

# *Apollo GX55*

## *Dealer/Customer Training Package*



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VISIONARY THINKING TODAY



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Dealer Name: \_\_\_\_\_

Dealer Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Dealer No.: \_\_\_\_\_

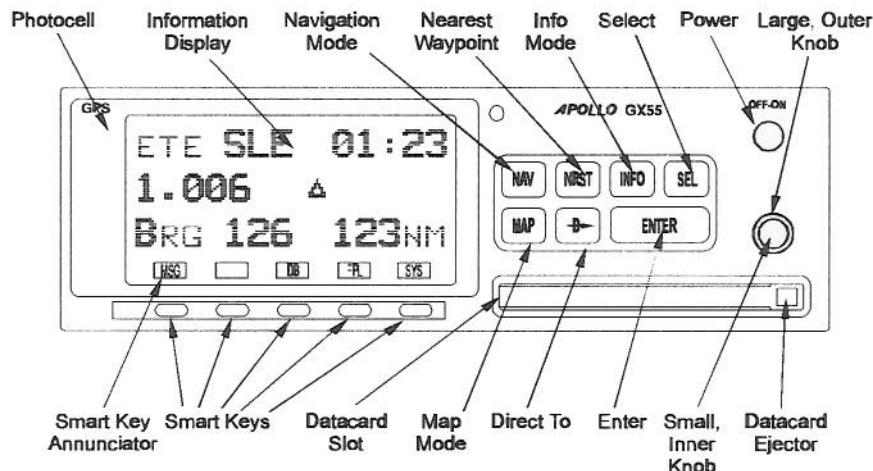
Customer Name: \_\_\_\_\_

Serial Number: \_\_\_\_\_

## Getting Started the First Time

This section explains how to get started using your Apollo GX55. Information in this section explains how to startup the unit, check signals from the GPS satellites, enter a seed position, and go Direct-To a destination waypoint.

**It is necessary to enter a seed position and the current time the first time you turn the unit on.**



Apollo GX55 Front Panel Description

- Power on
- Enter a seed position (your dealer may have already completed this step for you), if necessary
- Check satellite signal strength
- Enter a “Direct-To,” or destination, waypoint
- Begin navigating

**Power On** Turn the Power knob clockwise to switch the unit on. The startup screen, testing, position, and database information shows on the display for several seconds and then will go into the Navigation function.

**Seed Position** Each time the Apollo GX55 is switched on, it must locate satellites in the sky to acquire signals before determining a position fix in a complex process involving lengthy mathematical operations. Without a seed position and the current UTC time and date, this process can take 10 minutes or more to complete. Enter a Seed Position to allow the receiver to quickly locate and track available satellites.



### Note

*The seed position and current time only need to be entered the first time the receiver is switched on. This information is stored in memory and need not be entered again. If you move about three hundred miles*

*without the Apollo GX55 turned on and tracking its position, reenter the seed position.*

**Entering a Seed Position** After the start up tests, you will always have the choice of entering a Seed Position. The Seed Position is a starting reference point so the GPS receiver knows what satellites to look for. If a Seed Position has been previously entered, you do not need to select a new Present Position or a Reference Waypoint. If you do not make any selections, the Apollo GX55 will automatically progress into the Navigation function.



1. The previous Seed Position will display with the choice of **SEL** to change the Seed Position or **ENTER** to accept the previous position. If you don't do anything, the Apollo GX55 will continue normally. You can also press **ENTER** to accept the current position, though this is not required.

Ppos: 2.3nm 130°  
To Nrst Wpt SLE  
Ent-OK SEL-Chnge



2. Press **SEL** to change the Seed Position.

3. The current Reference Position will be displayed and the Chg? prompt will flash.

Ppos: 44° 54.46N  
122° 59.69W  
Ref Wpt: Chg?

Press **ENTER** to change the Reference Waypoint or turn the **Large** knob to change to Lat/Lon Reference Position. Use the appropriate following description: Change Reference Waypoint or Change Lat/Lon Reference Position.

#### Change Reference Waypoint



1. After pressing **ENTER**, the waypoint type will flash. Turn the **Small** knob to select the waypoint type.

AIRPORT PDX  
PORTLAND  
CITY OR USA

2. Turn the **Large** knob to clockwise (cw) one click so the first character of the Reference Waypoint name will flash. Change the character with the **Small** knob. Turn the **Large** knob to move to each character of the waypoint name.



4. When you have entered the waypoint name, press **ENTER**.



### Using the Direct-To Function

Pressing **Direct-To** allows you to quickly make changes to your TO waypoint. When you press **Direct-To**, the default waypoint shown will be the current TO waypoint in the Nav or Flight Plan functions or the waypoint displayed in the Database or Info functions. See page 14 for more details.

1. Press the **Direct-To** key. The waypoint type will flash.



VOR	CVO
SALEM	
CITY	OR USA



2. Turn the **Small** knob to select the waypoint type. You may select: AIRPORT, VOR, NDB, INT, or USER. For instance, with AIRPORT indicated as the type of destination waypoint, only airports show on the display as you select identifier characters.

AIRPORT	SLE
SALEM	
city	OR USA



3. Turn the **Large** knob clockwise (cw) one position to the waypoint identifier. The first character of the waypoint identifier will flash.

AIRPORT	<u>S</u> LE
SALEM	
CITY	OR USA



4. Turn the **Small** knob to change the character.

AIRPORT	H <u>A</u> B
HAMILTON	
city	AL USA



5. Turn the **Large** knob to move to each character of the waypoint identifier. Change the character with the **Small** knob. Continue using the **Large** and **Small** knobs to select your waypoint.

AIRPORT	H <u>I</u> B
HIBBING	
city	MN USA



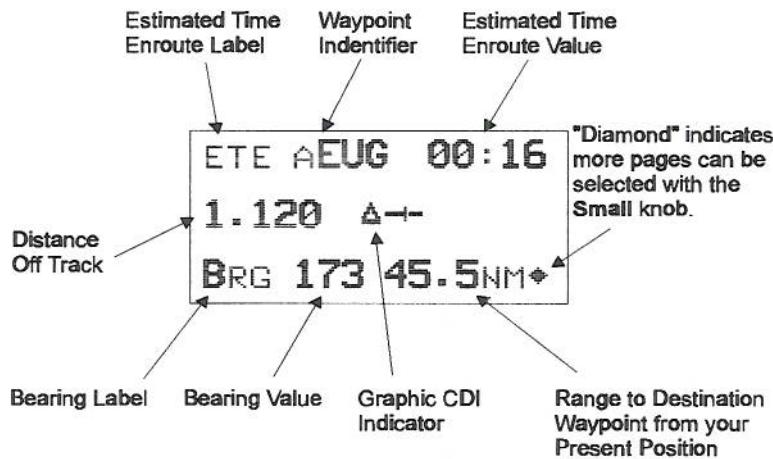
6. After selecting the desired waypoint identifier, press **ENTER**. Your Apollo GX55 will now switch to the Navigation function and show information based on a direct route from your present position to the Direct-To destination waypoint.

ete aH10	00:12
"	0.000
Brg 346	35.2nm

# Navigation Basics

## Estimated Time En Route (Ete)

ETE is to the current TO (destination) waypoint from your present position based on the current ground speed. The units shown are in hours and minutes, 00:00 to 99:59. If the ground speed is less than or equal to 5 knots, the GPS receiver does not have a valid position, or there is no TO waypoint, the ETE value will be shown as dashes. If there is no TO waypoint, the TO identifier location will be replaced by dashes.



