GARMIN

Embraer Prodigy™ Flight Deck 100

Cockpit Reference Guide

Embraer Phenom 100

System Software 0734.19 or later

This manual reflects the operation of System Software version 0734.19 or later for the Embraer Phenom 100. Some differences in operation may be observed when comparing the information in this manual to earlier or later software versions.

Garmin International, Inc., 1200 East 151st Street, Olathe, Kansas 66062, U.S.A.
Tel: 913/397.8200 Fax: 913/397.8282

Garmin AT, Inc., 2345 Turner Road SE, Salem, OR 97302, U.S.A.
Tel: 503/391.3411 Fax 503/364.2138

Garmin (Europe) Ltd, Liberty House, Bulls Copse Road, Hounsdown Business Park, Southampton, SO40 9RB, U.K.
Tel: 44/0870.8501241 Fax: 44/0870.8501251

Garmin Corporation, No. 68, Jangshu 2nd Road, Shijr, Taipei County, Taiwan
Tel: 886/02.2642.9199 Fax: 886/02.2642.9099

For after-hours emergency, aircraft on ground (AOG) technical support for Garmin panel mount and integrated avionics systems, please contact Garmin's AOG Hotline at 913.397.0836.

Web Site Address: www.garmin.com

Prodigy™ is a trademark of Embraer-Empresa Brasileira de Aeronautica S.A.

September, 2009 190-00685-02 Rev. A Printed in the U.S.A.

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

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

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

WARNING: *Do not use outdated database information.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

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

WARNING: *Traffic information shown on system displays is provided as an aid in visually acquiring traffic. Pilots must maneuver the aircraft based only upon ATC guidance or positive visual acquisition of conflicting traffic.*

WARNING: *XM Weather should not be used for hazardous weather penetration. Weather information provided by the GDL 69A is approved only for weather avoidance, not penetration.*

WARNING: *NEXRAD weather data is to be used for long-range planning purposes only. Due to inherent delays in data transmission and the relative age of the data, NEXRAD weather data should not be used for short-range weather avoidance.*

WARNING: *The Prodigy™ Integrated Flight Deck, as installed in the Embraer Phenom 100 aircraft, has a very high degree of functional integrity. However, the pilot must recognize that providing monitoring and/or self-test capability for all conceivable system failures is not practical. Although unlikely, it may be possible for erroneous operation to occur without a fault indication shown by the system. It is thus the responsibility of the pilot to detect such an occurrence by means of cross-checking with all redundant or correlated information available in the cockpit.*

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

WARNING: *The United States government operates the Global Positioning System and is solely responsible for its accuracy and maintenance. The GPS system is subject to changes which could affect the accuracy and performance of all GPS equipment. Portions of the 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.*

WARNING: *To reduce the risk of unsafe operation, carefully review and understand all aspects of the Prodigy™ Pilot's Guide documentation and the Embraer Phenom 100 Airplane Flight Manual. Thoroughly practice basic operation prior to actual use. During flight operations, carefully compare indications from the system to all available navigation sources, including the information from other NAVAIDs, visual sightings, charts, etc. For safety purposes, always resolve any discrepancies before continuing navigation.*

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

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

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

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

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

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

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

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

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

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

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

NOTE: *The purpose of this Cockpit Reference Guide is to provide the pilot a resource with which to find operating instructions on the major features of the Prodigy system more easily. It is not intended to be a comprehensive operating guide. Complete operating procedures for the system are found in the Prodigy Flight Deck 100 Pilot's Guide.*

Blank Page

Part Number	Change Summary
190-00685-00	Initial release
190-00685-01	Added ADF Added ChartView and FliteCharts Added TAS Added flight plan import/export Added other GDU 9.14 parameters
190-00685-02	Added Synthetic Vision System TAWS-A TCAS I TCAS II ADF Tuning Radar Altimeter Added AOPA Airport Directory Added Iridium Satellite Telephone and Data Link Services Electronic checklists Added dual navigation database capability Added database synchronization Added other GDU 10.00 parameters

Revision	Date of Revision	Affected Pages	Description
A	September, 2009	All	Production release

Blank Page

FLIGHT INSTRUMENTS

SELECTING THE ALTIMETER BAROMETRIC PRESSURE SETTING

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

SELECTING STANDARD BAROMETRIC PRESSURE

Press the **BARO** Knob.

CHANGE ALTIMETER BAROMETRIC PRESSURE SETTING UNITS

1) Press the **PFD** Softkey to display the second-level softkeys.
2) Press the **ALT UNIT** 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 to return to the top-level softkeys.

SYNCHRONIZING THE ALTIMETER BAROMETRIC PRESSURE SETTINGS

1) Select the AUX-SYSTEM SETUP Page on the MFD.
2) Press the **FMS** Knob to activate the cursor.
3) Turn the large **FMS** Knob to highlight BARO in the SYNCHRONIZATION Window.
4) Turn the small **FMS** Knob clockwise to ON or counterclockwise to OFF.

SYNCHRONIZE CDI

1) Select the AUX-SYSTEM SETUP Page on the MFD.
2) Press the **FMS** Knob to activate the cursor.
3) Turn the large **FMS** Knob to highlight CDI in SYNCHRONIZATION Window.
4) Turn the small **FMS** Knob clockwise to ON or counterclockwise to OFF.

CHANGE NAVIGATION SOURCES

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

ENABLE/DISABLE OBS MODE WHILE NAVIGATING WITH GPS

1) Press the **OBS** Softkey to select OBS Mode.
2) Turn the **CRS** Knob to select the desired course to/from the waypoint. Press the **CRS** Knob to slew the CDI Course Pointer to a course bearing directly to the waypoint.
3) Press the **OBS** Softkey again to disable OBS Mode.

GENERIC TIMER

1) Press the **TMR/REF** Softkey, then turn the large **FMS** Knob to select the time field (hh/mm/ss). Turn the **FMS** Knobs to set the desired time, then press the **ENT** Key. The UP/DOWN field is now highlighted.
2) Turn the small **FMS** Knob to display the UP/DOWN window. Turn the **FMS** Knob to select 'UP' or 'DOWN', then press the **ENT** Key. 'START?' is now highlighted.
3) Press the **ENT** Key to START, STOP, or RESET the timer (if the timer is counting DOWN, it 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 Vspeed in 1-kt increments (when a speed has been changed from a default value, an asterisk appears next to the speed).

4) Press the **ENT** Key or turn the large **FMS** Knob to highlight the ON/OFF field.
5) Turn the small **FMS** Knob clockwise to ON or counterclockwise to OFF.
6) To remove the window, press the **CLR** Key or the **TMR/REF** Softkey.

TURN VSPEED BUGS ON OR OFF BY CATEGORY

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

SET BAROMETRIC/RADAR ALTIMETER (OPTIONAL) MINIMUM DESCENT ALTITUDE

1) Press the **TMR/REF** Softkey.
2) Turn the large **FMS** Knob to highlight the OFF/BARO/RAD ALT field to the right of 'MINIMUMS'.
3) Turn the small **FMS** Knob clockwise to select BARO or RAD ALT.
4) Press the **ENT** Key.
5) Use the small **FMS** Knob to enter the desired altitude.
6) Press the **ENT** Key.
7) To remove the window, press the **CLR** Key or the **TMR/REF** Softkey.

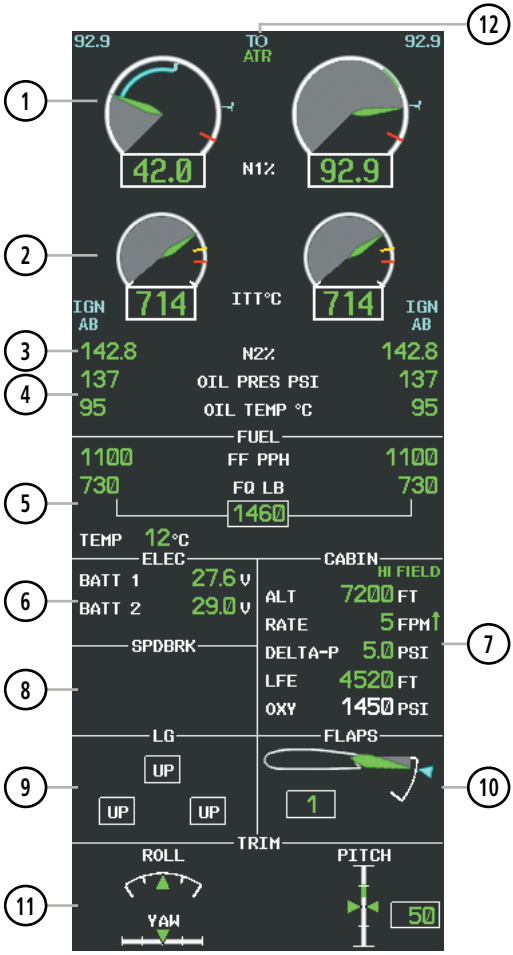
DISPLAYING WIND DATA

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

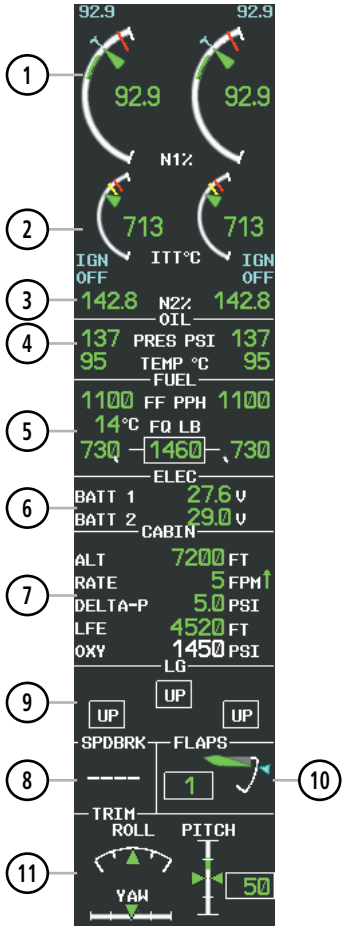
Blank Page

ENGINE & AIRFRAME SYSTEMS

ENGINE INDICATION SYSTEM



EICAS Display (Normal Mode)



EIS Display (Reversionary Mode)

1. *Engine Fan Rotation Speed*
2. *Interstage Turbine Temperature (ITT)*
3. *Engine High Pressure Compressor Rotation Speed*
4. *Oil Pressure and Temperature*
5. *Fuel Display*
6. *Battery Voltmeter*
7. *Cabin Display*
8. *Not used on the Phenom 100*
9. *Landing Gear Status*
10. *Flap Indicator*
11. *Trim Indicator*
12. *Thrust Rating Indication (top)/Automatic Thrust Reserve status (bottom)*

Thrust Rating

Indication	Thrust Rating
CRZ	Cruise
CLB	Climb
CON	Continuous
TO	Takeoff
GA	Go Around

Thrust Rating Indications

Selecting a thrust rating:

1) Select the **SYSTEM** Softkey.
2) Select the **ENG SET** Softkey
3) To choose the continuous thrust rating, select the **CON** Softkey,

   Or:

   To choose the maximum climb thrust rating, select the **CLB** Softkey.
4) Select the **BACK** Softkey to return to the previous softkey level.

Automatic Thrust Reserve

Indication*	Description
ATR	ATR enabled in both engines
ATR	ATR armed in both engines, but inactive
TO - RSV	ATR activated in at least one engine

** When no indication is shown, ATR has not been enabled or armed in both engines.*

Automatic Thrust Reserve (ATR) Status

Disabling/enabling Automatic Thrust Reserve (ATR):

1) Select the **SYSTEM** Softkey.
2) Select the **ENG SET** Softkey to display the Takeoff Data Set Window.

3) To disable ATR, select the **ATR OFF** Softkey;

   Or:

   To enable ATR, select the **ATR ON** Softkey.

4) If desired, change the OAT while the Takeoff Data Set Window is displayed.

5) To confirm the selected takeoff settings and close the Takeoff Data Set Window, select the **ACCEPT** Softkey,

   Or:

   To cancel the operation, select the **BACK** Softkey.

Takeoff Data Set Window

Takeoff Data Set Window

Setting the Outside Air Temperature (OAT):

1) Select the **SYSTEM** Softkey.

2) Select the **ENG SET** Softkey to display the Takeoff Data Set Window.

3) To adjust the temperature in 1°C increments, use the **OAT↑** and **OAT↓** softkeys,

4) If desired, change the ATR status while the Takeoff Data Set Window is displayed.

5) To confirm the selected takeoff settings and close the Takeoff Data Set Window, select the **ACCEPT** Softkey,

   Or:

   To cancel the operation, select the **BACK** Softkey.

Current Speed Control (CSC)

When CSC is active, a green arc appears on the N1 gauges, at values corresponding to the current speed selected.

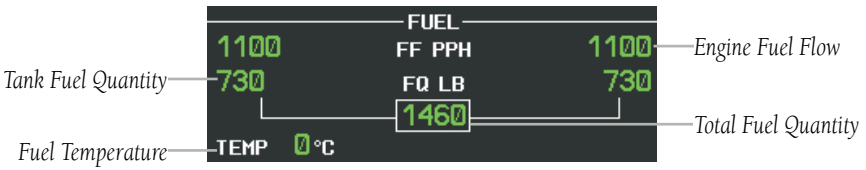
The N1 gauge flashes 'LIM' (black text on yellow background) if the CSC maximum authority limit has been reached for the corresponding engine.

N1 Current Speed Control Limit

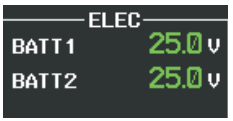
Selecting Current Speed Control (CSC):

1) With the autopilot engaged, select Altitude Hold Mode (see the AFCS Section for details).
2) Press the **CSC** Key (on the AFCS Control Unit).

Fuel and Electrical Indications

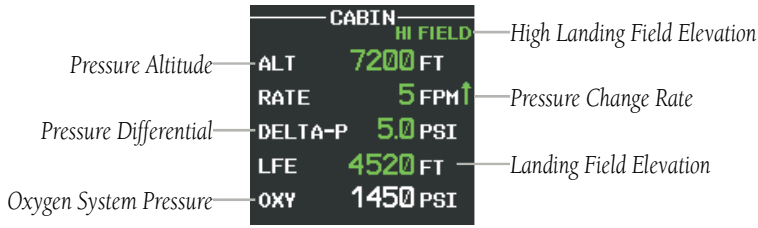


Fuel Display



Electrical Display

Cabin Pressurization



Cabin Display

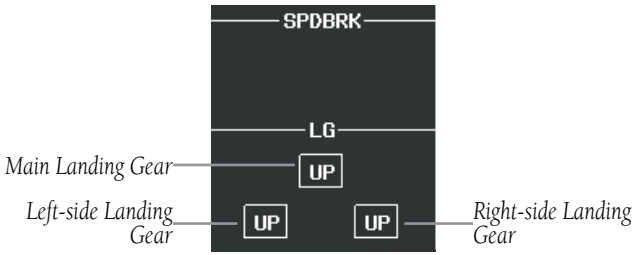
Setting the displayed landing field elevation:

1) Select the **SYSTEM** Softkey.
2) Select the **LFE** Softkey.
3) Select the **FMS LFE** Softkey to set the LFE to the value for the destination airport in the current flight plan.

   Or:

   Use the **±500** and **±50 FT** softkeys to set the desired elevation.
4) To confirm the new LFE value, select the **ACCEPT** Softkey.

Speed Brakes and Landing Gear

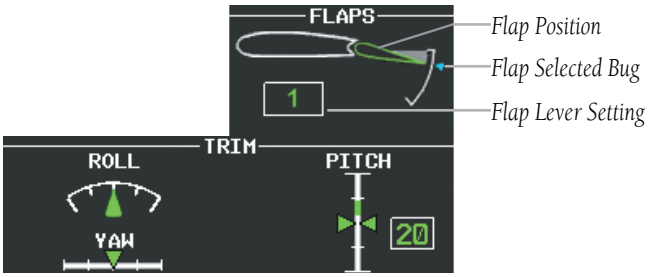


Speed Brake and Landing Gear Indications

Indication	Description
DN	Landing Gear Down
UP	Landing Gear Up
	Landing Gear Transitioning (Normal)
DN	Landing Gear Locked Down (Abnormal)
UP	Landing Gear Locked Up (Abnormal)
	Landing Gear Transitioning (Abnormal)

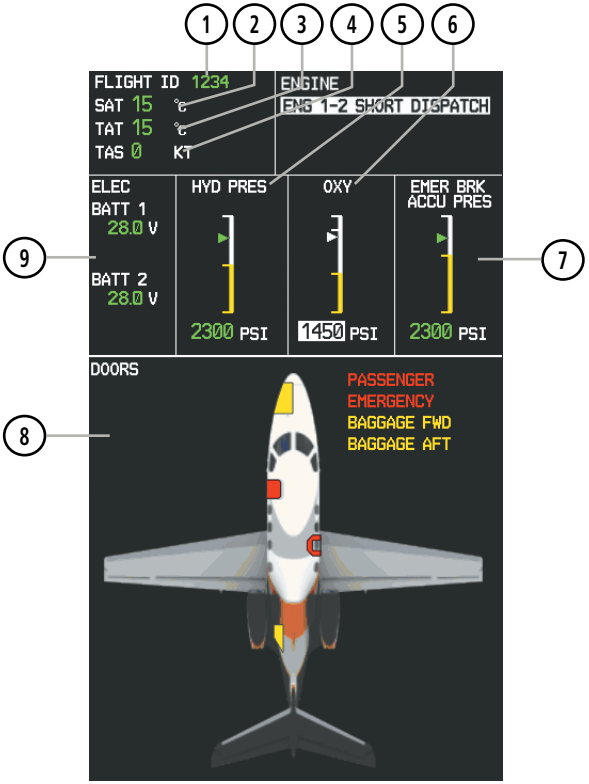
Landing Gear Position Indications

Flaps and Trim



Flap and Trim Indications

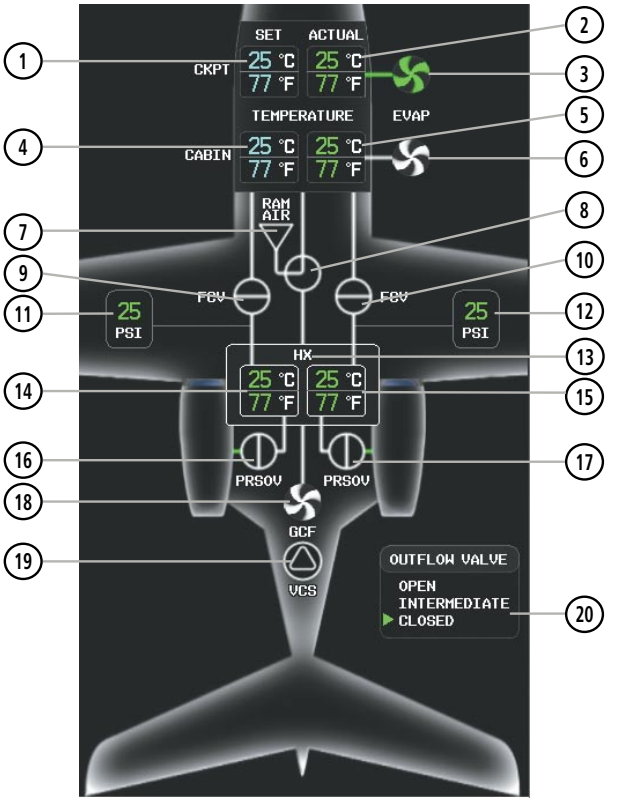
SYNOPTICS



1. *Flight ID*
2. *Static Air Temperature (SAT)*
3. *Total Air Temperature (TAT)*
4. *True Airspeed (TAS)*
5. *Hrdraulic Pressure*
6. *Oxygen*
7. *Emergency Brake Accumulator Pressure*
8. *Door Status*
9. *Electrical*

System Status Synoptics Page

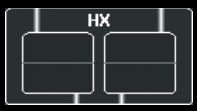
Environmental Control System (ECS)



1. *Cockpit Temperature Setting*
2. *Actual Cockpit Temperature*
3. *Cockpit Evaporator Fan*
4. *Cabin Temperature Setting*
5. *Actual Cabin Temperature*
6. *Cabin Evaporator Fan*
7. *Ram Air Duct*
8. *Ram Air Valve (RAV)*
9. *Flow Control Shutoff Valve (FCV) 1*
10. *Flow Control Shutoff Valve (FCV) 2*
11. *Bleed Line 1 (Left) Pressure*
12. *Bleed Line 2 (Right) Pressure*
13. *Heat Exchanger Pack Cooling Circuit*
14. *Cockpit Duct Temperature Setting*
15. *Cabin Duct Temperature Setting*
16. *Pressure Regulating Shutoff Valve (PRSOV) 1*
17. *Pressure Regulating Shutoff Valve (PRSOV) 2*
18. *Ground Cooling Fan (GCF)*
19. *Vapor Cycle System (VCS)*
20. *Outflow Valve (OFV) Status**

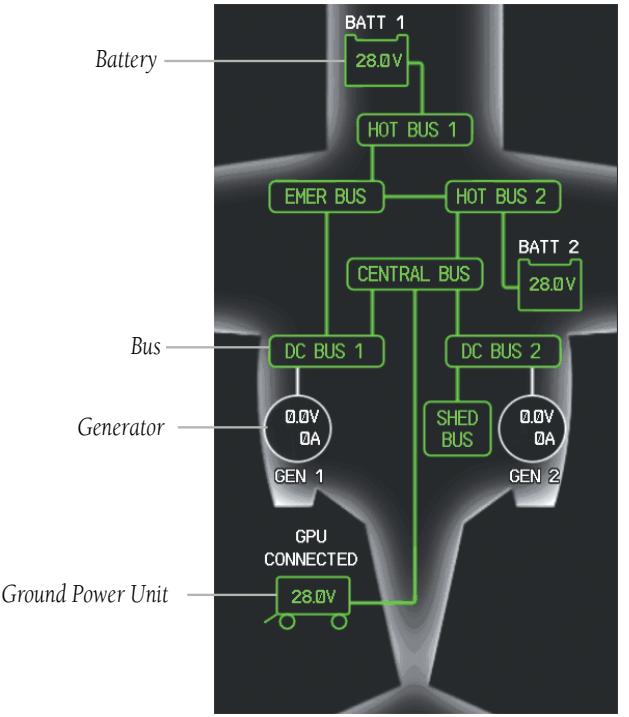
** Outflow valve (OFV) status is displayed only while the aircraft is parked or taxiing.*

