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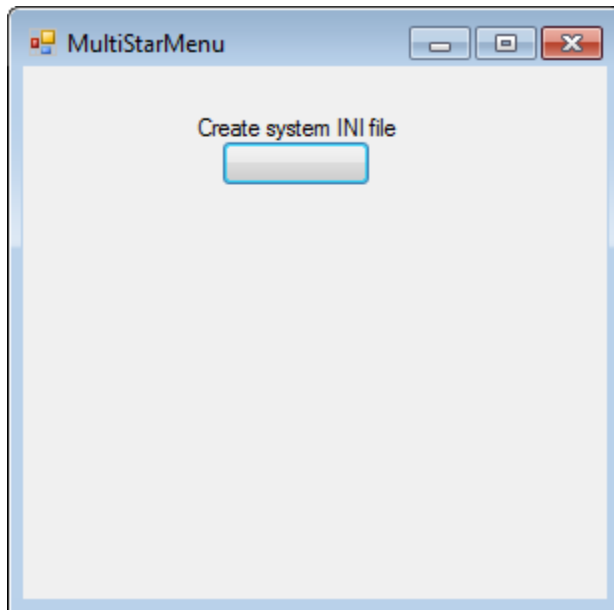
Launching MultiStarOrbiter

Double click on MultiStarOrbiter.exe

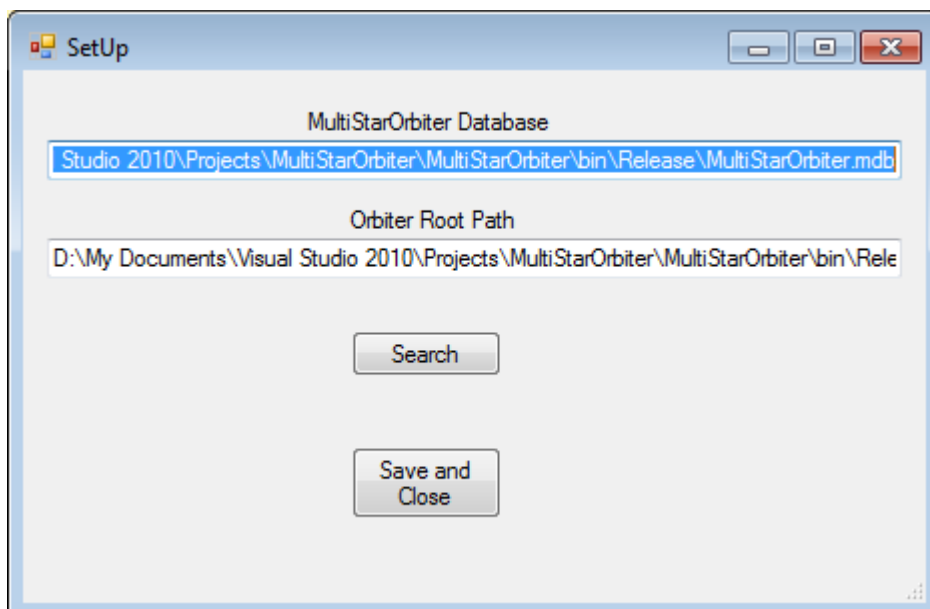
Creating the INI file

When the program is launched for the first time, it will ask you to create the INI file so it can locate the basic Orbiter and data base files in the future.

Click on the “Create system INI file” button.

