

Carenado® G1000





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Control Unit GCU 475



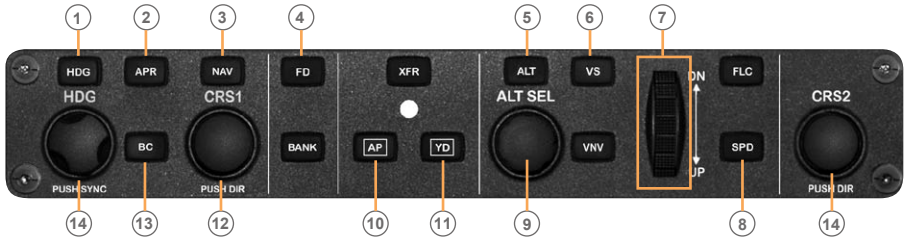
The Control Unit GCU 475 is a pedestal-mounted interface allowing data entry.



- | | |
|-------------------------------|--|
| 1: FMS knob: | FMS Control Modes: Acts as the FMS Knob. |
| 2: Direct-to Key: | Allows the user to enter a destination waypoint and establish a direct course to the selected destination (the destination is either specified by the identifier, chosen from the active route, or taken from the map pointer position). |
| 3: MENU Key: | Displays a list of options for accessing additional features or marking setting changes. |
| 4: FPL Key: | Displays the active Flight Plan Page for creating and editing the active flight plan, or for accessing stored flight plans. |
| 5: PROC Key: | Gives access to IFR departure procedures and arrival procedures) for a flight plan. |
| 6: Range knob: | Changes the map range. |
| 7: Alphanumeric Keys : | Allows data entry (rather than using the FMS Knob to select characters/numbers). |
| 8: CLR Key: | Erases information, cancels entries, or removes menus. |
| 9: ENT Key: | Validates or confirms a menu selection or data entry. |



AFCS Control Unit GMC 710



- 1: HDG Key:** Selects/deselects Heading Select Mode.
- 2: APR Key:** Selects/deselects Approach Mode.
- 3.- NAV Key:** Selects/deselects Heading Mode.
- 4: FD Key:** Activates/deactivates the flight director.
- 5: ALT Key:** Selects/deselects Hold Mode.
- 6: VS Key:** Selects/deselects Vertical Speed Mode.
- 7: NOSE UP/DN Wheel:** Adjust the vertical mode reference in Vertical Speed and Indicated Airspeed modes.
- 8: SPD Key:** Selects/deselects Airspeed Mode. AP should be ON and either ALT or VS button pressed.
- 9: ALT SEL Knob:** Sets the selected altitude in the Selected Altitude Box.
- 10: YD Key:** Engages/disengages the yaw damper.
- 11: AP Key:** Engages/disengages the autopilot.
- 12: CRS1 Knob:** Sets the pilot-selected course on the HSI of PFD when the VOR1, VOR2, or OBS/SUSP mode is selected. Pressing this knob centers the CDI on the currently selected VOR.
- 13: BC Key:** Selects/deselects Back Course Mode.
- 14: HDG Knob:** Sets the selected heading on the HSI. When operating in Heading Select mode, this knob provides the heading reference to the flight director.



PFD



1: NAV Frequency Box

- Cyan Rectangle indicates the current frequency that can be changed with the NAV Knob. Pushing the Nav Knob will change the rectangle from NAV 1 to 2. The rectangle also indicates the frequency that will be swapped with the swap key.

2: NAV Status Box

- Upper section is Flightplan Info, including current leg, distance and bearing.
- Lower section has annunciators for the auto pilot system.

3: COM Frequency Box

- See number 1, same functionality, except you use the COM Knob.

4: Selected Altitude

- Edit with the Alt Knob

5: Altitude Tape

- Displays Current Altitude. Selected Altitude and Baro Minimums bug ride along the edge of the tape.
- Meters display can be turned on through the softkeys, see below.

6: Vertical Speed Tape

- Meters display can be turned on through the softkeys, see below.

7: Current Barometer setting

- Adjusted with the BARO knob.
- Units can be changed through the softkeys, see below.



