E500 Primary Flight Display

User Reference

V2

Contents

Primary Flight Display (PFD)

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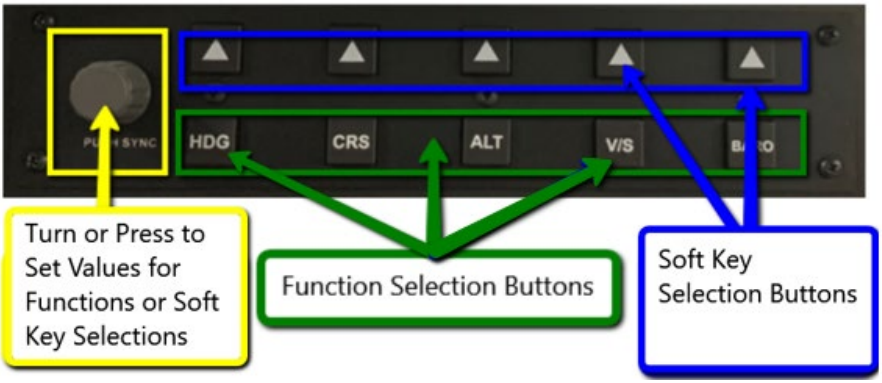
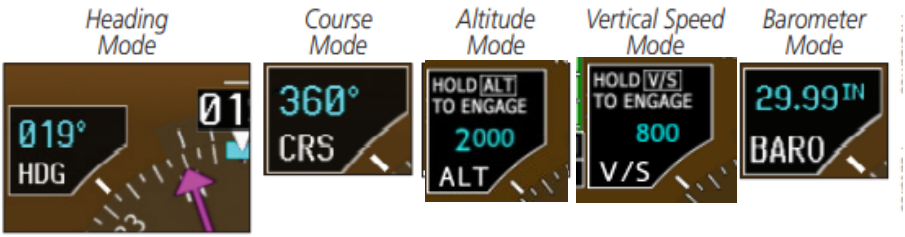
7. Vertical Speed with Vertical Deviation Indicator for ILS and GPS Approaches
8. Horizontal Situation Indicator (HSI)
9. PFD Soft Key Panel (See Page 5)

The ELITE PFD E500 Control Module





1. PFD Knob: Turn **PFD** knob to change bug setting, Heading Bug, Course, Altitude Bug, V/S Bug and Barometer setting.
2. HDG Select Key: Press **HDG** and turn **PFD** knob to set heading bug.
3. Course Select Key: Press **CRS** and turn **PFD** knob to set the course of the selected source (VOR1, VOR2, GPS1 or GPS2).
4. Altitude Select Key: Press **ALT** and turn **PFD** knob to set altimeter bug.
5. Vertical Speed Select Key: Press **V/S** and turn **PFD** knob to set V/S bug.
6. Barometer Select Key: Press **BARO** and turn **PFD** knob to change barometric setting.

   NOTE: After 10 seconds of inactivity in another mode, the PFD knob's selected mode reverts to Heading mode.

The PDF Soft Keys

Soft keys are located along the bottom of the displays below the soft key labels. The soft key labels shown depend on the soft key level or page being displayed. The soft keys can be used to select the appropriate soft key function.

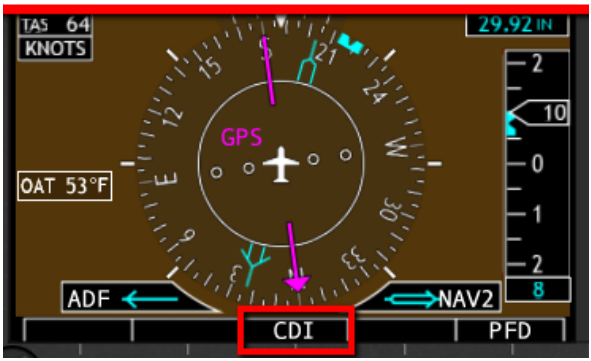
←*Soft Key Labels*
←*Soft Keys*

NOTE: *If a soft key is pressed and held for longer than 1 second, it is ignored.*

CDI

The **CDI** soft key toggles between the selection of **GPS** or **VOR/LOC** as the active navigation source.