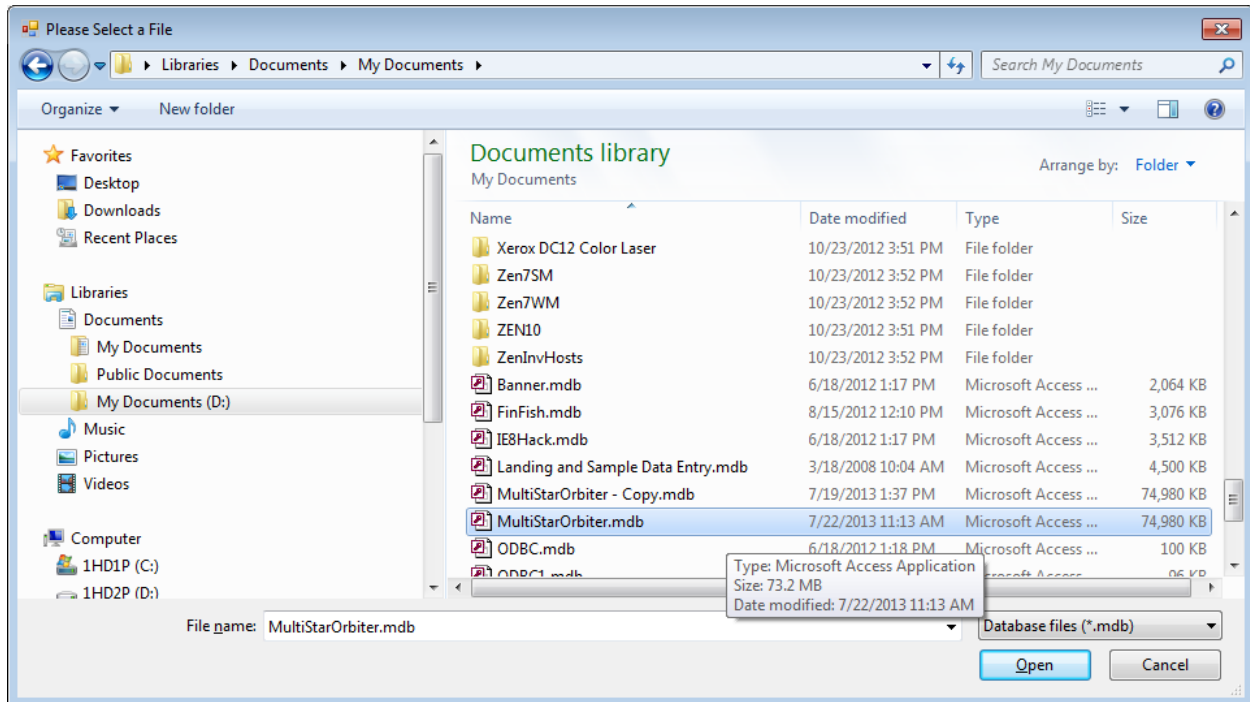


A set-up form will pop up with some default locations already in place. You may have to change them so click on the “Search” button to do so.

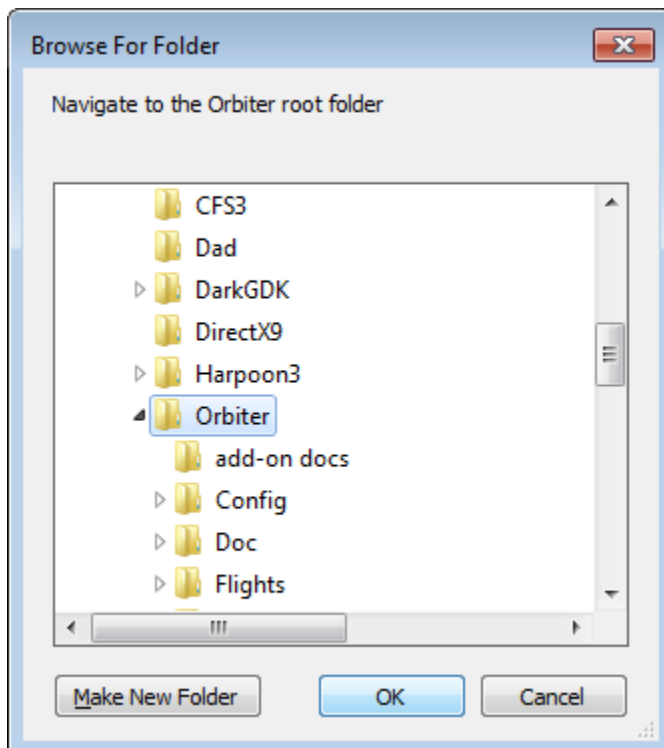


MultiStarOrbiter

Navigate to the location where you saved the “MultiStarOrbiter.mdb” file. Click “Open”.



You will now be asked to locate the Orbiter Root Directory.

