
<b>GPS NAV LOST</b> – Loss of GPS navigation. Insufficient satellites.	Loss of GPS navigation due to insufficient satellites.
<b>GPS NAV LOST</b> – Loss of GPS navigation. Position error.	Loss of GPS navigation due to position error.
<b>GPS NAV LOST</b> – Loss of GPS navigation. GPS fail.	Loss of GPS navigation due to GPS failure.
<b>GPS1 SERVICE</b> – GPS1 needs service. Return unit for repair.	A failure has been detected in the GPS1 and/or GPS2 receiver. The receiver may still be available. The system should be serviced.
<b>GPS2 SERVICE</b> – GPS2 needs service. Return unit for repair.	
<b>GRS1 MANIFEST</b> – GRS1 software mismatch, communication halted.	The ADAHRS has incorrect software installed. The system should be serviced.
<b>GTS CONFIG</b> – GTS config error. Config service req'd.	GTS 800 configuration settings do not match those of the GDU configuration. The system should be serviced.
<b>GTS MANIFEST</b> – GTS software mismatch, communication halted.	The GTS has incorrect software installed. The system should be serviced.
<b>GTX1 MANIFEST</b> – GTX1 software mismatch, communication halted.	The transponder has incorrect software installed. The system should be serviced.
<b>HDG FAULT</b> – AHRS1 magnetometer fault has occurred.	A fault has occurred in the #1 GMU 44. Heading is flagged as invalid. The ADAHRS uses GPS for backup mode operation. The system should be serviced.
<b>HW MISMATCH</b> – GIA hardware mismatch. GIA1 communication halted.	A GIA mismatch has been detected, where only one is SBAS capable.
<b>HW MISMATCH</b> – GIA hardware mismatch. GIA2 communication halted.	
<b>INSIDE ARSPC</b> – Inside airspace.	The aircraft is inside the airspace.

- Flight Instruments
- EIS
- Nav/Com/XPDR/Audio
- Flight Management
- Hazard Avoidance
- AFCS
- Additional Features
- Abnormal Operation
- Annun/Alerts
- Appendix
- Index

Message	Comments
<b>INVALID ADM</b> – Invalid ADM: ATN communication halted.	Data link avionics were not configured correctly and therefore will not be able to communicate with the ground network.
<b>LOCKED FPL</b> – 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.
<b>LOI</b> – GPS integrity lost. Crosscheck with other NAVS.	GPS integrity is insufficient for the current phase of flight.
<b>LRG MAG VAR</b> – Verify all course angles.	The GDU's internal model cannot determine the exact magnetic variance for geographic locations near the magnetic poles. Displayed magnetic course angles may differ from the actual magnetic heading by more than 2°.
<b>MANIFEST</b> – MFD1 software mismatch, communication halted.	The PFD and/or MFD has incorrect software installed. The system should be serviced.
<b>MANIFEST</b> – PFD1 software mismatch, communication halted.	
<b>MFD SOFTWARE</b> – MFD mismatch, communication halted.	The specified GDU has different software versions installed. The system should be serviced.
<b>MFD TERRAIN DSP</b> – MFD Terrain awareness display unavailable.	One of the terrain or obstacle databases required for TAWS in the specified GDU is missing or invalid.
<b>MFD1 BACKLIGHT CALIBRATION</b> – MFD1 calibration. Return for repair.	The specified GDU's backlight calibration cannot be found or is invalid. The system should be serviced.
<b>MFD1 CONFIG</b> – MFD1 config error. Config service req'd.	The MFD configuration settings do not match backup configuration memory. The system should be serviced.

Message	Comments
<b>MFD1 COOLING</b> – 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.
<b>MFD1 DB ERR</b> – MFD1 Airport Directory database error exists.	The MFD detected a failure in the Airport Directory database. Ensure that the data card is properly inserted. Replace data card. If problem persists, the system should be serviced.
<b>MFD1 DB ERR</b> – MFD1 basemap database error exists.	The MFD detected a failure in the basemap database.
<b>MFD1 DB ERR</b> – MFD1 Chartview database error exists.	The MFD detected a failure in the ChartView database (optional feature). Ensure that the data card is properly inserted. Replace data card. If problem persists, the system should be serviced.
<b>MFD1 DB ERR</b> – MFD1 FliteCharts database error exists.	The MFD detected a failure in the FliteCharts database (optional feature). Ensure that the data card is properly inserted. Replace data card. If problem persists, the system should be serviced.
<b>MFD1 DB ERR</b> – MFD1 multiple database errors exists.	The MFD detected a failure in more than one database. If problem persists, the system should be serviced.
<b>MFD1 DB ERR</b> – MFD1 navigation database error exists.	The MFD detected a failure in the navigation database. Attempt to reload the navigation database. If problem persists, the system should be serviced.
<b>MFD1 DB ERR</b> – MFD1 obstacle database error exists.	The MFD detected a failure in the obstacle database. Ensure that the data card is properly inserted. Replace data card. If problem persists, the system should be serviced.

