

#### FR P D Δ ß $\mathbb{R}$ 5 33 G Δ G N∕V | | | |N|PS G Δ v2.0





#### WARNING

This operating manual has been written following the original GARMIN GNS 530/530A Pilot's Guide and Reference, but it's not intended to be valid for training purposes other than its use with Microsoft <sup>®</sup> Flight Simulator. We consider very interesting to read the original GARMIN GNS 530/530A Pilot's Guide and Reference to know better this wonderful GPS.

FriendlyPanels <u>www.friendlypanels.net</u> fpanels@friendlypanels.net

# **TABLE OF CONTENTS**

- 1. MOUSE CLICKING AREAS
- 2. COMMUNICATING USING THE GNS 530
- 3. MAIN PAGE GROUPS
  - **3.1 NAV PAGE GROUP**
  - **3.2 WPT PAGE GROUP**
  - **3.3 NRST PAGE GROUP**
  - 3.4 AUX PAGE GROUP
  - **3.5 DIRECT-TO NAVIGATION**
  - 3.6 FLIGHT PLANS
  - **3.7 PROCEDURES**
  - **3.8 VERTICAL NAVIGATION PAGE**

# **1. MOUSE CLICKING AREAS**



- 1. The COM Flip-flop Key is used to swap the active and standby COM frequencies.
- 2. ON / OFF KEY.
- 3. The VLOC Flip-flop Key is used to swap the active and standby VLOC frequencies.
- 4. AUDIO NAV SIGNAL KNOB.
- 5. Large left knob: TUNE RADIO NAV OR COM WHOLE FIGURES.
- 6. Press small left knob: TOGGLE TUNNING NAV COM RADIOS.
- 7. Small left knob: TUNE RADIO NAV OR COM FRACTAL FIGURES.
- 8. The GNS 530's CDI Key is used to couple the GPS or VLOC receiver to the external CDI (or HSI). When the external CDI (or HSI) is being driven by the GPS receiver, 'GPS' appears at the bottom left corner of the page, directly above the CDI Key. When the external CDI (or HSI) if being driven by the VLOC receiver, 'VLOC' appears instead. To couple the external CDI (or HSI) to the GPS receiver or VLOC receiver, press the CDI Key to display 'GPS' or 'VLOC', as desired.



- 9. The OBS Key is used to select manual or automatic sequencing of waypoints. Pressing the OBS Key selects OBS mode, which retains the current 'active to' waypoint as the navigation reference even after passing the waypoint (i.e., prevents sequencing to the next waypoint). Pressing the OBS Key again returns the unit to normal operation, with automatic sequencing of waypoints.
- 10. The MSG Key is used to view system messages.
- 11. The FPL Key allows the pilot to see flight plans. Flight plans must be created by FS9 or add-ons methods. This version doesn't allow you to create flight plans.
- 12. Not implementd.
- 13. The PROC Key allows the pilot to select approaches from the flight plan. When using a flight plan, available procedures for the arrival airport are offered automatically.
- 14. Small right knob: These areas are used to select between the various pages within one of the groups available. When entering data, the small knob is used to select the desired letter or number and the large knob is used to move to the next character space. The small right knob is also used to move up or down when the map panning function is active.
- 15. Press small right knob: Actives cursor or map panning if GPS is in map mode.
- 16. Large right knob: These areas are used to select between the various page groups: NAV, WPT, NRST or AUX. With the on-screen cursor enabled, the large right knob allows the pilot to move the cursor about the page. The large right knob is also used to right or left when the map panning function is active.
- 17. The ENT Key is used to approve an operation or complete data entry.
- 18. The CLR Key is used to erase information or to cancel an entry. Press and hold the CLR key to immediately display the Default NAV Page.
- 19. The MENU Key displays a context-sensitive list of options. This options list allows the pilot to access additional features or make settings changes which relate to the currently displayed page.

- 20. The Direct-to Key provides access to the direct-to function, which allows the pilot to select a destination waypoint and establishes a direct course to the selected destination.
- 21. The RNG Key allows the pilot to select the desired map range.