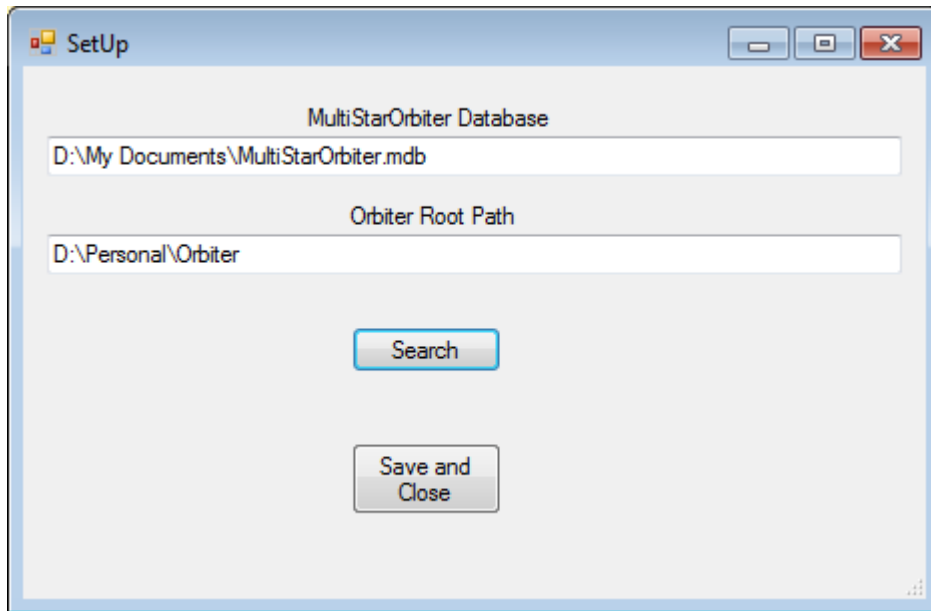


Navigate to the location of the Orbiter Root Folder.

MultiStarOrbiter

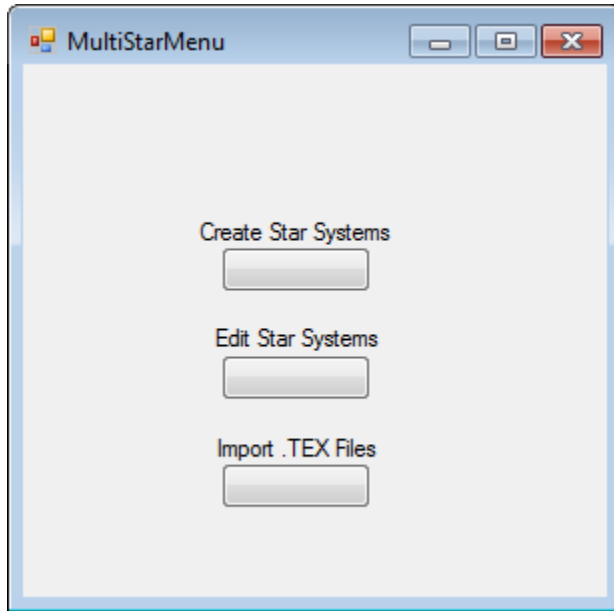
Click “OK”.

Click on the “Save and Close” button.



Creating a “Galaxy”

Click on the “Create Star Systems” button.



The Database path is filled from the INI file.

MultiStarOrbiter

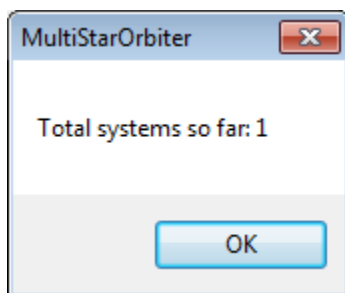
Enter the maximum number of systems you wish to create. Note that the program will take more time for mores systems created. Try a max of 100 at a time.

Select either “Random” or “Custom”. If you selected custom, select the Stellar Type of your choice – Max Stars is set to “1” for this option and cannot be altered.

Click on the “Create” button.

The program will tell you how many system you currently have. You are allowed a maximum of 1000.

The first system is Sol.