CDI Selection - GPS, VOR1 or VOR2 , ADF



1-2

The **1-2** soft key toggles between the available receivers for selected navigation source (i.e. **GPS** or **VOR/LOC1** and

VOR/LOC2). This soft key will only be present if the system is configured for a second **VOR/LOC**.

Pressing the **PFD** soft key displays the **DME, BRG,** and **BACK** soft keys. The **DME** and **SYN VIS** soft keys will only be present if the system is configured for these features.

BRG1

The **BRG1** soft key cycles through the available bearing 1 indicator modes (**NAV1, GPS1, ADF**, or **None**).

BRG2

The **BRG2** soft key cycles through the available bearing 2 indicator modes (**NAV2, GPS2, ADF**, or **None**). This soft key will only be present if the system is configured for a second **GPS** or **VOR/LOC.**

DME

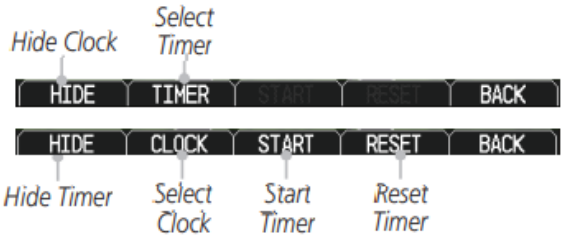
The **DME NAV** soft keys select the **DME** submenu. For some installations, the **DME NAV** soft keys simply toggle the **DME** display on/off as the submenu options will not exist. The availability of the **DME** controls vary based on the installation. The **DME NAV** soft keys select **NAV 1 or 2** as the **DME** tuning source. If this soft key is pressed again when already selected, the **DME** display is removed from the **PFD**. Not all installations will have both **NAV1** and **NAV2** soft keys.

DME HOLD

DME HOLD activates/deactivates the **DME** tuning hold function. **DME HOLD** may be selected for either **DME NAV 1** or **DME NAV 2**. The Hold function is automatically canceled when switching between **NAV1** and **NAV2** tuning sources. Not all installations will have the **DME HOLD** soft key.

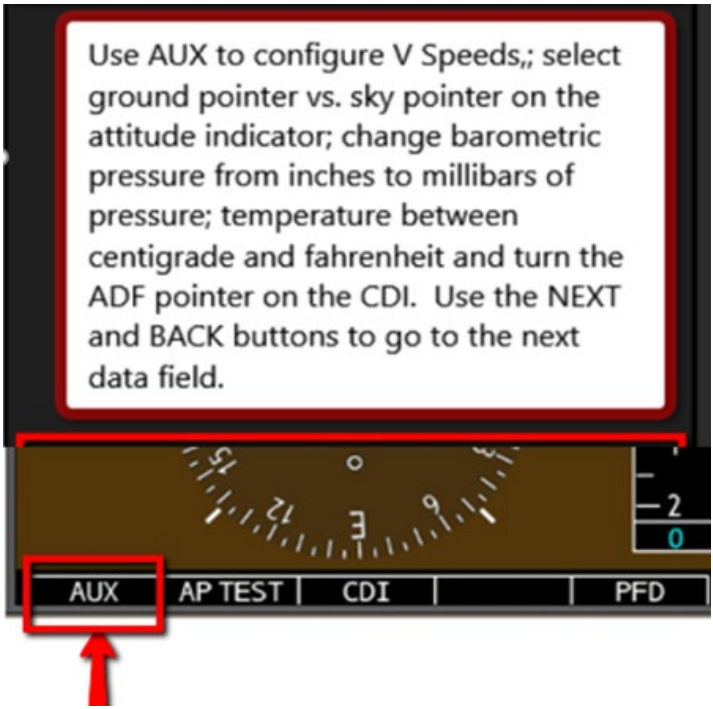
CLK/TMR

The Clock/Timer function displays a clock or timer window in the lower left corner of the **PFD**.

