GARMIN

G1000™

cockpit reference guide
for the Diamond DA40

This manual reflects the operation of System Software version 0369.05 or later for the DA40. Some differences in operation may be observed when comparing the information in this manual to earlier or later software versions.

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WARNING: *Navigation and terrain separation must NOT be predicated upon the use of the terrain function. The G1000 Terrain Proximity 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 Proximity feature is only to be used as an aid for terrain avoidance and is not certified for use in applications requiring a certified terrain awareness system. Terrain data is obtained from third party sources. Garmin is not able to independently verify the accuracy of the terrain data.*

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

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

WARNING: *The Jeppesen database used in the G1000 system must be updated regularly in order to ensure that its information remains current. Updates are released every 28 days. A database information packet is included in the G1000 package.* ***Pilots using an outdated database do so entirely at their own risk****.*

WARNING: *The basemap (land and water data) must not be used for navigation, but rather only for non-navigational situational awareness. Any basemap indication should be compared with other navigation sources.*

CAUTION: *The GDU 1040 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: *All visual depictions contained within this document, including screen images of the G1000 panel and displays, are subject to change and may not reflect the most current G1000 system. Depictions of equipment may differ slightly from the actual equipment.*

WARNING: *Traffic information shown on the G1000 Multi Function Display 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.*

Part Number	Change Summary
190-00384-01 (Rev. A)	Reformat of manual. Added NAV/COM volume levels Added Flight Timer. Added extended range fuel tanks Changed NAV1 and NAV2 on the PFD to VOR or LOC. Moved altitude and airspeed trend vectors to opposite sides.

Revision	Date of Revision	Affected Pages	Description
A	2/15/05	i through Index-2	Initial release

SECTION 1: SYSTEM OVERVIEW 1-1
- **1.1 PFD/MFD Controls** 1-2
- **1.2 PFD Softkeys** 1-4
- **1.3 MFD Softkeys** 1-7
- **1.4 MFD Page Groups** 1-8
- **1.5 Backlighting** 1-8
  - Manually Adjust the Backlight for the PFD and MFD 1-8

SECTION 2: FLIGHT INSTRUMENTS 2-1
- **2.1 Airspeed Indicator** 2-3
  - Speed Indication 2-3
  - Speed Ranges 2-3
  - Airspeed Trend Vector 2-3
  - Vspeed References 2-3
- **2.2 Attitude Indicator** 2-3
- **2.3 Altimeter** 2-4
  - Altitude Reference Bug 2-4
  - Altitude Trend Vector 2-4
  - Barometric Setting Box 2-4
- **2.4 Vertical Deviation/Glideslope Indicator** 2-4
- **2.5 Marker Beacon Annunciations** 2-4
- **2.6 Vertical Speed Indicator** 2-5
- **2.7 Horizontal Situation Indicator (HSI)** 2-5
  - 360° HSI 2-5
  - Course Pointer 2-6
  - Course Deviation Indicator (CDI) 2-6
  - Navigation Source 2-6

SECTION 3: ENGINE INDICATION SYSTEM (EIS) 3-1
- **3.1 Engine Display** 3-1
- **3.2 Lean Engine Display** 3-1
  - Cylinder Select 3-1
- **3.3 Engine System Display** 3-2

SECTION 4: NAV/COM AND TRANSPONDER 4-1
- **4.1 Radio Status Indications** 4-3
- **4.2 Volume** 4-3
- **4.3 Automatic Squelch** 4-3
- **4.4 Quickly Activating 121.500 MHz** 4-3
- **4.5 Frequency Auto-tuning** 4-3
  - Auto-tuning on the PFD 4-3
  - Auto-tuning on the MFD 4-3
- **4.6 Transponder** 4-4
  - Mode Selection 4-4
    - *Ground Mode (Automatic)* 4-4
    - *Reply Status* 4-4
    - *Code Selection* 4-4
  - Flight ID Reporting 4-4

SECTION 5: AUDIO PANEL 5-1
- **5.1 COM Radio Selection** 5-2
- **5.2 Marker Beacon Receiver** 5-2
  - Marker Beacon Signal Sensitivity 5-2
- **5.3 Navigation Radio Selection** 5-2
- **5.4 Intercom System (ICS) Isolation** 5-3
- **5.5 Intercom Squelch Control** 5-3
- **5.6 Digital Clearance Recorder with Playback Capability** 5-4

SECTION 6: AUTOMATIC FLIGHT CONTROL 6-1

SECTION 7: NAVIGATION 7-1
- **7.1 Navigation Map Page** 7-1
  - Select the MAP Page Group 7-1
- **7.2 Direct-to Navigation** 7-1
  - Direct-to Navigation from the MFD 7-1
  - Direct-to Navigation from the PFD 7-2
- **7.3 Airport Information** 7-3
  - Select the Airport Information Page 7-3
  - Enter a Waypoint Facility Name or City Location: 7-3
  - Access Runway Information 7-3
  - Access Frequency Information 7-3
- **7.4 Intersection Information** 7-4
  - Select the Intersection Information Page 7-4
  - Access Information on an Intersection 7-4
- **7.5 NDB Information** 7-4
  - Select the NDB Information Page 7-4
  - View Information on a Specific NDB: 7-4
- **7.6 VOR Information** 7-5
  - Select the VOR Information Page 7-5
  - Access Information on a VOR: 7-5
- **7.7 User Waypoint Information Page** 7-5
- **7.8 Nearest Airports** 7-5
  - Nearest Airport Information on the MFD 7-5
  - Nearest Airports Information on the PFD 7-6
- **7.9 Nearest Intersections** 7-6
  - Select the Nearest Intersections Page 7-6
  - View Information on the Nearest Intersection 7-7
- **7.10 Nearest NDB** 7-7
  - Select the Nearest NDB Page 7-7
  - Access Information on a Specific NDB 7-7

7.11 Nearest VOR 7-7
Select the Nearest VOR Page 7-7
View Information on the Nearest VOR: 7-7
Select and Load a VOR Frequency 7-8
7.12 Nearest User Waypoint 7-8
Select the Nearest User Waypoint Page 7-8
Select a Nearest User Waypoint 7-8
7.13 Nearest Frequencies 7-8
Select the Nearest Frequencies Page 7-8
Select and Load the Nearest ARTCC, FSS, or Weather Frequency 7-9
7.14 Nearest Airspaces 7-9
Select the Nearest Airspaces Page 7-9
Airspace Alerts Box 7-9
View Additional Details for a Listed Airspace 7-9
View and Quickly Load the Frequency for a Controlling Agency 7-9

SECTION 8: FLIGHT PLANNING 8-1
8.1 User Defined Waypoints 8-1
Select the User WPT Information Page 8-1
Create a New User Waypoint 8-1
Create User Waypoints from the Navigation Map Page 8-1
Modify a User Waypoint 8-2
Delete a User Waypoint 8-2
8.2 Viewing the Active Flight Plan 8-2
8.3 Activate a Stored Flight Plan 8-2
8.4 Activate a Flight Plan Leg 8-2
8.5 Stop Navigating a Flight Plan 8-3
8.6 Invert Active Flight Plan 8-3
8.7 Create a New Flight Plan 8-3
Create a new flight plan using the PFD 8-4
8.8 Load a Departure 8-4
8.9 Load an Arrival 8-4
8.10 Load an Approach 8-4
8.11 Remove a Departure, Arrival, or Approach from a Flight Plan 8-5
8.12 Store A Flight Plan 8-5
8.13 Edit a Stored Flight Plan 8-5
8.14 Delete a Waypoint from the Flight Plan 8-5
8.15 Invert and activate a Stored Flight Plan 8-5
8.16 Copy a Flight Plan 8-6
8.17 Delete a Flight Plan 8-6
8.18 Graphical Flight Plan Creation 8-6
8.19 Trip Planning 8-6

SECTION 9: PROCEDURES 9-1
9.1 Arrivals and Departures 9-1
Load and Activate a Departure Procedure 9-1
Load and Activate An Arrival Procedure 9-1
9.2 Approaches 9-2
Load and/or Activate an Approach Procedure 9-2
Activate An Approach in the Active Flight Plan 9-3

SECTION 10: HAZARD AVOIDANCE 10-1
10.1 Traffic Map Page 10-1
10.2 Displaying Traffic on the Navigation Map Page 10-1
10.3 Terrain Proximity Page 10-1
10.4 Displaying Terrain proximity on the Navigation Map Page 10-1

SECTION 11: ABNORMAL OPERATION 11-1
11.1 Reversionary Mode 11-1
11.2 Abnormal COM Operation 11-2
11.3 Unusual Attitudes 11-2

SECTION 12: ANNUNCIATIONS & ALERTS 12-1
12.1 Alert Level Definitions 12-2
12.2 DA40 Aircraft Alerts 12-3
WARNING Alerts 12-3
CAUTION Alerts 12-3
Message Advisory Alerts 12-3
12.3 G1000 System Annunciations 12-4
12.4 G1000 System Message Advisories 12-6
MFD & PFD Message Advisories 12-7
Database Message Advisories 12-8
GMA 1347 Message Advisories 12-8
GIA 63 Message Advisories 12-9
GEA 71 Message Advisories 12-11
GTX 33 Message Advisories 12-11
GRS 77 Message Advisories 12-12
GMU 44 Message Advisories 12-12
GDC 74A Message Advisories 12-13
Miscellaneous Message Advisories 12-13
Miscellaneous Message Advisories (Cont.) 12-14

Index Index-1

SECTION 1: SYSTEM OVERVIEW

This Cockpit Reference Guide **is not intended to be a comprehensive operating guide.** Complete operating procedures for the complete system are found in the following documents:

- G1000 Primary Flight Display Pilot's Guide
- G1000 VHF NAV/COM Pilot's Guide
- G1000 Transponder Pilot's Guide
- G1000 GMA 1347 Audio Panel Pilot's Guide and Supplement
- G1000 Engine Indication System Pilot's Guide
- G1000 Multi Function Display Pilot's Guide

NOTE: *The pilot should read and thoroughly understand the Diamond DA40 Aircraft Flight Manual Supplement (AFMS) for limitations, procedures and operational information not contained in this Cockpit Reference Guide, The Diamond DA40 Aircraft Flight Manual Supplement always takes precedence over the information found in this guide.*

1.1 PFD/MFD CONTROLS

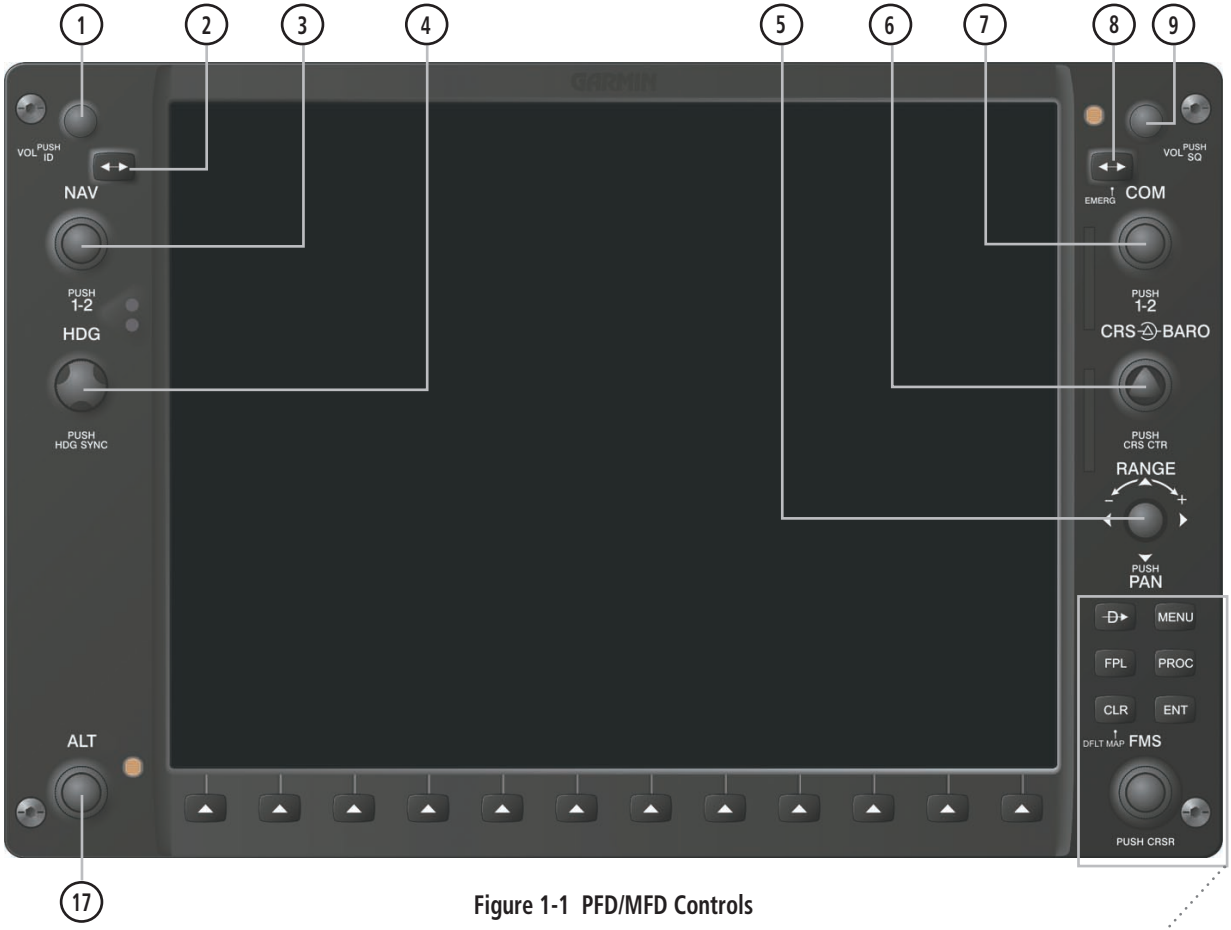
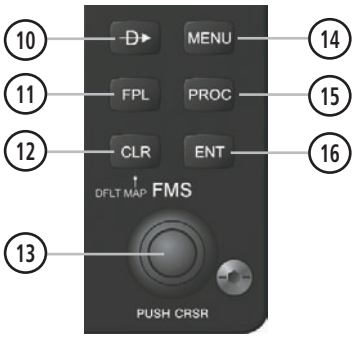


Figure 1-1 PFD/MFD Controls



(1) NAV VOL/ID Knob – Controls the NAV audio level. Press to toggle the Morse code identifier ON and OFF. Volume level is shown in the field as a percentage.

(2) NAV Frequency Toggle Key – Toggles the standby and active NAV frequencies.

(3) Dual NAV Knob – Tunes the MHz (large knob) and kHz (small knob) standby frequencies for the NAV receiver. Press to toggle the tuning cursor (light blue box) between the NAV1 and NAV2 fields.

(4) Heading Knob – Turn to manually select a heading on the HSI. When pressed, it synchronizes the heading bug with the compass lubber line.

(5) Joystick – Changes the map range when rotated. Activates the map pointer when pressed.

(6) CRS/BARO Knob – The **large** knob sets the altimeter barometric pressure and the **small** knob adjusts the course. The course is only adjustable when the HSI is in VOR1, VOR2, or OBS/SUSP mode. Pressing this knob centers the CDI on the currently selected VOR.

(7) Dual COM Knob – Tunes the MHz (large knob) and kHz (small knob) standby frequencies for the COM transceiver. Pressing this knob toggles the tuning cursor (light blue box) between the COM1 and COM2 fields.

(8) COM Frequency Toggle Key – Toggles the standby and active COM frequencies. Pressing and holding this key for two seconds automatically tunes the emergency frequency (121.5 MHz) in the active frequency field.

(9) COM VOL/SQ Knob – Controls COM audio level. Pressing this knob turns the COM automatic squelch ON and OFF. Audio volume level is shown in the field as a percentage.

(10) Direct-to Key – Allows the user to enter a destination waypoint and establish a direct course to the selected destination (specified by the identifier, chosen from the active route, or taken from the map cursor position).

(11) FPL Key – Displays the active Flight Plan Page for creating and editing the active flight plan, or for accessing stored flight plans.

(12) CLR Key (DFLT MAP) – Erases information, cancels an entry, or removes page menus. To display the Navigation Map Page immediately, press and hold **CLR** (MFD only).

(13) Dual FMS Knob – Used to select the page to be viewed (only on the MFD). The **large** knob selects a page group (MAP, WPT, AUX, NRST), while the **small** knob selects a specific page within the page group. Pressing the **small** knob turns the selection cursor ON and OFF.

(14) MENU Key – Displays a context-sensitive list of options. This list allows the user to access additional features, or to make setting changes that relate to certain pages.