# 2. COMMUNICATING USING THE GNS 530

A frequency may be quickly selected from the database by simply highlighting the desired frequency on any of the main pages and pressing the ENT Key. This process is referred to as auto-tuning. Once a frequency is selected in the standby field, it may be transferred to the active frequency by pressing the COM Flip-flop Key. For example:

#### To auto-tuning a COM frequency for an airport:

- 1) Turn the large **right** knob to select the WPT Page Group.
- 2) Turn the small right knob to display the Frequency Airport Page

COM 122 950	APT LEZL	e Public	
128.500	Approach		120.00
vLoc 113.70 110.60	Approach Approach Ground Tower		120.80 128.50 121.70 118.10
VOR SVL	ILS 27		110.10
ENR			
VLOC		OFF WPT	000000

3) Press the small **right** knob momentarily to active the cursor.

4) To select a frequency, turn the large **right** knob to highlight the desired frequency and press the **ENT** Key to place the frequency in the standby field of the COM Window.

#### To select a COM frequency:

1) If the tuning cursor is not currently in the COM Window, press the small left knob.



2) Turn the large **left** knob knob (click area 3) to select the desired megahertz (MHz) value. For example, the '128' portion of the frequency '128.500'.

3) Turn the small **left** knob knob (click area 5) to select the desired kilohertz (kHz) value. For example, the '.500' portion of the frequency '128.500'.

NOTE: The active frequency in either window cannot be accessed directly, only the standby frequency is highlighted by the tuning cursor.

4) To make the standby frequency the active frequency, press the **COM Flip-flop** Key (click area 20)

# 3. MAIN PAGE GROUPS

The GNS 530's main pages are divided into four separate page groups: NAV, WPT, NRST and AUX. Each page group is comprised of multiple pages. The page groups are selected using the large right knob. The individual pages are selected using the small right knob.

#### To select the desired page group (from anypage):

Press and hold the **CLR** Key to select the Default NAV Page. Turn the large **right** knob to select the desired page group.

#### To select the desired page within the group:

Turn the small **right** knob to select the desired page.

# 3.1 NAV PAGE GROUP



The NAV Page Group includes four pages. Three of them are implemented in this GNS530 version. While viewing any NAV page, turn the small right knob to select a different NAV page.

#### **DEFAULT NAV PAGE**



The Default NAV Page displays a graphic course deviation indicator (CDI) across the bottom of the page.

Directly above the CDI appears the active leg of the flight plan, or the direct-to destination when using the Direct-to Key. This automatically sequences to the next leg of the flight plan as each interim waypoint is reached. If no flight plan or direct-to destination has been selected, the destination field remains blank.

At the corners of the Default NAV Page there are four user-definable fields which display the data needed as the flight progresses. By default these fields display: desired track (DTK), distance to destination (DIS), ground speed (GS), and estimated time enroute (ETE). However, each of these fields can be customized to display a different data item. Available data items include:

- Bearing to destination (BRG)
- Course to steer (CTS)
- Cross track error (XTK)
- Desired track (DTK)
- Distance to destination (DIS)
- Estimated time of arrival (ETA)
- Estimate time enroute (ETE)
- Ground speed (GS)
- Ground track (TRK)
- Track angle error (TKE)
- Vertical speed required (VSR)
- Next WPT (WPT)

If no flight plan or direct-to destination has been selected, only speed, track and altitude, may be displayed. All other data types appear as blank lines on the Default NAV Page until a destination is selected.

To select a different data item for any data field:



- 1. Starting with the Default NAV Page, press the **MENU** Key to display the Default NAV Page Menu.
- 2. The 'Change Fields?' option is already highlighted, so press the **ENT** Key to select this option.
- 3. Use the large **right** knob to highlight the data field to be changed.
- 4. Turn the small **right** knob to select one of available data items to replace the one you want to change.
- 5. Press enter

#### **Restoring Factory Settings**

All data fields settings can be quickly returned to original factory settings.

#### To restore all six data fields to factory default settings:



- 1. From the Default NAV Page, press the **MENU** Key to display the Default NAV Page Menu.
- 2. Turn the large **right** knob to highlight the 'Restore Defaults?' option.
- 3. press the ENT Key.

#### MAP PAGE

The second NAV page is the Map Page, which displays the present position using an airplane symbol in the center of the page, along with nearby airports, NAVAIDS and airspace boundaries.



