

GNS 430 Basic Usage

VFR GPS Usage

Disclaimer

- This briefing is designed to give an introductory overview so that as you read the GNS 430 Pilot's Guide and Reference you will have a basic understanding of how this GPS unit can be used for VFR flight.

Disclaimer

- This briefing is not to be used in lieu of the GNS 430 Pilot's Guide and Reference.
- Please read the GNS 430 Pilot's Guide and Reference for complete instructions.
 - This can be downloaded for free from http://www.garmin.com/manuals/GNS430_PilotsGuide.pdf

Disclaimer

- Garmin provides a GNS 430 PC-based simulator that can run on your home computer. This software can be downloaded for free at [http://downloads.garmin.com/
GNC400 Trainer 5.01.exe](http://downloads.garmin.com/GNC400_Trainer_5.01.exe)

Disclaimer

- It is highly recommended that you download both the reference manual and simulator and practice using the GNS 430 on the ground before using it in the air.

Initial Page

- This is the first page you will see when you power on the GNS 430. The unit will then sequence through its self-test routine.



Database Ack. Page

- After the unit completes its self-test, you will see the database confirmation page.



Database Ack. Page

- The purpose of this page is to notify the user of the effective and expiration dates of the database.



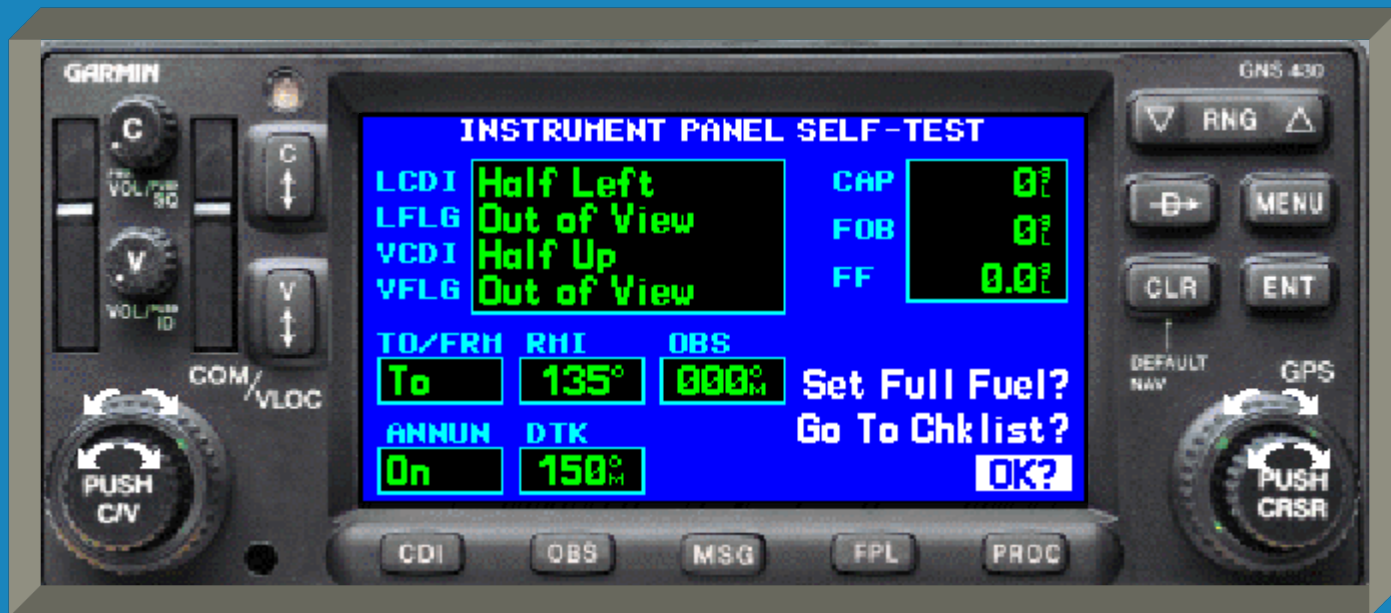
Database Ack. Page

- After noting the effective dates, press the 'ENT' key to confirm. You will then be advanced to the instrument panel self-test.



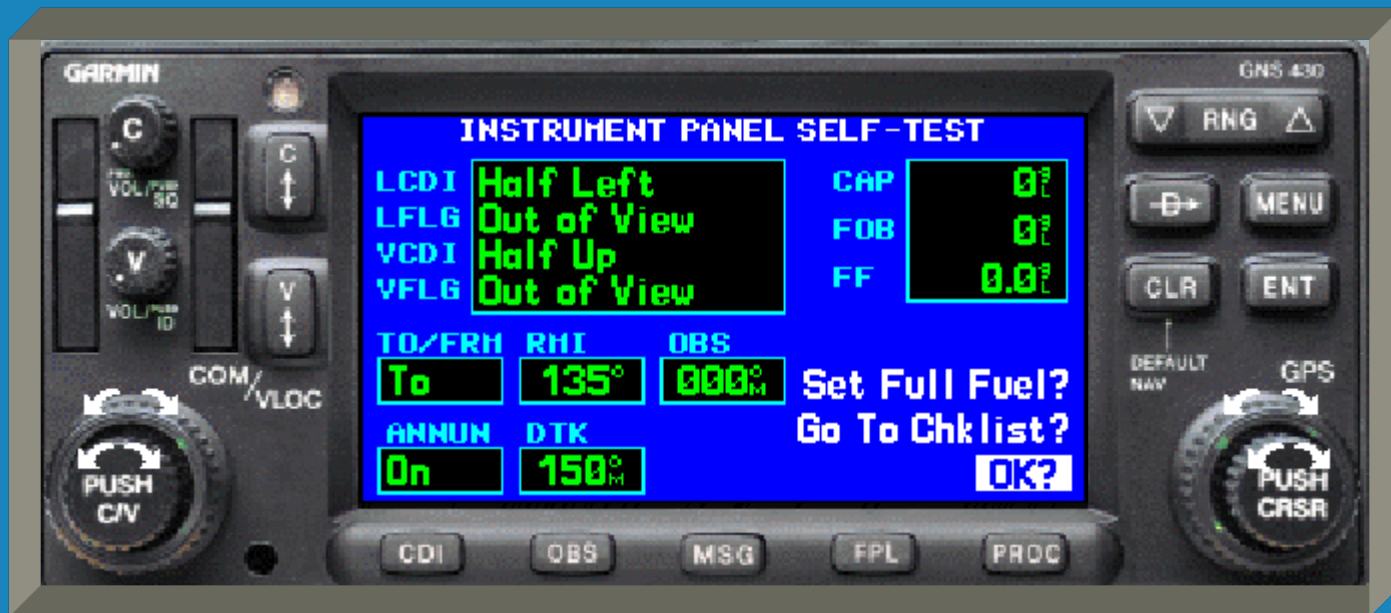
Instrument Panel Self-Test

- The instrument panel self-test page allows you to verify that the unit is communicating properly with panel mounted instruments.