(15) PROC Key – Selects approaches, departures and arrivals from the flight plan. If a flight plan is used, available procedures for the departure and/or arrival airport are automatically suggested. If a flight plan is not used, the desired airport and the desired procedure may be selected. This key selects IFR departure procedures (DPs), arrival procedures (STARs) and approaches (IAPs) from the database and loads them into the active flight plan.

(16) ENT Key – Accepts a menu selection or data entry. This key is used to approve an operation or complete data entry. It is also used to confirm selections and information entries.

(17) Dual ALT Knob – Sets the reference altitude in the box located above the Altimeter. The **large** knob selects the thousands, while the **small** knob selects the hundreds.

1.2 PFD SOFTKEYS

Softkey ON

Softkey OFF

INSET – Press to display the Inset Map in the lower left corner of the PFD.
- *OFF* – Press to remove the Inset Map
- *DCLTR* (3) – Press momentarily to select the desired amount of map detail. The declutter level appears adjacent to the **DCLTR** softkey.
- *TRAFFIC* – Press to display TIS traffic on the map.
- *TOPO* – Press to display topographical data (i.e., coastlines, terrain, rivers, lakes, etc.) and elevation scale on the inset map.
- *TERRAIN* – Press to display terrain information on the inset map.
- *LTNG (optional)* – Press to display the lightning data on the inset map (within a 200 nm radius of the aircraft).
- *BACK* – Press to return to the previous level softkey configuration.

PFD – Press to display the additional softkeys for additional configurations to the PFD.
- *METRIC* – Press to display the current and reference altitudes in meters, in addition to feet. Pressing the metric softkey also changes the barometric setting to hectopascals.
- *DFLTS* – Press to reset default settings on the PFD.
- *360 HSI* – Press to display the 360° compass rose.
- *ARC HSI* – Press to display the 140° viewable arc.
- *STD BARO* – Press to set the barometric pressure to 29.92 inches of mercury (1013 hPa by pressing the **METRIC** softkey).
- *BACK* – Press to return to the previous level softkeys.

CDI – Press to change navigation mode on the CDI between GPS NAV1 and NAV2.

OBS – Press to select OBS mode on the CDI when navigating by GPS.

XPDR – Press to display the transponder mode selection softkeys.
- *STBY* – Press to select standby mode.
- *ON* – Press to select mode A.
- *ALT* – Press to select altitude reporting mode.
- *VFR* – Press to automatically squawk 1200 (only in the U.S.A., refer to ICAO standards for VFR codes in other countries).
- *CODE* – Press to display transponder code selection softkeys 0-7.
  - *0 through 7* – Press numbers to enter code.
  - *IDENT* – Press to provide special aircraft position identification to Air Traffic Control (ATC).
  - *BKSP* – Press to remove numbers entered one at a time.
  - *BACK* – Press to return to the previous level softkeys.
- *IDENT* – Press to provide special aircraft position identification to Air Traffic Control (ATC).
- *BACK* – Press to return to the previous level softkeys.

IDENT – Press to provide special aircraft position identification to Air Traffic Control (ATC).

TMR/REF – Press to display the Timer/References window.

NRST – Press to display the Nearest Airports window.

ALERTS – Press to display the Alerts window.

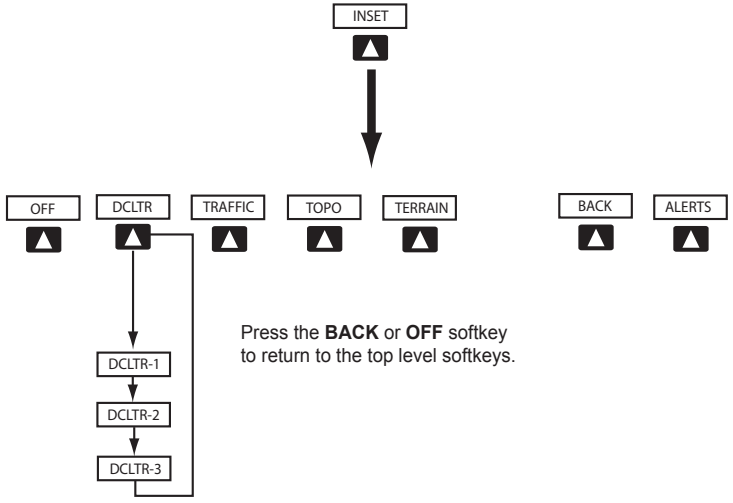


Figure 1-2 PFD Softkey Flow Chart – 1

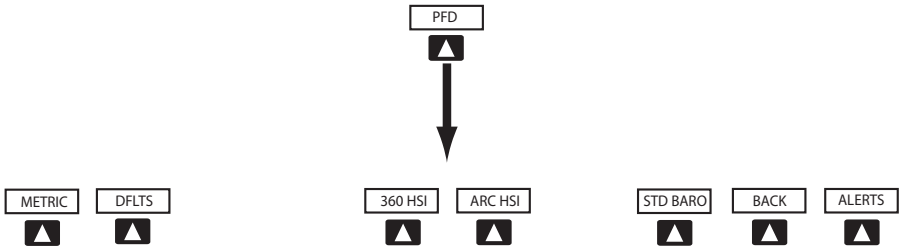


Figure 1-3 PFD Softkey Flow Chart – 2

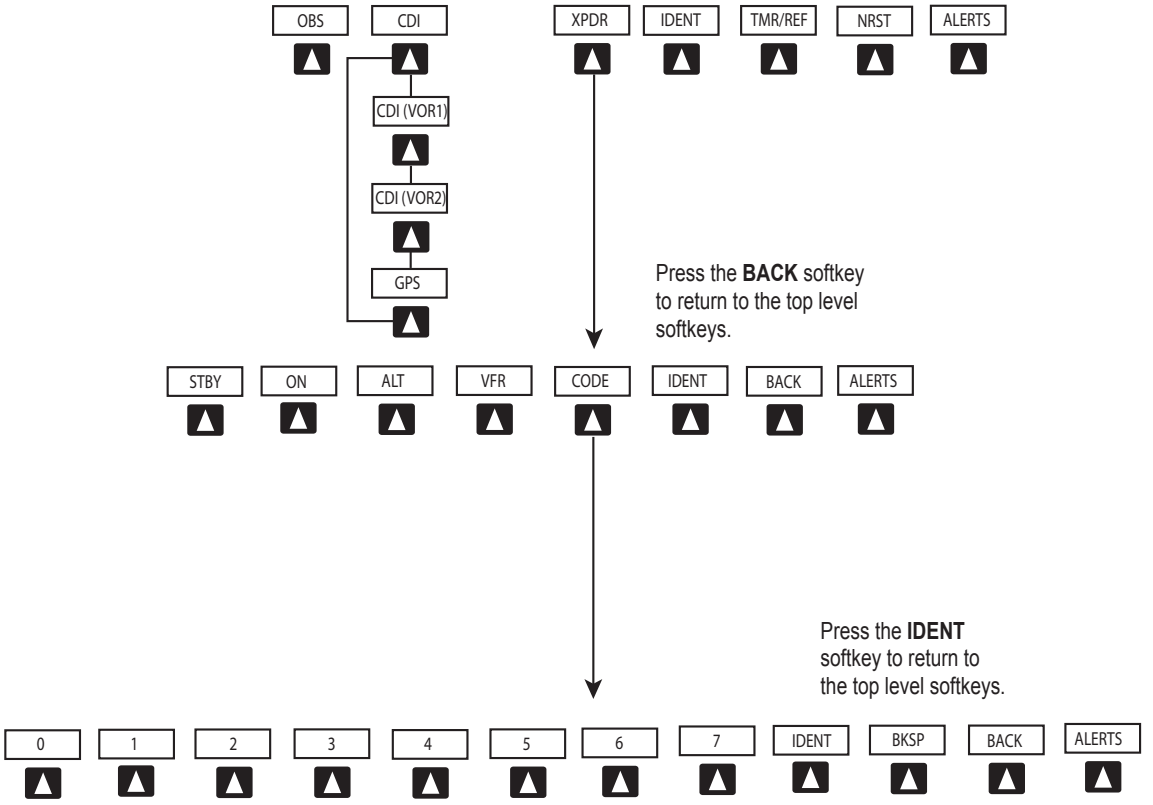


Figure 1-4 PFD Softkey Flow Chart – 3

1.3 MFD SOFTKEYS

ENGINE – Pressing the **ENGINE** softkey makes available the **SYSTEM** and **FUEL** softkeys which in turn access the System Page and the Fuel Page, respectively.

MAP – pressing the **MAP** softkey enables the following softkeys:

TRAFFIC – pressing the **TRAFFIC** softkey displays/removes Traffic on the Navigation Map.

TOPO – pressing the **TOPO** softkey displays or removes topographic information on the Navigation Map.

TERRAIN – pressing the **TERRAIN** softkey displays/removes terrain and obstacle data on the Navigation Map.

BACK – pressing the **BACK** softkey displays the ENGINE and MAP top level softkeys.

DCLTR (declutter) – pressing the **DCLTR** softkey removes map information in three levels.

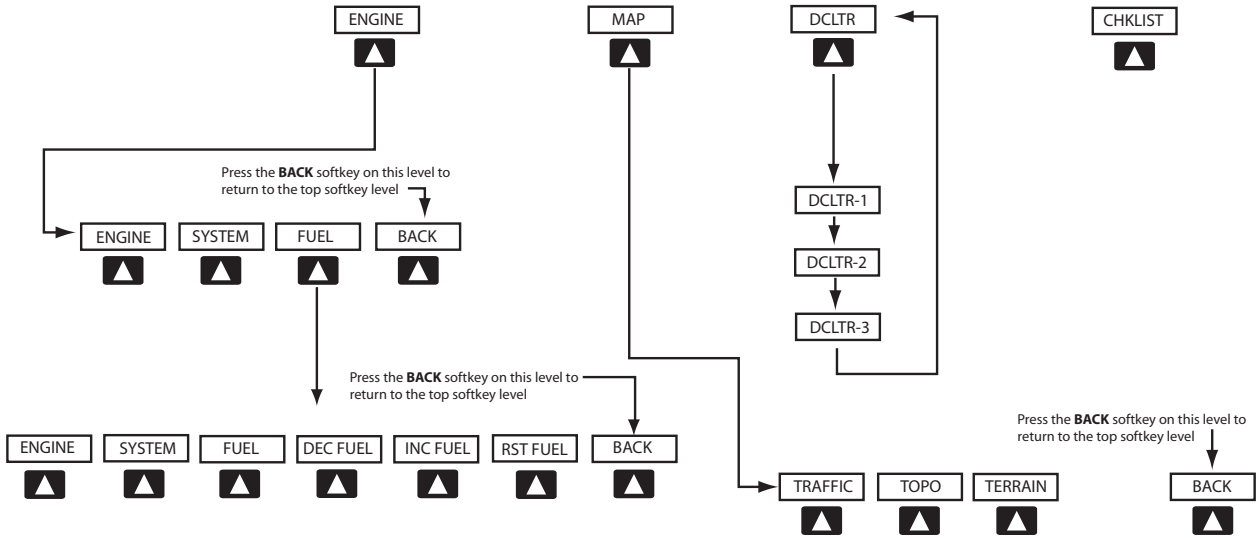


Figure 1-5 MFD Softkeys

1.4 MFD PAGE GROUPS

1. Turn the **large FMS** knob until the desired page group is selected.
2. Turn the **small FMS** knob to select pages within the group. See Figure 1-6.

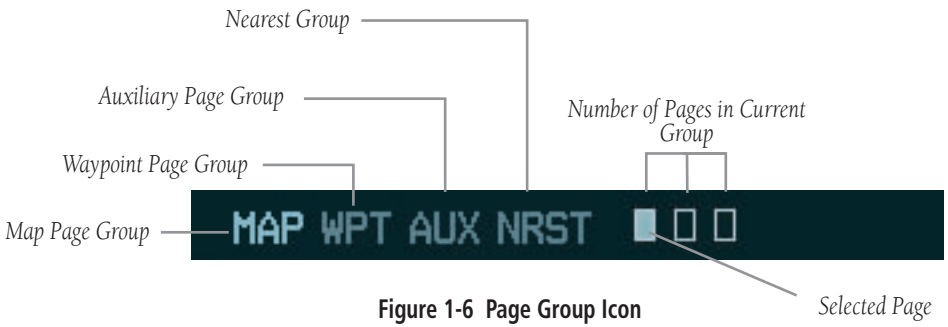


Figure 1-6 Page Group Icon

1.5 BACKLIGHTING

Manually Adjust the Backlight for the PFD and MFD

1. Press the **MENU** key on the PFD to display the PFD Setup Menu window.
2. Press the **small FMS** knob to activate the cursor. 'PFD DSPL > AUTO' is now highlighted.
3. Turn the **small FMS** knob to display the selection window.
4. Turn the **small or large FMS** knob to select 'MANUAL', then press the **ENT** key.
5. With the intensity value now highlighted, turn the **small FMS** knob to select the desired backlighting.
6. Turn the **large FMS** knob to highlight 'MFD DSPL > AUTO' and repeat steps 3 through 6.

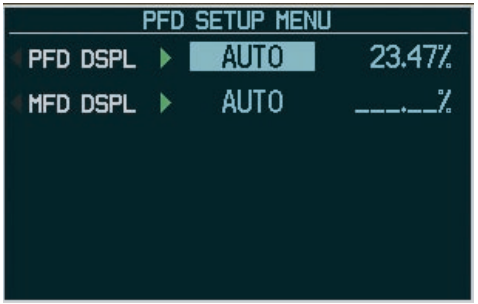
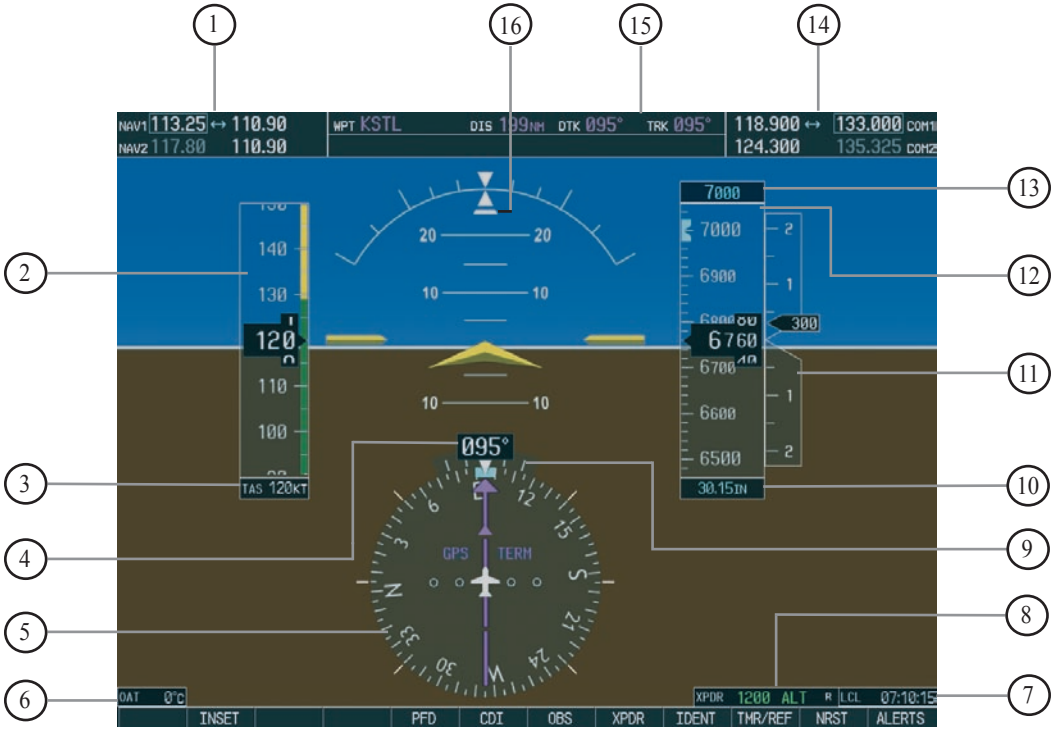


Figure 1-7 PFD Setup Menu Window

SECTION 2: FLIGHT INSTRUMENTS



1. NAV Frequency Window
2. Airspeed Indicator
3. True Airspeed Box
4. Heading Box
5. Horizontal Situation Indicator
6. Outside Air Temperature Box
7. System Time Box
8. Transponder Status Bar
9. Turn Rate Indicator
10. Barometric Setting Box
11. Vertical Speed Indicator
12. Altimeter
13. Altitude Reference Box
14. COM Frequency Window
15. Navigation Status Bar
16. Slip/Skid Indicator

Figure 2-1 Default PFD Information

1. Traffic Annunciation
2. Selected Heading Box
3. Inset Map
4. Softkeys
5. Alerts Window
6. Selected Course Box
7. Annunciation Window
8. Vertical Deviation/Glideslope Indicator
9. Marker Beacon Annunciation

Figure 2-2 Additional PFD Information

Figure 2-3 PFD Navigation Status Window

2.1 AIRSPEED INDICATOR

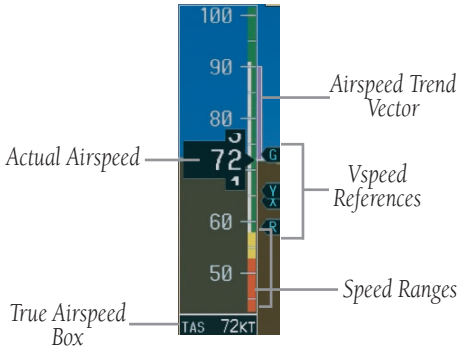


Figure 2-4 Airspeed Indicator

Speed Indication

The indicated airspeed is displayed inside the black pointer. The pointer will become red upon reaching Vne.