At the right of the MAP Page there are user-definable fields which display the data needed as the flight progresses. By default these fields display: Next Waypoint (WPT), desired track (DTK), ground track (TRK), distance to destination (DIS) and ground speed (GS). However, each of these fields can be customized to display a different data item. Available data items include:

- Bearing to destination (BRG)
- Course to steer (CTS)
- Cross track error (XTK)
- Desired track (DTK)
- Distance to destination (DIS)
- Estimated time of arrival (ETA)
- Estimate time enroute (ETE)
- Ground speed (GS)
- Ground track (TRK)
- Track angle error (TKE)
- Vertical speed required (VSR)
- Next WPT (WPT)

#### To select a map range:

- 1. Press the up arrow of the RNG Key to zoom out to a larger map area.
- 2. Press the down arrow of the **RNG** Key to zoom in to a smaller map area and more detail.

#### To display the Map Page Menu:



Press the **MENU** Key with the Map Page displayed.

The following options are available: 'Setup Map?', 'Data Fields Off?', 'Change Fields?', and 'Restore Defaults?'.

'Setup Map?' allows configuration of the Map Display to individual preferences, including map orientation, navaids and airspace boundaries.

#### To change map orientation:



- 1. From the Map Page Menu, turn the large **right** knob to highlight 'Setup Map?' and press the **ENT** Key.
- 2. Turn the large **right** knob to select 'Map' and press the **ENT** Key.
- 3. Using large right knob select orientation desired end press ENT.

#### Map Panning



Another Map Page function is panning, which allows the map to move beyond its current limits without adjusting the map. When the panning function is selected (by

pressing the small right knob), large and small right knob is used to move the map left or right and up or down. MAP PANNING is displayed in the top of the map screen while this mode is active. Pressing CLR while MAP PANNING is displayed in the top reset the pan to the center position.

#### To change NAVAIDS displayed:



- 1. From the Map Page Menu, turn the large **right** knob to highlight 'Setup Map?' and press the **ENT** Key.
- 2. Turn the large **right** knob to select 'NAVAID' and press the **ENT** Key.
- 3. Using large **right** knob select desired NAVAID to turn on or off, select off or on with small **right** knob and press **ENT**.
- 4. Changes made here are reflected in Default NAV PAGE too.

#### Selecting Full Screen Map



The 'Data Fields Off?' option provides a full-screen Map Display, without the five data fields along the right-hand side of the screen. Select this option to display a larger map area. If this option has been selected and the data fields are off, 'Data Fields On?' appears as an option instead in the page menu.

#### Selecting Desired On-Screen Data



'Change Fields?' allows selection of the data displayed on the four user-selectable data fields along the righthand side of the Map Page. There are twelve available data types, as described in DEFAULT NAV PAGE above. Refer to that section to see how to change the fields.

#### **Restoring Factory Settings**



'Restore Defaults?' resets all four user-selectable data fields to their original factory default settings. Use large **right** knob to select 'Restore Defaults?' and press **ENT**.

#### NAV/COM PAGE

сом 122.950	DEPARTURE Z41	C Public	
118.000 VLOC 110.10	Approach ATIS Departure Tower	119.10 125.60 119.10 126.80	
110.30 V <b>OR</b> RAD*			
DIS 🔒 APR			
VLOC		NAV 0000	

The third NAV page is the NAV/COM Page. The NAV/COM Page provides a list of the departure airport communication and navigation frequencies.

### SATELLITE STATUS PAGE

COM 122.950 118.000 VLOC 110.10		STATUS 3D Navig EPE Dop	ation 491 2.0
110.30 VOR RAD* DIS8	96 10 13 17 22 POSITION	23 24 26 30	nLT
APR:	N 61*11.94' W149*57.63'	08:33:18	25742
VLOC		NAV	0000

This is a dummy page. Only position, time and altitude fields are working fields.

# 3.2 WPT PAGE GROUP

This second page group provides information for thousands of airports, VORs, NDBs, intersections, runways, frequencies, and procedures.



