GARMIN

G500

Cockpit Reference Guide

This manual reflects the operation of System Software version 3.00, or later. Some differences in operation may be observed when comparing the information in this manual to later software versions.

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Warnings, Cautions, & Notes

WARNING: *Navigation and terrain separation must NOT be predicated upon the use of the terrain function. The GDU 620 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 warning 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 Garmin GDU 620 has a very high degree of functional integrity. However, the pilot must recognize that providing monitoring and/or self-test capability for all conceivable system failures is not practical. Although unlikely, it may be possible for erroneous operation to occur without a fault indication shown by the GDU 620. It is thus the responsibility of the pilot to detect such an occurrence by means of cross-checking with all redundant or correlated information available in the cockpit.*

WARNING: *The altitude calculated by GPS receivers is geometric height above Mean Sea Level and could vary significantly from the altitude displayed by pressure altimeters, such as the output from the GDC 74A Air Data Computer, or other pressure altimeters in aircraft. GPS altitude should never be used for vertical navigation. Always use pressure altitude displayed by the GDU 620 PFD or other pressure altimeters in aircraft.*

WARNING: *Do not use outdated database information. Databases used in the G500 system must be updated regularly in order to ensure that the information remains current. Pilots using an outdated database do so entirely at their own risk.*

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

WARNING: *Traffic information shown on the GDU 620 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.*

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

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

WARNING: *For safety reasons, GDU 620 operational procedures must be learned on the ground.*

WARNING: *To reduce the risk of unsafe operation, carefully review and understand all aspects of the G500 Pilot's Guide. Thoroughly practice basic operation prior to actual use. During flight operations, carefully compare indications from the GDU 620 to all available navigation sources, including the information from other NAVAIDs, visual sightings, charts, etc. For safety purposes, always resolve any discrepancies before continuing navigation.*

WARNING: *Never use the G500 to attempt to penetrate a thunderstorm. Both the FAA Advisory Circular, Subject: Thunderstorms, and the Airman's Information Manual (AIM) recommend avoiding "by at least 20 miles any thunderstorm identified as severe or giving an intense radar echo".*

WARNING: *Exceeding 200 deg/second in pitch or roll may invalidate AHRS attitude provided to the GDU 620. Exceeding 450 KIAS may invalidate ADC information provided to the GDU 620.*

WARNING: *Because of anomalies in the earth's magnetic field, operating the G500 within the following areas could result in loss of reliable attitude and heading indications. North of 70° North latitude and south of 70° South latitude. An area north of 65° North latitude and between longitude 75° West and 120° West. An area south of 55° South latitude between longitude 120° East and 165° East.*

WARNING: *Do not use Terrain-SVT information for primary terrain avoidance. Terrain-SVT is intended only to enhance situational awareness.*

CAUTION: *The United States government operates the Global Positioning System and is solely responsible for its accuracy and maintenance. The GPS system is subject to changes which could affect the accuracy and performance of all GPS equipment. Portions of the Garmin GDU 620 utilize GPS as a precision electronic NAVigation AID (NAVAID). Therefore, as with all NAVAIDs, information presented by the GDU 620 can be misused or misinterpreted and therefore, become unsafe.*

CAUTION: *The Garmin GDU 620 does not contain any user-serviceable parts. Repairs should only be made by an authorized Garmin service center. Unauthorized repairs or modifications could void both the warranty and pilot's authority to operate this device under FAA/FCC regulations.*

CAUTION: *The GDU 620 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.*

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

NOTE: *All visual depictions contained within this document, including screen images of the GDU 620 bezel displays, are subject to change and may not reflect the most current G500 system. Depictions of equipment may differ slightly from the actual equipment.*

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

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

NOTE: *Terrain data is not displayed when the aircraft latitude is greater than 75° North or 60° South.*

NOTE: *Terrain-SVT is standard when the Synthetic Vision Technology™ (SVT) option is installed. The TAWS option will take precedence over Terrain-SVT.*

Record of Revisions				
Part Number	**Revision**	**Date**	**Page Range**	**Description**
190-01102-03	A	5/28/09	All	Production Release
190-01102-03	B	6/18/09	Cover	Updated logo to meet guidelines and added Garmin to SVT™.
190-01102-03	C	10/26/09	55	Updated subscription information for FliteCharts and ChartView.

Contents

Introduction

This reference guide covers the operation of the GDU 620 as integrated in the G500 system. The G500 Avionics Display System is an advanced technology avionics suite designed to replace the traditional flight instrument cluster. The system combines primary flight instrumentation, navigational information, and a moving map all displayed on dual 6.5 inch color screens. The G500 system is composed of sub-units or Line Replaceable Units (LRUs). LRUs have a modular design and can be installed directly behind the instrument panel or in a separate avionics bay if desired. This design greatly eases troubleshooting and maintenance of the G500 system. A failure or problem can be isolated to a particular LRU, which can be replaced quickly and easily. Each LRU has a particular function, or set of functions, that contributes to the system's operation. For more details on the G500 system, refer to the G500 Pilot's Guide, P/N 190-01102-02 Rev. A or later.

PFD/MFD

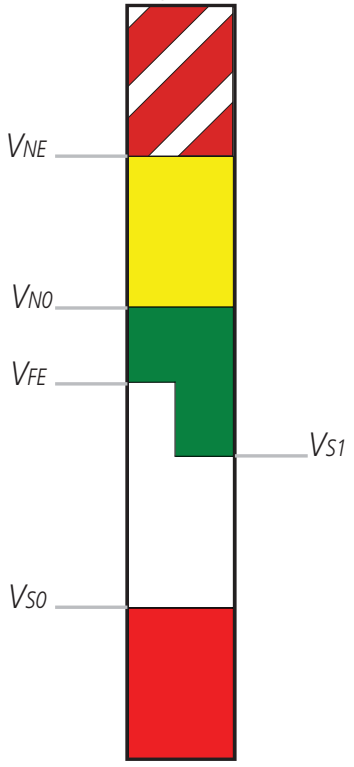
Primary Flight Display (PFD)

Primary Flight Display (PFD)

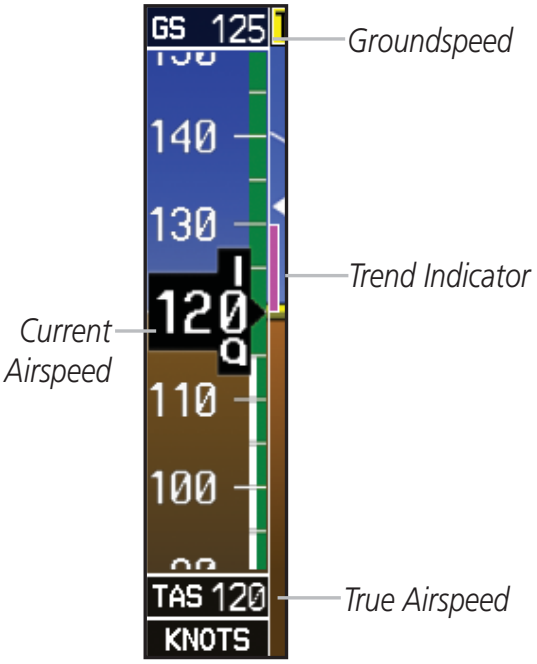
1. *NAV Status Bar: Displays which GPS is selected as the Active Source, Active Waypoint (WPT), Distance to Waypoint (DIS), Desired Track (DTK) and Current Track (TRK).*
2. *Airspeed Tape: Displays Groundspeed (GS), Airspeed Trend, Current Airspeed, and True Airspeed (TAS).*
3. *Wind Vector: Displays direction and speed of wind.*
4. *Heading Select Key: Press **HDG** and turn **PFD** knob to set heading bug.*
5. *Course Select Key: Press **CRS** and turn **PFD** knob to set the course of the selected source (VOR1, VOR2, GPS1, or GPS2).*
6. *Altitude Select Key: Press **ALT** and turn **PFD** knob to set altimeter bug.*
7. *V/S (Vertical Speed) Select Key: Press **V/S** and turn **PFD** knob to set V/S bug.*
8. *Barometer Select Key: Press **BARO** and turn **PFD** knob to change barometric setting.*
9. *Outside Air Temperature (OAT): Displays the current outside air temperature.*
10. *PFD Knob: Turn **PFD** knob to change bug settings, Heading Bug, Course, Altitude Bug, V/S Bug, and Barometer setting.*
11. *Soft Keys: Used to select available options on PFD or MFD.*
12. *SD Card Slots, Upper and Lower: The upper slot is used for updating databases or software, the lower slot is for the database card.*
13. *Soft Key Labels: Located on the bottom screen of the PFD and MFD. Selection is done by pressing the corresponding soft key. Soft keys that are available have the labels shown as white text on a black background. Soft keys that are selected have the labels shown as black text on a gray background. Soft keys that are unavailable have the labels shown as gray text on a black background.*
14. *Horizontal Situation Indicator (HSI): Displays the Selected Heading Box, Current Heading, Turn Rate Markings, and Heading Trend.*
15. *Vertical Speed Tape: Displays Vertical Speed and the Vertical Speed Bug*
16. *Barometric (BARO) Setting: Displays the current setting of barometric pressure.*
17. *Roll Pointer and Slip/Skid Indicator: The slip/skid indicator is the bar beneath the roll pointer. The indicator moves with the roll pointer and laterally away from the pointer to indicate lateral acceleration (slip/skid).*
18. *Altitude Tape: Displays Current Altitude, Altitude Trend, Altitude Bug, Altitude Minimums Bug, and BARO setting.*

Airspeed Tape

The upper left portion of the PFD display provides Groundspeed, Airspeed Trend, Current Airspeed, and True Airspeed information. Current Airspeed is normally shown in white on the black pointer. The Trend Indicator (magenta line) indicates what the airspeed will be in six seconds, if the current rate of acceleration is maintained. If the current acceleration will cause the airspeed to exceed VNE in six seconds, the airspeed is displayed in yellow. If the current airspeed exceeds VNE, the pointer changes to red with white text.

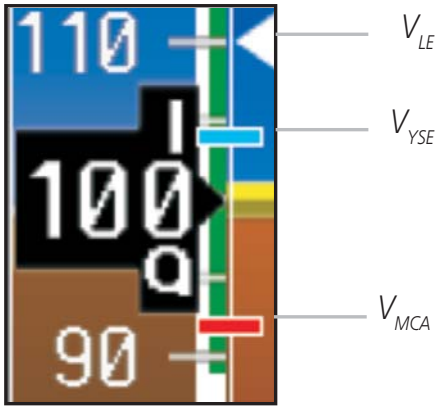


Typical Airspeed Tape Markings



Airspeed Tape

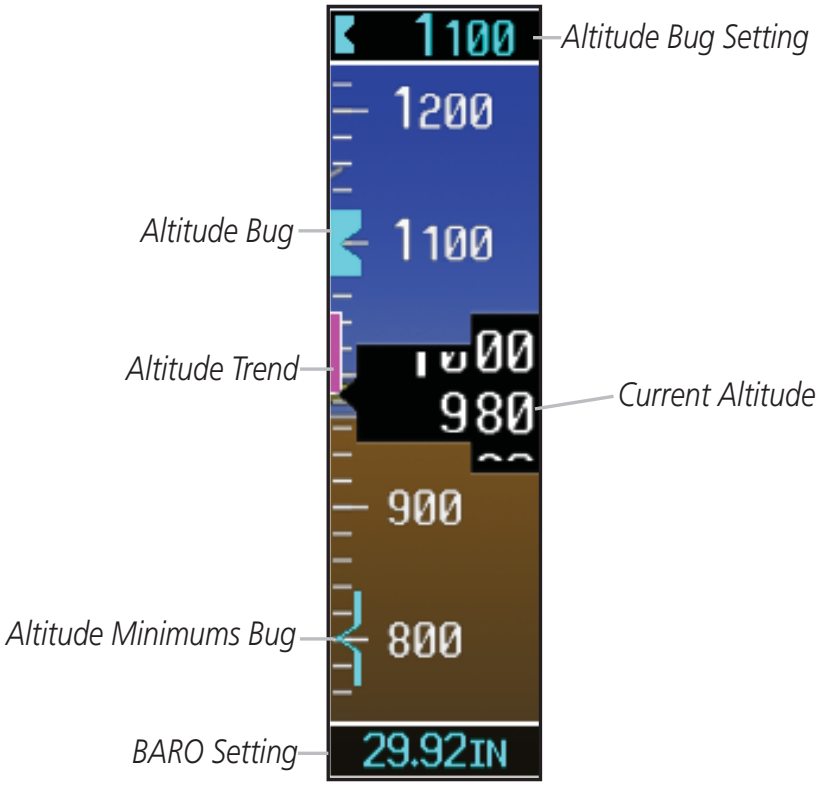
Overspeed Indication



Additional Reference Markings

Altitude Tape

The upper right portion of the PFD displays the Altitude Bug setting, Current Altitude, Altitude Trend, Altitude Minimums Bug, and the current BARO Setting. The Altitude Trend indicates what the altitude will be in six seconds if the current vertical speed is maintained.



Altitude Tape

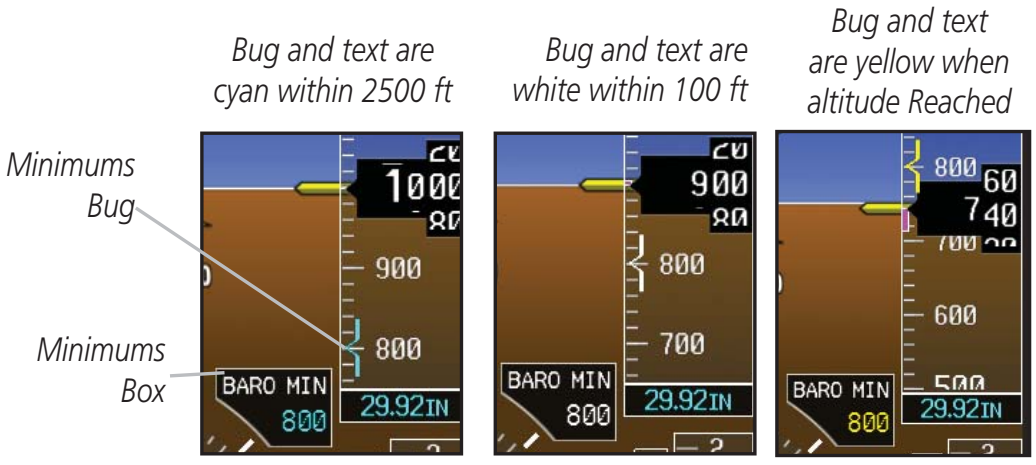
Barometric Pressure

The Barometric Pressure (BARO setting) is displayed at the bottom of the altitude tape. To change the BARO setting, press the **BARO** key and turn the **PFD** knob to the desired pressure. To select standard pressure (29.92IN), press the **PFD** knob.