Environmental Control System Synoptics Page

Unit	Icons and Descriptions
Fan	 On  Off
Heat Exchanger	 On  Off
Vapor Cycle System	 On  Off
PRSOV	 Open with flow  Open, no flow  Closed
Ram Air Duct From NACA Scoop	 Airborne  On ground
Ram Air Valve	 Closed  Open, airborne  Open, on ground

Environmental Control System Unit Status Indications

Electrical

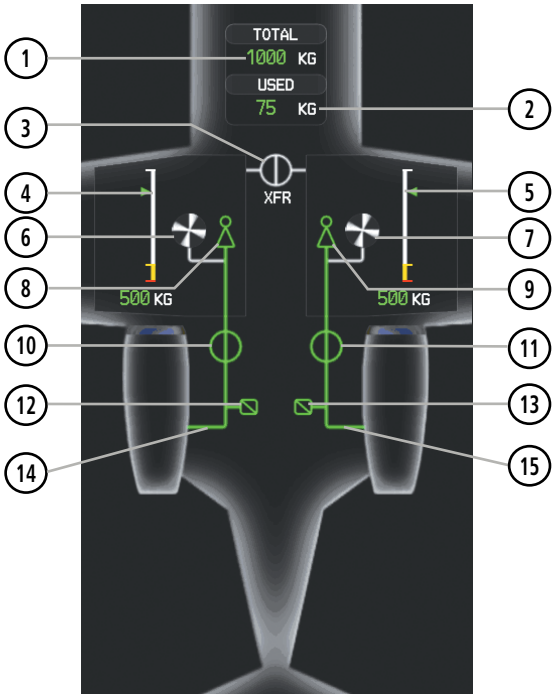


Electrical Synoptics Page

Unit	Icons and Descriptions
Generator	On; Off bus; Off
Bus	DC BUS 1 Normal; DC BUS 1 Abnormal
Battery	Normal; Abnormal

Electrical System Unit Status Indications

Fuel



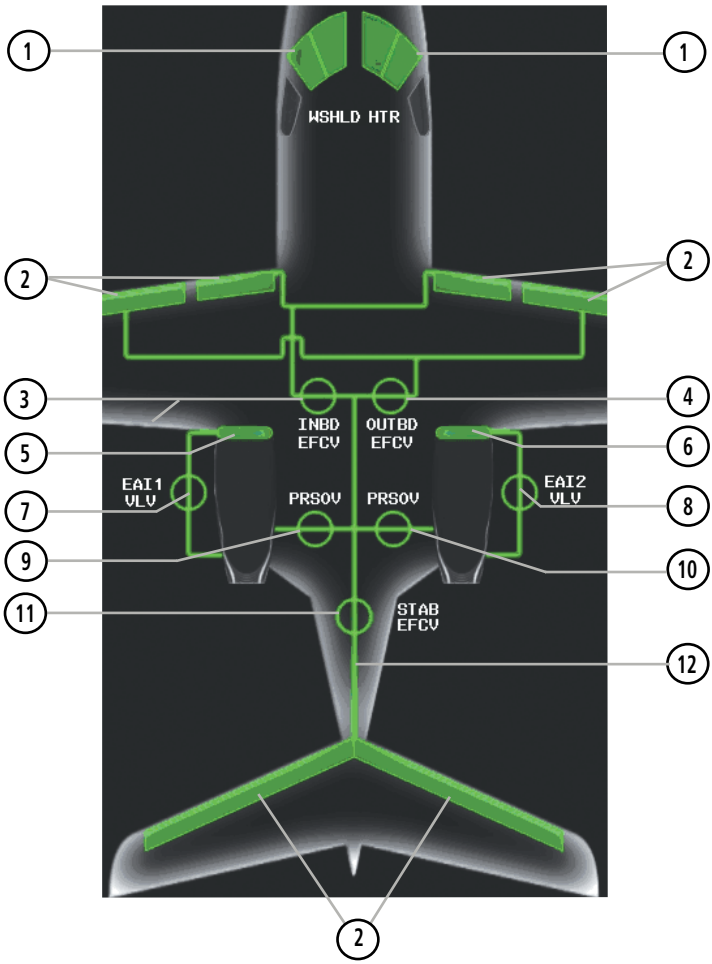
1. *Total Fuel*
2. *Fuel Used*
3. *Fuel Transfer SOV*
4. *Left Tank Fuel Quantity*
5. *Right Tank Fuel Quantity*
6. *Left DC Pump*
7. *Right DC Pump*
8. *Left Feed Ejector*
9. *Right Feed Ejector*
10. *Fuel 1 SOV*
11. *Fuel 2 SOV*
12. *LH Pressure Switch*
13. *RH Pressure Switch*
14. *Left Engine Feed Line*
15. *Right Engine Feed Line*

Fuel Synoptics Page

Unit	Icons and Descriptions
Fuel Line	 Operating  Not operating
Feed Ejector	 Operating  Not operating
Fuel Pressure Switch	 Operating  Not operating
Valve	 Open with flow  Open, no flow  In transit  Closed
DC Pump	 Operating  Not operating
Fuel Transfer Valve	 Open with flow  In transit  Closed

Fuel System Unit Status Indications

Ice Protection System



1. *Windshield Heaters*
2. *Boot Lines and Valves*
3. *Inboard Ejector Flow Control Valve (EFCV)*
4. *Outboard Ejector Flow Control Valve (EFCV)*
5. *Engine Anti Ice 1 Bleed Duct and Lip Skin*
6. *Engine Anti Ice 2 Bleed Duct and Lip Skin*
7. *EAI 1 Valve and Bleed Line*
8. *EAI 2 Valve and Bleed Line*
9. *Pressure Regulating Shut-Off Valve 1 (PRSOV 1)*
10. *Pressure Regulating Shut-Off Valve 2 (PRSOV 2)*
11. *STAB Ejector Flow Control Valve (EFCV)*
12. *Ice Protection Bleed Duct*

Ice Protection Synoptics Page

Unit	Icons and Descriptions
Inboard/Outboard EFCV and PRSOV	 Open with flow Open, no flow Closed
STB EFCV and EAI Valve	 Open with flow Open, no flow Closed

Ice Protection System Unit Status Indications

NAV/COM/TRANSPONDER/AUDIO PANEL

ENTER OR CHANGE FLIGHT ID

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.

ADF TUNING (OPTIONAL)

1) Press the **ADF/DME** Softkey.
2) Turn the small **FMS** Knob to enter the first digit of the desired ADF frequency.
3) Turn the large **FMS** Knob to select the next desired field.
4) Turn the small **FMS** Knob to enter the desired number.
5) Repeat steps 3 and 4 until the desired ADF frequency is entered.
6) Press the **ENT** Key to accept the new frequency.
7) Press the **ENT** Key again to transfer the frequency to the active field.
8) Turn the large **FMS** Knob to select the MODE field.
9) Turn the small **FMS** Knob to select ANT, ADF, ADF/BFO, or ANT/BFO.
10) Press the **ENT** Key to complete the selection.

DME TUNING

1) Press the **ADF/DME** Softkey.
2) If two DMEs are installed, 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.
5) If two DMEs are installed, press the **AUX** Key on the desired audio panel to monitor DME2 audio.

ENTER A TRANSPONDER CODE

1) Press the **XPDR** Softkey (**XPDR/TFC** if the TCAS II option is available).
2) If the aircraft is equipped with two transponders, press the **XPDR1** or **XPDR2** Softkey to select the active transponder. If these softkeys are not present, proceed to step 3.
3) Press the **CODE** Softkey to display the transponder code selection softkeys, for digit entry.
4) 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.

SELECT TRANSPONDER MODE

With TCAS II Option

1) Press the **XPDR/TFC** Softkey.
2) Press the **MODE** Softkey to display the transponder mode selection softkeys.
3) Press the desired transponder mode softkey (**STBY**, **ON**, or **ALT**).

Without TCAS II Option

1) Press the **XPDR** Softkey.
2) If the aircraft is equipped with two transponders, press the **XPDR1** or **XPDR2** Softkey to select the active transponder.
3) Press the desired transponder mode softkey (**STBY**, **ON**, **ALT**, or **GND**).

SELECTING A COM RADIO

Transmit/Receive

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

Receive Only

Press the **COM1**, **COM2**, or **COM3** Key (HF, if installed) 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 light blue box highlights the radio frequency to be tuned.
2) Turn the respective tuning knobs to enter the desired frequency into the standby frequency field. The large knob enters MHz and the small knob enters kHz.
3) Press the **Frequency Transfer** Key to place the frequency into the active frequency field.

INTERCOM

Pressing the **INTR COM** Key on either Audio Panel selects and deselects the intercom on both Audio Panels. The annunciator is lit when the intercom is active. The intercom connects the pilot and copilot together. Either the pilot or copilot may select or deselect the intercom.

The **CABIN** Key initiates two way communication between the pilot or copilot and the passengers in the cabin. The annunciator is lit when the cabin intercom is active on either Audio Panel.

When the flight crew wants to communicate with the passengers, the pilot or copilot presses the **CABIN** Key to signal that communication is desired. The cabin signal must be acknowledged to begin intercom conversation.

The **MAN SQ** Key allows either automatic or manual control of the intercom squelch setting. Pressing the **MAN SQ** Key enables manual squelch control, indicated by the MAN SQ annunciator.

- When the MAN SQ Annunciator is extinguished (Automatic Squelch is on), the **ICS** Knob controls only the volume (pressing the **ICS** Knob has no effect on the VOL/SQ selection).
- When the MAN SQ Annunciator is illuminated (Manual Squelch), the **ICS** Knob controls either volume or squelch (selected by pressing the **ICS** Knob and indicated by the VOL or SQ annunciation).

PASSENGER ADDRESS (PA) SYSTEM

A passenger address system is provided by pressing the **PA** Key to deliver messages to the passengers. The message is heard by the other pilot on the headset only if the **PA** Key is enabled on both audio panels. PA messages are one way from the flight deck to the passengers.

CLEARANCE RECORDER AND PLAYER

NOTE: *Pressing the play key on the pilot's Audio Panel plays recorded audio to the Pilot. Pressing the play key on the Copilot's Audio Panel plays recorded audio to the Copilot.*

Recorded COM audio is stored in separate memory blocks. Once 2.5 minutes of recording time have been reached, the recorder begins recording over the stored memory blocks, starting from the oldest block.

The **PLAY** Key controls the play function. The PLAY annunciator is illuminated to indicate when play is in progress. The PLAY annunciator extinguishes after playback is finished.

Pressing the **PLAY** Key once plays the latest recorded memory block and then returns to normal operation. Pressing the **PLAY** Key again during play of a memory block stops play. If a COM input signal is detected during play of a recorded memory block, play is halted.

Pressing the **PLAY** Key twice within one-half second while audio is playing plays the previous block of recorded audio. Each subsequent two presses of the **PLAY** Key within one-half second backtracks through the recorded memory blocks to reach and play any recorded block.

AUTOMATIC FLIGHT CONTROL SYSTEM

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

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

FLIGHT DIRECTOR ACTIVATION

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

Control Pressed	Flight Director Activated	Modes Selected			
		Lateral		Vertical	
FD Key (pilot-side)	Pilot-side	Roll Hold (default)	ROL	Pitch Hold (default)	PIT
FD Key (copilot-side)	Copilot-side	Roll Hold (default)	ROL	Pitch Hold (default)	PIT
AP Key	Pilot-side	Roll Hold (default)	ROL	Pitch Hold (default)	PIT
TO/GA Switch	Pilot-side	Roll Hold (default) Roll Hold (default)	ROL ROL	Takeoff (on ground) Go Around (in air)	TO GA
ALT Key	Pilot-side	Roll Hold (default)	ROL	Altitude Hold	ALT
VS Key	Pilot-side	Roll Hold (default)	ROL	Vertical Speed	VS
VNV Key	Pilot-side	Roll Hold (default)	ROL	Vertical Path Tracking*	VPTH
NAV Key	Pilot-side	Navigation**	GPS VOR LOC BC	Pitch Hold (default)	PIT
APR Key	Pilot-side	Approach**	GPS VOR LOC	Pitch Hold (default) Glidepath Glideslope	PIT GP GS
HDG Key	Pilot-side	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.*

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	AFCS armed to capture the altitude displayed in the Selected Altitude window	*	ALTS
Altitude Hold	Holds the current Altitude Reference	**ALT** Key	ALT
Vertical Speed	Maintains the current aircraft vertical speed; may be used to climb/descend to the Selected Altitude	**VS** Key	VS
Flight Level Change	Maintains the current aircraft airspeed (in IAS or Mach) while the aircraft is climbing/descending to the Selected Altitude	**FLC** Key	FLC
			FLC
Vertical Path Tracking	Captures and tracks descent legs of an active vertical profile	**VNV** Key	VPTH
VNAV Target Altitude Capture	Captures the Vertical Navigation (VNV) Target Altitude	**	ALTV
Glidepath	Captures and tracks the WAAS glidepath on approach	**APR** Key	GP
Glideslope	Captures and tracks the ILS glideslope on approach		GS
Takeoff	Commands a constant pitch angle and wings level on the ground in preparation for takeoff	**TO/GA** Switch	TO
Go Around	Disengages the autopilot and commands a constant pitch attitude and wings level		GA

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

** *ALTV armed automatically under VPTH when VNAV Target Altitude is to be captured instead of Selected 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
Low Bank	Limits the maximum commanded roll angle	**BANK** Key	*
Heading Select**	Captures and tracks the Selected Heading	**HDG** Key	HDG
Navigation, GPS**	Captures and tracks the selected navigation source (GPS, VOR, LOC)	**NAV** Key	GPS
Navigation, VOR Enroute Capture/ Track**			VOR
Navigation, LOC Capture/Track (No Glideslope)			LOC
Navigation, Backcourse Arm/ Capture/Track	Captures and tracks a localizer signal for backcourse approaches		BC
Approach, GPS	Captures and tracks the selected navigation source (GPS, VOR, LOC)	**APR** Key	GPS
Approach, VOR Arm/Capture/Track			VAPP
Approach, LOC Capture/Track (Glideslope Mode automatically armed)			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.*
*** The Heading, Navigation GPS and Navigation VOR mode maximum roll command limit will be limited to the Low Bank mode value if it is engaged.*

Current Speed Control (CSC)

NOTE: *For CSC engagement and disengagement detailed conditions, see the approved Pilot's Operating Handbook (POH).*

Current Speed Control (CSC) is available while the AFCS Altitude Hold Mode is active and the autopilot is engaged. When active, green arcs appear on the N1 gauges, at values corresponding to the current speed selected.

Selecting Current Speed Control (CSC):

1) Enter Altitude Hold Mode and engage the autopilot (see the AFCS Section for details).

2) Press the **CSC** Key (on the AFCS Control Unit).

GPS NAVIGATION

DIRECT-TO NAVIGATION

Direct-to Navigation using the MFD

1) Press the **Direct-to** (D▸) Key on the MFD or MFD Controller.
2) Enter the waypoint identifier.
3) Press the **ENT** Key to confirm the identifier. The 'Activate?' field is highlighted.
4) If no altitude constraint or course is desired, press the **ENT** Key to activate. To enter an altitude constraint, proceed to step 5.
5) Turn the large **FMS** Knob counterclockwise to place the cursor over the 'VNV' altitude field.
6) Enter the desired altitude.
7) Press the **ENT** Key. If the waypoint entered is an airport, the option to select MSL or AGL is now displayed. If the waypoint is not an airport, proceed to step 9.
8) Turn the small **FMS** Knob to select 'MSL' or 'AGL'.
9) Press the **ENT** Key. The cursor is now flashing in the VNV offset distance field.
10) Enter the desired offset distance before (-) the waypoint.
11) Press the **ENT** Key. The 'Activate?' field is highlighted.
12) Press the **ENT** Key to activate.

Direct-to Navigation using the PFD

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

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

ACTIVATE A STORED FLIGHT PLAN

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

ACTIVATE A FLIGHT PLAN LEG

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

   OR

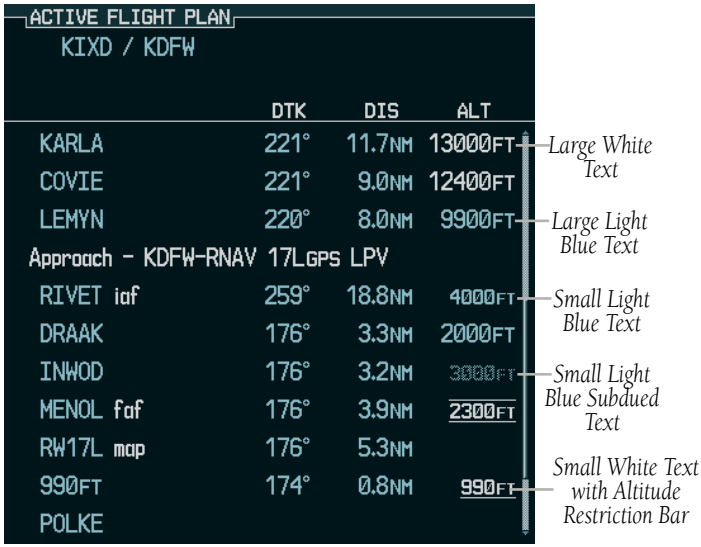
   Press the **MENU** Key, select the 'Activate Leg' option from the page menu and press the **ENT** Key. This step must be used when activating a leg from the PFD.
3) With 'Activate' highlighted, press the **ENT** Key.

STOP NAVIGATING A FLIGHT PLAN

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

VERTICAL NAVIGATION (VNAV)

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



Cross AT or ABOVE 5,000 ft

Cross AT 2,300 ft

Cross AT or BELOW 3,000 ft

Altitudes associated with arrival and approach procedures are "auto-designated". This means the system will automatically use the altitudes loaded with the arrival or approach for giving vertical flight path guidance outside the FAF. Note that these altitudes will be displayed as small light blue text.

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

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

FLIGHT PLANNING

WEIGHT PLANNING

All procedures apply to the MFD unless otherwise stated.

Entering Weight Parameters

Turn the large **FMS** Knob to select the 'AUX' page group. Turn the small **FMS** Knob to select the first rectangular page icon.

1) Select the **EMPTY WT** Softkey to place the cursor in the Basic Empty Weight field.
2) Enter the desired aircraft empty weight.
3) Press the **ENT** Key. The cursor is now over the 'PILOT & STORES' field.
4) Enter the desired weight of Pilot & Stores.
5) Press the **ENT** Key.
6) Continue repeating these steps until all desired weights have been entered.

Entering Fuel Parameters

1) If necessary, press the **FMS** Knob to activate the cursor.
2) Turn the large **FMS** Knob to place the cursor in the 'FUEL ON BOARD' field.
3) Select the **FOB SYNC** Softkey to enter the fuel on board quantity as read from the aircraft fuel quantity sensors.

   Or:

   Manually enter the desired fuel quantity.
4) Press the **ENT** Key. The cursor is now in the 'FUEL RESERVES' field.
5) Enter the desired reserve fuel quantity.
6) Press the **FMS** Knob to remove the cursor.

TRIP PLANNING

1) Turn the large **FMS** Knob to select the 'AUX' page group.
2) Turn the small **FMS** Knob to select the second rectangular page icon.
3) The current 'PAGE MODE' is displayed at the top of the page: 'AUTOMATIC' or 'MANUAL'. To change the page mode, select the **AUTO** or **MANUAL** Softkey.

4) For Direct-to planning:

a) Select the **WPTS** Softkey and verify that the starting waypoint field indicates 'P.POS' (present position).

b) If necessary, press the **MENU** Key and select 'Set WPT to Present Position' to display 'P.POS'.

c) Press the **ENT** Key and the flashing cursor moves to the ending waypoint field.

d) Enter the identifier of the ending waypoint and press the **ENT** Key to accept the waypoint.

Or:

For point-to-point planning:

a) Enter the identifier of the starting waypoint.

b) Once the waypoint's identifier is entered, press the **ENT** Key to accept the waypoint. The flashing cursor moves to the ending waypoint.

c) Again, enter the identifier of the ending waypoint.

d) Press the **ENT** Key to accept the waypoint.

Or:

For flight plan leg planning:

a) Select the **FPL** Softkey (at the bottom of the display).

b) Turn the small **FMS** Knob to select the desired flight plan (already stored in memory), by number.

c) Turn the large **FMS** Knob to highlight the 'LEG' field.

d) Turn the small **FMS** Knob to select the desired leg of the flight plan, or select 'CUM' to apply trip planning calculations to the entire flight plan. Selecting 'FPL 00' displays the active flight plan. If an active flight plan is selected, 'REM' will be an available option to display planning data for the remainder of the flight plan.

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

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

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

6) Enter the departure time. Press the **ENT** Key when finished. Departure time may be entered in local or UTC time, depending upon system settings.

7) The flashing cursor moves to the ground speed (GS) field. Enter the ground speed. Press the **ENT** Key when finished. Note that in 'automatic' page mode, ground speed is provided by the system.

8) The flashing cursor moves to the fuel flow field. Enter the fuel flow. Press the **ENT** Key when finished. Note that in 'AUTOMATIC' page mode, fuel flow is provided by the system.

9) The flashing cursor moves to the fuel onboard field. Modify the fuel onboard. Press the **ENT** Key when finished. In 'AUTOMATIC' mode, fuel onboard is provided by the entry made on the Weight Planning Page.

10) The flashing cursor moves to the calibrated airspeed (CALIBRATED AS) field. Enter the calibrated airspeed. Press the **ENT** Key when finished. Note that in 'AUTOMATIC' page mode, calibrated airspeed is provided by the system.

11) The flashing cursor moves to the altitude (IND ALTITUDE) field. Enter the altitude. Press the **ENT** Key when finished. Note that in 'AUTOMATIC' page mode, altitude is provided by the system.

12) The flashing cursor moves to the barometric setting (PRESSURE) field. Enter the desired baro setting. Press the **ENT** Key when finished. Note that in 'AUTOMATIC' page mode, the baro setting is provided by the setting entered on the PFD.

13) The flashing cursor moves to the air temperature (TOTAL AIR TEMP) field. Enter the desired air temperature. Press the **ENT** Key when finished. Note that in 'AUTOMATIC' page mode, air temperature is provided by the system outside air temperature.