#### To quickly select a WPT page:

- 1. From any page, press and hold the **CLR** Key to select the Default NAV Page.
- 2. Turn the large **right** knob to select the WPT Page Group. 'WPT' appears in the lower right corner of the screen.
- 3. Turn the small **right** knob to select the desired WPT page. The WPT Page Group includes seven pages. While viewing any WPT page, turn the small right knob to select a different WPT page. The first four pages provide detailed information for the selected airport: location, runways, frequencies and approaches. The last three pages provide information for intersections, NDBs and VORs. After a WPT page is selected, information for a waypoint may be viewed by entering the identifier (or name) of the desired waypoint. Airports, NDBs, and VORs may be selected by identifier or facility name.

#### To enter a waypoint identifier:

- 1. Select the desired WPT page and press the small **right** knob to activate the cursor.
- 2. Turn the small **right** knob to select the first character of the waypoint's identifier. Once the first character is flashing **you can use the PC keyboard** to enter an identifier.
- 3. Turn the large **right** knob to select the next character field.
- 4. Turn the small **right** knob to select the desired character.
- 5. Repeat steps 3 and 4 until the identifier is selected, then press the ENT Key.
- 6. To remove the flashing cursor, press the small right knob.

#### **AIRPORT LOCATION PAGE**



- 1. Position (Latitude/Longitude)
- 2. Facility Name and Location (City)
- 3. Radar Coverage
- 4. Airport Identifier, Symbol, and Type
- 5. Field Elevation and Available Fuels
- 6. Airspace Type
- 7. Best Available Approach
- 8. Current Page Group
- 9. Position of Current Page within Current
- 10. Number of Pages in Current Page Group

#### AIRPORT RUNWAY PAGE



#### AIRPORT FREQUENCY PAGE



The Airport Frequency Page displays radio frequencies and frequency types for the selected airport.

#### To scroll through the frequency list and tune to a desired frequency on the list:

- 1. Press the small **right** knob to activate the cursor.
- 2. Turn the large **right** knob to scroll through the list, placing the cursor on the desired frequency. If there are more frequencies in the list that can be displayed on the screen, a scroll bar along the right-hand side of the screen indicates the cursor's position within the list.
- 3. Press the **ENT** Key to place the selected frequency in the standby field of the COM or VLOC Window.
- 4. To remove the flashing cursor, press the small **right** knob.

#### **AIRPORT APPROACH PAGE**



The Airport Approach Page shows the available approach procedures for the selected airport. A map image provides a layout diagram for each approach and transition.

#### **INTERSECTION PAGE**

The Intersection Page displays the latitude, longitude and region for the selected intersection. The Intersection Page also displays the identifier, radial, and distance from the nearest VOR, VORTAC, or VOR/DME.



#### NDB PAGE

The NDB Page displays the facility name, city, region, latitude, and longitude for the selected NDB. The NDB Page also displays the frequency and a weather broadcast indication (if applicable).



#### VOR PAGE

The VOR Page displays the facility name, city, region, magnetic variation, latitude, and longitude for the selected VOR. The VOR Page also displays the frequency and a weather broadcast indication (if applicable).



#### To select a VOR frequency from the VOR Page:

- 1. Select the VOR Page from the WPT Page Group.
- 2. Press the small right knob momentarily to place the cursor on the VOR identifier field. To select another VOR, use the small and large right knobs and press the ENT Key when finished.
- 3. Turn the large right knob to highlight the frequency field and press the ENT Key to place the frequency in the standby field of the VLOC Window.
- 4. To activate the standby VLOC frequency, press the VLOC Flip-flop Key.

# 3.3 NRST PAGE GROUP

This fourth page group (NRST) provides detailed information for the nine nearest airports, VORs, NDBs and intersections within 200 nm of the current position as well as airspace.



#### To quickly select a NRST page:

- 1. From any page, press and hold the CLR Key to select the Default NAV Page. This step may be skipped if any of the main pages are already displayed.
- 2. Turn the large right knob to select the NRST Page Group. 'NRST' appears in the lower right corner of the screen.
- 3. Turn the small right knob to select the desired NRST page.

#### To scroll through the lists:

- 1. Select the desired NRST page, using the steps outlined on the preceding page.
- 2. Press the small right knob to activate the cursor.
- 3. Turn the large right knob to scroll through the list. The scroll bar along the righthand side of the page indicates which part of the list is currently being viewed.
- 4. Press the small right knob to remove the flashing cursor.