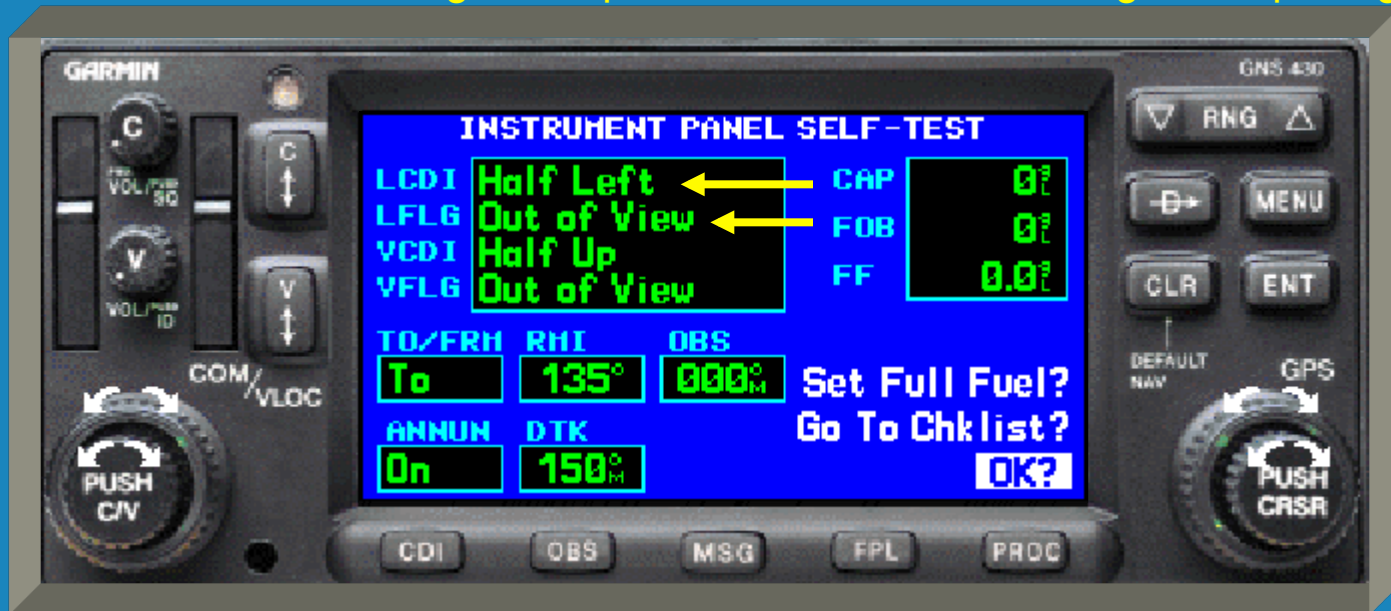
Instrument Panel Self-Test

- Compare the GNS 430 indications with the depictions on any applicable panel mounted instruments.



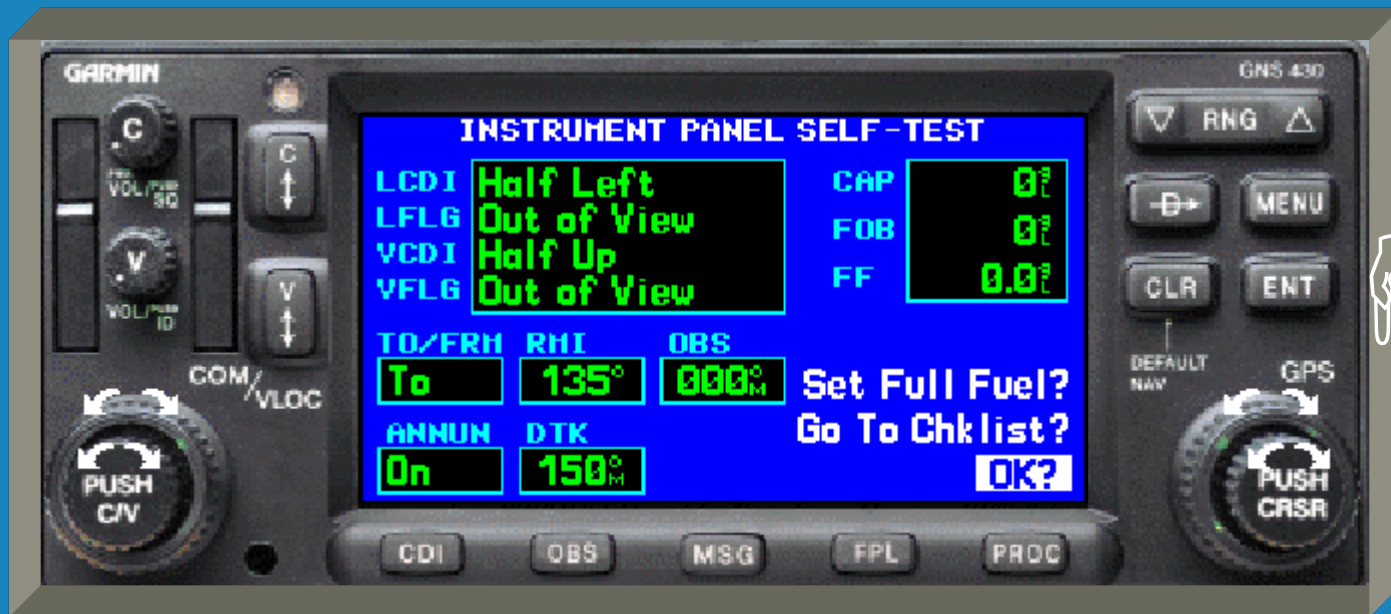
Instrument Panel Self-Test

- For instance, an external CDI should show halfway to the left with no flag.
 - LCDI = lateral CDI; LFLG = lateral CDI flag
 - VCDI = vertical CDI or glide slope; VFLG = vertical CDI or glide slope flag



Instrument Panel Self-Test

- Once verified, press the enter key to continue.