## Bearing (Brg)

Bearing is the angle from your present position to the TO waypoint. Bearing is shown from 0 to 359 degrees in one degree increments. Bearing is computed using the magnetic variation at the Present Position. The Bearing value will be dashed if the FROM or TO waypoints are blank or the GPS receiver does not have a valid position.

## Range (Rge)

The distance from your present position to the TO waypoint. Units can be set as either nautical miles or kilometers in the Nav Info section of the System functions (see page 103). Nautical mile units are 0.00 to 9.00 nm in 0.01 nm increments, 10.0 to 99.9 nm in 0.1 nm increments, and 100 to 9999 nm in 1 nm increments. Kilometer units are 0.00 to 99.99 km in 0.01 km increments, 100.0 to 999.9 km in 0.1 km increments, and 1000 to 9999 km in 1 km increments. The Range value will be dashed if the FROM or TO waypoints are blank or the GPS receiver does not have a valid position.

### Desired Track (Dtk)

Desired Track is the course angle between the FROM and TO waypoints referenced to the magnetic variation at the current FROM waypoint. Desired Track is shown from 0 to 359 degrees in one degree increments.

ete aSLE	00:37
0.006	"
Dtk 173	42.4nm

### Leg (FROM-TO) Distance

The distance from current FROM waypoint to the current TO waypoint is shown as a value on the bottom right of the Desired Track (DTK) Nav page, but does not show any label. In this example, the leg (FROM-TO) distance is 42.4 nm. The nautical mile units are 0.00 to 9.99 nm at 0.01 nm resolution, 10.0 to 99.9 nm at 0.1 nm resolution, and 100 to 9999 nm at one nm resolution. Kilometer units are 0.00 to 99.99 km at 0.01 km resolution, 100.0 to 999.9 km at 0.1 km resolution, and 1000 to 9999 km at 1 km resolution.

### Track (Trk) Angle

Track Angle is the angle of your actual direction of travel. Track is shown from 0 to 359 degrees in one degree increments. Track is computed using the magnetic variation at the Present Position. The Track value will be dashed if the FROM or TO waypoints are blank, if the GPS receiver does not have a valid position, or if ground speed is less than 5 knots.

ete aSLE	00:37
0.006	"
Trk 175	Tae 002

### Track Angle Error (Tae)

Track Angle Error is the difference between the Desired Track and Track Angle (Dtk - Trk). Track Angle Error is shown from 0 to 359 degrees in one degree increments. Track Angle Error is computed using the magnetic variation at the Present Position. The Track Angle Error value will be dashed if the FROM or TO waypoints are blank, if the GPS receiver does not have a valid position, or if ground speed is less than 5 knots.

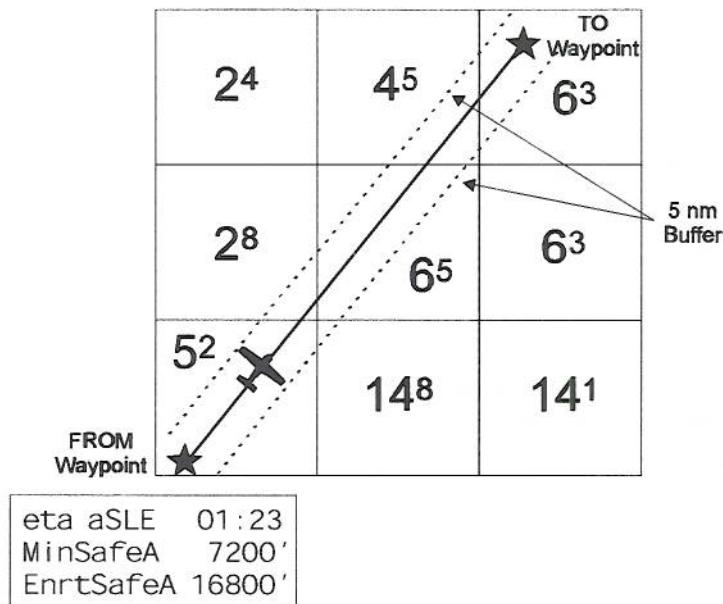
### Ground Speed (GS)

Ground Speed is the measure of your progress over the ground, not airspeed. Ground Speed units are from 0 to 999 knots in 1 knot increments. The Ground Speed value will be replaced with dashes if the speed is less than 5 knots, there is no valid GPS position, or the TO waypoint is blank.

ete aSLE	00:37
0.006	"
Ft01:23	137kts

**Minimum Safe Altitude (MSA)**

MSA is calculated by taking the Maximum Elevation Figure (MEF) from the sectional chart grid that corresponds to your current position. In areas below 3,000 feet, 1,000 feet is added. In areas above 3,000 feet, 2,000 feet is added. In the example below, the current aircraft would be considered to be at 7,000 feet. If you are within 5 nm of another grid with a higher MEF, the higher MEF will be used. The MEF on the sectional chart is derived by taking the altitude of the highest obstruction within the grid, rounded up to the next 100 feet, and adding 300 feet. For example, if the highest obstruction is 4,728 feet, the MEF would show as 5,100 feet.

**Minimum En Route Safe Altitude (MESA)**

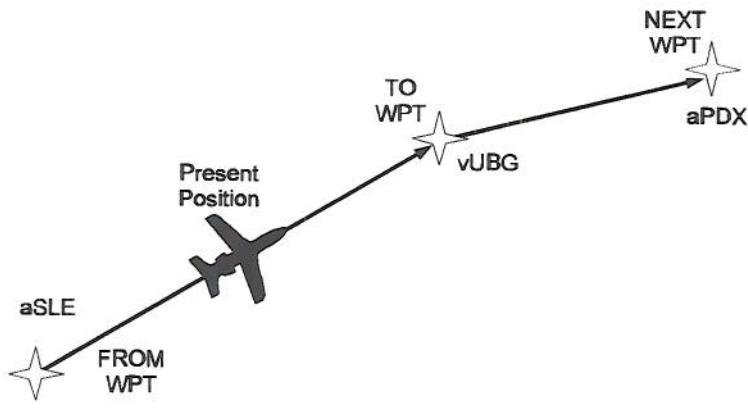
Minimum En Route Safe Altitude is the highest MSA for every point between the aircraft present position and the “TO” waypoint with a 5 nm buffer around the course. The value will be replaced with dashes if there is no valid GPS position, the TO waypoint is blank, or the current position is outside of the database coverage area. In the example shown above, the MESA for the present position of the aircraft would be 16,800 ft. The mountainous terrain would add a 2,000 ft. buffer to the 14,800 ft. Maximum Elevation figure indicated from the sectional chart.