- Flight Instruments
- EIS
- Nav/Com/XPDR/Audio
- Flight Management
- Hazard Avoidance
- AFCS
- Additional Features
- Abnormal Operation
- Annun/Alerts
- Appendix
- Index

	Message	Comments
Flight Instruments	<b>MFD1 DB ERR</b> – MFD1 obstacle database missing.	The obstacle database is present on another LRU, but is missing on the specified LRU.
EIS	<b>MFD1 DB ERR</b> – MFD1 Safe Taxi database error exists.	The MFD detected a failure in the Safe Taxi database. Ensure that the data card is properly inserted. Replace data card. If problem persists, the system should be serviced.
Nav/Com/XPDR/Audio	<b>MFD1 DB ERR</b> – MFD1 terrain database error exists.	The MFD detected a failure in the terrain database. Ensure that the terrain card is properly inserted in display. Replace terrain card. If problem persists, the system should be serviced.
Flight Management	<b>MFD1 DB ERR</b> – MFD1 terrain database missing.	The terrain database is present on another LRU, but is missing on the specified LRU.
Hazard Avoidance	<b>MFD1 SERVICE</b> – MFD1 needs service. Return unit for repair.	The MFD self-test has detected a problem. The system should be serviced.
AFCs	<b>MFD1 KEYSTK</b> – 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.
Additional Features	<b>MFD1 VOLTAGE</b> – MFD1 has low voltage. Reducing power usage	The MFD voltage is low. The system should be serviced.
Abnormal Operation	<b>NAV1 MANIFEST</b> – NAV1 software mismatch, communication halted.	NAV1 software mismatch. The system should be serviced.
Annun/Alerts	<b>NAV1 RMT XFR</b> – 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.
Appendix	<b>NAV1 SERVICE</b> – 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.
Index		

Message	Comments
<b>NAV2 MANIFEST</b> – NAV2 software mismatch, communication halted.	NAV2 software mismatch. The system should be serviced.
<b>NAV2 RMT XFR</b> – 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.
<b>NAV2 SERVICE</b> – 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.
<b>NON-MAGNETIC UNITS</b> – Non-magnetic NAV ANGLE display units are active.	Navigation angle is not set to MAGNETIC at power-up.
<b>NON WGS84 WPT</b> – Do not use GPS for navigation to [xxxx]	The position of the selected waypoint [xxxx] is not calculated based on the WGS84 map reference datum and may be positioned in error as displayed. Do not use GPS to navigate to the selected non-WGS84 waypoint..
<b>PFD1 BACKLIGHT CALIBRATION</b> – PFD1 backlight calibration lost. Return for repair.	The PFD1 backlight calibration cannot be found or is invalid. The system should be serviced.
<b>PFD1 CONFIG</b> – PFD1 config error. Config service req’d.	The PFD configuration settings do not match backup configuration memory. The system should be serviced.
<b>PFD1 COOLING</b> – 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.
<b>PFD1 DB ERR</b> – PFD1 basemap database error exists.	The PFD detected a failure in the basemap database.
<b>PFD1 DB ERR</b> – PFD1 multiple database errors exists.	The PFD detected a failure in more than one database. If problem persists, the system should be serviced.

- Flight Instruments
- EIS
- Nav/Com/XPDR/Audio
- Flight Management
- Hazard Avoidance
- AFCS
- Additional Features
- Abnormal Operation
- Annunciations
- Appendix
- Index

	Message	Comments
Flight Instruments	<b>PFD1 DB ERR</b> – PFD1 navigation database error exists.	The PFD detected a failure in the navigation database. Attempt to reload the navigation database. If problem persists, the system should be serviced.
EIS	<b>PFD1 DB ERR</b> – PFD1 obstacle database missing.	The obstacle database is present on another LRU, but is missing on the specified LRU.
Nav/Com/XPDR/Audio	<b>PFD1 DB ERR</b> – PFD1 Safe Taxi database error exists.	The PFD detected a failure in the Safe Taxi database. Ensure that the data card is properly inserted. Replace data card. If problem persists, the system should be serviced.
Flight Management	<b>PFD1 DB ERR</b> – PFD1 terrain database error exists.	The PFD detected a failure in the terrain database. Ensure that the terrain card is properly inserted in display. Replace terrain card. If problem persists, the system should be serviced.
Hazard Avoidance	<b>PFD1 DB ERR</b> – PFD1 terrain database missing.	The terrain database is present on another LRU, but is missing on the specified LRU.
AFCs	<b>PFD1 KEYSTK</b> – 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.
Additional Features	<b>[PFD1 or MFD1] CARD 1 REM</b> – Card 1 was removed. Reinsert card.	The SD card was removed from the top card slot of the specified PFD or MFD. The SD card needs to be reinserted.
Abnormal Operation	<b>[PFD1 or MFD1] CARD 2 REM</b> – Card 2 was removed. Reinsert card.	The SD card was removed from the bottom card slot of the specified PFD or MFD. The SD card needs to be reinserted.
Annun/Alerts	<b>[PFD1 or MFD1] CARD 1 ERR</b> – Card 1 is invalid.	The SD card in the top card slot of the specified PFD or MFD contains invalid data.
Appendix	<b>[PFD1 or MFD1] CARD 2 ERR</b> – Card 2 is invalid.	The SD card in the bottom card slot of the specified PFD or MFD contains invalid data.
Index		