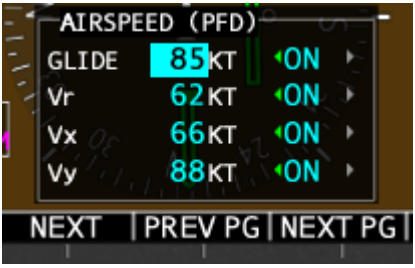


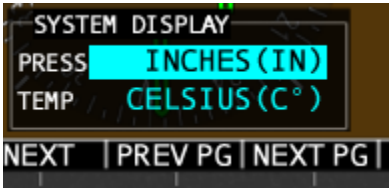
BACK

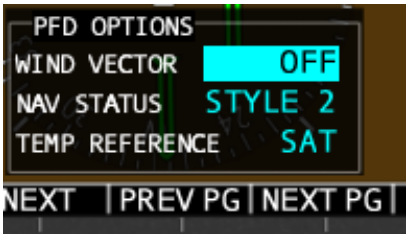
The **BACK** soft key returns to the previous soft key menu.

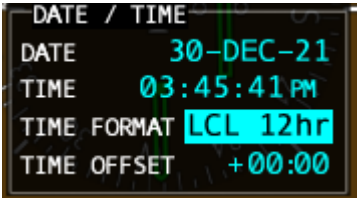


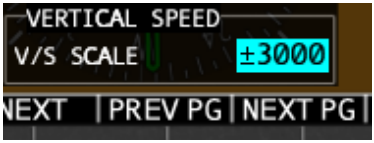
AUX Dialog Boxes





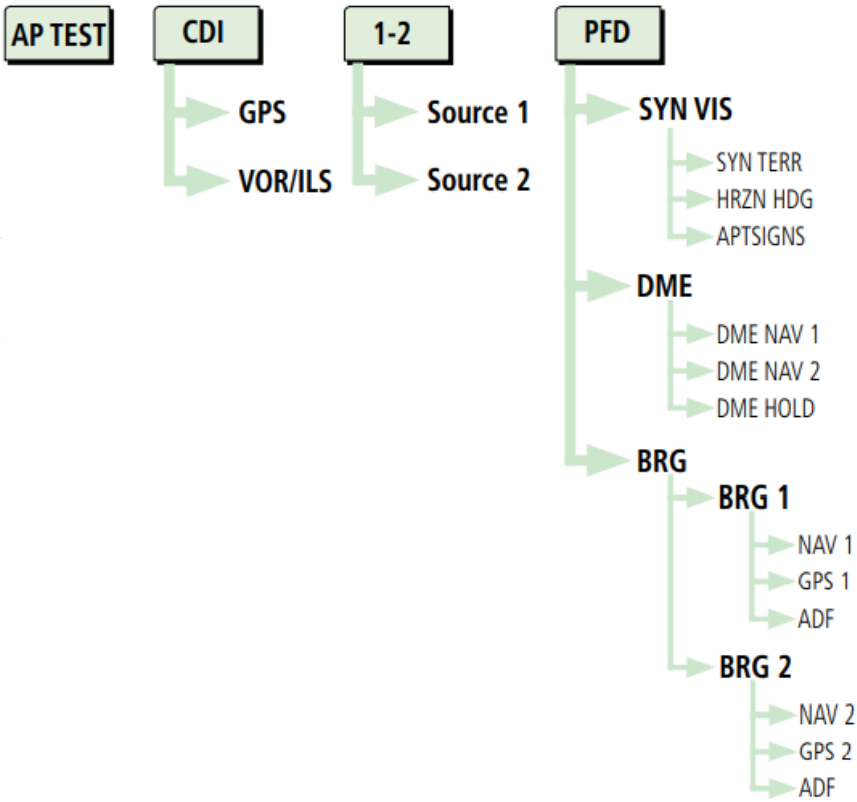






NEXT PG (Page) changes the dialog box. **NEXT** moves selection to the next data field. **PDF Knob** is used to change selection highlighted in blue.