**Flight Time**

Flight Time shows the elapsed time in hours and minutes (00:00 to 99:59) from departure. If the Flight Timer is not started the value will be replaced with dashes. The Flight Timer Trigger options are set in the System Functions.

FT00:07
---------

**From/To-/Next Waypoint** The FROM/TO/NEXT Waypoint allows you to view and/or edit a three waypoint mini-flight plan, or view two legs of your flight plan, while within the Nav function. These waypoints are like a three waypoint window into your Active Flight Plan. Changes to the FROM/TO/NEXT page changes the Active Flight Plan, and vice versa. Select waypoints from the database including the following types: airport, VOR, NDB, Intersection (INT), and User-defined (USER). You can search for waypoints by facility identifier, waypoint type, or by facility name.



From SLE	arpt
To	UBG vor
Next H10	arpt

#### Creating FROM/TO/NEXT Waypoints (ABCD)

##### A - Set the FROM Waypoint



1. While in the Navigation function, turn the Large knob to view the FROM/TO/NEXT page.

From _____
To _____
Next _____



2. Press SEL to start editing. Turn the Large knob to select the FROM (first) waypoint position. Turn the Small knob, if necessary, so the flashing selection shows "Ins?" (Insert). Press ENTER.

From Ins?
To _____
Next _____



3. The Waypoint Type will flash. Choose the Waypoint Type with the Small knob.

AIRPORT	AAF
APALACHICOLA	
city	FL USA



4. Turn the Large knob to the first character of the waypoint name. The first character of the waypoint name will flash. Turn the Small knob to select the desired character.



AIRPORT	EAA
EAGLE	
city	AK USA



5. Turn the Large knob clockwise one click to move to the next character. Turn the Small knob to select the desired character. Continue to select additional characters.



AIRPORT	EUF
EUFALA	
city	AL USA



6. Turn the Large knob clockwise one click to move to the next character. Turn the Small knob to select the desired character. Continue to select the needed characters.



AIRPORT	EUG
EUGENE	
city	OR USA



7. Press ENTER when you have selected the desired waypoint.

From EUG	arpt
To	_____
Next	_____

#### B - Set the TO Waypoint



1. Press SEL and move to the TO waypoint with the Large knob. The insert (Ins?) choice will flash. Press ENTER and then select the TO waypoint as you did for the FROM waypoint.



From EUG	arpt
To	Ins?
Next	_____

2. After selecting a TO waypoint, press ENTER.

From EUG arpt  
To SLE  
Next \_\_\_\_\_



#### C - Set the NEXT Waypoint

1. Press SEL and move to the NEXT waypoint with the Large knob. The insert (Ins?) choice will flash. Press ENTER and then select the NEXT waypoint as you did for the FROM and TO waypoints.

From EUG arpt  
To SLE  
Next Ins?

2. After selecting a NEXT waypoint, press ENTER.

From EUG arpt  
To SLE arpt  
Next H10 arpt



#### D - Editing FROM/TO/NEXT Waypoints



1. While in the Navigation function, turn the Large knob to view the FROM/TO/NEXT page. Press SEL to start editing.

From EUG arpt  
To SLE arpt  
Next Chg? arpt



2. Turn the Large knob to select the FROM, TO, or NEXT waypoint field to edit.

From EUG arpt  
To Chg? arpt  
Next H10 arpt



3. Turn the Small knob to choose the type of editing you want to do. The flashing selection will ask you to choose between Ins (Insert), Chg (Change), or Del (Delete). The TO waypoint can also be placed on Hold. Press ENTER when you have selected the editing option. When a waypoint is deleted, its position will be replaced by dashes. The Chg and Ins choices will allow you to select a new waypoint as used in the previous examples.

**Placing the TO Waypoint on Hold**

From EUG	arpt
<u>Hold?SLE</u>	arpt
Next H10	arpt

1. Press SEL and move to the TO designation with the Large knob. You can also place the To waypoint on hold by pressing the external WPT SEQ button, when it is installed. The HOLD annunciator will light when it is installed.



From EUG	arpt
<u>To? SLE</u>	arpt
Next H10	arpt

2. Turn the Small knob to choose "Hold?" or "To?" Placing the TO waypoint on Hold suspends waypoint sequencing.



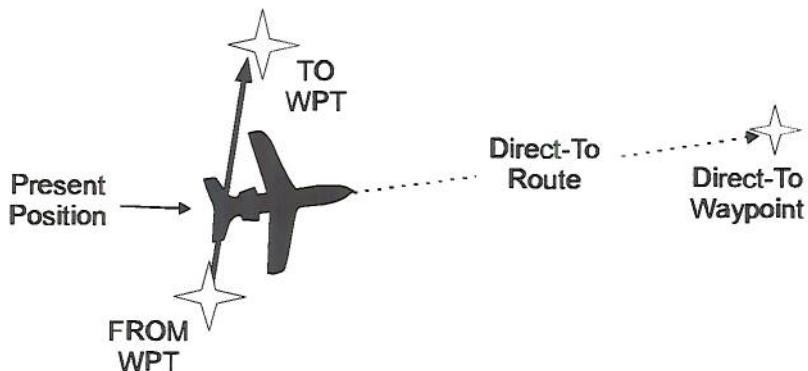
From EUG	arpt
Hold SLE	arpt
Next H10	arpt

3. Press ENTER.

Reverse the operation to return to normal sequencing.

**Using Direct-To**

Pressing the DIRECT-TO key sets the FROM location as your present position. When using the Direct-To function, the FROM waypoint identifier is overwritten with the word "Direct." If you remove the Direct-To position with the Del? option, the old FROM waypoint is returned to that position. If you edit the FROM position, Direct-To navigation will be replaced by the new entered waypoint.



**Direct-To Defaults**

When you press **DIRECT-TO**, the default waypoint shown will be the current TO waypoint in the Nav or Flight Plan functions or the waypoint displayed in the Database or Info functions.

Function	DIRECT-TO Waypoint Default
Nav	Current TO waypoint
Database	Displayed waypoint
Flight Plan	Displayed leg TO waypoint
Info	Displayed waypoint

You can always select a different Direct-To waypoint, but the default is a useful starting point. While viewing the default waypoint, press **DIRECT-TO** and then **ENTER** to navigate Direct-To that waypoint.