Clicking on “OK” starts the create process. When it’s done, you’ll see a yellow “Done” at the top.

MultiStarOrbiter

Create Stars

OpenDone

Database path
D:\My Documents\MultiStarOrbiter.mdb

Max Stars: 1

Create

Star Details

☒ Random

☐ Custom

Stellar Type: M1V

Mass: 0.5

Radius: 0.768

Star Color R: 1

Star Color B: 0.8

Star Color G: 0.55686274509803

System Details

Star Coord: 906796

Star Name: 906796

System Name: System 906796

Star Type: M

Stellar Type: M1V

Mass: 3.33874284957633

Radius: 534790656

Star Color R: 1

Star Color B: 0.8

Star Color G: 0.55686274509803

Nbr Planets: 9

Long Asc Node: 3.23339697224469

Long Perihelion: 3.88492838201418

Mean Longitude: 1.02782439649946

Sid Rot Period: 244464

Obliquity: 70.3

LAN: 28.47

Planet Details

Planet IDX: 90679609

Star Coord: 906796

Planet Name: Planet_09

Epoch: 2000

Semi Major Axis: 82267588636.2843

Eccentricity: 0.074

Inclination: 0.03874630939427

Long Perihelion: 3.93676466079841

Long Asc Node: 1.89280957378785

Mean Longitude: 1.93749000263891

Mass:

Size: 11498420

JCoeff: 0.000989

Albedo R: 0.56

Albedo G: 0.33

Albedo B: 0.02

Sidreal Rot Period: 184115

Sidreal Off: 0

Obliquity: 66.72

LAN: 70.73

Atm Pressure0: 17480000

Atm Density0: 65

Atm Gas Constant: 188.92

Atm Gamma: 1.2857

Atm Alt Limit: 380000

Atm Horizon Alt: 300000

Atm Haze Shift: 0.01

Atm Color R: 0.79

Atm Color G: 0.22

Atm Color B: 0.78

Atm Haze Color R: 0.97

Atm Haze Color G: 0.53

Atm Haze Color B: 0.4

Atm Haze Dens: 0

Atm Haze Extent: 0

Cloud Alt: 114000

Cloud Rot Period: 346000

Cloud Shadow Depth: 0

Cloud Microtexture Alt L: 228000

Cloud Microtexture Alt U: 760000

Nbr Moons: 1

Rings L: 0

Rings U: 0

Moon Details

Moon IDX: 9067960901

Planet IDX: 90679609

Moon Name: Moon_0901

Epoch: 2000

Semi Major Axis: 2374727840

Inclination: 0.08482300164692

Eccentricity: 0.086

Long Perihelion: 0.59079395180008

Long Asc Node: 3.90168354283332

Mean Longitude: 4.28932116970126

Mass: 3.06066946746999

Albedo R: 0.1

Albedo G: 0.15

Albedo B: 0.57

Size: 1522600

Obliquity: 77.99

LAN: 79.21

Sidreal Rot Period: 234750

Atm Pressure0: 0

Atm Density0: 0

Atm Gas Constant: 0

Atm Gamma: 0

Atm Alt Limit: 0

Atm Horizon Alt: 0

Atm Haze Extent: 0

Atm Haze Shift: 0

Atm Haze Den: 0

Atm Color R: 0

Atm Color G: 0

Atm Color B: 0

Atm Haze Color R: 0

Atm Haze Color G: 0

Atm Haze Color B: 0

Cloud Alt: 0

Cloud Rot Period: 0

Cloud Shadow Depth: 0

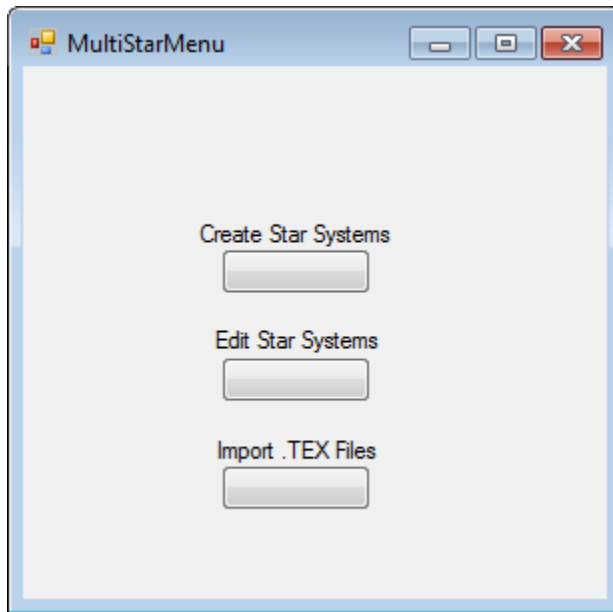
Cloud Microtexture Alt L: 0

Cloud Microtexture Alt U: 0

Close the window.

Editing Star Systems

Click on the “Edit Star Systems” button.



The database path is filled by the INI file.

MultiStarOrbiter

In the “Enter Selection Data” box, you can enter the Coordinates (i.e. 505050), the name of the star (i.e. Sol), the Stellar Type (i.e. G2V) or the Star Type (i.e. G).

The screenshot displays the MultiStarOrbiter application window. The title bar shows the file path "D:\My Documents\MultiStarOrbiter.mdb". The interface is divided into several sections:

- Left Panel (Star System):** Contains a "Select By" dropdown menu with "Enter Selection Data" selected. Below it are four radio buttons for "Star Coord", "Star Name", "Stellar Type", and "Star Type". There are buttons for "Open", "Create Cnf Files", and "Save and Close". A note states "Just closing will not save current records".
- Planets Section:** A grid of input fields for planet parameters including Planet Type, Planet Name, Semi Major Axis, Eccentricity, Inclination, Long Perihelion, Long Asc Node, Mean Longitude, Mass, Size, Albedo R, Albedo G, Albedo B, Sidereal Rot Period, Obliquity, LAN, Atm Pressure0, Atm Density0, Atm Gas Constant, Atm Gamma, Atm Alt Limit, Atm Horizon Alt, Atm Haze Shift, Atm Color R, Atm Color G, Atm Haze Color R, Atm Haze Color B, Atm Haze Color G, Atm Haze Extent, Cloud Rot Period, Cloud Shadow Depth, Cloud Microtexture Alt L, Cloud Microtexture Alt U, Nbr Moons, Rings L, Rings U, and Planet IDX.
- Moons Section:** A grid of input fields for moon parameters including Moon Type, Moon Name, Semi Major Axis, Inclination, Eccentricity, Long Perihelion, Long Asc Node, Mean Longitude, Mass, Size, Albedo R, Albedo G, Albedo B, Sidereal Rot Period, Obliquity, LAN, Atm Pressure0, Atm Density0, Atm Gas Constant, and Atm Gamma.

Then click on the corresponding button.

MultiStarOrbiter

The screenshot displays the MultiStarOrbiter software interface, which is organized into several panels for configuring a virtual star system.

Star System Panel: Located on the left, it includes fields for 'Star Coord' (505050), 'System Name' (Sol), 'Star Name' (Sun), 'Stellar Type' (G2V), 'Star Type' (G), 'Mass' (1.9891E+30), 'Radius' (695500000), 'Star Color R' (0.71372549019607), 'Star Color B' (0.35686274509803), 'Star Color G' (0.49411764705882), 'Long Asc Node', and 'Nbr Planets' (9). It also features buttons for 'Open', 'Select By', 'Enter Selection Data', 'g2v', 'Select By', 'Star Coord', 'Star Name', 'Stellar Type', 'Star Type', 'Create Cnf Files', 'Save and Close', and a warning: 'Just closing will not save current records'.