- 8: Minimums setting**
 - Changed in the Tmr/Ref popup.
- 9: Course Setting**
 - Course setting is automatic when CDI source is set to GPS
 - VOR course is adjusted with the CRS knob.
- 10: Transponder Setting**
 - Transponder Code is set through the softkeys, see below.
- 11: Current Time**
 - Time format is changed in the MFD System Setup Page.
- 12: Outside air Temperature**
- 13: Inset Map**
 - Map setting are adjusted through the softkeys, see below.
- 14: True Airspeed Display**
- 15: Airspeed Tape**
 - Color bands along the edge of the tape indicate operating ranges.
 - RED: Overspeed
 - WHITE: Flaps operating Range
 - GREEN: Normal operating range.
 - YELLOW: Caution Speed range.
 - RED/WHITE stripe: Overspeed range.
 - V-Speed Markers ride along the edge of the tape, see number 16.
- 16: V-Speed markers.**
 - R - Rotation speed
 - X - Best Angle of Climb speed
 - G - Best Glide speed
 - Y - Best Rate of climb speed
 - Speeds can be changed in the TMR/REF popup ,but will revert back to default on restart.
 - Defaults can be edited in the G1000_config.xml file.
- 17: Selected Heading**
 - Changed with the HDG Knob
- 18: Current Magnetic Heading**
- 19: Wind Vectors**
 - Can be turned on/off, or style changed through the softkeys, see below.
- 20: DME information**
 - DME Source can be changed with the DME softkey
 - Can be turned on/off through the softkeys, see below.
- 21: Bearing pointer 1 source data**
 - Source is chosen through the softkeys, see below.
- 22: Bearing pointer 2 source data**
 - Source is chosen through the softkeys, see below
- 23: Softkeys**
 - See Below



SOFTKEY MAP

• INSET - Brings up the INSET SoftKeys

- OFF - Turns off the inset map. To turn ON the inset map, press the INSET softkey again.
- DCLTR - Changes the Declutter level
- TRAFFIC - Toggles traffics display on/off.
- TOPO - Toggles topographical display on/off.
- TERRAIN - Toggles Terrain display on/off.
- BACK - Returns to base Softkey level.

• PFD

- DFLTS - Resets Defaults for PFD settings
- WIND
 - OPTN1 - Show Crosswind/Headwind speeds
 - OPTN2 - Show relative wind direction, and speed.
 - OPTN3 - Show relative winds direction, and Crosswind/Headwinds speeds.
 - OFF - Show no wind vectors.
 - BACK - Return to PFD SoftKey level.
- DME - Toggles display of DME info box.
- BRG1 - Cycles through sources for the single line bearing pointer. (NAV1, GPS, ADF)
- HSI FRMT
 - 360 HSI - Full circle HSI Compass Rose
 - ARC HSI - Upper portion of HSI Rose is enlarged and shown.
 - BACK - Return to PFD SoftKey level.
- BRG2 - Cycles through sources for the double line bearing pointer. (NAV1, GPS, ADF)
- ALT UNIT
 - METERS - Displays meters readout for Altitude and Vertical Speed.
 - IN - Baro units displayed in inches of mercury
 - HPA - Baro units shown in hectopascals
 - BACK - Return to PFD SoftKey level.
- STD BARO - Sets Baro to standard setting (29.92in or 1013hpa)
- BACK - Returns to base Softkey level.

• VLOC/GPS - Toggles between NAV and GPS driving of the autopilot.

• CDI - Toggles between CDI needle source

• DME - Brings up the DME Tuning Popup. Use the inner right knob to change the source, and ENT to set. Pressing the DME softkey, or the CLR button closes the popup.

- **XPDR** - Transponder Code is removed and replaced with a yellow highlight. Black Cursor indicates current digit to be entered. After entering a digit, the cursor automatically advances.
 - 0,1,2,3,4,5,6, or 7 - Digit to enter into the selected Field.
 - VFR - Sets Transponder to 1200
 - BKSP - Moves cursor back to previous field.
 - BACK - Returns to base Softkey level. The previous Transponder Code is restored.