**Direct-To Operation**

1. Press the **DIRECT-TO** key. The waypoint type will flash.



AIRPORT H10  
PORTLAND  
city OR USA



2. Select the new destination (TO) waypoint using the **Small** and **Large** knobs.



AIRPORT MMV  
MC MINNVILLE  
city OR USA

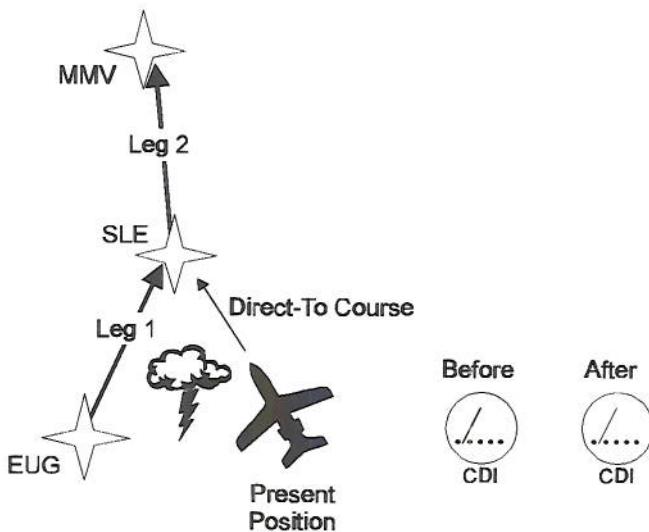


3. Press **ENTER**.

**Direct-To Examples** The following three examples provide some of the more common ways that you can use the powerful Direct-To function.

### Center the CDI

After changing your course to avoid weather, an obstacle, or being directed, you may need to reset your course to center your CDI to continue navigating to your intended TO waypoint.



1. You flew to the right to avoid a storm cloud and your CDI tells you to fly left, but you still have the same TO waypoint. Press **DIRECT-TO**. Your current TO waypoint is displayed and the Waypoint Type will flash.

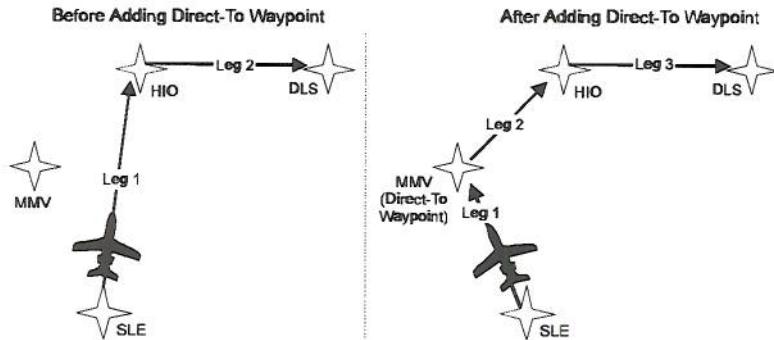
AIRPORT	SLE
SALEM	
city	OR USA



2. Press **ENTER**. You will now fly direct from your present position to your desired TO waypoint. Your CDI will now be centered, as you are “on course.”

### Enter a New Waypoint into a Flight Plan

While on a flight plan, you may want to temporarily go to a new waypoint to look at something or you may be directed by ATC. By using Direct-To, you can add this new waypoint into your existing flight plan. This way your flight plan is essentially unchanged, but you were still able to react quickly to new conditions.



1. While on the first leg of your active flight plan, you find out that you need to make another stop on the way but you don't want to change the rest of your plan. Press **FPL**. While viewing the Active flight plan, turn the **Small** knob to the first leg.



SLE	to HIO
1**	345° 37.8nm
arpt	arpt

2. Press **DIRECT-TO**. Select the desired waypoint using the **Large** and **Small** knobs.



AIRPORT	MMV
MC MINNVILLE	
city	OR USA

3. Press **ENTER**. The Nav function will now be displayed with your new TO waypoint (MMV).



ete aMMV	00:20
0.011	"
Brg 321	15.6nm

**FPL**

4. Check your active flight plan pages. Press FPL. Turn the Small knob, if necessary. Note that your current leg now shows a direct flight to MMV.



direct to MMV
1** 321° 16.5nm
— arpt



5. Turn the Small knob one click cw to check the next leg. Note that your flight plan continues to HIO as your original plan did. You have inserted a new leg using the Direct-To function.

MMV to HIO
2* 003° 22.2nm
arpt arpt

## Waypoint Database

**Create User Waypoint by Lat/Lon** The Apollo GX55 allows you to create up to 500 of your own waypoints to the waypoint database. You can create a waypoint based on a Lat/Lon or using a radial and distance from another waypoint. You can also add the runway length.



1. Press the **DB** soft key. Turn the **Large** knob to view the "Create User Wpt By Lat/Lon" page, and then press **ENTER**.

Create User Wpt  
by Lat/Lon  
Press ENT



2. The first character of the waypoint name will flash. Turn the **Small** knob to select the desired character.

#000 USER  
44°24.29N Rwlen  
122°51.52W 0000'



3. Turn the **Large** knob clockwise one click to move to the next character. Turn the **Small** knob to select the desired character. Continue to select the needed characters for the Waypoint Name, Latitude, Longitude, and Runway Length.

H000 USER  
44°24.29N Rwlen  
122°51.52W 0000'



### Note

*The default Lat/Lon is your present position. This makes it easy to "mark" a location.*



4. Press **ENTER** when you have finished entering the waypoint information.

HOME USER  
44°24.29N Rwlen  
122°51.52W 3000'

**Create User Waypoint by Radial/- Distance** A User waypoint may also be created where its position is referenced by a Radial and Distance from another waypoint.



1. Press the **DB** soft key. Turn the **Large** knob to view the "Create User Wpt By Rad/Dis" page, and then press **ENTER**.

Create User Wpt  
by Radial/Dist  
Press ENT

2. The first character of the radial will flash.

Ref Wpt: AAF  
000.0° 000.0nm



ENTER

Ref Wpt: Chg?  
000.0° 000.0nm



ENTER

Ref Wpt: SLE  
000.0° 000.0nm



Ref Wpt: SLE  
040.0° 012.0nm



ENTER

#000 USER  
44°10.96N Rwl en  
121°43.35W 0000'



ENTER

CABIN USER  
44°10.96N Rwl en  
121°43.35W 0000'

## Flight Plan Functions

Flight plans are specific routes between waypoints you may store in the Apollo GX55's memory. This information is used to calculate useful flight statistics. The Flight Plan function allows you to have up to 30 stored flight plans. Each flight plan may have up to 20 legs. The Active flight plan is always used for the current flight. Inactive flight plans may be activated in the Flight Plan function to be copied to the Active flight plan.

Flight Plan Leg pages show the leg number and *FROM* and *TO* waypoint identifiers on the display, along with the bearing and distance between the *FROM* and *TO* waypoints. One asterisk (\*) next to the leg number means that the displayed leg is in the Active flight plan. Two asterisks (\*\*) mean that the displayed leg is the active leg and shows the current *FROM* and *TO* waypoints which are being used for navigation.