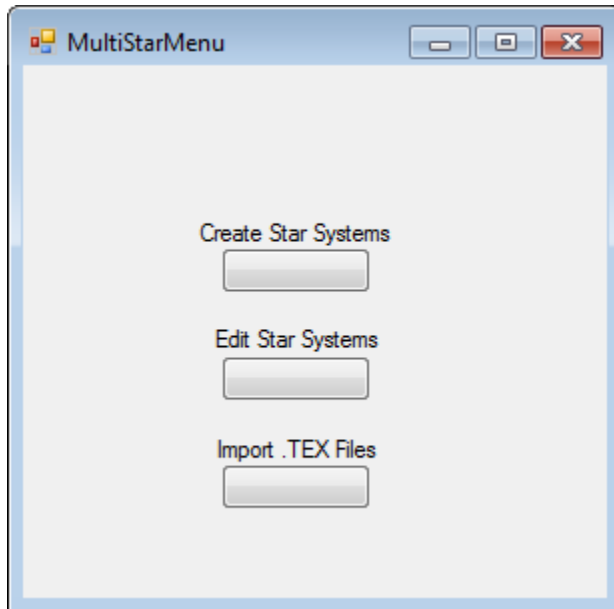
Planets Panel: The middle section, titled 'Planets', has 'Next' and 'Previous' navigation buttons. It contains a grid of fields for Planet Type (2), Planet Name (Jupiter), Semi Major Axis (778570000000), Eccentricity (0.04839266), Inclination (0.02275909344600), Long Perihelion (0.25750325984536), Long Asc Node (1.7550359006293), Mean Longitude (0.60046970810728), Mass (1.8986E+27), Size (71492000), Albedo R (1), Albedo G (0.99), Albedo B (0.86), Sidereal Rot Period (13500.3), Obliquity (0.0388), LAN (2.752), Atm Pressure0 (2014000), Atm Density0 (1.3293), Atm Gas Constant (194.92), Atm Gamma (1.3333), Atm Alt Limit (3200000), Atm Horizon Alt (0), Atm Haze Shift (0.009), Atm Color R (0.37), Atm Color G (0.35), Atm Color B (0.39), Atm Haze Color R (0.21), Atm Haze Color G (0.1), Atm Haze Color B (0.1), Atm Haze Dens (0.09), Atm Haze Extent (0.055), Cloud Alt (480000), Cloud Rot Period (35727.3), Cloud Shadow Depth (0.8), Cloud Microtexture Alt L (1535000), Cloud Microtexture Alt U (6440000), Nbr Moons (67), Rings L (1.72), Rings U (1.806), and Planet IDX (50505005).

Moons Panel: The right section, titled 'Moons', also has 'Next' and 'Previous' navigation buttons. It contains a grid of fields for Moon Type (23), Moon Name (Io), Semi Major Axis (421800000), Inclination (0.00062831853071), Eccentricity (0), Long Perihelion (4.68969970010876), Long Asc Node (0.77318085863348), Mean Longitude (2.74365758413509), Mass (8.932E+22), Size (1821600), Albedo R (0.41), Albedo G (0.33), Albedo B (0.32), Sidereal Rot Period (152853.504), Obliquity (0.0388), LAN (2.752), Atm Pressure0 (0.0001), Atm Density0 (0.0001), Atm Gas Constant (1.92), Atm Gamma (0.3333), Atm Alt Limit (20000), Atm Horizon Alt (30000), Atm Haze Extent (0.07), Atm Haze Den (1.5), Atm Haze Shift (0), Atm Color R (0.12), Atm Color G (0.04), Atm Color B (0.03), Atm Haze Color R (0.31), Atm Haze Color G (0.18), Atm Haze Color B (0.18), Cloud Alt (0), Cloud Rot Period (0), Cloud Shadow Depth (0), Cloud Microtexture Alt L (0), and Cloud Microtexture Alt U (0).