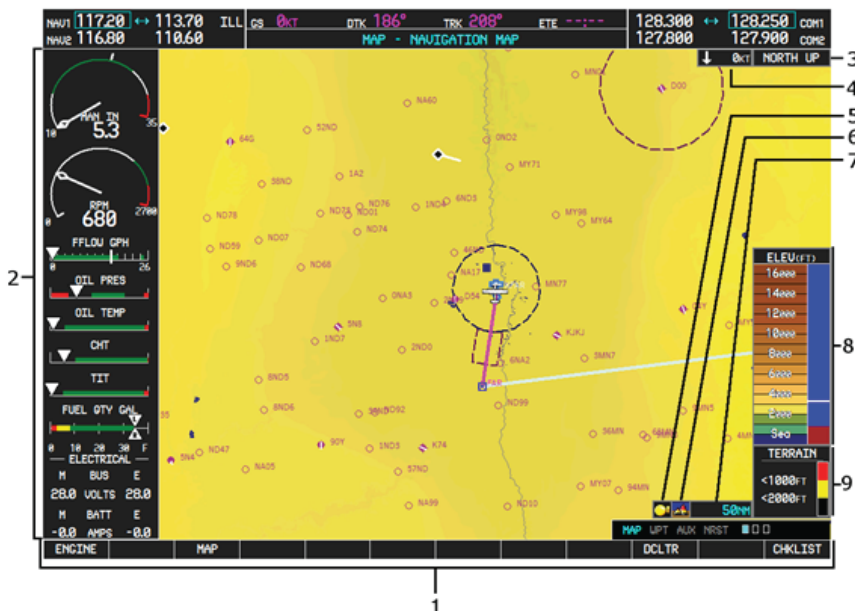
• TMR/REF - Brings up the References Popup. The references popup allow for setting a timer, changing the value of the v-speed markers, and setting Baro minimums.

- **NRST** - Brings up the Nearest Airports popup. Use the right knob to scroll through the list. Pressing the D key while an airport is selected will load that airport into and popup the Direct To Popup. Pressing ENT while a frequency is highlighted will load that frequency into the Selected COM radio. Pressing the NRSY Softkey again, or the CLR button will close the NRST Popup.



MFD

Navigation Map Page



• 1: SoftKeys

- Engine - Change displayed engine information page
- Map - Bring up Map Softkey functions.
 - Traffic - Toggle traffic display on/off
 - Topo - Toggle topographic display on/off
 - Terrain - Toggle terrain display on/off
 - Airways - Toggle airway display on, HI only, LO only, or off
- DCLTR - Change map declutter level 0-3
- CHKLST - Bring up the Checklists Page

• 2: Engine Information. This information varies depending on each aircraft.

• 3: Map Orientation - Change in the Map Setup Menu

• 4: Wind Vector - Can be toggled on/off in the Map Setup Menu

• 5: Traffic Icon - Shown when traffic is displayed, greyed out if TAS isn't operating.

• 6: Terrain Icon - Shown when terrain awareness is displayed.

• 7: Map Range - Range from aircraft symbol to edge of map, changed with the range knob.

• 8: Topo Scale - Shows elevation colors and vertical graph of ground height (brown), and aircraft height (white line). Can be toggled on/off in the Map Setup Menu

• 9: Terrain Scale - Shown when terrain awareness is displayed. Indicates altitude limits of terrain warning colors.



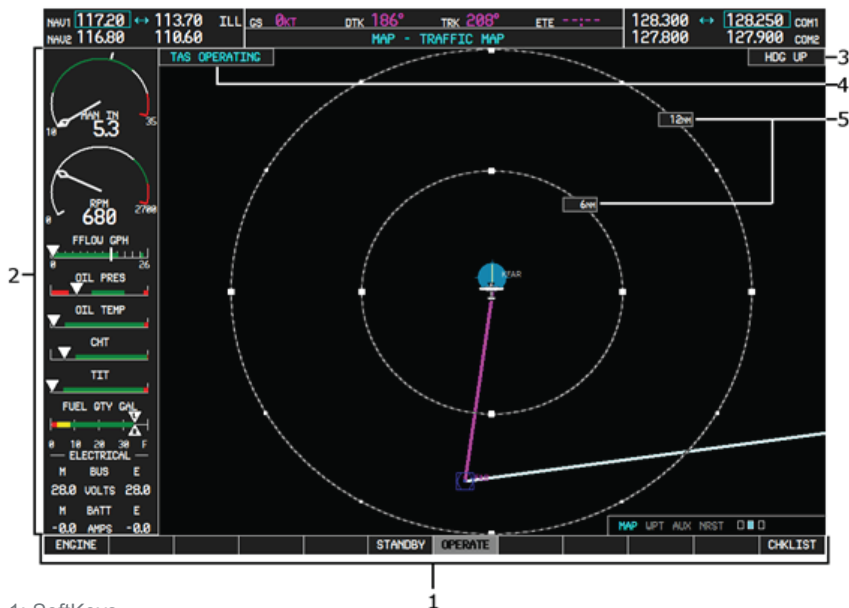
Menu Options:

- Map Setup
 - Map Group
 - Orientation - Changes Map Orientation
 - North Up
 - Track Up
 - DTK Up
 - HDG Up
 - Auto Zoom - Map range will automatically be changed based on distance to next waypoint.
 - Off
 - MFD Only
 - PFD Only
 - All On
 - Wind Vector
 - On/Off
 - All OnNav Range Ring - Displays a "compass rose" around the aircraft icon.
 - On/Off
 - Topo Data - Toggle topographic display, and set max range to display at
 - On/Off
 - Max Range
 - Topo Scale
 - On/Off
 - Terrain Data - Toggle terrain display, and set max range to display at
 - On/Off
 - Max Range
 - Traffic
 - Traffic - Toggle traffic display
 - On/Off
 - Traffic Smb1 - Set max range to show traffic symbols
 - Range
 - Aviation
 - Set max display ranges for the following
 - Flight Plan
 - Towered Airports
 - Untowered Airports
 - Soft Airports
 - Intersections
 - NDBs
 - VORs
 - Airspace
 - Airways
 - Airways
 - Off
 - All
 - LO Only
 - Hi Only
 - Low Alt Airways - Set max range to show LO airways.
 - Hi Alt Airways - Set max range to show HI airways.
- Declutter - Change map declutter level 0-3

NOTE: Defaults for startup values of most these setting can be changed in the G1000_config.xml file.



Traffic Map Page



- 1: SoftKeys
 - ENGINE - Change displayed engine information page
 - STANDBY - Turn off TAS
 - OPERATE - Turn on TAS
 - CHKLIST - Bring up the Checklists Page
- 2: Engine Information. This information varies depending on each aircraft.
- 3: Map Orientation - Cannot be changed
- 4: TAS Indicator - Displays Operating/Standby
- 5: Range - Changed with the range knob.

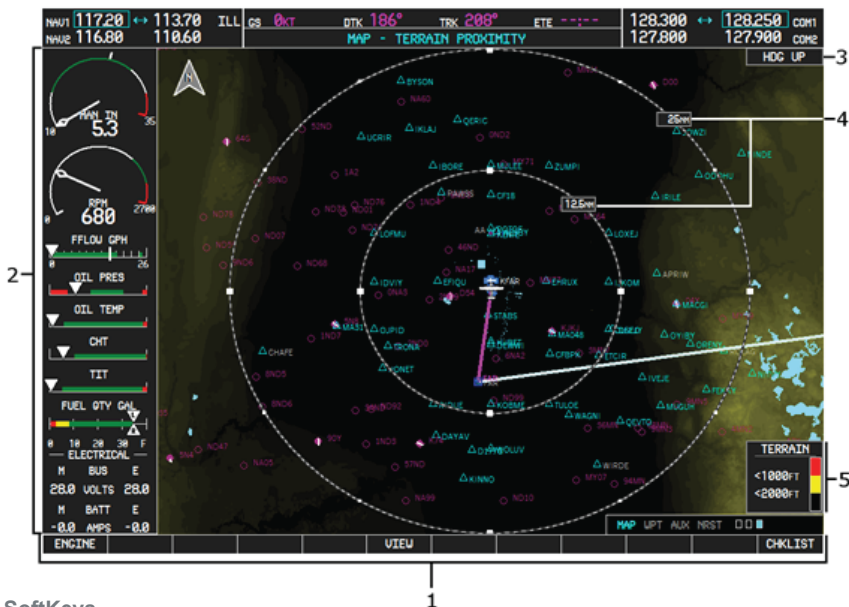
Menu Options:

- Operate/Standby Mode - Toggles between TAS modes.

NOTE: Defaults for startup values of most settings can be changed in the G1000_config.xml file.



Terrain Proximity Page



• 1: SoftKeys

- ENGINE - Change displayed engine information page
- VIEW - Brings Up View SoftKeys
 - 360 - Shows a 360° Style View (shown)
 - ARC - Shows a view in front of the aircraft.
- CHKLST - Bring up the Checklists Page

• 2: Engine Information. This information varies depending on each aircraft.

• 3: Map Orientation - Cannot be changed

• 4: Range - Changed with the range knob.

• 5: Terrain Scale - Shown when terrain awareness is displayed. Indicates altitude limits of terrain warning colors.