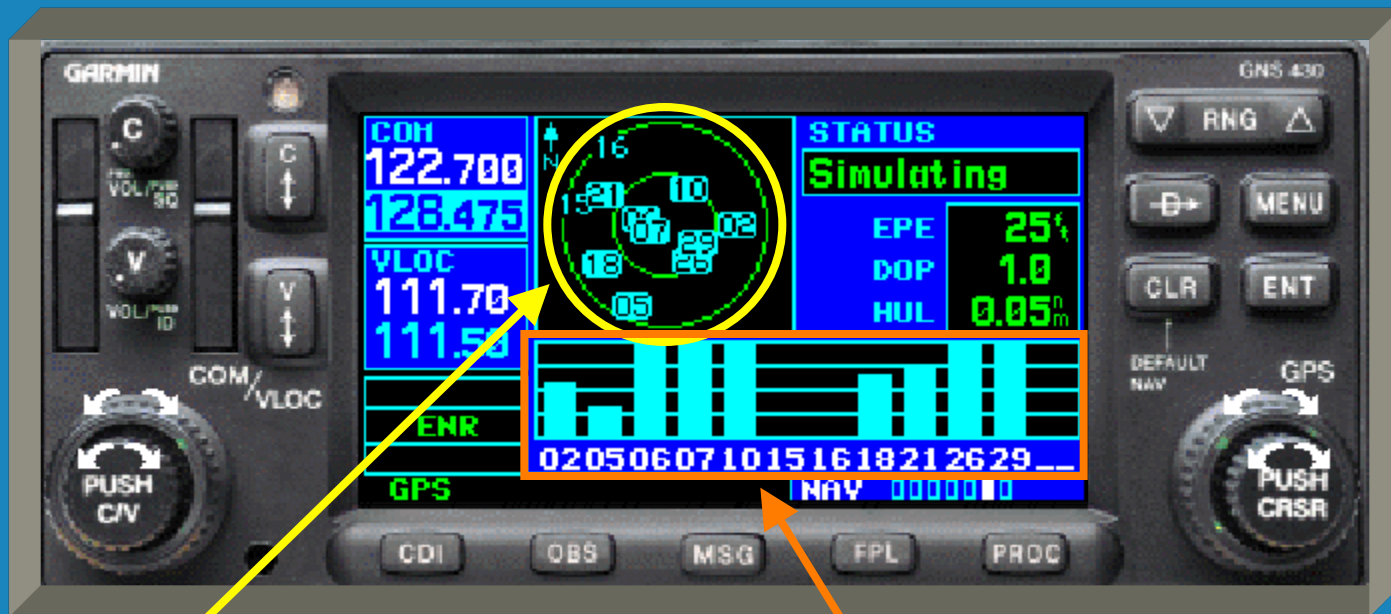
Satellite Status Page

- After confirming the database, the satellite page will automatically be displayed. It displays the current satellite status.



Satellite Status Page

- The GNS 430 displays the current satellites in 'view' and the signal strength of those satellites.



Satellites in 'view'

Satellite Number and Strength

Map page after boot...

- Once enough satellites have been acquired for navigation, the GNS 430 will automatically cycle to the map page.



Map page after boot...

- When you see the map page after the boot sequence the GNS 430 is ready for use.



GNS 430 Controls

- We will now cover the basic controls of the GNS 430 for VFR use.



GNS 430 Controls

- This briefing is not to be used in lieu of the GNS 430 Pilot's Guide and Reference.*



GNS 430 Controls

- Please read the GNS 430 Pilot's Guide and Reference for complete instructions.*



GNS 430 Controls

- All of the communication controls are on the left side of the GNS 430.



GNS 430 Controls

- The COM controls are aligned along the top and the VLOC (VOR-Localizer) controls are aligned below them.



GNS 430 Controls

- This is the power/volume/squelch control.



GNS 430 Controls

- Turning this knob clockwise will turn the unit on if it does not come on with the avionics master switch.



GNS 430 Controls

- Rotating the knob clockwise will increase COM volume. Rotating the knob counter-clockwise will decrease COM volume.



GNS 430 Controls

- Pressing this knob in will turn the COM squelch on.



GNS 430 Controls

- This is the VLOC volume control. VLOC stands for VOR-Localizer. Press this knob to enable/disable the ident tone.



GNS 430 Controls

- This area displays the COM and VLOC frequencies, both active and standby.



GNS 430 Controls

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GNS 430 Controls

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VLOC Stby

GNS 430 Controls

- The light blue box is the frequency cursor. The cursor can only be located in the COM or VLOC standby frequency box.



GNS 430 Controls

- Pressing the small left knob toggles the frequency cursor between COM and VLOC standby frequencies.



GNS 430 Controls

- Turn the small left knob to change the kHz value of the standby frequency. (Just remember small knob=small numbers.)



GNS 430 Controls

- Turn the large left knob to change the MHz value of the standby frequency. (Big knob=big numbers.)



GNS 430 Controls

- This is the VLOC flip-flop button. Press it to swap the VLOC active and standby frequencies.



GNS 430 Controls

- This is the COM flip-flop button. Press it to swap the COM active and standby frequencies.



GNS 430 Controls

- *Holding in the COM flip-flop button for 2 seconds will automatically make the emergency frequency of 121.500 active.*



GNS 430 Controls

- The CDI key toggles which navigation source, GPS or VLOC, is output to an external CDI or HSI.



GNS 430 Controls

- ‘GPS’ or ‘VLOC’ will appear above the CDI key. In this example, GPS is the navigation source.



GNS 430 Controls

- In this example, VLOC is the navigation source.



GNS 430 Controls

- The OBS key is used to select manual or automatic sequencing of waypoints.



GNS 430 Controls

- Pressing the OBS key toggles between manual and automatic sequencing of waypoints.



GNS 430 Controls

- Automatic sequencing of waypoints is typically the desired method.



GNS 430 Controls

- The absence of any indication above the OBS key means automatic sequencing is the method being used.



GNS 430 Controls

- ‘OBS’ will be depicted when manual sequencing has been chosen.



GNS 430 Controls

- The MSG key is used to retrieve a message from the GNS 430.



GNS 430 Controls

- When the pilot's attention is needed, "MSG" will flash above the MSG key.



GNS 430 Controls

- Pressing the MSG key will replace the current display with the necessary message or messages.



GNS 430 Controls

- Pressing the MSG key again will return to the previous display.



GNS 430 Controls

- The 'FPL' key is the flight plan key. You use this key to access flight plan functions.



GNS 430 Controls

- When you press the FPL key you are presented with a screen that lets you create, edit, activate and invert flight plans.



GNS 430 Controls

- The first waypoint is your current location and is inserted automatically.



GNS 430 Controls

- Pressing the small right knob activates the cursor.



GNS 430 Controls

- Turning the small right knob brings up the Waypoint Information sub-menu.



GNS 430 Controls

- Continue turning the small right knob to select the first desired letter or number for the next waypoint.



