GNAV IS NOT FOR NAVIGATION

REQUIRED BROWSER SETTINGS:

Location On
Write to clipboard On
Write to Local Storage ON
Javascript Enabled

INITIAL

GNAV initially loads the US48 data file. US48 contains most US waypoints, VORs, and airports. The data should not be considered current.

GNAV will then show two blank waypoints. The shaded area contains the input values to be entered by the user, and the non-shaded area contains the calculated information. The initial waypoints minimally require the NAME field to be edited.

Tap the field you want to edit to bring it to focus. Enter the desired information. Tapping outside of the field will save the information in GNAV.

ENTER Waypoint

The shaded area contains six input fields to enter route information

NAME	CRS	TRM
ALT	GLS	MSG

NAME can be any of the following:

FIX	A five letter USA identifier
VOR	A three letter USA VOR
AIRPORT	A USA Airport. ICAO Format
LAT/LON	Lat Lon expressed as follows N25.6543W80.2333
XXX	XXX can be used to enter the present position. It represents the aircraft position when NAV is selected.
ROUTE	NAME CRS TRM ALT GLS MSG ...
AIRWAY	NAME1-V3-NAME2 NAME1-J10-NAME2 NAME1-T20-NAME2
SID/STAR	* Airport Procedure Transition Runway * KMIA ANNEY4 MLB ALL * KMIA CSTAL2 GREAD RW08B

ERROR in the NAME field indicates the entry is not in the database.

CRS can be used to enter a magnetic track to the waypoint. Zero (0) for direct. Leading zeros should not be typed. Direct 0 must be used for long distances because GNAV calculates a great circle route.

TRM is used to indicate when the leg is finished.

O	Over
B	By
D#	D and a positive whole number(#) means terminate # miles before the waypoint. (example:D10). The D terminator requires that a course be entered.
D-#	D and a negative whole number(-#) means terminate # miles after passing the waypoint (example D-10). D-# can be used to fly an outbound radial. The D terminator requires that a course be entered.
X	X must have a course in the CRS field and a course in the following waypoint CRS field. it indicates fly the course from the waypoint to intercept the course to the next waypoint.
M	M is used to manually terminate a leg.

GNAV will switch to the next waypoint when TRM is reached.

ALT is an optional field in GNAV. It can be used to program a crossing clearance, set a safe altitude reminder or be set to zero and not used. Altitude is entered in feet.

GLS is the descent angle for a crossing clearance. It represents the number of nautical miles per 1000 ft of altitude loss. Three is normal for most descents. GLS should be zero if no crossing clearance is intended.

MSG is a text field to be used as desired. For example a com frequency could be stored there as a reminder. GNAV does not use this field.

ADD Waypoint

Tap the waypoint you want to add the new waypoint before then tap the ADD button. A blank waypoint will be added. The waypoint information is entered as above.

DELETE Waypoint

Tap the waypoint you want to delete then press the DEL button.

DELETE ALL Waypoints

MENU Clear removes all waypoints from GNAV and creates two blank waypoints.

COPY Waypoints

MENU Copy copies all waypoints entered in GNAV to the system clipboard. You can then paste this route information into any app that handles text data. The app can then be used store the route. Using the copy function after entering a route makes it easy to restore the route if necessary.

PASTE Waypoints

Waypoints that have been copied to the clipboard can be pasted back into GNAV by long pressing the NAME field where you want to enter the copied route and select paste. Periodic copying your current route allows for easy restore if necessary. Tap MENU Clear to get two blank waypoints. Select one of the blank waypoints by tapping it then tap Del. Paste the saved route into the NAME field of the remaining waypoint followed by a tap outside of the field to save the data.

NAV

Tap the waypoint you want to NAV to then tap the NAV button. The shaded area of the NAV waypoint will turn green The NAV waypoint and those following it will be considered a route, whereas those preceding it will be considered direct points. The waypoint following the NAV waypoint will be selected automatically when the TRM condition is met.

The GPS indicator must be present in the top of the screen for GNAV to provide reliable position information. Editing or adding waypoints will stop the GPS signal. Tap NAV to restart the GPS.

Tap the blue airplane at the top left to bring the NAV waypoint into view

HDG Magnetic Heading to the NAV Waypoint. If NAV CRS is non-zero heading to intercept the CRS. All waypoints following the NAV waypoint will have the same heading because GNAV is calculating the heading to the route. Heading to preceding waypoints will be direct.

VSI Vertical speed to fly the crossing clearance you have entered. If no crossing clearance has been entered, the VSI will be zero. VSI will be the same for NAV and following waypoints.

XTK Distance in nautical miles off course if a CRS has been entered. If CRS is direct (0) then XTK will be zero. Correct right for + and left for -. XTK will be the same for NAV and following waypoints.

DME Distance along the route in nautical miles to the Waypoint. DME for waypoints preceding the NAV waypoint will be direct

ETE Time in hours and minutes along the route to the Waypoint. ETE for waypoints preceding the NAV waypoint will be direct.

DIR Magnetic Heading to fly direct to the waypoint.

MTK is the magnetic track of the device across the ground. MTK is not reliable when ground speed is zero.

ALT is pressure altitude if the device has a pressure sensor, otherwise it is GPS altitude corrected to make it closer to flight altitude.

GSP is aircraft speed across the ground in nautical miles per hour.

VNAV

Altitude crossing can be accomplished by entering the desired ALT in feet and the desired GLS in degrees in the waypoint you would like to cross. The altitude must be greater than zero and less than the aircraft altitude. GNAV will display the VSI after reaching top of descent. Multiple crossing clearances can be entered. GLS will be set to zero (0) when the crossing altitude is reached.

VSI = (GSP / 60) / GLS x 1000

ROUTE MANAGEMENT

Routes can be entered, edited, deleted, and added in any text editing app. The data can then be copied and entered into GNAV by pasting it to the NAME field where you want the route to be added.

The User can enter routes as follows:

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KMIA    0 O 0 0 MSG
HEDLY   0 O 0 0 MSG
KMCO    0 O 0 0 MSG
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Each line represents the NAME CRS TRM ALT GLS MSG fields of the route. Fields must be separated by at least one space and each waypoint must be on a single line.

Airways can be entered by placing a dash between two waypoints on the airway ex (MLB-V3-DHP) GNAV will fill in all waypoints along the airway between MLB and DHP

MAP

With GNAV in NAV mode, tap the MAP button on the Display Screen to display a map. BACK Key will return to the Display Screen.

The map provided gives you a choice of several options. You can select a street map based on OpenStreetMap data, a US sectional , a US IFR Low chart, or a US IFR High chart. The Charts should not be considered current. You may also select a NEXRAD radar overlay. The maps are online tiled maps and need an internet connection to retrieve the tiles.

Route lines are drawn in blue. The lines are drawn to show the route from the present position to the end of the list. If the NAV Waypoint contains a CRS the line is drawn to show the course.

The map has a blue circle representing the current position. The circle will move along the route of flight in real time. Tapping the blue circle will display current aircraft position information. This information is based on current speed, altitude, and the NAV waypoint. The ALT and GLS fields will contain the first crossing clearance entered, otherwise ALT will be as set and GLS will be zero.

Markers are placed on the map for each waypoint Tapping a marker will show the waypoint information. The marker will display a link to AirNav information if the marker is an airport.

LONG PRESS a map position to see its Lat, Lon, Heading, and Distance If the tapped position is an airport a link to AirNav information will be shown.