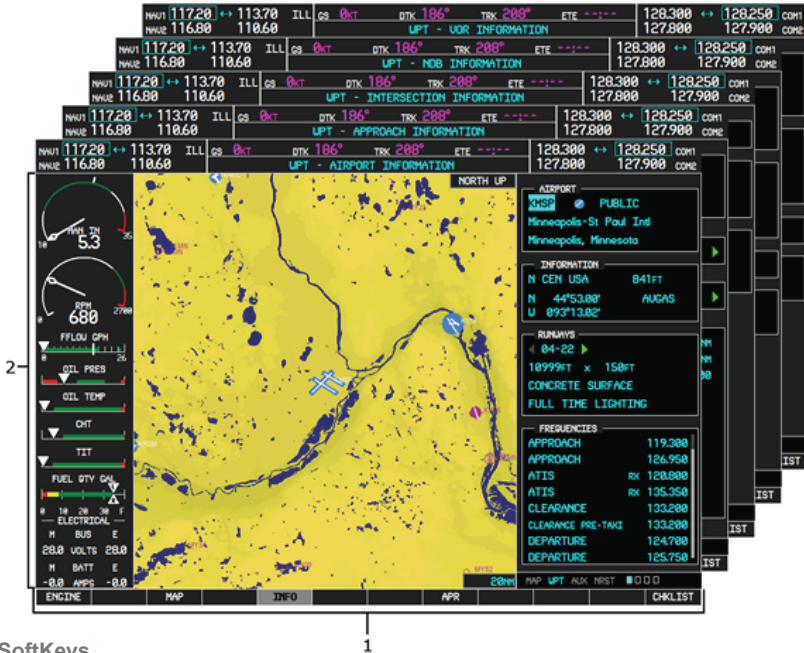
Menu Options:

- View ARC/360 - Toggles view
- Hide/Show Aviation Data - Toggles display of aviation data on map.

NOTE: Defaults for startup values of most settings can be changed in the G1000_config.xml file.



Waypoint Pages



• 1: SoftKeys

- ENGINE - Change displayed engine information page
- Map - Bring up Map Softkey functions.
 - Topo - Toggle topographic display on/off
 - Airways - Toggle airway display on, HI only, LO only, or off
 - NOTE: Traffic and Terrain Note Available on Waypoint Pages.
- INFO - Display Airport Information when on WPT Page 1, N/A on other pages.
- APR - Display Approach Information when on WPT Page 1, N/A on other pages.
- CHKLST - Bring up the Checklists Page

• 2: Engine Information. This information varies depending on each aircraft.

• Right Side Info Boxes - Differs between pages.

- AIRPORT, INTERSECTION, NDB, or VOR
 - Displays the waypoint IDENT, Name, and City (IDENT only on Intersections). Pressing the right Knob, allows input to change the waypoint. Use the inner right knob to change the character, and the outer right knob to advance to the next character. Press ENT button to select waypoint. Duplicate waypoints will prompt a menu allowing you choose the desired one.
- INFORMATION

Displays information about the waypoint. Such as: Type, Region, Latitude, Longitude, Magnetic Deviation (VOR Only), Fuel Available (Airport only), or Elevation (Airport Only)



- Runways (Airport Only)
 - Displays information about the runways at the selected airport. To Choose which runway to show, use outer knob to highlight the runway name, and inner knob to change the runway. Arrows next to the runway name will indicate additional runways.
 - Displays length, width, surface type, and lighting.
- Frequencies
 - Airports page shows a list of available frequencies. Highlighting a frequency with the outer knob allows loading of that frequency into the selected COM/NAV radio by pressing the ENT key.
 - VOR Page displays VOR frequency, highlighting with the outer knob allow for loading into the selected NAV radio with the ENT key.
- Approach Page
 - Available Approaches and Transitions for the selected Airport can be displayed. To change the approach or transition, use the outer knob to highlight, and inner knob to change. Arrows next to the approach/transition name indicate additional options.

Menu Options:

- None available



Trip Planning Page



• 1: SoftKeys

- ENGINE - Change displayed engine information page
- MAP - Bring up Map Softkey functions.
 - Traffic - Toggle traffic display on/off
 - Topo - Toggle topographic display on/off
 - Terrain - Toggle terrain display on/off
 - Airways - Toggle airway display on, HI only, LO only, or off
- CHKLIST - Bring up the Checklists Page

• 2: Engine Information. This information varies depending on each aircraft.

- INPUT DATA - Displays various input data used by the G1000 to make calculations.
- TRIP STATS - Display information about your current Flight Plan
- FUEL STATS - Calculates how long/far you can fly based off your current fuel level and usage.

Shows how much fuel is needed to complete your trip.