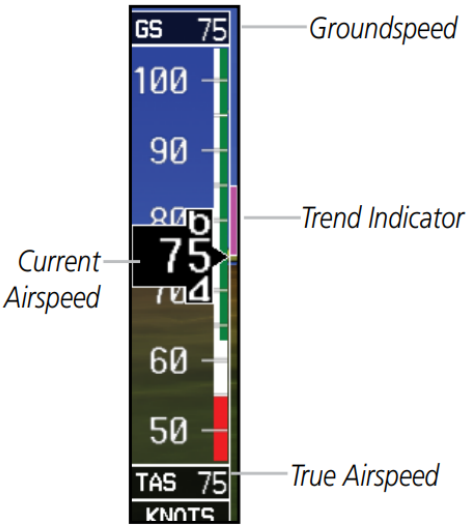
PFD Soft Key Diagram



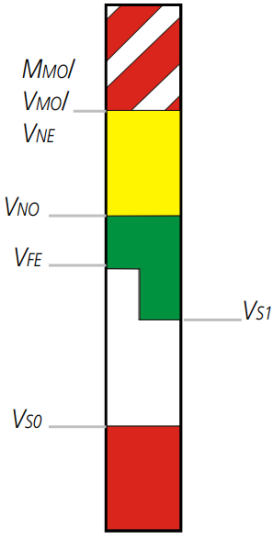
Airspeed Tape

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 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.

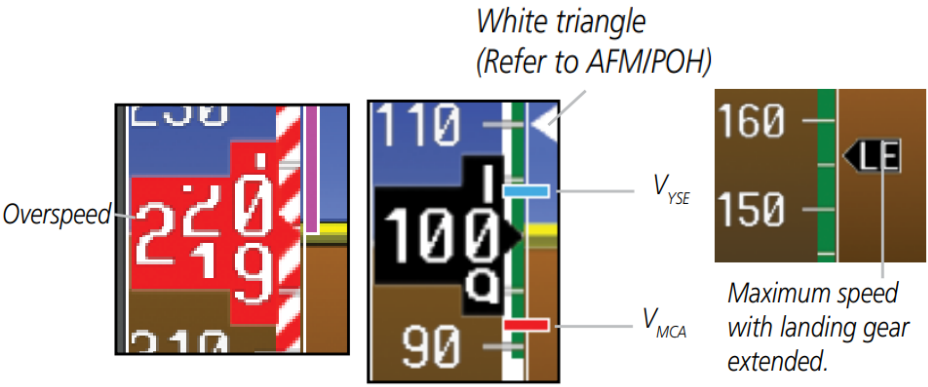
NOTE: Airspeed tape markings are specific to each aircraft and may not include all markings shown below. Refer to the POH for required markings.



Airspeed Tape



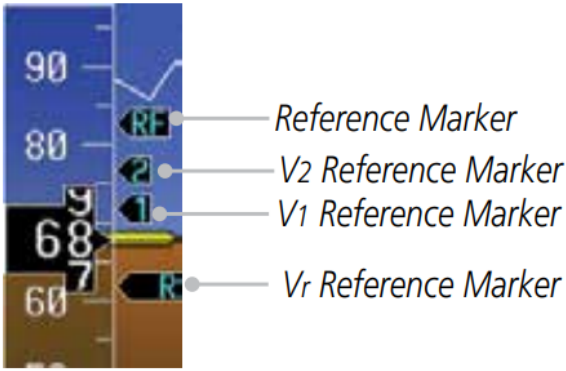
Typical Airspeed Tape Markings



Overspeed Indication

Additional Reference Markings

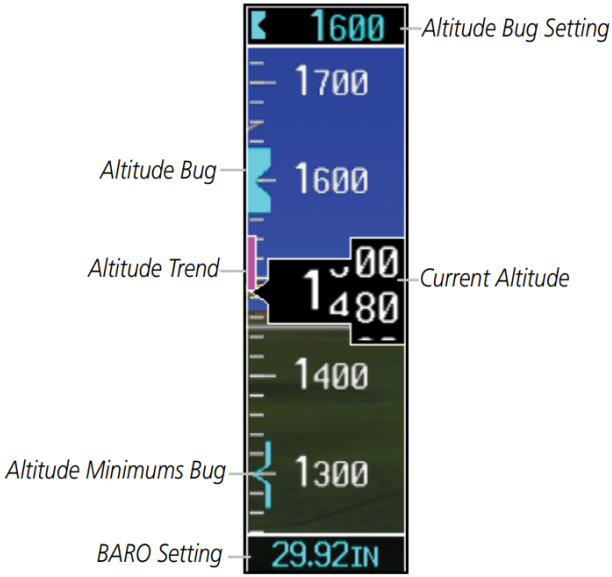
Reference Speeds



Alternate Reference Speeds

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.