Barometric Minimums Bug

For altitude awareness, a barometric Altitude Minimums Bug commonly referred to as the Minimums Bug, can be set. When active and within 2500 feet of the selected minimums altitude, the minimums bug setting is displayed to the bottom left of the altimeter. When set, a bug appears parked at the bottom of the altitude tape and moves up the tape as the set altitude comes into view.

- When the aircraft altitude descends to within 2500 feet of the selected altitude minimums setting, the BARO MIN box appears with the altitude value in cyan text. Once in range, the Minimums Bug appears in cyan on the altitude tape. A portion of the Minimums Bug will be displayed at the bottom of the altitude tape if the selected altitude minimums bug is off of the tape.
- When the aircraft is within 100 feet of the selected altitude minimums setting, the bug and the altitude text turn white.
- Once the aircraft reaches the selected altitude minimums setting, the bug and the altitude text turn yellow and the aural alert, "Minimums, minimums" is heard one time.



Minimums Annunciations

Alerting is inhibited while the aircraft is on the ground and also, if a value has been set for altitude alerting, until the aircraft reaches 150 feet above the setting for the alert.

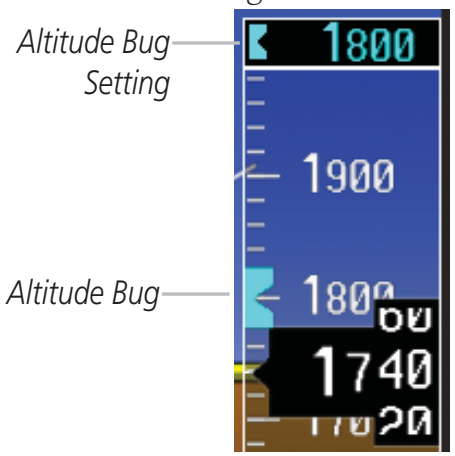
To set the altitude for the Minimums Bug:

1) While viewing the Active Flight Plan page of the FPL Group, press the small **MFD** knob to activate the cursor.
2) Turn the large **MFD** knob to the ALTITUDE portion of the MINIMUMS section.
3) Turn the small **MFD** knob to enter the desired altitude. Press the **ENT** key to confirm selection.
4) When finished, press the small **MFD** knob to exit the MINIMUMS box.

NOTE: *If you highlight the Altitude Field in the MINIMUMS section on the FPL page and press the CLR key, it will clear the entry and the minimums functionality will be turned off.*

Altitude Bug

The Altitude Bug is displayed on the Altitude Tape at the selected altitude bug setting. A portion of the Altitude Bug will be displayed at the top or bottom of the altitude tape if the selected altitude bug is off of the tape.



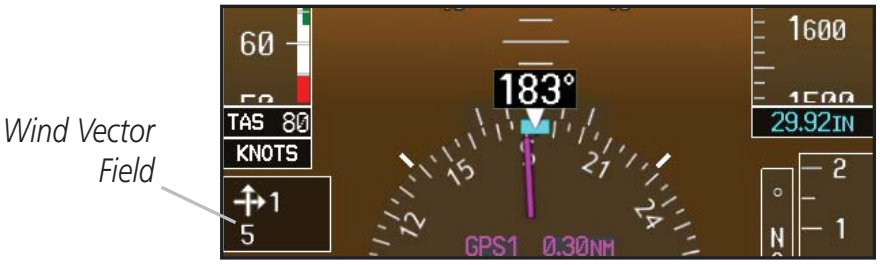
Altitude Bug

The Altitude Bug provides visual and aural altitude alerting. Aural alerting occurs within 200 feet of the Altitude Bug setting or when deviating beyond 200 feet of the bug.

Altitude Bug Indications

Wind Vectors

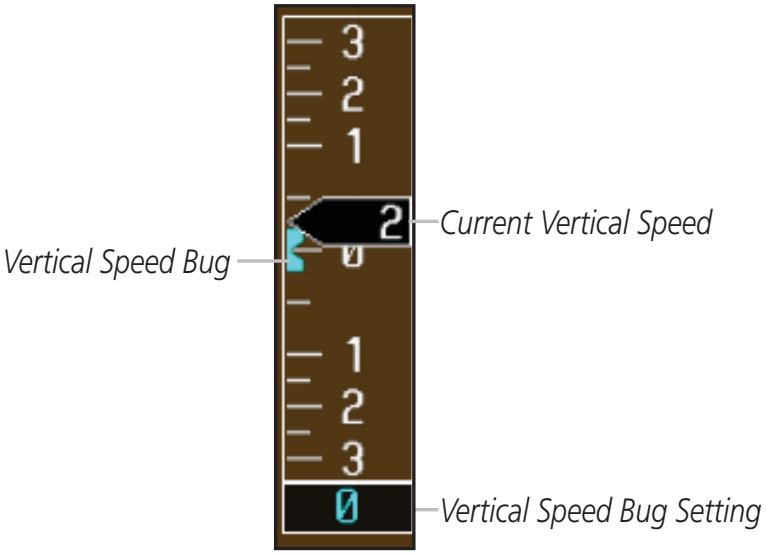
The PFD will display a Wind Vector Field to the left of the HSI when configured by the user. There are four different styles of wind vector displays available. Refer to the System Setup page in the AUX Group section of this guide for instructions on selecting wind vector style. Wind Vectors can only be calculated when the aircraft is in the air.



Wind Vector Display

Vertical Speed (V/S)

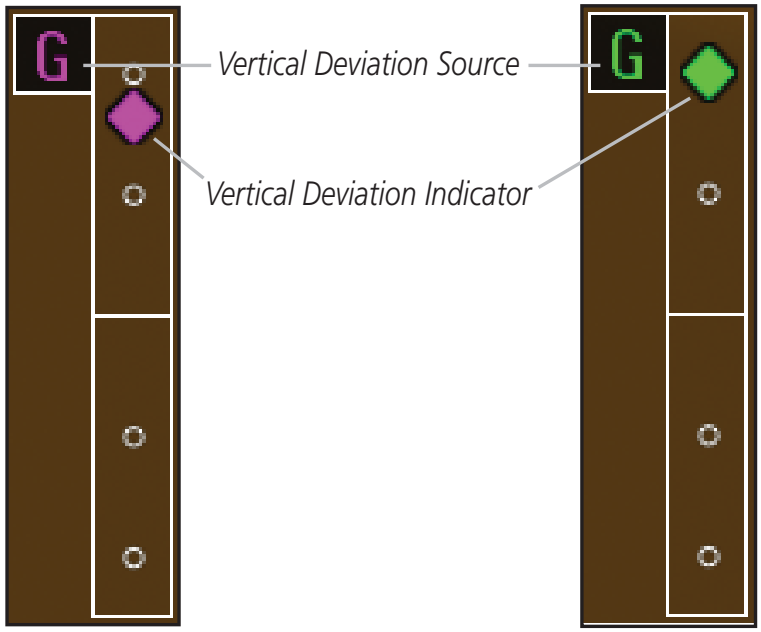
The Vertical Speed Tape and Vertical Speed Bug are displayed below the Altitude Tape.



Vertical Speed

Vertical Deviation Indicator (VDI)

The Vertical Deviation Indicator is displayed for GPS and ILS approaches with vertical guidance. The GPS approach glidepath is shown in magenta (G and indicator), while the ILS approach glideslope is shown in green (G and indicator.)



GPS Approach ILS Approach

Outside Air Temperature (OAT)

The Outside Air Temperature, as sensed from the temperature probe on the aircraft, is displayed to the left of the HSI. This temperature is used in calculating the true airspeed.

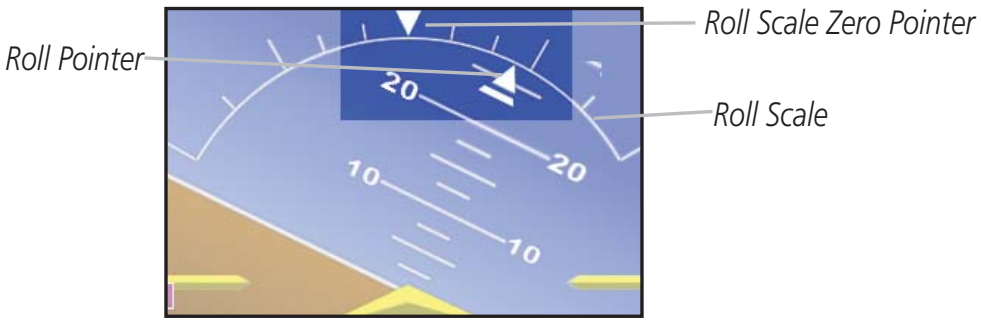
Attitude Indicator

The standby mechanical Attitude Indicator in your aircraft is either a Ground Pointer or a Roll Pointer configuration. The GDU 620 Attitude Indicator has been configured in either a Ground Pointer or a Roll Pointer configuration to match the configuration of your aircraft's standby Attitude Indicator.

In an aircraft with an Attitude Indicator that has a Ground Pointer, the pointer above the roll scale shifts with the roll or bank angle of the aircraft to keep the Roll Scale Zero Pointer pointing towards the ground.

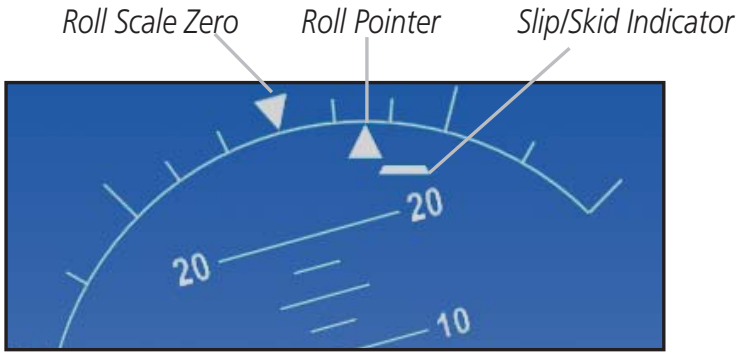
G500 Attitude Indicator with a Ground Pointer Configuration in a Left Turn

In an aircraft with an Attitude Indicator that has a Sky Pointer, the pointer below the roll scale shifts with the roll or bank angle of the aircraft to keep the Roll Pointer pointing towards the sky.



G500 Attitude Indicator with a Sky Pointer Configuration in a Left Turn

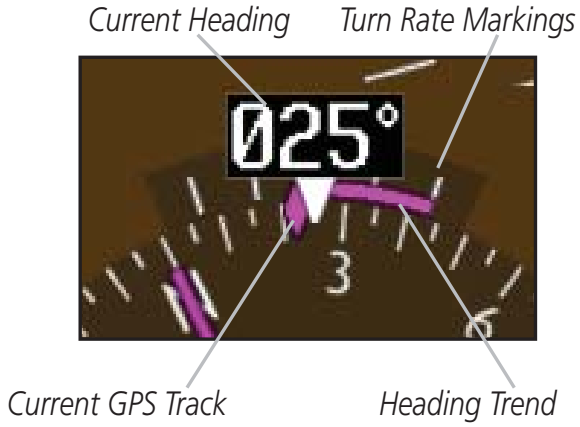
The Slip/Skid Indicator is the bar beneath the roll pointer. The indicator moves with the roll pointer and moves laterally away from the pointer to indicate lateral acceleration. Slip/skid is indicated by the location of the bar relative to the pointer. One bar displacement from the roll pointer is equivalent to one ball displacement on a traditional Slip/Skid Indicator.



Slip/Skid Indicator

Horizontal Situation Indicator (HSI): Aircraft Heading

The top of the HSI displays current heading, current GPS track (magenta diamond), heading trend, and turn rate markings. The heading trend indicates what the aircraft heading will be in six seconds if the heading rate remains unchanged. The turn rate markings, along with the heading trend, display standard and half-standard rate turns.



HSI Heading Markings

NOTE: If magnetic heading is lost, GPS ground track will be displayed in place of heading. If magnetic heading and GPS ground track are lost, a red "X" will appear in place of heading.

Adjusting the Course Pointer

Press the **CRS** key and turn the **PFD** knob to select a course for a VOR or OBS mode course.