Message	Comments
<b>PFD1 VOLTAGE</b> – PFD1 has low voltage. Reducing power usage	The PFD1 voltage is low. The system should be serviced.
<b>PFD1 KEYSTK</b> – PFD2 [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.
<b>PFD1 SERVICE</b> – PFD1 needs service. Return unit for repair.	The PFD self-test has detected a problem. The system should be serviced.
<b>PFD1 TERRAIN DSP</b> – PFD1 Terrain awareness display unavailable.	One of the terrain or obstacle databases required for TAWS in PFD1 is missing or invalid.
<b>PFD1 VOLTAGE</b> – PFD2 has low voltage. Reducing power usage	The PFD2 voltage is low. The system should be serviced.
<b>PILOT RADIOS MUTED</b> – Pilot radios are muted.	The pilot radios are set on mute.
<b>PTK FAIL</b> – Parallel track unavailable: invalid leg type.	Invalid leg type for parallel offset.
<b>PTK FAIL</b> – Parallel track unavailable: past IAF.	IAF waypoint for parallel offset has been passed.
<b>PTK FAIL</b> – Parallel track unavailable: bad geometry.	Bad parallel track geometry.
<b>SCHEDULER [#]</b> – <message>.	Message criteria entered by the user.
<b>SLCT FREQ</b> – 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.
<b>SLCT MAG</b> – Select MAGNETIC NAV ANGLE display units.	The system notifies the pilot to set the Nav Angle units on the Avionics Settings Screen to Magnetic.
<b>SLCT NAV</b> – 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.

- Flight Instruments
- EIS
- Nav/Com/XPDR/Audio
- Flight Management
- Hazard Avoidance
- AFCS
- Additional Features
- Abnormal Operation
- Annunciations
- Appendix
- Index

	Message	Comments
Flight Instruments	<b>SLCT NON-MAG</b> – Select alternate NAV ANGLE display units.	The system notifies the pilot to set the Nav Angle units on the Avionics Settings Screen to True.
EIS	<b>STEEP TURN</b> – Steep turn ahead.	A steep turn is 15 seconds ahead. Prepare to turn.
Nav/Com/XPDR/Audio	<b>STRMSCP FAIL</b> – Stormscope has failed.	Stormscope has failed. The system should be serviced.
Flight Management	<b>SURFACEWATCH DISABLED</b> - Too far north/south.	The SurfaceWatch system has been disabled.
	<b>SURFACEWATCH FAIL</b> - Invalid audio configuration.	The SurfaceWatch system has failed due to an invalid audio configuration.
Hazard Avoidance	<b>SURFACEWATCH FAIL</b> - Invalid configurable alerts.	The SurfaceWatch system has failed due to invalid configurable alerts.
	<b>SURFACEWATCH FAIL</b> - One or more inputs invalid.	The SurfaceWatch system has failed due to one or more invalid inputs.
AFCs	<b>SURFACEWATCH INHIBITED</b> - Surfacewatch inhibited.	The SurfaceWatch system has been inhibited.
Additional Features	<b>SVT DISABLED</b> – Out of available terrain region.	Synthetic Vision is disabled because the aircraft is not within the boundaries of the installed terrain database.
Abnormal Operation	<b>SVT DISABLED</b> – 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.
Annun/Alerts	<b>SW MISMATCH</b> – GDU software version mismatch. Xtalk is off.	The MFD and PFD have different software versions installed. The system should be serviced.
Appendix	<b>TERRAIN AUD CFG</b> – Trn Awareness audio config error. Service req'd.	TAWS is disabled because the audio configuration is invalid. The system should be serviced.
Index	<b>TERRAIN DISABLED</b> – Terrain Awareness DB resolution too low.	TAWS is disabled because a terrain database of sufficient resolution (4.9 arc-second or better) is not currently installed.

Message	Comments
<b>TIMER EXPIRD</b> – Timer has expired.	The system notifies the pilot that the timer has expired.
<b>TRAFFIC FAIL</b> – Traffic device has failed.	The system is no longer receiving data from the traffic system. The traffic device should be serviced.
<b>TRN AUD FAIL</b> – Trn Awareness audio source unavailable	Terrain Awareness audio is unavailable. The system should be serviced.
<b>UNABLE V WPT</b> – 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.
<b>VNV</b> – Unavailable. Excessive crosstrack error.	The current crosstrack exceeds the limit, causing vertical deviation to go invalid.
<b>VNV</b> – Unavailable. Excessive track angle error.	The current track angle error exceeds the limit, causing the vertical deviation to go invalid.
<b>VNV</b> – Unavailable. Parallel course selected.	A parallel course has been selected, causing the vertical deviation to go invalid.
<b>VNV</b> – 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.
<b>WPT ARRIVAL</b> – Arriving at waypoint -[xxxx]	Arriving at waypoint [xxxx], where [xxxx] is the waypoint name.
<b>XPDR1 ADS-B 1090</b> – Datalink: ADS-B 1090 receiver has failed.	A failure has been detected in the 1090 receiver.
<b>XPDR1 ADS-B FAIL</b> – 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.

