

### The Garmin GTN 750

# A pilot-friendly manual by John Dittmer



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As with any new friend it will take some quality time for you to understand and appreciate the tremendous capabilities of the GTN 750. Garmin does provide a trainer for a PC on their website. It is almost completely functional. We feel that our manual combined with their trainer or the docking station from Lone Star Aviation is by far the best combination to learn about the unit.

Lone Star Aviation makes a docking station for the GTN 750 called the Commander LS03-02030GZ. This allows you to get accustomed to the touch screen as well as the operations that are important to you without the noise, distractions, and outside vigilance required while in flight.

They can be reached at: Lone Star Aviation

604 South Wisteria St. Mansfield, TX 76-63 (682) 518-8882

www.lonestaraviation.com

#### Disclaimer

This manual is based on the GTN 750 version and covers the WAAS, GPS, VOR and ILS approaches along with complete GPS operations. It also includes descriptions of Vertical Navigation, Holding, all types of approaches.

While great care was taken to verify the enclosed operations, they are not to be construed as official Garmin recommendations. Since the GPS and avionics worlds are constantly changing, the contents contained within may become outdated and/or unsuitable at any time. Any action taken by the user as a result of any item herein is solely at the risk of the reader. I make no warranty as to the accuracy of the information, safety or suitability for use by anyone or for any purpose.

My thanks to Kent for making his unit available to us. Without his generosity this manual would not have been completed. Thanks to Kathy for her patience and understanding and the late Jim Reed, a good friend who urged me on in the beginning.

Although this manual is designed to expedite the learning curve for those of you who are just starting to use the GTN Series, the most recent version of Garmin's "Pilot's Guide and Reference" remains the final authority.

The examples in this manual make a trip from Wichita Mid Continent airport in Kansas north to Salina Municipal Airport. This trip was picked because it is a simple trip that still allows examples of most features contained herein. Examples of DPs and STARs utilize the Dallas, Fort Worth Airport in Texas.

John

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#### The Garmin GTN 750

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GTN 750 includes the multi-function display, Integrated GPS, Navigation to include a 200 channel VOR/ILS with localizer and glideslope, a 2,280-channel VHF communications transceiver, and MFD system.

GTN 725 does not have communications or navigation receivers.

Between the two Com Frequencies and also between the two NAV Frequencies are double-headed arrows pointing up and down. That means if you TAP the active frequency, it will change places with the standby frequency.

Data input is normally done with the touch-screen. However, the large and small knobs in the lower right corner of the bezel may also be used. They function the same as the GNS 430/530 series in that the small knob changes the highlighted digit and the large knob moves the cursor to the next digit. To enter the value, PRESS the small knob.

If the operator prefers gloves, procedures to test the gloves are listed in the GTN Pilot's guide. Most MIL-SPEC Lambskin gloves are recommended.

Although the directions presented in this manual follow the touch-screen method, use of the small and large knobs can accomplish the same operations.

NOTE: Although the GTN series is primarily a touch-screen unit, Garmin has provided its traditional knob twisting and pushing methods also. This manual concentrates on the touch-screen controls but feel free to use either method. There is no Power On/Off control since the unit is powered directly from the aircraft buss.

**Mechanical Controls** - Located on the bezel is the Volume/Squelch knob on the upper left corner, the Home button in the upper right corner, the Direct-To button on the lower right side and the Large and Small concentric knobs on the lower right corner.

The active radio can be determined when the color of the standby frequency or its background is cyan.

Volume/Squelch, ID knob with the Com radio tunable:

PUSH the knob to toggle the squelch function ON or OFF.

ROTATE the knob to change the volume of the active comm radio.

PUSH and HOLD the knob to change the active comm frequency to 121.50.

Volume/Squelch ID knob with the Nav radio tunable:

PUSH to activate the ID function for the frequency.

ROTATE the knob to change the volume of the active nav radio.

Home button.

PRESS Home button displays the Home Page.

PRESS and HOLD the Home button will open the Map page from any other page.

PUSH the Direct-To button to initiate a Direct-To operation.

Large and Small Knobs.

ROTATE Large Knob to change the Standby Frequency's megahertz value. ROTATE Small Knob to change the Standby Frequency's Kilohertz value.

ROTATE Small Knob to change the value of the highlighted character.

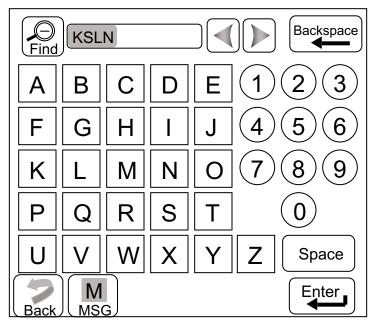
ROTATE Large Knob to move the cursor to the next character space.

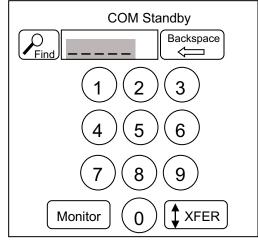
PUSH Small Knob to toggle between the com and nav radios. With the Nav radio active, PUSH the Volume/Squelch knob to toggle the ident of the active nav frequency function. It will remain in this mode for approximately 30 seconds or until the Small Knob is pushed again.

**Touchscreen Controls -** They are located on the bottom and top of the display. It is necessary only to touch these to perform the desired function. The upper arrows flip-flop the standby and active frequencies, and the bottom ones consist of the Back, Message, Menu, CDI, OBS, Enter, the In and Out keys to zoom the display in or out, plus others depending on the screen being displayed. Scrolling up, down or sideways (depending on the screen) can be done by touching the screen and dragging your finger in the desired direction. "Up" and "Down" arrows in the bottom right corner may be used to scroll through lists also.

It is noteworthy that at the very bottom of the screen, beneath the touchscreen keys, are important annunciators that indicate needle sensitivity or method of navigation. When navigating on a flight plan with the Map screen showing, TAP the "CDI" Key to toggle between GPS and VLOC navigation. Directions to control the Large and Small knobs are shown in white,.

Alpha-numeric keypad. NOTE: The Small and Large knobs may be used in lieu of the keypad.







TAP the Enter key to place the frequency in the Standby Com window.



TAP the Find key to view the Recent, Nearest, Flight Plan or User frequency.

Other keys frequently appear such as:



Cancel the operation or input. The screen will return to the previous one.



Gives access to menu items for that particular screen.



Make the selected operation active.

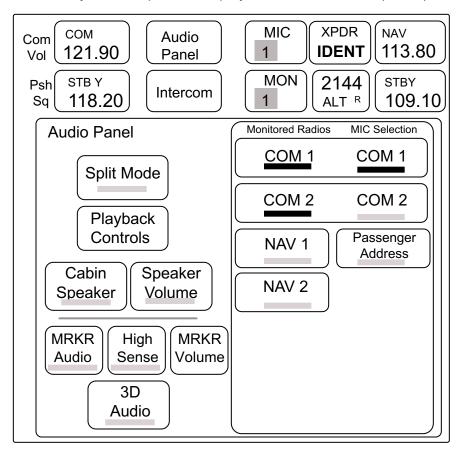


Zoom In for a more detailed look or Zoom Out for a wider view and less detail.



TAP the XFER key to place the standby frequency into the Active Window.

When the optional Garmin Audio Panel is installed the following keys are available. TAP "Audio Panel" key on the top of the display to view the controls (below).



The green bar underneath the label when illuminated, indicates that function is in use.

The "Split Mode" allows the pilot and copilot to transmit and receive on separate frequencies. Each crew member may choose the COM and NAV radios or Passenger Address as desired. When Passenger Address is selected the COM radios for that crewperson are automatically deselected.

"Speaker Volume" and "Marker Volume", when chosen reverts to a triangle to depict the chosen volume. TAP on the left arrow to decrease volume and the right arrow to increase volume.

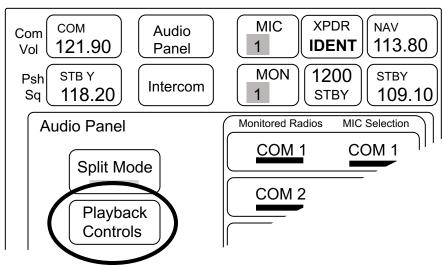
#### **Enter Frequencies**

TAP the "STBY" frequency window to bring up the numeric keypad. TAP on the numbers for the desired frequency.

TAP "Enter" to place the frequency in the Standby Position, OR TAP "XFER" to place the frequency in the Active Position.

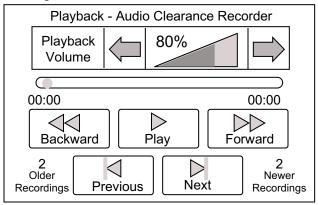
Recording and Playback (see next page).

TAP "Audio Panel" button on the top of the display to view the controls (below).

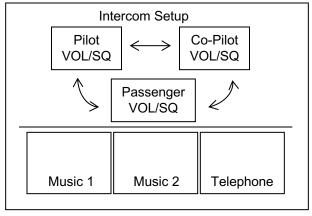


Playback. (The GTN 750 is capable of recording 2.5 minutes.)

The playback volume may be changed by using its separate volume control. TAP "Playback Controls" to view the playback volume controls shown below. (Think VCR) TAP the "Play" key to begin playing. TAP "Previous" or "Next" to choose a different recording. Readouts in the bottom corners show the number of recordings made before or after the currently selected recording.



TAP "Intercom" key to open the Setup Page. From there one can set the Volume and Squelch for both pilots and passengers.



#### 1st Screen

- Currently Installed Software

SW Version: 6.21 GPS Version: 99.9

-Currently Installed Databases

Navigation 1701, Not effective until 05 JAN-17

Basemap 16M1

Obstacle/HOT Line 17B1, Not effective until 05-JAN-17 SafeTaxi 17S1, Not effective until 05-JAN-17

Terrain 15.T1

FliteCharts 1210, Not effective until 20-SEP-12

#### Continue

#### 2nd Screen

Instrument	Panel Self-Test ——— Half Left		
LFLG VCDI	Out of View Half Up	Fuel on Board 0.0 GAL	
VFLG TO/FROM ANNUN OBS DTK	Out of View To On ° 150°	Fuel Flow 0.0 GAL/HR	
All map and terrain data provided is only to be used as a general reference to your surroundings and as an aid to situational awareness.			
	Continue		

NOTE: When operating in the DEMO Mode, TAP on either the "Fuel on Board" or "Fuel Flow" keys. Either one brings up the numerical keypad so total fuel on board and/or Fuel Flow may be entered.