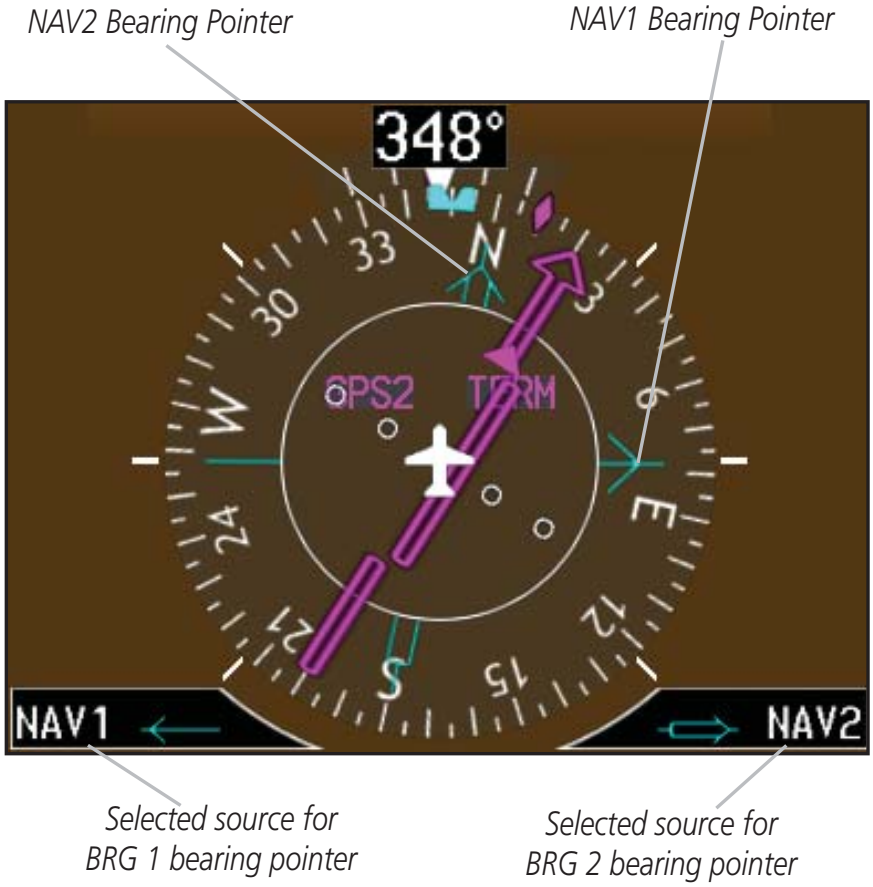
HSI Bearing Pointers

NOTE: *The Bearing Pointer for navigation source 1 (BRG1) will be an arrow with a single line. The Bearing Pointer for navigation source 2 (BRG2) will be an arrow with a double line.*

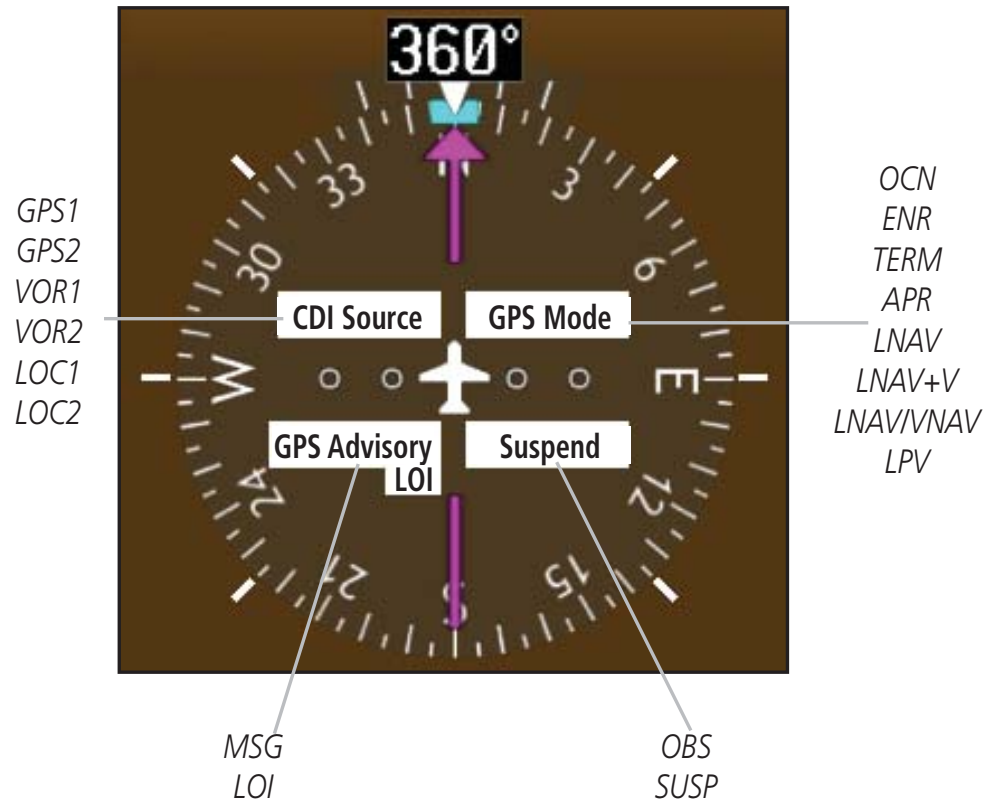
To toggle between the available bearing pointers, press the **PFD** soft key followed by the **BRG1** or **BRG2** soft keys.

The **BRG1** soft key cycles through modes NAV1 and GPS1. Additionally, ADF is available if an ADF source is installed.

The **BRG2** soft key cycles through modes, NAV2 and GPS2 if a second NAV or GPS source is available. Additionally, ADF is available if an ADF source is installed.



Bearing Pointers on the HSI



PFD HSI Annunciations

CDI Source

The CDI Source on the HSI will display which navigation source is selected.

Navigation sources available: GPS1, VOR1, or LOC1.

Navigation sources available: GPS2, VOR2, or LOC2, if a second source is available.

GPS Mode

The GPS Mode annunciation on the HSI will be the same as what is annunciated on the interfaced GPS unit. See the GPS/GNS Pilot's Guide for a description of each mode.

GPS Advisory

MSG: Displays when a new advisory message is displayed on the GNS.

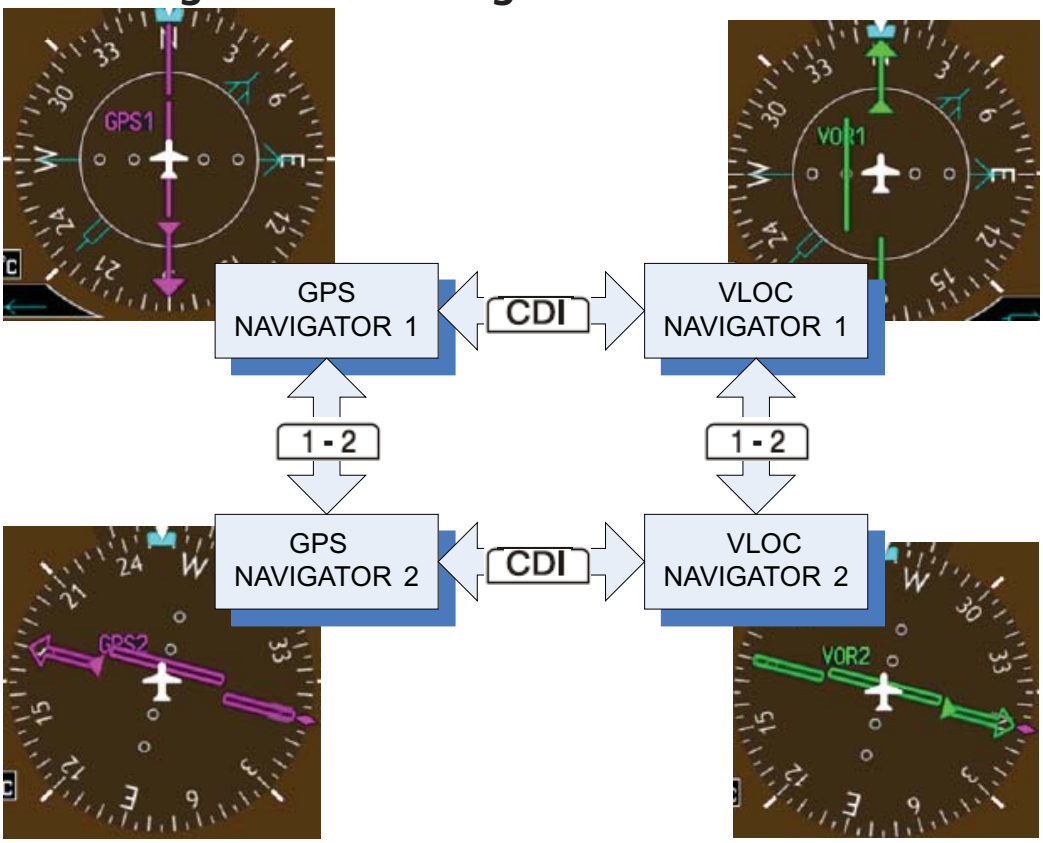
LOI (Loss of Integrity): Displays when GPS integrity is lost.

Suspend

OBS: Displays when OBS mode is activated.

SUSP: Displays when automatic waypoint sequencing on the interfaced GPS unit is suspended.

Switching Between Navigation Sources



CDI Sources

The Course Deviation Indicator (CDI) can display two sources of navigation: GPS or NAV (VOR or LOC). Press the **CDI** soft key to toggle between the available CDI modes, (GPS or VOR).

If a second GPS source or NAV source is available, pressing the **1 - 2** soft key will toggle the navigation sources (VOR1 and VOR2, or GPS1 and GPS2).

NOTE: *Verify the navigation source by the indication on the HSI.*

NOTE: *The selected navigator is the active navigator for all the PFD and MFD operations, except for the supplemental bearing pointers.*

Autopilot (AP)

The G500 is able to interface to certain autopilot systems to provide heading, course, and navigation information in much the same way as a typical HSI indicator. Please refer to your particular autopilot manual for specific information and operation instructions.

Heading

You are able to control your selected autopilot heading with the GDU 620 by using the heading bug.

1) Press the **HDG** key on the PFD and turn the **PFD** knob to set the desired heading. When the knob is turned, the Selected Heading box will appear and remain for three seconds after the knob stops moving.
2) Engage your autopilot in heading hold mode.
3) Continue to control your selected autopilot heading by adjusting the heading bug on the GDU 620.

Selected Heading Box

Selected Heading Box on HSI

Autopilot Test

The GAD 43 Adapter provides attitude and heading information from the Garmin GRS 77 Attitude and Heading Reference System (AHRS) to the autopilot. The GAD 43 has the ability to disconnect the autopilot if an error in the GAD 43 output or GRS 77 is detected. This disconnect mechanism must be tested prior to each flight in the following manner:

1) Upon GDU 620 startup, the **AP TEST** soft key is available on the GDU 620 PFD.
2) Engage the autopilot while on the ground.
3) Press the **AP TEST** soft key and verify that the autopilot disconnects and an autopilot disconnect tone is annunciated by the autopilot.

NOTE: *Not available with all autopilots.*

Autopilot Disconnect

When the GDU 620 attitude monitors have detected an AHRS malfunction, or the inability to actively monitor the AHRS, a "Check Attitude" annunciation will be displayed on the PFD and the autopilot will automatically disconnect.

NOTE: *If an optional GAD 43 Adapter is installed and there is an AHRS malfunction, the "Check Attitude" annunciation will appear on the PFD. If it appears the autopilot will disengage and the pilot should IMMEDIATELY control the aircraft by reference to the standby attitude indicator.*

Check Attitude Annunciation

Altitude Capture (Optional Interface)

The Altitude Preselect Function is a separately purchased option which works with the autopilot. At the set altitude, the autopilot will go from a Vertical Speed Mode (a climb or descent) to an Altitude Capture Mode where it will hold the selected altitude.

1) Select the desired altitude on the GDU 620 by pressing the **ALT** key and turning the **PFD** knob so the altitude bug is at the desired altitude.
2) Engage the autopilot in altitude capture mode.
3) The autopilot will capture the selected altitude.

NOTE: *The selected Vertical Speed bug on the GDU 620 will not control the autopilot vertical speed. The autopilot vertical speed must be selected directly on the autopilot controller.*

Autopilot Navigation

1) Set your navigation source and HSI to the desired course.
2) Engage your autopilot in navigation mode.
3) Control your autopilot navigation through the navigation source and the HSI.

Autopilot Operation with GPSS

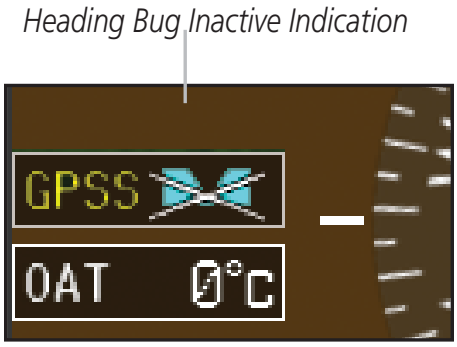
The GDU 620 processes heading and GPSS information and sends it to the autopilot to allow the aircraft to anticipate turns and make smooth transitions when passing waypoints.

1) Set your navigation source and HSI to the desired course.
2) Engage your autopilot in navigation mode.
3) Control your autopilot navigation through the navigation source and the HSI.
4) When GPSS mode is desired, activate GPSS on autopilot.

Autopilot Operation with the GDU 620 Emulating GPSS

NOTE: *The GDU 620 has the ability to emulate GPSS roll steering for autopilots that do not support GPSS. The GDU 620 emulates GPSS by sending headings to the autopilot that guide turn anticipation.*

1) Select GPS navigation on the HSI.
2) Set the HSI to the desired course (if in OBS mode).
3) Set the external Autopilot Heading Datum switch to GPSS.



GPSS Emulation Indication

4) Engage your autopilot in HDG mode.

NOTE: *With GPSS engaged and in HDG mode, the heading bug will not control your autopilot heading. This is annunciated next to the HSI by the GPSS annunciation. The heading bug may still be used for reference but the autopilot will not control the aircraft on the heading bug.*

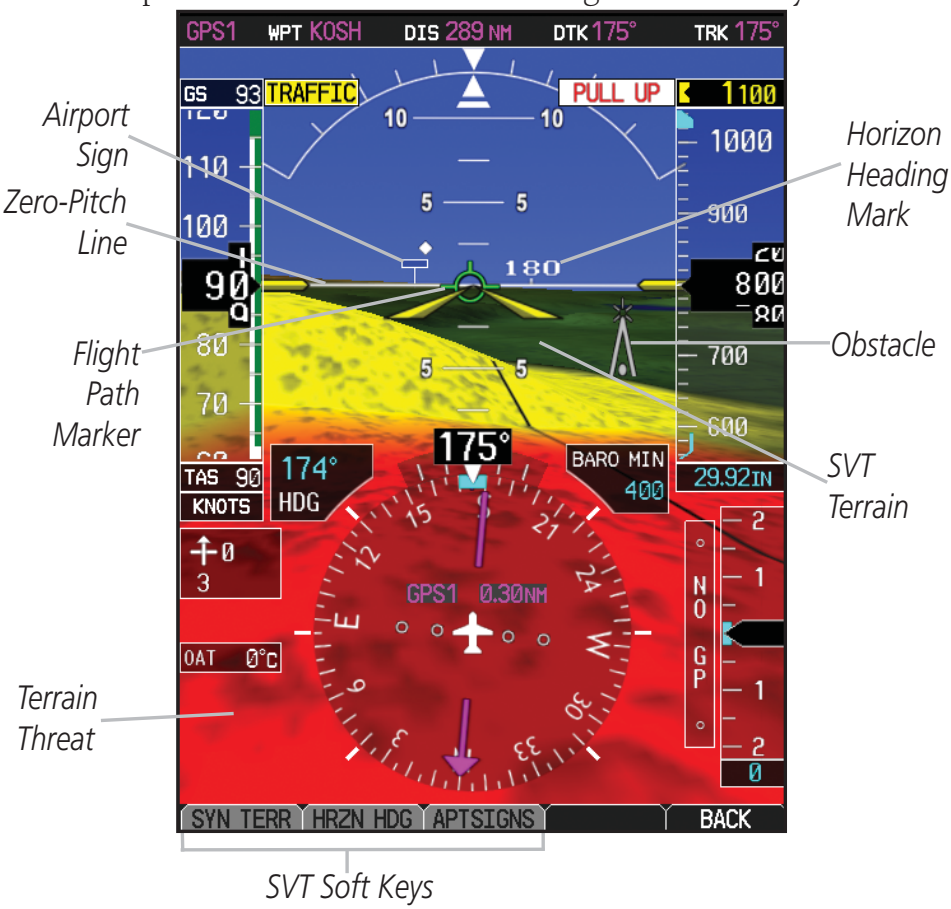
Additional Features

Garmin Synthetic Vision Technology™ (Optional)

Synthetic Vision Technology (SVT) is offered as an optional feature to the G500.