#### Navigating to a Nearby Waypoint

The NRST pages can be used in conjunction with the GNS 530's direct-to function to quickly set a course to a nearby facility. This feature can be a real time saver compared to retrieving information from the database using the WPT pages. More importantly, it instantly provides navigation to the nearest airport in case of an in-flight emergency.

# To select a nearby airport, VOR, NDB, intersection, or user waypoint as a direct-to destination:

- 1. Use the flashing cursor to scroll through a NRST page list and highlight the desired nearest waypoint, as outlined in **To scroll through the lists** above
- 2. Press the Direct-to Key to display the select Direct-to Waypoint Page.
- 3. Press the ENT Key to accept the selected waypoint's identifier and press the ENT Key a second time with 'Activate?' highlighted to begin navigating to the selected waypoint.

#### NEAREST AIRPORT PAGE



The Nearest Airport Page displays the identifier, symbol, bearing, and distance to the nine nearest airports (within 200 nm of the present position). For each airport listed, the Nearest Airport Page also indicates the best available approach, common traffic advisory frequency (CTAF), and the length of the longest runway.

#### To view additional information for a nearby airport:

- 1. Select the Nearest Airport Page.
- 2. Press the small right knob to activate the cursor.
- 3. Turn the large right knob to scroll through the list, highlighting the identifier of the desired airport.
- 4. Press the ENT Key to display the Airport Location Page for the selected airport.

сом 122.950 118.000	APT Z41 FACILITY, CITY Lake Hood Strip Anchorage, Alas	C Public & REGION	
110.10 110.30	BODITION		EUE)
VOR RAD	N 61°11.22' W 149°57.92'	152	Avgas
DIS A APR	APPROACH	RADAR	AIRSPACE
VLOC		WPT	000000

#### NEAREST INTERSECTION PAGE

COM	3	NEAR	EST INTER	SECTION
122.950	INT		BRG	DIS
118.000	ZUXAN	٠	184%	2.2%
VLOC	FF05	٠	317%	2.46
110.10	RICKR		3175	2.46
110.30	WORON		284%	2.5%
110.50	BODLE		0914	4.3 <sub>fh</sub>
VOR	KANSY		302%	4.7m
RAD *	EDF06		3325	4.96
DIS	ONEQO		086	4.9th
APR	KENZE		286%	5.3A
VLOC			N	RST DIDOD

The Nearest Intersection Page displays the identifier, symbol, bearing, and distance to the nine nearest intersections (within 200 nm of the present position). To view additional information for a nearby intersection, start from the Nearest Intersection Page and follow the preceding steps 2 through 4.

#### **NEAREST NDB PAGE**

COM			NEARE	EST NDB	
122.950	NDB		BRG	DIS	FREQ
118.000	CMQ		212%	3.06	338.0
VLOC	BOB		229%	Ø.56	387.0
110 10	OLT		1885	51.1m	348.0
110.20	IWW		2018	51.34	379.0
110.50	PEE		3322	68.0p	305.0
OR	ACE		1825	104.0m	277:0
RAD *	MNL		066%	104.56	524.0
	HBK		087%	123.16	362.0
APR	UMM	(8)	345 <sup>*</sup>	129.8 <sub>%</sub>	326.0
VLOC				NRST	00000

The nearest NDB Page displays the identifier, symbol, bearing, distance, and frequency to the nine nearest NDBs (within 200 nm of the present position). To view additional information for a nearby NDB, start from the nearest NDB Page and follow the preceding steps 2 through 4.

#### **NEAREST VOR PAGE**



The nearest VOR Page displays the identifier, symbol, bearing, and distance to the nine nearest VORs (within 200 nm of the present position). For each VOR listed, the nearest VOR Page also indicates the frequency. To view additional information for a nearby VOR, start from the nearest VOR Page and follow the preceding steps 2 through 4.