Figure 2-5 Red Pointer at Vne

Speed Ranges

The color coded speed range strip denotes flaps operating range, normal operating range, and never exceed speed (Vne). A red range is also present for low speed awareness. Refer to the Airplane Flight Manual (AFM) for airspeed limitations and indicator markings.

Airspeed Trend Vector

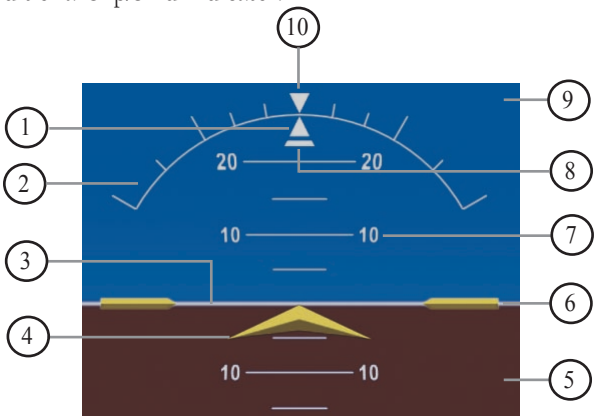
The end of the trend vector displays approximately what the airspeed will be in 6 seconds if the current rate of acceleration/decelaration is maintained.

Vspeed References

Vspeeds are set using the **TMR/REF** softkey. Glide, Vr, Vx and Vy are shown on the References window. When active (ON), the Vspeeds are displayed at their respective locations to the right of the airspeed scale.

2.2 ATTITUDE INDICATOR

The Slip/Skid Indicator is located under the roll pointer and moves laterally away from the pointer to indicate lateral acceleration. One Slip/Skid indicator displacement is equal to one ball displacement when compared to a traditional slip/skid indicator.



1. Roll Pointer
2. Roll Scale
3. Horizon Line
4. Aircraft Symbol
5. Land Representation
6. Aircraft Wing Tips
7. Pitch Scale
8. Slip/Skid Indicator
9. Sky Representation
10. Roll Index

Figure 2-6 Attitude Indicator

2.3 ALTIMETER

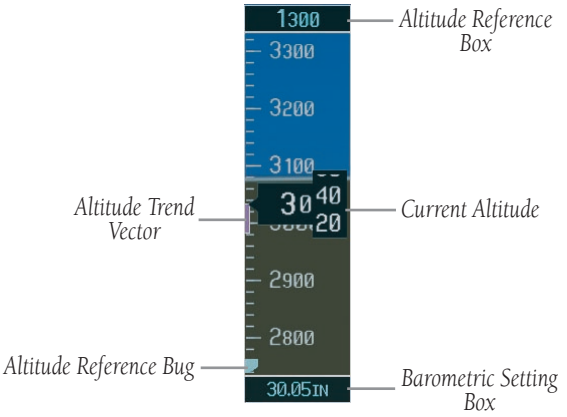


Figure 2-7 Altimeter

Altitude Reference Bug

The Altitude Reference Bug can be set to any desired altitude. The bug acts as a visual reference to indicate the desired altitude is approaching.

To set the altitude reference bug:

1. Turn the **ALT** knobs to set the altitude reference bug. The **small ALT** knob sets the hundreds and the **large ALT** knob sets the thousands. This altitude also appears in the altitude reference box above the altimeter.

Altitude Trend Vector

The end of the trend vector displays approximately what the altitude will be in 6 seconds if the current rate of vertical speed is maintained.

Barometric Setting Box

To select barometric pressure, turn the BARO knob to select the desired setting.

2.4 VERTICAL DEVIATION/GLIDESLOPE INDICATOR

The Vertical Deviation/Glideslope Indicator appears when an ILS is tuned in the active NAV field.

2.5 MARKER BEACON ANNUNCIATIONS

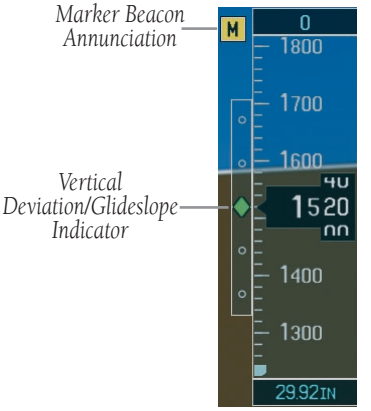


Figure 2-8 Marker Beacon and Vertical Deviation

2.6 VERTICAL SPEED INDICATOR

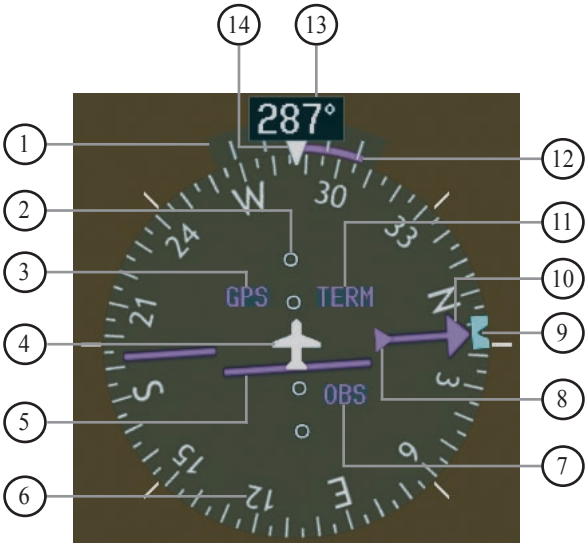
Vertical Speed Pointer

Figure 2-9 Vertical Speed Indicator

2.7 HORIZONTAL SITUATION INDICATOR (HSI)

The HSI compass can be displayed as a 360° rose or 140° arc by pressing the **PFD** softkey, followed by the **360 HSI** or the **ARC HSI** softkey.

360° HSI



1. Turn Rate Indicator
2. Lateral Deviation Scale
3. Navigation Source
4. Aircraft Symbol
5. Course Deviation Indicator
6. Rotating Compass Rose
7. OBS Mode
8. TO/FROM Indicator
9. Heading Bug
10. Course Pointer
11. Flight Phase
12. Turn Rate and Heading Trend Vector
13. Heading
14. Lubber Line

Figure 2-10 Horizontal Situation Indicator

Turn Rate Trend Arrow

The trend arrow provides a prediction of what the heading will be in 6 seconds at the present turn rate.

Figure 2-14 Turn Rate Indicator and Trend Vector

Course Pointer

The course pointer is a single line arrow (GPS, VOR1 and LOC1) or double line arrow (VOR2 and LOC2) which points in the direction of the set course.

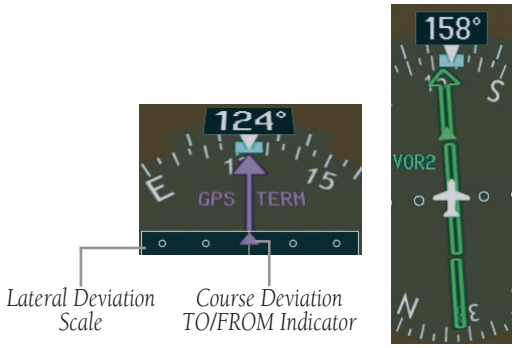


Figure 2-15 Arc CDI and Compass Rose CDI

Course Deviation Indicator (CDI)

The CDI scale automatically adjusts to the current phase of flight (enroute 5.0 nm, terminal area 1.0 nm, or approach 0.3 nm). Scaling may be selected manually from the MFD System Setup Page.

Navigation Source

To change between navigation sources:

1. Press the **CDI** softkey to change from GPS to VOR1/LOC1.
2. Press the **CDI** softkey again to change from VOR1/LOC1 to VOR2/LOC2.
3. Press the **CDI** softkey a third time to return to GPS.

- INTEG – RAIM is not available
- WARN – GPS detects a position error

Figure 2-16 GPS INTEG, GPS SUSP, LOC1 and VOR2

To 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.
3. Press the **OBS** softkey again to return to normal operation.

SECTION 3: ENGINE INDICATION SYSTEM (EIS)

3.1 ENGINE DISPLAY

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

Pressing the **ENGINE** softkey makes available the **LEAN** and **SYSTEM** softkeys which in turn provide access the Lean Page and the System Page, respectively.

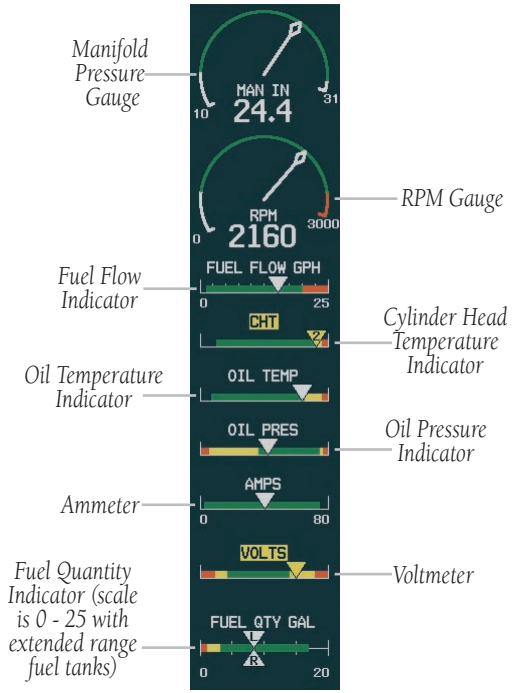


Figure 3-1 Default Engine Page

3.2 LEAN ENGINE DISPLAY

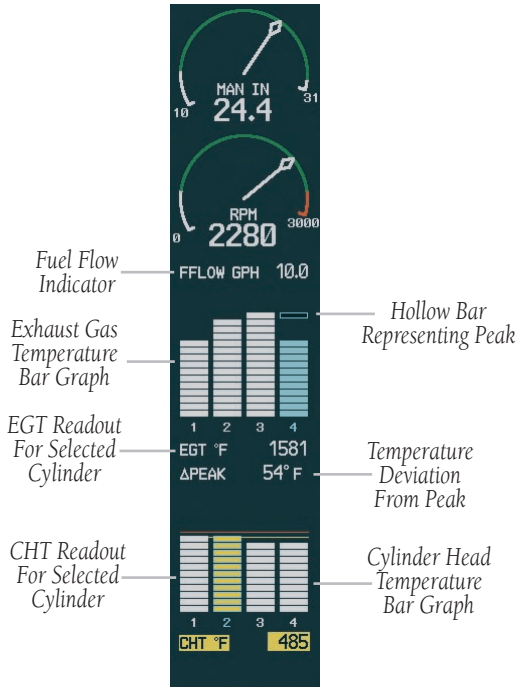


Figure 3-2 LEAN Engine Page

Cylinder Select

The **CYL SLCT** softkey can be utilized to obtain information about a particular cylinder.

The **CYL SLCT** softkey becomes disabled when a particular cylinder turns yellow or red, until the temperature decreases and returns to normal or when the **ASSIST** softkey is pressed.

3.3 ENGINE SYSTEM DISPLAY

If desired the pilot can utilize the **DEC FUEL, INC FUEL** and **RST FUEL** softkeys to adjust the amount of fuel remaining for totalizer calculations.

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

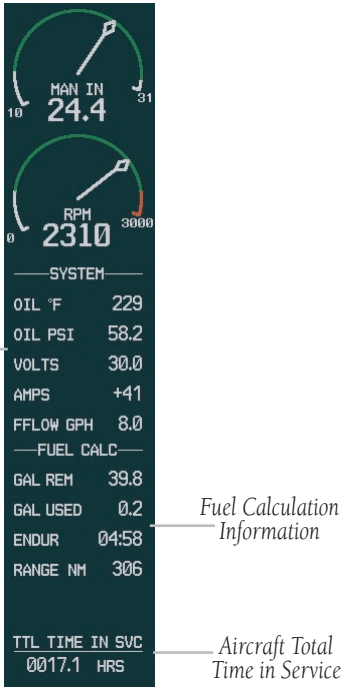


Figure 3-3 SYSTEM Engine Page

SECTION 4: NAV/COM AND TRANSPONDER

Figure 4-1 G1000 VHF NAV/COM Interface (PFD)

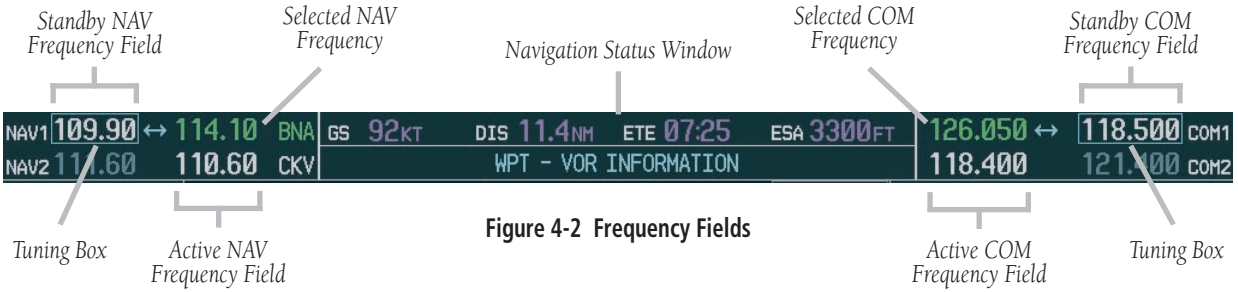


Figure 4-2 Frequency Fields

Figure 4-3 Frequency Toggle Arrow and Tuning Box

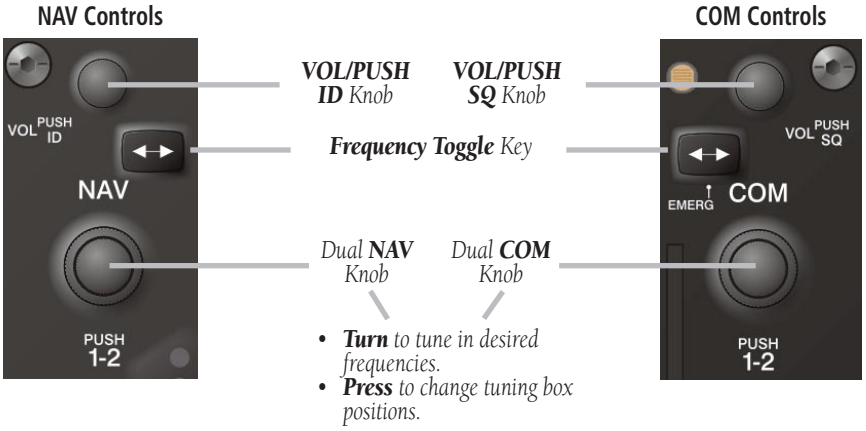


Figure 4-4 NAV/COM Controls

4.1 RADIO STATUS INDICATIONS

- **TX** – When a COM radio is keyed, a white **TX** indication appears to the right of the corresponding COM frequency.
- **ID** – When the Morse code identifier is ON for a NAV radio, a white **ID** indication appears to the left of the corresponding active NAV frequency. The Morse code identifier can be heard if the corresponding NAV radio is selected on the audio panel.

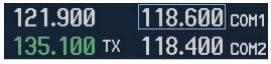


Figure 4-5 Radio Status Indications

4.2 VOLUME

'VOLUME' is displayed in place of the associated radio name (i.e., 'COM1' or 'NAV2') for two seconds after the volume level is last changed.

Figure 4-6 COM Volume Level

4.3 AUTOMATIC SQUELCH

Automatic squelch can be disabled for a COM radio by pressing the **COM** knob to select the desired COM subwindow, then by pressing the **VOL/PUSH SQ** knob.