CREATE A NEW USER WAYPOINT DEFINED BY LATITUDE & LONGITUDE

1) Turn the large **FMS** Knob on the Control Unit to select the 'WPT' page group.

2) Turn the small **FMS** Knob to select the User WPT Information Page.

3) Select the **NEW** Softkey. A waypoint is created at the current aircraft position.

4) Enter the desired waypoint name.

5) Press the **ENT** Key.

6) The cursor is now in the 'WAYPOINT TYPE' field. If desired, the waypoint can be made temporary (deleted automatically when the system is turned off). If the waypoint is to remain in the system, proceed to step 7.

a) Turn the large **FMS** Knob one click to the left to highlight 'TEMPORARY'.

b) Press the **ENT** Key to place a check-mark in the box.

7) The cursor is now in the 'WAYPOINT TYPE' field. Turn the small **FMS** Knob to display a list of waypoint types.

8) Turn the small **FMS** Knob to select LAT/LON (latitude and longitude).

9) Press the **ENT** Key.

CREATE A NEW USER WAYPOINT DEFINED BY RADIALS FROM OTHER WAYPOINTS

1) Turn the large **FMS** Knob on the Control Unit to select the 'WPT' page group.

2) Turn the small **FMS** Knob to select the User WPT Information Page.

3) Select the **NEW** Softkey. A waypoint is created at the current aircraft position.

4) Enter the desired waypoint name.

5) Press the **ENT** Key.

6) The cursor is now in the 'WAYPOINT TYPE' field. If desired, the waypoint can be made temporary (deleted automatically when the system is turned off). If the waypoint is to remain in the system, proceed to step 7.

a) Turn the large **FMS** Knob one click to the left to highlight 'TEMPORARY'.

b) Press the **ENT** Key to place a check-mark in the box.

7) The cursor is now in the 'WAYPOINT TYPE' field. Turn the small **FMS** Knob to display a list of waypoint types.

8) Turn the small **FMS** Knob to select RAD/RAD (radial/radial).

9) Press the **ENT** Key.

10) The cursor moves to the 'REFERENCE WAYPOINTS' field. With the first waypoint name highlighted, use the **FMS** Knobs to enter the desired waypoint name. Waypoints may also be selected as follows:

a) When a flight plan is active, turning the small **FMS** Knob to the left will display a list of the flight plan waypoints.

b) Turn the large **FMS** Knob to select the desired waypoint.

c) Press the **ENT** Key.

Or:

a) Turn the small **FMS** Knob to the left. Initially, a flight plan waypoint list is displayed.

b) Turn the small **FMS** Knob to the right to display the 'NRST' waypoints to the aircraft's current position.

c) Turn the large **FMS** Knob to select the desired waypoint.

d) Press the **ENT** Key.

Or:

a) Turn the small **FMS** Knob to the left. Initially, a flight plan waypoint list is displayed.

b) Turn the small **FMS** Knob to the right to display the 'RECENT' waypoints.

c) Turn the large **FMS** Knob to select the desired waypoint.

d) Press the **ENT** Key.

Or:

a) Turn the small **FMS** Knob to the left. Initially, a flight plan waypoint list is displayed.

b) Turn the small **FMS** Knob to the right to display the 'USER' waypoints.

c) Turn the large **FMS** Knob to select the desired waypoint.

d) Press the **ENT** Key.

11) Press the **ENT** Key. The cursor is displayed in the 'RAD' (radial) field. Enter the desired radial from the reference waypoint.

12) Press the **ENT** Key.

13) Repeat step 10 to enter the next waypoint name.

14) Press the **ENT** Key. The cursor is displayed in the 'RAD' (radial) field for the second waypoint. Enter the desired radial from the reference waypoint.

15) Press the **ENT** Key.

16) Press the **FMS** Knob to remove the flashing cursor.

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

1) Turn the large **FMS** Knob on the MFD Control Unit to select the 'WPT' page group.

2) Turn the small **FMS** Knob to select the User WPT Information Page.

3) Select the **NEW** Softkey. A waypoint is created at the current aircraft position.

4) Enter the desired waypoint name.

5) Press the **ENT** Key.

6) The cursor is now in the 'WAYPOINT TYPE' field. If desired, the waypoint can be made temporary (deleted automatically when the system is turned off). If the waypoint is to remain in the system, proceed to step 7.

- **a)** Turn the large **FMS** Knob one click to the left to highlight 'TEMPORARY'.
- **b)** Press the **ENT** Key to place a check-mark in the box.

7) The cursor is now in the 'WAYPOINT TYPE' field. Turn the small **FMS** Knob to display a list of waypoint types.

8) Turn the small **FMS** Knob to select RAD/DIS (radial/distance).

9) Press the **ENT** Key.

10) The cursor moves to the 'REFERENCE WAYPOINTS' field. With the first waypoint name highlighted, use the **FMS** Knobs to enter the desired waypoint name. Waypoints may also be selected as follows:

- **a)** When a flight plan is active, turning the small **FMS** Knob to the left will display a list of the flight plan waypoints.
- **b)** Turn the large **FMS** Knob to select the desired waypoint.
- **c)** Press the **ENT** Key.

Or:

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

Or:

a) Turn the small **FMS** Knob to the left. Initially, a flight plan waypoint list is displayed.

b) Turn the small **FMS** Knob to the right to display the 'RECENT' waypoints.

c) Turn the large **FMS** Knob to select the desired waypoint.

d) Press the **ENT** Key.

Or:

a) Turn the small **FMS** Knob to the left. Initially, a flight plan waypoint list is displayed.

b) Turn the small **FMS** Knob to the right to display the 'USER' waypoints.

c) Turn the large **FMS** Knob to select the desired waypoint.

d) Press the **ENT** Key.

11) Press the **ENT** Key. The cursor is displayed in the 'RAD' (radial) field. Enter the desired radial from the reference waypoint.

12) Press the **ENT** Key.

13) The cursor is now displayed in the 'DIS' (distance) field. Enter the desired distance from the reference waypoint.

14) Press the **ENT** Key.

15) Press the **FMS** Knob to remove the flashing cursor.

DELETE A USER WAYPOINT

1) Turn the large **FMS** Knob to select the 'WPT' page group.

2) Turn the small **FMS** Knob to select the User WPT Information Page.

3) Press the **FMS** Knob to activate the cursor.

4) Turn the large **FMS** Knob to the place the cursor in the 'USER WAYPOINT LIST' field.

5) Turn the small **FMS** Knob to highlight the desired waypoint.

6) Select the **DELETE** Softkey.

7) The message 'Would you like to delete the user waypoint?' is displayed. With 'YES' highlighted, press the **ENT** Key.

CREATE A NEW FLIGHT PLAN

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

Using the MFD

1) Press the **FPL** Key.
2) Turn the small **FMS** Knob to display the Flight Plan Catalog Page.
3) Select the **NEW** Softkey to display a blank flight plan for the first empty storage location.
4) Turn the small **FMS** Knob to display the Waypoint Information Window.
5) Enter the identifier of the departure waypoint.
6) Press the **ENT** Key.
7) Repeat step number 4, 5, and 6 to enter the identifier for each additional flight plan waypoint.
8) When all waypoints have been entered, press the **FMS** Knob to return to the Flight Plan Catalog Page. The new flight plan is now in the list.

Using the PFD

NOTE: *If a flight plan is active, an additional flight plan cannot be entered using the PFD.*

1) Press the **FPL** Key.
2) Turn the small **FMS** Knob to display the Waypoint Information Page.
3) Turn the small **FMS** Knob to enter the first letter of the destination waypoint identifier.
4) Turn the large **FMS** Knob to the right to move the cursor to the next character position.
5) Repeat step 3 and 4 to spell out the rest of the waypoint identifier.
6) Press the **ENT** Key and the cursor is now ready for entering of the next flight plan waypoint.
7) Repeat steps 3 through 6 to enter the identifier for each additional flight plan waypoint.
8) Once all waypoints have been entered, press the **FMS** Knob to remove the cursor. The new flight plan is now active.

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 Control Unit 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) Select 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 select the **IMPORT** Softkey.
7) Turn the small **FMS** Knob to highlight the desired flight plan for importing.
8) Press the **ENT** Key.

INSERT A WAYPOINT IN THE ACTIVE FLIGHT PLAN

1) Press the **FPL** Key to display the active flight plan.
2) If necessary, press the **FMS** Knob to activate the cursor.
3) Turn the large **FMS** Knob to highlight the desired flight plan waypoint. The new waypoint is inserted before the highlighted waypoint.
4) Turn the small **FMS** Knob. The Waypoint Information Window is now displayed.
5) Enter the new flight plan waypoint by one of the following:
   a) Enter the user waypoint identifier, facility, or city.
   b) Press the **ENT** Key.

      Or:

a) Turn the small **FMS** Knob to the left. Initially, a flight plan waypoint list is displayed.

b) Turn the small **FMS** Knob to the right to display the 'NRST' airport waypoints to the aircraft's current position.

c) Turn the large **FMS** Knob to select the desired waypoint.

d) Press the **ENT** Key.

Or:

a) Turn the small **FMS** Knob to the left. Initially, a flight plan waypoint list is displayed.

b) Turn the small **FMS** Knob to the right to display the 'RECENT' waypoints.

c) Turn the large **FMS** Knob to select the desired waypoint.

d) Press the **ENT** Key.

e) Press the **ENT** Key again to "accept" the waypoint.

ENTER AN AIRWAY IN A FLIGHT PLAN

1) Press the **FPL** Key.

2) Press the **FMS** Knob to activate the cursor (not required on the PFD).

3) Turn the large **FMS** Knob to highlight the waypoint after the desired airway entry point. If this waypoint is not a valid airway entry point, a valid entry point should be entered at this time.

4) Turn the small **FMS** Knob one click clockwise and select the **LD AIRWY** Softkey, or press the **MENU** Key and select "Load Airway". The Select Airway Page is displayed. The **LD AIRWY** Softkey or the "Load Airway" menu item is available only when an acceptable airway entry waypoint has been chosen (the waypoint ahead of the cursor position).

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.

INVERT AN ACTIVE FLIGHT PLAN

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

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

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

   Or, for a stored flight plan:

   a) Press the MFD **FPL** Key and turn the small **FMS** Knob to select the Flight Plan Catalog Page.

   b) Press the **FMS** Knob to activate the cursor.

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

   d) Select the **EDIT** Softkey.
2) Turn the large **FMS** Knob to highlight the title for the approach, departure, arrival, or airway to be deleted. Titles appear in white directly above the procedure's waypoints.
3) Press the **CLR** Key to display a confirmation window.
4) With 'OK' highlighted, press the **ENT** Key to remove the selected procedure or airway.

STORE A FLIGHT PLAN

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

EDIT A STORED FLIGHT PLAN

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

DELETE A WAYPOINT FROM THE FLIGHT PLAN

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

   Or, for a stored flight plan:

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

INVERT AND ACTIVATE A STORED FLIGHT PLAN

1) Press the **FPL** Key on the MFD or MFD Control Unit.
2) Turn the small **FMS** Knob to select the Flight Plan Catalog Page.
3) Press the **FMS** Knob to activate the cursor.

4) Turn the large **FMS** Knob to highlight the desired flight plan.
5) Select the **INVERT** Softkey. 'Invert and activate stored flight plan?' is displayed.
6) With 'OK' highlighted, press the **ENT** Key. The selected flight plan is now inverted and activated. The original flight plan remains intact in its flight plan catalog storage location.

COPY A FLIGHT PLAN

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

DELETE A FLIGHT PLAN

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

GRAPHICAL FLIGHT PLAN CREATION

1) Press the **FPL** Key to display the Active Flight Plan Page on the MFD.
2) Press the **Joystick** to activate the map pointer. Use the **Joystick** to move the pointer to the desired point on the map to be inserted as a waypoint in the flight plan.

3) The default insertion point is at the end of the flight plan. If the selected waypoint is to be placed anywhere other than the end of the flight plan, press the **FMS** Knob to activate the cursor. Waypoints are inserted *ABOVE* the cursor. Turn the large **FMS** Knob to select the desired insertion point.

4) Select the **LD WPT** Softkey. The selected waypoint is inserted at the selected point. The default user waypoint naming is USR000, USR001, USR002, and so on.

5) To change the user waypoint name, follow the procedure for modifying a user waypoint.

EXPORT A FLIGHT PLAN TO AN SD CARD

1) Insert the SD card into the top card slot on the MFD.

2) Press the **FPL** Key on the Contol Unit 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) Select the **EXPORT** Softkey.

7) Press the **ENT** Key to confirm the export.

PROCEDURES

LOAD AND ACTIVATE A DEPARTURE PROCEDURE

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

ACTIVATE A DEPARTURE LEG

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

LOAD AN ARRIVAL PROCEDURE

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

4) Turn the large **FMS** Knob to highlight the desired arrival.
5) Press the **ENT** Key. A list of transitions is displayed for the selected arrival.
6) Turn either **FMS** Knob to select the desired transition.
7) Press the **ENT** Key. A list of runways may be displayed for the selected arrival.
8) Turn the large **FMS** Knob to highlight the desired runway.
9) Press the **ENT** Key.
10) With 'LOAD?' highlighted, press the **ENT** Key.
11) The arrival becomes part of the active flight plan.

ACTIVATE AN ARRIVAL LEG

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

LOAD AND/OR ACTIVATE AN APPROACH PROCEDURE

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

1) Press the **PROC** Key.
2) Turn the large **FMS** Knob to highlight 'SELECT APPROACH'.
3) Press the **ENT** Key. A list of available approaches for the destination airport is displayed.
4) Turn either **FMS** Knob to highlight the desired approach.
5) Press the **ENT** Key. A list of available transitions for the selected approach procedure is now displayed.
6) Turn either **FMS** Knob to select the desired transition. The "Vectors" option assumes vectors will be received to the final course segment of

the approach and will provide navigation guidance relative to the final approach course.

7) Press the **ENT** Key. The cursor moves to the MINIMUMS field.

8) If desired, the DA/MDA for the selected approach procedure may be entered and displayed on the PFD. Turn the small **FMS** Knob in the direction of the green arrow to change the display from OFF to BARO or optional RAD ALT.

9) Press the **ENT** Key. The cursor moves to the altitude field. Turn the small **FMS** Knob to enter the published DA/MDA for the selected approach procedure.

10) Press the **ENT** Key. 'LOAD? or ACTIVATE?' is now displayed with 'LOAD?' highlighted.

11) Turn the large **FMS** Knob to select either 'LOAD?' or 'ACTIVATE?'.

Selecting 'LOAD?' enters the selected approach procedure into the active flight plan, but is not currently active. Selecting 'ACTIVATE?' enters the selected approach procedure into the active flight plan and activates the first leg of the approach.

12) Press the **ENT** Key.

ACTIVATE AN APPROACH IN THE ACTIVE FLIGHT PLAN

1) Press the **PROC** Key.

2) Turn the large **FMS** Knob to highlight 'ACTIVATE APPROACH'.

3) Press the **ENT** Key.

ACTIVATE A VECTOR TO FINAL APPROACH FIX

1) Press the **PROC** Key.

2) Turn the large **FMS** Knob to highlight 'ACTIVATE VECTOR-TO-FINAL'.

3) Press the **ENT** Key.

4) The final approach course becomes the active leg.

ACTIVATE A MISSED APPROACH IN THE ACTIVE FLIGHT PLAN

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

   Or:

   Press the TO/GA switch.

HAZARD AVOIDANCE

CUSTOMIZING THE HAZARD DISPLAYS ON THE NAVIGATION MAP

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

XM WEATHER (SUBSCRIPTION OPTIONAL)

WARNING: Use of XM weather for hazardous weather penetration is not recommended. Weather information provided by XM Radio Service is approved only for weather avoidance, not penetration.

Displaying XM Weather on the Navigation Map Page

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

Display METAR and TAF information on the Airport Information Page

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

Displaying Weather on the Weather Data Link Page

1) Turn the large **FMS** Knob to select the Map Page Group.
2) Turn the small **FMS** Knob to select the Weather Data Link Page.
3) Select the available softkeys to select the desired XM weather product.

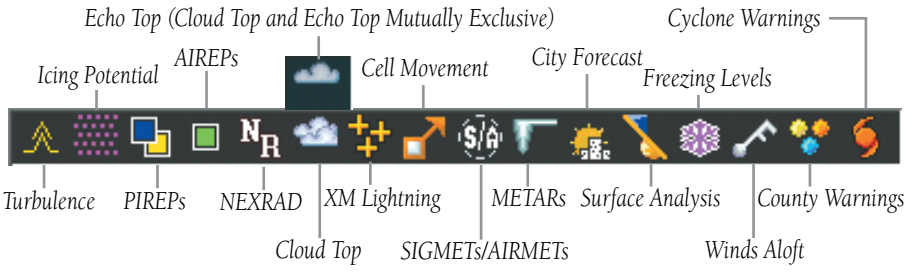
4) Select the **LEGEND** Softkey to view the legends for the selected products. If necessary, turn either **FMS** Knob to scroll through the list. Press the small **FMS** Knob or the **ENT** Key to return to the map.

Map Panning Information – Weather Data Link Page

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

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

Weather Products and Symbols



TRAFFIC INFORMATION SERVICE (TIS)

NOTE: *If the system is configured to use the optional TCAS II, TIS is not available for use.*

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

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

Traffic Symbol Description

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) Select the **OPERATE** Softkey to begin displaying traffic. 'OPERATING' is displayed in the Traffic Mode field.
4) Select the **STANDBY** Softkey to place the system in the Standby Mode. 'STANDBY' will be displayed in the Traffic Mode field.
5) Rotate the **Joystick** clockwise to display a larger area or rotate counter-clockwise to display a smaller area.
6) Select the **TNA MUTE** Softkey to mute the "Traffic Not Available" aural alert.

Displaying Traffic on the Navigation Map

1) Ensure TIS is operating. With the Navigation Map displayed, select the **MAP** Softkey.
2) Select the **TRAFFIC** Softkey. Traffic will now be displayed on the map.

TRAFFIC COLLISION AVOIDANCE SYSTEM (TCAS I) (OPTIONAL)

WARNING: *The GTS 850 Traffic Collision Avoidance System (TCAS I) is intended for advisory use only to aid the pilot in visually acquiring traffic. No avoidance maneuvers should be based solely upon TCAS I traffic information. It is the responsibility of the pilot in command to see and maneuver to avoid traffic.*

NOTE: *TIS is disabled when TCAS I is installed.*

Traffic Symbol	Description
	Non-Threat Traffic (intruder is beyond 5 nm and greater than 1200' vertical separation)
	Proximity Advisory (PA) (intruder is within 5 nm and less than 1200' vertical separation)
	Traffic Advisory (TA) (Potential collision area is within 20 to 48 seconds)
	Traffic Advisory Off Scale

Traffic Symbol Description

Bearing	Relative Altitude	Distance
"One o'clock" through "Twelve o'clock" or "No Bearing"	"High", "Low", "Same Altitude" (if within 200 feet of own altitude), or "Altitude not available"	"Less than one mile", "One Mile" through "Ten Miles", or "More than ten miles"

TA Descriptive Voice Announcements

System Test

NOTE: *GTS 850 traffic surveillance is not available during the system test. Use caution when performing a system test while in-flight.*

The GTS 850 provides a system test mode to verify the TCAS I system is operating normally. The test takes ten seconds to complete. When the system test is initiated, a test pattern of traffic symbols is displayed on the Traffic Map Page. If the system test passes, the aural announcement ***"TCAS System Test Passed"*** is heard, otherwise the system announces ***"TCAS System Test Failed."*** When the system test is complete, the GTS 850 enters Standby Mode.

1) Turn the large **FMS** Knob to select the Map Page Group.
2) Turn the small **FMS** Knob to select the Traffic Map Page.
3) Turn the **Range** knob to set the range to 2/6 nm.
4) Select the **TEST** Softkey.

Or:

1) Press the **MENU** Key and turn the small **FMS** knob to select 'Test Mode'.
2) Press the **ENT** Key.

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) Select the **OPERATE** Softkey to begin displaying traffic. OPERATING is displayed in the Traffic mode field.
4) Select the **STANDBY** Softkey to place the system in the Standby mode. STANDBY is displayed in the Traffic mode field.
5) Turn the **RANGE** Knob clockwise to display a larger area or counter-clockwise to display a smaller area.

Changing Altitude Range

1) On the Traffic Map Page, select the **ALT MODE** Softkey.
2) Select one of the following Softkeys:
   - ABOVE: Displays non-threat and proximity traffic from 9000 feet above the aircraft to 2700 feet below the aircraft. Typically used during climb phase of flight.
   - NORMAL: Displays non-threat and proximity traffic from 2700 feet above the aircraft to 2700 feet below the aircraft. Typically used during enroute phase of flight.

- BELOW: Displays non-threat and proximity traffic from 2700 feet above the aircraft to 9000 feet below the aircraft. Typically used during descent phase of flight.
- UNREST (unrestricted): All traffic is displayed from 9900 feet above and 9900 feet below the aircraft.

3) To return to the Traffic Page, select the **BACK** Softkey.

Or:

1) Press the **MENU** Key.

2) Turn the small **FMS** Knob to select one of the following (see softkey description in step 2 above):

- ABOVE
- NORMAL
- BELOW
- UNRESTRICTED

3) Select the **ENT** Softkey.

Switch From Operating Mode To Standby Mode

NOTE: *The GTS 850 automatically transitions from **STANDBY** to **OPERATE** mode eight seconds after takeoff. The unit also automatically transitions from **OPERATE** to **STANDBY** mode 24 seconds after landing.*

Selecting the **OPERATE** Softkey allows the GTS 850 to switch from Standby Mode to Operating Mode as necessary. Selecting the **STANDBY** Softkey forces the unit into Standby Mode.

On the Traffic Page, select the **STANDBY** or **OPERATE** Softkey.

Or:

1) Press the **MENU** Key and turn the small **FMS** knob to select 'Standby Mode' or 'Operate Mode'.

2) Press the **ENT** Key.

Displaying Traffic on the Navigation Map

1) Ensure TCAS I system is operating. With the Navigation Map displayed, select the **MAP** Softkey.

2) Select the **TRAFFIC** Softkey. Traffic will now be displayed on the map.