- Flight Instruments
- EIS
- Nav/Com/XPDR/Audio
- Flight Management
- Hazard Avoidance
- AFCS
- Additional Features
- Abnormal Operation
- Annun/Alerts
- Appendix
- Index

	Message	Comments
Flight Instruments	<b>XPDR1 ADS-B NO POS</b> – Transponder: ADS-B is not transmitting position.	The transponder is not able to receive position information.
EIS	<b>XPDR1 ADS-B TRFC</b> – Transponder: ADS-B traffic has failed	The Transponder is incapable of processing traffic information.
Nav/Com/XPDR/Audio	<b>XPDR1 ADS-B UAT</b> – Datalink: ADS-B in UAT receiver has failed.	A failure has been detected in the UAT receiver.
Flight Management	<b>XPDR1 CONFIG</b> – XPDR1 config error. Config service req'd.	The transponder configuration settings do not match those of backup configuration memory. The system should be serviced.
Hazard Avoidance	<b>XPDR1 CSA FAIL</b> - Traffic: ADS-B In traffic alerting has failed.	ADS-B Conflict Situational Awareness (CSA) is unavailable.
AFCs	<b>XPDR1 FAIL</b> – XPDR1 is inoperative.	There is no communication with the #1 or #2 transponder.
Additional Features	<b>XPDR1 FAULT</b> – Datalink: ADSB-B in has failed.	The transponder is unable to receive ADS-B information.
Abnormal Operation	<b>XPDR1 FIS-B WX</b> – Datalink: FIS-B Weather has failed.	The transponder is unable to receive FIS-B weather information.
Annun/Alerts	<b>XPDR1 OVER TEMP</b> - 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.
Appendix	<b>XPDR1 PRES ALT</b> –Transponder: ADS-B no pressure altitude.	Unable to provide pressure altitude information.
Index	<b>XPDR1 SRVC</b> – XPDR1 needs service. Return unit for repair.	The #1 transponder should be serviced when possible.
	<b>XPDR1 UNDER TEMP</b> - 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.

Message	Comments
<b>XTALK ERROR</b> – A flight display crosstalk error has occurred.	The MFD and PFD are not communicating with each other. The system should be serviced.

## FLIGHT PLAN IMPORT/EXPORT MESSAGES

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

Flight Plan Import/Export Results	Description
'Flight plan successfully imported.'	A flight plan file stored on the SD card was successfully imported as a stored flight plan.
'File contained user waypoints only. User waypoints imported successfully. No stored flight plan data was modified.'	The file stored on the SD card did not contain a flight plan, only user waypoints. These waypoints have been saved to the system user waypoints. No flight plans stored in the system have been modified.
'No flight plan files found to import.'	The SD card contains no flight plan data.
'Flight plan import failed.'	Flight plan data was not successfully imported from the SD card.
'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.
'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.
'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 Instruments
- EIS
- Nav/Com/XPDR/Audio
- Flight Management
- Hazard Avoidance
- AFCS
- Additional Features
- Abnormal Operation
- Annunciations/Alerts
- Appendix
- Index

Flight Plan Import/Export Results	Description
'Some waypoints not loaded. Waypoints locked.'	The flight plan on the SD card contains one or more waypoints that the system cannot find in the navigation database. The flight plan has been imported, but must be edited within the system before it can be activated for use.
'User waypoint database full. Not all loaded.'	The flight plan file on the SD card contains user waypoints. The quantity of stored user waypoints has exceeded system capacity, therefore not all the user waypoints on the SD card have been imported. Any flight plan user waypoints that were not imported are locked in the flight plan. The flight plan must be edited within the system before it can be activated for use.
'One or more user waypoints renamed.'	One or more imported user waypoints were renamed when imported due to naming conflicts with waypoints already existing in the system.
'Flight plan successfully exported.'	The stored flight plan was successfully exported to the SD card.
'Flight plan export failed.'	The stored flight plan was not successfully exported to the SD card. The SD card may not have sufficient available memory or the card may have been removed prematurely.