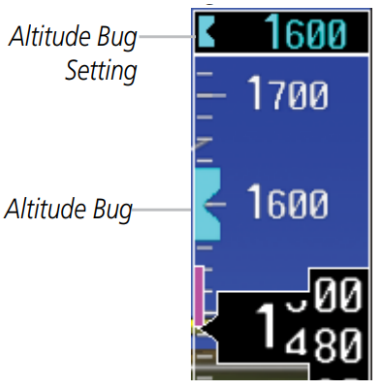
Altitude Tape

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, 1013 mb), press the PFD knob. To return to the previous setting, press the PFD knob again.

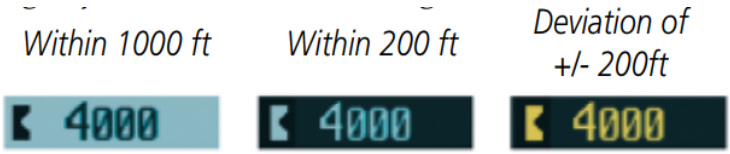
Altitude Bug

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 the tape.



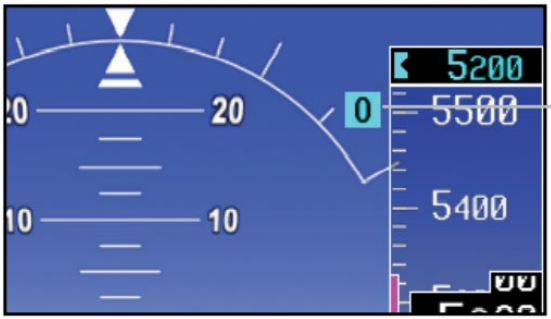
Altitude Bug

The Altitude Bug provides visual and aural altitude alerting. Aural alerting occurs within 200 feet (or 1000 feet, as configured) of the Altitude Bug setting or when deviating beyond 200 feet of the bug.



Altitude Bug Indications

Marker Beacon Annunciations



Marker Beacons

Current Beacon	Icon (Standard)	Icon (Blink)
Inner Marker	I	I
Middle Marker	M	M
Outer Marker	O	O

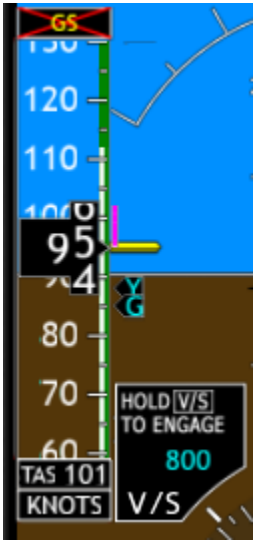
Wind Vectors

The PFD will display a Wind Vector Field to the left of the HSI when configured by the user. Wind Vectors can only be calculated when the aircraft is in the air.

Wind Vector Display

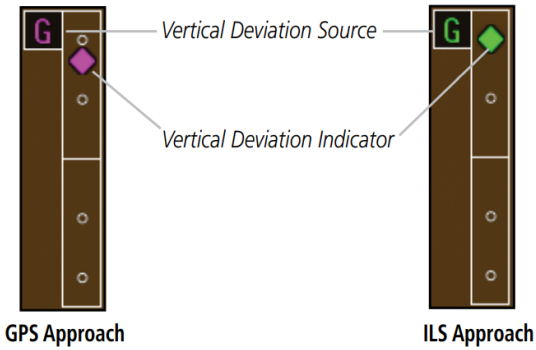
Vertical Speed (V/S)

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



Vertical Deviation Indicator (VDI)

The Vertical Deviation Indicator is displayed for ILS and GPS 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).