TRAFFIC COLLISION AVOIDANCE SYSTEM (TCAS II) (OPTIONAL)

NOTE: *If the system is configured to use TIS, the optional TCAS II is not available for use.*

WARNING: *The TCAS II system is intended for advisory use only. TCAS II is intended to help the pilot locate transponder-equipped traffic visually and to provide advisory vertical maneuver guidance to avoid traffic. It is the responsibility of the pilot to see and maneuver to avoid traffic, terrain, and obstacles.*

Traffic Symbol	Description
	Non-Threat Traffic (intruder is beyond 5 nm and greater than 1200' vertical separation)
	Proximity Advisory (PA) (intruder is within 5 nm and less than 1200' vertical separation)
	Traffic Advisory (TA) (Potential collision area is within 20 to 48 seconds)
	Traffic Advisory Off Scale
	Resolution Advisory (RA) (Potential collision area is within 15 to 35 seconds)
	Resolution Advisory Off Scale

Traffic Symbol Description

System Test

1) Turn the large **FMS** Knob to select the Map Page Group.
2) Turn the small **FMS** Knob to select the Traffic Map Page.
3) Select the **TEST** Softkey. The aural annunciation "TCAS Test" will be heard. A test pattern of traffic symbols is displayed on the Traffic Page and inset map on the PFD. The VSI will display a red no descent indication and a green climb indication of 2000 feet per min. and red from 2000 to 4000+. The pitch display will also display the appropriate indications

appropriate with the VSI. The self test takes approximately eight seconds to complete, after which a voice alert "TCAS Test Passed" is heard. In the event the system test fails, a voice alert "TCAS Test Failed" is heard and a visual annunciation 'TCAS FAIL' appears on the PFD. In addition, a visual annunciation 'FAIL' appears in the Operating Mode box on the Traffic Map Page.

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) Select the **TA ONLY** or **TA/RA** Softkey to begin displaying traffic. 'TA/RA' or 'TA ONLY' respectively, is displayed in the TCAS Mode field.
4) Select the **STANDBY** Softkey to place the system in the Standby Mode. 'TFC STBY' will be displayed in the TCAS Mode field.
5) Select the **ABS** (absolute) or **REL** (relative) Softkey to display intruder altitude as an absolute altitude or an altitude relative to own aircraft altitude.
6) Rotate the **Joystick** clockwise to display a larger area or rotate counter-clockwise to display a smaller area.

Changing the Altitude Range

1) On the Traffic Page, select the **ALT RNG** Softkey.
2) Select one of the following Softkeys:

   ABOVE: Displays non-threat and proximity traffic from 9900 feet above the aircraft to 2700 feet below the aircraft. Typically used during climb phase of flight.

   NORMAL: Displays non-threat and proximity traffic from 2700 feet above the aircraft to 2700 feet below the aircraft. Typically used during enroute phase of flight.

   BELOW: Displays non-threat and proximity traffic from 2700 feet above the aircraft to 9900 feet below the aircraft. Typically used during descent phase of flight.

   UNREST (unrestricted)**:** All traffic is displayed.
3) To return to the Traffic Page, select the **BACK** Softkey.

Displaying Traffic on the Navigation Map

1) Ensure TCAS II system is operating. With the Navigation Map displayed, select the **MAP** Softkey.
2) Select the **TRAFFIC** Softkey. Traffic will now be displayed on the map.

TERRAIN AWARENESS & WARNING SYSTEM

TAWS-A (Optional)

WARNING: *The TAWS display shows supplemental information only. It should not be used for navigation.*

NOTE: *Terrain data is not displayed when the aircraft latitude is greater than 75 degrees north or 60 degrees south.*

NOTE: *TAWS operation is only available when the system is configured for a TAWS-A installation.*

Manual System Test

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

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

Displaying the TAWS-A Page

1) Turn the large **FMS** Knob to select the Map Page Group.
2) Turn the small **FMS** Knob to select the TAWS-A Page.
3) If desired, select the **VIEW** Softkey to access the **ARC** and **360** softkeys. When the **ARC** Softkey is selected, a radar-like 120° view is displayed. Select the **360** Softkey to return to the 360° default display.

4) Rotate the **Joystick** clockwise to increase the display range or rotate counter-clockwise to decrease the display range.

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

Enable/Disable Aviation Data

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

Inhibiting/Enabling FLTA and PDA Alerting

1) Select the TAWS-A Page.
2) Press the **TAWS INH** Softkey to inhibit or enable TAWS-A (choice dependent on current state).

Overriding Flaps-based FIT Alerting

1) Select the TAWS-A Page.
2) Press the **FLAP OVR** Softkey.

Inhibiting/Enabling GPWS Alerting

1) Select the TAWS-A Page.
2) Press the **GPWS INH** Softkey to inhibit or enable GPWS alerts (choice dependent on current state).

Inhibiting/Enabling GSD Alerting

NOTE: *Only available during a GSD alert.*

On the PFD, press the **GS INH** or **GP INH** Softkey (only displayed during a GSD alert) to inhibit or enable GSD alerts (softkey choice dependent on present GSD alert type).

TAWS-B

WARNING: *The TAWS display shows supplemental information only. It should not be used for navigation.*

NOTE: *Terrain data is not displayed when the aircraft latitude is greater than 75 degrees north or 60 degrees south.*

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

Manual System Test

1) While the TAWS-B Page is displayed, press the **MENU** Key.

2) Turn the small **FMS** Knob to select 'Test TAWS System'.

3) Press the **ENT** Key. During the test 'TAWS TEST' is displayed in the center of the TAWS-B Page.

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

Display Terrain and Obstacles on the TAWS-B Page

1) Turn the large **FMS** Knob to select the Map Page Group.

2) Turn the small **FMS** Knob to select the TAWS-B Page.

3) If desired, select the **VIEW** Softkey to access the **ARC** and **360** softkeys. When the **ARC** Softkey is selected, a radar-like 120° view is displayed. Select the **360** Softkey to return to the 360° default display.

4) Rotate the **Joystick** clockwise to increase the display range or rotate counter-clockwise to decrease the display range.

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

Enable/Disable Aviation Data

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

TAWS Inhibit

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

Inhibit TAWS

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

Or:

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

Enable TAWS

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

Or:

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

Displaying Terrain and Obstacles on the Navigation Map

1) With the Navigation Map displayed, press the **MAP** Softkey.
2) Select the **TERRAIN** Softkey. Terrain and obstacles will now be displayed on the map.

AIRBORNE COLOR WEATHER RADAR

WARNING: *Begin transmitting only when it is safe to do so. If it is desired to transmit while the aircraft is on the ground, no personnel or objects should be within 11 feet of the antenna.*

CAUTION: *In Standby Mode, the antenna is parked at the center line. It is always a good idea to put the radar in Standby Mode before taxiing the aircraft to prevent the antenna from bouncing on the bottom stop and possibly causing damage to the radar assembly.*

Displaying Weather on the Weather Radar Page

1) Turn the large **FMS** Knob to select the Map Page Group.
2) Turn the small **FMS** Knob to select the Weather Radar Page.
3) Select the **MODE** Softkey.
4) If the aircraft is on the ground, select the **STANDBY** Softkey to initiate the one minute warm-up period. After the warm-up is complete, the radar will enter the Standby Mode. After the aircraft is airborne, select the **WEATHER** Softkey.

   Or:

   If the aircraft is already airborne, select the **WEATHER** or **GROUND** Softkey. The one-minute warm-up period will be initiated, after which the radar will begin transmitting. The horizontal scan is initially displayed.
5) Turn the **Joystick** to select the desired range.
6) If desired, select the **VERTICAL** Softkey for vertical scanning.

Adjusting Antenna Tilt

Move the **Joystick** up or down to adjust the tilt of the antenna up or down. Monitor the displayed tilt value in the TILT field.

When scanning vertically, a Tilt Line may be displayed to aid in positioning the tilt of the antenna. If the Tilt Line is not displayed, perform the following steps:

1) Press the **MENU** Key
2) Turn the large **FMS** Knob to select 'Show Tilt Line'.
3) Press the **ENT** Key.

Adjusting Antenna Bearing

Move the **Joystick** right or left to adjust the azimuth position of the antenna right or left. Monitor the displayed bearing value in the BEARING field.

When scanning horizontally, a Bearing Line may be displayed to aid in positioning the antenna for the vertical scan. If the Bearing Line is not displayed, perform the following steps:

1) Press the **MENU** Key
2) Turn the large **FMS** Knob to select 'Show Bearing Line'.
3) Press the **ENT** Key.

Vertically Scan a Storm Cell

1) While in the Horizontal Scan view, move the **Joystick** to place the Bearing Line on the desired storm cell, or other area, to be vertically scanned.
2) Select the **VERTICAL** Softkey. A vertical "slice" of the selected area will now be displayed.
3) Move the **Joystick** right or left to move the scanned "slice" a few degrees right or left.
4) Turn the **Joystick** to adjust the range.
5) To select a new area to be vertically scanned, select the **HORIZON** Softkey to return to the Horizontal Scan view and repeat the previous steps.

Adjusting Gain

WARNING: *Changing the gain in Weather Mode will cause precipitation intensity to be displayed as a color not representative of the true intensity. Remember to return the gain setting to 'Calibrated' for viewing the actual intensity of precipitation.*

1) Select the **GAIN** Softkey to activate the cursor in the 'GAIN' field.
2) Turn the small **FMS** Knob to adjust the gain for the desirable level. The gain setting is visible in the gain field as a movable horizontal bar in a flashing box. The line pointer is a reference depicting the calibrated position.
3) Press the **FMS** Knob to remove the cursor.
4) Select the **GAIN** Softkey again to recalibrate the gain. 'CALIBRATED' will be displayed in the 'GAIN' field.

Ground Mapping

1) Select the **MODE** Softkey.
2) Select the **GROUND** Softkey to place the radar in Ground Map Mode.
3) Select the **BACK** Softkey.

Sector Scan

1) While in the Horizontal Scan Mode, move the **Joystick** right or left to place the Bearing Line in the desired position. The location of the Bearing Line will become the center point of the Sector Scan.
2) Press the **FMS** Knob to display the cursor.
3) Turn the large **FMS** Knob to place the cursor in the SECTOR SCAN field.
4) Turn the small **FMS** Knob to select FULL, 60˚, 40˚, or 20˚ scan.
5) If desired, readjust the Bearing Line with the **Joystick** to change the center of the Sector Scan.
6) Press the **FMS** Knob to remove the cursor.

Antenna Stabilization

1) To activate or deactivate the antenna stabilization, select the **MODE** Softkey.
2) Select the **STAB ON** Softkey to activate antenna stabilization or select the **STAB OFF** Softkey to deactivate. The current stabilization condition is shown in the upper right of the weather radar display.

Weather Attenuated Color Highlight (WATCH®)

To activate or deactivate the WATCH® feature, select the **WATCH** Softkey. This feature is only available in the Horizontal Scan Mode.

Weather Alert

To activate or deactivate Weather Alert, select the **WX ALRT** Softkey. Activating and deactivating will also enable or inhibit the alert on the PFD.

Automatic Standby

When the weather radar system is in the Weather or Ground Map Mode, upon landing the system will automatically switch to Standby Mode.

Blank Page

ADDITIONAL FEATURES

SYNTHETIC VISION (OPTIONAL)

WARNING: *Use appropriate primary systems for navigation, and for terrain, obstacle, and traffic avoidance. SVS 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.*

Synthetic Vision System (SVS) functionality is offered as an optional enhancement to the Prodigy™ Flight Deck 100.

SVS 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. SVS information is shown on the primary flight display (PFD).

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

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

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

Displaying Synthetic Terrain

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

Displaying Pathways

NOTE: *When the optional TCAS II system issues a Resolution Advisory (RA) Pathways are automatically removed from the display. Pathways may again be displayed by the pilot manually selecting Pathways.*

NOTE: *Pathways are not available when the cross-pointer (X-Pointer) flight director format is selected.*

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

Displaying Heading on the Horizon

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

Displaying Airport Signs

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

TERMINAL PROCEDURE CHARTS

NOTE: *With the availability of SafeTaxi®, ChartView, or FliteCharts® in electronic form, it is still advisable to carry another source of charts on-board the aircraft.*

SafeTaxi®

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

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

The SafeTaxi database contains detailed airport diagrams for selected airports. These diagrams aid in following ground control instructions by accurately displaying the aircraft position on the map in relation to taxiways, ramps, runways, terminals, and services. This database is updated on a 56-day cycle.

ChartView (Optional)

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® (Optional)

FliteCharts® resemble the paper version of National Aeronautical Charting Office (NACO) terminal procedures charts. The charts are displayed with high-resolution and in color for applicable charts. Current aircraft position is not displayed on FliteCharts.

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

View Charts from the Navigation Map Page

1) Select the **SHW CHRT** Softkey when displayed.

   Or:

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

2) Select the **DP, STAR, APR, WX,** and **NOTAM** softkeys to access charts for departures, arrivals, approaches, weather and NOTAMs Note that NOTAMS are only available with ChartView.

3) Select the **GO BACK** Softkey to return to the previous page.

View Charts from the Active Flight Plan Page

1) While viewing the Active Flight Plan Page, press the **FMS** Knob to activate the cursor.

2) Turn the large **FMS** Knob to select the departure airport, destination airport, departure, arrival, or approach.

3) Select the **SHW CHRT** Softkey. The appropriate chart will be displayed, if available for the item selected.

4) Select the **GO BACK** Softkey to return to the previous page.

Change Day/Night View

1) While viewing a chart press the **MENU** Key to display the Page Menu OPTIONS.

2) Turn the large **FMS** Knob to highlight the 'Chart Setup' Menu Option and press the **ENT** Key.

3) Turn the large **FMS** Knob to move between the 'FULL SCREEN' and 'COLOR SCHEME' Options.

4) Turn the small **FMS** Knob to choose between the 'On' and 'Off' Full Screen Options.

5) Turn the small **FMS** Knob to choose between 'Day', 'Auto', and 'Night' Options.

6) In Auto Mode, turn the large **FMS** Knob to select the percentage field and change percentage with the small **FMS** Knob. The percentage of change is the day/night crossover point based on backlighting intensity.

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

AOPA AIRPORT DIRECTORY

AOPA Airport Directory adds enhanced airport information when viewing airports on the WPT-Airport Information Page.

This database is updated four times per year. Check fly.garmin.com for the current database.

View Airport Directory Information

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

SATELLITE TELEPHONE COMMUNICATION (OPTIONAL)

NOTE: Separate accounts must be established to access the Iridium satellite network for voice and low speed data transmission, and high speed data transmission for the maintenance reports.

Control and monitoring of telephone functions are accomplished through the AUX-TELEPHONE Page.

Viewing the Telephone Page

1) Turn the large **FMS** Knob on the MFD to select the AUX page group.
2) Turn the small **FMS** Knob to select AUXILIARY COMMUNICATIONS.
3) If necessary, select the **TEL** Softkey to display the AUX-TELEPHONE Page.

Answering a Call In the Cockpit

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

Or:

While viewing the AUX-TELEPHONE Page

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

Selecting the **IGNORE** Softkey will extinguish the pop-up window and leave the call unanswered. Selecting the **TEL** Softkey will display the AUX-TELEPHONE allowing additional call information to be viewed before answering.

Muting Incoming Call Alerts

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

Making a Call to the Cabin

1) Press the **TEL** Key on the appropriate audio panel.
2) Select the **DIAL** Softkey on the MFD.
3) Press the **ENT** Key. The cursor will move from 'CABIN' to 'OK'.
4) Press the **ENT** Key again. The cabin phone ringing symbol will now be displayed.

To exit the call, select the **HANGUP** Softkey.

Making an External Call from the Cockpit Using the Iridium Satellite Network

1) Press the **TEL** Key on the appropriate audio panel.
2) Select the **DIAL** Softkey on the MFD.
3) Turn the small **FMS** Knob to select 'IRIDIUM'.
4) Press the **ENT** Key. The cursor has now moved to the phone number entry field.
5) Enter the desired telephone number (country code first) by selecting the number softkeys on the MFD or by pressing the numeric keys on the MFD Control Unit.

6) Press the **ENT** Key. 'OK' is highlighted.

7) Press the **ENT** Key. The system will begin calling the number.

To exit the call, select the **HANGUP** Softkey.

Placing a Call on Hold

Select the **HOLD** Softkey on the MFD. Select the **HOLD** Softkey again to resume the call.

Transferring a Call

1) Select the **TRANS** Softkey on the MFD.
2) Press the **ENT** Key. The cursor now highlights the phone number entry field.
3) Enter the phone number as discussed earlier for making an external call on the Iridium satellite network.
4) Press the **ENT** Key. 'OK' is now highlighted.
5) Press the **ENT** Key again to make the call.

Adding Another Phone to an Active Call

1) Select the **CONF** Softkey on the MFD.
2) Press the **ENT** Key. The cursor now highlights the phone number entry field.
3) Enter the phone number as discussed earlier for making an external call on the Iridium satellite network.
4) Press the **ENT** Key. 'OK' is now highlighted.
5) Press the **ENT** Key again to make the call.

WI-FI CONNECTIONS (OPTIONAL)

Control and monitoring of Wi-Fi functions are accomplished through the AUX-WI-FI SETUP Page.

Viewing the Wi-Fi 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 AUXILIARY COMMUNICATIONS.
3) If necessary, select the **WI-FI** Softkey to display the AUX-WI-FI SETUP Page.

Setting Up a New Wi-Fi Connection

1) Select the **AVAIL** Softkey on the MFD. A list of available networks will be displayed in the AVAILABLE NETWORKS window. Signal strength is shown for each network, as well as security requirements and whether the network has been saved in the system's memory.
2) If necessary, select the **RESCAN** Softkey to have the system scan again for available networks.
3) Press the **FMS** Knob to place the cursor in the list of networks.
4) Turn either **FMS** Knob to select the desired network.
5) Select the **CONNECT** Softkey.
6) If the network is secured, enter the necessary passcode. Use the **FMS** Knobs to enter the desired alpha numeric characters. Select the **CAP LOCK** Softkey to enter upper case letters. If there is no security associated with the network, proceed to step 9.
7) Press the **ENT** Key. 'OK' will be highlighted.
8) Press the **ENT** Key again.
9) The SAVE SETTINGS window is now displayed with the cursor highlighting 'SAVE CONNECTION'.
10) The selected network can be saved to system memory to make reconnection easier at a later time.

    To connect the selected network without saving:

    a) Turn the large FMS Knob to move the cursor to highlight 'CONNECT'.

    b) Press the **ENT** Key.

    To save and connect the selected network:

    a) Press the **ENT** Key. A checkmark is placed in the checkbox and the cursor moves to the airport field.

    b) Using the **FMS** Knobs, enter an airport identifier to be associated with the saved network. This aids in identifying the network later in the event of duplicate network names.

    c) Press the **ENT** Key. The cursor moves to 'CONNECT'.

    d) Press the **ENT** Key again to connect to the selected network.

Editing a Saved Network

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

Disconnecting a Wi-Fi Network

Select the **DISCNCT** Softkey.

Deleting a Saved Wi-Fi Network

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

SYSTEM DATA LOGGING (OPTIONAL)

NOTE: *An account must be established with Garmin Flight Data Services to make full use of the System Data Logging feature.*

Control and monitoring of report transmissions is accomplished through the AUX-REPORT STATUS Page.

Viewing the Report Status Page

1) Turn the large **FMS** Knob on the MFD to select the AUX page group.
2) Turn the small **FMS** Knob to select AUXILIARY COMMUNICATIONS.
3) If necessary, select the **REPORT** Softkey to display the AUX-REPORT STATUS Page.

Changing the Transmission Method

1) While viewing the Report Status Page, press the **FMS** Knob to activate the cursor.
2) Turn the large **FMS** Knob to move the cursor to the 1st or 2nd transmit method for the desired data report.
3) Turn the small **FMS** Knob to select the desired option (SAT SHORT BURST, SAT RUDICS, WI-FI, or NONE). Sat Short Burst is generally used for transmission of data packets less than 300 bytes. Wi-Fi is used only when the aircraft on the ground.
4) Press the **ENT** Key.

Enable/disable Automatic Send for Automatic Test Reports

1) While viewing the Report Status Page, press the **FMS** Knob to activate the cursor.
2) Turn the large **FMS** Knob to move the cursor to the AUTOMATIC SEND field.
3) Turn the small **FMS** Knob to select ENABLED of DISABLED.
4) Press the **ENT** Key.

Enable/disable Periodic Send for Periodic Test Reports

1) While viewing the Report Status Page, press the **FMS** Knob to activate the cursor.
2) Turn the large **FMS** Knob to move the cursor to the PERIODIC SEND field.
3) Turn the small **FMS** Knob to select ENABLED of DISABLED.
4) Press the **ENT** Key.

Sending a Transmission Manually

NOTE: Manual transmission of data can only be performed while the aircraft is on the ground.

1) While viewing the Report Status Page, press the **FMS** Knob to activate the cursor.
2) Turn the large **FMS** Knob to move the cursor to the send button on the desired data report.
3) Press the **ENT** Key.

Restore Reports Page Options to Default Settings

1) While viewing the Report Status Page, press the **MENU** Key.
2) Turn the **FMS** Knob to select 'Restore Defaults' in the menu list as shown in Figure 8-106.
3) Press the **ENT** Key.
4) A confirmation window as shown in Figure 8-107 is now displayed.
5) Turn the large **FMS** Knob to select 'YES' or 'NO'.
6) With 'YES' highlighted, press the **ENT** Key.

XM® RADIO ENTERTAINMENT (SUBSCRIPTION OPTIONAL)

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

Selecting the XM Radio Page

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

Active Channel and Channel List

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

Selecting a Category

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

1) Select the **CATGRY** 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.
3) Press the **ENT** Key.

Select an Available Channel within the Selected Category

1) While on the XM Radio Page, select the **CHNL** 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:

   Press the **FMS** Knob to highlight the channel list and turn the large **FMS** Knob to scroll through the channels.
3) With the desired channel highlighted, press the **ENT** Key.

Entering a Channel Directly

1) While on the XM Radio Page, select the **CHNL** Softkey.
2) Select the **DIR 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.