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

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



Synthetic Vision Imagery

NOTE: *SVT will become disabled if the databases necessary to display SVT are unavailable (generating a GDU DB ERR or SVT DISABLED alert) or AHRS or GPS data is unavailable. SVT may be restored once the fail conditions are removed by following the steps in "Displaying SVT Terrain".*

The following features are part of the Synthetic Vision Technology. For more details refer to the G500 Pilot's Guide, Rev. C or later.

- Flight Path Marker
- Horizon Heading Marks
- Terrain/Obstacle Display and Alerting
- Three-dimensional Traffic
- Wind Vectors
- Airport Signs
- Runway Display
- Water
- Zero-Pitch Line
- Altitude Minimums Bug

NOTE: *SVT may be deactivated under certain conditions, such as loss of heading. Once condition is resolved, reactivate SVT, press the* ***PFD*** *soft key followed by the* ***SYN VIS*** *soft key, then the* ***SYN TERR*** *soft key.*

NOTE: *SVT features are not a substitute for standard course and altitude deviation information using the CDI, VSI, and VDI.*

Displaying Garmin SVT™ Terrain

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

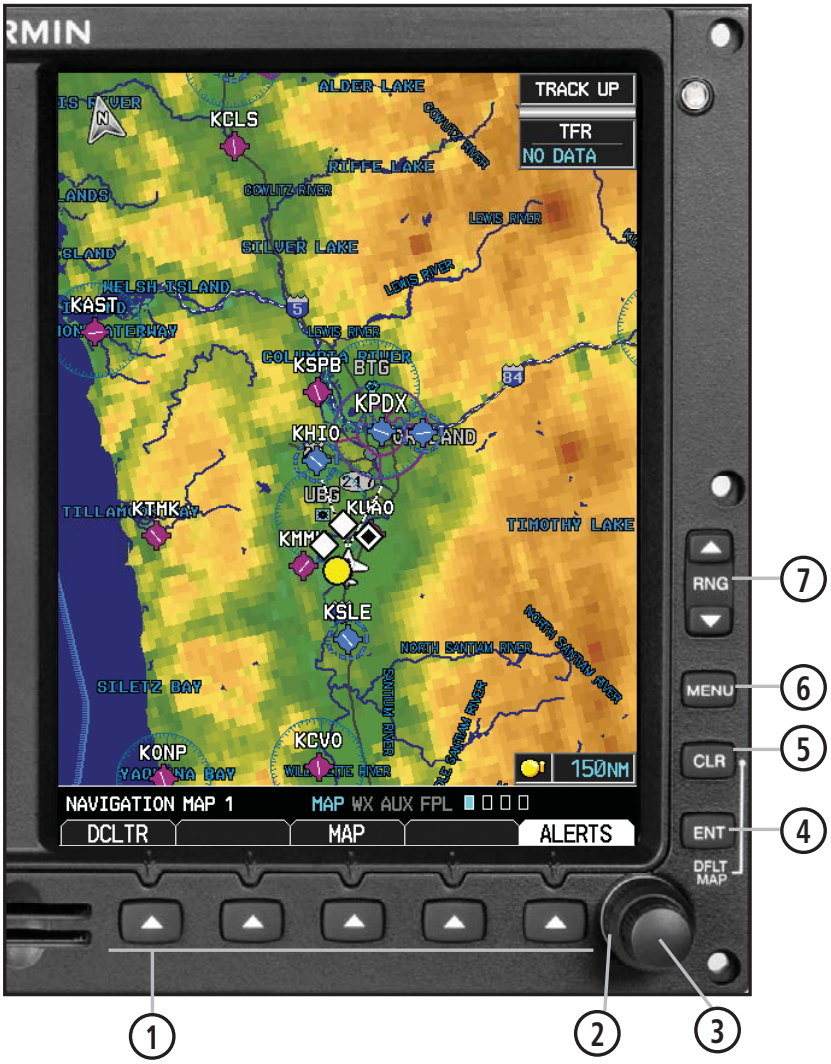
Displaying Heading on the Horizon

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

Displaying Airport Signs

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

Multi-Function Display (MFD)



Multi-Function Display (MFD)

1. *Soft Keys*
2. *Large MFD Knob: Use to move between page groups.*
3. *Small MFD Knob: Use to move within page groups.*
4. *Enter: Validates or confirms a menu selection or data entry.*
5. *Clear: Erases information, cancels entries, or removes page menus. Pressing and holding the CLR key displays the first page of the Map Group.*
6. *Menu: Displays configuration items for each page of the page groups.*
7. *Range Select: Changes the range on the map pages. Up arrow zooms out, down arrow zooms in. Also aids in scrolling up and down text pages.*

Page Navigation - Moving Between Pages

1) Turn the large **MFD** knob to move between page groups.
2) Turn the small **MFD** knob to change pages within the page group.

NOTE: *Page Group and Page are shown at the bottom of the MFD.*

Changing Settings within a Page

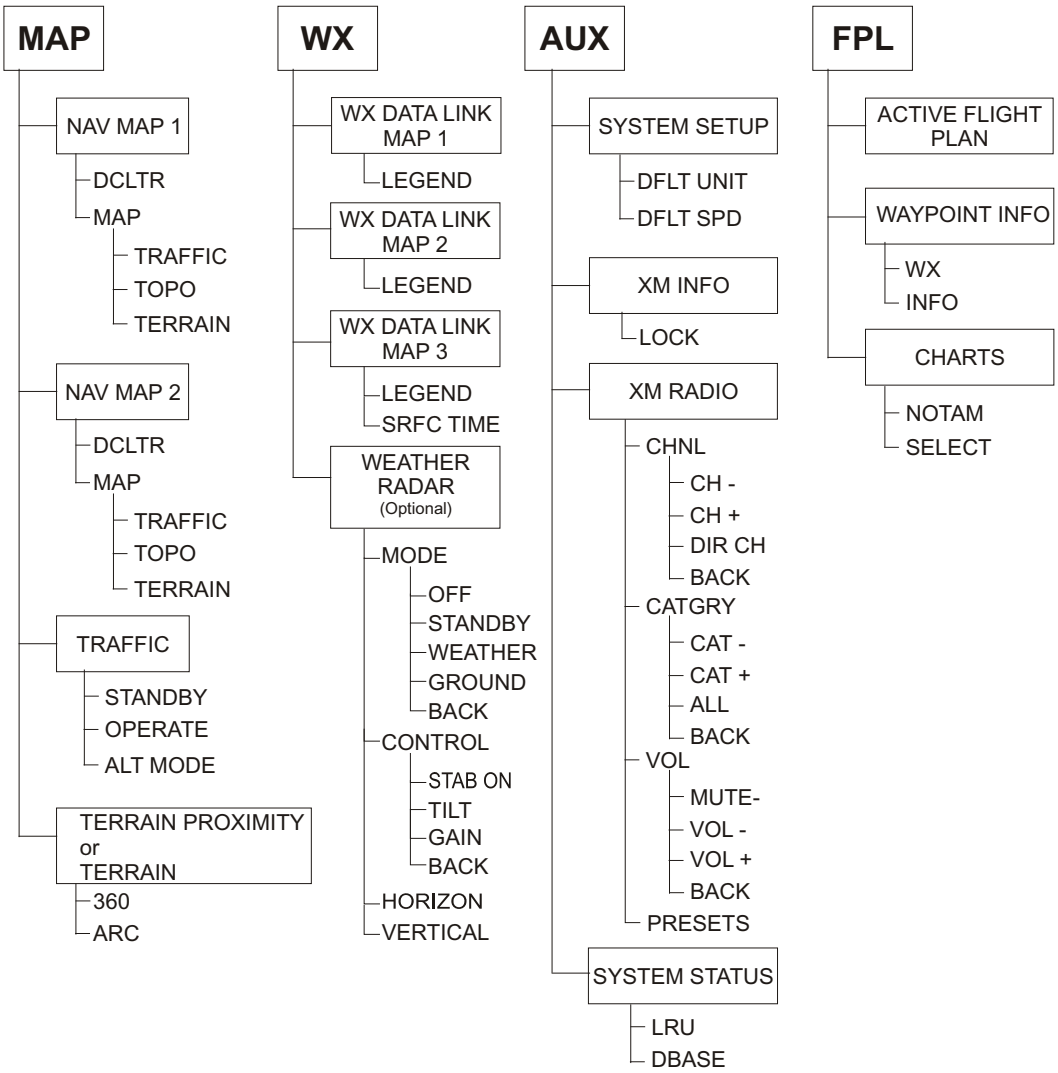
1) Press the **MENU** key and make the necessary adjustments with the large **MFD** knob and small **MFD** knobs.
2) Press the small **MFD** knob to activate editing.
3) Turn the large **MFD** knob to select the desired item.
4) Turn the small **MFD** knob to change the highlighted value.
5) Press **ENT** to accept displayed value or press the small **MFD** knob to cancel selection or exit the editing mode.

Default Map Page

Press and hold the **CLR** key to return to the first page of the MAP group.

MFD Soft Key Map

The soft keys available depend on the page displayed and the features available. The soft key "Alerts" is present on the far right position on all MFD pages.



MFD Soft Key Map

Map Group

Navigation Map 1 and Navigation Map 2 Pages

Soft Keys Found on Navigation Map Pages

MAP	DCLTR	DCLTR-1	DCLTR-2
DCLTR-3	TRAFFIC	TOPO	TERRAIN

Moving the Map Pointer Around the Map (Panning)

NOTE: *Panning can be used in Terrain pages to view elevation levels.*

1) While viewing Navigation Map 1 or Navigation Map 2 of the Map Page Group, press the small **MFD** knob. A flashing arrow (map pointer) will appear in the center of the map page.
2) Turn the large **MFD** knob to move the map pointer left and right (horizontally).
3) Turn the small **MFD** knob to move the map pointer up and down (vertically).
4) Press the small **MFD** knob again to exit panning mode.


Map Pointer

Selecting Items on the Map

1) While viewing Navigation Map 1 or Navigation Map 2 of the Map Page Group, while the map pointer is active, move the map pointer to highlight a waypoint.
2) Press **ENT** to display information about the highlighted waypoint.
3) Press the **INFO** soft key (if available) to view more information about the highlighted waypoint.
4) Press the **WX** soft key (if available) to view TAF and METAR information. Press the small **MFD** knob again to return to the map.

Decluttering (DCLTR) the Map Pages

There are four levels of decluttering, DCLTR, DCLTR-1, DCLTR-2, and DCLTR-3. DCLTR shows the most detail while DCLTR-3 removes most detail.

While viewing Navigation Map 1 or Navigation Map 2 page of the Map Page Group, press the **DCLTR** soft key. Each successive press of the **DCLTR** soft key will toggle through the declutter levels.

Turning on Map Overlays

While viewing Navigation Map 1 or Navigation Map 2 of the Map Page Group, press the **MAP** soft key. Select the Traffic, TOPO, or Terrain overlays by pressing the appropriate soft key.

Measuring Distances

1) While viewing Navigation Map 1 or Navigation Map 2 of the Map Page Group, press **MENU**.
2) Turn the large **MFD** knob or the small **MFD** knob to highlight "Measure Bearing/Distance" and then press **ENT**.
3) Turn the large **MFD** knob or small **MFD** knob to move the map pointer. The distance, bearing, and coordinates are displayed at the top of the screen.

Distance, Bearing and Coordinates Display

Measuring Map Pointer

4) Press **ENT** to reset the distance and bearing values.
5) Press the small **MFD** knob to stop measuring.

Customizing Maps

1) While viewing Navigation Map 1 or Navigation Map 2 of the Map Page Group, press the **MENU** key. The option, "Map Setup" option will flash.

Map Setup Option Menu

2) Press the **ENT** key to enter the setup page. The selected group will be flashing.

3) Turn the small **MFD** knob to activate the drop down menu and to move within available groups (Map, Weather, Traffic, or Aviation).

Available Groups

4) Press the **ENT** key to select the group and set your preferences.

5) Turn the large **MFD** knob to move between fields.

6) Turn the small **MFD** knob to display available options. Press the **ENT** key to select your preference and move to the next option.

7) When completed with setting preferences, press the small **MFD** knob to return the Navigation Map 1 page.

8) Repeat the above steps to set preferences for the remaining groups.