- NOTE: All fuel calculations are based off of the fuel level input into the G1000, not the actual fuel level of the aircraft. Fuel level in the G1000 can be changed in the ENGINE>SYSTEM page.
- When loading FSX, the fuel level of your aircraft is automatically input into the G1000. Any fuel added/removed after loading will need to manually be changed in the G1000. You can turn off automatic Fuel Level on load within the G1000_config.xml file.

• OTHER STATS

- Other statistics that will affect your trip.

Menu Options:

- None available



Utility Page



• 1: SoftKeys

- ENGINE - Change displayed engine information page
- CHKLIST - Bring up the Checklists Page

• 2: Engine Information. This information varies depending on each aircraft.

• TIMERS

- Generic - Set a simple count up, or countdown timer. Press the right knob to highlight UP/DOWN, use the inner knob to change. Use the outer knob to highlight START/STOP/RESET, and the ENT key to execute. Use the outer knob to highlight the time and the inner knob to adjust (for countdown timer). A countdown Timer will start to count up after it reaches zero.
- Flight - a count up timer starting at IN-AIR time, or POWER ON time.
- Depart Time: The actual time of day or IN-AIR, or POWER ON.

Menu Options:

- None available



GPS Status Page



• 1: SoftKeys

- ENGINE - Change displayed engine information page
- CHKLST - Bring up the Checklists Page
- CONSTELLATION, SATELLITE STATUS, GPS STATUS, and GPS SIGNAL STRENGTH
 - This information is not available within FSX, and simulated here.

Menu Options:

- None available



System Setup Page



• 1: SoftKeys

- Engine - Change displayed engine information page
- DFLT - Restores Defaults to all the settings.
- Defaults are set in the G1000_config.xml file.
- CHKLIST - Bring up the Checklists Page

• 2: Engine Information. This information varies depending on each aircraft.

• Date/Time

- Date - Current Date
- Time - Current Time
- Time Format - can be changed to:
 - Local 12Hr
 - Local 24Hr
 - UTC
- Time Offset - Can be set to +/- 12 hours for time zone differences.

• Display Units

- Nav Angle
 - Magnetic
 - True
- Magnetic Variance - Magnetic Variance for your current location.
- Distance & Speed
 - Imperial
 - Nautical
 - Metric



- Altitude & Vertical Speed	
- Feet	- Meters
- Temperature	
- Fahrenheit	- Celsius
- Fuel	
- Gallons	- Kilograms
- Pounds	
- Weight	
- Kilograms	- Pounds
- Position	
- HDDD°MM'SS.S"	- HDDD°MM.MM'

- Altitude Alerts - Altitude alerts do not function in the G1000. This section is for consistency only.
- Audio Alert - Not available
- MFD Data Bar Fields - The four into fields at the top of the screen. Each can be set for any of the following information. Unless otherwise noted, all information is in reference to the next waypoint.

- BRG - Bearing	- GS - Ground Speed
- DIS - Distance	- TAS - True Airspeed
- DTK - Desired Track	- TKE - Track Error
- ESA - Enroute Safe Alt	- TRK - Current Track
- ETA - Est Time of Arrival	- XTX - Cross Track Error
- ETE - Est Time Enroute	

- GPS CDI- Both these values remain Auto.
- COM Config - 25.0 kHz is the only option in FSX
- Nearest Airport - sets filters for airports in the nearest search.

NOTE: Pressing the right Knob enters selection mode. The outer knob changes the item selected, and the inner knob brings up a popup with the available options. ENT selects and sets an option, CLR cancels changing an option.

Menu Options:

- Restore Defaults - Restores Defaults to all the settings.

NOTE: Defaults for startup values of most these setting can be changed in the G1000_config.xml file.



System Status Page



• 1: SoftKeys

- ENGINE - Change displayed engine information page
- LRU - Selects the LRU INFO List, allowing scrolling with the right knob.
- ARFRM - Selects the AIRFRAME List, allowing scrolling with the right knob.
- DBASE - Selects the DATABASE List, allowing scrolling with the right knob.
- CHKLIST - Bring up the Checklists Page