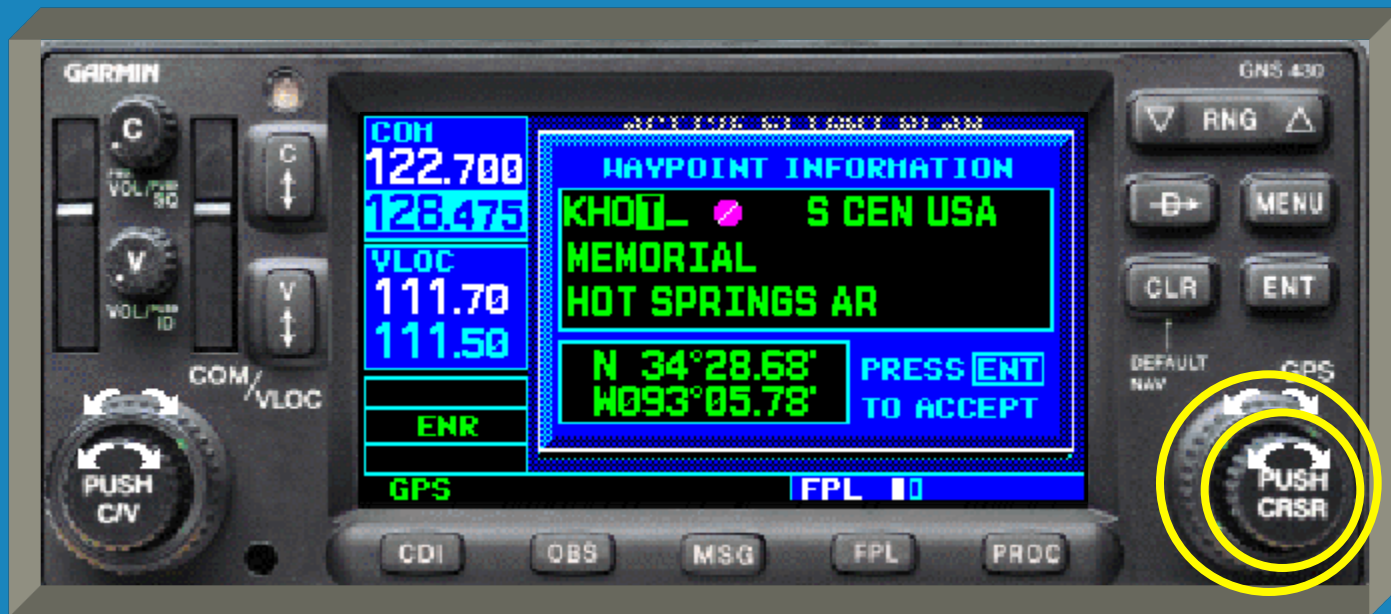
GNS 430 Controls

- Rotate the large right knob to move the cursor to the next location and then use the small knob as before.



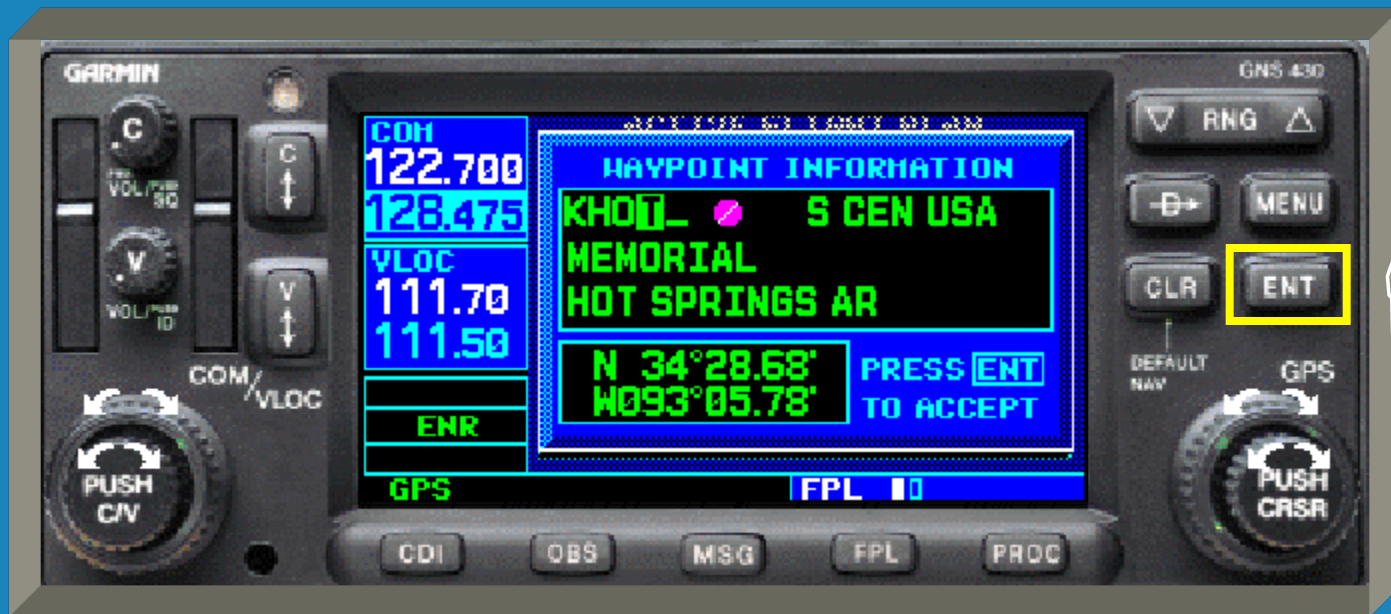
GNS 430 Controls

- Continue using both knobs until you have the waypoint name keyed in.



GNS 430 Controls

- Press the 'ENT' key to enter the waypoint into the flight plan.



Press Here

GNS 430 Controls

- After pressing the 'ENT' key you will be returned to the flight plan page with the new waypoint added.



GNS 430 Controls

- Notice that the GNS 430 automatically calculates the heading (DTK) and distance (DIS) to the next waypoint.



GNS 430 Controls

- Also notice that the cursor automatically positions itself to the next location and is ready for the next waypoint to be entered.



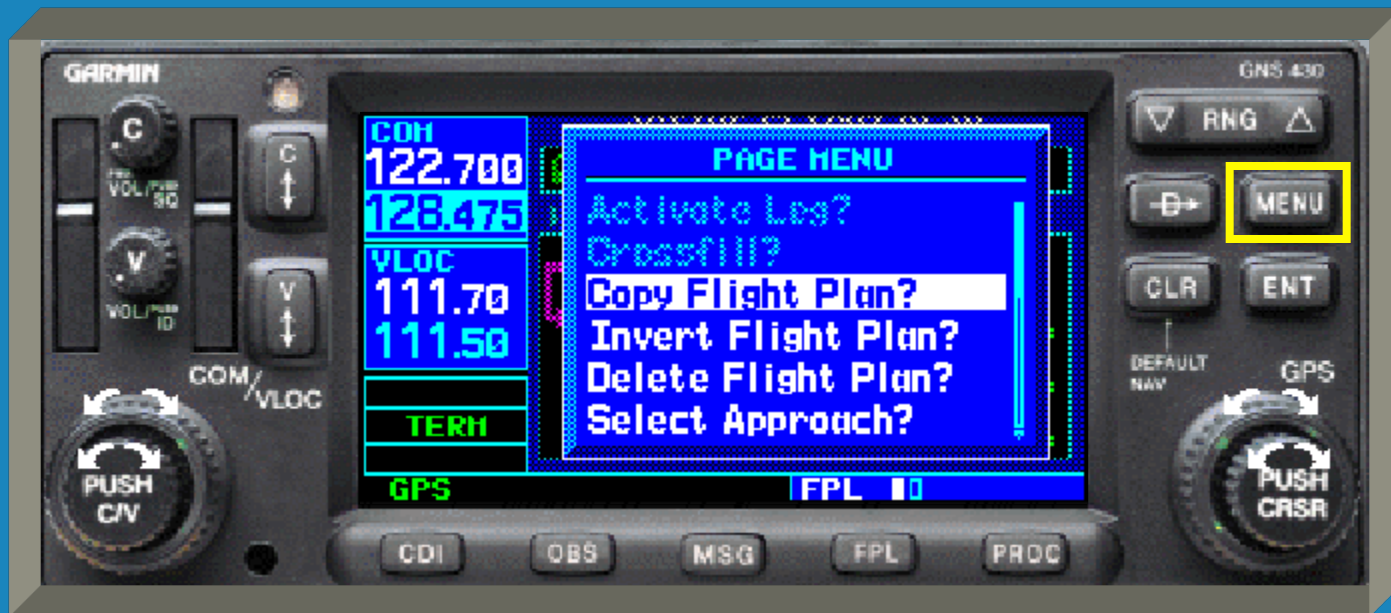
GNS 430 Controls

- When finished entering waypoints, press the small right knob to turn the cursor off.