**Flight Plan Pages** The first page of each flight plan is the Name Page. The Name Page displays the flight plan name, total distance, and the destination waypoint. Distance is displayed as 0.0 to 99.9 nm at 0.1 nm resolution and 100 to 99999 nm at 1 nm resolution. A diamond  $\diamond$  at the right side of the display indicates that more pages can be viewed by turning the Small knob.

### Reaching the Flight Plan Function



1. Press FPL to reach the Flight Plan function. You may need to press NAV first if you were viewing the moving map. Turn the Large knob to view the Flight Plan pages.



\*Active\* 259nm  
Dest Wpt: PDT  
Active



2. Turn the Small knob to view the individual legs of a flight plan.

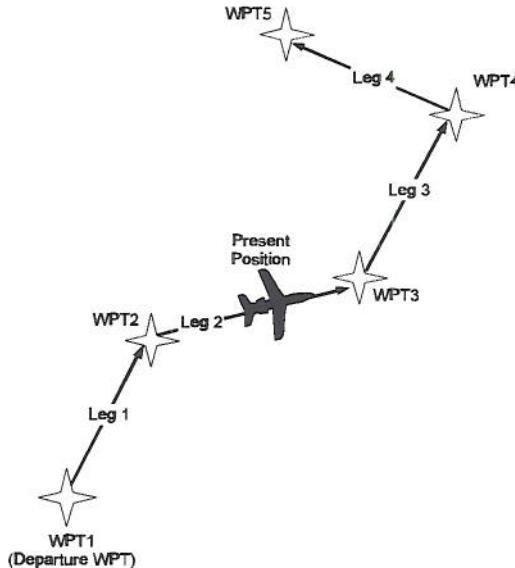
EUG to SLE  
1\*\* 353° 48.0nm  
arpt arpt

### Active Flight Plan

The first plan in the Flight Plan function is the Active plan and is noted by the name \*Active\* with asterisks. This name cannot be changed in the Active page.

\*Active\* 259nm  
Dest Wpt: PDT  
Active

**Creating a Flight Plan** The basic steps for creating a flight plan include: entering the plan name and inserting waypoints. You may then view flight plan information, activate the plan, and use the other options.



1. Press the **FPL** key. Turn the Large knob to view the “Create a New Flightplan” page.



Press SEL to Create a New Flight Plan



2. Press **SEL**.

Enter a New Plan Name



3. Turn the **Small** knob to select the first flight plan name character.

R  
Enter a New Plan Name



4. Turn the **Large** knob clockwise one click to move to the next character position. Turn the **Small** knob to select the next name character. You can have up to eight characters in the flight plan name.

ROUTE 2  
Enter a New Plan Name

**ENTER****SEL**

5. Press **ENTER** when the name is complete. A message will display telling you to turn the Small knob to insert waypoints or to press **SEL** for options. Options can be selected later.

Turn Small Knob  
to Ins Wpts or  
SEL for Options



6. After turning the Small knob, the first waypoint position is ready for a FROM waypoint to insert.

\_\_\_\_\_ to \_\_\_\_\_  
1 Press SEL  
to Edit Leg

**SEL****ENTER**

7. Press **SEL** to insert a FROM waypoint. The **Ins?** prompt will flash. Press **ENTER** to insert a FROM waypoint.

Ins? to \_\_\_\_\_  
1 \_\_\_\_\_ ° \_\_\_\_\_ nm  
\_\_\_\_\_ \_\_\_\_\_



8. Turn the Small knob to select the waypoint type. Turn the Large knob to the waypoint identifier. Turn the Small knob to select the first character of the waypoint identifier.



AIRPORT EAA  
EAGLE  
city AK USA



9. Turn the Large knob clockwise one click to move to the next character position. Turn the Small knob to select the next name character.

AIRPORT EUG  
EUGENE  
city OR USA

**ENTER****ENTER**

10. After selecting the waypoint name, press **ENTER**. The **Ins?** prompt will flash in the TO waypoint position. Press **ENTER** again to start the waypoint retriever. Repeat steps 7-10 for the remaining waypoints in your flight plan.

EUG to Ins?  
1 \_\_\_\_\_ ° \_\_\_\_\_ nm  
\_\_\_\_\_ \_\_\_\_\_

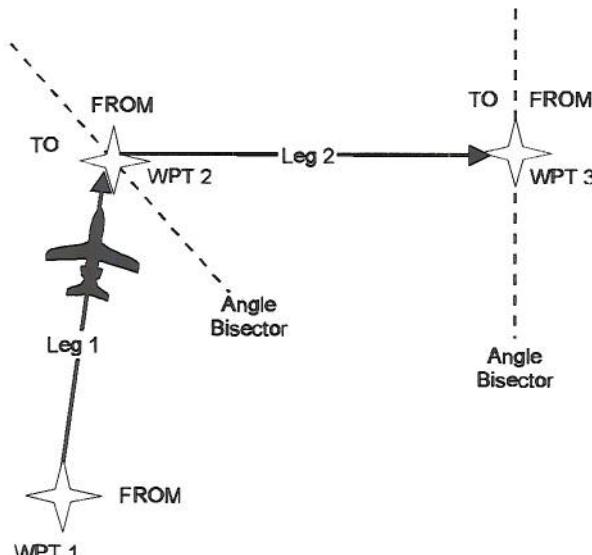
**SEL**

11. Press **SEL** when your flight plan is complete. Turn the Small knob to view the legs in your flight plan.

Press **SEL** while viewing a flight plan leg page to make changes.

Press **SEL** and then turn the Small knob while viewing the flight plan name page to activate or to choose other options.

**Flight Plan Sequencing** The GX55 will automatically sequence from one leg to the next as you fly past each waypoint. A line that evenly divides (bisects) the angle between the two legs determines when the flight plan sequences to the next leg. In the example below, the dashed line describes the area where the flight plan will sequence from Leg 1 to Leg 2 and for the last waypoint (Wpt 3).



**Flight Plan Leg Information**

Two types of information are available within flight plan legs: waypoint and flight information. Pressing **INFO** will provide information about the destination waypoint. Information about the ETA, ETE, Ground Speed, and Fuel is also available for each leg by selecting which option you like to view in the leg display.

1. While viewing a flight plan leg, press **SEL**. The From waypoint field will flash.



<u>Chg?</u>	to SLE
1	353° 48.0nm
arpt	arpt

2. Turn the **Large** knob clockwise two clicks to choose the third line for selection. The line will flash.



EUG	to SLE
1	353° 48.0nm
arpt	arpt

3. Turn the **Small** knob to choose from the list of available leg information options. The options are described on the following pages.



EUG	to SLE
1	353° 48.0nm
<u>Leg ETE</u>	00:30

4. Press **ENTER** to keep your choice displayed or press **SEL** to cancel viewing and return to the Bearing and Distance information.