#### NEAREST AIRSPACE PAGE

сом 122 950	NEAREST AIRSPACE
118.000	ANCHORAGE
VLOC 110.10	ANCHORAGE
110.30 VOR	ANCHORAGE
RAD • DIS 🔒	ANCHORAGE
APR	
VLOC	NRST 0000

The last page in the NRST group, the Nearest Airspace Page alerts the pilot to as many as nine controlled or special use airspaces near or in the flight path.

- To view an airspace alert message:1. When the message annunciator above the MSG Key flashes, press the MSG Key.
  - 2. Press the MSG Key again to return to the previous page.

# 3.4 AUX PAGE GROUP

COM	FLIGHT PLANNING	COM	F	UEL PLANNI	NG
122.950		122.950	FPL LEG		
118.000	Fuel Planning	118.000	00 Cum	Direct to PA	NED .
VLOC	Trip Planning	VLOC	3308	72	139į <sup>k</sup>
110.10	Density Alt / TAS / Winds	110.10	FOB	FLOW	GS
110.30	Cross III	110.30	REQ	LFOB	LRES
VOR.	scheduer	VOR	02	3306	46:48
MAU		RAD	19.7	6506m	46:48
DIS 🖁		DIS 8	EFF	RNG	ENDUR
APR		APR			
VI.00	AUX II	VLOC		AU	X D
VL00		VEGG			
COM	ELIGHT PLANNING	COM	DENSI	TY ALT / TAS	3 / WINDS
122.950	Teloff Teloffinito	122.950	IND ALT	CAS	BARO
118.000	Fuel Planning	118.000	25218	1215	29.92
VLOC	Trip Planning	VLOC	-29°C	219*	
110.10	Density Alt / TAS / Winds	110,10	TAT	HDG	
110.30	Crossfill	110.30	DEN ALT	TAS	124
VOR	Scheduler	VOR	24800(	195K	
RAD		RAD	300° at	35 <b>K</b>	17/6
DIS 🔒		DIS 🔒	WIND	HEA	AD WIND
APR		APR			
VI OC	AUX	11.00		AU	x ∎n
VLOG		VLOG			
COM	UTUTY	COM	F	LIGHT TIME	RS
122.950	UTICITY.	122.950	OF NERIO	DIRECTION	CONTROL
118.000	Checklists	118.000	00:02:58	Un	Reset?
VLOC	Flight Timers	VLOC	00.02.00	op	THE GOLD
110.10	Trip Statistics	110.10	DEPARTURE	CRITERIA	CONTROL
110.50	FCAM Prediction	110.30	08:255	GS>30K	Reset?
PAD -	Control of the contro	PAD	TOTAL TRIP	GRITERIA	CONTROL
		010	00:36:56	GS>30K	Reset?
		ыз <b>В</b>			
APR:		TERM			
VI 00	AUX II	VI.00		AU	X DI
VLOU		VLOG		110	

The AUX pages also provide functions such as fuel planning, density altitude, true airspeed, and winds aloft calculations

### To quickly select an AUX page:

- 1. From any page, press and hold the CLR Key to select the Default NAV Page
- 2. If any of the main pages are already being displayed, this step may be skipped.
- 3. Turn the large right knob to select the AUX Page Group. 'AUX' appears in the lower right corner of the screen.
- 4. Turn the small right knob to select the desired AUX page.

#### FLIGHT PLANNING PAGE

COM 122 950	FLIGHT PLANNING	COM 122.950	FLIGHT PLANNING
118.000   VLoc   110.10   110.30   Vor   RAD   DIS   APR	Fuel Planning Trip Planning Density Alt / TAS / Winds Cross fill Scheduler	118.000 118.000 110.10 110.30 VOR RAD * DIS & APR	Fuel Planning Trip Planning Density Alt / TAS / Winds Cross fill Schedular
VLOC	AUX II	VLOC	AUX II

The Flight Planning Page provides access (via 'menu options') to functions for fuel planning and density altitude/true airspeed/winds aloft calculations. When a menu option is selected, the corresponding page appears providing additional information. NOTE: Only options in bright letters are available in this version.

#### To select a menu option from the Flight Planning Page:

- 1. Press the small right knob momentarily, to activate the flashing cursor.
- 2. Turn the large right knob to select the desired menu option, and press the ENT Key.

The following menu options are available:

• **Fuel Planning** - This option displays current fuel conditions along the active direct-to or flight plan.