4.4 QUICKLY ACTIVATING 121.500 MHZ

Pressing and holding the **COM Frequency Toggle** key for approximately two (2) seconds automatically tunes the selected COM radio to the emergency frequency.

4.5 FREQUENCY AUTO-TUNING

Auto-tuning on the PFD

Figure 4-7 Nearest Airports Window (PFD)

1. Press the **NRST** softkey to display the Nearest Airports Window.
2. Turn the **large or small FMS** knob to highlight the desired frequency.
3. Press the **ENT** key to place the frequency in the standby field of the active COM.
4. Press the **Frequency Toggle** key to place the frequency in the active field.

NAV frequencies are entered automatically in the NAV window upon approach loading or approach activation.

Auto-tuning on the MFD

Auto-tuning on the MFD is done in much the same way as on the PFD. Use the **FMS** knobs to select the desired frequency on any of the information pages. Pressing the **ENT** key then loads the selected frequency into the standby frequency window of the appropriate radio.

4.6 TRANSPONDER

Mode Selection

The **STBY**, **ON** and **ALT** softkeys can be accessed by pressing the **XPDR** softkey.

Ground Mode (Automatic)

GND is displayed when the aircraft is on the ground.

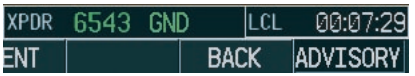


Figure 4-8 Ground Mode

Reply Status

When the transponder sends replies to interrogations, an "R" indication appears momentarily in the reply status field.

Figure 4-9 Reply Indication

Code Selection

1. Press the **XPDR** softkey to display the transponder Mode Selection softkeys.
2. Press the **CODE** softkey to display the transponder Code Selection softkeys, which includes the digit softkeys.
3. Press the appropriate digit softkeys to enter the code in the four-digit code field of the Transponder Status bar. Five seconds after the fourth digit has been entered, the transponder code becomes activated.

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

Following is a list of important codes:

- 1200 – VFR code in the U.S. (please refer to the ICAO standards for VFR codes in other countries).
- 7000 – VFR code commonly used in Europe (please refer to the ICAO standards).
- 7500 – Hijack code.
- 7600 – Loss of communication code.
- 7700 – Emergency code.
- 7777 – Military interceptor operations code (NEVER ENTER THIS CODE).
- 0000 – Code for military use (in the U.S.).

Flight ID Reporting

If so configured, the Flight ID may be entered in the Timer/Reference window. If configuration is set to "SAME AS TAIL" the aircraft tail number will always be displayed. Refer to the Auxiliary Windows & Pages section for entering Flight ID.

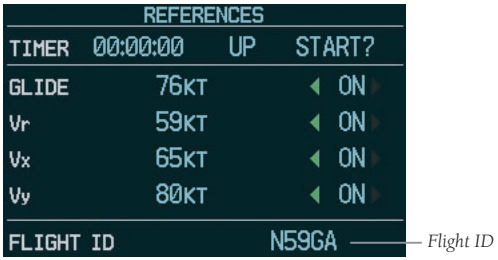


Figure 4-10 Timer/References Window

SECTION 5: AUDIO PANEL

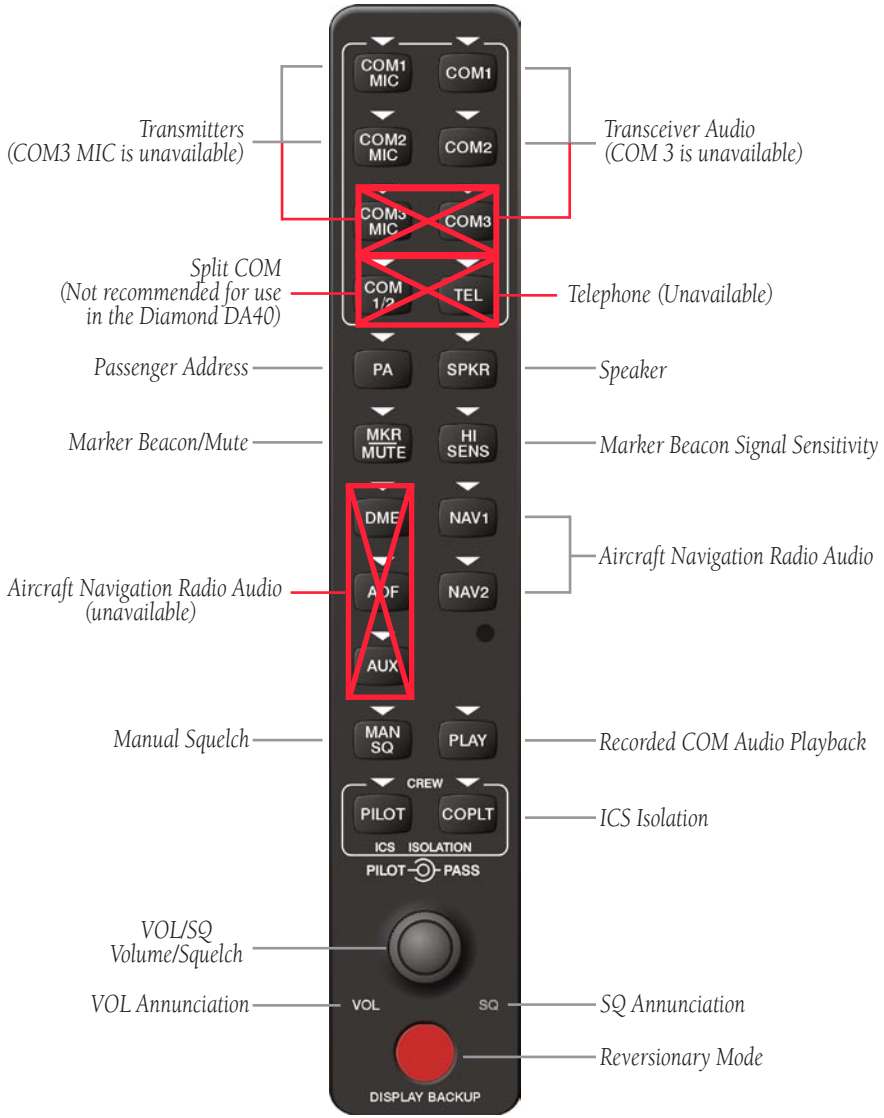


Figure 5-1 Audio Panel Controls

5.1 COM RADIO SELECTION

Pressing the **COM1 MIC** or **COM2 MIC** key selects the active transmitter. The associated receiver audio (**COM1** or **COM2**) also becomes selected when the COM MIC key is pressed.

To prevent deselecting the desired received audio when pressing another COM MIC key, press the already selected **COM1** or **COM2** key before pressing the other COM MIC key.

Figure 5-2 Transceivers

5.2 MARKER BEACON RECEIVER

The marker beacon receiver is always ON. Figure 5-3 shows the marker beacon annunciators on the PFD

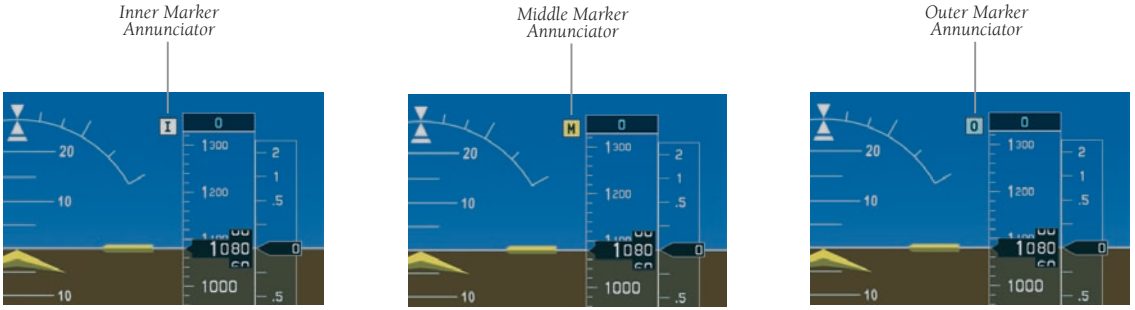


Figure 5-3 Marker Beacon Signal Indicator Lights on the PFD

When the **MKR/MUTE** key is pressed, the key annunciator is lit and the audio tone can be heard over the speaker or headsets during marker reception.

When the tone is acitve, pressing the **MKR/MUTE** key mutes the audio but does not affect the annunciator. The audio returns when the next marker signal is received.

Marker Beacon Signal Sensitivity

The **HI SENS** key can be pressed for increased marker beacon signal sensitivity.

Figure 5-4 Marker Beacon

5.3 NAVIGATION RADIO SELECTION

Pressing **NAV1**, or **NAV2** selects and deselects the radio source and activates the annunciator.

Figure 5-5 Navigation Radios

5.4 INTERCOM SYSTEM (ICS) ISOLATION

Press the **PILOT** and/or **COPLT** key to select the desired mode as shown in Table 5-1.

Figure 5-6 ICS Isolation

5.5 INTERCOM SQUELCH CONTROL

Select manual squelch for intercom audio by pressing the **MAN SQ** key to light the annunciator.

Pressing the **small VOL/SQ** knob now toggles between volume and squelch adjustment by lighting **VOL** or **SQ** respectively.

Figure 5-7 Volume/Squelch Control

Mode	PILOT KEY ANNUNCIATOR	COPLT KEY ANNUNCIATOR	Pilot Hears	Copilot Hears	Passenger Hears
ALL	OFF	OFF	Selected radios; pilot; copilot; passengers; MUSIC 1	Selected radios; pilot; copilot; passengers; MUSIC 1	Selected radios; pilot; copilot; passengers; MUSIC 2
PILOT	ON	OFF	Selected radios; pilot	Copilot; passengers; MUSIC 1	Copilot; passengers; MUSIC 2
COPILOT	OFF	ON	Selected radios; pilot; passengers; MUSIC 1	Copilot	Selected radios; pilot; passengers; MUSIC 2
CREW	ON	ON	Selected radios; pilot; copilot	Selected radios; pilot; copilot	Passengers; MUSIC 2

Table 5-1 ICS Isolation Modes

5.6 DIGITAL CLEARANCE RECORDER WITH PLAYBACK CAPABILITY

Each reception of primary active COM audio is automatically recorded in a memory block. When the next transmission is received, it is recorded in the next memory block, and so on. Once the 2.5 minutes of recording time has been reached, the recorder begins recording over the stored memory blocks, starting from the oldest block. Powering off the unit automatically clears all recorded blocks.

Figure 5-8 Playback

- Pressing **PLAY** once plays back the latest recorded memory block, then returns to normal operation.
- Pressing **PLAY** during playback of a memory block halts the playback of this block and plays back the preceding recorded block. The **PLAY** key can be used to backtrack through the recorded memory blocks to reach and play back any desired block. Pressing the **MKR/MUTE** key during playback halts playback and returns the recorder/playback to normal operation.

If a COM input signal is detected during playback, playback is halted and the new COM input signal is recorded as the latest block.

SECTION 6: AUTOMATIC FLIGHT CONTROL

Automatic Flight Control is not available in the DA40 at the time of this printing.

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SECTION 7: NAVIGATION

7.1 NAVIGATION MAP PAGE

Select the MAP Page Group

1. Turn the **large FMS** knob until **MAP** is highlighted in the page group window in the lower right of the MFD display.
2. Turn the **small FMS** knob to select the first **MAP** page (indicated by a solid rectangular icon).
3. Press the **MAP** softkey to display softkeys for the available information which may be displayed on the map.

WARNING: *The map display should only be used for situational awareness. Any map display indication should be compared with approved navigation sources.*

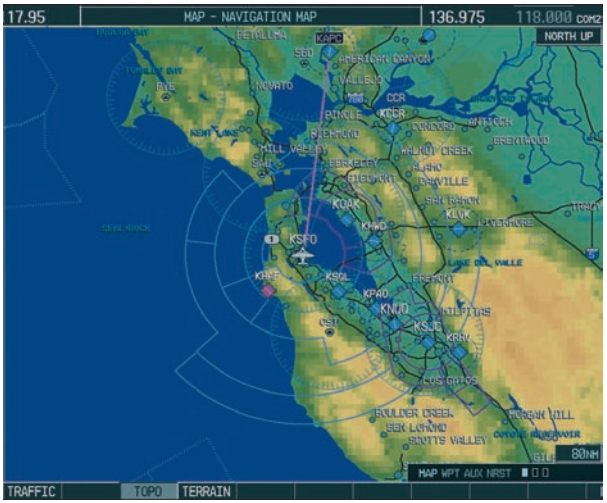

Figure 7-1 Navigation Map Page

7.2 DIRECT-TO NAVIGATION

Direct-to Navigation from the MFD

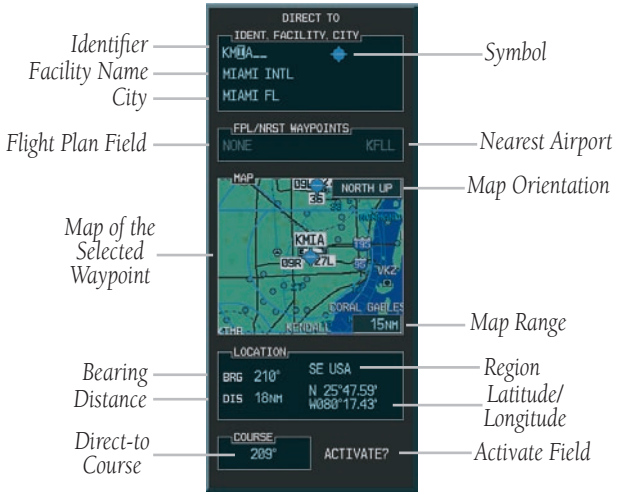

Figure 7-2 MFD Direct-to Window

To enter a Direct-to destination:

1. Press the **Direct-to (D▸)** key.
2. Turn the **small FMS** knob to enter the first letter of the destination waypoint identifier. Turn the **large FMS** knob to the right to move the cursor to the next character position.
3. Repeat step 2 to spell out the rest of the waypoint identifier.
4. Press the **ENT** key to confirm the identifier. The 'Activate?' field is highlighted.
5. Press the **ENT** key to activate.

To select a Direct-to destination to a flight plan waypoint or nearest airport:

1. Press the **Direct-to (D▸)** key.
2. Turn the **large FMS** knob to highlight the Flight Plan Field or Nearest Airport Field.
3. Turn the **small FMS** knob to display a list waypoints or airports.

4. Continue turning the **small FMS** knob to scroll through the list and highlight the desired waypoint or airport.
5. Press the **ENT** key to confirm the selection. Press **ENT** again to activate a Direct-to.

To re-center the CDI (HSI) needle to the same destination waypoint:

1. Press the **Direct-to** (D▸) key, followed by pressing the **ENT** key twice. NOTE: If a missed approach point (MAP) is the current destination, the approach will be canceled.

To manually define the Direct-to course:

1. Press the **Direct-to** (D▸) key.
2. Turn the **small and large FMS** knobs to select the destination waypoint.
3. Press the **ENT** key to confirm the selected waypoint, then turn the **large FMS** knob to highlight the Direct-to Course field.
4. Turn the **small and large FMS** knobs to select the desired course and press the **ENT** key.
5. Press the **ENT** key again to begin navigation using the selected destination and course.

Canceling Direct-to Navigation:

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

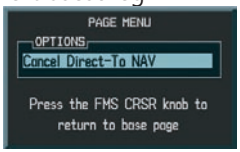

Figure 7-3 Canceling Direct-to Navigation

Direct-to Navigation from the PFD

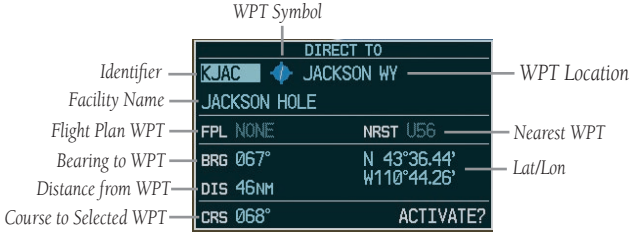

Figure 7-4 PFD Direct-to Window

1. Press the Direct-to key (D▸).
2. Turn the **large FMS** knob to place the cursor in the desired selection field.
3. Turn the **small FMS** knob to begin selecting the desired identifier, location, etc.
4. Press the **ENT** key.
5. The cursor is now flashing on 'ACTIVATE?'. Press the **ENT** key again to activate.