#### A. Direct to any waypoint. (книт)

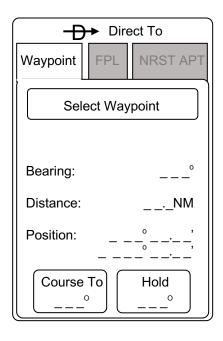
- PRESS the Direct-to button on the bezel to open the "Direct To" window shown to the right.
  - It defaults to the "Waypoint" tab as shown. If navigating on a flight plan it defaults to the next active waypoint. After reaching that waypoint normal sequencing will resume.
  - NOTE: If the waypoint is not in the active flight plan the flight plan will no longer be active.
  - NOTE: TAP on "FPL" or "NRST APT" as desired. "FPL" will default to the active flight plan. TAP on any waypoint to make it the "Direct To" Waypoint. TAP on "NRST APT" to view the list of 25 nearest airports. Scroll "Up" or "Down" as necessary.
- 2. TAP on the "Select Waypoint" key to view the alpha-numeric keypad.
- 3. TAP on each character for the desired waypoint name.
- 4. TAP the "Enter" key to review the entry. (See below right.)
- 5. TAP the "Activate" key if all is well. The screen returns to the Map with the aircraft symbol centered.



"D→ KHUT" appears in magenta and a CDI appears immediately below that. This is the "Edit bar".

The four corners of the map screen also fill out with the four fields that were chosen by the operator. (See our page 17 for the Map User Fields.)

NOTE: There are also six System User Fields, located between the communication and navigation frequencies. Garmin calls both groups "User Fields" which can lead to some confusion.





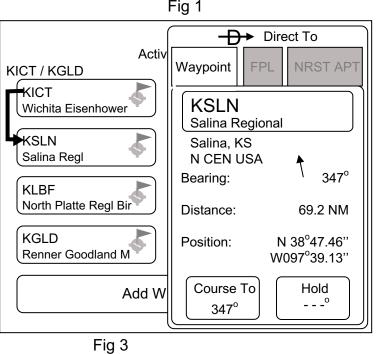


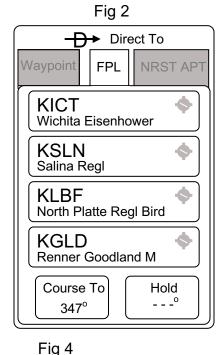
Pg 2

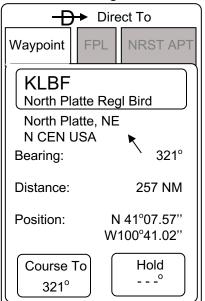
#### B. Direct to a waypoint in the active flight plan.

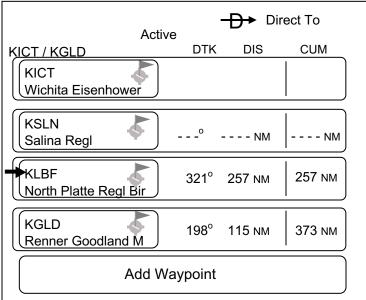
(This is an active flight plan from KICT to KSLN to KLBF and then KGLD.)

- 1. PRESS the Direct-to button on the bezel to open the "Direct To" window shown in Fig 1. If navigating on a flight plan it defaults to the next active waypoint. All the flight plan waypoints are shown. Scroll down as necessary to view the desired Direct-To waypoint. (KLBF)
- 2. TAP on "FPL" to view the four waypoints in the flight plan (Fig 2) then TAP on the desired waypoint (KLBF) to view the Name, Bearing, Distance and position of the waypoint (Fig 3).
- 3. TAP "Activate" or PUSH the Small Right Knob to make KLBF the "Direct To" Waypoint depicted by the arrow in Fig 4. Any waypoints in the flight plan that follow will be retained in the routing. Essentially the operation deletes KSLN from the original routing.







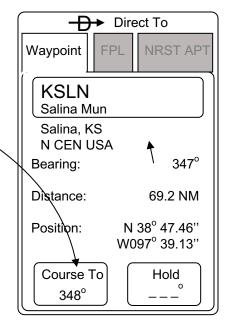


### C. Direct to a waypoint on a specified course.

- 1. PRESS the Direct-To button on the bezel to view the Direct-To window. The default waypoint is the Active Waypoint.
- 2. TAP the "Course To" window. The numeric keypad appears.
- 3. TAP on the numbers to enter the desired course TO the waypoint (348) and then either TAP "Enter" key or PUSH the Small Knob. If the choice is correct, TAP "Activate" or PUSH the Small Knob again. The screen returns to the Map Screen with the new Direct-To Course represented by a magenta line. The line extends from the chosen waypoint for approximately 450 NM.

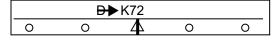


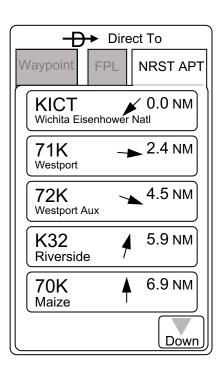
4. It is necessary for the operator to manually turn the aircraft to the desired intercept heading. If there are any remaining waypoints after passing the active waypoint, they will cycle in order normally.



### D. Direct to a "Nearest Airport".

- 1. PRESS the Direct-To button on the bezel to view the Direct-To window.
- 2. TAP the "NRST APT" key. The list of the 25 closest airports appears with a scroll down key.
- 3. Find the desired airport and TAP on it. (K72)
- 4. TAP the "Activate" button. The screen reverts to the map with the aircraft symbol in the center with a magenta line to the selected airport. The "CDI" also appears centered on the bottom of the screen.





# Direct-To Operations (cont'd)

#### E. Direct-To A Map Waypoint.

- - Also, a window is created on the bottom of the map entitled "Pan Mode" and gives the Bearing, Distance and Elevation of the location.
  - PRESS the Direct-To button. The unit automatically assigns the name "MAPWPT" for the waypoint and opens the Direct-To window.
- TAP the "Activate" key. The unit returns to the Map page with the magenta line extending to the waypoint which is named "MAPWPT". The "Pan Mode" window is replaced by "D>MAPWPT" and the CDI.
- NOTE: Although this waypoint and name are saved in the "User Waypoints" file, it will be replaced by a new waypoint with the same name should another waypoint be defined this way. Only one geographical waypoint can be retained with that name. (The name may be changed by first tapping on the name and use the keypad.) If the name is changed in any way and is unique, another window opens and asks if you want to create a user waypoint.

#### F. Direct-To Operation (another method).

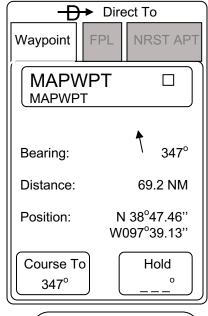
- 1. PRESS the Direct-To button on the bezel to view the Direct-To window.
- 2. TAP the window containing the Waypoint Identifier. This brings up the alpha-numeric keypad with the below graphic at the top.



- 3. TAP the "Find" key to bring up a list of Recent Airports. (Other selections appear for the "Nearest", "Flight Plan", "User", "Search Name", and "Search City".)
- 4. TAP the desired airport.
- 5. TAP "Activate" or PRESS the Small Knob.

#### G. Cancel a Direct-To Operation.

- 1. PRESS the Direct-To button on the bezel to view the Direct-To waypoint description window.
- 2. TAP the "Remove" key on the bottom of the screen to cancel the Direct-To Operation.





Remove

#### A. Create a New Flight Plan in the Catalog

- 1. From the Home Page, TAP "Flight Plan", "Menu" and then "Catalog".
- 2. TAP the "Create New Catalog Route" at the end of the flight plan list.
- 3. TAP the "Add Waypoint" key. The alpha-numeric keypad appears.
- 4. TAP the appropriate letters and numbers of the first waypoint identifier and then "Enter".
- 5. Repeat numbers 3 and 4 above until all the waypoints are entered. The flight plan is automatically saved. It's name is the first waypoint and final waypoint.

#### B. Activate a Stored Flight Plan

- 1. From the Home Page, TAP "Flight Plan".
- 2. TAP "Menu" then the "Catalog" key.
- 3. If necessary, scroll down to view the desired flight plan.
- 4. TAP the desired flight plan from the list.
- 5. TAP "Activate" from the "Route Options" presented.
- 6. If another flight plan was active the message "Replace current active route?" appears.
- 7. TAP "OK". The screen changes to the new "Active Flight Plan" screen.

# C. Create a New Flight Plan From the Active Flight Plan

- With the Active Flight Plan showing, TAP "Menu" then "Delete" and "OK" to clear it. (The stored Flight Plan will be deleted from the screen yet remains in the catalog.)
- 2. TAP the "Add Waypoint" key. The alpha-numeric keypad appears.
- 3. Continue with Steps 4 and 5 in the "Create a New Flight Plan in the Catalog" (above).
- 4. TAP "Menu" and then "Store".

#### D. Invert and Activate a Stored Flight Plan

- 1. From the Home Page, PRESS "Flight Plan".
- 2. TAP "Menu" then the "Catalog" key.
- 3. TAP the desired flight plan from the list.
- 4. TAP "Invert & Activate" from the submenu.
- 5. If another flight plan was active the message "Replace current active route?" appears.
- 6. TAP "OK". The screen changes to the "Active Flight Plan" screen with the original flight plan waypoints in reverse order.

#### E. Preview a Stored Flight Plan

- From the Home Page, PRESS "Flight Plan".
- 2. TAP "Menu" then the "Catalog" key.
- 3. TAP the desired flight plan from the list.
- 4. TAP "Preview" from the submenu.
- 5. The screen changes to the "Flight Plan Preview" page. The left half lists the sequence of waypoints and the right half is a map depicting the route.

#### F. Delete a Stored Flight Plan

- 1. From the Home Page, PRESS "Flight Plan".
- 2. TAP "Menu" then the "Catalog" key.
- 3. TAP the desired flight plan from the list.
- 4. TAP "Delete" from the submenu.
- 5. TAP "OK". Or, If it is not to be deleted, TAP "Cancel".

#### Route Options Activate

Invert & Activate

Preview Edit

Copy

Delete

(continued)

#### G. Add a Waypoint to the Active Flight Plan

- 1. From the Active Flight Plan Page, TAP the desired waypoint to view the "Waypoint Options" window.
- 2. TAP "Insert Before" or "Insert After" the selected waypoint as desired.
- 3. TAP the identifier characters on the alpha-numeric keypad.
- 4. TAP "Enter". The screen changes to show the modified flight plan.
- 5. To save the change, TAP "Menu" then "Store".