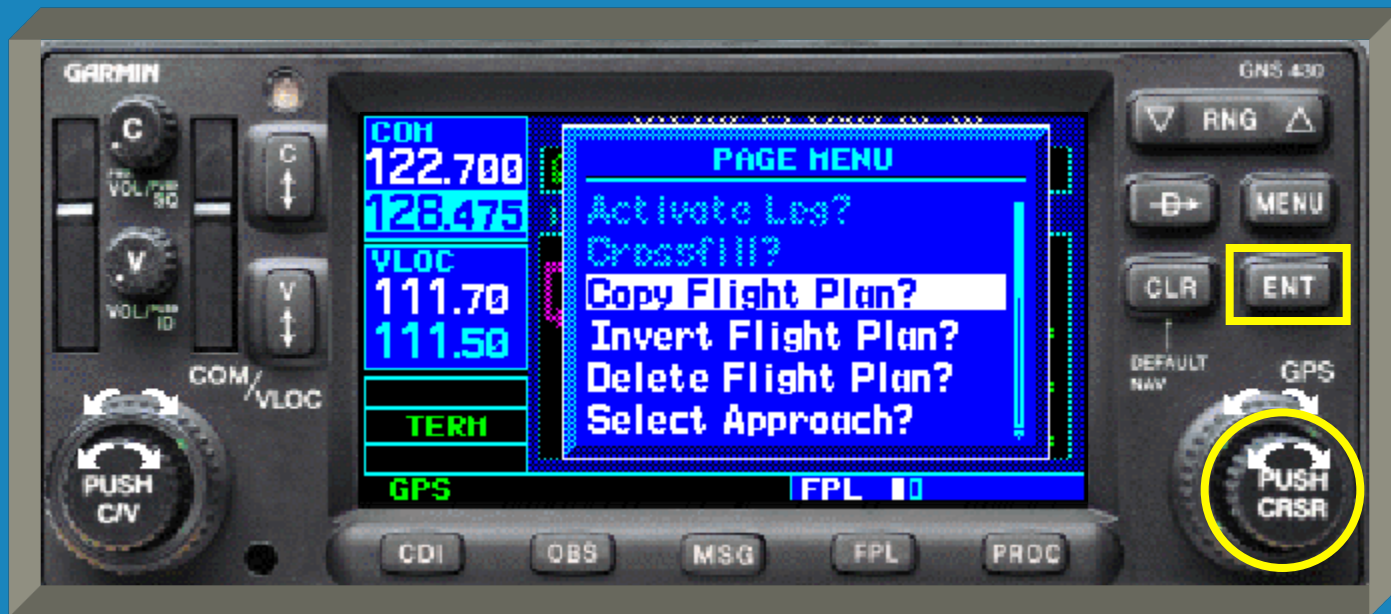
GNS 430 Controls

- Pressing the 'MENU' key at this point brings up a sub-menu of other flight plan functions, if needed.



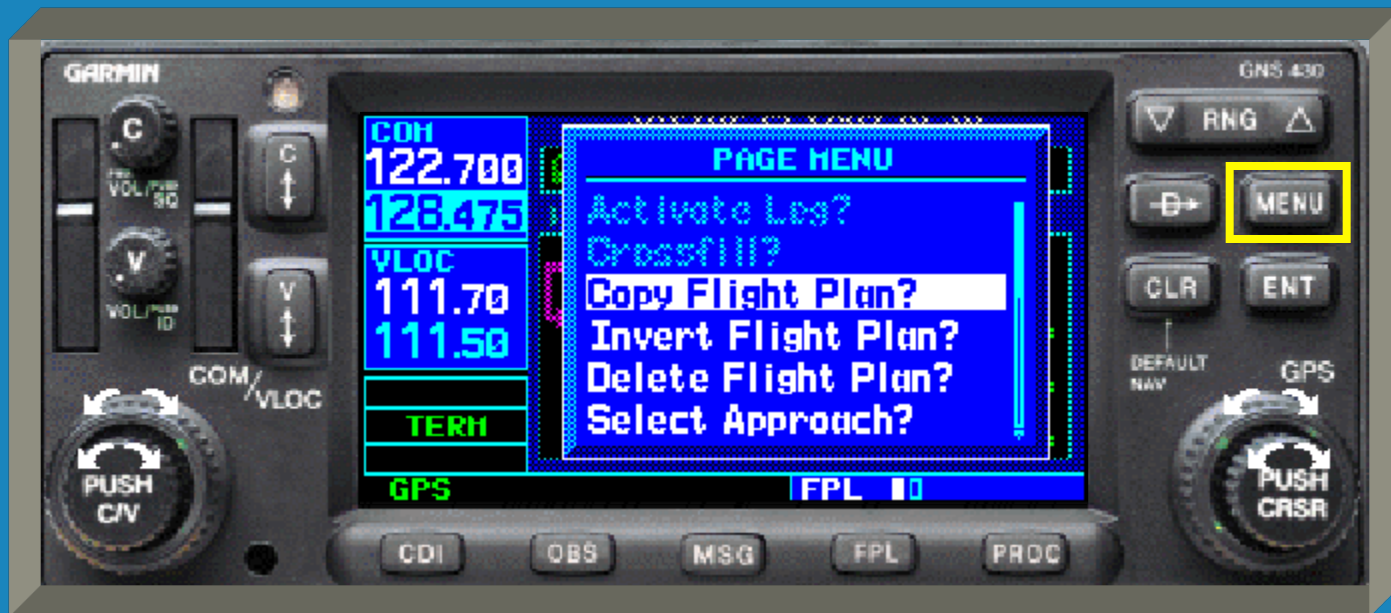
GNS 430 Controls

- Rotate the small right knob to move the cursor to the desired flight plan function and then press the 'ENT' key to accept.



GNS 430 Controls

- If no function is desired, press the 'MENU' key again to turn the sub-menu off.



GNS 430 Controls

- Depending on the conditions, available flight plan functions could be:



GNS 430 Controls

- When finished entering a flight plan, press the 'FPL' key to return to the previous menu.



GNS 430 Controls

- If on the map page, the flight plan leg (or legs) will now be displayed.



GNS 430 Controls

- The active flight plan leg is in magenta, the other legs are white.



GNS 430 Controls

- The 'PROC' key is used to list IFR procedures. *These procedures are beyond the context this briefing.*



GNS 430 Controls

- Please refer to the GNS 430 Pilot's Guide and Reference and/or a CFI on IFR procedures using the GNS 430.*



GNS 430 Controls

- The 'RNG' key lets you zoom the map range in or out.



GNS 430 Controls

- The range selected is displayed at the bottom left corner of the map.



GNS 430 Controls

- As seen previously, the 'MENU' key displays a list of options relating to the current mode of operation / selection.



GNS 430 Controls

- As previously demonstrated, the 'ENT' key is used to approve an operation or to accept data entry.



GNS 430 Controls

- The 'CLR' key is used to erase information or to cancel an entry.



GNS 430 Controls

- Pressing 'CLR' key on the map page also selects between the four levels of displayed information (de-clutter function).



GNS 430 Controls

- The level of de-clutter is displayed next to the map range value.