NOTE: *In the Map Options Setup section, the selected range is defined as the map range below which the display feature will be visible.*

Map Setup Options

Group	Selections
MAP	• Orientation (North Up, Track Up, DTK up, HDG up) • North Up At (Off to 2500 NM) • Auto Zoom (On or Off) • Land Data (On or Off) • Track Vector Length (Off to 20 mins) • Wind Vector (On or Off) • Nav Range Ring (On or Off) • Topo Data (On or Off) • Topo Scale (On or Off) • TERRAIN Data (On or Off) • TERRAIN Scale (On or Off) • Obstacle Viewing Range (Off to 50 NM) • Lat/Lon Viewing Range (Off to 2500 NM) • Field of View (On or Off)
WEATHER	• NEXRAD Data Viewing Range (Off to 2000 NM) • NEXRAD Cell Movement Range (Off to 2000 NM) • NEXRAD Legend • XM Lightning Viewing Range (Off to 2000 NM)
TRAFFIC	• Traffic Mode (Off, All Traffic, TA/PA, TA Only)
AVIATION	• SafeTaxi Viewing Range (Range: Off to 10 NM) • RWY Extension Range (Range: Off to 10 NM) • INT/NDB Viewing Range (Range: Off to 50 NM) • VOR Viewing Range (Range: Off to 500 NM) • Class B/TMA (Range: Off to 2000 NM) • Class C/TCA (Range: Off to 500 NM) • Class D (Range: Off to 500 NM) • Restricted (Range: Off to 500 NM) • MOA (Military) (Range: Off to 500 NM) • Other/Adiz (Range: Off to 500 NM) • TFR (Range: Off to 2500 NM) • Airways (Off, All, LO Only, HI Only)

Traffic Map Page (Optional)

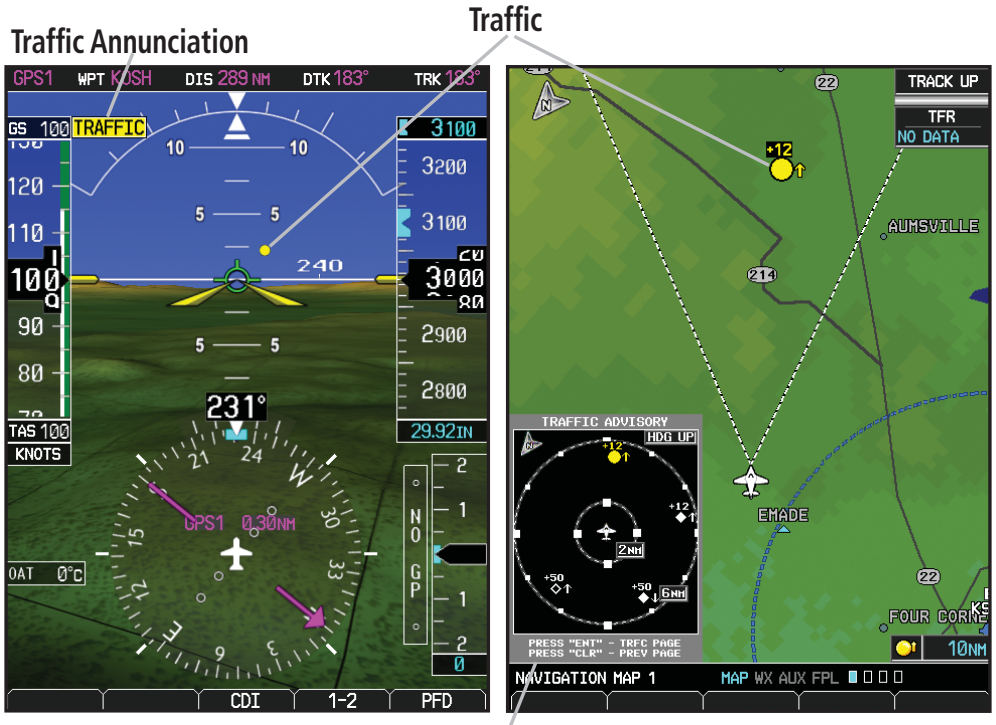
Soft Keys Found on Traffic Map Page

OPERATE | ALT MODE | BELOW | NORMAL | ABOVE

UNREST | STANDBY

Traffic Display

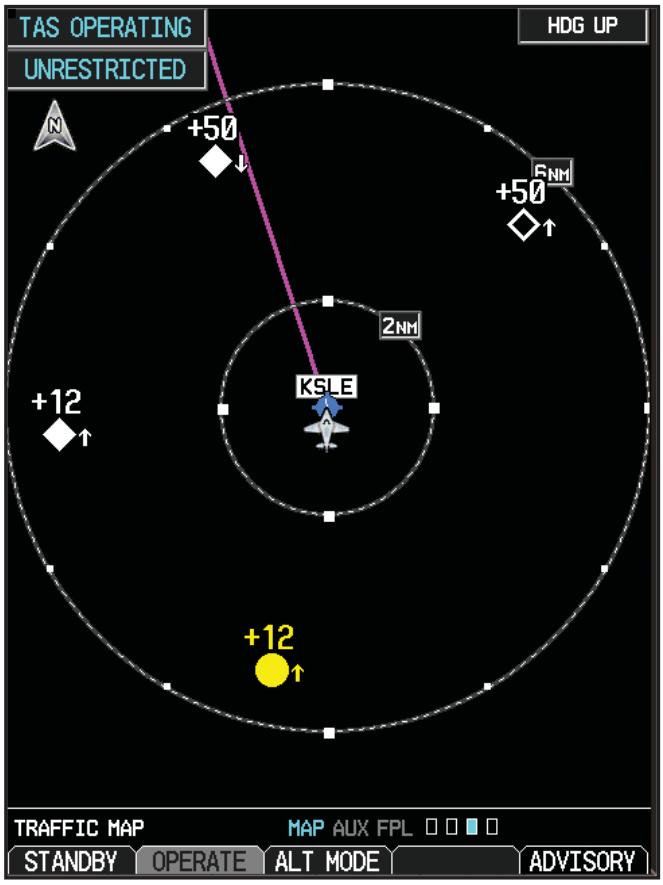
When a traffic alert is generated by an interface traffic system, the PFD will display a traffic annunciator and the MFD will have a pop-up screen displaying the detected traffic. To remove the pop-up, press the **CLR** key**.** Press the **ENT** key to go to the traffic page. The traffic pop-up window will be removed when the traffic alert is no longer active.



PFD Traffic Display

MFD Traffic Pop-Up Window

Displaying and Operating Traffic Advisory Systems (TAS)



Traffic Map - TAS

1) While viewing the Traffic Page of the Map Page Group press the **OPERATE** soft key to begin displaying traffic. "TAS OPERATING" is displayed in the Traffic mode field located in the upper left hand corner of the MFD.

2) Press the **ALT MODE** soft key to change what traffic is displayed. Pressing the **BELOW, NORMAL, ABOVE** or **UNREST** soft keys will determine what traffic is displayed. The selection is shown in the Altitude mode field. The values below define what each altitude mode displays, relative to the altitude of the aircraft.

Soft Key	Description
BELOW	Displays traffic from -9700 to +2700 ft
NORMAL	Displays traffic from -2700 to +2700 ft
ABOVE	Displays traffic from -2700 to +9700 ft
UNREST	All traffic is displayed (unrestricted)

3) Press the **STANDBY** soft key to place the system in the Standby mode.

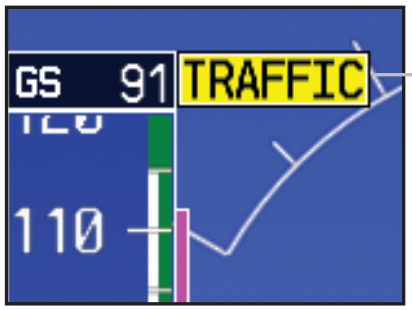
NOTE: *Some traffic systems will not enter standby mode while airborne.*

Test Mode (On Ground)

1) While viewing the Traffic Map Page of the Map Page Group, press the **MENU** button and select Test Mode from the menu.

2) Verify that a traffic message is shown next to the altitude tape on the PFD and that the traffic pop-up is displayed on the MFD.

After a few seconds, test mode is exited automatically by the traffic system.



Traffic Annunciation

Traffic Annunciation on PFD

TIS Traffic

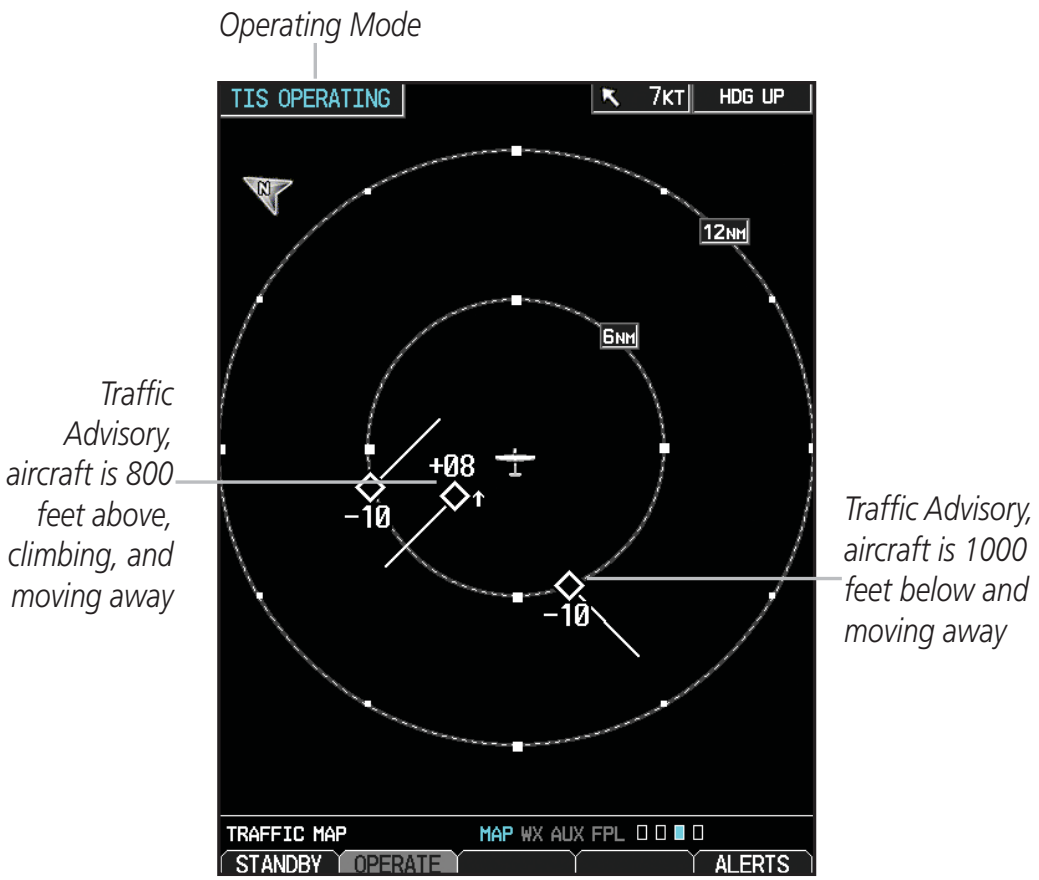
The Traffic Map Page is configured to show surrounding TIS traffic data in relation to the aircraft's current position and altitude, without clutter from the basemap. Aircraft orientation on this map is always heading up unless there is no valid heading.

TIS receives traffic information from ground stations, and is updated every five seconds. The GDU 620 displays up to eight traffic targets within a 7.5-NM radius, from 3000 feet below to 3500 feet above the requesting aircraft. Traffic is displayed according to TCAS symbology using four different symbols.

Displaying TIS Traffic

While viewing the Traffic Page of the Map Page Group press the **OPERATE** soft key to begin displaying traffic. "TIS OPERATING" is displayed in the upper left hand corner of the MFD.

***NOTE:** TIS is disabled when a Traffic Advisory System (TAS) is installed.*



Traffic Map - TIS

Terrain Page

Soft Keys Found on Terrain Page

360 | ARC

Garmin provides the following G500 TERRAIN selections, based upon your system configuration.

WARNING: *Do not use TERRAIN-SVT information for primary terrain avoidance. TERRAIN-SVT is intended only to enhance situational awareness.*

NOTE: *Terrain data is not displayed when the aircraft latitude is greater than 75° North or 60° South.*

NOTE: *TERRAIN-SVT is standard when the Synthetic Vision Technology (SVT) option is installed.*

- TERRAIN-PROXIMITY - is a non-TSO-C151b certified terrain awareness system. Do not confuse Terrain Proximity with TAWS. TAWS **is** TSO-C151b certified and Terrain Proximity **is not**. Terrain Proximity does not provide warning annunciations or voice alerts, it only provides color indications on map displays when terrain and obstacles are within a certain altitude threshold from the aircraft.
- TERRAIN-SVT - refers to a subset of Class B TAWS that meets the terrain alerting requirements outlined in Section 7.b of AC 23-26. Terrain-SVT is a non-TSO-C151b certified terrain awareness system. Do not confuse Terrain-SVT with TAWS. TAWS **is** TSO-C151b certified and Terrain-SVT **is not**. Terrain-SVT is a subset of Class B TAWS that provides a Class B TAWS FLTA functionality, including visual alerting and aural alerting. Terrain-SVT is provided with the Synthetic Vision functionality and not marketed separately. Garmin Terrain-SVT is available in GDU 620 v3.00 or later, with SVT enabled.

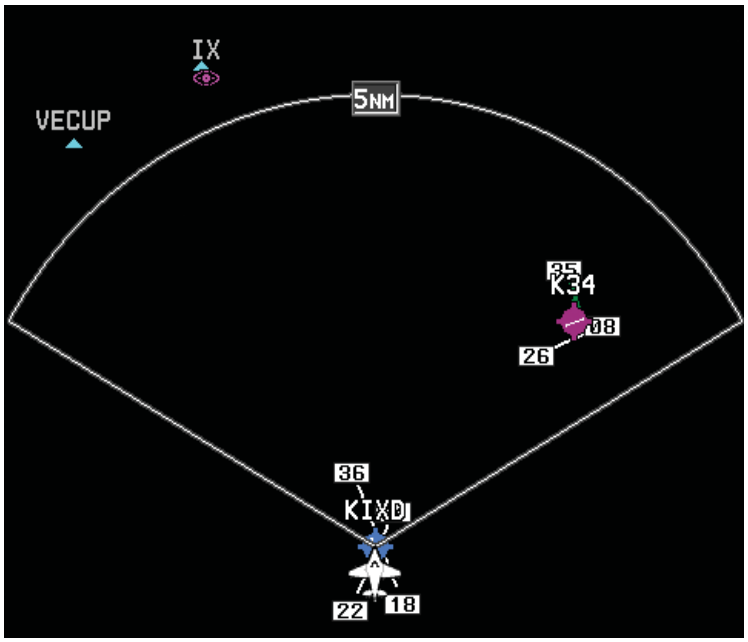
Viewing Terrain

NOTE: Obstacles will be removed from the Terrain page when range (RNG) exceeds 10 NM.