NOTE: If the option is greyed it is not available. (Activate Leg)

#### H. Delete a Waypoint in the Active Flight Plan

- 1. From the Active Flight Plan Page, TAP the desired waypoint to view the "Waypoint Options" window.
- 2. TAP "Remove" then "OK". The screen changes to show the modified flight plan. The original flight plan remains in the catalog.

#### I. Activate a Leg in the Active Flight Plan

- 1. From the Active Flight Plan Page, TAP the desired TO waypoint to view the "Waypoint Options" window.
- 2. TAP the "Activate Leg" option in the upper right corner.
- 3. TAP "OK". The screen changes to show the modified route.

NOTE: TAP the "Cancel" key to cancel the operation.

#### J. Load an Airway

- 1. From the Active Flight Plan Page, TAP the desired VOR entry waypoint to view the "Waypoint Options" window.
- 2. TAP the "Load Airway" option to open the "Select Airway" window. If there is more than one airway associated with the VOR, TAP on the desired airway. The "Select Exit" window opens.
- 3. TAP on the desired fix to leave the airway. The left side of the screen lists all the fixes and the right side is a map of all the airway points. Use the "In" and "Out" keys or drag the map with your finger to view any detail.
- 4. TAP "Load". All the waypoints on the airway segment load into the flight plan.

NOTE: TAP on the Airway Header to view the "Airway Options" window. TAP "Collapse All Airways" to have only the exit waypoint showing. The Airway Header will now list the airway followed by "(collapsed)". TAP on it and "Collapse All Airways" again to show all the waypoints.

#### K. Remove an Airway

- 1. From the Active Flight Plan Page, TAP the Airway Header to open the Airway Options window.
- 2. TAP "Remove Airway" then "OK". The screen reverts to the original active flight plan.

Waypoint Options

Activate Leg
Insert
Before Insert
After
Hold At Waypoint
Load Procedures
Waypoint Info

Remove

Pg 6

Airway Options

Collapse All Airways

Select Airway

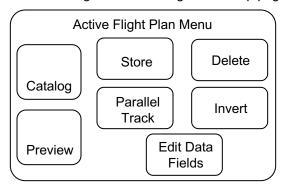
Remove Airway

(continued)

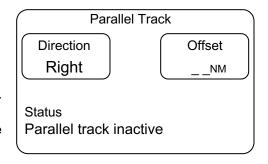
#### L. Parallel Track

A parallel track may be established on any of the active flight plan legs. Once the IAF is passed, however, the parallel track feature is no longer available.

1. With the Active Flight Plan showing on the Map page, TAP "Menu" to view the below screen.



- 1. TAP "Parallel Track" to view the choices to the right.
- 2. TAP on "Direction" to select "Left". (The choices toggle between "Left" and "Right").
- 3. TAP on "Offset" to open the numeric keypad.
- 4. TAP the desired numbers then "Enter".
- 5. TAP "Activate" in the bottom, right corner of the screen. Each waypoint in the flight plan is now designated with a dash p (-p). The original course line will be gray while the offset course will be magenta. As the end of the flight plan is reached, this feature will be automatically terminated with the message: "PTK to end in 90 seconds".
- 6. To end Parallel Track operations manually, with the Active Flight Plan showing, TAP "Menu" then "Deactivate PTK".



NOTE: This feature will automatically be cancelled when graphically editing a flight plan. (See below).

#### M. Graphically Edit the Active Flight Plan

- 1. With the Active Flight Plan showing on the Map page, TAP on the screen.
- 2. TAP on the "Graphically Edit FPL" key in the bottom, left corner. All the Flight Plan legs change to white.
- 3. PRESS-and-Hold on the leg to be changed. It turns to a thick cyan-colored line.
- 4. DRAG your finger to a desired fix. (It MUST be a fix.)
- 5. If it is the desired route, TAP "Done". If not, TAP "Undo" and try again. The flight plan is saved automatically with the change.

(continued)

#### N. Add or Remove a SID (Standard Instrument Departure)

NOTE: Departures, Arrivals and Approaches all follow the same sequence. Although a SID may be entered by itself from the Home Page TAP "Procedures" key, "Departure" key and enter the airport identifier and finally the "Enter" key. To add one of the procedures to a flight plan, it is first necessary to make the flight plan active.

- 1. From the Active Flight Plan Page, TAP the departure airport identifier to view the "Waypoint Options" window.
- 2. TAP "Load Procedures".
- 3. TAP on the choice "Departure" to open a list of the available SIDs. Scroll as necessary to view the desired SID. (TEX5) It may also be necessary to select the appropriate runway. (ALL)
- 4. TAP on the desired runway. It may also necessary to select the desired transition. (TUL) After the choices have been made, the screen changes to a map of the departure and a list of the waypoints involved along with the option to "Load Departure" or "Cancel".
- TAP "Load Departure". The screen reverts to the "Active Flight Plan" with the departure Header and its waypoints (Departure - KDFW-ALL.TEX5.TUL) above the flight plan waypoints.

Waypoint Options

Activate Leg

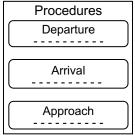
Insert After

Hold At Waypoint

Load Procedures

Waypoint Info

Remove



NOTE: To delete the SID, TAP on the SID Header to view the Departure Options window. TAP on "Remove Departure and then "OK".

To change the SID, TAP on the SID Header to view the Departure Options window. TAP on "Select Departure" choose the runway and desired transition and then "OK".

#### O. Add or Remove a STAR (Standard Instrument Arrival)

NOTE: Departures, Arrivals and Approaches all follow the same sequence. To add a STAR to a flight plan, it is first necessary to make the flight plan active.

- 1. From the Active Flight Plan Page, TAP the destination airport identifier to view the "Waypoint Options" window.
- 2. TAP "Load Procedures".
- 3. TAP on the choice "Arrival" to open a list of the available STARs. Scroll as necessary to view the desired STAR. It may be necessary to select the appropriate Transition and Runway also.
- 4. TAP on the appropriate keys. The screen changes to a map of the Arrival and a list of the waypoints involved along with the option to "Load Arrival" or "Cancel".
- 5. TAP "Load Arrival". The screen reverts to the "Active Flight Plan" with the Arrival Header (Arrival-KDFW-TUL.finger5.ALL) and all waypoints preceding the destination airport.

To delete the STAR, TAP on the STAR Header, "Remove Arrival" and then "OK".

To change the STAR, TAP on "Select Arrival", the "Arrival" key to view the list of STARS. TAP on the desired STAR, Transition and Runway if required, then "Load Arrival".

(continued)

#### P. OBS Mode

The OBS mode allows you to select a specific course to fly To or From the active waypoint. When selected, the OBS mode also stops automatically sequencing waypoints and vertical navigation is inhibited. Besides holding, another use is to approach an airport on a course that is very close to the extended centerline of any runway. This can be extremely useful when flying in reduced visibility. **It may not be the exact centerline** because the course line is drawn from the airport reference point.

For our example, shown below, we are on a flight plan from Hutchinson, KS (KHUT) to the Westport airport KS (71K) at Wichita, KS and the surface wind is 180 at 25 knots. It would be to our advantage to land on runway 17 at the Westport airport. (Fig 1)

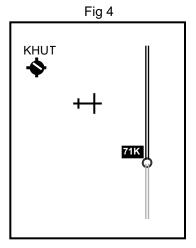
NOTE: This airport is known to the locals as "Dead Cow International."

When on the Map Page of an active flight plan, and when the waypoint affected is the Active Waypoint:

- 1. TAP the OBS key on the bottom of the screen to view the "Select OBS Course" screen (Fig 2).
- 2. TAP on the numbers for the desired course inbound (170°) or outbound and then "Enter". The unit returns to the map page with the entered course colored magenta. The chosen OBS course and the waypoint appear above the CDI in the lower portion of the screen. A CDI indicator is beneath that and if the needle is full scale, the distance off course is shown. (Fig 3)



3. Turn the aircraft heading eastward to intercept the desired course. (Fig 4) Once intercepted, turn south and proceed to the airport.



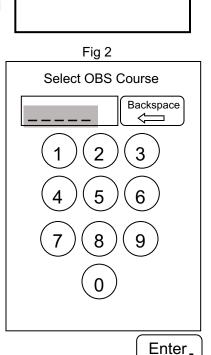


Fig 1

KHUT

4. To return to normal navigation, TAP the OBS key.

(continued)

#### Q. Holding.

### During holding automatic waypoint sequencing will **not occur.** To hold at a fix use the following procedures:

Open the "Waypoint Options" window by With the Map Page showing:

1. TAP the Edit Bar at the bottom of the screen to view the Active Flight Plan page,

#### OR

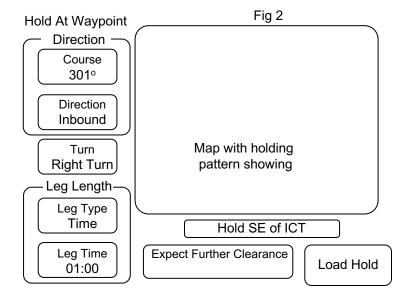
Open the same window with the Flight Plan Page showing:

- 1. TAP the waypoint you will hold at to view the "Waypoint Options screen. (Fig 1)
- 2. TAP the "Hold at Waypoint" option to view the "Hold at Waypoint" screen. (Fig 2)
- 3. TAP the "Course" window to enter the numerical course. (Fig 3)
- 4. TAP the "Direction" to select "Inbound" or "Outbound".
- 5. TAP the "Turn" to select "Inbound" or "Outbound".
- 6. TAP "Leg Type" to select "Time" or "Distance".

NOTE: The direction of hold window beneath the map fills in automatically.

- 7. TAP the "Expect Further Clearance window" and enter the time.
- 8. TAP "Load Hold". The screen reverts to the "Active Flight Plan" shown in Fig 4.

NOTE: To leave the holding pattern, either TAP the "UNSUSP" key or do a Direct-To operation to another waypoint.