GNS 430 Controls

- Pressing and holding the 'CLR' key will automatically take you to the default NAV page regardless of current unit operation.



GNS 430 Controls

- The 'D' key is the 'Direct-to' key.



GNS 430 Controls

- The 'D' key is used to enter a one-leg flight plan from the current location to the desired waypoint.



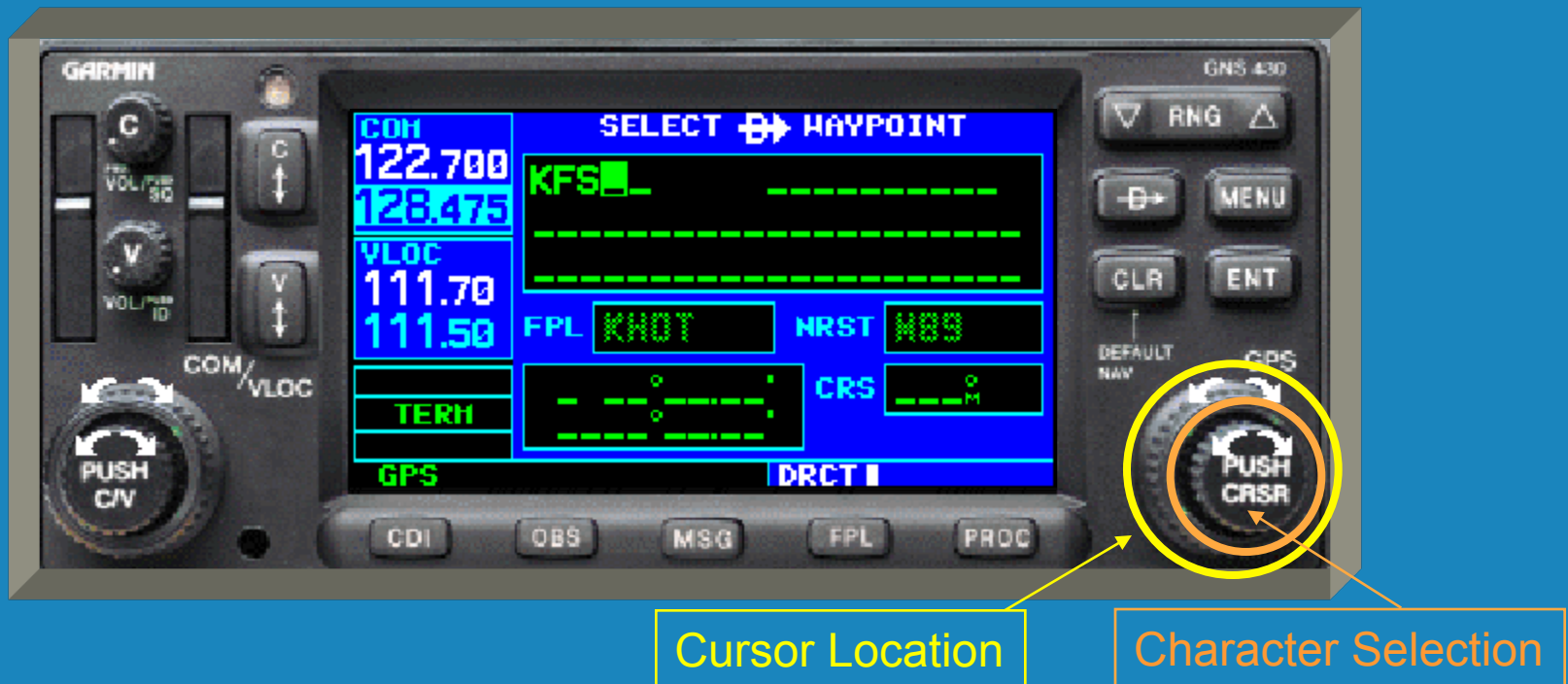
GNS 430 Controls

- After pressing the 'D' key a new screen will appear allowing you to key in the desired waypoint.



GNS 430 Controls

- As before with the flight plan function, use both right knobs to input the desired waypoint.



GNS 430 Controls

- When finished keying in the waypoint, press the 'ENT' key to accept the waypoint.



GNS 430 Controls

- The option 'Activate' becomes highlighted. Press the 'ENT' key again to activate the new direct-to flight plan.



GNS 430 Controls

- You will then be returned to the previous screen. If on the map page, the new route will be depicted.



GNS 430 Pages

- We will now cover how the GNS 430 organizes and displays its maps and different pages of information.

GNS 430 Pages

- Then GNS 430 has four main organization groups of pages.
 - NAV (Navigation)
 - WPT (Waypoint)
 - AUX (Auxiliary)
 - NRST (Nearest)

GNS 430 Pages

- The name of the organizational group is displayed in the lower right corner. In this example it is the NAV group.



GNS 430 Pages

- The available pages within the group are displayed as open boxes to the right of the group name.



GNS 430 Pages

- The selected page within the group is identified by a filled box.



GNS 430 Pages

- Rotate the big right knob to change groups.



GNS 430 Pages

- As you rotate the big right knob the pages will change accordingly, as will the group name.



GNS 430 Pages

- Rotate the small right knob to change the page within a group. The filled box will change accordingly.



GNS 430 Pages

- Rotating the big right knob all the way to the right will sequence past all intermediate options and end on NRST.



GNS 430 Pages

- This is designed so you can have ‘one-stop-shopping’ for the nearest airports or other nav aids or waypoints if needed.



GNS 430 Pages

- Once on the nearest (NRST) page needed, press the small right knob to activate the cursor.



GNS 430 Pages

- Turn the big right knob to select the airport/facility desired.



GNS 430 Pages

- When the desired airport/facility is highlighted, press the '→' key if direct-to navigation is needed.



GNS 430 Pages

- If selected by the 'D' key from the NRST page, the direct-to page will automatically appear.



GNS 430 Pages

- Press the 'ENT' key to accept the waypoint.



Press Here

GNS 430 Pages

- Press the 'ENT' key again to activate.



Press Here

GNS 430 Pages

- The default NAV page will be displayed automatically. (Rotate the small right knob to the right one page for the map page.)



GNS 430 Controls

- It should be noted that at times more information than can be displayed on one screen will be available to the pilot.