Flight Instruments

EIS

Nav/Com/XPDR/Audio

Flight Management

Hazard Avoidance

AFCs

Additional Features

Abnormal Operation

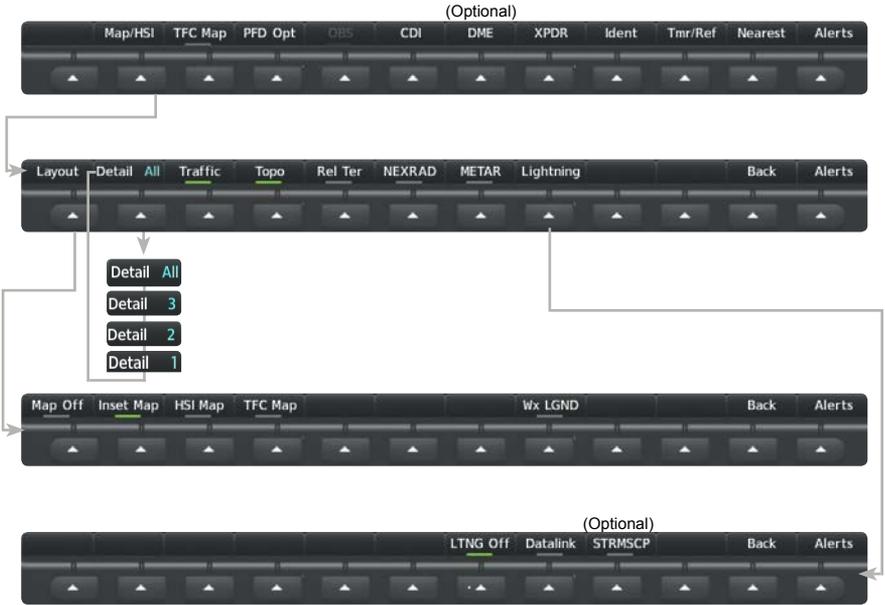
Annun/Alerts

Appendix

Index

# APPENDIX

## PFD SOFTKEY MAPS

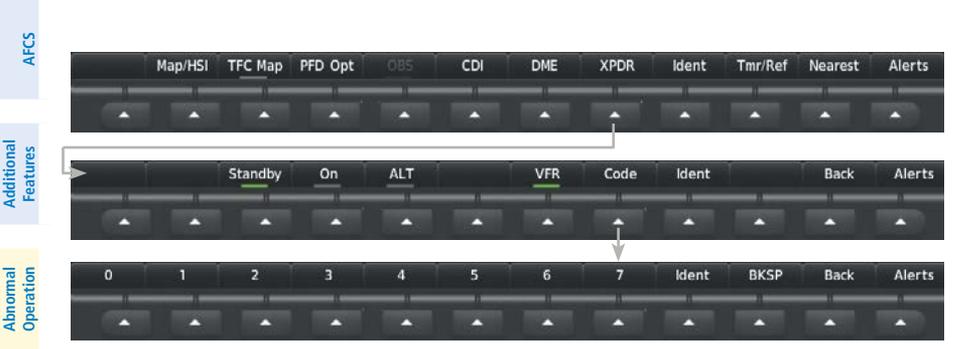


PFD Map/HSI Softkeys

- Flight Instruments
- EIS
- Nav/Com/XPDR/Audio
- Flight Management
- Hazard Avoidance
- AFCS
- Additional Features
- Abnormal Operation
- Annun/Alerts
- Appendix
- Index



PFD Opt Softkey



XPDR Softkeys

Level 1	Level 2	Level 3	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).
		Inset Map	Displays the Inset Map.
		HSI Map	Displays the HSI Map.
		TFC Map	Replaces the PFD Map with a dedicated traffic display.
		Wx LGND	Displays/removes the name of the selected data link weather provider (SiriusXM, Connex) and the weather product icon and age box (for enabled weather products).
	Detail		Selects desired amount of map detail: <b>All</b> (No Declutter): All map features visible <b>Detail 1</b> : Declutters land data <b>Detail 2</b> : Declutters land and SUA data <b>Detail 3</b> : 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.
	Rel Ter		Displays relative terrain information on the 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 lightning information on the PFD Map (subscription optional).
		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.

- Flight Instruments
- EIS
- Nav/Com/XPDR/Audio
- Flight Management
- Hazard Avoidance
- AFCS
- Additional Features
- Abnormal Operation
- Annun/Alerts
- Appendix
- Index

Level 1	Level 2	Level 3	Description
		<b>STRMSCP</b>	Adds or removes the display of Stormscope information on the PFD Map. The softkey annunciator is green when the function is on. When the function is off, the annunciator is gray (optional).
<b>TFC Map</b>			Replaces the PFD Map with a dedicated traffic display.
<b>PFD Opt</b>			Displays second-level softkeys for additional PFD options.
	<b>SVT</b>		Displays additional SVT overlay softkeys.
		<b>Pathways</b>	Displays Pathway Boxes on the Synthetic Vision Display.
		<b>Terrain</b>	Enables synthetic terrain depiction.
		<b>HDG LBL</b>	Displays compass heading along the Zero-Pitch line.
		<b>APT Sign</b>	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.
	<b>Wind</b>		Displays the wind option softkeys.
		<b>Option 1</b>	Headwind/Tailwind and crosswind components.
		<b>Option 2</b>	Wind direction arrow and speed.
		<b>Option 3</b>	Wind direction arrow with direction and speed.
		<b>Off</b>	Wind information not displayed.
	<b>DME</b>		Displays DME Information Window (optional).
	<b>Bearing 1</b>		Cycles the Bearing 1 Information Window through NAV1, NAV2, GPS/waypoint identifier and GPS-derived distance information, ADF/frequency, and Off.
	<b>Bearing 2</b>		Cycles the Bearing 2 Information Window through NAV1, NAV2, GPS/waypoint identifier and GPS-derived distance information, ADF/frequency, and Off.
	<b>ALT Units</b>		Displays softkeys to select altitude unit parameters.
		<b>Meters</b>	When enabled, displays altimeter in meters.
		<b>IN</b>	Press to display the BARO setting as inches of mercury.
		<b>HPA</b>	Press to display the BARO setting as hectopascals.