сом 122.950	FUEL PLANNING			
118.000	00 Cum	Direct to PA	ED	
VLOC	330දි	72	139/	
110.10	FOB	FLOW	GS	
110.30		LFOB	LRES	
or	0දි	3302	46:48	
Ad •	19.7	6506m	46:48	
APR	EFF	RNG	ENDUR	
VLOC		AU)	K 🔲 🛛	

Press CLR key to return to FLIGHT PLANNING menu page from this page.

The following information is provided:

- FOB (fuel on board) The total amount of usable fuel on board the aircraft.
- FLOW (fuel flow) The fuel flow rate, expressed in gallons per hour.
- GS Ground speed.
- REQ Quantity of fuel required.
- LFOB (left-over fuel onboard) The amount of fuel remaining on board after the completion of a one or more legs of a flight plan (or a directto).
- LRES (left-over fuel reserve) The amount of fuel remaining on board after the completion of a one or more legs of a flight plan (or a direct-to), expressed in time and based upon a known fuel consumption (flow) rate.
- EFF Efficiency, expressed in distance per fuel units nautical miles per gallon.
- RNG Range (distance).
- ENDUR (endurance) Flight endurance, or total available flight time based upon available fuel.

• **Density Alt/TAS/Winds** - This menu option computes true airspeed (TAS), based upon the factors above and the calibrated airspeed (CAS). Also, this menu option determines winds aloft (the wind direction and speed) and a head wind/tail wind component, based upon the calculated density altitude (DEN ALT), true airspeed, aircraft heading (HDG), and ground speed.

COM	DENSITY /	ALT / TA	S / WINDS
122.950	IND ALT	CAS	BARO
118.000	25218	1215	29,925
VLOC	-29°C	219°	
110,10	TAT	HDG	
110.30	DEN ALT	TAS	
VOR	24800(	195K	
RAD *	300° at 35K		178
APR	WIND	HE	AD WIND
14.00		AL	X III

Press CLR key to return to FLIGHT PLANNING menu page from this page.

The following information is provided:

- IND ALT Indicated altitude
- CAS Calibrated airspeed
- BARO Barometric pressure
- DEN ALT Density altitude
- TAS True airspeed
- WIND Wind direction and speed
- HEAD/TAIL WIND Magnitude of head wind or tail wind component

#### UTILITY PAGE

COM 122 950	UTILITY
118.000	dhecklists
VLOC 110.10 110.30	Flight Timers Trip Statistics RAM Prediction
VOR	Sunrae/Sunset
RAD *	
DIS 🔒	
APR.	
VLOC	AUX 💵

The Utility Page provides access (via 'menu options') to Flight Timers which leads to Flight Timers Page.

NOTE: Only option in bright letters (Flight Timers) is available in this version.

#### To select an option from the Utility Page:

- 3. Press the small right knob momentarily, to activate the cursor.
- 4. Turn the large right knob to select the desired menu option, and press the ENT Key.

COM	FLIGHT TIMERS			
122,950	GENERIC	DIRECTION	CONTROL	
VL 0C	00:02:58	Up	Reset?	
110.10	DEPARTURE	CRITERIA	CONTROL	
110.30	08:255	GS>30Kt	Reset?	
VOR	TOTAL TRIP	CRITERIA	CONTROL	
RAD	00:36:56	GS>30Kt	Reset?	
TEPM				
I LEISIVI				
VLOC		AUX	0	

Press CLR key to return to UTILITY menu page from this page

#### To view, use, or reset a flight timers field:

- 1. Select 'Flight Timers' from the Utility Page
- 2. Press the small right knob momentarily, to activate the cursor
- 3. The cursor highlights 'Start?'. To start the generic timer, press the ENT Key.
- 4. To reset a field, turn the large right knob to highlight that field. Press the the ENT Key.

**NOTE:** DEPARTURE TIME and TOTAL TRIP TIME begin to count when Ground Speed is greater than 30 Knots.

# **3.5 DIRECT-TO NAVIGATION**

The GNS 530's direct-to function provides a quick method of setting a course to a destination waypoint. Once a direct-to is activated, the GNS 530 establishes a point-to-point course line (great circle) from the present position to the selected direct-to destination. Navigation data on the various NAV pages provides steering guidance until the direct-to is cancelled or replaced by a new destination.