Assigning Channel Presets

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

1) On the XM Radio Page, with the desired channel active, select the **PRESETS** Softkey to access the first five preset channels (**PS1 - PS5**).
2) Select the **MORE** Softkey to access the next five channels (**PS6 – PS10**), and again to access the last five channels (**PS11 – PS15**). Selecting the **MORE** Softkey repeatedly cycles through the preset channels.
3) Select any one of the (**PS1 - PS15**) 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 **VOL** 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.)
3) Select the **MUTE** Softkey to mute the audio. Select the **MUTE** Softkey again to unmute the audio.

ELECTRONIC CHECKLISTS (OPTIONAL)

The system accesses the checklists from an SD card inserted into the card slot. If the SD card contains an invalid checklist file or no checklist, the Power-up Page messages display 'Checklist File: Invalid' or 'Checklist File: N/A' (not available) and the **CHKLIST** Softkey is not available.

The following colors are used for checklist items:

- Light Blue - Items not selected or checked
- White - Item is selected
- Green - Item has been checked
- Gray - General notes
- Yellow - Caution notes
- Red - Warning notes

Accessing and Navigating Checklists

1) From any page on the MFD, select the **CHKLIST** Softkey or turn the large **FMS** Knob to select the Checklist Page.
2) Turn the large **FMS** Knob to select the 'GROUP' field.
3) Turn the small **FMS** Knob to select the desired procedure and press the **ENT** Key.
4) Turn the large **FMS** Knob to select the 'CHECKLIST' field.
5) Turn the small **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 select the **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 select the **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 and 'GO TO NEXT CHECKLIST?' is highlighted. If 'GO TO NEXT CHECKLIST?' is selected prior to checking all the checklist items, '*CHECKLIST NOT FINISHED*' will be displayed in yellow text.

8) Press the **ENT** Key. If 'GO TO NEXT CHECKLIST?' is displayed when pressing the **ENT** Key, the next checklist in the group will be displayed. If 'EXIT CHECKLISTS?' is displayed when pressing the **ENT** Key, the system will exit the Checklist Page.

9) Select the **EXIT** Softkey to exit the Checklist Page and return to the page last viewed. When returning to the Checklist Page after pressing the **EXIT** Softkey, the system will return to the last select checklist item.

Immediately Accessing Emergency Procedures

1) From any page on the MFD, select the **CHKLIST** Softkey or turn the large **FMS** Knob to select the Checklist Page.

2) Select the **EMERGCY** Softkey.

3) Turn the **FMS** Knob to select the desired emergency checklist and press the **ENT** Key.

4) Press the **ENT** Key or select the **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 select the **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 and 'GO TO NEXT CHECKLIST?' is highlighted. If 'GO TO NEXT CHECKLIST?' is selected prior to checking all the checklist items, '*CHECKLIST NOT FINISHED*' will be displayed in yellow text.

6) Press the **ENT** Key to advance to the next checklist.

7) Select the **RETURN** Softkey to return to the previous checklist.

8) Select the **EXIT** Softkey to exit the Checklist Page and return to the page last viewed.

Blank Page

ABNORMAL OPERATION

NOTE: The Embraer Phenom 100 Airplane Flight Manual (AFM) always takes precedence over the information found in this section.

ENGINE

When an engine failure occurs, besides the CAS message corresponding to the failed engine ("E1 FAIL" or "E2 FAIL"), the corresponding N1 gauge displays the annunciation "FAIL" in yellow inverse video (black text on yellow background). Detection of an engine fire causes the red inverse video (white text on red background) annunciation "FIRE" to be displayed over the ITT gauge.

Engine Failure Indication

Engine Fire Indication

CABIN PRESSURIZATION

If the cabin altitude (ALT) reaches a caution level, the readout displays black text on a yellow background. When cabin altitude is 10,000 feet or greater, the readout displays as a warning with white text on a red background, and the corresponding CAS message "CAB ALTITUDE HI" is issued.

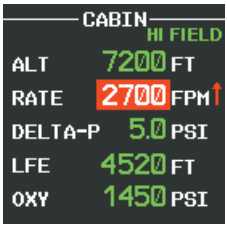
If low flow or a cabin leak is detected, the cabin pressure change RATE readout displays white text on a red background, and the trend arrow turns red.

Excessive cabin differential pressure (DELTA-P) causes the pressure readout to display a yellow background and black text; warnings are indicated with red background with white readout text. The CAS message "CAB DELTA-P FAIL" accompanies this condition.

When oxygen system pressure (OXY) drops below 1590 PSI, the readout is indicated with black text on a white background; pressure below 730 PSI is shown with yellow text on a black background. The CAS message "OXY LO PRES" is also displayed.

If the pilot selected landing field elevation (LFE) differs by more than five feet from the FMS LFE value, the LFE readout flashes yellow for 30 seconds.

A red "X" is displayed over any readout on the Cabin Display that is invalid or out of range.

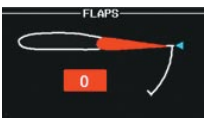


Cabin Leak Indication

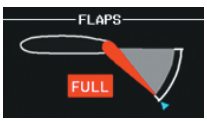
FLAPS

The following denote abnormal flap conditions:

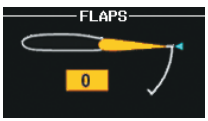
- Flaps not in position for takeoff – Flap pointer turns red and readout turns red inverse video (white text on red background) (A and B).
- Flaps have failed or become jammed – Flap pointer turns yellow and readout turns yellow inverse video (black text on yellow background) (C)
- Flaps unavailable – Flap pointer is removed and readout turns white inverse video (black text on white background) (D)
- Flaps position data invalid – Flap pointer and readout displayed with a red "X"



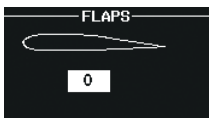
A - Flaps Retracted at Takeoff



B - Flaps at FULL (Landing) Position at Takeoff



C - Flaps Failed



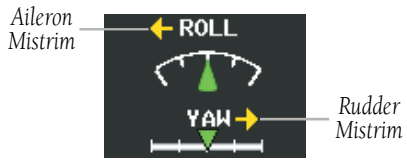
D - Flaps Unavailable

TRIM

Aileron or rudder mistrim are denoted with yellow arrows pointing in the direction of mistrim on the Roll and Yaw Trim indicators (A).

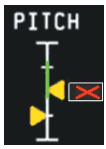
If takeoff configuration has been selected and the pitch trim position is not within the green band on the pitch trim scale, the pointers turn red and readout turns red

inverse video (white text on red background) (B). If an asymmetrical pitch trim condition exists, the pointers turn yellow and the readout is displayed with a Red "X" (C).



A - Mistrim

B - Pitch Trim Outside Takeoff Configuration



C - Asymmetrical Pitch Trim Condition

REVERSIONARY MODE

If the system detects a failure in PFD1 or MFD, reversionary mode is entered automatically. Reversionary mode must be entered manually in the case of PFD2 failure. In reversionary mode, critical flight instrumentation is combined with engine instrumentation on the remaining display.

Manual activation of reversionary display mode is accomplished by pressing the **DISPLAY BACKUP** Button on the appropriate audio panel.

- **PFD1** – By pressing the **DISPLAY BACKUP** Button on the left audio panel.
- **MFD** – By pressing the **DISPLAY BACKUP** Button on the left or the right audio panel.
- **PFD2** – By pressing the **DISPLAY BACKUP** Button on the right audio panel.

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 PFDs, the emergency frequency (121.500 MHz) automatically becomes the active frequency on both COM radios.

AUDIO PANEL FAIL-SAFE OPERATION

If there is a failure of both Audio Panels, a fail-safe circuit connects the pilot's headset and microphone directly to the COM1 transceiver and the copilot's headset directly to the COM2 transceiver. Audio is not available on the speakers. If there is a failure of one Audio Panel, that side only has access to their respective on-side fail-safe COM.

NOTE: *Audio is not available on the speakers in case of an Audio Panel and its cross-side GIA unit simultaneous failure.*

If there is a failure of one Audio Panel, the remaining Audio Panel does not have access to the other side's COM or NAV. For example, if the pilot side Audio Panel fails, the copilot side Audio Panel has access to all the radios except for COM1 and NAV1. In this case, the copilot can receive the audio from NAV2 and operate COM2 for transmission/reception.

In addition, if there is a failure of one Audio Panel, the following functions are no longer available on the failed side; NAV/ILS audio, speaker, cockpit/cockpit-passengers intercom, aural warning alerts on headset, entertainment inputs, and digital recording radio. Also, if a stereo headset is in use, and an Audio Panel fails, only the left channel will be heard in the headphones.

HAZARD DISPLAYS WITH LOSS OF GPS POSITION

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

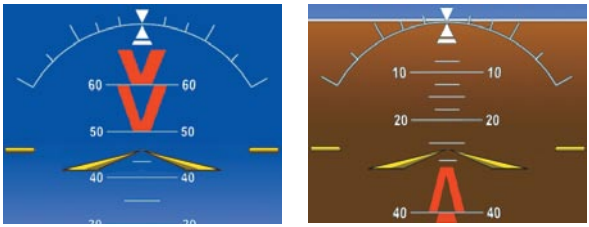
Loss of Hazard Functions with Loss of GPS Position

UNUSUAL ATTITUDES

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

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

- Traffic Annunciations
- AFCS Annunciations
- Flight Director Command Bars
- Inset Map
- Temperatures
- DME Information Window
- Wind Data
- Selected Heading Box
- Selected Course Box
- Transponder Status Box
- System Time
- PFD Setup Menu
- Windows displayed in the lower right corner of the PFD:
  - Timer/References
  - Nearest Airports
  - Flight Plan
  - Messages
  - Procedures
  - ADF/DME Tuning
- Barometric Minimum Descent Altitude Box
- Glideslope, Glidepath, 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 by the appearance of the letters 'DR' superimposed in yellow over the 'own aircraft' symbol as shown in the following figure. In addition, 'DR' is

prominently displayed, also in yellow, on the HSI slightly above and to the right of the aircraft symbol on the CDI as shown in the following figure. Also, the CDI deviation bar is removed from the display. Lastly, but at the same time, a 'GPS NAV LOST' alert message appears on the PFD.

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

CDI 'DR' Indication on PFD

Symbolic Aircraft (Map pages and Inset Map)

Dead Reckoning Indications

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

- Navigation Status Box fields except Active Leg, TAS, and DTK
- GPS Bearing Pointer
- Wind data and pointers in the Wind Data Box on the PFD
- 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 not couple to GPS, and TAWS is disabled. Additionally, the accuracy of all nearest information (airports, airspaces, and waypoints) is questionable. Finally, airspace alerts continue to function, but with degraded accuracy.

Blank Page

ANNUNCIATIONS & ALERTS

CAS MESSAGES

Warning Messages

See the Airplane Flight Manual (AFM) for recommended pilot actions. Accompanied by a triple chime tone which repeats until acknowledged.

Message	Description
CAB ALTITUDE HI	Cabin altitude is equal to or higher than 10,000 ft.
DOOR EMER OPEN	Emergency door open
DOOR PAX OPEN	Passenger door open
E1 FIRE	Fire in engine 1
E2 FIRE	Fire in engine 2
E1 OIL LO PRES	Low oil pressure in engine 1
E2 OIL LO PRES	Low oil pressure in engine 2
ELEC EMERGENCY	Generators offline
ELEC XFR FAIL	Generators offline and electrical emergency transfer has failed
LG LEVER DISAG	Landing gear position and control lever disagreement
NO TO CONFIG	Airplane is not in a takeoff configuration

Caution Messages

See the Airplane Flight Manual (AFM) for recommended pilot actions. Accompanied by a single chime tone which repeats until acknowledged.

Message	Description
ADS 1 FAIL	ADS 1 offline or failed
ADS 2 FAIL	ADS 2 offline or failed
ADS 1 HTR FAIL	Pitot heater 1 offline or heater element failed
ADS 2 HTR FAIL	Pitot heater 2 offline or heater element failed
AHRS 1 FAIL	AHRS 1 failure
AHRS 2 FAIL	AHRS 2 failure
A-I E1 FAIL	Anti-ice system failue in engine 1
A-I E2 FAIL	Anti-ice system failue in engine 2
ANTI-SKID FAIL	Anti-skid function lost; main brake still available
AP FAIL	Loss of autopilot function
AP PITCH MISTRIM	Airplane mistrimmed in pitch axis when autopilot is engaged
AP ROLL MISTRIM	Airplane mistrimmed in roll axis when autopilot is engaged
AUDIO PNL 1 FAIL	Audio panel 1 has failed

Message	Description
AUDIO PNL 2 FAIL	Audio panel 2 has failed
AURAL WRN FAIL	Aural warning system failure due to non-communicating LRUs
AUTO PTRIM FAIL	Auto pitch trim failure; other pitch trim functions still available
BATT DISCHARGE	Battery discharging under normal operation
BATT 1 OFF BUS	Battery 1 offline
BATT 2 OFF BUS	Battery 2 offline
BATT EXCEEDANCE	Battery voltage has exceeded 29 VDC
BLEED 1 FAIL	A bleed failure has been detected. Bleed is no longer available.
BLEED 2 FAIL	A bleed failure has been detected. Bleed is no longer available.
BLEED 1 LEAK	A leakage has been detected in the Bleed 1 line.
BLEED 2 LEAK	A leakage has been detected in the Bleed 2 line.
BRK FAIL	Main brake system lost
CAB DELTA-P FAIL	Excessive cabin pressure differential
CLUTCH PIT FAIL	Slip clutch maintenance test failed
CLUTCH ROL FAIL	Slip clutch maintenance test failed
CLUTCH YAW FAIL	Slip clutch maintenance test failed
CONFIG MDL FAIL	Master Configuration Module failed or non-communicative
D-I WINGSTB FAIL	Deice system in wings and tail failure
DOORBAG AFT OPEN	Crew baggage door open
DOORBAG FWD OPEN	Forward baggage door open
DUCT 1 OVERTEMP	An overheat condition has been detected at the Bleed 1 line.
DUCT 2 OVERTEMP	An overheat condition has been detected at the Bleed 2 line.
E1 CTRL FAULT	Engine 1 responds slowly or not at all to thrust commands
E2 CTRL FAULT	Engine 2 responds slowly or not at all to thrust commands
E1 FAIL	Uncommanded shutdown detected for engine 1
E2 FAIL	Uncommanded shutdown detected for engine 2
E1 FIRE DET FAIL	Fire detection system failure in engine 1
E2 FIRE DET FAIL	Fire detection system failure in engine 2
E1 FIREX FAIL	Fire extinguisher failure in engine 1
E2 FIREX FAIL	Fire extinguisher failure in engine 2
E1 FUEL IMP BYP	Fuel filter impending bypass condition for engine 1
E2 FUEL IMP BYP	Fuel filter impending bypass condition for engine 2
E1 TLA FAIL	Thrust Lever Angle failure for engine 1
E2 TLA FAIL	Thrust Lever Angle failure for engine 2
E1 TT0 HTR FAIL	Heater failure in engine 1
E2 TT0 HTR FAIL	Heater failure in engine 2
EBAY OVHT	Electrical bay over temperature
EMER BRK LO PRES	Emergency accumulator pressure below 1800 psi. Few emergency brake functions available.

Message	Description
ENG NO TO DATA	No takeoff data entered
FLAP FAIL	Loss of flaps deployment or retraction
FUEL 1 LO LEVEL	Low fuel level in tank 1
FUEL 2 LO LEVEL	Low fuel level in tank 2
FUEL 1 LO PRES	Fuel pressure low in engine 1 feed line
FUEL 2 LO PRES	Fuel pressure low in engine 2 feed line
FUEL 1 SOV FAIL	Fuel feed SOV 1 closed or unavilable
FUEL 2 SOV FAIL	Fuel feed SOV 2 closed or unavilable
FUEL IMBALANCE	Fuel is imbalanced between the tanks
FUEL OVERFILL	Fuel tank overfilled
FUEL XFR FAIL	Fuel transfer failure
GEN 1 OFF BUS	Generator 1 offline
GEN 2 OFF BUS	Generator 2 offline
GEN OVLD	Generator(s) overload
GEN START FAULT	Generator start fault
GIA 1 FAIL	Failure of GIA 1
GIA 2 FAIL	Failure of GIA 2
GIA 1 OVHT	GIA 1 over temperature
GIA 2 OVHT	GIA 2 over temperature
HYD HI TEMP	Hydraulic temperature high
HYD LO PRES	Hydraulic pressure low
LG WOW SYS FAIL	Landing gear weight-on-wheels system failure
MFD CONFIG	MFD configuration error
MFD FAULT	Fault with the MFD
MFD OVHT	MFD over temperature
OXY LO PRES	Oxygen system pressure low
PARK BRK NOT REL	Parking brake not released
PAX OXY NO PRES	Cabin altitude high and passenger oxygen system pressure low
PFD 1 CONFIG	PFD 1 configuration error
PFD 2 CONFIG	PFD 2 configuration error
PFD 1 FAULT	Fault with PFD 1
PFD 2 FAULT	Fault with PFD 2
PFD 1 OVHT	PFD 1 over temperature
PFD 2 OVHT	PFD 2 over temperature
PRESN AUTO FAIL	Loss of automatic mode
PTRIM BKP FAIL	Loss of backup pitch trim actuator
PTRIM DISCONNECT	Pitch trim disconnected
PTRIM NML FAIL	Loss of normally-operating pitch trim actuator

Message	Description
PUSHER FAIL	Stall Warning & Protection System pusher has failed
PUSHER OFF	Stall Warning Pusher is off
STBY HTR FAIL	Failure of standby heater
SWPS FAIL	Stall Warning & Protection System inoperative
SWPS FAULT	Stall Warning & Protection System activation angles anticipated to conservative settings
SWPS HTR 1 FAIL	Stall Warning & Protection System heater 1 failure
SWPS HTR 2 FAIL	Stall Warning & Protection System heater 2 failure
SWPS UNTESTED	Stall Warning & Protection System has not been tested
TCAS FAIL	TCAS I or TCAS II is unavailable
WSHLD 1 HTR FAIL	Windshield 1 heater failure
WSHLD 2 HTR FAIL	Windshield 2 heater failure
YD FAIL	Loss of yaw damper function
YD MISTRIM	Airplane mistrimmed in yaw axis when YD is engaged

Advisory Messages

See the Airplane Flight Manual (AFM) for recommended pilot actions.

Message	Description
A-I E1 ON	De-ice system on in engine 1
A-I E2 ON	De-ice system on in engine 2
ADS 1 HTR FAULT	Fault in ADS 1 heater
ADS 2 HTR FAULT	Fault in ADS 2 heater
ADS-AOA HTR ON	ADS - Angle-of-attack heater on
AHRS 1 FAULT	Fault with AHRS 1
AHRS 2 FAULT	Fault with AHRS 2
AUDIO PNL1 FAULT	Fault with audio panel 1
AUDIO PNL2 FAULT	Fault with audio panel 2
AURAL WRN FAULT	Partial loss of aural warning function
AVNX FAN FAIL	Avionics fan failure
BLEED 1 OFF	Bleed pressure regulator 1 and shut-off valve closed
BLEED 2 OFF	Bleed pressure regulator 2 and shut-off valve closed
CLUTCH PIT PASS	Pitch slip clutch maintenance test passed
CLUTCH PIT PROG	Pitch slip clutch maintenance test in progress
CLUTCH ROL PASS	Roll slip clutch maintenance test passed
CLUTCH ROL PROG	Roll slip clutch maintenance test in progress
CLUTCH YAW PASS	Yaw slip clutch maintenance test passed
CLUTCH YAW PROG	Yaw slip clutch maintenance test in progress

Message	Description
DC BUS 1 OFF	DC bus 1 offline
DC BUS 2 OFF	DC bus 2 offline
D-I WINGSTB ON	Deice system in wings and tail ON
E1 CHIP DETECTED	Chip detected by engine 1 oil chip detector
E2 CHIP DETECTED	Chip detected by engine 2 oil chip detector
E1 FADEC FAULT	FADEC fault in engine 1
E2 FADEC FAULT	FADEC fault in engine 2
ELEC SYS FAULT	Electrical system fault
EMER BRK CHECK	Emergency accumulator pressure between 1800 and 2300 psi. System still operative, but servicing will be necessary in the near future.
EMER BUS OFF	Emergency bus OFF
ENG EXCEEDANCE	Limit exceeded in engine(s) during flight
ENG FIREX DISCH	Engine fire extinguisher discharge
ENG NO DISPATCH	FADEC detected no dispatch fault condition in engine(s)
FLAP NOT AVAIL	Flaps not available
FUEL EQUAL	Fuel quantity asymmetry corrected; XFEED SOV is open
FUEL1 FEED FAULT	DC pump on due to low fuel pressure
FUEL2 FEED FAULT	DC pump on due to low fuel pressure
FUEL 1 PSW FAIL	Fuel pressure switch stuck in "high" position
FUEL 2 PSW FAIL	Fuel pressure switch stuck in "high" position
FUEL PUMP 1 FAIL	Fuel pump 1 failure
FUEL PUMP 2 FAIL	Fuel pump 2 failure
GEA 1 FAIL	Failure of GEA 1
GEA 2 FAIL	Failure of GEA 2
GEA 3 FAIL	Failure of GEA 3
GPU CONNECTED	Ground power unit connected to the aircraft
GSD FAIL	Failure of the GSD
HSDB FAULT	An LRU has stopped communicating over an HSDB
HSDB SW REV POS	HSDB switch in reversionary position
MFD FAN FAIL	Failure of MFD fan
OXY SW NOT AUTO	Oxygen system switch in manual mode
PFD 1 FAN FAIL	Failure of PFD 1 fan
PFD 2 FAN FAIL	Failure of PFD 2 fan
PTRIM SW1 FAIL	Failure of pilot pitch trim switch
PTRIM SW2 FAIL	Failure of copilot pitch trim switch
RAM AIR FAIL	Ram air valve failure
SHED BUS OFF	Shed bus off
SWPS ICE SPEED	Stall Warning System activation angles anticipated due to ice conditions

COMPARATOR ANNUNCIATIONS

Note that operating the system in the vicinity of metal buildings or other metal structures can cause sensor differences that may result in nuisance miscompare annunciations during start up, shut down, or while taxiing.