Level 1	Level 2	Level 3	Description
	<b>STD Baro</b>		Sets barometric pressure to 29.92 in Hg (1013 hPa if metric units are selected).
<b>OBS</b>			Selects OBS mode on the CDI when navigating by GPS (only available with active leg). When OBS is on, the softkey annunciator is green.
<b>CDI</b>			Cycles through FMS, NAV1, and NAV2 navigation modes on the CDI.
<b>DME</b>			Displays the DME Tuning Window, allowing tuning and selection of the DME (optional).
<b>XPDR</b>			Displays the transponder selection softkeys.
	<b>Standby</b>		Selects transponder Standby Mode (transponder does not reply to any interrogations).
	<b>On</b>		Activates transponder (transponder replies to identification interrogations).
	<b>ALT</b>		Altitude Reporting Mode (transponder replies to identification and altitude interrogations).
	<b>VFR</b>		Automatically enters the VFR code (1200 in the U.S.A. only).
	<b>Code</b>		Displays transponder code selection softkeys 0-7.
		<b>0 - 7</b>	Use numbers to enter code.
		<b>Ident</b>	Activates the Special Position Identification (SPI) pulse for 18 seconds, identifying the transponder return on the ATC screen.
		<b>BKSP</b>	Removes numbers entered, one at a time.
	<b>Ident</b>		Activates the Special Position Identification (SPI) pulse for 18 seconds, identifying the transponder return on the ATC screen.
<b>Ident</b>			Activates the Special Position Identification (SPI) pulse for 18 seconds, identifying the transponder return on the ATC screen.
<b>Tmr/Ref</b>			Displays Timer/References Window.
<b>Nearest</b>			Displays Nearest Airports Window.
<b>Alerts</b>			Displays Alerts Window.

- Flight Instruments
- EIS
- Nav/Com/XPDR/Audio
- Flight Management
- Hazard Avoidance
- AFCS
- Additional Features
- Abnormal Operation
- Annun/Alerts
- Appendix
- Index



MFD Navigation Map Page Softkeys

Level 1	Level 2	Level 3	Description
Map Opt			
	Traffic		Displays traffic information on Navigation Map Page.
	Inset		Displays inset window second level softkeys.
		Off	Removes VSD inset from Navigation Map Page.
		VSD	Displays VSD profile information of terrain/obstacles along the current track, vertical track vector, and selected altitude. <b>Auto:</b> Automatically displays either VSD profile information for active flight plan information or along current track with no active flight plan. <b>FPL:</b> Displays VSD profile information for active flight plan. <b>TRK:</b> Displays VSD profile information along current track.

Level 1	Level 2	Level 3	Description
	TER		Displays terrain on the map; cycles through the following: <b>Off:</b> No terrain information shown on MFD Map. <b>Topo:</b> Displays topographical data (e.g., coastlines, terrain, rivers, lakes) and elevation scale on MFD Map. <b>REL:</b> Displays relative terrain information on the MFD Map.
	AWY		Displays airways on the map; cycles through the following: <b>Off:</b> No airways are displayed. <b>On:</b> All airways are displayed. <b>Low:</b> Only low altitude airways are displayed. <b>High:</b> Only high altitude airways are displayed.
	STRMSCP		Displays Stormscope information on Navigation Map Page (optional).
	NEXRAD		Displays XM NEXRAD weather and coverage on Navigation Map Page (optional).
	XM LTNG		Displays XM lightning information on Navigation Map Page (optional).
	METAR		Displays METAR information on Inset Map (subscription optional).
	Legend		Displays legends for the displayed XM Weather products (optional).
	WX Radar		Displays XM weather radar information on Navigation Map Page (optional).
Detail			Selects desired amount of map detail; cycles through the following levels: <b>Detail All:</b> All map features visible. <b>Detail-1:</b> Declutters land data. <b>Detail-2:</b> Declutters land and SUA data. <b>Detail-3:</b> 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. (If available)

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

Level 1	Level 2	Level 3	Description
	<b>Show Map</b>		Displays the WPT–Airport Information page.
	<b>Info</b>		Displays airport information: <b>Info 1:</b> <b>Info 2:</b>
	<b>DP</b>		Displays departure procedure chart.
	<b>STAR</b>		Displays standard terminal arrival procedure chart.
	<b>APR</b>		Displays approach procedure chart.
	<b>WX</b>		Displays weather information when available.
	<b>NOTAM</b>		Displays NOTAM information for selected airport, when available.

## 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' system messages 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.

All databases are updated through a single multimedia 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. When in standby, databases are not immediately available for use, but stored to be activated at a later time.

Databases may be loaded through Garmin Pilot and Flight Stream 510. When loading databases through Garmin Pilot and the Flight Stream 510, the Flight Stream 510 must be enabled on the system and inserted in the bottom slot of the MFD.

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 that 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.

### Updating 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 to select the Aux page group on the MFD.
- 7) Turn the small **FMS** Knob to select the Database page group on the MFD.
- 8) Monitor the Sync Status on the Database 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 Database column.