Cancelling Direct-to Navigation:

1. Press the Direct-to (D▸) key.
2. Press the **MENU** key to display the Options Window. The cursor will be flashing on 'Cancel Direct-to NAV'.
3. Press the **ENT** key to cancel the direct-to.

7.3 AIRPORT INFORMATION

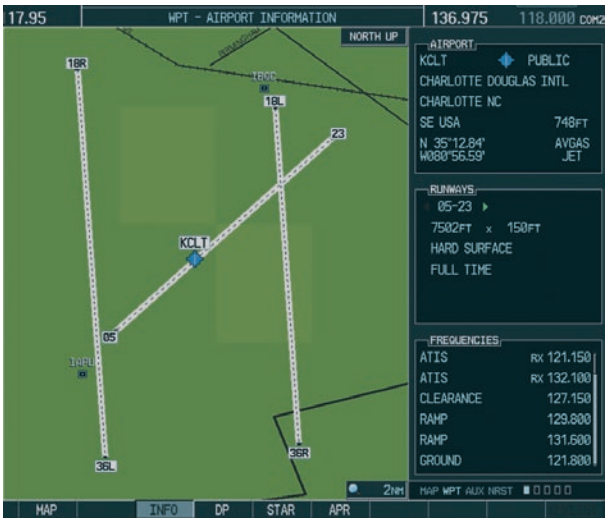

Figure 7-5 Airport Information Page

Select the Airport Information Page

1. Turn the **large FMS** knob to select the 'WPT' page group. Turn the **small FMS** knob to select the first rectangular page icon.

Enter a Waypoint Facility Name or City Location:

1. Press the **FMS** knob to activate the cursor.
2. Turn the **large FMS** knob to select the facility name or location (city) field.
3. Turn the **small FMS** knob to select the desired character.
4. Turn the **large FMS** knob to select the next character field.
5. Repeat steps 3 and 4 until the facility name or location is selected, then press the **ENT** key. If there are duplicate names in the database, a list is displayed from which to chose the desired location.
7. To remove the flashing cursor, press the **FMS** knob.

Access Runway Information

1. Press the **FMS** knob to activate the cursor.
2. Turn the **large FMS** knob to place the cursor on the Runways field.
3. Turn the **small FMS** knob to display the next runway for the selected airport.
4. Continue turning the **small FMS** knob to select the desired runway.
5. To remove the flashing cursor, press the **FMS** knob.

Access Frequency Information

1. Press the **FMS** knob to activate the cursor.
2. Turn the **large FMS** knob to move the cursor to the Frequencies window.
3. Turn the **small or large FMS** knob to scroll through the list, placing the cursor on the desired frequency.
4. Press the **ENT** key to place the selected frequency in the standby field of the 'COM' or 'NAV' window.
5. To remove the flashing cursor, press the **FMS** knob.

- 'TX' – transmit only, RX - receive only
- 'PT' – part time frequency
- 'i' – additional information exists, press the **ENT** key

If a listed frequency has sector or altitude restrictions, the frequency is preceded by an info designation.

7.4 INTERSECTION INFORMATION

Select the Intersection Information Page

1. Turn the **large FMS** knob to select the WPT page group.
2. Turn the **small FMS** knob to select the second rectangular page icon.

Figure 7-6 Intersection Information Page

Access Information on an Intersection

1. With the Intersection Information Page displayed, press the **FMS** knob to activate the cursor.
2. Turn the **small and large FMS** knobs to enter a name for the identifier and press the **ENT** key.
3. Press the **FMS** knob to remove the flashing cursor.

7.5 NDB INFORMATION

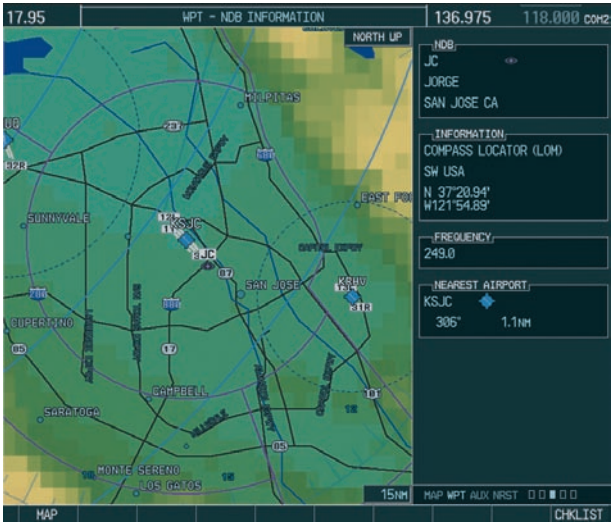

Figure 7-7 NDB Information Page

Select the NDB Information Page

1. Turn the **large FMS** knob to select the WPT page group.
2. Turn the **small FMS** knob to select the third rectangular page icon

View Information on a Specific NDB:

1. With the NDB Information Page displayed, press the **FMS** knob to activate the cursor.
2. Turn the **large FMS** knob to highlight the desired selection field (identifier, name or closest city).
3. Turn the **small and large FMS** knobs to enter an identifier, name or city and press the **ENT** key.
4. Press the **FMS** knob to remove the flashing cursor.

7.6 VOR INFORMATION

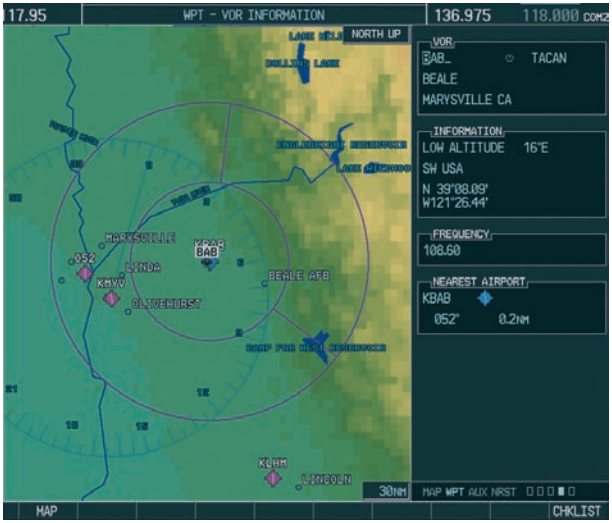

Figure 7-8 VOR Information Page

Select the VOR Information Page

1. Turn the **large FMS** knob to select the WPT page group.
2. Turn the **small FMS** knob to select the fourth rectangular page icon.

Access Information on a VOR:

1. With the VOR Information Page displayed, press the **FMS** knob to activate the cursor.
2. Turn the **large FMS** knob to highlight the desired selection field (identifier, name or closest city).
3. Turn the **small and large FMS** knobs to enter an identifier, name or city and press the **ENT** key.
4. Press the **FMS** knob to remove the flashing cursor.

7.7 USER WAYPOINT INFORMATION PAGE

See the Flight Planning section for a discussion on creating and modifying user defined waypoints.

7.8 NEAREST AIRPORTS

Figure 7-9 Nearest Airports Page

Nearest Airport Information on the MFD

Select the Nearest Airports Page

1. Turn the **large FMS** knob to select the NRST page group.
2. Turn the **small FMS** knob to select the first rectangular page icon.

Access Information on a Specific Airport

1. Press the **APT** softkey located at the bottom of the display. The first airport in the nearest airports list is highlighted.
2. Turn the **large FMS** knob to highlight the desired airport.

Access Runway Information for the Selected Airport

1. Press the **RNWY** softkey located at the bottom of the display.
2. Turn the **small FMS** knob to select the desired runway.

Quickly Tune the COM Transceiver to a Nearby Airport Frequency

1. Press the **FREQ** softkey located at the bottom of the display.
2. Turn either the **small or large FMS** knob to select the desired frequency.
3. Press the **ENT** key. The selected frequency is placed in the standby frequency tuning box.
4. Press the **Frequency Toggle** key to place the frequency in the active field.

Nearest Airports Information on the PFD

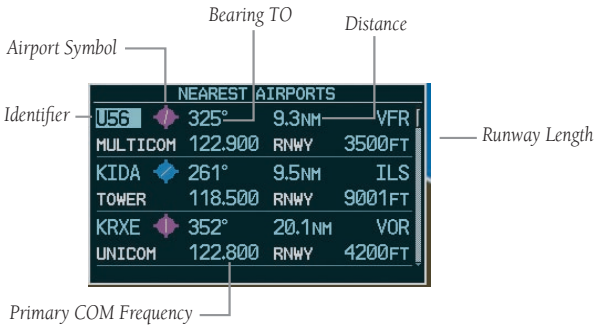

Figure 7-10 Nearest Airports Window

1. Press the **NRST** softkey to display the PFD Nearest Airports Window.

View Information on a Specific Airport in the List

1. Turn the **large FMS** knob to place the cursor on the desired airport identifier.
2. Press the **ENT** key to display airport information.
3. Press the **ENT** key again (cursor is on 'BACK') to return to the list.

Load an Airport COM Frequency into the Active COM

1. Turn the **large FMS** knob to place the cursor on the desired airport frequency shown in the window.
2. Press the **ENT** key and the selected frequency will become the standby frequency for the active COM.
3. Press the **Frequency Toggle** key to make the frequency the active frequency.

7.9 NEAREST INTERSECTIONS

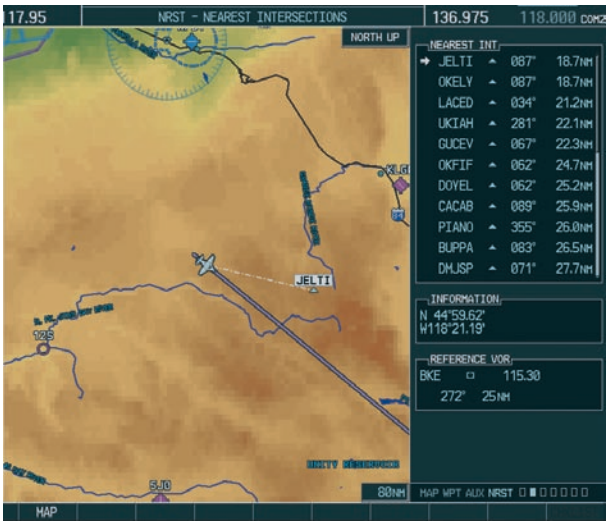

Figure 7-11 Nearest Intersections Page

Select the Nearest Intersections Page

1. Turn the **large FMS** knob to select the NRST page group.

2. Turn the **small FMS** knob to select the second rectangular page icon.

View Information on the Nearest Intersection

1. Press the **FMS** knob to activate the cursor.
2. Turn either the **small or large FMS** knob to select the desired intersection. Press the **ENT** key.

7.10 NEAREST NDB

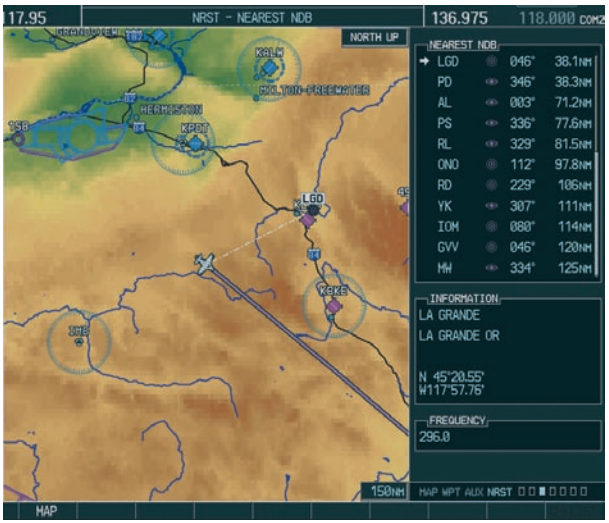

Figure 7-12 Nearest NDB Page

Select the Nearest NDB Page

1. Turn the **large FMS** knob to select the NRST page group.
2. Turn the **small FMS** knob to select the third rectangular page icon.

Access Information on a Specific NDB

1. Press the **FMS** knob to activate the cursor.
2. Turn either the **small or large FMS** knob to select the desired NDB. Press the **ENT** key. The remaining information on the Nearest NDB Page pertains to the selected NDB.

7.11 NEAREST VOR

Select the Nearest VOR Page

1. Turn the **large FMS** knob to select the NRST page group.
2. Turn the **small FMS** knob to select the fourth rectangular page icon.

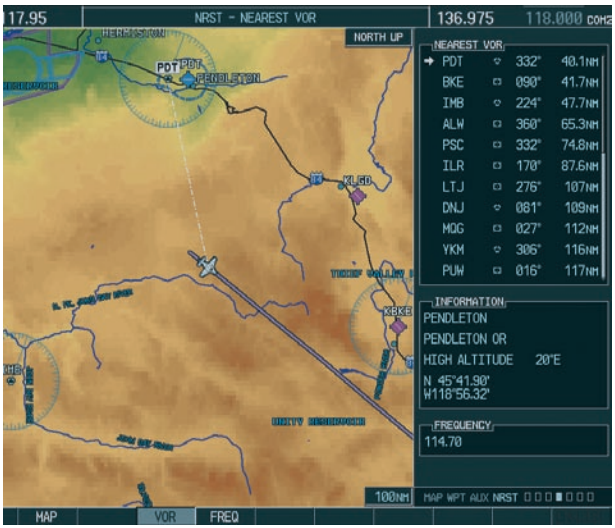

Figure 7-13 Nearest VOR Page

View Information on the Nearest VOR:

1. With the Nearest VOR Page selected, press the **VOR** softkey.
2. Turn the **small or large FMS** knob to select a VOR. Press the **ENT** key.

OR Press the **MENU** key. Select the Select VOR

Window option and press the **ENT** key. Turn either the **small or large FMS** knob to select a VOR.

Select and Load a VOR Frequency

1. With the Nearest VOR Page selected, press the **FREQ** softkey to highlight the VOR frequency for the selected VOR.
2. Press the **ENT** key. The selected VOR frequency is placed in the NAV standby frequency field.

OR Press the **MENU** key. Select the Select Frequency Window option and press the **ENT** key. Press the **ENT** key again when the frequency field is highlighted to place the selected VOR frequency in the NAV standby field.

7.12 NEAREST USER WAYPOINT

Figure 7-14 Nearest User Waypoints Page

Select the Nearest User Waypoint Page

1. Turn the **large FMS** knob to select the NRST page group.
2. Turn the **small FMS** knob to select the fifth rectangular page icon.

Select a Nearest User Waypoint

1. With the Nearest User Waypoint Page selected, press the **FMS** knob to activate the cursor.
2. Press the **ENT** key to select the Nearest User Waypoint.
3. The remaining information on the Nearest User Waypoint Page pertains to the selected Nearest User Waypoint.

7.13 NEAREST FREQUENCIES

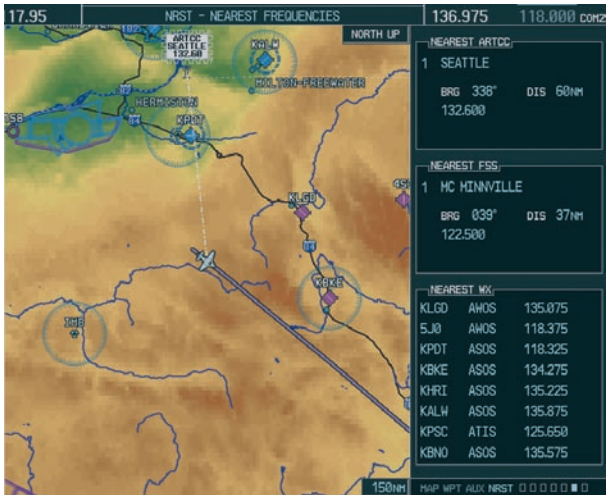

Figure 7-15 Nearest Frequencies Page

Select the Nearest Frequencies Page

1. Turn the **large FMS** knob to select the NRST page group.
2. Turn the **small FMS** knob to select the sixth rectangular page icon.

Select and Load the Nearest ARTCC, FSS, or Weather Frequency

1. With the Nearest Frequencies Page selected, press the **ARTCC, FSS,** or **Wx** softkey.
2. Turn the **large FMS** knob to select the frequency.
3. Press the **ENT** key to load the frequency into the 'COM' frequency standby field.