Temperature Display

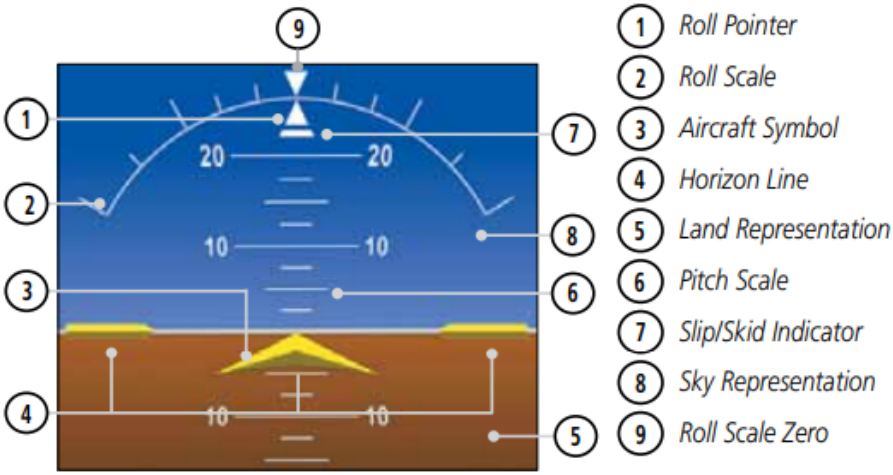
The outside air temperature is displayed to the left of the HSI. The air data computer calculates the temperature based on temperature probe and Pitot/ static inputs. Static Air

Temperature (SAT) is the calculated temperature of the stationary (static) outside air.

Attitude Indicator

The standby mechanical Attitude Indicator in your aircraft is either a Ground Pointer or a Roll Pointer configuration. The 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.



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.

NOTE: *Press AUX soft key and NXT PG to find selection box*

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.

LIP SKID INDICATOR

Adjusting the Course Pointer

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

Horizontal Situation Indicator (HSI): Aircraft Heading

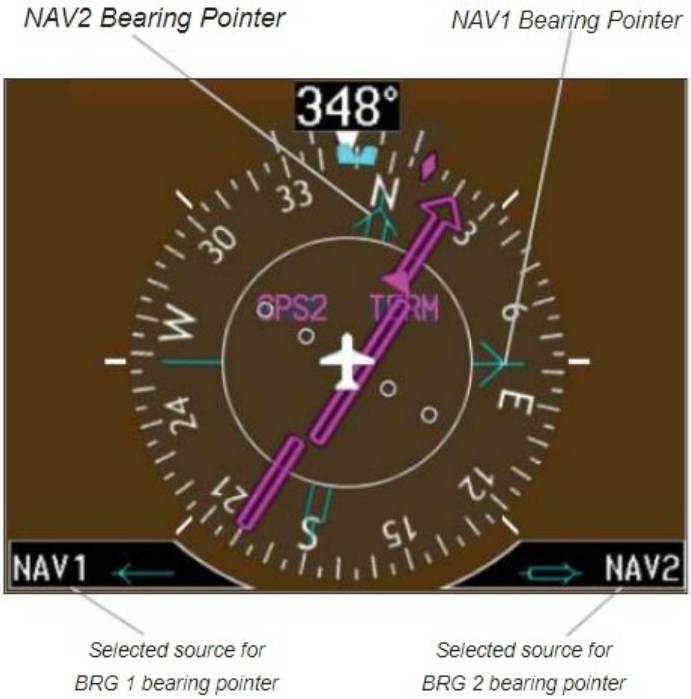
The top of the HSI displays current heading, current GPS track (magenta diamond), heading trend, and turn rate markings. The heading trend indicates what the aircraft heading will be in six seconds if the heading rate remains unchanged. The turn rate markings, along with the heading trend, display standard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