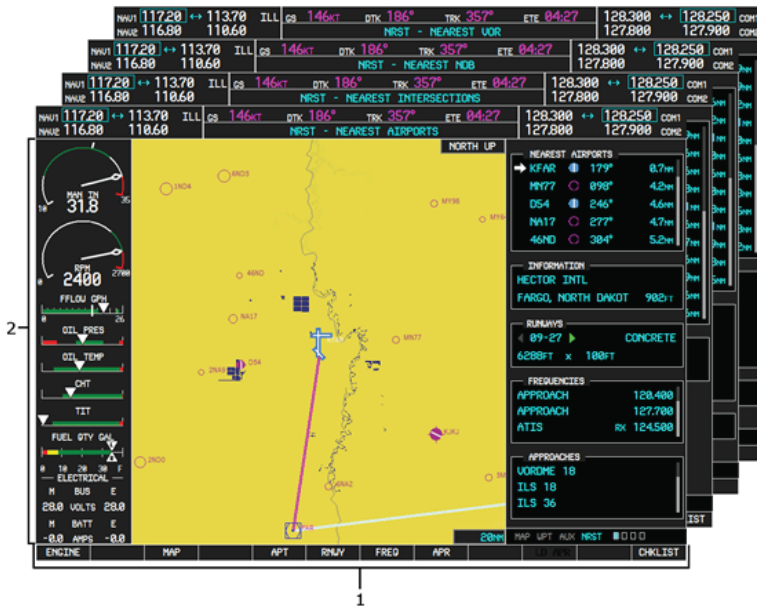
• 2: Engine Information. This information varies depending on each aircraft.

Menu Options:

- Mimics the SoftKey functionality for selecting windows



Nearest Pages



• 1: SoftKeys

- ENGINE - Change displayed engine information page
- Map - Bring up Map Softkey functions.
 - Topo - Toggle topographic display on/off
 - Airways - Toggle airway display on, HI only, LO only, or off
 - NOTE: Traffic and Terrain Not Available on Nearest Pages.
- Airport Page Only
 - APT - Moves cursor to list of airports.
 - RNW - Moves cursor to runway selection.
 - FREQ - Moves cursor to list of Frequencies.
 - APR - Moves cursor to list of approaches.
 - LD APR - Loads approach into and brings up the Approach Loading Page.
- CHKLST - Bring up the Checklists Page

• 2: Engine Information. This information varies depending on each aircraft.

• Right Side Info Boxes - Differs between pages.

- AIRPORT, INTERSECTION, NDB, or VOR
 - Displays a list of the nearest facilities within 200 NM, 25 max displayed.
 - Use the right knob, inner or outer, to scroll through the list.



INFORMATION

- Displays information about the waypoint. Such as: Name, City Type, Region, Latitude, Longitude, Magnetic Deviation (VOR Only), or Elevation (Airport Only)
- Runways (Airport Only)
 - Displays information about the runways at the selected airport. To Choose which runway to show, press the RNWY SoftKey to highlight the Runway name, then the right knob to change the runway. Arrows next to the runway name will indicate addition runways.
 - Displays length, width, and surface type.
- Frequencies
 - Airports page shows a list of available frequencies. To select a frequency, press the FREQ SoftKey, then scroll through the list with the right knob. Load the frequency into the selected COM/NAV radio by pressing the ENT key.
 - VOR Page displays VOR frequency, to select a frequency, press the FREQ SoftKey. Load the frequency into the selected NAV radio by pressing the ENT key.
- Approaches
 - Airports pages shows a list of available approaches. To select an approach, press the APR SoftKey, then scroll through the list with the right knob. Load the approach into, and bring up the Approach Loading page by pressing the LD APR Softkey.

Menu Options:

- Menu Options for each page mimic the SoftKey functionality for selecting different windows within the page.



Checklists Page



• 1: SoftKeys

- Engine - Change displayed engine information page
- DONE - Checks off the current item, and highlights the next.
- EXIT - Returns you to the page prior to opening checklists.
- EMERGENCY - Brings up the emergency procedure checklist group.

• 2: Engine Information.

This information varies depending on each aircraft.

- GROUP - Select the Current Group
- CHECKLIST - Select the current checklist within the group.
- GO TO NEXT CHECKLIST - Loads next checklist in the current group. Changes to EXIT CHECKLISTS if you are on the last checklist within the group.

NOTE: Use the outer knob to change the highlighted option, and the inner knob to change it (for group and checklist) In the checklists, the knob changed the item, ENT checks the item.

Menu Options:

- Reset Checklist - Unchecks all items in the current Checklist.
- Go to Next Checklist - Loads next checklist in the current group.
- Check Selected Item - Same as pressing enter key, checks current item, and highlights the next.
- Exit Checklist - Returns you to the page prior to opening checklists.
- Emergency - Brings up the emergency procedure checklist group.