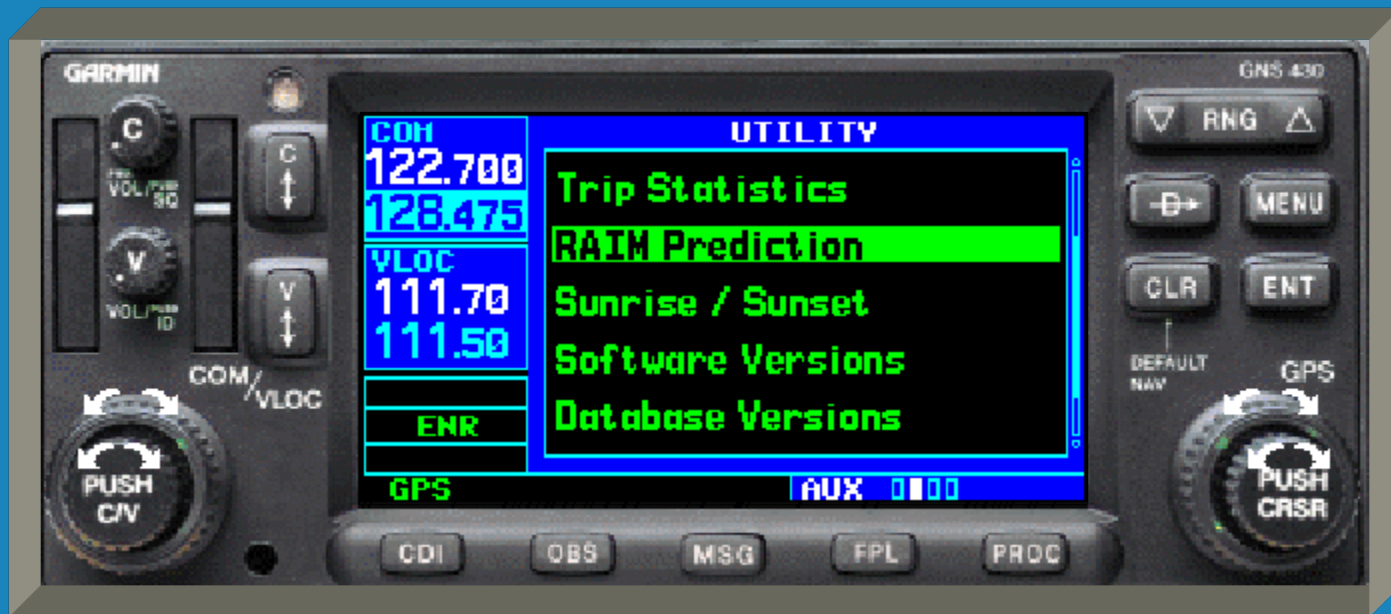
GNS 430 Controls

- When this occurs a thin blue continuation bar will appear to the right of the screen.



GNS 430 Controls

- To scroll through the menu, press the small right knob to activate the cursor and then turn the right knobs as necessary.



GNS 430 Pages

- As an overview of what information is available, we will now sequence through all available pages within the four groups.

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- This is simply an overview. Usage of each page is beyond the scope of this briefing.

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- This is simply an overview. Usage of each page is beyond the scope of this briefing.
- Please refer to the GNS 430 Pilot's Guide and Reference for further instructions.

GNS 430 NAV Pages

- NAV page 1, the Default NAV page.



GNS 430 NAV Pages

- NAV page 2, the Map page.



GNS 430 NAV Pages

- NAV page 3, the Terrain page (if configured).



GNS 430 NAV Pages

- NAV page 4, the NAVCOM page.



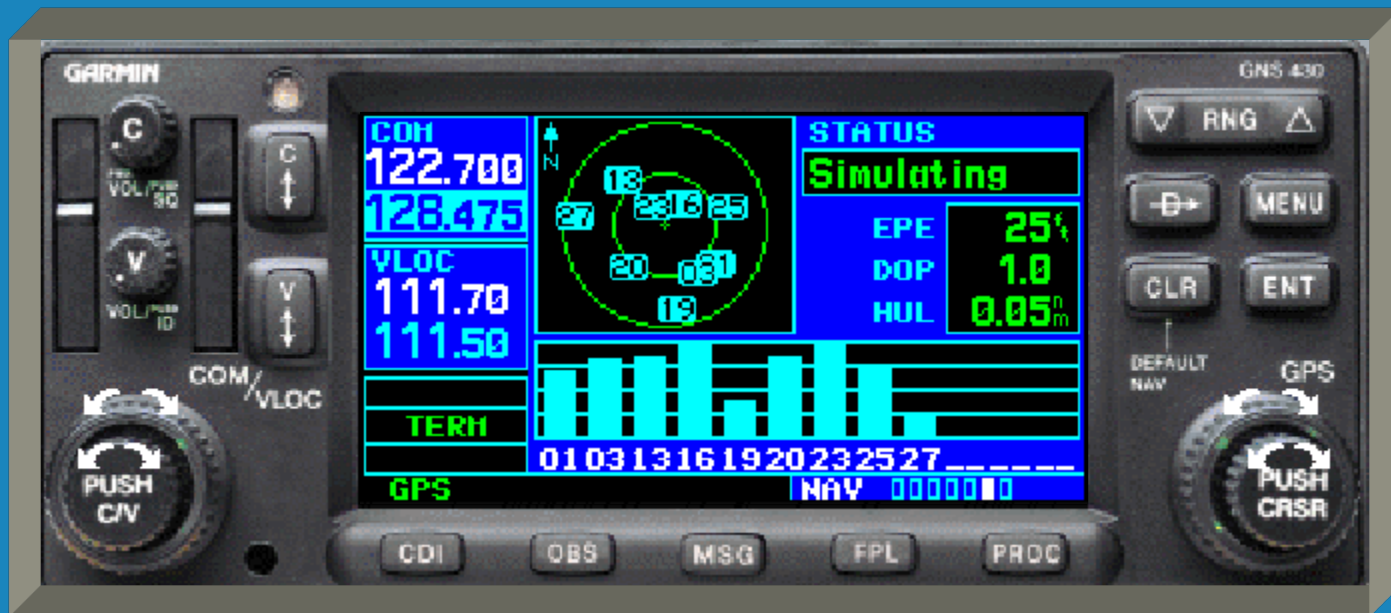
GNS 430 NAV Pages

- NAV page 5, the Position page.



GNS 430 NAV Pages

- NAV page 6, the Satellite Status page.



GNS 430 NAV Pages

- NAV page 7, the VNAV page.



GNS 430 WPT Pages

- WPT page 1, the Airport Location page.



GNS 430 WPT Pages

- WPT page 2, the Airport Runway page.



GNS 430 WPT Pages

- WPT page 3, the Airport Frequency page.



GNS 430 WPT Pages

- WPT page 4, the Airport Approach page.



GNS 430 WPT Pages

- WPT page 5, the Airport Arrival page.



GNS 430 WPT Pages

- WPT page 6, the Airport Departure page.



GNS 430 WPT Pages

- WPT page 7, the Intersection page.



GNS 430 WPT Pages

- WPT page 8, the NDB page.



GNS 430 WPT Pages

- WPT page 9, the VOR page.



GNS 430 WPT Pages

- WPT page 10, the User Waypoint page.



GNS 430 AUX Pages

- AUX page 1, the Flight Planning page.



GNS 430 AUX Pages

- AUX page 2, the Utility page.



GNS 430 AUX Pages

- AUX page 3, the Setup 1 page.



GNS 430 AUX Pages

- AUX page 4, the Setup 2 page.



GNS 430 NRST Pages

- NRST page 1, the NRST Airport page.



GNS 430 NRST Pages

- NRST page 2, the NRST Intersection page.



GNS 430 NRST Pages

- NRST page 3, the NRST NDB page.



GNS 430 NRST Pages

- NRST page 4, the NRST VOR page.



GNS 430 NRST Pages

- NRST page 5, the NRST User waypoint page.



GNS 430 NRST Pages

- NRST page 6, the NRST Center page.



GNS 430 NRST Pages

- NRST page 7, the NRST Flight Service page.