Comparator Window Text	Condition
ALT MISCOMP	Difference in altitude sensors is ≥ 200 ft.
IAS MISCOMP	If both airspeed sensors detect < 35 knots, this is inhibited.
	If either airspeed sensor detects ≥ 35 knots, and the difference in sensors is > 15 kts.
	If either airspeed sensor detects ≥ 80 knots, and the difference in sensors is > 10 kts.
HDG MISCOMP	Difference in heading sensors is > 10 degrees.
PIT MISCOMP	Difference in pitch sensors is > 5 degrees.
ROL MISCOMP	Difference in roll sensors is > 6 degrees.
ALT NO COMP	No data from one or both altitude sensors.
IAS NO COMP	No data from one or both airspeed sensors.
HDG NO COMP	No data from one or both heading sensors.
PIT NO COMP	No data from one or both pitch sensors.
ROL NO COMP	No data from one or both roll sensors..

REVERSIONARY SENSOR ANNUNCIATIONS

Reversionary Sensor Window Text	Condition
BOTH ON ADC1	Both PFDs are displaying data from the number one Air Data Computer.
BOTH ON ADC2	Both PFDs are displaying data from the number two Air Data Computer.
BOTH ON ADCSTBY	Both PFDs are displaying data from the standby air data input.
BOTH ON AHRS1	Both PFDs are displaying data from the number one Attitude & Heading Reference System.
BOTH ON AHRS2	Both PFDs are displaying data from the number two Attitude & Heading Reference System.
BOTH ON ATTSTBY	Both PFDs are displaying data from the standby attitude and heading reference input.

Reversionary Sensor Window Text	Condition
BOTH ON GPS1	Both PFDs are displaying data from the number one GPS receiver.
BOTH ON GPS2	Both PFDs are displaying data from the number two GPS receiver.
USING ADC1	PFD2 is displaying data from the #1 Air Data Computer.
USING ADC2	PFD1 is displaying data from the #2 Air Data Computer.
USING ADCSTBY	PFD1 or PFD2 is displaying data from the standby air data input.
USING AHRS1	PFD2 is displaying data from the #1 AHRS.
USING AHRS2	PFD1 is displaying data from the #2 AHRS.
USING ATTSTBY	PFD1 or PFD2 is displaying data from the standby attitude and heading reference input.
USING GPS1	PFD2 is displaying data from the #1 GPS.
USING GPS2	PFD1 is displaying data from the #2 GPS.

TAWS-A ALERTS

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

Alert Type	PFD/MFD TAWS-A Page Annunciation	MFD Map Page Pop-Up Alert	Aural Message
Reduced Required Obstacle Clearance Caution (ROC)	TERRAIN	CAUTION - OBSTACLE	"Caution, Obstacle; Caution, Obstacle"
Imminent Obstacle Impact Caution (IOI)	TERRAIN	CAUTION - OBSTACLE	"Caution, Obstacle; Caution, Obstacle"
Premature Descent Alert Caution (PDA)	TERRAIN	TOO LOW - TERRAIN	"Too Low, Terrain"
Excessive Descent Rate Caution (EDR)	TERRAIN	SINK RATE	"Sink Rate"
Excessive Closure Rate Caution (ECR)	TERRAIN	TERRAIN	"Terrain, Terrain"
Negative Climb Rate Caution (NCR)	TERRAIN	DON'T SINK	"Don't Sink"
Flight Into Terrain High Speed Caution (FIT)	TERRAIN	TOO LOW - TERRAIN	"Too Low, Terrain"
Flight Into Terrain Gear Caution (FIT)	TERRAIN	TOO LOW - GEAR	"Too Low, Gear"
Flight Into Terrain Flaps Caution (FIT)	TERRAIN	TOO LOW - FLAPS	"Too Low, Flaps"
Flight Into Terrain Takeoff Caution (FIT)	TERRAIN	TOO LOW - TERRAIN	"Too Low, Terrain"
Glide Slope/Glide Path Deviation Caution (GSD) (depends on approach type)	GLIDESLOPE or GLIDEPATH	GLIDESLOPE or GLIDEPATH	"Glide Slope" or "Glide Path"
Altitude Voice Callout (VCO)	None	None	"Five-Hundred" "Four-Hundred" "Three-Hundred" "Two-Hundred" "One-Hundred"

TAWS-A System Status Annunciations

Alert Type	PFD/MFD TAWS-A Page Annunciation	Additional TAWS-A Page Annunciation	Aural Message
TAWS System Fail	TAWS FAIL	TAWS FAIL	"TAWS System Failure"
GPWS System Fail	GPWS FAIL	None	"GPWS System Failure"
System Test in progress	TAWS TEST	TAWS TEST	None
System Test pass	None	None	"TAWS System Test OK"
Terrain or Obstacle database unavailable, invalid software configuration, or audio unavailable.	TAWS FAIL	TAWS FAIL	"TAWS System Failure"
GPWS System Fail, Radar Altimeter invalid, Altitude or Vertical Speed unavailable	GPWS FAIL	None	"GPWS System Failure"
No GPS position, excessively degraded GPS signal	TAWS N/A	NO GPS POSITION	"TAWS Not Available" "TAWS Available" will be heard when sufficient GPS signal is received.
Out of database coverage area	TAWS N/A	None	"TAWS Not Available" "TAWS Available" when aircraft enters database coverage area.

TAWS-A Alert Availability

TAWS-A Status Annunciation Displayed	TAWS-A Alert Type Available										
	RTC	ITI	ROC	IOI	PDA	EDR	ECR	NCR	FIT	GSD	VCO
TAWS TEST	No	No	No	No	No	No	No	No	No	No	No
TAWS N/A	No	No	No	No	No	Yes	Yes	Yes	Yes	*Yes	**Yes
TAWS FAIL	No	No	No	No	No	Yes	Yes	Yes	Yes	*Yes	**Yes
TAWS INH	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
GPWS FAIL	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No	**Yes
GS INH	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
GP INH	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
FLAP OVR	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	#Yes	Yes	Yes

* Alert available unless GPS signal is invalid or unavailable.

** VCO alerts are not issued if both TAWS and GPWS systems have failed or are not available.

\# Only the portions of FIT Alerting based on flap position are disabled when FLAP OVR annunciation is displayed.

TAWS-B ALERTS

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

TAWS-B System Status Annunciations

Alert Type	PFD/MFD TAWS-A Page Annunciation	Additional TAWS-A Page Annunciation	Aural Message
TAWS System Fail	TAWS FAIL	TAWS FAIL	"TAWS System Failure"
GPWS System Fail	GPWS FAIL	None	"GPWS System Failure"
System Test in progress	TAWS TEST	TAWS TEST	None
System Test pass	None	None	"TAWS System Test OK"
Terrain or Obstacle database unavailable, invalid software configuration, or audio unavailable.	TAWS FAIL	TAWS FAIL	"TAWS System Failure"
No GPS position, excessively degraded GPS signal	TAWS N/A	NO GPS POSITION	"TAWS Not Available" "TAWS Available" will be heard when sufficient GPS signal is received.
Out of database coverage area	TAWS N/A	None	"TAWS Not Available" "TAWS Available" when aircraft enters database coverage area.

TCAS I ALERTS AND ANNUNCIATIONS

Mode	Traffic Mode Annunciation (Traffic Map Page)	Traffic Display Status Icon (Other Maps)
TCAS I Self-test Initiated	TEST (also shown in white in center of page)	
TCAS I Operating	OPERATING	
TCAS I Standby	STANDBY (also shown in white in center of page)	
TCAS I Failed	FAIL	

TCAS I Modes

Traffic Map Page Annunciation	Description
NO DATA	Data is not being received from the TCAS I unit
DATA FAILED	Data is being received from the TCAS I unit, but the unit is self-reporting a failure
FAILED	Incorrect data format received from the TCAS I unit

TCAS I Failure Annunciations

Traffic Status Banner Annunciation	Description
TA OFF SCALE	A Traffic Advisory is outside the selected display range*. Annunciation is removed when traffic comes within the selected display range.
TA X.X ± XX ↕	System cannot determine bearing of Traffic Advisory**. Annunciation indicates distance in nm, altitude separation in hundreds of feet, and altitude trend arrow (climbing/descending).
TRFC FAIL	TCAS I unit has failed (unit is self-reporting a failure or sending incorrectly formatted data)
NO TCAS DATA	Data is not being received from the TCAS I unit

**Shown as symbol on Traffic Map Page*
***Shown in center of Traffic Map Page*

TCAS I Traffic Status Annunciations

TCAS II ALERTS AND ANNUNCIATIONS

Mode	PFD Mode Annunciation	MFD Traffic Map Page Mode Annunciation	Traffic Display Status Icon (Other Maps)
TCAS II Self-test Initiated (TEST)	None	TEST ('TEST MODE' also shown in white on top center of page)	
Traffic Advisory and Resolution Advisory (TA/RA)	None	TA/RA	
Traffic Advisory Only (TA ONLY)	TA ONLY	TA ONLY	
TCAS II Standby (TFC STBY)	TCAS STBY	STANDBY or STANDBY* (also shown in white in center of page)	
TCAS II Failed	TCAS FAIL	FAIL	

** Annunciation appears yellow while in flight.*

TCAS II Modes

Traffic Map Page Annunciation	Description
NO DATA	Data is not being received from the TCAS II unit
DATA FAILED	Data is being received from the TCAS II unit, but the unit is self-reporting a failure
FAILED	Incorrect data format received from the TCAS II unit

TCAS II Failure Annunciations

Traffic Status Banner Annunciation	Description
RA OFF SCALE	A Resolution Advisory is outside the selected display range*. Annunciation is removed when traffic comes within the selected display range
TA OFF SCALE	A Traffic Advisory is outside the selected display range*. Annunciation is removed when traffic comes within the selected display range.
RA X.X ± XX ↕	System cannot determine bearing of Resolution Advisory**. Annunciation indicates distance in nm, altitude separation in hundreds of feet, and altitude trend arrow (climbing/descending).
TA X.X ± XX ↕	System cannot determine bearing of Traffic Advisory**. Annunciation indicates distance in nm, altitude separation in hundreds of feet, and altitude trend arrow (climbing/descending).
TRFC FAIL	TCAS II unit has failed (unit is self-reporting a failure or sending incorrectly formatted data)
NO TCAS DATA	Data is not being received from the TCAS II unit

**Shown as symbol on Traffic Map Page*
***Shown in center of Traffic Map Page*

TCAS II Traffic Status Annunciations

OTHER PRODIGY™ AURAL ALERTS

Message	Priority	Description
"Autopilot"	Warning	Warning – Autopilot is disengaged Single alert for manual AP disengagement Continuous alert for automatic AP disengagement; cancelled with **AP DISC** Switch
"Cabin"		High cabin altitude
"Fire, Fire"		Engine fire
"Flight Director"		Flight director has reverted to pitch or roll default mode
"High Speed"		Maximum operating speed exceeded
"Landing Gear"		Gear up in landing condition
"Minimums, minimums"		The aircraft has descended below the preset barometric minimum descent altitude.
"No Takeoff Brake"		No Takeoff Configuration due to brake status
"No Takeoff Flaps"		No Takeoff Configuration due to flap status
"No Takeoff Trim"		No Takeoff Configuration due to trim status
"Stall, Stall"		Airplane in stall condition
"Timer Expired"		Countdown timer on the PFD has reached zero
"Thrust Thrust"		CSC disengaged abnormally
"Altitude"	Advisory	Aircraft has deviated ±200 feet of the selected altitude
"Traffic"		The Traffic Information Service (TIS) has issued a Traffic Advisory alert.
"Trim Trim Trim"		Trim switch malfunction
"Vertical track"		The aircraft is one minute from Top of Descent. Issued only when vertical navigation is enabled.
"Aural Warning OK"	Status	Aural warning system test passes
"Aural Warning One Channel"		Aural warning system test detects failure in one channel
"Incoming Call		Satellite telephone is receiving a call
"SelCal"		Incoming communication through the HF radio
"Takeoff OK"		Takeoff configuration test passed
"TIS not available"		The aircraft is outside the Traffic Information Service (TIS) coverage area.

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.

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

MFD & PFD MESSAGE ADVISORIES

Message	Comments
DATA LOST – Pilot stored data was lost. Recheck settings.	The pilot profile data was lost. System reverts to default pilot profile and settings. The pilot may reconfigure the MFD & PFDs with preferred settings, if desired.
XTALK ERROR – A flight display crosstalk error has occurred.	The MFD and PFDs are not communicating with each other. The system should be serviced.
PFD1 SERVICE – PFD1 needs service. Return unit for repair.	The PFD and/or MFD self-test has detected a problem. The system should be serviced.
PFD2 SERVICE – PFD2 needs service. Return unit for repair.	
MFD1 SERVICE – MFD1 needs service. Return unit for repair.	
MANIFEST – PFD1 software mismatch, communication halted.	The PFD and/or MFD has incorrect software installed. The system should be serviced.
MANIFEST – PFD2 software mismatch, communication halted.	
MANIFEST – MFD1 software mismatch, communication halted.	
PFD1 CONFIG – PFD1 config error. Config service req'd.	The PFD configuration settings do not match backup configuration memory. The system should be serviced.
PFD2 CONFIG – PFD2 config error. Config service req'd.	
MFD1 CONFIG – MFD1 config error. Config service req'd.	The MFD configuration settings do not match backup configuration memory. The system should be serviced.
SW MISMATCH – GDU software version mismatch. Xtalk is off.	The MFD and PFDs have different software versions installed. The system should be serviced.

MFD & PFD MESSAGE ADVISORIES (CONT.)

Message	Comments
PFD1 COOLING – PFD1 has poor cooling. Reducing power usage.	The PFD and/or MFD is overheating and is reducing power consumption by dimming the display. If problem persists, the system should be serviced.
PFD2 COOLING – PFD2 has poor cooling. Reducing power usage.	
MFD1 COOLING – MFD1 has poor cooling. Reducing power usage.	
PFD1 KEYSTK – PFD1 [key name] Key is stuck.	A key is stuck on the PFD and/or MFD bezel. Attempt to free the stuck key by pressing it several times. The system should be serviced if the problem persists.
PFD2 KEYSTK – PFD2 [key name] Key is stuck.	
MFD1 KEYSTK – MFD [key name] Key is stuck.	
CNFG MODULE – PFD1 configuration module is inoperative.	The PFD1 configuration module backup memory has failed. The system should be serviced.
PFD1 VOLTAGE – PFD1 has low voltage. Reducing power usage	The PFD1 voltage is low. The system should be serviced.
PFD2 VOLTAGE – PFD2 has low voltage. Reducing power usage	The PFD2 voltage is low. The system should be serviced.
MFD1 VOLTAGE – MFD1 has low voltage. Reducing power usage	The MFD voltage is low. The system should be serviced.

DATABASE MESSAGE ADVISORIES

Message	Comments
MFD1 DB ERR – MFD1 navigation database error exists.	The MFD and/or PFD detected a failure in the navigation database. Attempt to reload the navigation database. If problem persists, the system should be serviced.
PFD1 DB ERR – PFD1 navigation database error exists.	
PFD2 DB ERR – PFD2 navigation database error exists.	

DATABASE MESSAGE ADVISORIES (CONT.)

Message	Comments
MFD1 DB ERR – MFD1 basemap database error exists.	The MFD and/or PFD detected a failure in the basemap database.
PFD1 DB ERR – PFD1 basemap database error exists.	
PFD2 DB ERR – PFD2 basemap database error exists.	
MFD1 DB ERR – MFD1 terrain database error exists.	The MFD and/or PFD detected a failure in the terrain database. Ensure that the terrain card is properly inserted in display. Replace terrain card. If problem persists, the system should be serviced.
PFD1 DB ERR – PFD1 terrain database error exists.	
PFD2 DB ERR – PFD2 terrain database error exists.	
MFD1 DB ERR – MFD1 terrain database missing.	The terrain database is present on another LRU, but is missing on the specified LRU.
PFD1 DB ERR – PFD1 terrain database missing.	
PFD2 DB ERR – PFD2 terrain database missing.	
MFD1 DB ERR – MFD1 obstacle database error exists.	The MFD and/or PFD detected a failure in the obstacle database. Ensure that the data card is properly inserted. Replace data card. If problem persists, the system should be serviced.
PFD1 DB ERR – PFD1 obstacle database error exists.	
PFD2 DB ERR – PFD2 obstacle database error exists.	
MFD1 DB ERR – MFD1 obstacle database missing.	The obstacle database is present on another LRU, but is missing on the specified LRU.
PFD1 DB ERR – PFD1 obstacle database missing.	
PFD2 DB ERR – PFD2 obstacle database missing.	

DATABASE MESSAGE ADVISORIES (CONT.)

Message	Comments
MFD1 DB ERR – MFD1 airport terrain database error exists.	The MFD and/or PFD detected a failure in the airport terrain database. Ensure that the data card is properly inserted. Replace data card. If problem persists, the system should be serviced.
PFD1 DB ERR – PFD1 airport terrain database error exists.	
PFD2 DB ERR – PFD2 airport terrain database error exists.	
MFD1 DB ERR – MFD1 airport terrain database missing.	The airport terrain database is present on another LRU, but is missing on the specified LRU.
PFD1 DB ERR – PFD1 airport terrain database missing.	
PFD2 DB ERR – PFD2 airport terrain database missing.	
MFD1 DB ERR – MFD1 Safe Taxi database error exists.	The MFD and/or PFD detected a failure in the Safe Taxi database. Ensure that the data card is properly inserted. Replace data card. If problem persists, the system should be serviced.
PFD1 DB ERR – PFD1 Safe Taxi database error exists.	
PFD2 DB ERR – PFD2 Safe Taxi database error exists.	
MFD1 DB ERR – MFD1 Chartview database error exists.	The MFD detected a failure in the ChartView database (optional feature). Ensure that the data card is properly inserted. Replace data card. If problem persists, the system should be serviced.
MFD1 DB ERR – 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.
MFD1 DB ERR – MFD1 Airport Directory database error exists.	The MFD detected a failure in the Airport Directory database. Ensure that the data card is properly inserted. Replace data card. If problem persists, the system should be serviced.

DATABASE MESSAGE ADVISORIES (CONT.)

Message	Comments
DB MISMATCH – Navigation database mismatch. Xtalk is off.	The PFDs and MFD have different navigation database versions or types (Americas, European, etc.) installed. Crossfill is off. Install correct navigation database version or type in all displays.
DB MISMATCH – Standby Navigation database mismatch.	The PFDs and MFD have different standby navigation database versions or types (Americas, European, etc.) installed. Install correct standby navigation database version or type in all displays.
DB MISMATCH – Terrain database mismatch.	The PFDs and MFD have different terrain database versions or types installed. Install correct terrain database version or type in all displays.
DB MISMATCH – Obstacle database mismatch.	The PFDs and MFD have different obstacle database installed. Install correct obstacle database in all displays.
DB MISMATCH – Airport Terrain database mismatch.	The PFDs and MFD have different airport terrrain databases installed. Install correct airport terrain database in all displays.
NAV DB UPDATED – Active navigation database updated.	System has updated the active navigation database from the standby navigation database.
TERRAIN DSP – [PFD1, PFD2 or MFD1] Terrain awareness display unavailable.	One of the terrain, airport terrain, or obstacle databases required for TAWS in the specified PFD or MFD is missing or invalid.

GMA 1347D MESSAGE ADVISORIES

Message	Comments
GMA1 FAIL – GMA1 is inoperative.	The audio panel self-test has detected a failure. The audio panel is unavailable. The system should be serviced.
GMA2 FAIL – GMA2 is inoperative.	
GMA XTALK – GMA crosstalk error has occurred.	An error has occurred in transferring data between the two GMAs. The system should be serviced.

GMA 1347D MESSAGE ADVISORIES (CONT.)

Message	Comments
GMA1 CONFIG – GMA1 config error. Config service req'd.	The audio panel configuration settings do not match backup configuration memory. The system should be serviced.
GMA2 CONFIG – GMA2 config error. Config service req'd.	
MANIFEST – GMA1 software mismatch, communication halted.	The audio panel has incorrect software installed. The system should be serviced.
MANIFEST – GMA2 software mismatch, communication halted.	
GMA1 SERVICE – GMA1 needs service. Return unit for repair.	The audio panel self-test has detected a problem in the unit. Certain audio functions may still be available, and the audio panel may still be usable. The system should be serviced when possible.
GMA2 SERVICE – GMA2 needs service. Return unit for repair.	

GIA 63W MESSAGE ADVISORIES

Message	Comments
GIA1 CONFIG – GIA1 config error. Config service req'd.	The GIA1 and/or GIA2 configuration settings do not match backup configuration memory. The system should be serviced.
GIA2 CONFIG – GIA2 config error. Config service req'd.	
GIA1 CONFIG – GIA1 audio config error. Config service req'd.	The GIA1 and/or GIA2 have an error in the audio configuration. The system should be serviced.
GIA2 CONFIG – GIA2 audio config error. Config service req'd.	
GIA1 COOLING – GIA1 temperature too low.	The GIA1 and/or GIA2 temperature is too low to operate correctly. Allow units to warm up to operating temperature.
GIA2 COOLING – GIA2 temperature too low.	
GIA1 COOLING – GIA1 over temperature.	The GIA1 and/or GIA2 temperature is too high. If problem persists, the system should be serviced.
GIA2 COOLING – GIA2 over temperature.	

GIA 63W MESSAGE ADVISORIES (CONT.)

Message	Comments
GIA1 SERVICE – GIA1 needs service. Return the unit for repair.	The GIA1 and/or GIA2 self-test has detected a problem in the unit. The system should be serviced.
GIA2 SERVICE – GIA2 needs service. Return the unit for repair.	
HW MISMATCH – GIA hardware mismatch. GIA1 communication halted.	A GIA mismatch has been detected, where only one is WAAS capable.
HW MISMATCH – GIA hardware mismatch. GIA2 communication halted.	
MANIFEST – GIA1 software mismatch, communication halted.	The GIA1 and/or GIA 2 has incorrect software installed. The system should be serviced.
MANIFEST – GIA2 software mismatch, communication halted.	
MANIFEST – GFC software mismatch, communication halted.	Incorrect servo software is installed, or gain settings are incorrect.
COM1 TEMP – COM1 over temp. Reducing transmitter power.	The system has detected an over temperature condition in COM1 and/or COM2. The transmitter is operating at reduced power. If the problem persists, the system should be serviced.
COM2 TEMP – COM2 over temp. Reducing transmitter power.	
COM1 SERVICE – COM1 needs service. Return unit for repair.	The system has detected a failure in COM1 and/or COM2. COM1 and/or COM2 may still be usable. The system should be serviced when possible.
COM2 SERVICE – COM2 needs service. Return unit for repair.	
COM1 PTT – COM1 push-to-talk key is stuck.	The COM1 and/or COM2 external push-to-talk switch is stuck in the enable (or "pressed") position. Press the PTT switch again to cycle its operation. If the problem persists, the system should be serviced.
COM2 PTT – COM2 push-to-talk key is stuck.	
COM1 RMT XFR – COM1 remote transfer key is stuck.	The COM1 and/or COM2 transfer switch is stuck in the enabled (or "pressed") position. Press the transfer switch again to cycle its operation. If the problem persists, the system should be serviced.
COM2 RMT XFR – COM2 remote transfer key is stuck.	