#### **Holding as Part of a Missed Approach**

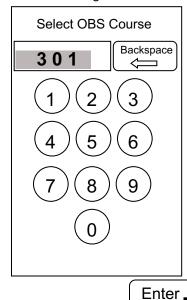
Once the approach has been missed and with the aircraft proceeding to the missed approach holding fix, the holding pattern and recommended entry legs will be in magenta. Additionally, the annunciator "SUSP" will appear on the bottom of the screen. The aircraft will continue to hold until another operation is chosen or "UNSUSP" key is TAPped.

Fig 1
Waypoint Options

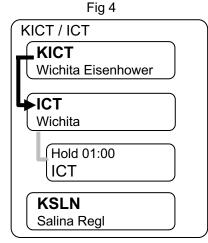
Pg 10



Fig 3



Active Flight Plan

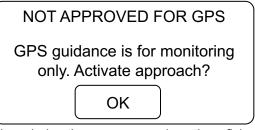


(continued)

R. DME Arc. A DME Arc is a series of waypoints that describe a curved track. It is used with VOR or ILS approaches in lieu of a procedure turn. (GPS procedures have all changed to the "T" arrangement for transitions.) The GTN 750 supports DME arcs and, if the autopilot is capable, it will fly the arc automatically. If the approach is overlayed with GPS waypoints, the unit will remain in the GPS mode during the approach.

From the Active Flight Plan Page, TAP the desired airport identifier to view the "Waypoint Options" window.

- 1. TAP "Load Procedures".
- 2. TAP "Approach" to view all the approaches.
- 3. TAP on the desired approach. It may be necessary to scroll down.
- 4. The example selected is VOR/DME 22 at KHUT.
- 5. TAP "Transition" to view the available transitions. (D123O). A small map appears on the right side of the screen to graphically describe the approach. All the waypoints are listed on the left side.
- 6. TAP "Load Approach" or "Load & Activate Approach" as desired. NOTE: If it is not a GPS Approach the following message appears:



Activate Leg
Insert Before Insert After
Hold At Waypoint
Load Procedures
Waypoint Info
Remove

NOTE: The description of a GPS waypoint on a DME arc consists of the radial and a letter. The letter identifies the number of miles. (The waypoint "D1230" is on the 123° radial at 15 NM the fifteenth letter in the alphabet.)

7. TAP "OK" to acknowledge the message and continue flying to the IAF. As the IAF is passed the entire arc track will turn magenta.

NOTE: It may be desirable to intercept the arc without flying back to one of the published transitions.

To intercept the arc at a midway point:

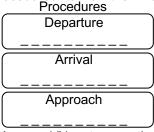
- 1. Load the approach. (VOR/DME 22 at KHUT).
- 2. TAP Transition to view choices.
- 3. TAP "D123O". (TAP One, Two, Three, and the letter "O".)
- 4. TAP "Load Approach. The "Not Approved for GPS" message above appears.
- 5. TAP "OK".
- On the Active Flight Plan page find the Approach Header. The second waypoint after the Header should be CF22 (15.0 NM DME Arc Hut). TAP on it to open the Waypoint Options Menu.
- 7. TAP "Activate Leg" to bring up the following message.

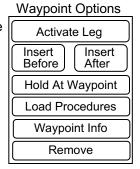


8. TAP "OK". Now on the Active Flight Plan page, the magenta arrow will be from D123O iaf to CF22 15.0 NM DME Arc HUT. When you return to the Map Page, the entire arc will be magenta. The aircraft will turn to join the arc on a tangent instead of a 90° angle intercept.

#### A. Add an Instrument Approach

- 1. From the Active Flight Plan Page, TAP the desired airport identifier to view the "Waypoint Options" window.
  - Or, TAP the "Edit Bar" on the map screen.
- 2. TAP "Load Procedures" to view the "Procedures" screen below.





- 3. TAP on the "Approach" key to open the list of approaches. Scroll as necessary to view the desired approach.
- 4. TAP on the desired approach. The screen changes to a map of the approach and a list of the waypoints involved.
- 5. The unit defaults to the "Vectors" transition. TAP the transition to open a window that lists all the published transitions.
- 6. TAP on the desired transition.
- 7. TAP "Load Approach" or "Activate Approach" as desired. (See below.)

#### Important! Important! Important!

After an approach has been selected the operator can transition via Vectors (unit default) or choose one of the published transitions. Once the Transition is chosen, one can select "Load Approach" or "Load Approach & Activate". "Load Approach"? Always results in adding the approach header and all the waypoints after the destination. The big difference comes when you "Load Approach & Activate."

If you selected the transition "Vectors", upon choosing "Load Approach & Activate", it results in the **Final Approach Fix (faf)** becoming the new active waypoint. (Fig 1 below)

If you selected one of the published transitions, upon choosing "Load Approach & Activate", it results in the **Initial Approach Fix (iaf)** becoming the new active waypoint. (Fig 2 below)

The two examples below show the arrangement of waypoints when "Vectors" or a published transition is chosen. The shaded area is visible on the screen. " Designates the Active Waypoint.

> Transition Load Approach & Activate **VFCTORS**

120			
KICT / KSLN			
Approach – K	SLN-RNA	AV 30	GPS LNV+V
IRACE		Δ	
EMYIC	faf	Δ	
CUTEP		Δ	
RW30	map	Δ	
HEMTU	mahp	Δ	)
Hold 4.0 NM			
HEMTU			J
	Fig 1		

KICT / KSLN KICT Wichita Eisenhower Approach - KSLN-RNAV 30 GPS LNV+V HISIX iaf Δ **IRACE** Δ  $\overline{\Delta}$ **EMYIC** faf Δ CUTEP **RW30** Δ map **HEMTU** Δ mahp Hold 4.0 NM HEMTU

Transition

HISIX

Load Approach

& Activate

Fig 2

# Approaches (Continued)

#### B. Delete an Instrument Approach

- 1. TAP the Approach Header to view the Approach Options available.
- 2. TAP "Remove Approach" and then "OK".

#### C. Change to a Different Approach

- 1. TAP the Approach Header to view the options available.
- 2. TAP "Select Approach".
- 3. TAP the "Approach" key to view all the available approaches.
- 4. TAP the desired approach.
- 5. TAP the desired transition.
- 6. TAP either "Load Approach" or "Load Approach & Activate".

#### D. Missed Approach

When the missed approach waypoint is reached, the following message appears:

Missed Approach
Waypoint Reached

Automatic Waypoint Sequencing
Suspended

Remain
Suspended

Activate GPS
Missed
Approach

TAP "Activate GPS Missed Approach" to make the unit cycle to the missed approach holding fix. It also automatically goes into the "SUSP" or Suspend Mode and will remain there until another operation is chosen.

Should another approach be desired choose either the Direct-To button to the **iaf** or another fix in the approach or a different airport.

**NOTE:** The VOR and ILS approaches will automatically load the appropriate frequency in the Standby position when the approach is loaded or activated. (See Home, System and Setup to select ILS CDI Capture if necessary.)

To delete the Approach, go to the "Home" page and TAP "Flight Plan" then TAP on the Approach Header, "Remove Approach" and then "OK".

To change the Approach, TAP on the Approach Header, "Select Approach", "Approach", the desired approach and "Activate Approach".

#### **Approach Options**

Activate Approach
Activate
Vectors to Final
Activate
Missed Approach
Select Approach
Remove Approach

Approach Options

Activate Approach

Activate Vectors to Final

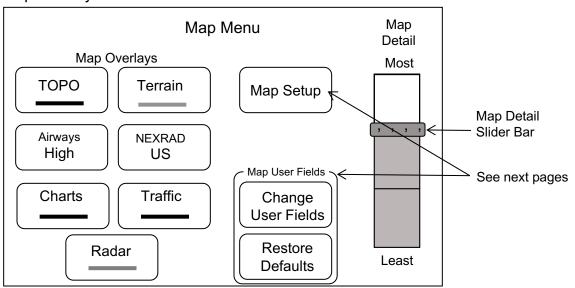
Activate Missed Approach

Select Approach

Remove Approach



With the Map page showing, TAP "Menu" to view the Map Overlays as shown below.



#### Map Overlays:

TOPO - On or Off as indicated by the green bar.

Selects the colored topographical features that are displayed. Traffic, Land Data, Terrain, and Obstacles will still be displayed even with Topo Data turned off. Topo color changes with relative aircraft height.: RED - At or within 100 ft below, YELLOW - Between 100 and 1000 ft below.

Terrain - On or Off as indicated by the green bar.

Terrain and NEXRAD weather may not be displayed at the same time. Selecting one will disable the other. A Terrain icon immediately above the left end of the Navigation bar indicates the Terrain overlay has been selected.

Airways - All, High, Low or Off.

High Airways are Green, Low Airways are Gray, the Active Flight Plan Leg is Magenta.

NEXRAD (Optional) - CONUS, Regional or Combined.

Charts (Optional) - Allows the display of Charts to be overlayed on the Map page.

Traffic (Optional) - On or Off as indicated by the green bar.

Radar (Optional) - On or Off as indicated by the green bar.

Map Setup – See next page.

Map User Fields - See page 18.

Map Detail slider bar - TAP-and-HOLD the slider bar. DRAG to the desired level of detail and release. There are four levels of Map Detail from "Most" to "Least". "Least" shows only the Active Flight Plan legs, Airways and Water Detail. Refer to Garmin's GTN Pilot's Guide Page 9-26, Table 9-10, to view detail levels.

## Home Page - Map (cont'd) Map Menu

#### Map Setup

The Map Setup selection provides six tabs as explained below.



#### Map

Orientation - North Up, Track Up or Heading Up

North Up above - Off, 10, 15, 25, 40, 50, 75, 100, 150, or 250NM

Auto Zoom - On or Off

When OFF, the Auto Zoom Minimum and Auto Zoom Maximum Ranges are not available.

When ON, the following ranges are available:

Auto Zoom Minimum - 250, 400, 500, 750, 1000, and 2500 FT, 0.5, 0.75, 1, 1.5, 2.5, 4, 5, 7.5 10, 15, and 25 NM.

Auto Zoom Maximum - 1.5, 2.5, 4, 5, 7.5, 10, 15, 25, 40, 50, 75, 100, 150, and 250 NM.

NAV Range Ring - On, Off or Enhanced (GTN 7XX series only). Enhanced, provides a second ring at one half the distance of the primary ring.

TOPO Scale - On or Off.

Obstacle Range - Off, 4, 5 or 7.5 NM.

Chart Color Scheme - Day or Night.

Restore Defaults.

#### Aviation

Airport Range - Off, 7.5, 10, 15, 25, 40, 50, 75, 100, or 150 NM.