While viewing the Terrain page of the Map Page Group, press the **360** or **ARC** soft keys to select the desired view.

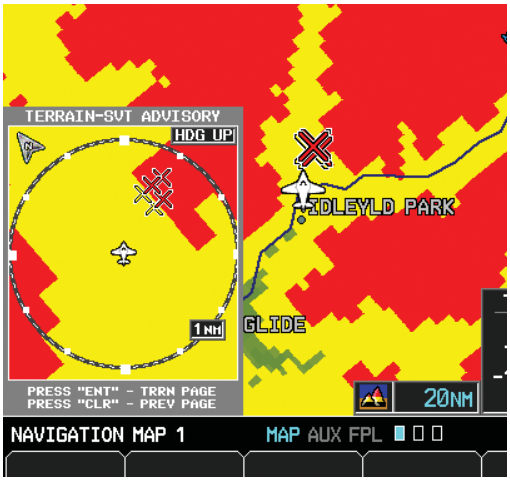
360 or ARC Soft Keys

Press **MENU** for selections to hide or show Aviation Data Overlay on the Terrain page.



Aviation Data Overlay

Terrain Pop-Up Alerts



TERRAIN-SVT Pop-Up Alert on MFD

TERRAIN-SVT™ Pop-Up Alert

TERRAIN-SVT alerts typically employ a CAUTION or a WARNING alert severity level, or both. When an alert is issued, visual annunciations are displayed and aural alerts are simultaneously issued. Refer to the Alerts section of this guide for more information on alerts, both visual and aural. When an alert is issued, annunciations appear on the PFD and MFD. If the TERRAIN-SVT Page is not displayed at the time, a pop-up alert appears on the MFD. To acknowledge the pop-up alert and return to the currently viewed page, press the **CLR** key. To acknowledge the pop-up alert and go to the TERRAIN-SVT page, press the **ENT** key.

WX Group

WX Data Link Map Pages

Soft Keys Found on WX Data Link Map Pages

LEGEND	SRFC TIME	WIND DOWN	WIND UP
STANDBY	WEATHER	GROUND	OFF

NOTE: *The preferences set on WX Data Link Map pages are unique to each page.*

Customizing the Weather Map

1) While viewing any of the WX Data Link Map pages in the WX Page Group, press the **MENU** key to display the Weather Setup Menu. Press **ENT**.
2) Turn the large **MFD** knob to select desired item to change. Turn the small **MFD** knob to set the preference of the weather feature option.
3) Press **ENT** to confirm your selection.
4) To return to the WX Data Link Map page, press the small **MFD** knob.

Weather Items

WX Page Menu - Weather Setup	
Menu Item	**Selections Available**
Map Orientation	North Up, Track Up
NEXRAD Data Viewing Range	Range: Off, 10 NM to 2000 NM
NEXRAD Legend	On, Off
Echo Top Data Viewing Range	Range: Off, 10 NM to 2000 NM
Cloud Top Data Viewing Range	Range: Off, 10 NM to 2000 NM
Lightning Data Viewing Range	Range: Off, 10 NM to 2000 NM
Cell Mov Data Viewing Range	Range: Off, 10 NM to 2000 NM
SIG/Air Viewing Range	Range: Off, 10 NM to 2000 NM
METAR Data Viewing Range	Range: Off, 500 FT to 2000 NM
Surface Data Viewing Range	Range: Off, 10 NM to 2000 NM
Surface Data Time	Range: Current, 12 HR to 48 HR
Frz Lvl Data Viewing Range	Range: Off, 10 NM to 2000 NM
Winds Aloft Data Viewing Range	Range: Off, 10 NM to 2000 NM
Winds Aloft Altitude	Range: Surface, 3000 FT to 42000 FT
County Data Viewing Range	Range: Off, 10 NM to 2000 NM
Cyclone Data Viewing Range	On, Off

NOTE: *Due to similarities in color schemes, it is not possible to display NEXRAD Data and Echo Top Data at the same time.*

NOTE: *Due to similarities in color schemes, it is not possible to display Echo Top Data and Cloud Top Data at the same time.*

Weather Legend

A mini-legend can be displayed on the WX Data Link Map page upper right hand corner for the weather products you selected in the setup menu.

Mini-Legend

To view a full page legend:

1) While viewing any of WX Data Link Map pages in the WX Page Group, press the **LEGEND** soft key.
2) Turn the small **MFD** knob or large **MFD** knob to view the entire legend.
3) Exit and return to the map page by pressing either the **LEGEND** soft key, **ENT** button, or the small **MFD** knob.

Displaying Surface Data and Winds Aloft

While viewing any of the pages in the WX Page Group, if in the setup you chose to display SURFACE DATA VIEWING RANGE, the **SRFC TIME** soft key will be available. Pressing the **SRFC TIME** soft key will cycle through the age of the information in 12 hour increments from CURRENT to 48 HR.

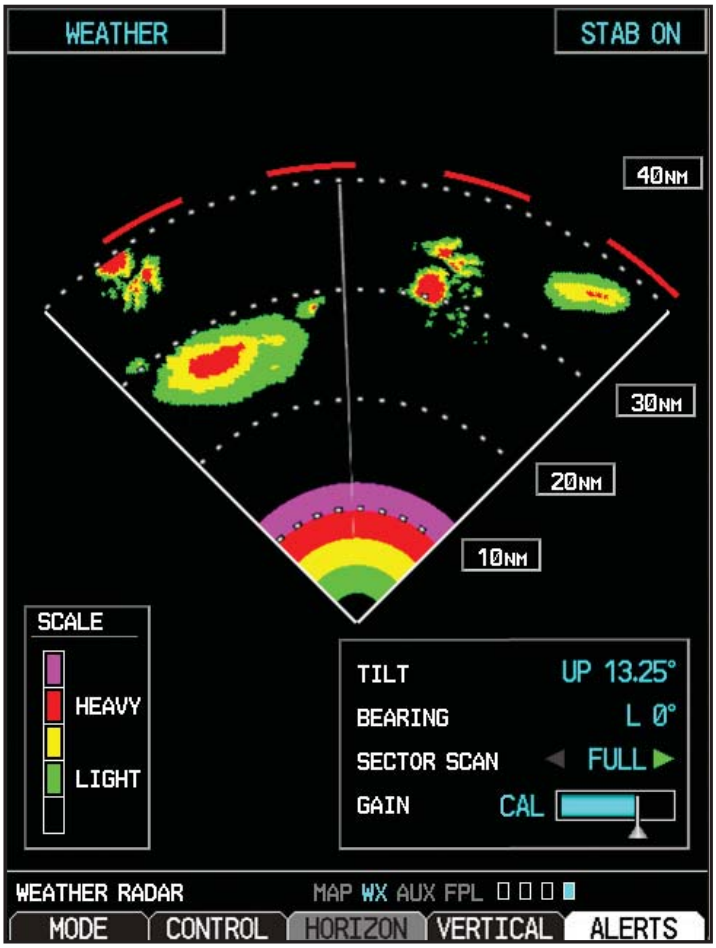
While viewing any of the pages in the WX Page Group, if in the setup you chose to display WINDS ALOFT DATA VIEWING RANGE, the **WIND DOWN** and **WIND UP** soft keys will be available. To view winds aloft, press the **WIND DOWN** or **WIND UP** soft keys to cycle through (up or down) the winds aloft altitudes.

Weather Radar (Optional)

Weather Radar Map Page

Soft Keys Found on Weather Radar Map Page

OFF	MODE	CONTROL	VERTICAL
HORIZON	WEATHER	GROUND	STANDBY
STAB ON	BRG	WATCH	GAIN CAL



Weather Radar

Airborne Color Weather Radar

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

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

Displaying Weather on the Weather Radar Page

1) Turn the large **MFD** knob to select the last page of the WX Page Group.
2) Press the **MODE** soft key.
3) If the aircraft is on the ground, press the **STANDBY** soft key to initiate the warm-up period. After the warm-up is complete, the radar enters Standby Mode. After the aircraft is airborne, press the **WEATHER** soft key.

   OR

   If the aircraft is already airborne, press the **WEATHER** or **GROUND** soft key. The warm-up period is initiated, after which the radar begins transmitting. The horizontal scan is initially displayed. Press the **BACK** soft key, then the **VERTICAL** soft key to scan vertically.
4) Press the **RNG** keys to select the desired range.

Adjusting Antenna Tilt

1) Press and turn the small **MFD** knob to adjust the tilt of the antenna up or down. Monitor the displayed tilt value in the TILT field. The range of tilting the antenna is DN 15° to UP 15°.
2) Press the small **MFD** knob to confirm selection.

Adjusting the Antenna Bearing

1) Press the small **MFD** knob and turn the large **MFD** knob to move to the BEARING field.
2) Adjust the azimuth position of the antenna right or left. Monitor the displayed bearing value in the BEARING field. The range of the bearing is R45° to L45°.
3) Press the **ENT** key to remove the cursor.

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

1) Press the **CONTROL** soft key.
2) Press the **BRG** soft key.

Sector Scan

1) Press the small **MFD** knob and turn the large **MFD** knob to move to the SECTOR SCAN field.
2) Turn the small **MFD** knob to select FULL, 60°, 40°, or 20° scan.
3) If desired, readjust the Bearing Line to change the center of the Sector Scan. Turn the large **MFD** knob to move cursor to the BEARING field and turn the small **MFD** knob to adjust the line.

Adjusting Gain

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

1) Press the small **MFD** knob and turn the large **MFD** knob to move to the GAIN field.
2) Turn the small **MFD** knob to adjust the gain for the desirable level. The gain setting is visible in the gain field as a movable horizontal bar in a flashing box. The line pointer is a reference depicting the calibrated position.
3) Press the **ENT** key to remove the cursor.
4) To restore the gain to the calibrated position, press the **GAIN CAL** soft key.

Antenna Stabilization

1) To activate or deactivate the antenna stabilization, press the **CONTROL** soft key.
2) Press the **STAB ON** soft key to activate antenna stabilization or press the **STAB OFF** soft key to deactivate. The current stabilization condition is shown in the upper right of the weather radar display.

Weather Attenuated Color Highlight (WATCH™)

WATCH (Weather Attenuated Color Highlight) which helps identify possible "shadowing" effects of short-range cell activity – identifying areas where radar return signals are weakened, or attenuated, by intense precipitation (or large areas of lesser precipitation) and may not fully reflect the "storm behind the storm".

To activate the WATCH feature, press the **CONTROL** soft key. Press the **WATCH** soft key. Press the **WATCH** soft key again to deactivate.

Automatic Standby

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

Aux Group

System Setup Page

Soft Keys Found on System Setup Page

DFLT SPD DFLT UNIT

Setting Brightness and Mode

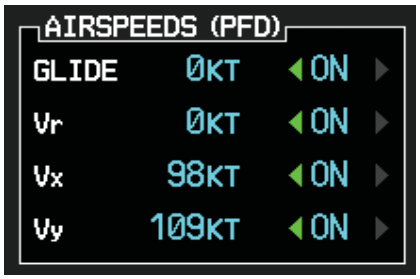
1) While viewing the System Setup Page of the Aux Page Group, press the small **MFD** knob. The LEVEL in the DISPLAY BRIGHTNESS box will flash.
2) Turn the small **MFD** knob to brighten or dim the display.
3) Press **ENT** when you reach the desired level.

NOTE: *When LEVEL is changed, the MODE defaults to MANUAL. If MODE is set the AUTO, the LEVEL will adjust in response to ambient light or a lighting bus, as configured during installation.*

Setting Airspeed References

1) While viewing the System Setup Page of the Aux Page Group, press the small **MFD** knob. Turn the large **MFD** knob to move to the desired field in the AIRSPEEDS box.
2) Turn the small **MFD** knob to change the speeds and to also turn the speeds ON or OFF. When the speeds are turned ON they are shown near the bottom of the Airspeed Tape if airspeed is zero.

V Speed References on Airspeed Tape



Airspeed References

NOTE: *At any time during the setting of your airspeed references, pressing the* **DFLT SPD** *soft key will restore the unit to its initial configuration.*

Selecting Wind Vector Styles

1) While viewing the System Setup Page of the Aux Page Group, press the small **MFD** knob and turn the large **MFD** knob to move to the field in the PFD OPTIONS box.

2) Turn the small **MFD** knob to select the styles available for displaying wind vectors. Each style shows direction and velocity of the wind.

Style 1 **Style 2** **Style 3** **Style 4**

Style 1 Displays headwind and crosswind components

Style 2 Displays total wind direction and speed.

Style 3 Displays total wind direction with headwind and crosswind speed components.

Style 4 Displays total wind direction in degrees with wind speed.

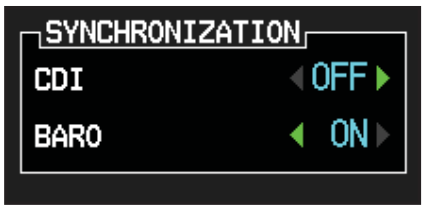
Synchronization (For Dual Installations Only)

NOTE: *The SYNCHRONIZATION option will only be available if a second GDU 620 is installed.*

1) While viewing the System Setup Page of the Aux Page Group, press the small **MFD** knob and turn the large **MFD** knob to move to the desired field in the SYNCHRONIZATION box.

2) Turn the small **MFD** knob to turn ON or OFF synchronization of the CDI. Turn the large **MFD** knob to move to the BARO setting. Turn the small **MFD** knob to turn the synchronization of the barometer ON or OFF.

3) Press **ENT** to move to the DATE/TIME box or press the small **MFD** knob to exit the editing mode.