GIA 63W MESSAGE ADVISORIES (CONT.)

Message	Comments
LOI – GPS integrity lost. Crosscheck with other NAVS.	GPS integrity is insufficient for the current phase of flight.
GPS NAV LOST – Loss of GPS navigation. Insufficient satellites.	Loss of GPS navigation due to insufficient satellites.
GPS NAV LOST – Loss of GPS navigation. Position error.	Loss of GPS navigation due to position error.
GPS NAV LOST – Loss of GPS navigation. GPS fail.	Loss of GPS navigation due to GPS failure.
ABORT APR – Loss of GPS navigation. Abort approach.	Abort approach due to loss of GPS navigation.
APR DWNGRADE – Approach downgraded.	Vertical guidance generated by WAAS is unavailable, use LNAV only minimums.
TRUE APR – True north approach. Change HDG reference to TRUE.	Displayed after passing the first waypoint of a true north approach when the nav angle is set to 'AUTO'.
GPS1 SERVICE – GPS1 needs service. Return unit for repair.	A failure has been detected in the GPS1 and/ or GPS2 receiver. The receiver may still be available. The system should be serviced.
GPS2 SERVICE – GPS2 needs service. Return unit for repair.	
NAV1 SERVICE – NAV1 needs service. Return unit for repair.	A failure has been detected in the NAV1 and/ or NAV2 receiver. The receiver may still be available. The system should be serviced.
NAV2 SERVICE – NAV2 needs service. Return unit for repair.	
NAV1 RMT XFR – NAV1 remote transfer key is stuck.	The remote NAV1 and/or NAV2 transfer switch is stuck in the enabled (or "pressed") state. Press the transfer switch again to cycle its operation. If the problem persists, the system should be serviced.
NAV2 RMT XFR – NAV2 remote transfer key is stuck.	
G/S1 FAIL – G/S1 is inoperative.	A failure has been detected in glideslope receiver 1 and/or receiver 2. The system should be serviced.
G/S2 FAIL – G/S2 is inoperative.	

GIA 63W MESSAGE ADVISORIES (CONT.)

Message	Comments
G/S1 SERVICE – G/S1 needs service. Return unit for repair.	A failure has been detected in glideslope receiver 1 and/or receiver 2. The receiver may still be available. The system should be serviced when possible.
G/S2 SERVICE – G/S2 needs service. Return unit for repair.	

GSD 41 MESSAGE ADVISORIES

Message	Comments
GSD1 CONFIG – GSD1 config error. Config service req'd.	GSD1 and the CDU have different copies of the GSD1 configuration.
GSD1 COOLING – GSD1 temperature too low.	GSD1 is reporting a low temperature condition.
GSD1 COOLING – GSD1 over temperature.	GSD1 is reporting an over-temperature condition.
GSD1 SERVICE – GSD1 needs service. Return unit for repair.	GSD1 is reporting an internal error condition. The GSD may still be usable.
MANIFEST – GSD1 software mismatch. Communication halted.	GSD1 has incorrect software installed. The system should be serviced.

GEA 71 MESSAGE ADVISORIES

Message	Comments
GEA1 CONFIG – GEA1 config error. Config service req'd.	The GEA1 configuration settings do not match those of backup configuration memory. The system should be serviced.
GEA2 CONFIG – GEA2 config error. Config service req'd.	The GEA2 configuration settings do not match those of backup configuration memory. The system should be serviced.
GEA3 CONFIG – GEA3 config error. Config service req'd.	The GEA3 configuration settings do not match those of backup configuration memory. The system should be serviced.
MANIFEST – GEA1 software mismatch, communication halted.	The #1 GEA 71 has incorrect software installed. The system should be serviced.

GEA 71 MESSAGE ADVISORIES (CONT.)

Message	Comments
MANIFEST – GEA2 software mismatch, communication halted.	The #2 GEA 71 has incorrect software installed. The system should be serviced.
MANIFEST – GEA3 software mismatch, communication halted.	The #3 GEA 71 has incorrect software installed. The system should be serviced.

GTX 33/33D MESSAGE ADVISORIES

Message	Comments
XPDR1 CONFIG – XPDR1 config error. Config service req'd.	The transponder configuration settings do not match those of backup configuration memory. The system should be serviced.
XPDR2 CONFIG – XPDR2 config error. Config service req'd.	The transponder configuration settings do not match those of backup configuration memory. The system should be serviced.
MANIFEST – GTX1 software mismatch, communication halted.	The transponder has incorrect software installed. The system should be serviced.
MANIFEST – GTX2 software mismatch, communication halted.	The transponder has incorrect software installed. The system should be serviced.
XPDR1 SRVC – XPDR1 needs service. Return unit for repair.	The #1 transponder should be serviced when possible.
XPDR2 SRVC – XPDR2 needs service. Return unit for repair.	The #2 transponder should be serviced when possible.
XPDR1 FAIL – XPDR1 is inoperative.	There is no communication with the #1 transponder.
XPDR2 FAIL – XPDR2 is inoperative.	There is no communication with the #2 transponder.

GRS 77 MESSAGE ADVISORIES

Message	Comments
AHRS1 TAS – AHRS1 not receiving valid 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.
AHRS2 TAS – AHRS2 not receiving valid airspeed.	The #2 AHRS is not receiving true airspeed from the air data computer. The AHRS relies on GPS information to augment the lack of airspeed. The system should be serviced.
AHRS1 GPS – AHRS1 using backup GPS source.	The #1 AHRS is using the backup GPS path. Primary GPS path has failed. The system should be serviced when possible.
AHRS2 GPS – AHRS2 using backup GPS source.	The #2 AHRS is using the backup GPS path. Primary GPS path has failed. The system should be serviced when possible.
AHRS1 GPS – AHRS1 not receiving any GPS information.	The #1 AHRS is not receiving any or any useful GPS information. Check AFMS limitations. The system should be serviced.
AHRS2 GPS – AHRS2 not receiving any GPS information.	The #2 AHRS is not receiving any or any useful GPS information. Check AFMS limitations. The system should be serviced.
AHRS1 GPS – AHRS1 not receiving backup GPS information.	The #1 AHRS is not receiving backup GPS information. The system should be serviced.
AHRS2 GPS – AHRS2 not receiving backup GPS information.	The #2 AHRS is not receiving backup GPS information. The system should be serviced.
AHRS1 GPS – AHRS1 operating exclusively in no-GPS mode.	The #1 AHRS is operating exclusively in no-GPS mode. The system should be serviced.
AHRS2 GPS – AHRS2 operating exclusively in no-GPS mode.	The #2 AHRS is operating exclusively in no-GPS mode. The system should be serviced.
AHRS MAG DB – AHRS magnetic model database version mismatch.	The #1 AHRS and #2 AHRS magnetic model database versions do not match.
AHRS1 SRVC – AHRS1 Magnetic-field model needs update.	The #1 AHRS earth magnetic field model is out of date. Update magnetic field model when practical.

GRS 77 MESSAGE ADVISORIES (CONT.)

Message	Comments
AHRS2 SRVC – AHRS2 Magnetic-field model needs update.	The #2 AHRS earth magnetic field model is out of date. Update magnetic field model when practical.
GEO LIMITS – AHRS1 too far North/South, no magnetic compass.	The aircraft is outside geographical limits for approved AHRS operation. Heading is flagged as invalid.
GEO LIMITS – AHRS2 too far North/South, no magnetic compass.	
MANIFEST – GRS1 software mismatch, communication halted.	The #1 AHRS has incorrect software installed. The system should be serviced.
MANIFEST – GRS2 software mismatch, communication halted.	The #2 AHRS has incorrect software installed. The system should be serviced.

GMU 44 MESSAGE ADVISORIES

Message	Comments
HDG FAULT – AHRS1 magnetometer fault has occurred.	A fault has occurred in the #1 GMU 44. Heading is flagged as invalid. The AHRS uses GPS for backup mode operation. The system should be serviced.
HDG FAULT – AHRS2 magnetometer fault has occurred.	A fault has occurred in the #2 GMU 44. Heading is flagged as invalid. The AHRS uses GPS for backup mode operation. The system should be serviced.
MANIFEST – GMU1 software mismatch, communication halted.	The GMU 44 has incorrect software installed. The system should be serviced.
MANIFEST – GMU2 software mismatch, communication halted.	

GSR 56 MESSAGE ADVISORIES

Message	Comments
GSR1 FAIL – GSR1 has failed.	A failure has been detected in the #1 GSR 56. The system should be serviced.

GDL 59 MESSAGE ADVISORIES

Message	Comments
GDL59 CONFIG – GDL 59 config error. Config service req'd.	GDL 59 configuration settings do not match those of backup configuration memory. The system should be serviced.
GDL59 FAIL – GDL 59 has failed.	A failure has been detected in the GDL 59. The receiver is unavailable. The system should be serviced.
GDL59 SERVICE – GDL 59 needs service. Return unit for repair.	A failure has been detected in the GDL 59. The system should be serviced.
GDL59 RTR FAIL – The GDL 59 router has failed.	A failure has been detected in the GDL 59 router. The system should be serviced.
REGISTER GFDS – Data services are inoperative, register w/GFDS.	The GDL 59 is not registered with Garmin Flight Data Services, or it's current registration data has failed authentication.
MANIFEST – GDL software mismatch, communication halted.	The GDL 59 has incorrect software installed. The system should be serviced.

GDL 69A MESSAGE ADVISORIES

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

GWX 68 ALERT MESSAGES

Message	Comments
GWX CONFIG – GWX config error. Config service req'd.	GWX 68 configuration settings do not match those of the GDU configuration. The system should be serviced.
GWX FAIL – GWX is inoperative.	The GDU is not recieving status packet from the GWX 68 or the GWX 68 is reporting a fault. The GWX 68 radar system should be serviced.
GWX SERVICE – GWX needs service. Return unit for repair.	A failure has been detected in the GWX 68. The GWX 68 may still be usable.
MANIFEST – GWX software mismatch, communication halted.	The GWX 68 has incorrect software installed. The system should be serviced.
WX ALERT – Possible severe weather ahead.	Possible severe weather detected within +/- 10 degrees of the aircraft heading at a range of 80 to 320 nm.

GDC 74B MESSAGE ADVISORIES

Message	Comments
ADC1 ALT EC – ADC1 altitude error correction is unavailable.	GDC1 or GDC2 is reporting that the altitude error correction is unavailable.
ADC2 ALT EC – ADC2 altitude error correction is unavailable.	
ADC1 AS EC – ADC1 airspeed error correction is unavailable.	GDC1 or GDC2 is reporting that the airspeed error correction is unavailable.
ADC2 AS EC – ADC2 airspeed error correction is unavailable.	
MANIFEST – GDC1 software mismatch, communication halted.	The GDC 74B has incorrect software installed. The system should be serviced.
MANIFEST – GDC2 software mismatch, communication halted.	

GCU 475 MESSAGE ADVISORIES

Message	Comments
GCU CNFG – GCU Config error. Config service req'd.	GCU 475 configuration settings do not match those of backup configuration memory. The system should be serviced.
GCU FAIL – GCU is inoperative.	A failure has been detected in the GCU 475. The GCU 475 is unavailable.
MANIFEST – GCU software mismatch, communication halted.	The GCU 475 has incorrect software installed. The system should be serviced.
GCU KEYSTK – GCU [key name] Key is stuck.	A key is stuck on the GCU 475 bezel. Attempt to free the stuck key by pressing it several times. The system should be serviced if the problem persists.

GMC 715 MESSAGE ADVISORIES

Message	Comments
GMC CONFIG – GMC Config error. Config service req'd.	Error in the configuration of the GMC 715.
GMC FAIL – GMC is inoperative.	A failure has been detected in the GMC 715. The GMC 715 is unavailable.
MANIFEST – GMC software mismatch. Communication halted.	The GMC 715 has incorrect software installed. The system should be serviced.
GMC KEYSTK – GMC [key name] Key is stuck.	A key is stuck on the GMC 715 bezel. Attempt to free the stuck key by pressing it several times. The system should be serviced if the problem persists.

MISCELLANEOUS MESSAGE ADVISORIES

Message	Comments
FPL WPT LOCK – Flight plan waypoint is locked.	Upon power-up, the system detects that a stored flight plan waypoint is locked. This occurs when an navigation database update eliminates an obsolete waypoint. The flight plan cannot find the specified waypoint and flags this message. This can also occur with user waypoints in a flight plan that is deleted. Remove the waypoint from the flight plan if it no longer exists in any database, Or update the waypoint name/identifier to reflect the new information.
FPL WPT MOVE – Flight plan waypoint moved.	The system has detected that a waypoint coordinate has changed due to a new navigation database update. Verify that stored flight plans contain correct waypoint locations.
TIMER EXPIRD – Timer has expired.	The system notifies the pilot that the timer has expired.
DB CHANGE – Database changed. Verify user modified procedures.	This occurs when a stored flight plan contains procedures that have been manually edited. This alert is issued only after an navigation database update. Verify that the user-modified procedures in stored flight plans are correct and up to date.
DB CHANGE – Database changed. Verify stored airways.	This occurs when a stored flight plan contains an airway that is no longer consistent with the navigation database. This alert is issued only after an navigation database update. Verify use of airways in stored flight plans and reload airways as needed.
FPL TRUNC – Flight plan has been truncated.	This occurs when a newly installed navigation database eliminates an obsolete approach or arrival used by a stored flight plan. The obsolete procedure is removed from the flight plan. Update flight plan with current arrival or approach.

MISCELLANEOUS MESSAGE ADVISORIES (CONT.)

Message	Comments
LOCKED FPL – Cannot navigate locked flight plan.	This occurs when the pilot attempts to activate a stored flight plan that contains locked waypoint. Remove locked waypoint from flight plan. Update flight plan with current waypoint.
WPT ARRIVAL – Arriving at waypoint -[xxxx]	Arriving at waypoint [xxxx], where [xxxx] is the waypoint name.
STEEP TURN – Steep turn ahead.	A steep turn is 15 seconds ahead. Prepare to turn.
INSIDE ARSPC – Inside airspace.	The aircraft is inside the airspace.
ARSPC AHEAD – Airspace ahead less than 10 minutes.	Special use airspace is ahead of aircraft. The aircraft will penetrate the airspace within 10 minutes.
ARSPC NEAR – Airspace near and ahead.	Special use airspace is near and ahead of the aircraft position.
ARSPC NEAR – Airspace near – less than 2 nm.	Special use airspace is within 2 nm of the aircraft position.
APR INACTV – Approach is not active.	The system notifies the pilot that the loaded approach is not active. Activate approach when required.
SLCT FREQ – Select appropriate frequency for approach.	The system notifies the pilot to load the approach frequency for the appropriate NAV receiver. Select the correct frequency for the approach.
SLCT NAV – Select NAV on CDI for approach.	The system notifies the pilot to set the CDI to the correct NAV receiver. Set the CDI to the correct NAV receiver.
PTK FAIL – Parallel track unavailable: bad geometry.	Bad parallel track geometry.
PTK FAIL – Parallel track unavailable: invalid leg type.	Invalid leg type for parallel offset.
PTK FAIL – Parallel track unavailable: past IAF.	IAF waypoint for parallel offset has been passed.

MISCELLANEOUS MESSAGE ADVISORIES (CONT.)

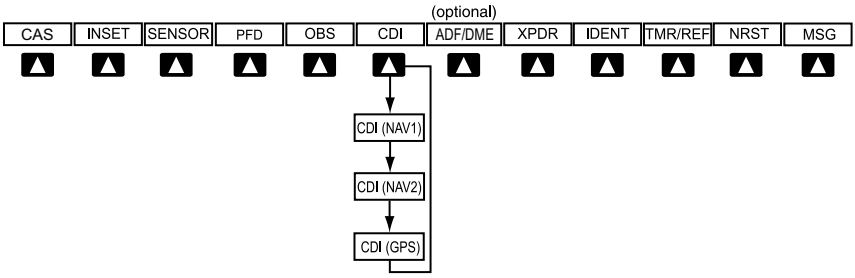
Message	Comments
UNABLE V WPT – Can't reach current vertical waypoint.	The current vertical waypoint can not be reached within the maximum flight path angle and vertical speed constraints. The system automatically transitions to the next vertical waypoint.
VNV – Unavailable. Unsupported leg type in flight plan.	The lateral flight plan contains a procedure turn, vector, or other unsupported leg type prior to the active vertical waypoint. This prevents vertical guidance to the active vertical waypoint.
VNV – Unavailable. Excessive track angle error.	The current track angle error exceeds the limit, causing the vertical deviation to go invalid.
VNV – Unavailable. Excessive crosstrack error.	The current crosstrack exceeds the limit, causing vertical deviation to go invalid.
VNV – Unavailable. Parallel course selected.	A parallel course has been selected, causing the vertical deviation to go invalid.
NO WGS84 WPT – Non WGS 84 waypoint for navigation -[xxxx]	The selected waypoint [xxxx] does not use the WGS 84 datum. Cross-check position with alternate navigation sources.
TRAFFIC FAIL – Traffic device has failed.	The system is no longer receiving data from the traffic system. The traffic device should be serviced.
FAILED PATH – A data path has failed.	A data path connected to the GDU, GSD 41, or the GIA 63/W has failed.
MAG VAR WARN – Large magnetic variance. Verify all course angles.	The GDU's internal model cannot determine the exact magnetic variance for geographic locations near the magnetic poles. Displayed magnetic course angles may differ from the actual magnetic heading by more than 2°.
SVS – SVS DISABLED: Out of available terrain region.	Synthetic Vision is disabled because the aircraft is not within the boundaries of the installed terrain database.

MISCELLANEOUS MESSAGE ADVISORIES (CONT.)

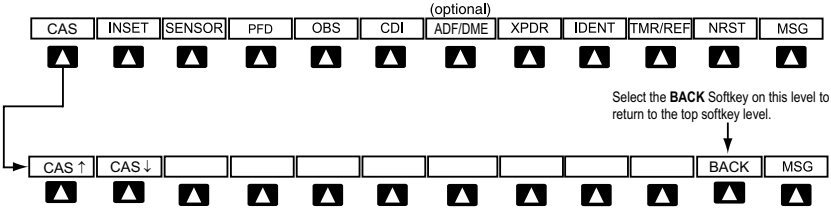
Message	Comments
SVS – SVS DISABLED: Terrain DB resolution too low.	Synthetic Vision is disabled because a terrain database of sufficient resolution (9 arc-second or better) is not currently installed.
SCHEDULER [#] – <message>.	Message criteria entered by the user.
CHECK CRS – Database course for LOC1 / [LOC ID] is [CRS]°.	Selected course for LOC1 differs from published localizer course by more than 10 degrees.
CHECK CRS – Database course for LOC2 / [LOC ID] is [CRS]°.	Selected course for LOC2 differs from published localizer course by more than 10 degrees.
[PFD1, PFD2, or MFD1] CARD 1 REM – 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.
[PFD1, PFD2, or MFD1] CARD 2 REM – 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.
[PFD1, PFD2, or MFD1] CARD 1 ERR – Card 1 is invalid.	The SD card in the top card slot of the specified PFD or MFD contains invalid data.
[PFD1, PFD2, or MFD1] CARD 2 ERR – Card 2 is invalid.	The SD card in the bottom card slot of the specified PFD or MFD contains invalid data.