Heliports - On or Off. (Optional)

SafeTaxi Diagrams - Off, 1000, 1500, or 2500 FT, 0.5, 0.75, 1 or 1.5 NM.

Runway Extensions - Off, 1, 1.5, 2.5, 4 or 5 NM.

Intersection Range - Off, 0.75, 1, 1.5, 2.5, 4, 5, 7.5, or 10 NM.

NDB Range - Off, 0.75, 1, 1.5, 2.5, 4, 5, 7.5, or 10 NM.

VOR Range - Off, 10, 15, 25, 40, 50, 75 or 100 NM.

User Waypoint Range - Off, 0.75, 1, 1.5, 2.5, 4, 5, 7.5, 10, 15, 25, 40, 50, 75 or 100 NM.

Airway Range - 2.5, 4, 5, 7.5, 10, 15 or 25 NM.

Restore Defaults.

#### Land

Road Detail - None, Least, Less, Normal, More or Most.

City Detail - None, Least, Less, Normal, More or Most.

State / Province Names - On or Off.

River / Lake Detail - Least, Less, Normal, More or Most.

Restore Defaults.

#### Airspace

Smart Airspace - On or Off.

Show Airspace - All, Below 18000FT, Below 15000FT, Below 12000FT, Below 9000FT, Below 6000FT or Below 3000 FT.

Class B/TMA Range - Off, 7.5, 10, 15, 25, 40, 50, 75, 100 or 150 NM.

Class C/TCA Range - Off, 7.5, 10, 15, 25, 40, 50, 75, 100 or 150 NM.

Class D Range - Off, 7.5, 10, 15, 25, 40, 50, 75, 100 or 150 NM.

Restricted Range - Off, 7.5, 10, 15, 25, 40, 50, 75, 100, or 150 NM.

MOA (MILITARY) Range - Off, 7.5, 10, 15, 25, 40, 50, 75, 100, or 150 NM.

OTHER/ADIZ Range - Off, 7.5, 10, 15, 25, 40, 50, 75, 100, or 150 NM.

Restore Defaults.

### Home Page - Map (cont'd) Map Menu Continued

#### Map Setup (Continued)

Traffic

Range - 1, 1.5, 2.5, 4, 5, 7.5, 10, 15 or 25 NM. Traffic Type - All Traffic, Alerts & Advisories, or

Alerts Only. Restore Defaults.

#### Weather

Cell Movement - On or OFF.

METAR - On or OFF.

Cloud Tops - On or OFF.

Echo Tops - On or OFF.

Lightning - On or OFF.

Restore Defaults.

**User Fields** There are three groups of user fields on the map that are selectable by using their tabs: They are **Data**, **Function**, **and Page**. The choices are listed below.

Map User Fields

Change User Fields

> Restore Defaults

From the Map Menu page, TAP on "Change User Fields". The screen changes to the "Configure Nav Data Fields" screen with Tab A, Data, highlighted, and the four corner fields highlighted. TAP on the data in one of the corners to open the list of choices available. SCROLL Up or Down to view the entire list shown below. TAP on the desired data to have it replace the present one.

#### "Select User Field" – Data Tab

ACTV WPT - Active Waypoint

B/D APT - BRG/DIS from Dest APT

BRG - Bearing to Waypoint

DIS - Distance to Waypoint

DIS to Dest - DIS to Destination

**DTK - Desired Track** 

ESA - Enroute Safe Altitude

ETA - Estimated Time of Arrival

ETA at Dest - ETA at Destination

ETE - Estimated Time Enroute

ETE to Dest - ETE to Destination

Fuel Flow - Total Fuel Flow (Optional)

GS - GPS Ground Speed

GSL - GPS Altitude

Generic Timer – Timer Display

MSA - Minimum Safe Altitude

OAT (Static) - Static Air TEMP

OAT (Total) - Total Air TEMP

TKE - Track Angle Error

TRK - Track

Time - Current Time

Time to TOD – Time to Top of Descent

Trip Timer - Timer Display

VOR/LOC - Tuned VOR/LOC Info

VSR - Vertical Speed Required

Wind - Wind Speed and Direction

XTK - Cross Track Error

OFF - Do Not Display Data Field

#### <u>"Select User Field" – Page Tab</u>

Charts - Charts Page

Flight Plan - Flight Plan Page

Nearest - Nearest Page

NEAR APT - Nearest Airport Page

PROC - Procedures Page

Approach - Approach Page

Arrival - Arrival Page

Departure - Departure Page

Backlight - Backlight Page

Traffic - Traffic Page

Terrain - Terrain Page

Utilities - Utilities Page

Fuel PLAN – Fuel Planning Page

SCHED MSG - Scheduled Messages

Trip PLAN - Trip Planning Page

USER FREQ - User Frequencies

WPT INFO – Waypoint Information

Weather - Weather Page

Stormscope - Stormscope Page

SiriusXM WX - Sirius XM WX Page

OFF - Do Not Display Page Field

#### "Select User Field" - Function Tab

CDI – Course Deviation Indicator

Generic Timer Controls

OBS/Suspend/Unsuspend Button

OFF - Do Not Display Function Field

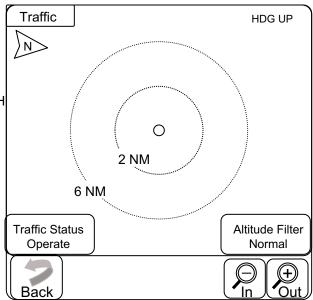
The optional Traffic page can show TIS (Traffic Information Service) data in relation to the aircraft's position and altitude. The page is always oriented heading up. This system is for advisory use only and is dependent upon operating transponders. It can also show TAS (Traffic Advisory System) but both may not be configured at the same time.



While viewing the Map page, TAP Menu and then the "Traffic" button. The green bar, when illuminated shows the Traffic Map Overlay is active. The GTN 750 can display up to eight targets within a 7.5 NM radius, from 3000 ft below to 3500 ft above. To View traffic without the clutter of the Map data, PUSH "Home" button and TAP the "Traffic" key.

The scale may be changed to 40 NM, 24 NM, 12 NM, 6 NM and 2 NM depending on the installed equipment. Simply TAP the "In" or "Out" key.

Traffic Status key toggles between "Operate" and "Standby".



#### Altitude Filter choices:

Normal - Minus 2700 ft to Plus 2700 ft Above - Minus 2700 ft to Plus 9900 ft Below - Minus 9900 ft to Plus 2700 ft Unrestricted - All Traffic is shown

When on the ground, TIS automatically goes to Standby Mode. Once airborne, TIS automatically switches from Standby to Operating Mode.

The symbology used is standard. (Refer to Garmin GTN 725/750 Pilot's Guide page 10-13.)



Non-Threat Traffic (Beyond 5 NM and greater than 1200 ft vertical.)



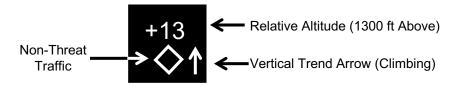
Proximity Advisory (PA) (within 5 NM and less than 1200 ft vertical.)



Traffic Advisory (TA) (Closing rate, distance and vertical separation meet TA criteria.)



Traffic Advisory Off Scale.

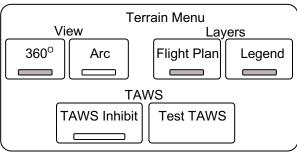


The Terrain page opens with the settings that were last chosen. Two displays are available: the 360° or the Arc display. TAP "Menu" then select the one desired. The Arc display is a 120° look at the terrain ahead of the aircraft. (Figure 1) In the Arc mode when distances of 37.5 NM or larger are chosen, an inner arc depicting 25 NM is also displayed. The example depicts an inner range of 25 NM and the outer range of 75 NM. Total range choices are 300 NM to 1.5 NM.



Figure 2 shows the 360° mode with the example showing the inner circle at 5 NM and outer circle at 10 NM. The zoom in and out keys allow the operator to change the range distances up to 200/100 NM and down to 1 NM. Orientation of the Terrain display is always annunciated in the upper right corner of the screen.

TAP the "Menu" icon to view the menu choices shown below.



- TAP "Flight Plan" to view obstacles along the flight plan.
- TAP "Legend" to display the Legend in the bottom left corner of the screen.
- The "TAWS Inhibit" will disable TAWS alerts and will be annunciated on the screen.
- The "Test TAWS" function is only available on the ground and lasts approximately 3 seconds.

Terrain

TRK UP

GSL

4000 FT

75 NM

25 NM

Back

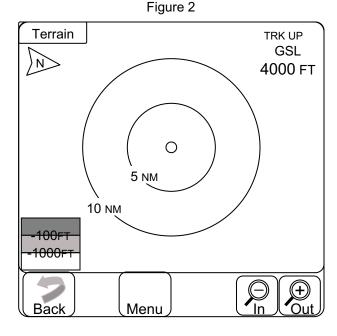
Menu

TRK UP

GSL

4000 FT

Figure 1

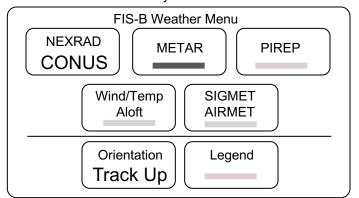


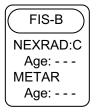
NOTE: For further information regarding TAWS and the accompanying alerts please refer Section 11 of the current Garmin GTN Pilot's Guide.

There are many sources of weather and many configurations of the GTN 750 series. From the "Home" screen, TAP the "Weather" key to view the options.



The unit represented below had SiriusXM Weather and FIS-B Weather. TAP the FIS-B Weather key and then "Menu" to view the following screen.





FIS-B Weather (Flight Information Service - Broadcast) (See the A.I.M. page 4-5-19 for further information about FIS-B, part of ADS-B)

#### Menu

NEXRAD - OFF, CONUS, Regional or Combined.

METAR - OFF or ON.

PIREP - OFF or ON.

Wind/Temp Aloft - OFF or ON.

SIGMET, AIRMET - OFF or ON.

Orientation - North Up, Track Up or Heading Up.

LEGEND - OFF or ON. There is a separate legend for each of the products installed. It may be necessary to scroll to view the desired legend.

NOTE: If Wind/Temp Aloft is chosen the "Minus" and "Plus" circles and the label "WX Aloft ALT" appear on the bottom of the screen. (see below) TAP on the "Minus" circle to choose the next lower wind aloft altitude and TAP the "Plus" circle to view the next higher altitude. The altitude being displayed is depicted above the two circles.