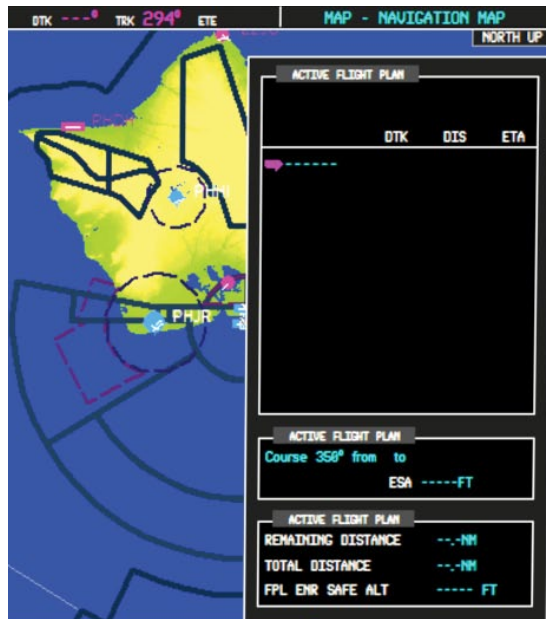


Flight Plan

Creating a Flight Plan

Flight Plans can be entered using the FSX Flight Planner or entering it directly to the MFD.

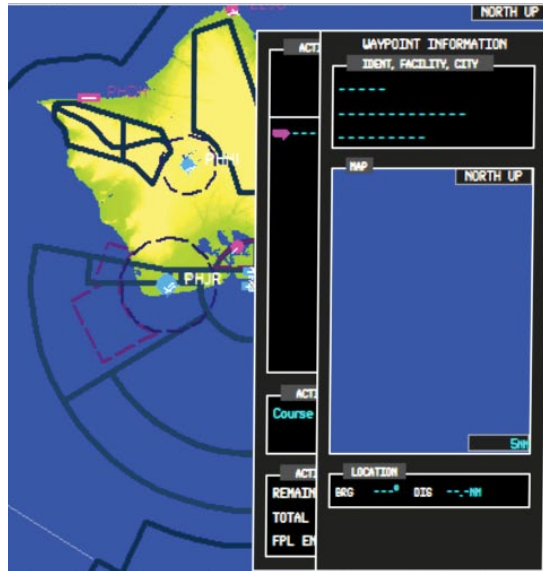
1.- For entering a flight plan directly into the MFD press FPL button (of the MFD Bezel or Control Unit) for getting the Active Flight Plan window appear in the MFD.



Active Flight Plan window



2.- Using the inner FMS knob make the Waypoint Information window appear.



Waypoint Information window



3.- Using the inner FMS knob edit your waypoint (airport, VOR or NDB). Or if you prefer, use the inner knob for selecting letters and the outer knob for moving to the next space.
If you are entering your first waypoint it should be your START POINT (depart airport).



Editing a waypoint

4.- Then press ENT for activating it.

Repeat the steps 2 to 4 for each waypoint you want to enter.

New waypoints will be added before the blinking cursor. If you want to add one at the end you have to put the blinking cursor over the "----" using the outer FMS knob.

To make the Flight Plan window disappears just click on the FPL button.

NOTE:

It is important that your departure airport should be the first waypoint in the list.



Adding a waypoint

- 1.- Press the FPL button for getting the Active Flight Plan window appear in the MFD.
- 2.- Using the outer FMS knob, position the blinking cursor over the waypoint which will be after the waypoint you are entering.
- 3.- Using the inner FMS knob make the Waypoint Information window appear.
- 4.- Using the inner FMS knob edit the new waypoint, then using the Control Unit keyboard (if equipped) enter the desired waypoint (airport, VOR or NBD). Or if you prefer, use the inner knob for selecting letters and the outer knob for moving to the next space.
- 5.- Then press ENT for inserting it.

Deleting a waypoint

- 1.- Press the FPL button for getting the Active Flight Plan window appear in the MFD.
- 2.- Using the outer FMS knob, position the blinking cursor over the waypoint which will be deleted.
- 3.- Press CLR button.
- 4.- Using the inner FMS knob select OK or CANCEL and press ENT to confirm.

Activating any leg of a Flight Plan

For activating any leg of the flight plan at any moment follow these steps:

- 1.- Using the outer FMS knob, position the blinking cursor over the FROM waypoint (TO waypoint will be the next one in the list).
- 2.- Press ENT button.
- 3.- Using the inner FMS knob select OK or CANCEL and press ENT to confirm.