

# Creating a Custom Orbiter 2010 Scenario

Version 211027.01

## Suggestions for a custom **Landing** scenario

### Orbiter Instrument Landing Displays

The Horizontal Situation Indicator (HSI) combines the directional gyro and the NAV indicator into one instrument that provides heading, course reference, and course deviation and glide slope information. The HSI makes it easier to visualize the aircraft's position with reference to the selected course.

- **VOR:** surface-based omnidirectional radio beacons, typically with a range of several hundred kilometers. VOR signals can be fed into the HSI (horizontal situation indicator) to obtain direction and distance to the designated runway. In Orbiter the VOR for the Kennedy Space Center is used.
- **ILS:** Many runways are equipped with Instrument Landing Systems to provide specific heading and glide slope information and are provided by the HSI. In Orbiter the ILS for Cape Canaveral runway 33 is used.

When using the “Atlantis Final Approach” program in Orbiter, the VOR for the Kennedy Space Center and Runway 33 will be already inputted into the HSI. In the orbiter when running the “Atlantis Landing Preparation” program (competition landing scenario) neither the VOR or ILS has been programmed into the HSI.

When properly programmed, the VOR for KSC will be received immediately and the ILS for Runway 33 will be received 30 kilometers from the runway. In the competition this has been set up for you in the simulator therefore it is recommended you practice with it under similar conditions. Orbiter does allow you to program your HSI and save the scenario so that it will be pre-programmed each time you practice your competition level landings.

### **Programming the HSI Multi-Function Display for Orbiter:**

1. Start Orbiter and select the “Atlantis Landing Preparation” scenario
2. Once the program opens immediately hit the **F4** key
3. Quickly select [**Time Warp**] and a “Time Acceleration” window will appear.
4. Select [**0.1x**] time acceleration. This will slow the program down so you can modify the HSI without losing too much altitude.
5. Press **I** to turn off the extraneous information displays in the upper-right corner.
6. Turn on the Left MFD by selecting [**PWR**]
7. Then hit the [**SEL**] until you see the COM/NAV mode on the right side of the panel.
8. Select [**COM/NAV**]
9. Navigation 1(NAV1) will be in yellow showing 108.00 MHz, use the arrow key on the left side of the MFD to change the receiver to 134.20 MHz, which is runway 33 at Cape Canaveral. This is the **ILS** frequency.

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10. The [**<< or >>**] keys change by +/- 1.0 MHz and the [**< or >**] keys change by +/- 0.10
11. Select [**SL+**] to switch to navigation 2 (NAV2). Using the arrow keys, on the left side of the MFD, change the receiver to 112.70 MHz which is the frequency at which the Kennedy Space Center is broadcasting. This is the **VOR** frequency.
12. Select the [**SEL**] and then when the Mode screen returns, select [**HSI**].
13. Select the [**LR**] and then [**NAV**] on the left side of the HSI MFD to ensure you have both NAV's visible. NAV 1 will have no signal but will show 134.20 MHz, NAV 2 will show VOR KSC at 112.70 MHz.
14. Immediately hit [**Exit**] (it is not necessary to exit time warp)
15. When the Orbiter host screen returns select the [**Save Current**].
16. Under Scenario name type in "**Landing**". This will allow you to return to the landing scenario each time with the correct HSI already set up.

You may have to practice several times until you get the hang of the settings. Once you complete it and have sufficient altitude to practice you will save it. If you make a mistake after saving just repeat the procedure and save with the same name format and it will over-write the last saved program.

## Suggestions for a custom **launch** scenario

There are a few additional settings you might want to make to create your custom Launch scenario. These additional setting changes will help simplify your training process.

### **Programming additional Orbiter settings:**

1. Start Orbiter and the "Launch into Sunrise" scenario
2. Press **F1** to change to the inside cockpit view.
3. Repeatedly press {**CNTL**} + **X** to zoom out the cockpit view until you see the tips of the Solid Rocket Boosters.
4. Press **I** to turn off the extraneous information displays in the upper-right corner.
5. Press [**Exit**]
6. When the Orbiter host screen returns select the [**Save Current**].
7. Under Scenario name type in "**Launch**". This will allow you to start the launch scenario each time with the correct HUD already set up.