7.14 NEAREST AIRSPACES

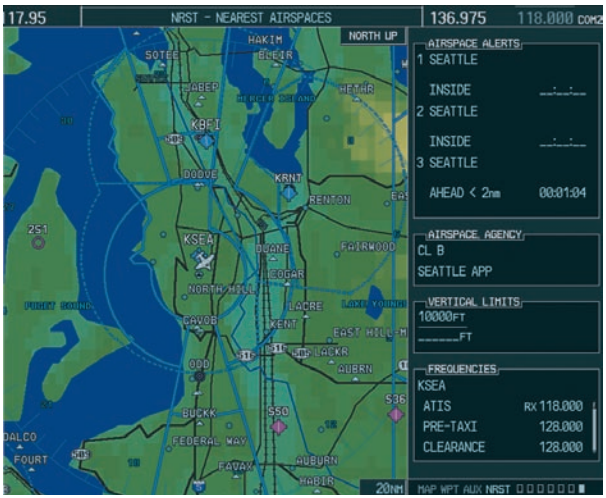

Figure 7-16 Nearest Airspaces Page

Select the Nearest Airspaces Page

1. Turn the **large FMS** knob to select the NRST page group.
2. Turn the **small FMS** knob to select the seventh rectangular page icon.

Airspace Alerts Box

- If the projected course takes the aircraft inside an airspace within the next ten minutes, 'Ahead' is displayed.
- If the aircraft is within two nautical miles of an airspace and the current course takes the aircraft inside, 'Ahead < 2 nm' is displayed.
- If the aircraft is within two nautical miles of an airspace and the current course will not take the aircraft inside, 'Within 2 nm' is displayed.
- If the aircraft has entered an airspace, 'Inside' is displayed.

View Additional Details for a Listed Airspace

1. Select the Nearest Airspace Page.
2. Press the **FMS** knob to activate the cursor.
3. Turn the **large FMS** knob to scroll through the list, highlighting the desired airspace.
4. Press the **ALERTS** softkey and turn either the **small or large FMS** knob to select the desired airspace.
5. Press the **FMS** knob to remove the flashing cursor.

View and Quickly Load the Frequency for a Controlling Agency

1. Select the Nearest Airspaces Page.
2. Press the **FREQ** softkey and turn the **small or large FMS** knob to select the desired frequency. Press the **ENT** key to load the frequency into the 'COM' frequency standby field.

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SECTION 8: FLIGHT PLANNING

8.1 USER DEFINED WAYPOINTS

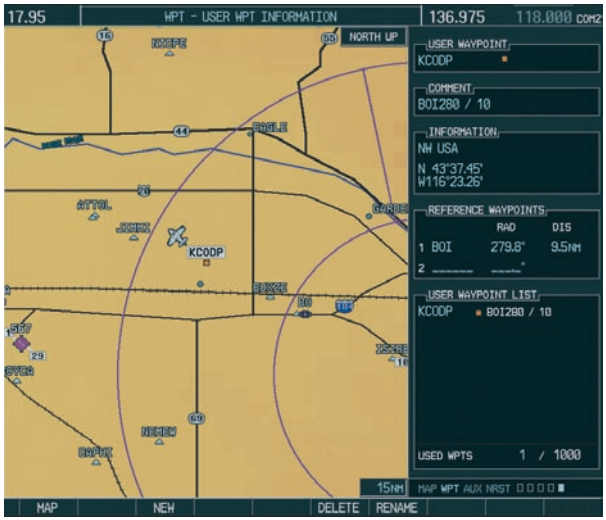

Figure 8-1 User WPT Information Page

Select the User WPT Information Page

1. Turn the **large FMS** knob to select the NRST page group.
2. Turn the **small FMS** knob to select the fifth rectangular page icon.

Create a New User Waypoint

1. With the User Waypoint Information Page displayed, press the **FMS** knob to activate the cursor.
2. Turn the **small and large FMS** knobs to enter a name for the new waypoint and press the **ENT** key. The message 'Are you sure you want to create the new user waypoint' is displayed. With 'YES' highlighted, press the **ENT** key.
3. Turn the **large FMS** knob to highlight the latitude/longitude field or the Reference Waypoints field, depending on how the waypoint is to be defined.
4. Turn the **small and large FMS** knobs to enter the position coordinates or the radial and distance from the reference waypoint.
5. Press the **ENT** key to accept the new waypoint.
6. Press the **FMS** knob to remove the flashing cursor.

Create User Waypoints from the Navigation Map Page

1. With the Navigation Map Page displayed, push the **joystick** to activate the panning function. The target pointer is displayed at the present aircraft position.
2. After placing the pointer at the desired position, press the **ENT** key. The User Waypoint Information Page is now displayed with the captured position.
3. Turn the **small and large FMS** knobs to select a waypoint name.
4. Press the **ENT** key to accept the selected name. The first reference waypoint field is highlighted.
5. If desired, turn the **small and large FMS** knobs to enter the identifier of the reference waypoint and the radial and distance to the reference waypoint. Press the **ENT** key to accept.
6. Press the **FMS** knob to remove the flashing cursor.

Modify a User Waypoint

1. With the User Waypoint Information Page displayed, press the **FMS** knob to activate the cursor.
2. Turn the **large FMS** knob to move the cursor to the desired field and turn the **small FMS** knob to make changes.
3. Press the **ENT** key to accept the changes.
4. Press the **FMS** knob to remove the flashing cursor.

Delete a User Waypoint

1. Select the User Waypoint Information Page and press **MENU** to display the User Waypoint Information Page Options or press the **DELETE** softkey.
2. Turn the **large FMS** knob to select 'Delete User Waypoint' and press the **ENT** key. The message 'Would you like to delete the user waypoint' is displayed. With 'YES' highlighted, press the **ENT** key.

8.2 VIEWING THE ACTIVE FLIGHT PLAN

1. Press the **FPL** key.

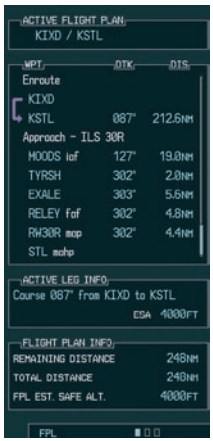

Figure 8-2 Active Flight Plan Page on the MFD

Figure 8-3 Active Flight Plan Window on the PFD

8.3 ACTIVATE A STORED FLIGHT PLAN

1. Press the **FPL** key and turn the **small FMS** knob to display the Flight Plan Catalog Page.

Figure 8-4 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 and press the **ACTIVE** softkey.
4. 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.

8.4 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 destination waypoint.

2. Press the **ACT LEG** softkey (using MFD only).

   or

3. 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.
4. With 'Activate' highlighted, press the **ENT** key.

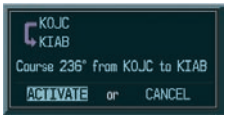

Figure 8-5 Activate Flight Plan Leg Confirmation

8.5 STOP NAVIGATING A FLIGHT PLAN

1. Press the **FPL** key and turn the **small FMS** knob to display the Active Flight Plan Page.
2. Press the **ENT** key to display the Page Menu window.

Figure 8-6 Delete Flight Plan

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.

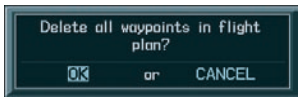

Figure 8-7 Delete Flight Plan Confirmation

8.6 INVERT ACTIVE FLIGHT PLAN

1. From the Active Flight Plan Page, press the **MENU** key to display the Page Menu.
2. Turn the **large FMS** knob to highlight 'Invert Flight Plan' and press the **ENT** key. The original flight plan remains intact in its flight plan catalog storage location.
3. With 'OK' highlighted, press the **ENT** key to invert the flight plan.

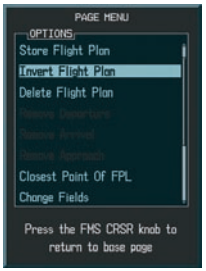

Figure 8-8 Invert Flight Plan

Figure 8-9 Invert Flight Plan Confirmation

8.7 CREATE A NEW FLIGHT PLAN

To create a new flight plan using the MFD:

1. Press the **FPL** key and turn the **small FMS** knob to display the Flight Plan Catalog Page.
2. Press the **NEW** softkey to display a blank flight plan page for the first empty storage location.

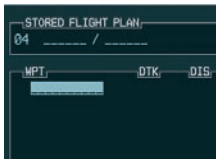

Figure 8-10 Create FPL on MFD

3. Turn the **small FMS** knob to display the Waypoint Information Page. Turn the **small FMS** knob to enter the first character of the identifier of the departure waypoint. Turn the **large FMS** knob to move the cursor to the next character field. Repeat using the **large and small FMS** knobs until the desired identifier has been entered.

Figure 8-11 Waypoint Info Window

4. Press the **ENT** key.
5. Repeat step number 3 to enter the identifier for each additional flight plan waypoint.
6. 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.

Create a new flight plan using the PFD

NOTE: *A flight plan cannot be entered using the PFD if another flight plan is active.*

NOTE: *After the first leg is entered (using the PFD only), it is immediately activated.*

1. Press the **FPL** key and press the **small FMS** knob to activate the cursor.
2. Turn the **small FMS** knob to enter the first character of the flight plan starting identifier.
3. Turn the **large FMS** knob to move the cursor to the next character field.
4. Turn the **small FMS** knob to enter the next character. Continue this process until the desired identifier is entered.
5. Press the **ENT** key and the cursor is now ready for entering of the next flight plan waypoint.
6. Repeat steps 2 through 5 to enter the identifier for each additional flight plan waypoint.
7. Once all waypoints have been entered, press the **FMS** knob to return to the Active Flight Plan Window.

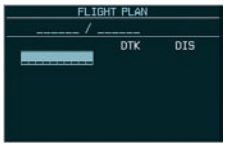

Figure 8-12 Creating Flight Plan on the PFD

8.8 LOAD A DEPARTURE

See the Procedures section for a discussion on loading and activating departure procedures.

8.9 LOAD AN ARRIVAL

See the Procedures section for a discussion on loading and activating arrival procedures.

8.10 LOAD AN APPROACH

See the Procedures section for a discussion on loading and activating approach procedures.

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

1. With the Active or Stored Flight Plan Page displayed, press the **small FMS** knob to activate the cursor.
2. Turn the **large FMS** knob to highlight the title for the approach, departure or arrival to be deleted. Titles appear in white directly above the procedure's waypoints.
3. Press the **CLR** key to display a confirmation window. With 'OK' highlighted, press the **ENT** key to remove the selected procedure.

8.12 STORE A FLIGHT PLAN

1. From the Flight Plan Page, press the **FMS** knob to activate the cursor.
2. Turn the **large FMS** knob to highlight the desired flight plan and press the **MENU** key to display the Flight Plan Page options.
3. Turn the **large FMS** knob to highlight 'Store Flight Plan' and press the **ENT** key.
4. With 'OK' highlighted, press the **ENT** key to store the flight plan.

Figure 8-13 Store Flight Plan Confirmation

8.13 EDIT A STORED FLIGHT PLAN

1. Press the **FPL** key and turn the **small FMS** knob to display the Flight Plan Catalog Page.
2. Press the **FMS** knob to activate the cursor.
3. Turn the **large FMS** knob to highlight the desired flight plan and press the **ENT** key.
4. Turn the **small and large FMS** knobs to make the desired changes, then press the **ENT** key.
5. Press the **FMS** knob to return to the Flight Plan Catalog Page.

8.14 DELETE A WAYPOINT FROM THE FLIGHT PLAN

1. Press the **FPL** key and turn the **small FMS** knob to display the Flight Plan Catalog Page.
2. Press the **FMS** knob to activate the cursor.
3. Turn the **large FMS** knob to highlight the desired flight plan and press the **ENT** key.
4. Turn the **large FMS** knob to select the waypoint to be deleted and press the **CLR** key to display a 'REMOVE WAYPOINT' confirmation window.
5. 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.
6. Once all changes have been made, press the **FMS** knob to return to the Flight Plan Page.

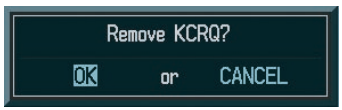

Figure 8-14 Remove Waypoint Confirmation

8.15 INVERT AND ACTIVATE A STORED FLIGHT PLAN

1. From the Flight Plan Catalog Page, press the **FMS** knob to activate the cursor.
2. Turn the **large FMS** knob to highlight the desired flight plan and press the **MENU** key to display the Page Menu options.

3. Turn the **large FMS** knob to highlight 'Invert Flight Plan' and press the **ENT** key. The original flight plan remains intact in its flight plan catalog storage location.
4. With 'OK' highlighted, press the **ENT** key to invert the flight plan.

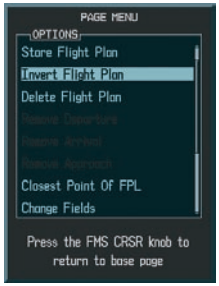

Figure 8-15 Invert Flight Plan

8.16 COPY A FLIGHT PLAN

1. From the Flight Plan Catalog press the **FMS** knob to activate the cursor, turn the **large FMS** knob to highlight the flight plan to be copied, then press the **MENU** key to display the Flight Plan Catalog Options.
2. Turn the **large FMS** knob to highlight 'Copy Flight Plan #' and press the **ENT** key.
3. A 'Copy to flight plan?' confirmation window is displayed. 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.

8.17 DELETE A FLIGHT PLAN

1. From the Flight Plan Catalog Page, press the **FMS** knob to activate the cursor, turn the **large FMS** knob to highlight the flight plan to be deleted.
2. Press the **MENU** key to display the Flight Plan Catalog options.
3. Turn the **large FMS** knob to highlight 'Delete Flight Plan' and press the **ENT** key.
4. A 'Delete flight plan?' confirmation window is displayed. 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.

8.18 GRAPHICAL FLIGHT PLAN CREATION

1. Press the **FPL** key to display the Active Flight Plan Page.
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. Press the **LD WPT** softkey. The selected waypoint will be inserted at the end of the flight plan.
4. If the selected waypoint is to be placed elsewhere in the flight plan, press the **FMS** knob to activate the cursor. Waypoints are inserted ABOVE the cursor.
5. After placing the cursor at the desired point in the list of waypoints, press the **LD WPT** softkey.

8.19 TRIP PLANNING

1. Turn the **large FMS** knob to select the AUX page group.
2. Turn the **small FMS** knob to select the first rectangular page icon.

3. The current page mode is displayed at the top of the page: 'AUTOMATIC' or 'MANUAL'. To change the page mode, press the **AUTO** or **MANUAL** softkey.

Figure 8-16 Trip Planning Page

4. For Direct-to planning, press the **WPTS** softkey and verify that the 'from' waypoint field indicates P.POS (present position). If necessary, press the **MENU** key and select 'Set WPT to Present Position' to display P.POS. Press the **ENT** key and the flashing cursor moves to the 'to' waypoint field. Turn the **small and large FMS** knobs to enter the identifier of the 'to' waypoint and press the **ENT** key to accept the waypoint. OR,

5. For point-to-point planning, turn the **small and large FMS** knobs to enter the identifier of the 'from' waypoint. Once the waypoints identifier is entered, press the **ENT** key to accept the waypoint. The flashing cursor moves to the 'to' waypoint. Again, turn the **small and large FMS** knobs to enter the identifier of the 'to' waypoint and press the **ENT** key to accept the waypoint. OR,

6. For flight plan leg planning, press the **FPL** softkey (at the bottom of the display) and turn the **small FMS** knob to select the desired flight plan (already stored in memory), by number. Turn the **large FMS** knob to highlight the 'LEG' field and 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.

7. Turn the **large FMS** knob to highlight the departure time (DEP TIME) field.

8. Turn the **small and large FMS** knobs to enter the departure time. Press the **ENT** key when finished. (Departure time may be entered in local or UTC time, depending upon unit settings).

9. Turn the **small and large FMS** knobs to enter the fuel flow. Press the **ENT** key when finished. Note that in automatic page mode, fuel flow is provided by the system.

10. The flashing cursor moves to the fuel on board field. Turn the **small and large FMS** knobs to modify the fuel on board. Press the **ENT** key when finished. Note that in automatic mode this is provided by the system.

11. The flashing cursor moves to the calibrated airspeed field. Turn the **small and large FMS** knobs to enter an calibrated airspeed. Press the **ENT** key when finished.

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SECTION 9: PROCEDURES

9.1 ARRIVALS AND DEPARTURES

Load and Activate a Departure Procedure

1. With the Navigation Map Page displayed, press the **FPL** key.
2. Press the **LD DP** softkey. If a flight plan is active, the departure airport will be displayed as the default. A list of available departures is also displayed.
3. If no flight plan is active, use the l**arge and small FMS** knobs to enter the identifier of the desired airport. Press the **ENT** key.
4. Turn the **large FMS** knob to highlight the Departure field. Turn the **small FMS** knob to display a list of available departures.
5. Turn either the **small or large FMS** knob to select the desired departure and press the **ENT** key.

Figure 9-1 Select Departure

6. A list of runways may be displayed for the departure. Turn the **small or large FMS** knob to select the desired runway and press the **ENT** key.
7. A list of available transitions is displayed for the departure. Turn either the **small or large FMS** knob to highlight the desired transition waypoint and press the **ENT** key.

