

## Lunar Lander Simulator 2.1 addendum.

The addendum goals are:

- 1- To describe the new self-running demo mode which we hope would help crash less often!
- 2- To help you familiarize yourself with the Lunar Lander Simulator button controls

### Self Running Demo Mode

This new feature in version 2.1 makes the lander land itself safely while giving you a on-screen on how to do it yourself! To run the demo, simply click and the "Demo" button on the bottom right of splash screen. After few moments, you will be taken to the regular cockpit but this time the computer is in control. There is no need to press any keys or use the joystick. Just watch and pay attention to the on-screen instructions. The instructions tell you what you will need to do once on your own. At this time the best thing to do is watch carefully all the instruments and see when the computer does things like pitching the lander or reduce the speed of descent. Very important instruments to watch are the altitude indicator (which also indicate your ACTUAL descent rate=DesV) as well as the X-Pointer (below the altitude indicator). On the X-Pointer which gives you graphically your horizontal speed (forward/backward and left/right). Specifically whatch what happened to the red horizontal line (the forward/backward speed indicator) while your are descending. You should see the line goes down to the center (zero) of the X=Pointer instrument. What also the actual forward velocity as displayed (FwV). FwV needs to be below 10 feet/sec to land safely. Another important indication is the negative number below the button ROD. That number is the "commanded speed of descent). This basically means that the number represent the descent speed that you wish the lander to have. The computer in this demo, will control it so to land safely. Just watch how and when the computer changes that number. Please note that the actual descent speed (DesV) is different from the "commanded rate of descent or ROD). The computer will control the engine thrust so to make the lander goes down at the speed you are requesting (in this special case the computer is requesting from itself since it is the one piloting the lander in the demo!). In any event you can see it controlling the engine thrust to march DesV and ROD by watch the little red bar moving up/down on the right of the ROD number.

Once you watch the demo couple times and you are comfortable, just click on the "New" button (splash) and attempt a landing! Good luck....

**\*\* This new “self running demo” is a great way to show you friends the simulator but not be humiliated in front of them by a crash landing. In this mode you cannot crash!**

## **Lunar Lander Controls**

Unfortunately almost every Palm devices has different function/buttons configuration. So here some example of layout of the applications and their function as it related to the control of the lunar lander. If your device is not listed in the example, you should be able to figure out by experimenting. Simply press all the applications buttons on your device and watch how the lander react!

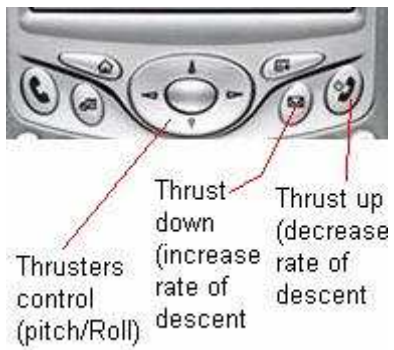
The pitch/roll of the lander is controlled by either the 5-ways D-pad on the center of your device or the analog joystick if you have a Zodiac device. Really the main issue is to find the application buttons that should control the engine thrust (or the rate of descent ).

In Lunar Lander Simulator (and as in the real thing!) you have two ways of controlling the engine thrust. It all depend on the status of control the descent engine (DSP) There are modes;

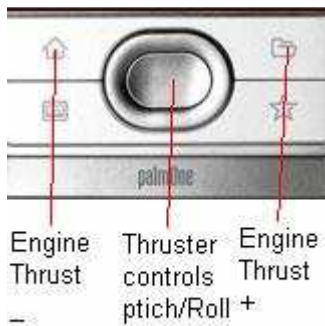
- 1- Semi automatic mode also called ROD (button under DSP display ROD). In this mode, you do not control the engine thrust directly but through the computer (DAP). By pressing on the hard keys “thrust up” and “thrust down” (see examples below) you are in effect asking the computer to match the current descent speed of your lander (displayed on the altimeter as “FwV”) with the negative number displayed under the button ROD.
- 2- Fully manual mode (button under DSP display MAN). In this case, you are controlling the engine thrust DIRECTLY. This is a very difficult mode never used for a real landing. Still Apollo astronauts had to train for it in case the computer malfunctioned at the last minute.

**Happy landing!**

### Treo 650 example



### LifeDrive example



### Zodiac Tapwave 1 and 2 example