HSI Bearing Pointers

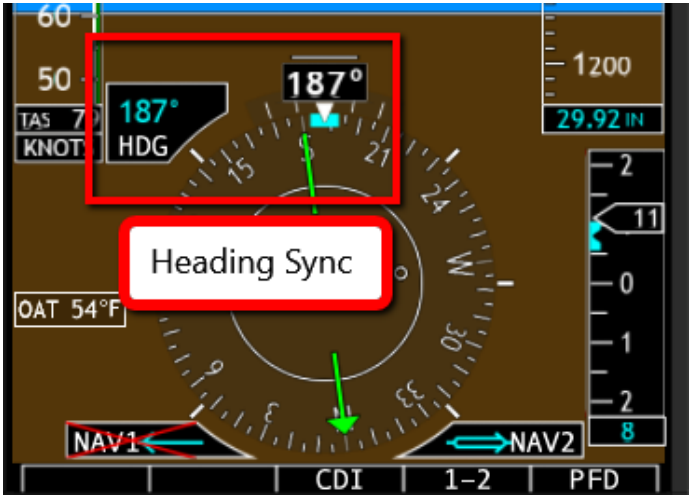
NOTE: *The Bearing Pointer for navigation source 1 (BRG1) will be an arrow with a single line. The Bearing Pointer for navigation source 2 (BRG2) will be an arrow with a double line.*

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.

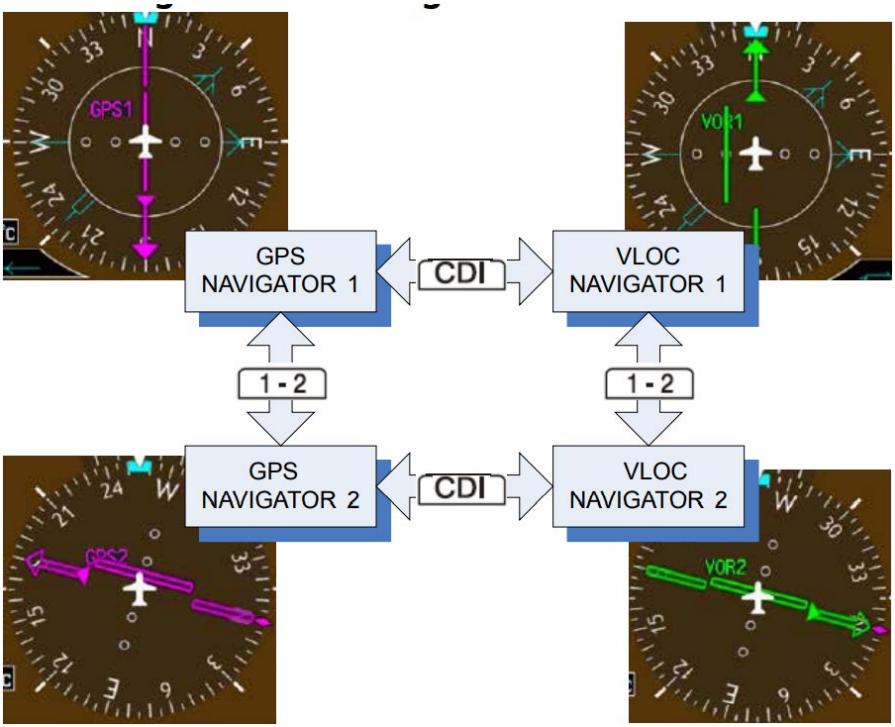
The **BRG2** soft key cycles through modes, NAV2 and GPS2 if a second NAV or GPS source is available. Additionally, ADF is available if an ADF source is installed.



Press PFD knob to sync the heading bug with the aircraft heading.



Switching Between Navigation 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).

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

Switching NAV STATUS Styles

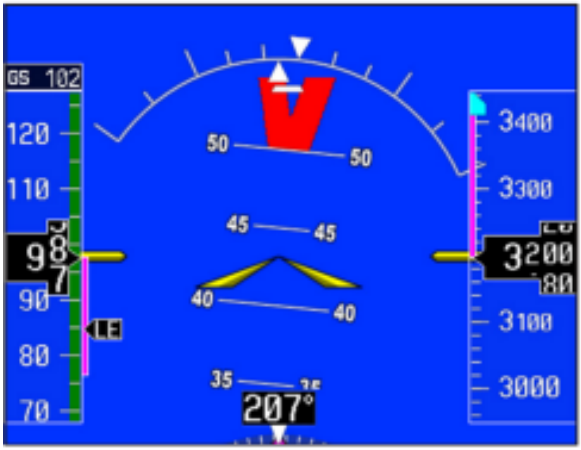
Use the PFD Aux and NEXT PAGE soft keys to find PFD OPTIONS – NAV STATUS. Use PFD knob to select data field for NAV Status to change between STYLE 1 or STYLE 2.