Figure 9-2 Select Departure Transition

8. With 'LOAD?' highlighted, press the **ENT** key. The departure will be active when the flight plan is active.

Load and Activate An Arrival Procedure

1. With the Navigation Map Page displayed, press the **FPL** key.
2. Press the **LD STAR** softkey. If a flight plan is active, the destination airport will be displayed as the default. A list of available arrivals is also displayed.
3. If no flight plan is active, use the l**arge and small FMS** knobs to enter the identifier of the desired airport. Press the **ENT** key.
4. Turn the **large FMS** knob to highlight the Arrival field. Turn the **small FMS** knob to display a list of available arrivals.
5. Turn either the **small or large FMS** knob to select the desired arrival and press the **ENT** key.

Figure 9-3 Select Arrival

6. A second window is displayed listing available transitions for the arrival. Turn either the **small or large FMS** knob to highlight the desired transition waypoint and press the **ENT** key.

Figure 9-4 Select Arrival Transition

7. A third window is displayed listing the available runways. Turn the **small or large FMS** knob to select the desired runway and press the **ENT** key.

Figure 9-5 Select Arrival Runway

8. With 'LOAD?' highlighted, press the **ENT** key. If a flight plan is active, the selected arrival procedure is inserted after the destination airport and becomes part of the active flight plan. If no flight plan is active when the arrival is loaded, the arrival procedure will become the active flight plan.

9.2 APPROACHES

Load and/or Activate an Approach Procedure

1. With the Navigation Map Page displayed, press the **FPL** key.
2. Press the **LD APR** softkey. If a flight plan is active, the destination airport will be displayed as the default. A list of available approaches is also displayed.
3. If no flight plan is active, use the l**arge and small FMS** knobs to enter the identifier of the desired airport. Press the **ENT** key.
4. Turn the **large FMS** knob to highlight the Approach field. Turn the **small FMS** knob to display a list of available approaches.

Figure 9-6 Selecting an Approach Procedure

5. Turn the **large or small FMS** knob to highlight the desired approach. Press the **ENT** key.
6. The cursor will move to the TRANSITIONS field. Turn the **large FMS** knob to highlight the desired transition waypoint and press the **ENT** key. (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.)

Figure 9-7 Selecting an Approach Transition

7. Turn the **large FMS** knob to highlight 'Activate?' and press the **ENT** key to activate the approach. Selecting 'Load?' will add the procedure to the flight plan without immediately using it for navigation guidance.

Activate An Approach in the Active Flight Plan

1. With the Navigation Map Page displayed, press the **PROC** key.
2. Turn the **large FMS** knob to highlight 'ACTIVATE APPROACH'.
3. Press the **ENT** key. The approach procedure is now active.

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SECTION 10: HAZARD AVOIDANCE

10.1 TRAFFIC MAP PAGE

1. Turn the **large FMS** knob to select the MAP page group. Turn the **small FMS** knob to select the Traffic Map Page.
2. Use the softkeys to make TIS operational or place the system in standby mode.

10.2 DISPLAYING TRAFFIC ON THE NAVIGATION MAP PAGE

1. With the Navigation Map Page displayed, press the **MAP** softkey.
2. Press the **TRAFFIC** softkey.

Figure 10-1 Traffic Map Page

10.3 TERRAIN PROXIMITY PAGE

1. Turn the **large FMS** knob to select the MAP page group. Turn the **small FMS** knob to select the Terrain Proximity Page.
2. Press the **VIEW** softkey.
3. Use the softkeys to select viewing at 360˚ or an arc of 120˚.

10.4 DISPLAYING TERRAIN PROXIMITY ON THE NAVIGATION MAP PAGE

1. With the Navigation Map Page displayed, press the **MAP** softkey.
2. Press the **TERRAIN** softkey.

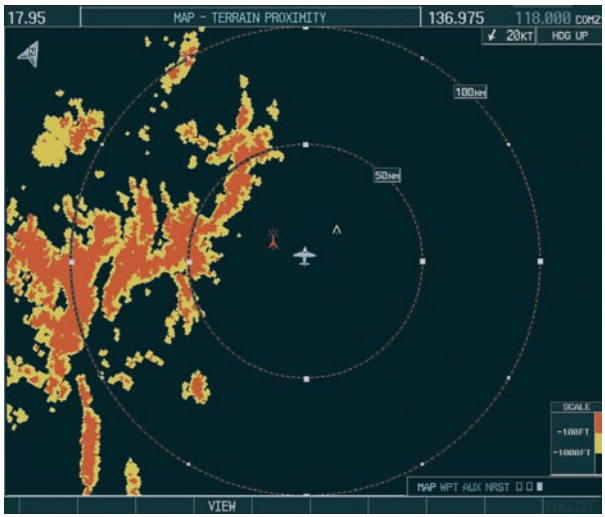

Figure 10-2 Terrain Proximity Page

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SECTION 11: ABNORMAL OPERATION

11.1 REVERSIONARY MODE

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

Reversionary display mode can also be manually activated by the pilot if the system fails to detect a display problem. The reversionary mode is activated manually by pressing the red Display Backup button on the bottom of the audio panel (GMA 1347). Pressing the red Display Backup button again deactivates reversionary mode.

NOTE: *The Diamond DA40 Airplane Flight Manual and Flight Manual Supplement always takes precedence over the information found in this section.*

Normal PFD Display

Normal MFD Display

MFD in Reversionary Mode

Figure 11-1 G1000 Reversionary Mode: Failed PFD

11.2 ABNORMAL COM OPERATION

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

11.3 UNUSUAL ATTITUDES

The PFD will 'declutter' when the aircraft enters an unusual attitude. Only the basic primary functions will be displayed in these situations.

Red extreme pitch warning chevrons pointing toward the horizon are displayed starting at 50 degrees above and 30 degrees below the horizon line.

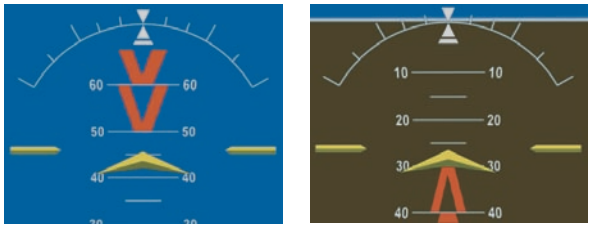


Figure 11-2 Extreme Pitch Indication

SECTION 12: ANNUNCIATIONS & ALERTS

NOTE: The Airplane Flight Manual Supplement takes precedence over any conflicting information found in this document.

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

- **Annunciation Window**: The Annunciation window displays abbreviated annunciation text. The Annunciation window is located to the right of the Altitude and Vertical Speed windows on the PFD display (or the MFD if system is in reversionary mode). All 12 DA40 annunciations can be displayed simultaneously. A white horizontal line separates annunciations that are acknowledged from annunciations that are not yet acknowledged. Acknowledged annunciations are always above the line. Annuciations are displayed in order of priority from top to bottom. The highest priority annunciation is displayed at the top of the Annunciation Window.
- **Alerts Window:** The Alerts window displays alert text messages. Up to 64 prioritized alerts can be displayed in the Alerts window. Pressing the **ALERTS** softkey displays the Alerts window. Pressing the **ALERTS** softkey again removes the Alerts window from the display. When the Alerts window is displayed, the pilot may use the **large FMS knob** to scroll through the alert list. Higher priority alerts are displayed at the top of the window. Lower priority alerts are displayed at the bottom of the window.
- **ALERTS Softkey Annunciation**: When the Alerting System issues an alert, the **ALERTS** softkey is used as a flashing annunciation to accompany an alert. During the alert, the **ALERTS** softkey assumes a new label consistent with alert level (WARNING, CAUTION, or ADVISORY). Pressing the softkey annunciation acknowledges that the pilot is aware of the alert. The softkey then returns to the previous **ALERTS** label. The pilot can then press the **ALERTS** softkey again to view alert text messages.
- **System Annunciations**: Typically, a large red 'X' appears in a window when a related LRU fails or detects invalid data.

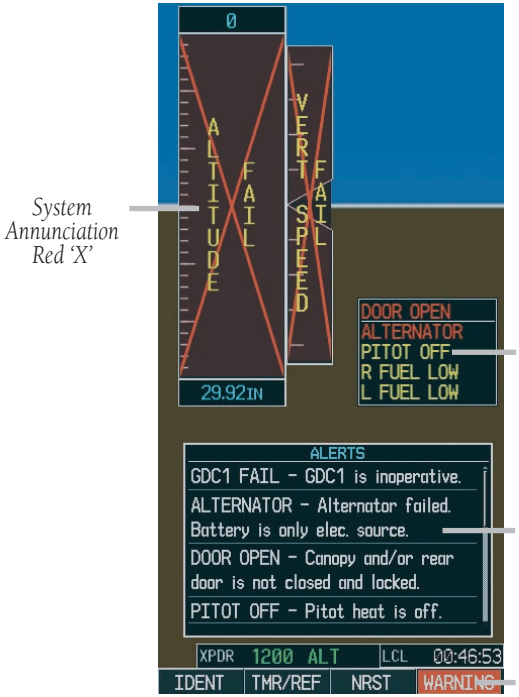


Figure 12-1 G1000 Alerting System

12.1 ALERT LEVEL DEFINITIONS

The G1000 Alerting System, as installed in Diamond DA40 aircraft, uses three alert levels.

- **WARNING:** This level of alert requires immediate pilot attention. A warning alert is accompanied by an annunciation in the Annunciation window. Warning text appearing in the Annunciation window is RED. A warning alert is also accompanied by a flashing **WARNING** softkey annunciation, as shown in Figure 12-2. Pressing the **WARNING** softkey acknowledges the presence of the warning alert and stops the aural tone, if applicable.
- **CAUTION:** This level of alert indicates the existence of abnormal conditions on the aircraft that may require pilot intervention. A caution alert is accompanied by an annunciation in the Annunciation window. Caution text appearing in the Annunciation window is YELLOW. A caution alert is also accompanied by a flashing **CAUTION** softkey annunciation, as shown in Figure 12-3. Pressing the **CAUTION** softkey acknowledges the presence of the caution alert.
- **MESSAGE ADVISORY:** This level of alert provides general information to the pilot. A message advisory alert does not issue annunciations in the Annunciation window. Instead, message advisory alerts only issue a flashing **ADVISORY** softkey annunciation, as shown in Figure 12-4. Pressing the **ADVISORY** softkey acknowledges the presence of the message advisory alert and displays the alert text message in the Alerts window.

Figure 12-2 WARNING Softkey Annunciation

Figure 12-3 CAUTION Softkey Annunciation

Figure 12-4 ADVISORY Softkey Annunciation

12.2 DA40 AIRCRAFT ALERTS

The following alerts are configured specifically for the Diamond DA40 aircraft. See the DA40 Flight Manual Supplement for information regarding pilot responses.

WARNING Alerts

Annunciation Window Text	Alerts Window Message	Audio Alert
OIL PRES LO	Oil pressure is below 25 psi.	Continuous Aural Tone
FUEL PRES LO	Fuel pressure is below 14 psi.	Continuous Aural Tone
FUEL PRES HI	Fuel pressure is greater than 35 psi.	Continuous Aural Tone
ALTERNATOR	Alternator failed. Battery is only electrical source.	Continuous Aural Tone
STARTER ENGD	Starter is engaged.	Continuous Aural Tone
DOOR OPEN	Canopy and/or rear door is not closed and locked.	Continuous Aural Tone
TRIM FAIL	Autopilot automatic trim is inoperative.	Continuous Aural Tone

CAUTION Alerts

Annunciation Window Text	Alerts Window Message	Audio Alert
L FUEL LOW	Left fuel quantity is less than 3 gallons.	Single Aural Tone
R FUEL LOW	Right fuel quantity is less than 3 gallons.	Single Aural Tone
LOW VOLTS	On-board voltage is below 24 Volts.	Single Aural Tone
PITOT FAIL	Pitot heat is inoperative.	Single Aural Tone
PITOT OFF	Pitot heat is off.	Single Aural Tone

Message Advisory Alerts

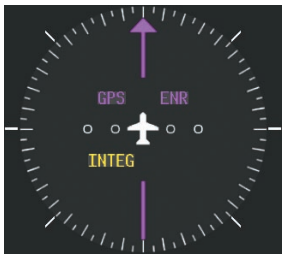
Alerts Window Message	Audio Alert
PFD FAN FAIL – The cooling fan for the PFD is inoperative.	None
MFD FAN FAIL – The cooling fan for the MFD is inoperative.	None
GIA FAN FAIL – The cooling fan for the GIAs is inoperative.	None

12.3 G1000 SYSTEM ANNUNCIATIONS

When an LRU or an LRU function fails, a large red 'X' is typically displayed on windows associated with the failed data. The following section describes various system annunciations. Refer to the Aircraft Flight Manual for additional information regarding pilot responses to these annunciations.

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

System Annunciation	Comment
	Attitude and Heading Reference System is aligning.
	Display system is not receiving attitude information from the AHRS.
	Display system is not receiving airspeed input from air data computer.
	Display is not receiving altitude input from the air data computer.

System Annunciation	Comment
	Display is not receiving vertical speed input from the air data computer.
	Display is not receiving valid heading input from AHRS.
	GPS information is either not present or is invalid for navigation use. Note that AHRS utilizes GPS inputs during normal operation. AHRS operation may be degraded if GPS signals are not present (see AFMS).
	Display is not receiving valid transponder information.
Other Various Red X Indications	A red 'X' through any other display field, such as engine instrumentation fields, indicates that the field is not receiving valid data.

A red 'X' may be the result of an LRU or an LRU function failure. The figure presented below illustrates all possible flags and the responsible LRUs.

12.4 G1000 SYSTEM MESSAGE ADVISORIES

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

NOTE: *This Section provides information regarding G1000 message advisories that may be displayed by the system. Knowledge of the aircraft, systems, flight conditions, and other existing operational priorities must be considered when responding to a message. Always use sound pilot judgment. The Airplane Flight Manual Supplement takes precedence over any conflicting guidance found in this section.*

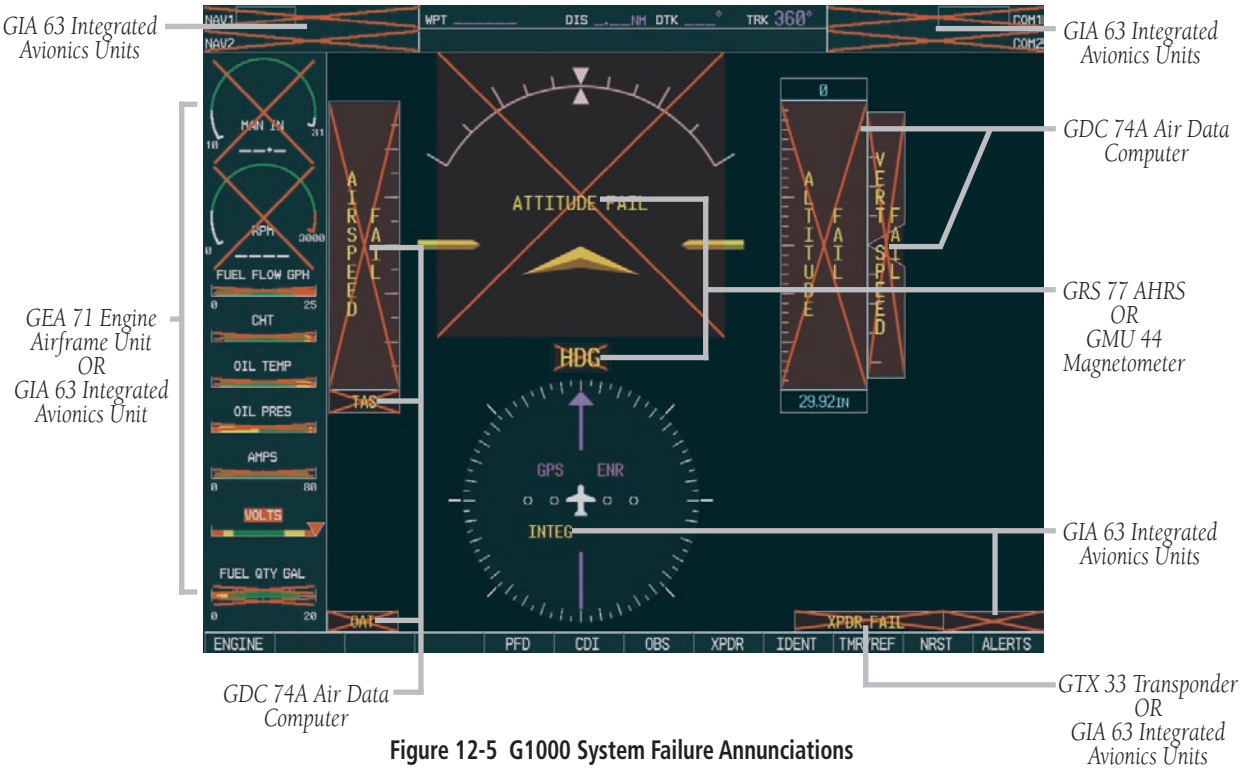


Figure 12-5 G1000 System Failure Annunciations

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 & PFD with preferred settings, if desired.
XTALK ERROR – A flight display crosstalk error has occurred.	The MFD and PFD are not communicating with each other. The G1000 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 G1000 system should be serviced.
MFD1 SERVICE – MFD1 needs service. Return unit for repair.	
PFD1 CONFIG – PFD1 configuration error. Config service req'd.	The PFD and/or MFD configuration settings do not match backup configuration memory. The G1000 system should be serviced.
MFD1 CONFIG – MFD1 configuration error. Config service req'd.	
SW MISMATCH – GDU software mismatch. Xtalk is off.	The MFD and PFD have different software versions installed. The G1000 system should be serviced.
MANIFEST – PFD1 software mismatch. Communication halted.	The PFD and/or MFD has incorrect software installed. The G1000 system should be serviced.
MANIFEST – MFD1 software mismatch. Communication halted.	
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 G1000 system should be serviced.
MFD1 COOLING – MFD1 has poor cooling. Reducing power usage.	
PFD1 "KEY" KEYSTK – 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 G1000 system should be serviced if the problem persists.
MFD1 "KEY" KEYSTK – Key is stuck.	