APPENDIX

PFD SOFTKEY MAP

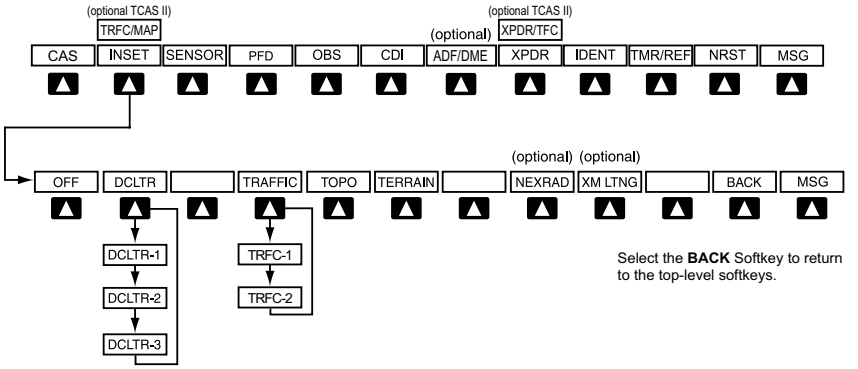


Top Level PFD Softkeys



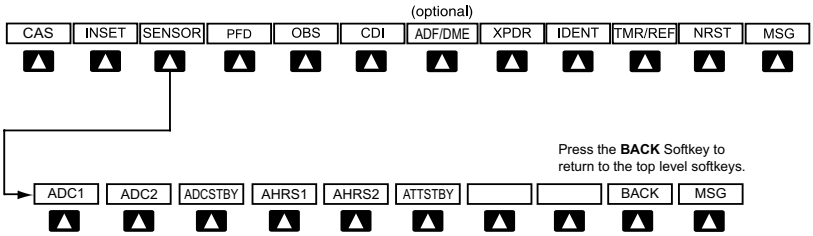
CAS Softkeys

CAS		Displays the scroll up and scroll down softkeys.
	CAS ↑	Scroll up (Displayed only when a sufficient number of items are displayed in the Crew Alerting System Display to warrant scrolling)
	CAS ↓	Scroll down (Displayed only when a sufficient number of items are displayed in the Crew Alerting System Display to warrant scrolling)



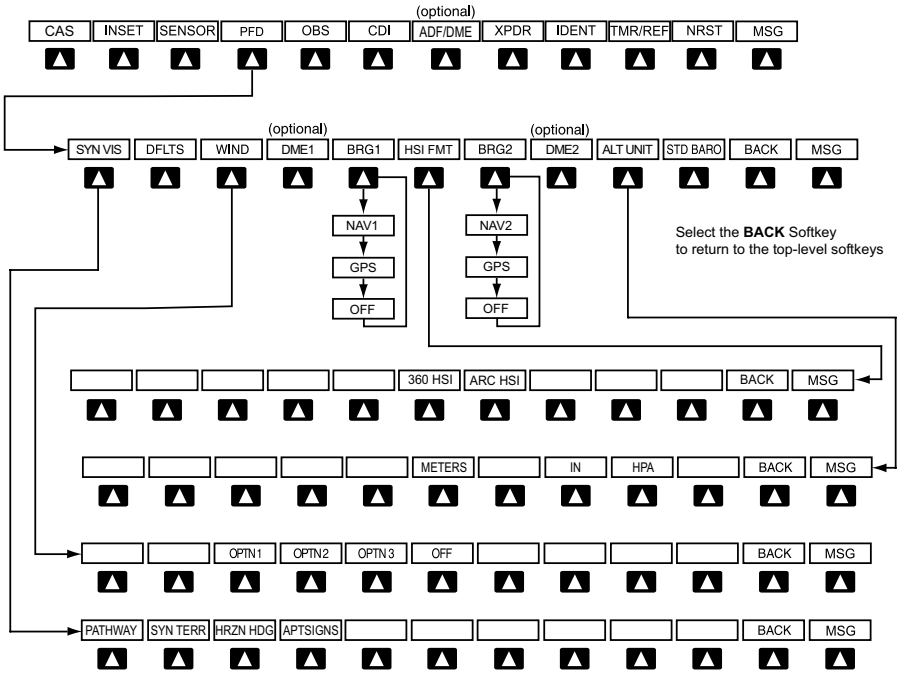
INSET Map Softkeys

INSET or TRFC/MAP		Pressing the **INSET** Softkey Displays Inset Map in the PFD lower left corner. The **TRFC/MAP** Softkey is displayed when the TCAS II option is installed. Pressing the **TRFC/MAP** Softkey displays the Inset Map showing Traffic Map Page.
	OFF	Removes Inset Map
	DCLTR (3)	Selects desired amount of map detail; cycles through declutter levels: DCLTR (No Declutter): All map features visible DCLTR-1: Declutters land data DCLTR-2: Declutters land and SUA data DCLTR-3: Removes everything except the active flight plan
	TRAFFIC	Cycles through traffic display options: TRFC-1: Traffic displayed on inset map TRFC-2: Traffic Map Page is displayed in the inset map window
	TOPO	Displays topographical data (e.g., coastlines, terrain, rivers, lakes) and elevation scale on Inset Map
	TERRAIN	Displays terrain information on Inset Map (not available with TAWS-A)
	NEXRAD	Displays NEXRAD weather and coverage information on Inset Map (optional feature)
	XM LTNG	Displays XM lightning information on Inset Map (optional feature)



SENSOR Softkeys

SENSOR		Displays softkeys for selecting the #1 and #2 AHRS and Air Data Computers
	ADC1	Selects the #1 Air Data Computer
	ADC2	Selects the #2 Air Data Computer
	ADCSTBY	Selects standby air data input
	AHRS1	Selects the #1 AHRS
	AHRS2	Selects the #2 AHRS
	ATTSTBY	Selects standby AHRS input

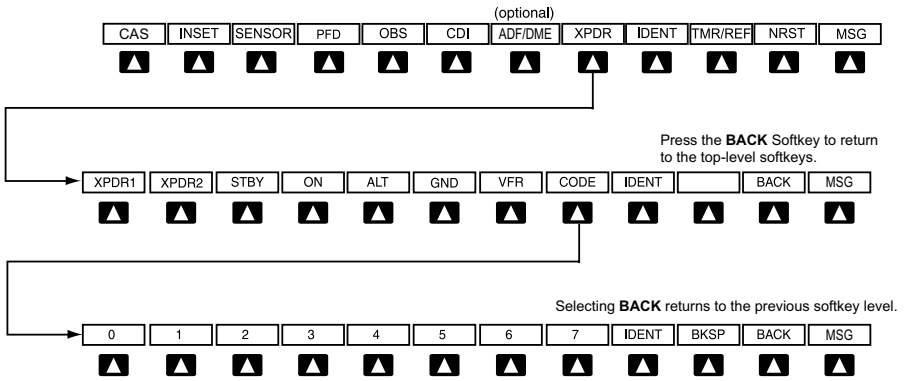


PFD Configuration Softkeys

PFD			Displays second-level softkeys for additional PFD configurations
	SYN VIS		Displays the softkeys for enabling or disabling Synthetic Vision features
		PATHWAY	Displays rectangular boxes representing the horizontal and vertical flight path of the active flight plan
		SYN TERR	Enables synthetic terrain depiction
		HRZN HDG	Displays compass heading along the Zero-Pitch line
		APTSIGNS	Displays position markers for airports within approximately 15 nm of the current aircraft position. Airport identifiers are displayed when the airport is within approximately 9 nm.

	DFLTS		Resets PFD to default settings, including changing units to standard
	WIND		Displays softkeys to select wind data parameters
		OPTN 1	Wind direction arrows with headwind and crosswind components
		OPTN 2	Wind direction arrow and speed
		OPTN 3	Total direction with head and crosswind speed components
		OFF	Information not displayed
	DME1		Select to display the DME1 information window
	BRG1		Cycles the Bearing 1 Information Window through NAV1 or GPS/ waypoint identifier and GPS-derived distance information.
	HSI FRMT		Displays the HSI formatting softkeys
		360 HSI	Displays the HSI in a 360 degree format
		ARC HSI	Displays the HSI in an arc format
	BRG2		Cycles the Bearing 2 Information Window through NAV2 or GPS/ waypoint identifier and GPS-derived distance information.
	DME2		Select to display the DME2 information window
	ALT UNIT		Displays softkeys for setting the altimeter and BARO settings to metric units
		METERS	When enabled, displays altimeter and selected altitude in meters
		IN	Press to display the BARO setting as inches of mercury
		HPA	Press to display the BARO setting as hectopacals

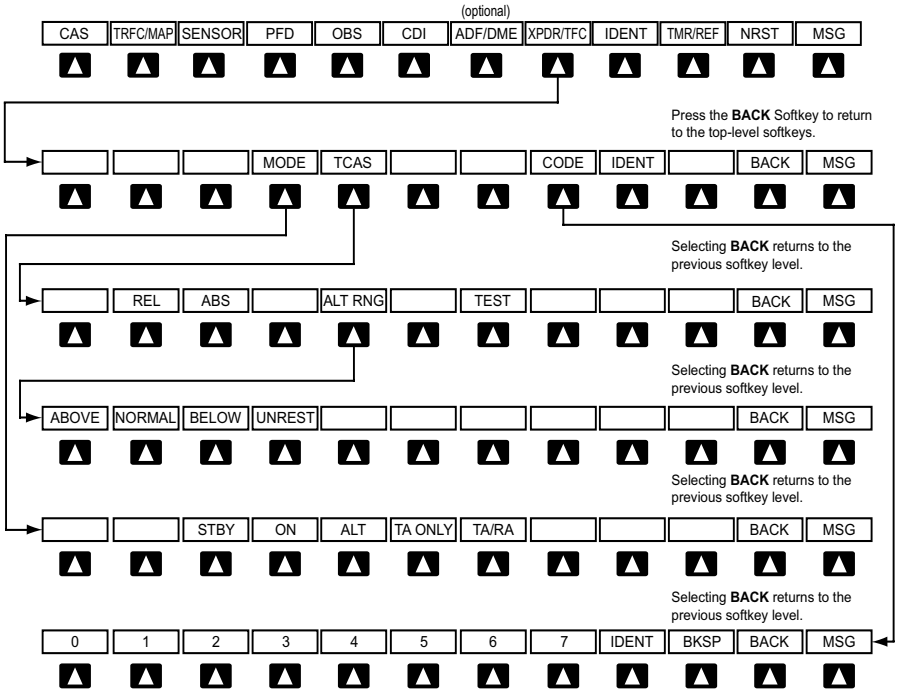
	STD BARO		Sets barometric pressure to 29.92 in Hg (1013 hPa)
OBS			Selects OBS mode on the CDI when navigating by GPS (only available with active leg)
CDI			Cycles through GPS, VOR1 (LOC1), and VOR2 (LOC2) navigation sources on the CDI
ADF/DME			Displays the ADF/DME Tuning Window, providing ADF tuning capability and allowing selection of the NAV source for tuning each DME



Transponder Softkeys

XPDR			Displays transponder mode selection softkeys
	XPDR1		Selects the #1 transponder as active. Not available with TCAS II option.
	XPDR2		Selects the #2 transponder as active. Not available with TCAS II option.
	STBY		Selects Standby Mode (transponder does not reply to any interrogations)
	ON		Selects Mode A (transponder replies to identification interrogations)

	ALT		Selects Mode C – Altitude Reporting Mode (transponder replies to identification and altitude interrogations)
	GND		Manually selects Ground Mode, the transponder does not allow Mode A and Mode C replies, but it does permit acquisition squitter and replies to discretely addressed Mode S interrogations. Not available with TCAS II option.
	VFR		Automatically enters the VFR code (1200 in the U.S.A. only). Not available when TCAS II option is installed.
	CODE		Displays transponder code selection soft-keys 0-7
		0 — 7	Use numbers to enter code
		BKSP	Removes numbers entered, one at a time
IDENT			Activates the Special Position Identification (SPI) pulse for 18 seconds, identifying the transponder return on the ATC screen
TMR/REF			Displays Timer/References Window
NRST			Displays Nearest Airports Window
MSG			Displays Messages Window



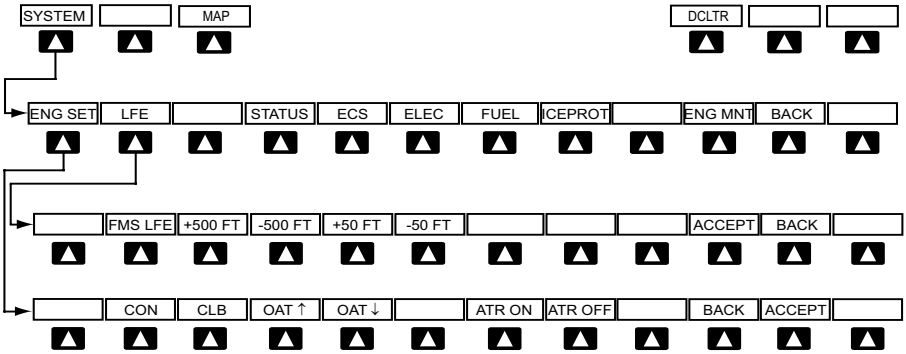
Transponder/Traffic Softkeys with TCAS II Option

XPDR/TFC				Displays the transponder and TCAS II selection softkeys
	MODE			Displays transponder mode selection softkeys
		STBY		Selects transponder Standby Mode (transponder does not reply to any interrogations). When the transponder is set to standby, the TCAS II system is also set to standby.
		ON		Activates transponder (transponder replies to identification interrogations). When the transponder is set to ON, the TCAS II system is set to standby.

		ALT		Altitude Reporting Mode (transponder replies to identification and altitude interrogations). When the transponder is set to ALT, the TCAS II system is set to standby.
		TA ONLY		Activates the TCAS II system in TA Only Mode
		TA/RA		Activates the TCAS II system in TA/RA Mode
		BACK		Returns to the previous softkey level
	TCAS			Displays the TCAS control softkeys
		REL		Displays intruder altitude as altitude relative to own aircraft altitude
		ABS		Displays intruder MSL altitude. Display will revert back to relative altitude after 15 sec.
		ALT RNG		Displays the altitude display range softkeys
			ABOVE	Displays non-threat traffic from 9900 feet above the aircraft to 2700 feet below the aircraft. Typically used during climb phase of flight.
			NORMAL	Displays non-threat traffic from 2700 feet above the aircraft to 2700 feet below the aircraft. Typically used during enroute phase of flight.

			BELOW	Displays non-threat traffic from 2700 feet above the aircraft to 9900 feet below the aircraft. Typically used during descent phase of flight.
			UNREST	All traffic is displayed
		TEST		Activates Test Mode and displays test intruder symbols
		BACK		Returns to the previous softkey level
	CODE			Displays transponder code selection softkeys 0-7
		0 — 7		Use numbers to enter code
		IDENT		Activates the Special Position Identification (SPI) pulse for 18 seconds, identifying the transponder return on the ATC screen
		BKSP		Removes numbers entered, one at a time
IDENT				Activates the Special Position Identification (SPI) pulse for 18 seconds, identifying the transponder return on the ATC screen
TMR/REF				Displays Timer/References Window
NRST				Displays Nearest Airports Window
MSG				Displays Messages Window

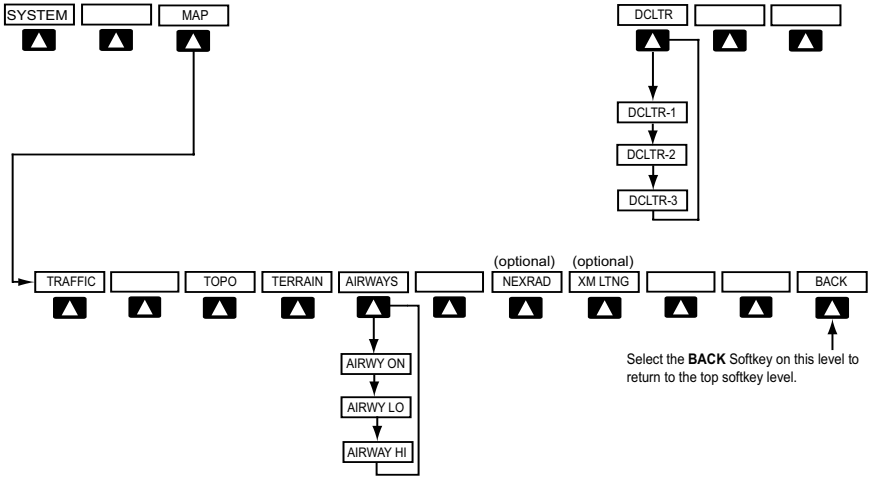
MFD SOFTKEY MAP



SYSTEM Softkeys

SYSTEM			Accesses EIS softkeys
	ENG SET		Accesses the FADEC settings softkeys; displays the Takeoff Data Set Window when aircraft is parked or taxiing
		CON	Selects the continuous thrust rating. Disabled when aircraft is on the ground.
		CLB	Selects the maximum climb thrust rating. Disabled when aircraft is on the ground.
		OAT ↑	Increases the takeoff outside air temperature setting in one-degree Celsius increments. Disabled when aircraft is in the air.
		OAT ↓	Decreases the takeoff outside air temperature setting in one-degree Celsius increments. Disabled when aircraft is in the air.
		ATR ON	Enables Automatic Thrust Reserve (ATR). Disabled when aircraft is in the air.
		ATR OFF	Disables Automatic Thrust Reserve (ATR). Disabled when aircraft is in the air.
		BACK	Returns display to previous softkey level
		ACCEPT	Confirms the selected takeoff settings

	LFE		Accesses softkeys for manually setting the Landing Field Elevation (LFE)
		FMS LFE	Sets current flight plan destination elevation as displayed LFE
		+500 FT	Increases currently displayed LFE value by 500 ft
		-500 FT	Decreases currently displayed LFE value by 500 ft
		+50 FT	Increases currently displayed LFE value by 50 ft
		-50 FT	Decreases currently displayed LFE value by 50 ft
		ACCEPT	Confirms the LFE setting and returns to the previous softkey level
		BACK	Returns display to previous softkey level
	STATUS		Displays the System-Status Page
	ECS		Displays the System-ECS (Environmental Control System) Page
	ELEC		Displays the System-Electrical Page
	FUEL		Displays the System-Fuel Page
	ICEPROT		Displays the System-Deice Page
	ENG MNT		Displays the Engine Maintenance Page. Enabled only while aircraft is on the ground and engines are off.
	BACK		Returns display to previous softkey level



MAP Softkeys

MAP		Enables second-level Navigation Map softkeys
	TRAFFIC	Displays traffic information on Navigation Map
	TOPO	Displays topographical data (e.g., coastlines, terrain, rivers, lakes) and elevation scale on Navigation Map
	TERRAIN	Displays terrain information on Navigation Map (not available with TAWS-A)
	AIRWAYS	Displays airways on the map; cycles through the following: AIRWAYS: No airways are displayed AIRWY ON: All airways are displayed AIRWY LO: Only low altitude airways are displayed AIRWY HI: Only high altitude airways are displayed
	NEXRAD	Displays NEXRAD weather and coverage information on Navigation Map (optional feature)
	XM LTNG	Displays XM lightning information on Navigation Map (optional feature)
	BACK	Returns to top-level softkeys

DCLTR (3)		Selects desired amount of map detail; cycles through declutter levels: DCLTR (No Declutter): All map features visible DCLTR-1: Declutters land data DCLTR-2: Declutters land and SUA data DCLTR-3: Removes everything except the active flight plan

DUAL NAVIGATION DATABASES

The dual navigation database feature allows each display to store an upcoming navigation database on the bottom SD card so that the system can automatically load it to replace the active database when the new database becomes effective (the next cycle becomes available seven days prior to its effective date).

Uploading the standby database to the active location takes approximately 45-55 seconds.

Loading a Navigation Database

1) With the system OFF, insert the SD card containing the navigation database update into the top card slot of the desired PFD or the MFD.

2) Verify that an SD card is inserted in the bottom slot.

3) Turn the system ON.

4) At the prompt, if it is desired to update the standby navigation database on the bottom SD card, press the **YES** Softkey and proceed to step 6. If it is desired to update the active navigation database, press the **NO** Softkey and proceed to step 5.

5) At the next prompt, press the **YES** Softkey to update the active navigation database.

6) After the update, the display starts in normal mode.

7) Repeat steps 1-6 for the remaining displays.

8) Verify the effectivity of the active navigation database in each PFD and the MFD on the AUX-System Status Page.

AUTOMATIC DATABASE SYNCHRONIZATION

The automatic database synchronization feature automatically transfers the database from a single SD database card to the SD cards on each PFD and the MFD to ensure that all databases are synchronized throughout the system. After power-up, the Prodigy™ system compares all copies of each applicable database. If similar databases do not match, the most recent valid database is automatically copied to each card in the system that does not already contain that database.

NOTE: The 9-arc second terrain database may take as long as 100 minutes to synchronize using this method. Therefore the user may want to transfer the data using a PC, or connect the Prodigy™ system to a ground power source while performing the database synchronization.

Synchronizing Databases

1) Remove the MFD database card from the bottom card slot of the MFD.
2) Update the Garmin databases on the MFD card.
3) Insert the MFD database card into the bottom card slot of the MFD.
4) Apply power to the system, check that the databases are initialized and displayed on the power-up screen. When updating the terrain and FliteCharts databases, an 'in progress' message may be seen. If this message is present, wait for the system to finish loading before proceeding to step 5.
5) Acknowledge the Power-up Page agreement by pressing the **ENT** Key or the right most softkey.
6) Turn the large **FMS** Knob to select the AUX Page group on the MFD.
7) Turn the small **FMS** Knob to select the System Status Page.
8) Make sure the **SYNC DBS** Softkey is in the enabled state.
9) Monitor the Sync Status in the Database Window, wait for all databases to complete synching.
10) Remove and reapply power to the system, select the AUX-System Status Page, and verify that all databases have been synchronized.

If an error occurs during the synchronization, an error message will be displayed, followed by the affected display in the Sync Status section of the Database Window. If a synchronization completes on one display, but an error occurs on another, the

error message will be displayed with the affected display listed after it. When an error message is displayed, the problem must be corrected before the synchronization can be completed. A power cycle is required to restart synchronization when 'Card Full' or 'Err' is shown.

Error Message	Description
Canceled	An active synchronization has been canceled using the **SYNC DBS** Softkey
Card Full	SD card does not contain sufficient memory
Err	Displayed for all other errors that may cause the synchronization process to be halted
Timeout	System timed-out prior to the database transfer completing

The **SYNC DBS** Softkey on the AUX–System Status Page allows enabling and disabling the automatic database synchronization feature. If the **SYNC DBS** Softkey is pressed while a database synchronization is in progress, the current synchronization process will be canceled.

Canceling Database Synchronization

1) Turn the large **FMS** Knob to select the AUX Page group on the MFD.
2) Turn the small **FMS** Knob to select the System Status Page.
3) Select the **SYNC DBS** Softkey (if needed) to disable automatic database synchronization.
4) Acknowledge the cancellation by pressing the **ENT** Key.

V

W

X

Blank Page

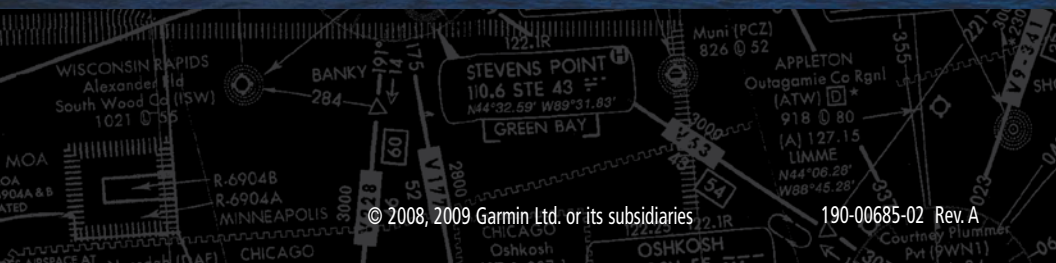
Garmin International, Inc.
1200 East 151st Street
Olathe, KS 66062, U.S.A.
p: 913.397.8200 f: 913.397.8282

Garmin AT, Inc.
2345 Turner Road SE
Salem, OR 97302, U.S.A.
p: 503.391.3411 f: 503.364.2138

Garmin (Europe) Ltd
Liberty House, Bulls Copse Road
Hounsdown Business Park
Southampton, SO40 9RB, U.K.
p: 44/0870.8501241 f: 44/0870.8501251

Garmin Corporation
No. 68, Jangshu 2nd Road
Shijr, Taipei County, Taiwan
p: 886/2.2642.9199 f: 886/2.2642.9099

www.garmin.com



190-00685-02 Rev. A