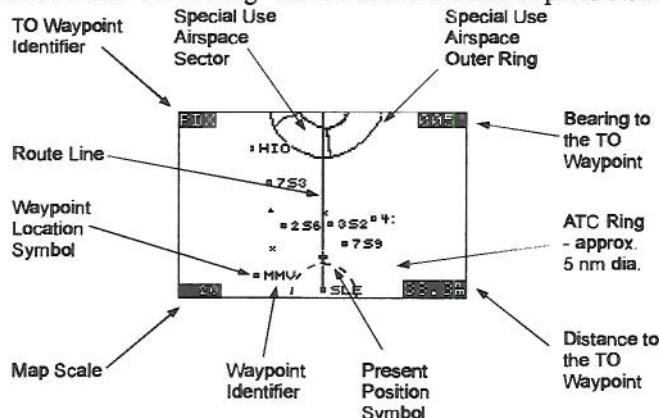
**ENTER**

**SEL**

## Moving Map Functions

Press the MAP key to reach the Moving Map function and view the progress of your flight on a graphic display. Your present position, nearby waypoints, and special use airspaces display options are user-selectable. Three pages are available in the Moving Map function: full screen map, split screen with map and Nav info, and map setups.

- Full Screen Map** The full screen map page of the Moving Map function shows a graphic map of the aircraft position, nearby user-selected waypoints, and your route. The aircraft position is shown by an airplane symbol near the center of the display. The TO waypoint identifier is shown in reversed text on the upper left corner. The bearing from your current position to the TO waypoint is shown on the upper right corner. The map scale is shown in the lower left corner. The distance from the current position to the TO waypoint is shown in the lower right corner. A 5 nm "ATC Ring" can be drawn around airports that have a control tower.



### Controls

- APT** The Large knob moves to different pages of the Map function. The Small knob changes the map scale. The smart Keys select the display of the waypoint types. The waypoint types selectable from the map view are: airports, VORs, INTersections, and NDBs. Press the smart key to control the display of the waypoint type. There are three selections possible: waypoint identifier and location symbol, location symbol only, and off. Pressing the smart key subsequent times will control which selection is made. The change will also be displayed on the map setup pages. A solid, reversed waypoint type annunciator above the smart key means the waypoint identifier and location symbol will both be displayed. A bold outline of the waypoint type annunciator will show only a symbol on the waypoint location. A thin outline around the waypoint type means that it is turned off and no information for that waypoint type will be displayed on the map.
- APT**
- APT**

### Map Scale

The Map Scaling is controlled by turning the Small knob while viewing the map. The map scale value shown is the distance from the top point of the airplane icon to the top of the screen. Map scale choices in nautical miles are: 0.1, 0.2, 0.5, 1, 2, 5, 10, 15, 20, 30, 40, 50, 75, 100, 150, 200, 250, and auto. The auto selection automatically adjusts the map scale so the "TO" remains at the top of the display until the aircraft passes over the waypoint. With "auto" selected, the map scale is approximately equal to the distance to the TO waypoint for distances greater than 0.2 nm.



1. Press MAP.



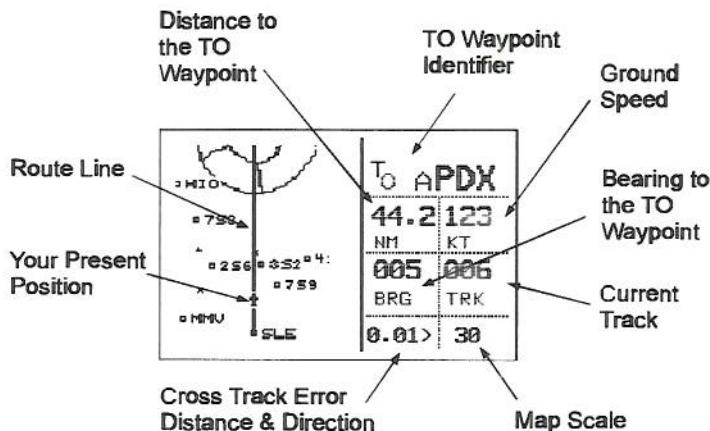
2. Turn the Small knob to adjust the map scale.



3. Turn the Large knob to view the other Map function displays.

**Map and Nav Info**

The Map and Nav Info page of the Map function provides a split screen showing the moving map and selected navigation information. The navigation information provided on the right side of the display includes: the current TO waypoint identifier, distance and bearing to the TO waypoint from your current position, ground speed, aircraft current track, and the map scale.

**Map Setup**

The map setup functions are provided on three pages. The map setup function allows you to select the route line, map orientation, map scale for viewing identifiers, waypoint types that will be displayed, airspace type, and special use airspaces.

**Route Line**

A Route Line can be drawn for the current and next leg of the active route when the selection is turned on.



1. In the Map function, turn the Large knob to reach the Map Setup page. Press SEL to start selection of the Route Line. The Route Line selection will flash.



Route Line: On  
Map Orient: North



2. Turn the Small knob to choose On or Off.



3. Press ENTER when you made your selection, or turn the Large knob to the next item.

**Map Orient**

The Map Orient selection allows you to choose how the top of the map display is oriented.

**North Up** - The display is oriented so that vertical lines on the map are aligned with magnetic north. The aircraft symbol is centered in the display and will point towards the direction you are flying.



**DTK Up** - The Desired Track for the current flight plan leg is the top of the display. The aircraft symbol is at the bottom of the display and will point towards the direction you are flying.

**Track Up** - The direction that your aircraft is aligned vertically and moving towards is at the top of the display. The aircraft symbol is at the bottom of the display.



1. In the Map function, turn the **Large** knob to reach the Map Setup page. Press **SEL**. Turn the **Large** knob to choose Map Orient for selection.



Route Line:On  
Map Orient:North



2. Turn the **Small** knob to choose North, DTK, or Track.



3. Press **ENTER** when you made your selection, or turn the **Large** knob to the next item.



#### Identifier and Waypoint Type Selection

The Identifier & Waypoint Type page allows you to choose the type of waypoint identifiers that will be displayed. You may control the look of your map screen for each type of waypoint by choosing to show the symbol and Identifier, symbol only, or to turn that type of waypoint “Off.” The symbol for each waypoint type is shown in each selection. When “Off” is selected, no symbol or identifier will be displayed for that waypoint type. The “smart” keys always allow to select their waypoint type.



1. In the Map function, turn the **Large** knob to reach the Map Setup page. Turn the **Small** knob to the Identifier & Waypoint Type page. Press **SEL** to start editing the waypoint types.



APT:±ID INT:+ID  
VOR:ÁID NDB:ÁID  
Usr:ÁID



2. Turn the **Large** knob to choose the waypoint type that you want to edit. Turn the **Small** knob to choose symbol and identifier (ID), symbol only, or “Off.” In this example, the flashing (underlined) selection would show both the symbol and identifier for intersections.