#### To select a direct-to destination:

1. Press the Direct-to Key. The Select Direct-to Waypoint Page appears with the waypoint identifier field highlighted.



2. Use the small and large right knobs to enter the identifier of the desired destination waypoint.



3. Press the ENT Key to confirm the selected waypoint, and press the ENT Key again to activate the direct-to function.

#### Shortcuts

Shortcuts are available when using the Direct-to Key, allowing the pilot to bypass the use of the small and large right knobs to enter the destination waypoint's identifier. A direct-to can be performed from any page displaying a single waypoint identifier (such as the WPT pages for airports and NAVAIDS by simply pressing the Direct-to Key and the ENT Key. For pages that display a list of waypoints (e.g., the Nearest Airport Page), the desired waypoint must be highlighted with the cursor before pressing the Direct-to Key.

# 3.6 FLIGHT PLANS

In this FreindlyPanels GNS530 version flight plans must be created by FS9 means or some external add-on.

COM	ACTIVE FLIGHT PLAN			
122.950	00 MGTK to MGGT			
118.000	WAYPOINT	DTK	DIS	CUM
VLOC 110.10 110.30 VOR RAD * DIS & ENR	MGTK RUB RAB MGGT	207# 177# 183#	65 <sub>ж</sub> 59 <sub>њ</sub> 26 <sub>њ</sub>	65# 124# 149#
VLOC			FPL I	

#### Active Flight Plan Options

Access the Active Flight Plan Menu Page:

- 1. Press the FPL Key to view the Active Flight Plan Page.
- 2. Highlight the field desired.
- 3. Press the MENU Key. Activate the flight plan along specific leg desired.
- 4. With 'Activate?' highlighted, press the ENT Key.



## **3.7 PROCEDURES**



The Procedures Page is displayed by pressing the PROC Key. The Procedures Page provides direct access to approaches based upon the active flight plan or direct-to destination. In either case, the departure and destination airports must have published procedures associated with them.

#### To select an approach, departure, or arrival:

- 1. Press the PROC Key to display the Procedures Page.
- 2. Turn the large right knob to highlight 'Select Approach?' and press the ENT Key.



3. A window appears listing the available procedures. Turn the large right knob to highlight the desired procedure and press the ENT Key.



4. A second window appears listing the available transitions. Turn the large right knob to highlight the desired transition waypoint and press the ENT Key. (The approach 'Vectors' option assumes the pilot will receive vectors to the final course segment of the approach and will provide navigation guidance relative to the final approach course.)

COM 122 950	APT MGGT	Public	
118.000	$\Delta = 12$	TRANS	APPROACH VORDME 01
VLOC 110.10 110.30		ARATI LAGOX	TRANS
VOR RAD *		RAB ROSAM D067G	1
DIS A ENR	158.	D100G D138G	Load? o≅ Activate?
VLOC		WP	r 0000000

5. Turn the large right knob to highlight 'Load?' or 'Activate?' and press the ENT Key. ('Load?' adds the procedure to the flight plan without immediately using it for navigation guidance. This allows the pilot to continue navigating the original flight plan, but keeps the procedure available on the Active Flight Plan Page for quick activation when needed.)



#### To activate an approach:

1. Press the PROC Key to display the Procedures Page.

COM	PROCEDURES		
122.950	Activate Vectors-To-Final?		
VLOC 110.10 110.30	Select Approach?		
VOR			
RAD *	LOADED PROCEDURES		
DIS fl APR	APR MGGT - VORDME 01 ARVL DEP		
VIOC	PROC I		

2. Turn the large right knob to highlight 'Activate Approach?' and press the ENT Key.

#### To activate the approach, with vectors to final:

1. Press the PROC Key to display the Procedures Page.



2. Turn the large right knob to highlight 'Activate Vector-To-Final?' and press the ENT Key.

# **3.8 VERTICAL NAVIGATION PAGE**

The Vertical Navigatio Page is displayed by pressing the VNAV Key. The VNAV Page provides direct access to data showed below. Data input is not possible in this version.



--000--



2007 FriendlyPanels