#### The levels available are:

1000, 1500, 2000, 3000, 6000, 9000, 15000, 18000, 24000, 30000, 34000 39000, 45000 and 53000FT.

Charts

**Public** 

The "Charts" selection can display each of the IFR charts for the selected airport. It defaults to the Airport Diagram chart. If an approach has been either loaded or activated the unit defaults to that approach.

To change airports, TAP on the airport identifier to make the keypad appear. Spell out the identifier for the desired airport and then TAP "Enter".

To view "Alternate Minimums", "Takeoff Minimums" or "Hot Spots" TAP on "Information".

To view the approaches available, TAP on the "Approaches" key.

To change approaches, TAP on the approach name and all the approaches appear. SCROLL down if necessary. TAP on the desired approach's name to view the desired approach.

The same operation is applied to "Departures" and "Arrivals" (SIDs and STARS). If there are none for the selected airport, "Chart Unavailable" appears on the screen.

TAP "Airport Info" to view the airport geographic location, elevation, Time Zone and Fuel available. It also gives access to "Preview", "Procedures", "Runways", "Frequencies", "WX Data", "Chart NOTAMs" and "View Charts". The "View Charts" key returns the screen to the airport diagram.

"Menu" button allows the operator to invert the colors for easier night viewing.

To view a different part of the chart, TAP-and-HOLD a finger on the chart and drag it in the desired direction. For better viewing it may be necessary to make the image larger or smaller. Simply TAP the "In" or "Out" keys.

Salina, KS
N CEN USA

Info
AIRPORT DIAGRAM

Information Approaches

Departures Arrivals

Airport Info

Back Menu Full

Airport

KSLN

Garmin's Flight Charts come with the unit and they are based on the FAA charts. This comes with SafeTaxi which is revised every 56 days although it is always available after the expiration date. To check if the database is current go to the "Home Page", TAP "System" then "System Status". Use the scroll down key in the lower right corner. SafeTaxi includes designated "Hot Spots".

ChartView is a subscription based on Jeppesen charts.

Active Flight Plan KICT / KGLD DTK DIS CUM **KICT** Wichita Eisenhower ICT 304° 9.2<sub>NM</sub> 9.2<sub>NM</sub> Wichita **KGLD** 293° 217<sub>NM</sub> 227<sub>NM</sub> Renner Goodland M Add Waypoint



From the Home page TAP "Flight Plan". To change flight plans, TAP "Menu", then "Delete" and then "OK". The stored flight plan will not be affected. "ADD Waypoint" appears on the screen. TAP on it to bring up the alpha-numeric keypad.

As soon as the first character is selected the "Back" key is replaced with "Cancel" and the "Enter" key becomes active. TAP out the first waypoint identifier and TAP "Enter." TAP "ADD Waypoint" and repeat until the entire flight plan is entered. Once the active flight plan is showing, TAP Menu for the following choices.

Catalog - Shows all the stored flight plans in alpha-numerical order of the starting and ending Waypoints. TAP on any flight plan in the Catalog to view the following options:

 Activate, Invert & Activate, Preview, Edit, Copy, and Delete.
 TAP on a waypoint in the Active Flight Plan to view the following options:
 Activate Leg, Insert Before, Insert After, Load Procedures, Waypoint Info, and Remove.

**Preview -** Lists the sequence of waypoints and shows the active route with all the waypoints.

**Store -** This selection allows the operator to store the active flight plan. TAP "OK" to save.

Parallel Track - TAP to view the menu allowing an offset of the current route Left or Right, and a distance up to 99 miles. When finished TAP "Enter" then "Activate". Each waypoint will contain a dash p (-p) notation. This feature can be activated only with the Active Flight Plan. Any added waypoints will automatically contain the selected offset. When Parallel Track is in use, the key label "Parallel Track" changes to "Deactivate PTK".

**Delete -** TAP, then TAP "OK" to delete the Active Flight Plan.

**Invert -** TAP, then TAP "OK" to invert the order of waypoints in the Active Flight Plan.

Edit Data Fields – The Data Fields are the three columns shown on the Active Flight plan screen. TAP "Menu", TAP "Edit Data Fields" then TAP any data field to open the "Select Field Type" window shown at right. When finished, TAP "Back" twice.

Select Field Type

**CUM - Cumulative Distance** 

DIS - Distance.

**DTK - Desired Track** 

ESA - Enroute Safe Altitude

ETA - Est Time of Arrival

ETE - Est Time Enroute

#### Home Page - Procedures

The "Procedures" key gives access to "Departures" (SIDs), "Arrivals" (STARs) and "Approaches". Either of the following sequences will display the Procedures screen.



From the "Home" Page TAP the "PROC" key to see the following screen.

#### OR.

From the "Active Flight Plan screen" TAP on the airport identifier and then

"Load Procedures".

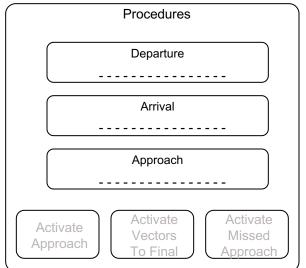
**The "Departure"** key will list the available SIDs. It defaults to the departure airport.

**The "Arrival" key** will list all the STARs. It defaults to the destination airport.

The "Approach" key will list all the instrument approaches. It defaults to the destination airport.

NOTE: If an intermediate airport exists and you want to stop there, TAP on the Airport Identifier to bring up the alpha-numeric keypad, TAP out the identifier and then "Enter".

NOTE: After an approach has been chosen, the screen below appears:



Airport Approach Transition

KHUT RNAV 31GPS LPV MUGER

Channel / ID
53728 W31A Approach

Approach

& Activate

TAP "Airport" to change airports.

TAP "Approach" to select an approach.

TAP "Transition" to select a transition. (Example at right).

TAP "Load Approach" or "Load Approach & Activate" as desired.

Once the approach is Loaded, TAP the approach header for the following choices:

Activate Approach.

Activate Vectors to Final.

Activate Missed Approach.

Select Approach (Different Approach).

Remove Approach.

MUGER

CLOBE

**RIRYO** 

YINUG

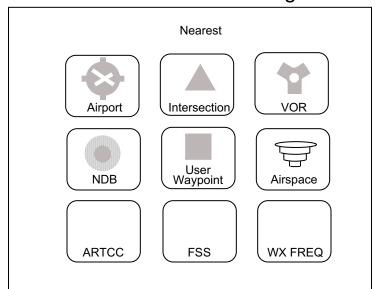
RW31

1765 FT

ZENOS

Hold

#### Home Page - Nearest





The "Nearest" selection provides information about each of the nearest facilities/services shown above. The screen is only able to display 5 items at a time so it may be necessary to use the "Down" arrow to scroll for more items. Each selection includes items within 200 NM of the present position.

- 1. TAP an item to place it in the center of the screen and open its waypoint description page.
- 2. TAP on a frequency (if appropriate) to place it in the standby field.
- 3. TAP an identifier, then the Direct-To button on the bezel and finally the "Activate" key to receive guidance to the selected item.

**Airport:** Shows the identifier, name, symbol, bearing, distance, best Instrument approach and longest runway for up to 25 airports nearest to the aircraft location. TAP on the desired airport to open its "Waypoint Info" page. Runway surfaces and minimum lengths may be configured on the System Setup - Nearest Airport. (See our page 37)

**Intersection:** Displays the identifier, name, geographic location, symbol, along with bearing and distance from present position.

**VOR:** Same information as above and also includes the frequency. TAP the frequency to place it in the standby position.

NDB: Same as "VOR" above.

User Waypoint: Shows the Name or number, symbol, along with bearing and distance.

**Airspace:** Alerts the operator to controlled or special use airspace near your flight path. These messages may be disabled or enabled on the "Alerts" page of the "System" key.

**ARTCC:** Displays up to five of the nearest Air Route Traffic Control Center transmitters, with bearing, distance and frequency information. If more than one frequency is available it is listed as "Multiple FREQ". TAP on it to see the other frequencies.

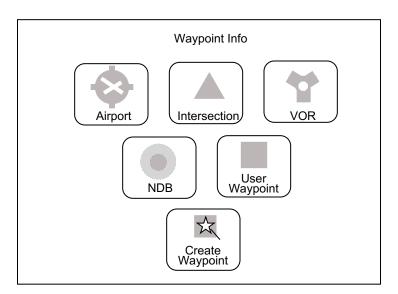
**FSS:** Same as ARTCC above. All frequencies are multiplex (transmit and receive) unless annotated "TX" Transmit only, or "RX" Receive only. TAP the frequency to place it in the standby position.

**WX FREQ:** Shows up to 25 of the nearest ATIS (Automatic Terminal Information Service), ASOS (Automated Service Observing System), AWOS (Automated Weather Observing Station) and VOR's. The facility type is shown in the frequency window.

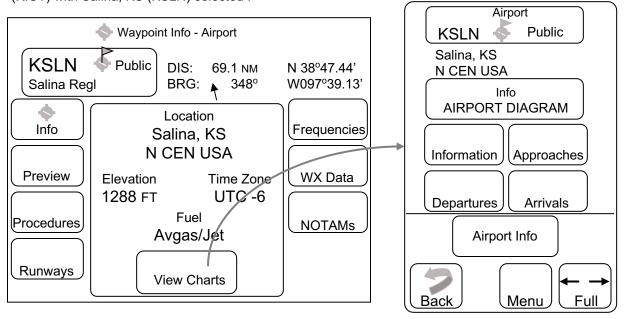
### Home Page - Waypoint Info Airport

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The Airport selection results in viewing a variety of details about the airport. It also provides seven keys shown below to obtain more detailed information. It shows the Distance and Bearing from the present position as well as the coordinates. The example shows a present location at Wichita, KS (KICT) with Salina, KS (KSLN) selected.



**NOTE:** It defaults to the destination airport in the flight plan. See next page for explanations of the keys shown.

**Change the Identifier:** TAP on the airport identifier to open the alpha-numeric keypad. Enter the desired identifier by spelling it out then TAP on "Enter".

#### Pg 25

# Home Page - Waypoint Info (Airport Continued)

# Waypoint Info

#### AIRPORT (cont'd)

**Preview:** TAP on this key to view an airport layout and surrounding area. The Zoom "In" and "Out" keys appear in the bottom right corner. TAP on them for more or less detail.