**NOTE:** The **Restart** Softkey is enabled only when the aircraft is on the ground and both engines not running.

- 10) Press the **Restart** Softkey. A 10 second restart countdown will appear.
- 11) Press the **Restart** Button in the display window to continue with the restart of the system, or remove power from the system if the **Restart** Softkey is diminished.
- 12) Remove the SD card from the bottom slot of the MFD.
- 13) After restarting the system, turn the large **FMS** Knob and select the Aux page group on the MFD.
- 14) Turn the small **FMS** Knob and select the Databases page.
- 15) Verify that the standby databases transferred and are now in the active database column.
- 16) To view database information for an individual display, 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.
- 17) 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 that the standby database will become active.
  - d) Remove and reapply power to the system.
  - e) Verify that the standby databases transferred and are now in the active database column.
- 18) Remove power from the system.

## Flight Stream 510

In order to load databases through Garmin Pilot and the Flight Stream 510, the Flight Stream 510 must be enabled on the system and inserted in the bottom slot of the MFD. The PED with Garmin Pilot must be paired with the Flight Stream 510 over Bluetooth (refer to the Additional Features section). When there is at least one paired device available to connect, the Flight Stream 510 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 Flight Stream 510. 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.

### Updating Databases using Flight Stream 510

- 1) Insert the Flight Stream 510 Multimedia Card in the bottom slot of the MFD.
- 2) Press the **Update** softkey when the Database Update screen appears.
- 3) The Flight Stream 510 will enter WI-FI mode. The following screen will appear.
- 4) Put the mobile device in WI-FI mode (refer to the Additional Features section).
- 5) Connect the mobile device to the Flight Stream 510 WI-FI (refer to the Additional Features section). The WI-FI Not Connected screen will close when the WI-FI connection is established.
- 6) When the transfer is complete, the following screen will appear.
- 7) Press the **Close** softkey.
- 8) When an existing database is expired and a new one is ready to become active, a Database Expired window will appear. Continue to the next step to restart the system.



**NOTE:** *The **Restart** Softkey is enabled only when the aircraft is on the ground and both engines not running.*

- 9) 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 diminished.

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

- 10) After restarting the system, turn the large **FMS** Knob and select the Aux page group on the MFD.
- 11) Turn the small **FMS** Knob and select the Databases page.
- 12) Verify that the standby databases transferred and are now in the active database column.
- 13) To view database information for an individual display, 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.
- 14) 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 that the standby database will become active.
  - d) Remove and reapply power to the system.
  - e) Verify that the standby databases transferred and are now in the active database column.
- 15) Remove power from the system.

### Updating Databases from the Aux - Databases page:

- 1) With the system OFF, insert the Flight Stream 510 Multimedia Card in the bottom slot of the MFD.
- 2) Turn the large **FMS** Knob to select the Aux page group on the MFD.
- 3) Turn the small **FMS** Knob to select the Database page group on the MFD.
- 4) Press the **Device** Softkey.
- 5) 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 will be indicated by a cyan arrow.
- 6) Press the **Update** softkey. The Flight Stream 510 will enter WI-FI mode.
- 7) Put the mobile device in WI-FI mode (refer to the Additional Features section).
- 8) Connect the mobile device to the Flight Stream 510 WI-FI (refer to the Additional Features section).

- 9) The Database Update status will appear in the Status window at the top of the page.

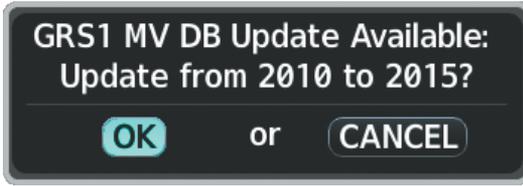


**NOTE:** The **Restart** Softkey is enabled only when the aircraft is on the ground and both engines not running.

- 10) 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 diminished .
- 11) After restarting the system, turn the large **FMS** Knob and select the Aux page group on the MFD.
- 12) Turn the small **FMS** Knob and select the Databases page.
- 13) Verify that the standby databases transferred and are now in the active database column.
- 14) To view database information for an individual display, 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.
- 15) 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 that the standby database will become active.
  - d) Remove and reapply power to the system.
  - e) Verify that the standby databases transferred and are now in the active database column.
- 16) Remove power from the system.

## MAGNETIC FIELD VARIATION DATABASE UPDATE

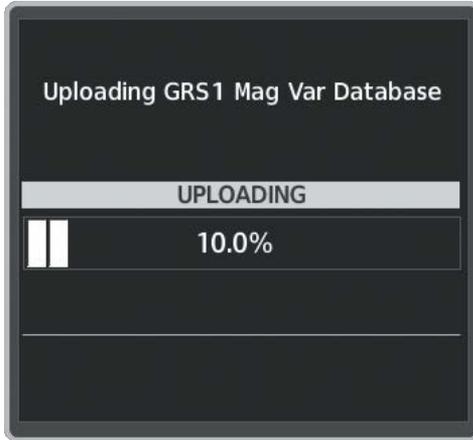
A copy of the current magnetic field variation database (MV DB) is included with the navigation database. At startup, the system compares this version of the MV DB with that presently being used by the ADAHRS. If the system determines the MV DB needs to be updated, a prompt is displayed on the Navigation Map Page.



Magnetic Field Variation Database Update Prompt

### Loading the magnetic field variation database update:

With 'OK' highlighted, press the **ENT** Key on the MFD. A progress monitor is displayed as shown. When the upload is complete, the system is ready for use.



