



# APOLLO GX50/55 GPS IFR Operations



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# Introduction

- ▶ This presentation is designed to introduce the IFR functions of the GX50/55 GPS
- ▶ Focus will be placed on use of the GX50/55 for CAP operations
- ▶ This presentation is not designed to replace hands on instruction or the owners manual
- ▶ Always use your Quick Reference Guide for assistance until you are proficient using this equipment



# N4736N/CPF 4238

VOR 1

Apollo GX50



GPS/NAV, GPS SEQ, Annunciator Lights

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# N4736N/CPF 4238

NAV/GPS  
Indicator Lights

NAV/GPS Button

GPS SEQ (OBS  
Hold button)

OBS/Hold Indicator  
Lights

ADF/DF Switch

MSG light

APR Indicator Light

ACTV Indicator Light

PTK Indicator Light

Annunciator panel  
lights test switch





## Start Up

- ▶ The GX50 goes through an IFR self-test on start up
- ▶ If the database is out of date IFR use is prohibited
- ▶ The screen will show messages indicating what movement you should see on the CDI needle in VOR 1 (VDI is not wired to the unit)
- ▶ Messages will show what annunciator light should be on





# Navigation Pages

- ▶ There are 8 NAV pages each with a different application
- ▶ Press NAV and use the LARGE Knob to move through the different screens
- ▶ Anytime a page has a diamond in the lower right corner there is more information on that page. Use the SMALL Knob to scroll down





## Navigation Pages

- ▶ NAV 1 is the default main (home) page and it shows:
- ▶ Current destination waypoint you are navigating TO
- ▶ ETE
- ▶ Graphic CDI with TO or FROM triangle
- ▶ BRG or track to the next waypoint
- ▶ Distance to the next waypoint



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## Navigation Pages

- ▶ NAV 2 shows RAIM prediction at the next waypoint and time







# Navigation Pages

- ▶ NAV 3 Altitude Assist lets you set and activate the auto-descent function for VNAV

Turn the Small Knob to change the numbers



Press SEL to change the altimeter setting

Press ENTER to accept



# Navigation Pages

- ▶ NAV 3 Altitude Assist lets you set and activate the auto-descent function for VNAV

Turn the Small Knob to continue viewing Altitude Assist pages





## Navigation Pages

- ▶ NAV 3 Altitude Assist lets you set and activate the auto-descent function for VNAV
- ▶ This page tells you Auto-Descent is off



Press select to set up the Auto-Descent function



# Navigation Pages

- ▶ NAV 3 Altitude Assist lets you set and activate the auto-descent function for VNAV

Use the Large Knob to go to the next field



Use the Small Knob to set a distance of 0 – 9 NM before the waypoint you want to be at altitude



# Navigation Pages

- ▶ NAV 3 Altitude Assist lets you set and activate the auto-descent function for VNAV

Use the Large Knob to go to the next field



By turning the Small Knob you may select any of the waypoints in the active flight plan



## Navigation Pages

- ▶ NAV 3 Altitude Assist lets you set and activate the auto-descent function for VNAV

Use the Large Knob to go to the next field



Use the Small Knob to change the altitude from 1500' – 50,000' above the waypoint in increments of 50'  
Defaults to 1000' AGL if the waypoint is an airport

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## Navigation Pages

- ▶ NAV 3 Altitude Assist lets you set and activate the auto-descent function for VNAV

Use the Large Knob to go to the next field



Use the Small Knob to change the descent rate from 100' – 5,000'/minute in 10'/minute increments



## Navigation Pages

- ▶ NAV 3 Altitude Assist lets you set and activate the auto-descent function for VNAV

Press ENTER to accept all the changes



Use the Small Knob to change the estimated ground speed during the descent from 50 – 600 KTS