**Procedures:** TAP this key to view details about each procedure. (If there are more than 5 procedures the scroll down arrow appears in the bottom right corner of the screen.) TAP the desired procedure to view all the waypoints and a map of the procedure. TAP on the "Transition" key to view the available transitions.

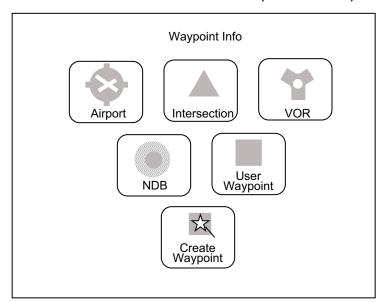
**Runways:** TAP the "Runways" key to view detailed information for each runway. If there is more than one, TAP the "Runway" number key to view all the runways and choose the desired one. Each runway is depicted in the center of the window along with Lighting, Traffic direction, Length and Width and surface type. If the facility has Pilot-Controlled Lighting (PCL), TAP on the frequency to place it in the standby position.

**Frequencies:** TAP on it to view all the Communication and ILS frequencies. If there are further breakdowns (altitude or sector) TAP on "More Information...". Frequencies such as ATIS also are annotated "RX" to indicate receive only. TAP the frequency (either COM or NAV) to place it in the appropriate "STBY" position.

**WX Data:** TAP here to view the textual METARs, City Forecast and TAF if available. TAP the "Down" arrow to view the city forecast.

**NOTAMs:** TAP this key to view any NOTAMs available for the selected airport. (Only available with the ChartView option).

# Home Page - Waypoint Info (Continued)





**INTERSECTION:** This selection defaults to a map centered on the intersection closest to the aircraft's position. The screen shows the Name, Symbol, Distance and Bearing from the aircraft's position (along with a direction arrow). Latitude and Longitude are also furnished as well as the distance from the nearest VOR and radial. For information on other intersections TAP on the intersection name to open the alpha-numeric keypad. Type in the desired intersection and "Enter". TAP on zoom "In" and "Out" keys to furnish more or less detail. TAP the "BACK" key to return to the Waypoint Info screen.

**VOR:** This screen depicts basically the same information as the Intersection screen (above). It also provides the frequency and the nearest airport Identifier, distance and radial, the Class of VOR and its declination.

**NDB:** Same as the VOR (above) but without the declination.

**User Waypoint:** This page shows the closest user-defined waypoint, much the same as "Intersection" (above) and the number of waypoints (up to 1000 may be stored). There also are options to "View List", "Edit", and "Delete" the waypoint.

**View List**: Opens the screen that lists all the stored User Waypoints. The screen size can only display 5 at one time. They are listed in alpha-numerical order along with the direction and distance from the aircraft position.

**Edit:** Allows the operator to change the identifier, comment and position. TAP "Save" if changes were made. TAPping "Temporary" results in that User Waypoint being erased when power is removed from the unit.

**Delete:** TAP to bring up a window with the question: "Are you sure you want to delete the user waypoint XXXXX?". TAP "OK" to delete it or "Cancel" to not delete it.

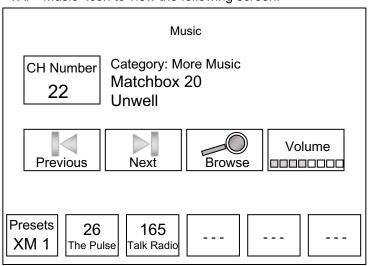
Create Waypoint: This selection defaults to the next numeric number. TAP the identifier to open the alpha-numeric keypad, Type on the keypad to assign a name with more meaning. One can also TAP on "REF WPT", "Radial" or "Distance" to move the waypoint. It can also be moved by scrolling the map to the desired location. While scrolling, the symbol for a User Waypoint remains in the center of the window with the "Radial" and "Distance" changing. Zoom In or Out as desired. TAP "Create" to create the waypoint. TAP "Position Type" to open the choices of: LAT / LON, Radial / Radial, or Radial / Distance. If "Temporary?" is activated by TAPping it, the waypoint will be deleted when power is removed from the unit.

### Home Page - Services Music

The Services Key gives access to Phone Services, Position Reporting, Text Messaging, Sirius Music and your personalized Contact List. These are all optional features and must be installed and enabled. If only the Music feature is enabled, the key is labeled "Music" instead of "Services". Phone calls and aircraft position reporting are done through an Iridium® satellite transceiver.

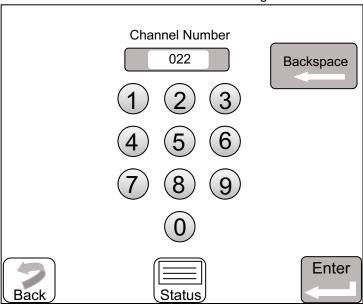


TAP "Music" icon to view the following screen.



TAP "Volume" to view the music volume control.

TAP "CH Number" icon to view the following screen.



For more detailed information see Section 14 of the Garmin GTN Pilot's Guide.

#### Home Page - Utilities Vertical Calculator

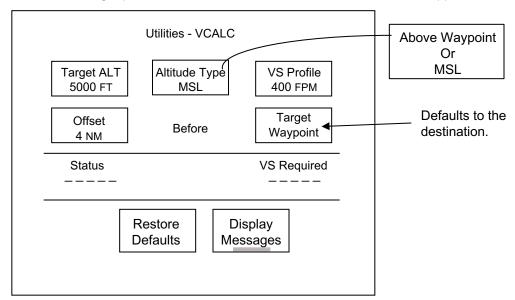
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In general, the "Utilities" Page provides a group of features that will support your flight planning to make them easier and more efficient.



Utilities include Vertical Calculator (VCALC), Trip Planning, Fuel Planning, Density Altitude / True Airspeed / Winds, RAIM Prediction, Flight Timers, Scheduled Messages and Clean Screen.

VCALC - The Vertical Calculator computes the the real-time vertical speed and time to begin descent required to reach a desired altitude at the chosen location. Once the threedimensional profile is defined, message alerts on the Default NAV and Map Pages keep you informed of your progress. This feature is inhibited when ground speed is less than 35 knots, not on an active flight plan or Direct-To destination, or after the FAF on an approach.



- 1. TAP on the "Target ALT" to view the keypad.
- 2. TAP on each number of the desired altitude, then "Enter".
- 3. TAP on the "Altitude Type" to select "MSL" or "Above WPT" as desired.
- 4. TAP on the "VS Profile" to view the keypad and enter the desired rate of descent then "Enter".
- 5. TAP on the "Offset" and enter the desired value then "Enter".
- 6. TAP on "Before" or "After" to make the desired choice. If the Target Waypoint is the last waypoint in a flight plan, the "After" selection is not available.
- 7. TAP on "Display Messages" to activate the feature. When active a green bar is displayed.

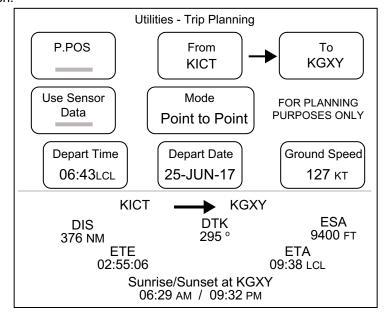
NOTE: The "Status" and "VS Required" fields automatically fill in.

NOTE: These values, known as a profile, will remain in the unit until changed. TAP on "Display Messages" to deactivate the feature and prevent unwanted messages.

# Home Page - Utilities Trip Planning

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Utilities include VCALC, **Trip Planning**, Fuel Planning, Density Altitude / True Airspeed / Winds, RAIM Prediction, Flight Timers, Scheduled Messages and Clean Screen.



(Mode - Either "Point to Point" or "Flight Plan")

**Trip Planning** - This screen provides the pilot with various data regarding either a point-to-point route or a flight plan.

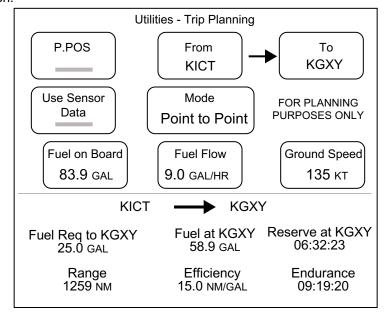
- 1. TAP either the "P. POS" or "From" key. If "P. POS" is selected the Lat/Long automatically appears as the "From" waypoint. If "Point to Point" TAP the "From" key to open the keypad and enter the starting waypoint identifier. When complete, TAP "Enter". If "Flight Plan" mode is selected, either the entire flight plan or a specific leg can be entered.
- 2. TAP the "To" key to open the keypad and enter the ending waypoint identifier. TAP "Enter."
- 3. Using the same method, TAP "Departure Time", "Departure Date" and "Ground Speed" as required.

When the data is entered, the trip statistics will automatically fill in on the bottom of the screen. See Garmin's Pilot Guide for the GTN 725/750 for further explanation.

# Home Page - Utilities Fuel Planning

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Utilities

Utilities include VCALC, Trip Planning, **Fuel Planning**, Density Altitude / True Airspeed / Winds, RAIM Prediction, Flight Timers, Scheduled Messages and Clean Screen.



(Mode - Either "Point to Point" or "Flight Plan")

Fuel Planning - This screen provides the pilot with various data regarding either a point-to-point route or a flight plan depending on one of three configurations:

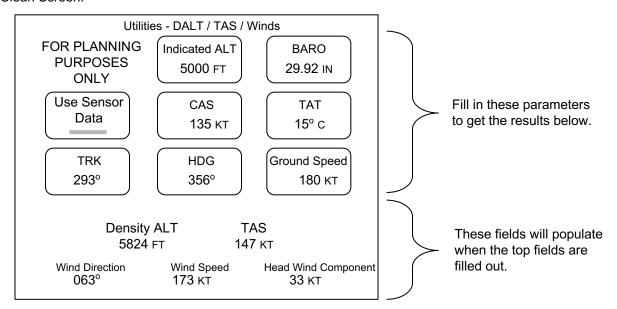
- 1. No Fuel Sensors connected Fuel on board and fuel flow must be manually entered at startup.
- 2. Fuel Flow Sensor installed but no Fuel On Board Sensor Fuel on board is manually entered. Fuel flow is automatically provided by the sensor.
- 3. Fuel Flow and Fuel On Boar Sensors installed Both Fuel flow and Fuel on Board are automatically provided by sensors.

See the Garmin Pilot's Guide for the GTN 725/750 for more information.

