Build 3.5.01
- New instrumentation for rendezvous and docking manoeuvres with orbital stations: "Synchronise Orbit" (Shift-Y) to intercept the station, "Docking" (Shift-D) for final approach. Also new "Docking" HUD mode.
- Attitude thrusters can now be engaged in parallel pairs (translational mode). Switch between rotational and linear mode with Numpad "/" key. Mode indicator added to HUD.
- Corrected axis of rotation (obliquity and longitude of Sun's transit) for all planets.
- Added Mars moons Phobos and Deimos.
- Inner/outer radius of Uranus ring system corrected.
- Orbital elements for secondary bodies (moons and orbital stations) can now be specified with either the ecliptic or the parent body's equator as frame of reference (config file option 'ElReference').
- New external camera modes: target-relative, absolute direction and global frame. See manual for description. (F2 to toggle or Ctrl-F2 for menu – note that the menu for external view targets is now accessed via Ctrl-F1).
- Instrument modes can now be selected via a menu (Shift-F1).
- Instruments can be made opaque for better readability (MFDTransparent entry in Orbiter.cfg).
- Target object for Orbit MFD can now be selected with Shift-T.
- Selection lists rewritten and cleaned up.
- Extensive additions to the manual, including all new instruments and associated manoeuvres, and a detailed check list for a complete flight from launch to docking at the ISS.

Build 13.3.01
- New resolution level for planetary surfaces: 8192x4096 (!) This requires some serious 3D hardware (around 32MB texture memory and DXT1 texture compression support). Earth, Moon and Mars textures at this resolution level are provided as separate downloads. The standard ORBITER distribution contains textures up to 4096x2048.
- Re-organised planet texture resolutions. 8 levels are now supported: 64x64, 128x128, 256x256, 512x256, 1024x512, 2048x1024, 4096x2048 and 8192x4096. The following have been dropped: 512x512, 1024x1024 and 3072x1536.
- Included planetary texture tool (pltex) to allow users to generate their own texture maps from planet surface bitmaps.
- Added Uranus and Neptune.
- Saturn has new surface texture.
- Saturn and Uranus have rings now. Shadows are partly implemented (planets cast shadows on rings but not vice versa).
- Added generic mesh as surface base object type to allow inclusion of custom objects. Removed remaining inconsistences in surface base definition file format.
- Added section on planetary surface textures to the manual.

Build 13.2.01
- A star catalogue containing ~16000 bright stars is now included. The actual number of rendered background stars can be set in Orbiter.cfg via option "NumStar". Star brightness can be adjusted with option "StarBrightness".
- Display of constellations can be toggled with F9 ("planetarium mode").
- Orbital elements for ISS improved.
- First lunar surface base opened.
- New instrument "Align orbital plane" (Shift-A) included. This aids in the initial stages of rendezvous and transit maneuvers.
- Updates to the manual. Now contains a "Basic Flight Maneuvers" section to explain some of the fundamental navigation methods.

Build 9.1.01
- Limited fuel: Each spacecraft now contains a limited supply of fuel. The ship's mass decreases during flight as fuel is burnt. The "Mass" entry in the ship and class configuration files is now interpreted as "empty mass". Two new options have been added: FuelMass and Isp (fuel-specific impulse). Fuel level is displayed on the HUD above thruster settings. The Orbiter.cfg now has an option "UnlimitedFuel" to ignore fuel consumption. A ship is automatically refuelled after touching down on a landing pad.

- Selectable ships: Whenever the user-controlled ship has safely touched down on a surface base landing pad, the user can jump into any ship currently parked at the same base by pressing F3. Try flying the glider to Cape Canaveral, hop into the little transporter, and return it to Habana.
- Blue sky: Background colour is adjusted to simulate light scattered in the atmosphere when the observer is located within a planetary atmosphere. Currently very simplistic (homogeneous, direction-independent)
- Additions to the Map Virtual Instrument (Shift-M): Projections of orbital planes of ship and selected orbital station are now plotted.

Build 20.12.00
- Major rewrite of the atmospheric flight model. The glider should now actually glide in the atmosphere. Still more work to be done for ground contact/takeoff scenarios.
- Delta glider now has trim control (Ctrl-Keypad2 and Ctrl-Keypad8) to manipulate flight characteristics in atmospheric flight. Added visual trim control display to HUD.
- Full support for dynamic surface object shadows.
- Modifications to surface base configuration files. Object lists are now better structured, making it easier to generate custom bases. See documentation for format.
- Turned off generic texture maps for Earth for the time being.
- Some joystick configuration options available via Orbiter.cfg.

Build 6.12.00
- Included Doc directory which had been left out in the first release.
- Added "H-level" (L) navigation computer mode which keeps the ship level w.r.t. the horizon. Also important for other high-level modes.
- Added "HoldAlt" (A) navigation computer mode which maintains current Altitude above ground by modulating hover thrusters.
- Improvements to the surface base visuals.
- Preliminary object shadows.
- Some modifications to configuration files.

Build 27.11.00
- First released version.