Uploading Database

**A**

- Active Channel 95
- AC-U-KWIK 95
- ADF 26, 110
- AHRS 113, 123, 124, 129, 131
- Airport
  - Information 35
- Airport Directory 95
- Airport Signs 91
- Airway
  - Collapse/Expand Airways 44
- Along Track Offset 50
- ALT 83
- Altimeter setting 1
- Altitude
  - Constraints 56
- Altitude mode 83
- Altitude volume 83
- AOPA 95
- AOPA's Airport Directory 95
- AP 121
- Approach
  - Activating 65
  - Loading 63, 65
  - Removing 65
- Approach activation 27
- Approach channel 63
- Arrival procedure 62
- Audio panel controls
  - NAV1, NAV2 26
- Autopilot 121
- Auxiliary video 106

**B**

- Barometric Altitude Minimums 4
- Bluetooth 46, 102, 103

**C**

- Caution annunciation 115
- CDI 2, 26
- Cell 70
- Cell mode 70
- ChartView 92, 93
- Checklists 104–105
- Clearance player 28
- Clearance Recorder 28
- Closest Point 52
- Code selection softkeys 26
- COM 26, 28, 109
- Crew Alerting System (CAS) 24–30
- Cylinder Head Temperature (CHT) 19

**D**

- Data Link Receiver 120
- Day/Night views 94
- DB Mismatch 150
- DCLTR Softkey 92
- Dead Reckoning 110
- Declutter 110
- Deleting
  - An entire airway 49
  - An entire procedure 49
  - An individual waypoint 49, 50
- Departure
  - Procedure 60, 61
  - Select 60, 62, 63
- Direct-to 29, 39, 40, 41
- DME 25, 26
- DR mode 110, 111, 112

**E**

- Electrical
  - Battery 18
- Electronic checklists 104, 105

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

Emergency checklist 105

Engine manifold pressure

182T 11

206H 15

T182T 13

T206H 17

Exhaust Gas Temperature (EGT) 19

Export a Flight Plan 46

## F

FD 121

Flight Director 87

Flight path marker 91

Flight Plan, Active

Creating 42

Flight plan import/export messages 141

Flight Stream 46, 102

FliteCharts® 92, 93

FPA 59

Frequency Transfer 26

Fuel

Calculations 21

Quantity 23

Range

Ring 22

Fuel Flow Indicator 7, 9, 11, 13, 15, 17

Fuel Range Ring 22

## G

Garmin Pilot 102, 103

## H

HF 26

Horizon heading 91

Horizontal Situation Indicator (HSI) 63

HW Mismatch 131

## I

Import a Flight Plan 45

Inverting a flight plan 45

IOI 116, 118

## J

Jeppesen 93

## L

Lightning 70

## M

Map panning 72, 79

MET 121

METAR 71, 79

MFD 27

Minimums 122

Missed Approach 65

Mistrim 121, 122

MKR/MUTE 28

Mode selection softkeys 25, 26

## N

NAV 26

NAV1 2, 26

NAV2 2, 26

Navigation

Database 56

Nearest

Airport 34, 35

Airports Page 34, 35

NEXRAD 71

**O**

- OBS 3
- Oil, engine
  - Pressure 23
  - Temperature 23
- Overspeed Protection 88

**P**

- Pairing 102
- Parallel Track 50
- Pathways 91
- Pending flight plan 47, 48
- PFD 27
- Power-up page 104

**R**

- RAIM 67, 68
- Reserve fuel 22
- Reversionary mode 109
- ROC 116, 118

**S**

- SafeTaxi® 92
- SBAS 68, 131
- Scheduler 97
- Secure Digital (SD) card 104
- SiriusXM Weather 72, 78
- Split COM operation 27
- Standby Navigation Database 152
- Stormscope lightning data 70
- Strike mode 70
- SVT 91, 138
- Synthetic Vision System 91

**T**

- TA 122
- TAF 71, 79
- TAS 83, 84, 124
- TAWS 118
- Terminal procedures charts 93
- Terrain 84, 127
- Timer 3
- Traffic 69, 80
- Traffic Advisory 122
- Traffic map page 81, 83, 84
- Transponder 25, 26, 147
- Turbine Inlet Temperature (TIT) 19

**U**

- User-Defined Holding Pattern 54

**V**

- Vertical Navigation (VNAV) 56
  - Direct-to 59
  - Guidance 57
- Vertical track 122
- Video 106
- VNAV 41
- VNV 110
- VNV guidance
  - Disabling 55
  - Enabling 55
- VRP 36
- Vspeed 3
- VS TGT 59

**W**

- Warning annunciations 115
- Waypoint Selection Submenu 40, 42, 43, 67

Flight Instruments

FIS

Nav/Com/XPDR/Audio

Flight Management

Hazard Avoidance

AFCS

Additional Features

Abnormal Operation

Annun/Alerts

Appendix

Index

Flight Instrument

EIS

Nav/Com/XPDR/Audio

Flight Management

Hazard Avoidance

AFCS

Additional Features

Abnormal Operation

Annun/Alerts

Appendix

Index

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