Synchronization Option

Setting Time Format

1) While viewing the System Setup Page of the Aux Page Group, press the small **MFD** knob. Turn the large **MFD** knob to the desired field in the DATE/TIME box. The only items that are able to be modified is the TIME FORMAT and TIME OFFSET. The date and time are coordinated with the GPS.

2) Turn the small **MFD** knob to display your choices of LOCAL 12hr, LOCAL 24hr, and UTC (Universal Time, Coordinated). Turn the small **MFD** knob to the desired format and press **ENT** to confirm your selection.

Setting Time Offset

1) While viewing the System Setup Page of the Aux Page Group, press the small **MFD** knob. Turn the large **MFD** knob to the time offset portion of the DATE/TIME box.

2) Use the small **MFD** knob and large **MFD** knob to edit the time offset.

3) Press **ENT** to confirm your selection. Press the small **MFD** knob to exit the editing mode.

To convert UTC to local time, a time offset must be chosen. See the table below to determine the time offset.

Time Zone	Standard Local Time Offset	Daylight Saving Time Offset
Atlantic	-4 hours	-3 hours
Eastern	-5 hours	-4 hours
Central	-6 hours	-5 hours
Mountain	-7 hours	-6 hours
Pacific	-8 hours	-7 hours
Alaskan	-9 hours	-8 hours
Hawaiian	-10 hours	-9 hours

MFD Display Units

NOTE: At any time during the setting of your preferences, pressing the **DFLT UNIT** *soft key will restore the settings for brightness, synchronization, time format, time offset and display units to the initial settings.*

NOTE: The corresponding GNS must also be set to match the selection chosen (distance, speed, NAV angle, pressure, and temperature units) on the GDU 620.

Setting Distance and Speed Units

1) Press the small **MFD** knob and turn the large **MFD** knob to move to the MFD DISPLAY UNITS box.
2) Turn the small **MFD** knob to display your choices of IMPERIAL, METRIC, and NAUTICAL units for distance and speed displayed on MFD. Press **ENT** to confirm your selection. Press the small **MFD** knob to exit editing mode.

Setting Altitude and Vertical Speed Units

1) While viewing the System Setup Page of the Aux Page Group, press the small **MFD** knob and turn the large **MFD** knob to move to the desired field of the MFD DISPLAY UNITS box.
2) Turn the small **MFD** knob to display your choices of FEET or METRIC units for altitude and vertical speed. Press **ENT** to confirm your selection. Press the small **MFD** knob to exit editing mode.

Setting Nav Angle

1) While viewing the System Setup Page of the Aux Page Group, press the small **MFD** knob and turn the large **MFD** knob to move to the desired field of the SYSTEM DISPLAY UNITS box.
2) Turn the small **MFD** knob to display your choices of MAGNETIC(°) or TRUE (°) measurement for navigating. Press **ENT** to confirm your selection and move to the next preference or press the small **MFD** knob to exit editing mode.

Setting Pressure Units

1) While viewing the System Setup Page of the Aux Page Group, press the small **MFD** knob and turn the large **MFD** knob to move to the desired field of the SYSTEM DISPLAY UNITS box.

2) Turn the small **MFD** knob to display your choices of INCHES(IN) or HECTOPASCALS (HPA) for your barometric pressure units. Press **ENT** to confirm your selection and move to the next preference or press the small **MFD** knob to exit editing mode.

Setting Temperature Units

1) While viewing the System Setup Page of the Aux Page Group, press the small **MFD** knob and turn the large **MFD** knob to move to the desired field of the SYSTEM DISPLAY UNITS box.

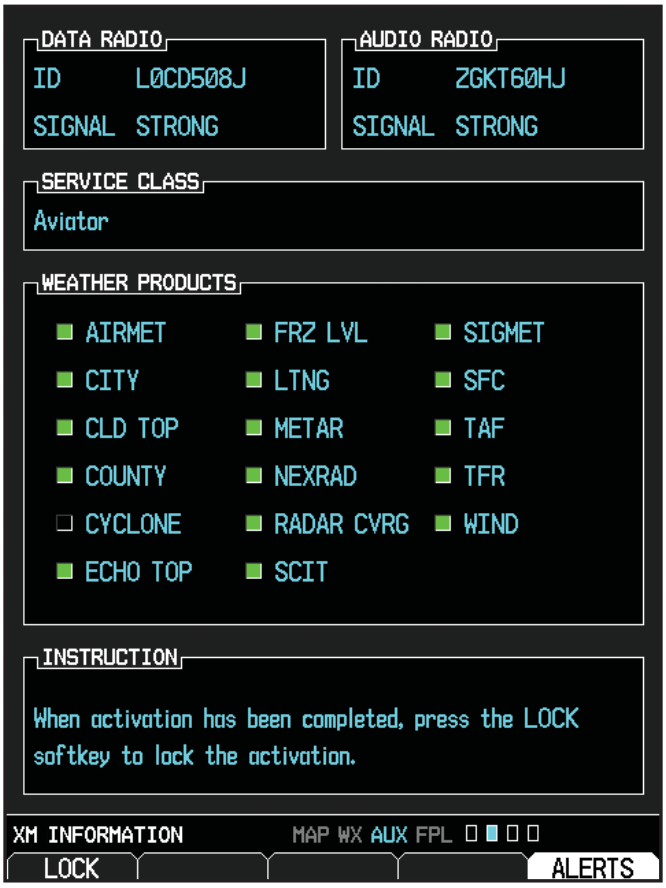
2) Turn the small **MFD** knob to display your choices of CELSIUS(°C) or FAHRENHEIT(°F) for the temperature. Press **ENT** to confirm your selection and press the small **MFD** knob to exit editing mode.

XM® Information Page (Optional)

Soft Key Found on XM Information Page

LOCK

While viewing the XM Information page of the Aux Group, turn the small **MFD** knob to display the XM Information screen. This page contains the Data Radio and Audio Radio IDs. The only option on this page is to **LOCK** in your information once your subscription has been activated.



XM Information Page

XM® Radio Page (Optional)

Soft Keys Found on XM Radio Page

CATGRY	CHNL	CH +	CH -	DIR CH
PRESETS	VOL	VOL +	VOL -	MUTE
CAT +	CAT -	PS1 TO PS15		MORE
		ALL		

Selecting a Channel

1) While viewing the XM Radio page of the Aux Page Group, press the small **MFD** knob and then turn the small **MFD** knob to highlight the desired channel.
2) Press **ENT** to make the highlighted channel the Active Channel.
3) Press the small **MFD** knob to end editing.
4) Press **CHNL** and then the **CH+** or **CH-** soft keys to increment up or down one channel at a time in the active category.
5) Press **CHNL** and then the **DIR CH** soft key to directly select a channel in the active channel field. Turn the small **MFD** knob and large **MFD** knob to select desired channel.
6) Press **ENT** to save the selection or press the small **MFD** knob to cancel selection.

Selecting a Channel within a Category

1) Press **CATGRY** to highlight the category window.
2) Press **CAT+** or **CAT-** to cycle through the different categories or turn the small **MFD** knob to the category and press **ENT**.
3) Turn the small **MFD** knob to move to the desired channel.
4) Press **ENT** to make that channel the active channel.
5) Press the small **MFD** to end editing.

Volume

While viewing the XM Radio page of the Aux Group, press the **VOL** soft key. Press the **VOL+** or **VOL-** soft keys or turn the small **MFD** knob to increase or decrease radio volume. Press the small **MFD** knob when done adjusting. To mute the radio, press the **MUTE** soft key. To restore the radio volume, press **MUTE** again or the **VOL+** or **VOL-** soft keys.

Storing a Preset Channel

While viewing the XM Radio page, you may set a preset for the Active Channel. Press the **PRESETS** soft key. Press and hold a preset soft key, such as **PS1** until it blinks. You are able to preset up to 15 channels.

Recalling a Preset Channel

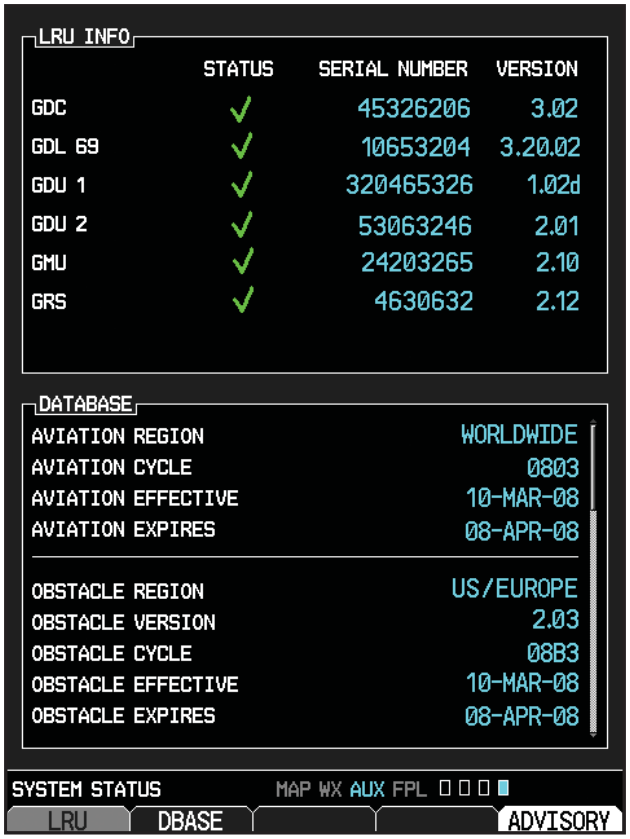
While viewing the XM Radio page, press the **PRESETS** soft key and press the preset soft key for the desired stored channel, such as **PS1**. To move to the next group of presets, press the **MORE** soft key.

System Status Page

Soft Keys Found on System Status Page

LRU | DBASE

The System Status page of the AUX Page group shows the status, serial number, and version of LRUs as well as the effectivity information. There are no menu options. In the LRU Status column, a green check means the unit is present and operating properly, while a red X indicates an absence or failure. This page is for informational purposes and there are no items that are able to be modified.



System Status Page

1) While viewing the System Status page of the Aux Page Group, press the **LRU** soft key and turn the small **MFD** knob to scroll through the status, serial number and version of each LRU. Press the small **MFD** knob to exit.

2) Press the **DBASE** soft key and turn the small **MFD** knob to view the list of the databases loaded into the GDU 620. Press the small **MFD** knob to exit.

GARMIN

Flight Plan Group

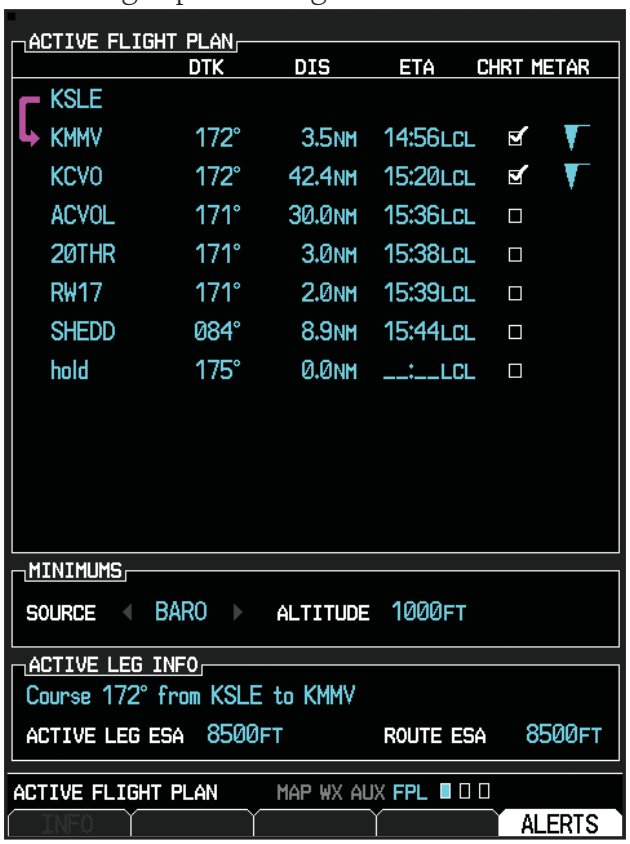
Active Flight Plan Page

Soft Keys Found on Active Flight Plan Page

INFO

Viewing Your Active Flight Plan

The active flight plan (as received from the active GNS unit) is shown on the first page of the Flight Plan page group. No changes to the flight plan can be made from the GDU 620. All flight plan changes must be made from the GNS unit.

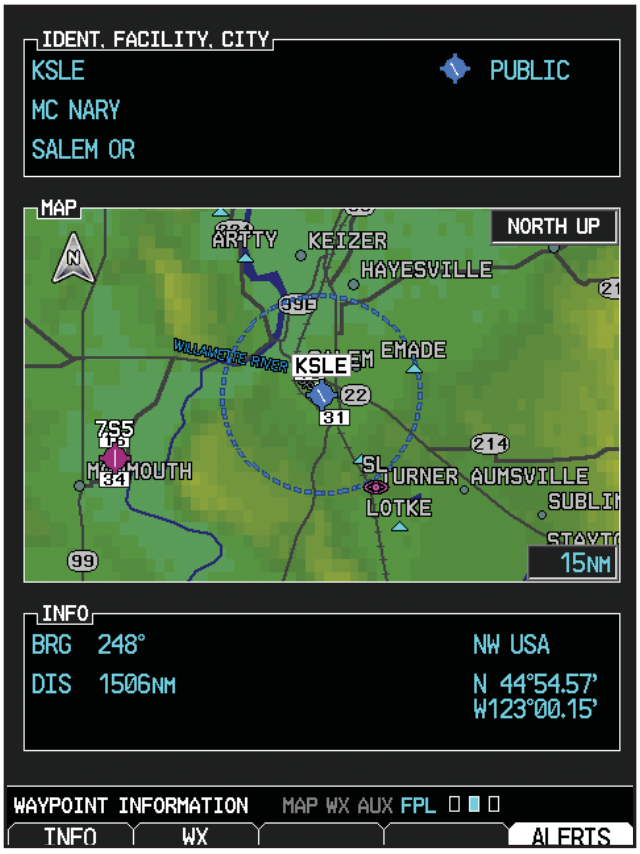


Active Flight Plan Page

1) While viewing the Active Flight Plan page of the FPL Page Group, press the small **MFD** knob and then turn the large **MFD** knob to highlight waypoints in the flight plan.
2) Press the **INFO** soft key to view information about the highlighted waypoint.
3) Press the small **MFD** knob to return to the Active Flight Plan page.