Database Message Advisories

Alerts Window Message	Comments
MFD1 DB ERR – MFD1 aviation database error exists.	The MFD and/or PFD detected a failure in the aviation database. Attempt to reload the aviation database. If problem persists, the G1000 system should be serviced.
PFD1 DB ERR – PFD1 aviation database error exists.	
MFD1 DB ERR – MFD1 basemap database error exists.	The MFD and/or PFD detected a failure in the basemap database.
PFD1 DB ERR – PFD1 basemap database error exists.	
MFD1 DB ERR – MFD1 terrain database error exists.	The MFD and/or PFD detected a failure in the terrain database. Ensure that the terrain card is properly inserted in display. Replace terrain card. If problem persists, The G1000 system should be serviced.
PFD1 DB ERR – PFD1 terrain database error exists.	
DB MISMATCH – Aviation database version mismatch. Xtalk is off.	The PFD and MFD have different aviation database versions installed. Crossfill is off. Install correct aviation database version in both displays.
DB MISMATCH – Aviation database type mismatch. Xtalk is off.	The PFD and MFD have different aviation database types installed (Americas, European, etc.). Crossfill is off. Install correct aviation database type in both displays.

GMA 1347 Message Advisories

Alerts Window Message	Comments
GMA1 FAIL – GMA1 is inoperative.	The audio panel self-test has detected a failure. The audio panel is unavailable. The G1000 system should be serviced.
GMA1 CONFIG – GMA1 configuration error. Config service req'd.	The audio panel configuration settings do not match backup configuration memory. The G1000 system should be serviced.
MANIFEST – GMA1 software mismatch. Communication halted.	The audio panel has incorrect software installed. The G1000 system should be serviced.
GMA1 SERVICE – GMA1 needs service. Return unit for repair.	The audio panel self-test has detected a problem in the unit. Certain audio functions may still be available, and the audio panel may still be usable. The G1000 system should be serviced when possible.
BACKUP PATH – Audio panel using backup data path.	The audio panel is using a backup communication path. The G1000 system should be serviced when possible.

GIA 63 Message Advisories

Alerts Window Message	Comments
GIA1 CONFIG – GIA1 configuration error. Config service req'd.	The GIA1 and/or GIA2 configuration settings do not match backup configuration memory. The G1000 system should be serviced.
GIA2 CONFIG – GIA2 configuration error. Config service req'd.	
GIA1 COOLING – GIA1 temperature too low.	The GIA1 and/or GIA2 temperature is too low to operate correctly. Allow units to warm up to operating temperature.
GIA2 COOLING – GIA2 temperature too low.	
GIA1 COOLING – GIA1 over temperature.	The GIA1 and/or GIA2 temperature is too high. If problem persists, the G1000 system should be serviced.
GIA2 COOLING – GIA2 over temperature.	
GIA1 SERVICE – GIA1 needs service. Return the unit for repair.	The GIA1 and/or GIA2 self-test has detected a problem in the unit. The G1000 system should be serviced.
GIA2 SERVICE – GIA2 needs service. Return the unit for repair.	
MANIFEST – GIA1 software mismatch. Communication halted.	The GIA1 and/or GIA 2 has incorrect software installed. The G1000 system should be serviced.
MANIFEST – GIA2 software mismatch. Communication halted.	
COM1 TEMP – COM1 over temp. Reducing transmitter power.	The system has detected an over temperature condition in COM1 and/or COM2. The transmitter will operate at reduced power. If the problem persists, the G1000 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 G1000 system should be serviced when possible.
COM2 SERVICE – COM2 needs service. Return unit for repair.	
COM1 PTT – COM1 push-to-talk key is stuck.	The COM1 and/or COM2 external push-to-talk switch is stuck in the enable (or "pressed") position. Press the PTT switch again to cycle its operation. If the problem persists, the G1000 system should be serviced.
COM2 PTT – COM2 push-to-talk key is stuck.	

GIA 63 Message Advisories (Cont.)

Alerts Window Message	Comments
COM1 RMT XFR – COM1 remote transfer key is stuck.	The COM1 and/or COM2 transfer switch is stuck in the enabled (or "pressed") position. Press the transfer switch again to cycle its operation. If the problem persists, the G1000 system should be serviced.
COM2 RMT XFR – COM2 remote transfer key is stuck.	
RAIM UNAVAIL – RAIM is not available from FAF to MAP waypoints.	GPS satellite coverage is insufficient to perform Receiver Autonomous Integrity Monitoring (RAIM) from the FAF to the MAP waypoints.
RAIM UNAVAIL – RAIM is not available.	GPS satellite coverage is insufficient to perform Receiver Autonomous Integrity Monitoring (RAIM) for the current phase of flight.
POSN ERROR – RAIM has determined GPS position is in error.	When a RAIM position error is detected, GPS is flagged and the system no longer provides GPS-based guidance.
DGRD GPS ACC – GPS position accuracy degraded & RAIM unavailable.	GPS position accuracy has been degraded and RAIM is not available.
GPS1 FAIL – GPS1 is inoperative.	A failure has been detected in the GPS1 and/or GPS2 receiver. The receiver is unavailable. The G1000 system should be serviced.
GPS2 FAIL – GPS2 is inoperative.	
GPS1 SERVICE – GPS1 needs service. Return unit for repair.	A failure has been detected in the GPS1 and/or GPS2 receiver. The receiver may still be available. The G1000 system should be serviced.
GPS2 SERVICE – GPS2 needs service. Return unit for repair.	
NAV1 SERVICE – NAV1 needs service. Return unit for repair.	A failure has been detected in the NAV1 and/or NAV2 receiver. The receiver may still be available. The G1000 system should be serviced.
NAV2 SERVICE – NAV2 needs service. Return unit for repair.	
NAV1 RMTXFR – NAV1 remote transfer key is stuck.	The remote NAV1 and/or NAV2 transfer switch is stuck in the enabled (or "pressed") state. Press the transfer switch again to cycle its operation. If the problem persists, the G1000 system should be serviced.
NAV2 RMTXFR – NAV2 remote transfer key is stuck.	

GIA 63 Message Advisories (Cont.)

Alerts Window Message	Comments
G/S1 FAIL – G/S1 is inoperative.	A failure has been detected in glideslope receiver 1 and/or receiver 2. The G1000 system should be serviced.
G/S2 FAIL – G/S2 is inoperative.	
G/S1 SERVICE – G/S1 needs service. Return unit for repair.	A failure has been detected in glideslope receiver 1 and/or receiver 2. The receiver may still be available. The G1000 system should be serviced when possible.
G/S2 SERVICE – G/S2 needs service. Return unit for repair.	

GEA 71 Message Advisories

Alerts Window Message	Comments
GEA1 CONFIG – GEA1 configuration error. Config service req'd.	The GEA 71 configuration settings do not match those of backup configuration memory. The G1000 system should be serviced.
MANIFEST – GEA1 software mismatch. Communication halted.	The GEA 71 has incorrect software installed. The G1000 system should be serviced.
BACKUP PATH – EIS using backup data path.	The GEA 71 is using a backup communication path. The G1000 system should be serviced when possible.

GTX 33 Message Advisories

Alerts Window Message	Comments
XPDR1 CONFIG – XPDR1 config error. Config service req'd.	The transponder configuration settings do not match those of backup configuration memory. The G1000 system should be serviced.
MANIFEST – GTX1 software mismatch. Communication halted.	The transponder has incorrect software installed. The G1000 system should be serviced.
BACKUP PATH – Transponder using backup data path.	The transponder is using a backup communications path. The G1000 system should be serviced when possible.

GRS 77 Message Advisories

Alerts Window Message	Comments
AHRS TAS – AHRS not receiving airspeed.	The AHRS is not receiving true airspeed from the air data computer. The AHRS relies on GPS information to augment the lack of airspeed. The G1000 system should be serviced.
AHRS GPS – AHRS using backup GPS source.	The AHRS is using the backup GPS path. Primary GPS path has failed. The G1000 system should be serviced when possible.
AHRS GPS – AHRS not receiving GPS information.	The AHRS is not receiving any or any useful GPS information. Check AFMS limitations. The G1000 system should be serviced.
AHRS GPS – AHRS not receiving backup GPS information.	The AHRS is not receiving backup GPS information. The G1000 system should be serviced.
AHRS GPS – AHRS operating exclusively in no-GPS mode.	The AHRS is operating exclusively in no-GPS mode. The G1000 system should be serviced.
MANIFEST – GRS1 software mismatch. Communication halted.	The AHRS has incorrect software installed. The G1000 system should be serviced.
BACKUP PATH – AHRS using backup data path.	The AHRS is using a backup communications data path. The G1000 system should be serviced when possible.
AHRS SERVICE – AHRS Magnetic-field model needs update.	The AHRS earth magnetic field model is out of date. Update magnetic field model when practical.
GEO LIMITS – Too far North/South, no magnetic compass.	The aircraft is outside geographical limits for approved AHRS operation. Heading is flagged as invalid.

GMU 44 Message Advisories

Alerts Window Message	Comments
HDG FAULT – A magnetometer fault has occurred.	A fault has occurred in the GMU 44. Heading is flagged as invalid. The AHRS uses GPS for backup mode operation. The G1000 system should be serviced.
MANIFEST – GMU1 software mismatch. Communication halted.	The GMU 44 has incorrect software installed. The G1000 system should be serviced.

GDC 74A Message Advisories

Alerts Window Message	Comments
GDC1 CONFIG – GDC1 configuration error. Config service req'd.	GDC 74A configuration settings do not match those of backup configuration memory. The G1000 system should be serviced.
MANIFEST – GDC1 software mismatch. Communication halted.	The GDC 74A has incorrect software installed. The G1000 system should be serviced.
BACKUP PATH – Airdata using backup data path.	The GDC 74A is using a backup communications data path. The G1000 system should be serviced when possible.

Miscellaneous Message Advisories

Alerts Window Message	Comments
FPL WPT LOCK – Flight plan waypoint is locked.	Upon power-up, the G1000 system detects that a stored flight plan waypoint is locked. This occurs when an aviation 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 aviation 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 aviation database update. Verify that the user-modified procedures in stored flight plans are correct and up to date.
FPL TRUNC – Flight plan has been truncated.	This occurs when a newly installed aviation 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.
APPR VPROF – Approaching VNAV profile.	Aircraft is approaching VNAV profile. Prepare to climb or descend to meet VNAV profile.
APPR TRG ALT – Approaching target altitude.	Aircraft is approaching target altitude. Prepare to level aircraft.

Miscellaneous Message Advisories (Cont.)

Alerts Window 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.
LEG UNSMOOTH – Flight plan leg will not be smooth.	The approaching flight plan waypoints are too close to allow for smooth turns. Prepare for steep turns ahead and expect noticeable course deviations.
APPR INACTV – Approach is not active.	The system notifies the pilot that the loaded approach is not active. Activate approach when required.
SLCT AUTOSEQ – Select auto sequence mode.	The system notifies the pilot to select auto-sequence mode. Press the OBS softkey to deactivate the OBS mode.
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.
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 traffic information system TIS has failed. The G1000 system should be serviced.

A

Abnormal COM operation 11-2
Activate a flight plan 8-2
Active flight plan 8-2
ADVISORY 12-1
Advisory alerts 12-3
AHRS 12-12
Aircraft alerts 12-3
Airport frequency 7-6
Airport information 7-3
Airspace alerts 7-9
Airspeed indicator 2-3
Airspeed trend vector 2-3
Alerting System 12-1
Alerts 12-1
Alert levels 12-2
Altitude reference bug 2-4
Altitude trend vector 2-4
ALT knob 1-3
Annunciations 12-1
Approaches 9-2
Approach activation 4-3
Approach markers
  Signal augmentation 5-2
Arrivals 9-1
Attitude indicator 2-3
Audio panel 4-3, 5-1
Audio panel controls
  NAV1 5-2
  NAV2 5-2
Auto-tuning 4-3
Automatic squelch 4-3

B

Barometric setting 2-4
BKSP softkey 4-4

C

Caution 12-1, 12-2
CDI 2-6, 12-14, 2-6
CLR key 1-3
Codes (important) 4-4
Code selection 4-4
CODE softkey 4-4
Color
  White 4-3
COM Frequency Window 4-1
COM knob 4-3
Controls 1-2, 4-1
Create a new flight plan 8-3, 8-4
Create a new user waypoint 8-1
Cylinder select 3-1
CYL SLCT 3-1

D

Departures 9-1
Direct-to 7-1
Dual CDU failure 11-2

E

Edit a flight plan 8-5
Emergency code 4-4
Engine display 3-1
ENGINE softkey 1-7, 3-1

F

Flight ID 4-4
Flight Plan Catalog 9-1, 9-2
FPL key 1-3
Frequency toggle key 1-3, 4-3

H

Heading indication 2-6
Hijack code 4-4
Horizontal situation indicator 2-5
HSI 2-5

I

ICAO 4-4
ID 4-3
IDENT function 4-4
INTEG 2-6
Interrogations 4-4

K

Key(s) 1-3

L

Load approach 8-4
Load a VOR frequency 7-8
Load departure 8-4
Load the frequency for a controlling agency 7-9
Load the nearest ARTCC frequency 7-9
Loss of communication code 4-4

M

MAP 7-1
Marker beacon 2-4
messages 12-1
Message advisories 12-2, 12-7, 12-8, 12-10, 12-11, 12-12, 12-13, 12-14
MFD 4-3
Military interceptor operations code 4-4
MKR/MUTE 5-2
Mode selection softkeys 4-4
Morse code identifier 4-3

N

NAV1 5-2
NAV2 5-2
Navigation 7-1
Navigation source 2-6
Navigation status window 2-2
NAV Frequency Window 4-1
Nearest Airports Page 7-3, 7-5, 7-6, 7-7, 7-8, 7-9, 8-1
Nearest ARTCC & FSS frequencies 7-8

O

OBS 2-6
Operation 5-2

P

Page group icon 1-8
PFD 4-1, 4-3
PLAY key 5-4
PROC key 1-3

R

Red pointer 2-3
Remove departure, arrival, or approach 8-5
Replies 4-4
Reversionary mode 11-1
R indication 4-4

S

Slip/Skid indicator 2-3
Softkey function (MFD) 1-4, 1-7
Speed ranges 2-3
Squelch 5-3
Store Flight Plan 8-5
System annunciations 12-1, 12-4
System message advisories 12-6

T

Terrain proximity 10-1
Transponder 4-4
Transponder Status bar 4-4
Trend arrow 2-6
Trend vector 2-6
Turn rate indicator 2-6
TX 4-3

V

Vertical Deviation/Glideslope Indicator 2-4
Vertical Speed Indicator 2-5
VFR code 4-4
VHF 4-1
VOL/PUSH ID 4-2
VOL/PUSH SQ 4-2, 4-3
Volume/squelch 5-3
Vspeeds 2-3

W

WARN 2-6
Warning 12-1, 12-2

X

XPDR softkey 4-4

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