In 4238 Altitude Assist does NOT output to the VDI in VOR 1

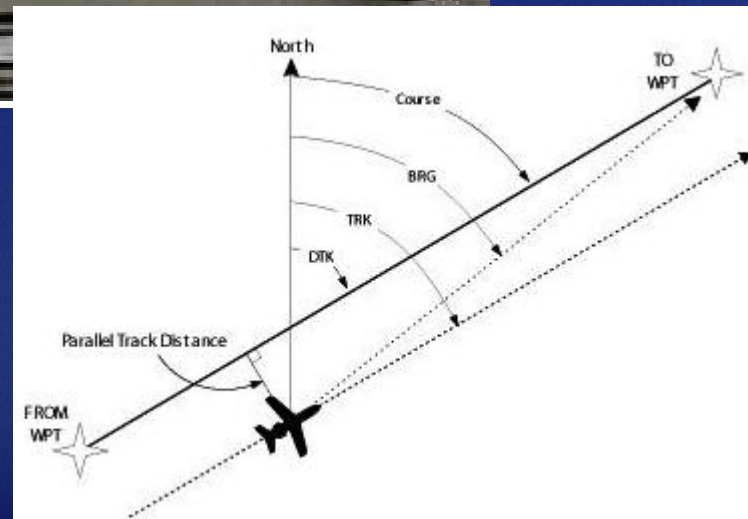
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# Navigation Pages

- ▶ NAV 4 Parallel Track lets you create a parallel course offset .01 – 20 NM to the left or right of your current flight plan





## Navigation Pages

- ▶ NAV 5 shows your current Lat/Long and the PDOP (Position Dilution of Precision). A lower PDOP number indicates better GPS reliability





## Navigation Pages

- ▶ NAV 6 allows you to set a countdown timer. It alerts with a flashing MSG when time expires





## Navigation Pages

- ▶ NAV 7 Arc Assist allows you to set up a left or right arc from a waypoint, the desired track, and the distance to the waypoint





## Navigation Pages

- ▶ NAV 8 – FROM/TO/NEXT page lets you view and edit a three waypoint mini-flight plan. Changes to the mini-flight plan change the active flight plan





## OBS Mode

- ▶ OBS Mode will stop the automatic sequencing through each waypoint in the flight plan

### Operating Modes: Auto vs. Hold (OBS)

Automatic Sequencing	Manual Sequencing
Auto sequencing	Suspends waypoint sequencing
Auto annunciator	Hold annunciator
Used for enroute, terminal and nonreversal approaches	Used for holds, PT, vectored approaches and missed approach
Default mode	User input course



## OBS Mode

- ▶ In VFR flight you can use OBS mode to create an extended runway centerline



Select an airport using the D> key



# OBS Mode

Use the Small Knob to change the course to the runway heading



Press ENTER to accept the desired track

The new desired track is now entered. Follow the CDI to your new course





# OBS Mode



Press the GPS SEQ (OBS Hold) button

The new desired track is now entered. Follow the CDI to your new course



## IFR Departure/Arrival Procedures

- ▶ The GX50 database does not contain DPs or STARs
- ▶ If you need to fly a DP or STAR you must add the waypoints that form the procedure and build it from scratch



## Approach Setup

- ▶ You must have a flight plan with a destination airport activated
- ▶ While en route, select an approach before you arrive in the terminal area which the GX50 views as 30 nm from the destination airport



# Select an Approach

From the MAP or NAV page press SEL





## Select an Approach

Verify the correct destination airport is displayed and press ENTER to accept the Load Approach prompt





## Select an Approach

Use the Small Knob to scroll to the desired approach. Some approaches may appear multiple times, once for each IAF available



Press ENTER to accept the approach



## Select an Approach

The approach is now loaded and you are returned to the NAV 1 page.  
The approach is just loaded NOT enabled.





## Select an Approach

As you approach the terminal area the GX50 prompts a flashing MSG. Press the MSG Soft Key







## Select an Approach

You then receive a prompt to press ENTER to enable the approach





## Select an Approach

The Approach Enabled message will flash on the screen and then change to Enter Altimeter Setting





## Select an Approach

Use the Small Knob to adjust the altimeter setting



Press ENTER to accept the altimeter setting



## Select an Approach

The approach is now armed and the GX50 will sequence the approach automatically. The CDI deflection changes from 5 NM to 1 NM.