Waypoint Information Page

Soft Keys Found on Waypoint Information Page



Waypoint Information Page

1) While viewing the Waypoint Information page of the FPL Page Group, press the small **MFD** knob and then turn the small and large **MFD** knobs to select the waypoint. You can also turn the small **MFD** knob counterclockwise to obtain drop down menus for FPL, Nearest, and Recent.
2) Press the **INFO** soft key to view information about the waypoint.
3) Press the **WX** soft key (if available) to view weather information for the waypoint.

Charts Page (Optional)

Soft Keys Found on Charts Page

Change Day/Night View

1) While viewing the Charts page of the FPL Page Group, press the **MENU** key to display the Options menu.
2) Press **ENT** to go to Chart Setup. The Color Scheme option will be highlighted.
3) Turn the small **MFD** knob to select Day - Auto - Night.
4) Press the small **MFD** knob to save the selected value and return to the Charts page.
5) If "Auto" is selected, turn the large **MFD** knob to highlight the Display Level Brightness value. Turn the small **MFD** knob to change the display level value for which the display will automatically switch from Day/Night brightness.
6) Press the **ENT** key to save the selected value.

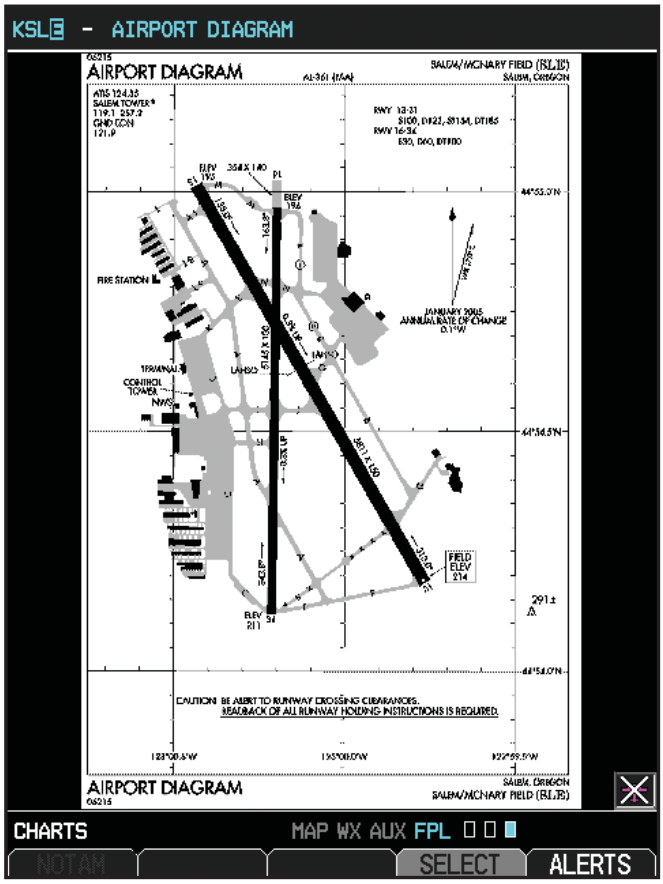
Viewing Charts and Panning

1) While viewing the Charts page of the FPL Page Group, press the **RNG** (Range) keys to zoom in and out.
2) Press the small **MFD** knob to enter the panning mode and activate scroll bars on the edges of the chart.
3) Turn the large **MFD** knob to move around the chart horizontally and turn the small **MFD** knob to move vertically.
4) Press the small **MFD** knob to cancel the scroll bars and exit panning.

***NOTE:** Panning mode is available when scroll bars are present.*

Viewing NOTAMs

In the event there is an active NOTAM (Notice to Airmen) for a particular chart, the **NOTAM** soft key will be available. To view the information press the **NOTAM** soft key.



Charts Page

Selecting a Chart

1) While viewing the Charts page of the FPL Page Group, press the **SELECT** soft key to change the airport or chart.
2) Turn the small and large **MFD** knobs to select the airport identifier and press **ENT** to accept the selected airport.
3) Turn the large **MFD** knob to select the desired chart.
4) Press **ENT** to display the desired chart.

NOTE: *The chart for the selected destination airport or approach is automatically loaded. If the destination airport is in the flight plan, the chart page will default to the nearest airport.*

Selecting Other Charts

You are able to choose other charts to display based on your flight plan (FPL), charts of the nearest airport (NRST) or your most recently selected airport (RECENT).

1) While viewing the Charts page of the FPL Page Group, press the **SELECT** soft key.
2) Turn the small **MFD** knob counterclockwise.
3) Turn the small **MFD** knob to show FPL, NRST, or RECENT.
4) Turn the large **MFD** knob to highlight the desired airport, then press **ENT.**

Display Charts From Flight Plan

Display Charts Of Nearest Airport

Display Charts From Recent Choices

Chart Information

FliteCharts®

FliteCharts resemble the paper version of National Aeronautical Charting Office (NACO) terminal procedures charts. The charts are displayed with high-resolution and in color for applicable charts. The database contains procedure charts for the United States only. This database is updated on a ***28-day cycle***. FliteCharts is disabled 180 days after the expiration date and is no longer available for viewing upon reaching the disable date.

SafeTaxi® (Optional)

SafeTaxi is an enhanced feature that gives greater map detail when zooming in on airports at close range. The airport display on the map reveals runways with numbers, taxiways with identifying letters/numbers, and airport landmarks including ramps, buildings, control towers, and other prominent features. Resolution is greater at lower map ranges. When the aircraft location is within the screen boundary, including within SafeTaxi ranges, an airplane symbol is shown on the navigation map views for enhanced positional awareness.

These diagrams aid in following ground control instructions by accurately displaying the aircraft position on the map in relation to taxiways, ramps, runways, terminals, and services. This database is updated on a ***56-day cycle***.

ChartView™ (Optional)

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

The ChartView database is updated on a ***14-day cycle***. ChartView is disabled 70 days after the expiration date and is no longer available for viewing upon reaching the disable date.

Alerts

NOTE: *Contact your Garmin dealer for service if any of the following alerts appear.*

On Screen Alerts

Alert	Description
AHRS1 GPS	AHRS 1 not receiving any GPS information.
	AHRS 1 is operating exclusively in no-GPS mode.
	AHRS 1 is using the backup GPS information.
AHRS1 SRVC	AHRS1 magnetic field model needs update. This appears on the ground only.
AHRS1 TAS	AHRS is not receiving true airspeed from ADC.
CAL LOST	Registry reports that the GDU 620 has lost calibration data.
CHECK ATTITUDE	The GDU 620 attitude monitors have detected an AHRS malfunction, or the inability to actively monitor the AHRS output. The autopilot will automatically disconnect. This alert will display on the PFD and only appears with the installation of an optional GAD 43 Adapter.
CNFG MISMATCH	GDU 1-2 airframe configuration settings disagree.
CNFG MODULE	Failure of configuration module.
DATA LOST	Pilot stored data was lost. Recheck data and settings.
DIAG MODE	System is in Diagnostic Mode.
FAN 1/2 FAIL	Cooling fan #1 or #2 has failed.
GAD 43	Gyro Emulation Type Mismatch Fault
	Yaw Rate Scale Factor Mismatch Fault
	GDU AHRS Monitor Fault
	Pitch Deviation Fault
	Roll Deviation Fault
	Yaw Rate Deviation Fault
	AHRS A429 Attitude Timeout Fault
	AHRS A429 Attitude Invalid Fault
	AHRS Pitch Out of Range Fault

Alert	Description
GAD 43 (cont'd)	AHRS Attitude Invalid Fault
	AHRS A429 Heading Timeout Fault
	AHRS A429 Heading Invalid Fault
	Reference Timeout Fault
	Application SCI Integrity Fault
	Configuration Integrity Fault
	Calibration Integrity Fault
	Unit Fault
	Power Supply Fault
GAD 43 FAIL	GAD 43 communication lost.
GATE MODE	Automated testing is on.
GEO LIMITS	AHRS too far North/South, no magnetic compass.
GPS1/2 FAIL	No GPS1 or GPS2 data is available.
GPS(1/2) PPS FAIL	The PPS signal has not been received in more than 5 seconds.
GWX CONFIG	GWX configuration error. Configuration service required.
GWX SERVICE	GWX need service. Return unit for repair.
HDG FAULT	AHRS 1 magnetometer fault has occurred.
HDG LOST	HDG features disabled or defaulted to GPS1 TRK.
<LRU> CONFIG	Error in configuration of specific LRU, where <LRU> denotes specific LRU.
<LRU> COOLING	Specific LRU has poor cooling, reducing power usage.
<LRU> DB ERR	Database for specific LRU is corrupt.
<LRU> SERVICE	Specific LRU needs service.
<LRU> VOLTAGE	<LRU> has low voltage reducing power usage.
MANIFEST	GDU has received product data for an LRU that should have a manifest entry, but is not in the manifest.
NAV1/2 FAIL	No navigation receiver #1 or #2 data.
SIMULATOR	Sim Mode is active. Do not use for navigation.

Alert	Description
SVT DISABLED	Out of available terrain region.
	Terrain DB resolution too low.
SW MISMATCH	GDU software version strings to no match. Xtalk is off.
TRK LOST	GPS1 TRK lost. HSI defaulted to GPS2 TRK.
TRK TRAFFIC	Heading lost. Traffic is now based on track.
TRAFFIC FAIL	Traffic device has failed.
WX ALERT	Possible severe weather ahead.
WX RADAR FAIL	Weather radar has failed.

Terrain-SVT™ Alerts

Terrain DSP	Terrain awareness display unavailable.	
Terrain SVT System Test Fail	TER FAIL	"Terrain System Failure"
FLTA Terrain Caution	TERRAIN	"Caution, Terrain, Terrain"
FLTA Terrain Warning	TERRAIN	"Warning, Terrain, Terrain"
FLTA Obstacle Caution	OBSTACLE	"Caution, Obstacle, Obstacle"
FLTA Obstacle Warning	OBSTACLE	"Warning, Obstacle, Obstacle"

** Alerts with multiple messages can be configured at installation and are installation-dependent. Alerts for the default configuration are indicated with asterisks.*

Symbols

Map Page Symbols

Symbol	Description
	Unknown Airport
	Non-towered, Non-serviced Airport
	Towered, Non-serviced Airport
	Non-towered, Serviced Airport
	Towered, Serviced Airport
	Soft Surface, Serviced Airport
	Soft Surface, Non-serviced Airport
	Private Airport
	Heliport
	Intersection
	LOM (compass locator at outer marker)
	NDB (Non-directional Radio Beacon)
	VOR
	VOR/DME
	ILS/DME or DME-only
	VORTAC
	TACAN

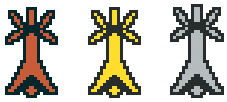
SafeTaxi® Symbols

Symbol	Description
	Helipad
	Airport Beacon
	Under Construction Zones
	Unpaved Parking Areas

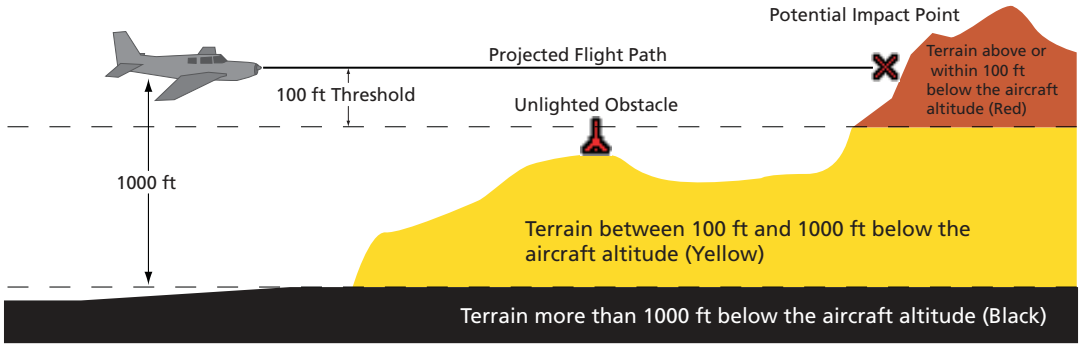
Traffic Symbols

Symbol	Description (Highest to Lowest Priority)
	Traffic Advisory (TA), In Range
	Traffic Advisory (TA), Out of Range
	Proximity Advisory (PA)
	Other Traffic
	On-Ground Aircraft
	Ground Non-Aircraft Vehicle

Terrain Obstacle Symbols

Unlighted Obstacle (Height is less than 1000' AGL)	Lighted Obstacle (Height is less than 1000' AGL)	Unlighted Obstacle (Height is greater than 1000' AGL)	Lighted Obstacle (Height is greater than 1000' AGL)
			

NOTE: *Obstacles will be removed from the Terrain/TAWS page when range* ***(RNG)*** *exceeds 10 NM.*



Terrain Altitude/Color Correlation

Map Toolbar Symbols

Symbol	Description
	Overzoom Indicator
	Terrain Proximity Enabled and Available Indicator
	Terrain Proximity Enabled and Not Available Indicator
	Traffic Enabled and Available Indicator
	Traffic Enabled and Not Available Indicator

XM® Weather Toolbar Symbols

Symbol	Description
	NEXRAD
	Echo Top
	Cloud Top
	XM Lightning
	Cell movement
	SIGMETs / AIRMETs
	METARs
	City Forecast
	Surface Analysis
	Freezing Levels
	Winds Aloft
	County Warnings
	Cyclone Warnings

Miscellaneous Symbols

Symbol	Description
	Default Aircraft (Ownship)
	High Wing Aircraft
	Jet Aircraft
	Default Map Pointer
	Elevation Map Pointer
	User Waypoint
	Parallel Track Waypoint
	TFR (Temporary Flight Restrictions)
	Restricted/Prohibited/Warning/Alert
	MOA
	Class B Airspace
	Class C Airspace
	Class D Airspace

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