APT:±ID INT:+ID  
VOR:ÁID NDB:ÁID  
Usr:ÁID



3. Turn the **Small** knob to select the combination you want shown on the Map display. In this example, only the symbol (+) will be shown on the Map display.

APT:±ID INT:±  
VOR:ÁID NDB:ÁID  
Usr:ÁID



4. Press **ENTER** when you have completed your selections, or turn the **Large** knob to the next item.



1. In the Map function. Turn the **Large** knob to reach the Route Line/Map Orient page, then turn the **Small** knob two clicks clockwise. The Airspace Setup page is shown.



Airspace Setup  
Map : ON  
Alerts: ON



2. Turn the **Small** knob to view the pages for Airspace Setup. On this page you may select whether Airspaces are shown on the Map display or whether Airspace Alerts are provided. Press **SEL** to start selection. The Map choice will flash. Turn the **Small** knob to select On or Off.



Airspace Setup  
Map : Off  
Alerts: Off



3. Turn the **Large** knob to move to the Alerts choice. Turn the **Small** knob to select On or Off. Press **ENTER** after completing your choices.



Airspace Setup  
Map : On  
Alerts: On



### Airspace Buffers

Three values may be adjusted for Airspace Buffers for determining CLOSE information: distance, elevation, and time. CLOSE distance may be from 0 to 99 nm at one nm intervals. Altitude values are from 0 to 9900 feet in 100 foot intervals. Time values are from 0 to 20 minutes in one minute intervals.



1. While viewing the Airspace Buffer page, press **SEL**. The distance value will flash.

Airspace Buffers  
Dist Alt Time  
2nm 500' 10min



- Turn the Large knob to select the desired value to change. Turn the Small knob to change the value.

Airspace Buffers  
Dist Alt Time  
2nm 500' 10min

ENTER

- Press ENTER when the desired values have been selected.

Airspace Buffers  
Dist Alt Time  
2nm 200' 10min

#### ATC Ring Selection

When this choice is turned ON, a 5 nm artificial "ATC Ring" is drawn on the Map display around airports that have a control tower.



- While viewing the ATC Ring page, press SEL to start selection.

5 nm ATC Rings  
Map : Off



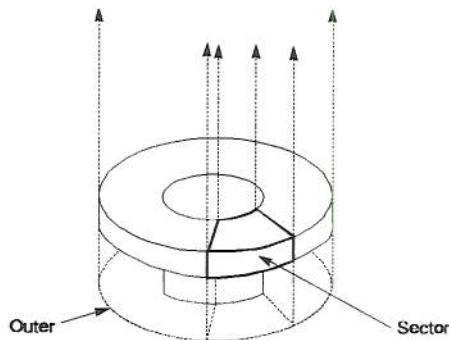
- Turn the Small knob to choose ON or OFF. Press ENTER after completing your selection.



5 nm ATC Rings  
Map : On

### Airspace Selections

The Airspaces available for selection are: Class B (Off, Outer, or Sector), Class C (Off, Outer, or Sector), MOA, Training, Unknown, Alert, Caution, Danger, Restricted, Prohibited, and Warning. You may select ON or OFF for map display and alerts for each Airspace type. The Outer selection refers to the outline of the outside ring extended from the ground on up. The sector selection refers to the outside edges of the sector from the ground on up.



1. In the Navigation Info section of the System functions, turn the **Large** knob to the Airspace Setup page. Turn the **Small** knob to view the desired Airspace selection page.