GNS 430 NRST Pages

- NRST page 8, the NRST Airspace page.



GNS 430 Terrain Pages

- We will now discuss the GNS 430's Terrain Page.
- The GNS 430 is *not* TSO-C151b certified so **IT IS ONLY ADVISORY IN NATURE**
 - Not all obstructions may be visible
 - Data may be obsolete or inaccurate

GNS 430 Terrain Pages

- NAV page 3 is the terrain page.



GNS 430 Terrain Pages

- Terrain can be depicted in a 360° view as shown here...



GNS 430 Terrain Pages

- Or terrain can be depicted in a 120° arc view as shown here.



GNS 430 Terrain Pages

- Red shows terrain/obstacle within 100' above or below aircraft altitude



GNS 430 Terrain Pages

- Yellow shows terrain/obstacle between 100' -1000' below aircraft altitude



GNS 430 Terrain Pages

- Black shows terrain/obstacle more than 1000' below aircraft altitude



GNS 430 Terrain Pages

- A ‘Terrain Advisory’ automatically pops up when potential impact is likely within 60 seconds.



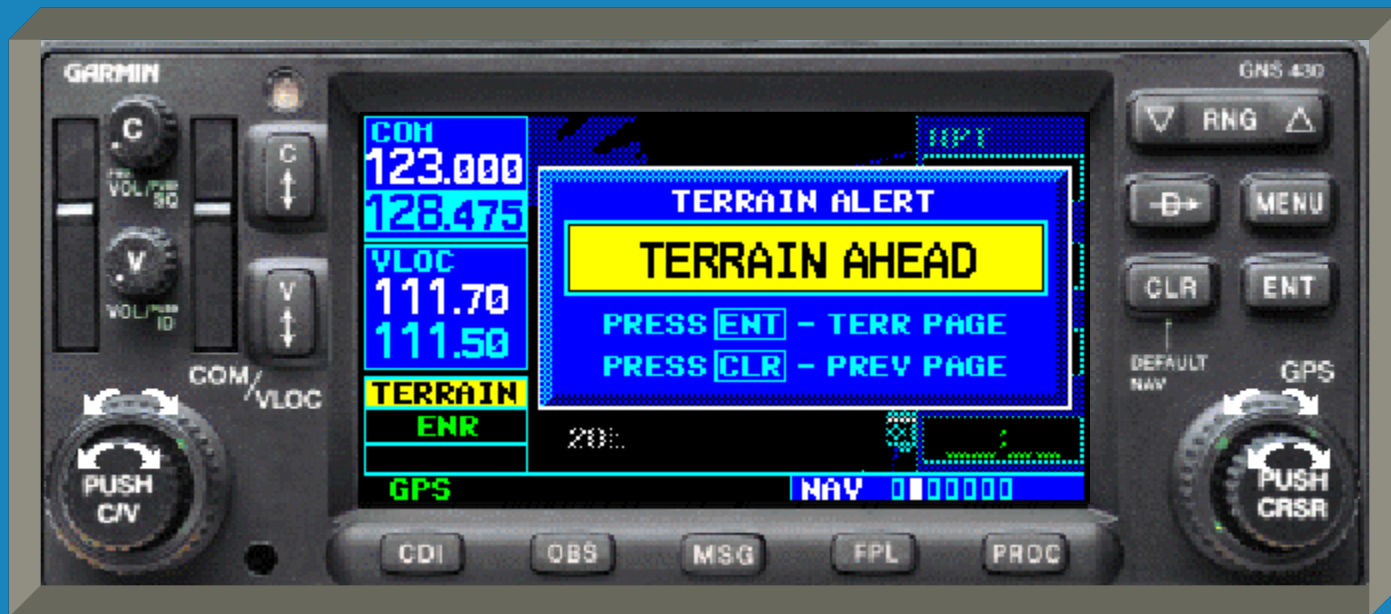
GNS 430 Terrain Pages

- Press the 'ENT' key to go to the Terrain Page or press 'CLR' to return to the previous page.



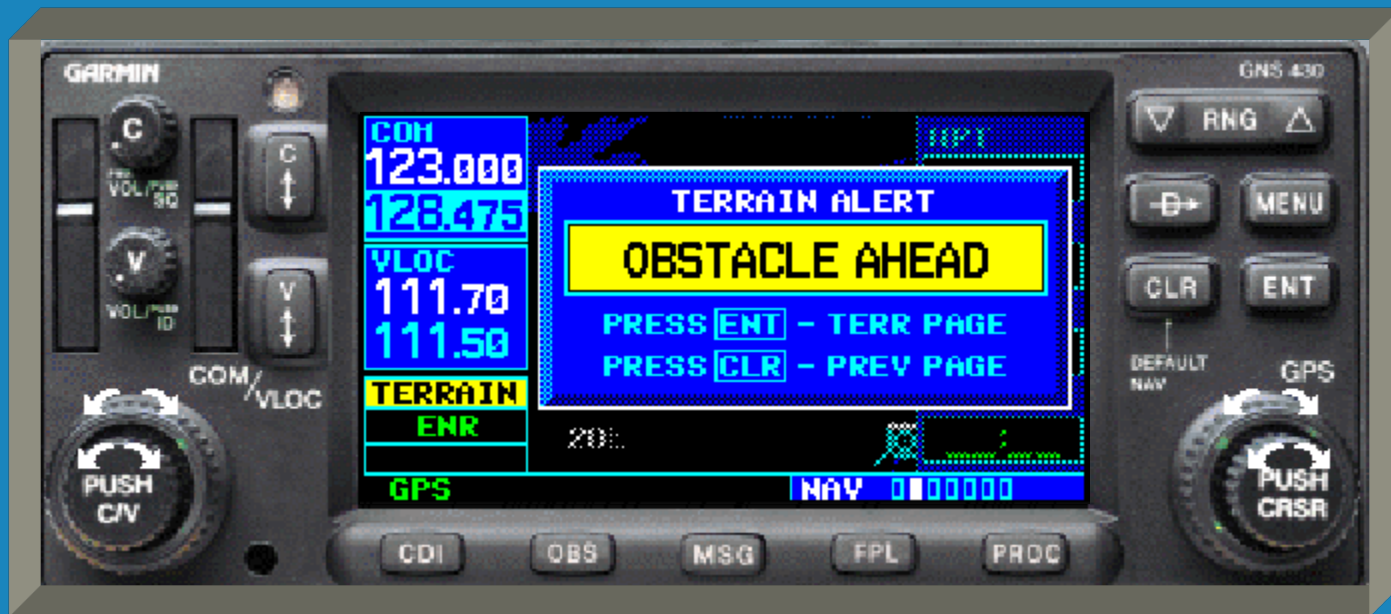
GNS 430 Terrain Pages

- ‘Terrain Ahead’ automatically pops up when potential impact is likely within 30 seconds.



GNS 430 Terrain Pages

- ‘Obstacle Advisory’ (60 seconds away) and ‘Obstacle Ahead’ (30 seconds away) are also used.



Conclusion

- This concludes the VFR overview briefing for the GNS 430. Please use the free simulator available from Garmin in conjunction with the GNS 430 Pilot's Guide and Reference to practice the capabilities of the GNS 430 prior to use in flight.

The End

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