Extreme Attitude

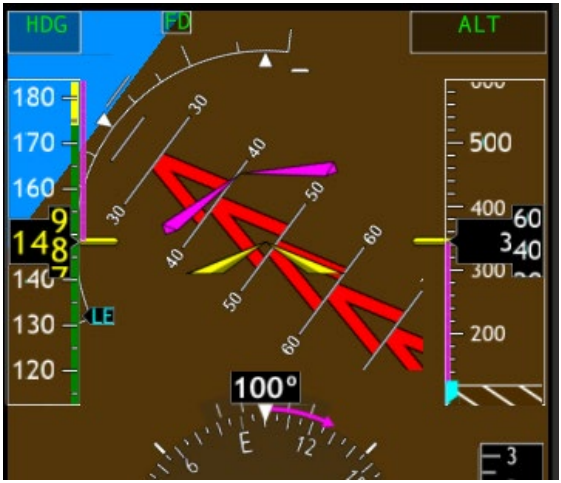
Extreme attitude is defined as a roll greater than 65º left or right, 30º pitch up, or 20º pitch down. Red chevrons are displayed at greater than 50º pitch up and 30º pitch down. The PFD will “declutter” when the aircraft enters an extreme attitude. Only the primary functions will be displayed in these situations.

The following information is removed from the PFD (and corresponding soft keys are disabled) when the aircraft is in an unusual attitude:

- BARO and Radar Altimeter Minimums
- Clock/Timer Field • DME Field
- Fast/Slow Indicator
- Flight Director Command Bars
- GPSS Annunciation
- Knob Mode Annunciation
- Marker Beacon Annunciation
- NAV Status
- Outside Air Temperature
- Radar Altimeter Digital Readout
- Selected Altitude, Barometer Setting, and Selected Vertical Speed
- TAS Airspeed and Airspeed Units
- Traffic and Terrain Annunciations
- Vertical Course Deviation Indicator and Glideslope Annunciation
- Wind Field



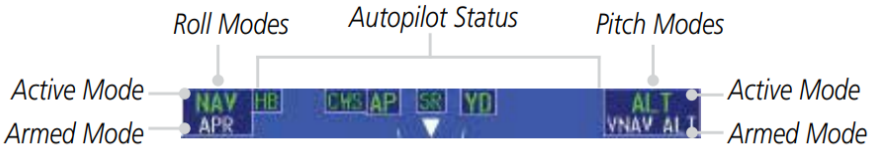
Extreme Pitch Indication –
Nose Up



Extreme Pitch Indication –
Nose Down

Autopilot Mode Annunciations

The ELITE autopilot, modeled after the KFC 140, 150 or GFC 500, support mode annunciations located at the top of the PFD. Refer to the appropriate software Operator's Manual and on the autopilot mode annunciations. When autopilot annunciations are displayed at the top of the PFD, the Nav Status information will be located to the left of the HSI (NAV STATUS Style 2).

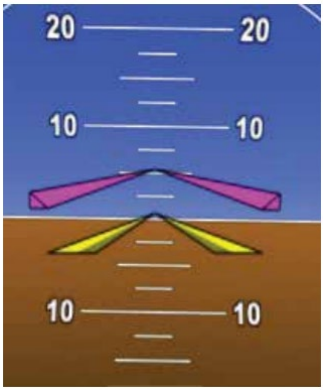


Autopilot Annunciations

ELITE KFC-150 Autopilot input displayed on E500 Annunciator

Flight Director Display

Flight director commands are presented as a single cue flight director on the PFD (FD equipped aircraft only).



Setting the Radar Altimeter

Use the AUX and NEXT PG soft keys to the RADAR ALTIMETER dialog box. You can conduct the RA TEST and set minimums (from RAD ALT or BARO sources) and minimum altitude. Use the PFD knob to negotiate the data fields.

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