Class B Airspace
Map : Off
Alert : Off



2. Press **SEL** to activate selection. Turn the **Small** knob to change the selection.



Class B Airspace
Map : <u>Sector</u>
Alert : Off



3. Turn the **Large** knob to move to the next selection. Turn the **Small** knob to select your choice.



Class B Airspace
Map : Sector
Alert : Outer



4. Press **ENTER** after making the selection. Turn the **Small** knob to view the other Airspace pages.





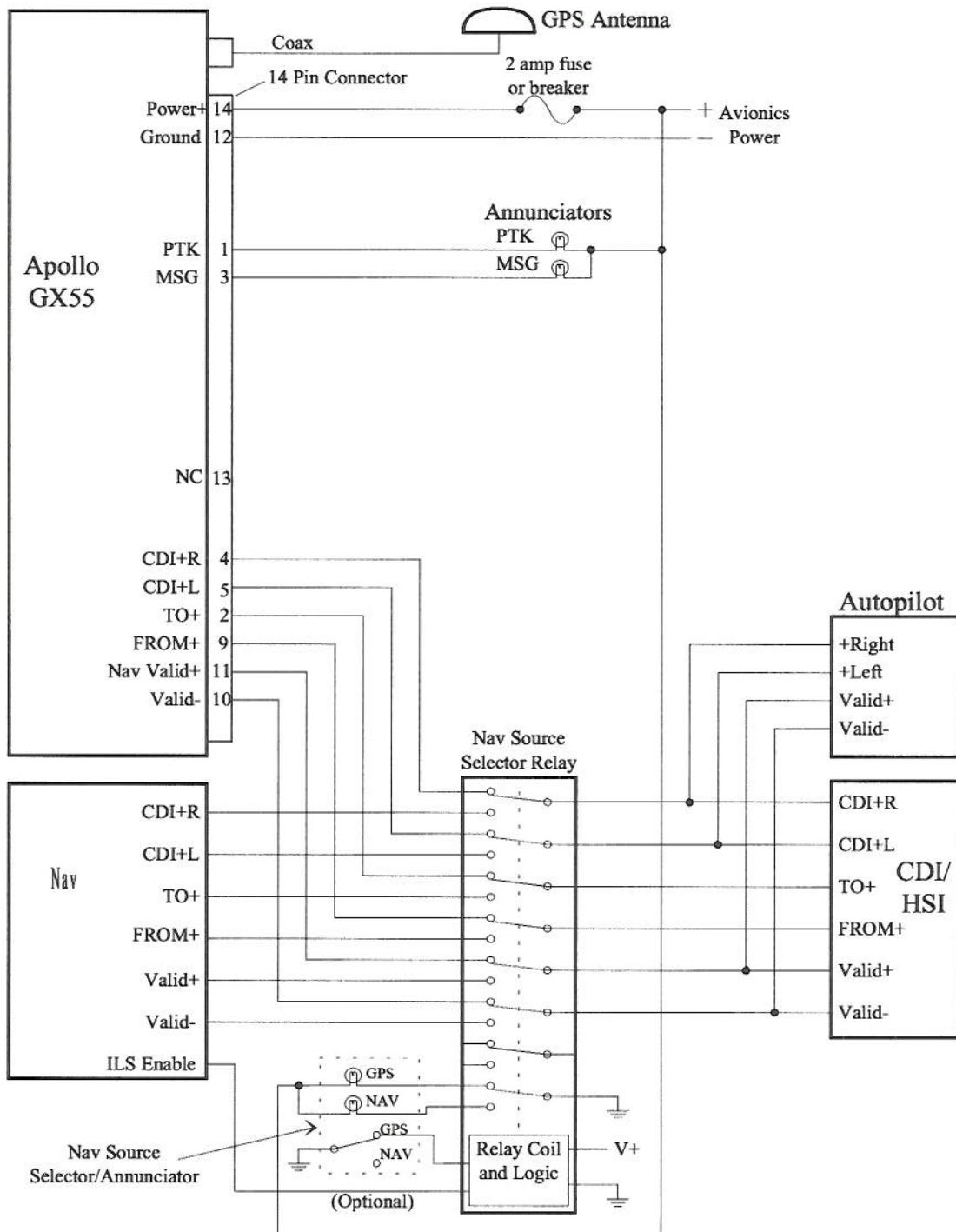
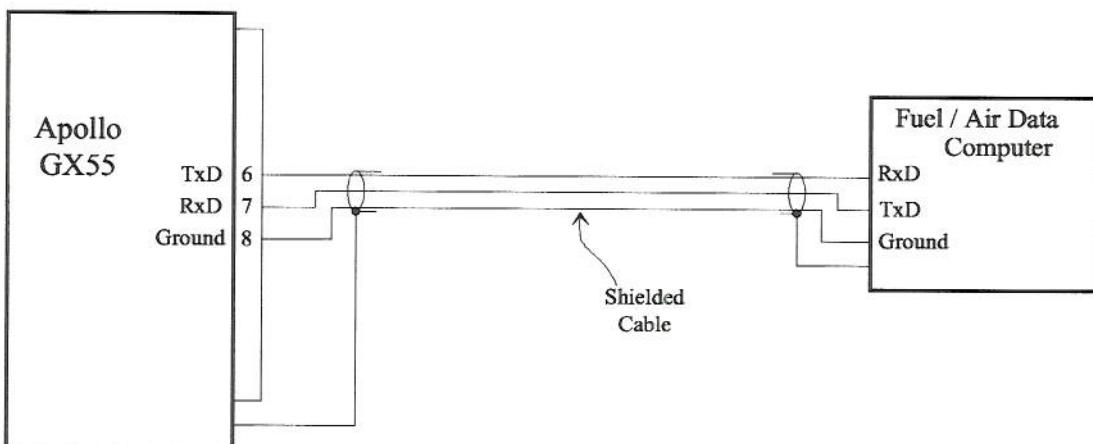
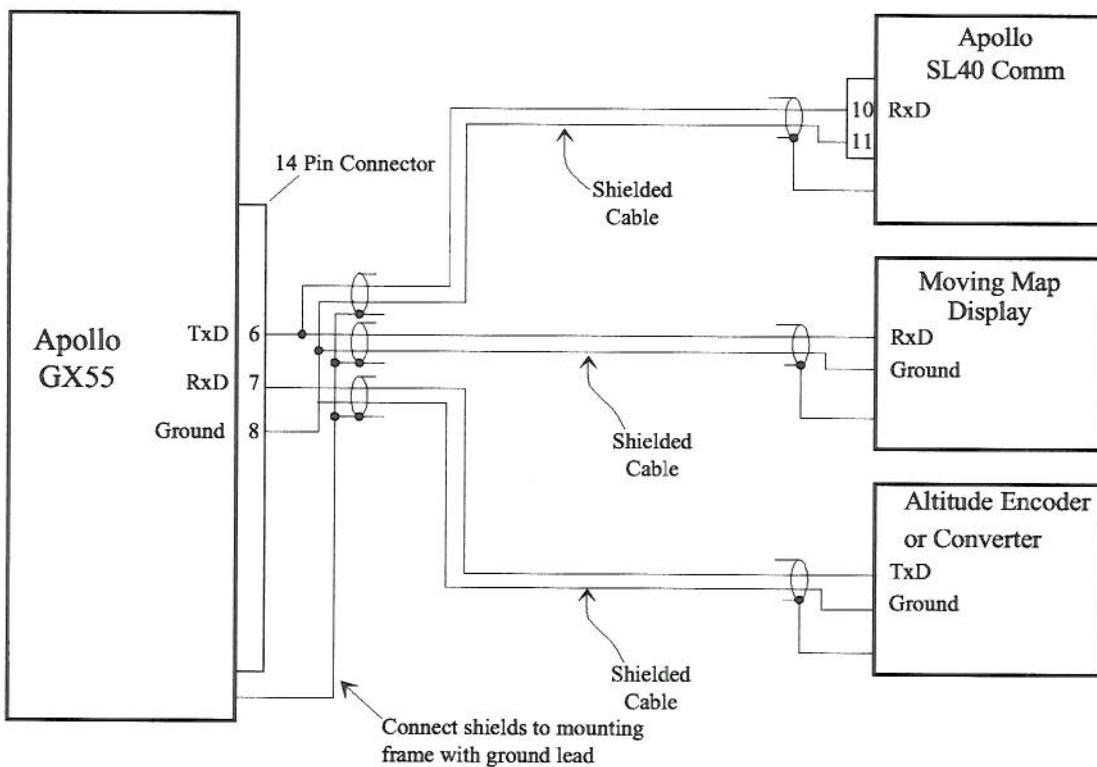


Figure 1 Power and Avionics Connections



- Notes:**
1. Use shielded cable for all RS-232 interface connections.
  2. Connect cable shields to the rear of the mounting frame with pigtailed < 1.25 inches.
  3. Connect shields to chassis ground at both ends of each shielded cable.
  4. Connect either the encoder/converter or the fuel/air data computer.
  5. Other units, such as the SL40 comm or a moving map display, can be connected with the fuel/air data computer.

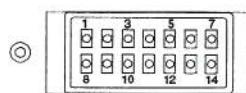
**Figure 2 RS-232 Serial Connections**

## REAR CONNECTOR PINOUT

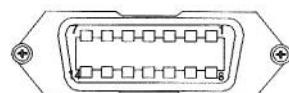
The GX55 includes a 14-pin rear panel connector for the GPS navigation connections. The pinout for the connector is listed in the following table.

Table 1 Navigation Interface Connector Pinout

Pin #	I/O	Connection	Function
1	O	PTK	Parallel track annunciator output
2	O	+ TO	+ To flag output
3	O	Message	Message annunciator output
4	O	CDI + Right	CDI + Right output
5	O	CDI + Left	CDI + Left output
6	O	TxD	RS-232 serial data output
7	I	RxD	RS-232 serial data input
8	O	Serial ground	RS-232 signal ground
9	O	+ FROM	+ From flag output
10	O	valid flag ground	signal ground connection
11	O	Nav + valid	Nav low level valid flag output
12	I	Power ground	main power ground input
13	--	reserved	do not connect
14	I	Power +	main DC power input



View from rear of mounting frame



View from inside frame

Figure 3 Rear Connector Pinout