### Home Page - Utilities Density Altitude, True Airspeed, Winds

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Utilities include VCALC, Trip Planning, Fuel Planning, **Density Altitude / True Airspeed / Winds,** RAIM Prediction, Flight Timers, Scheduled Messages and Clean Screen.



Density Altitude, True Airspeed, Winds - This screen shows the theoretical altitude for aircraft performance depending on indicated altitude, barometric pressure and total air temperature. It will also compute true airspeed and density altitude and determine the winds aloft based on true airspeed, aircraft heading and ground speed.

NOTE: If the "Use Sensor Data" is selected the "Indicated Altitude", "Calibrated Air Speed", "Track" and "Ground Speed" values are not selectable but will be automatically inserted by the external sensor.

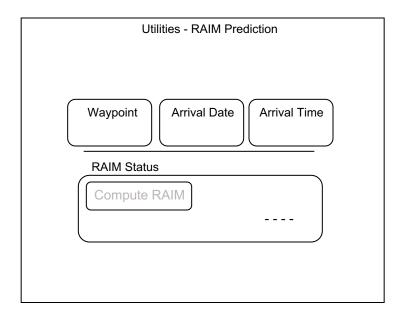
TAP the desired key, TAP the desired numbers from the keypad, TAP "Enter" for each field as desired.

Refer to Garmin's GTN 725/750 Pilot's Guide for additional information.

#### Home Page - Utilities RAIM Prediction

Utilities include VCALC, Trip Planning, Fuel Planning, Density Altitude / True Airspeed / Winds, RAIM Prediction, Flight Timers, Scheduled Messages and Clean Screen.





RAIM Prediction - Predicts if the satellites will have the required geometry and the Fault Detection integrity to ensure GPS flight in a non-WAAS environment. Enter the Waypoint along with the arrival date and time and TAP "Compute RAIM". Should "RAIM Not Available" appear, change the "Arrival Time" to use the utility as a "What if?" solution.

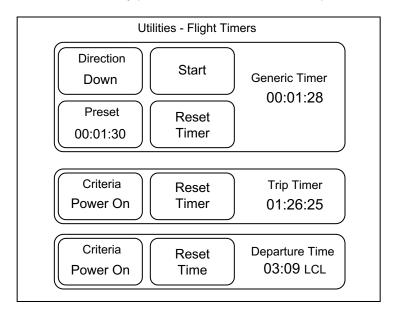
NOTE: Generally when operating in a WAAS environment, it is not necessary to predict RAIM. RAIM availability is near 100% in Oceanic, EnRoute and Terminal phases of flight. Since the TSO requirements for non-precision approaches specify significantly better satellite coverage than other phases of flight, RAIM may not be available when flying some approaches. The GTN unit automatically monitors RAIM during approach operations. If RAIM is not available the unit warns you and it will be necessary to use a non-GPS based approach. RAIM prediction only predicts the availability of Fault Detection integrity in the absence of SBAS corrections. It cannot predict the availability of LPV or L/VNAV approaches. The FAA provides a NOTAM service for LPV approach availability.

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Utilities

Utilities include VCALC, Trip Planning, Fuel Planning, Density Altitude / True Airspeed / Winds, RAIM Prediction, **Flight Timers,** Scheduled Messages and Clean Screen.

Flight Timers - This utility provides a Generic Timer, a Trip Timer, and a Departure Time.



There are 3 timers presented: Generic Timer, Trip Timer, and Departure Time.

#### Generic Timer

- 1. TAP the "Direction" to toggle between "Up" and "Down".
- 2. With "Down" selected, TAP "Preset" to view the keypad.
- 3. Enter the desired preset value and TAP "Enter". The entered value will appear in both the small "Preset" window and the large "Generic Timer" window.
- 4. TAP "Start" (it will change to "Stop") and the timer begins counting down. TAP "Stop" to have it stop counting. TAP "Reset Timer" to change the "Generic Timer" to the "Preset" value.

#### Trip Timer

- 1. TAP "Criteria" to toggle between "Power On" and "In Air" (35 knots). The timer will begin to count up when the criteria is met.
- 2. TAP "Reset Timer" to return the timer to zero.

#### Departure Time

- 1. TAP the "Criteria" to toggle between "Power On" and "In Air" (35 knots). The timer will begin to count up when the criteria is met.
- 2. TAP "Reset Time" to set the Departure Time to current local time.

# Home Page - Utilities Scheduled Messages

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Utilities

Utilities include VCALC, Trip Planning, Fuel Planning, Density Altitude / True Airspeed / Winds, RAIM Prediction, Flight Timers, **Scheduled Messages** and **Clean Screen**.

**Scheduled Messages** - This utility allows the operator to create scheduled messages by Message, Type, and setting a timer.

TAP the "Create Scheduled Message" window to open the 3 selections shown at right:

Type of checklists may be Before Takeoff, After Takeoff, etc. As each checklist is accomplished one can place a checkmark at that item. When the checklist is completed, TAP "Go To Next Checklist" to view the next one.

NOTE: All checklists are cleared after a power cycle.

Message

Type One Time

Timer 00:00:00

#### Clean Screen

#### SCREEN CLEANING MODE

Press the HOME key to exit.

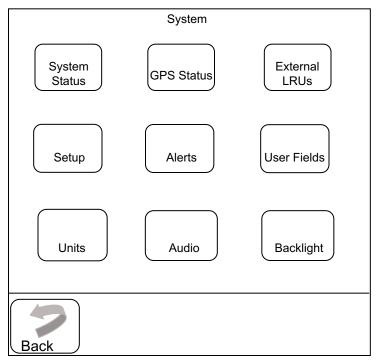
Clean Screen - TAP this Utility to render the touchscreen inactive so it may be manually cleaned without disturbing any information. Use either a microfiber cloth or a soft cotton cloth dampened with clean water. "DO NOT" use any chemical cleaning agents.

To exit the Screen Cleaning Mode, PRESS the "HOME" key on the bezel.

Continued on next page

TAP the "System" key to view the following screen.





System (If more information is desired, refer to the Garmin GTN 725/750 Pilot's Guide.)

#### System Status (Under the "Current" Tab)

- 1. Shows the Serial Number and System ID. It shows Version Number for Main Software, GPS / WAAS Software, COM Software and NAV Software. For Database Info It shows the Region, Cycle and effective dates for the Navigation Database. In the Database Info window it shows the:
- 2. TAP the "Down" arrow to view the Obstacle/HOT Line Database, Cycle and Effective Dates.
- 3. TAP the "Down" arrow again to view the Terrain Database and the SafeTaxi Databases cycle and effective dates.
- 4. TAP the "Down" arrow again to view the FliteCharts information.
- 5. TAP the "View Copyrights" window to view credits for the databases and FliteCharts.

#### System Status (Under the "Standby" Tab)

The same information as above. This is the information held in the SD Card.

#### **GPS Status**

Displays a graphical presentation of the satellites in view and their signal strength. It also displays the position in Latitude and Longitude, Time, GPS Altitude (GSL) Ground Speed and Phase of flight. Additionally Horizontal and Vertical Figures of Merit (HFOM and VFOM), the Estimated Position of Uncertainty (EPU) and the Dilution of Precision (HDOP).

A key labeled "SBAS" also appears on this screen which stands for "Satellite-Based Augmentation System". TAP the key to select an SBAS provider such as: WAAS for Alaska, Canada, the 48 contiguous states and most of Central America; EGNOS provides service for most of Europe and parts of North Africa; MSAS provides SBAS for Japan only and GAGAN is for India.

#### **External LRUs**

Shows information about the GDU (Garmin Display Unit), GTS (Garmin TAS unit), GDL (Garmin antenna) to receive XM weather, GMA (Garmin Audio Panel), and GTX (Garmin Transponder).

(Continued on next page)

Utilities include VCALC, Trip Planning, Fuel Planning, **Density Altitude / True Airspeed / Winds,** RAIM Prediction, Flight Timers, Scheduled Messages and Clean Screen.



System (If more information is desired, refer to the Garmin GTN 725/750 Pilot's Guide.)

#### Setup

CDI Scale - Select the CDI Scale desired. Choices are: 0.30 NM, 1.00 NM, 2.00 NM and Auto. ILS CDI Capture - Toggles between "Auto Switch" and "Manual Selection".

Date /Time - TAP "Time Format" for choices of "Local 12 hour", "Local 24 hour", and "UTC". If "UTC" is chosen, the "Local Offset" choice becomes unavailable.

Local Offset -

Time Format -

Nearest Airport Criteria

Runway Surface - Choices are: Any, Hard Only, Hard / Soft, and Water.

Minimum Runway Length - Select between 0 and 25,000 ft.

COM / NAV - COM Channel Spacing - Toggles between 8.33 kHz and 25.0 kHz.

Reverse Frequency Lookup - Select ON or OFF. The identifier and frequency type will be shown for the nearest stations that are in the database when receiving a valid position input. Identifiers with a "+" sign will have more stations associated with this frequency than just the type displayed.

Crossfill - On or Off (if dual GTN units are installed).

#### **Alerts**

Alerts for the following airspaces may be turned on or off and an altitude buffer may be set anywhere from 0 to 9999 ft. "Arrival" and "Proximity", "Class B / TMA", "Restricted", "Class C / TCA", "MOA (Military)", "Class D", and "Other". A green bar under the label indicates it is active.

#### **User Fields**

The 6 data field selections, for the 6 user fields at the top of the screen, between the COM and NAV Frequencies. These are also covered under MAP Setup. (See our Page 16.)

Page - Map Page Field Type

#### Units

(TAP each unit for the choices available as desired.)

Altitude/Vertical Speed – Feet (FT/FPM), or Meters (M/MPS).

Distance/Speed – Nautical Miles (NM/KT), Kilometers (KM/KPH), or Statute Miles (SM/MPH).

Fuel - Gallons (GAL), Imperial Gallons (IG), Kilograms (KG), Liters (LT) or Pounds (LB).

Magnetic Variation (applies only when "User" is chosen).

NAV Angle - Magnetic (°), True (°T), or User (°U).

Position Format - LAT/LON, MGRS (Military Grid System) or UTM (Universal Transverse Mercator).

Pressure – Inches of Mercury (IN), Hectopascals (HPA), or Millibars (MB).

Temperature - Celsius (°c) or Fahrenheit (°F).

#### **Audio**

Volume selections vary between 0 and 100%.

#### **Backlight**

Deviations from the normal lighting curve is adjustable from -10% to +100%.