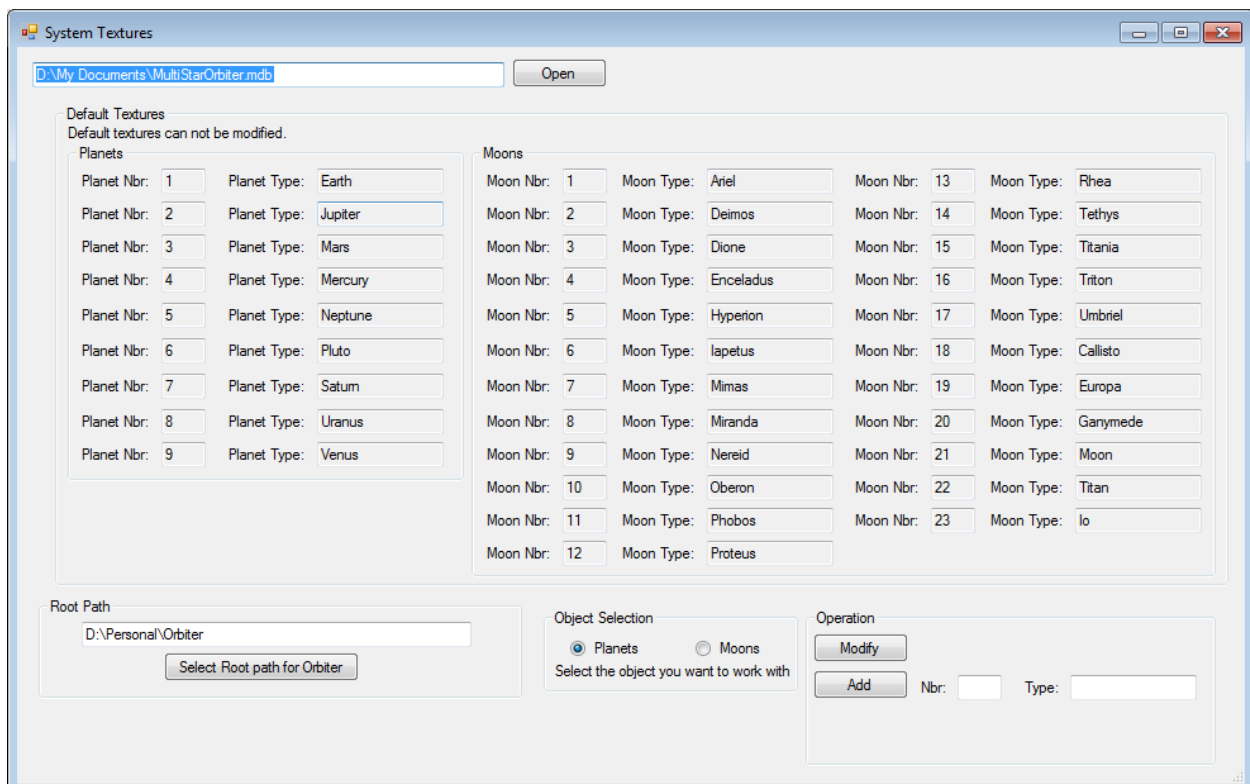
You can change any data you wish. Just remember, bad data will either end up looking bad or causing a CTOD in orbiter.

Importing Texture files.

After you have created a new planet or moon texture file and moved it to the “Textures” folder, Click on the “Import .TEX Files” button.



The basic orbiter textures appear along with three I have included (Pluto, Deimos and Phobos)



MultiStarOrbiter

To modify a texture you have already created, select either Planets or Moons and click on the “Modify” button.

The screenshot shows the 'System Textures' dialog box in MultiStarOrbiter. The window title is 'System Textures'. At the top, there is a file path 'D:\My Documents\MultiStarOrbiter.mdb' and an 'Open' button. Below this, a section titled 'Default Textures' states 'Default textures can not be modified.' The main area is divided into two columns: 'Planets' and 'Moons'. Each column contains a list of objects with their numbers and types. The 'Planets' column lists 9 planets (Earth to Venus), and the 'Moons' column lists 23 moons (Ariel to Proteus). At the bottom, there are three sections: 'Root Path' with a text field 'D:\Personal\Orbiter' and a 'Select Root path for Orbiter' button; 'Object Selection' with radio buttons for 'Planets' (selected) and 'Moons', and a label 'Select the object you want to work with'; and 'Operation' with a 'Modify' button, a 'Cancel' button, and two checkboxes labeled 'Find Nbr' and 'Find Type'.

Planets		Moons			
Planet Nbr:	Planet Type:	Moon Nbr:	Moon Type:	Moon Nbr:	Moon Type:
1	Earth	1	Ariel	13	Rhea
2	Jupiter	2	Deimos	14	Tethys
3	Mars	3	Dione	15	Titania
4	Mercury	4	Enceladus	16	Triton
5	Neptune	5	Hyperion	17	Umbriel
6	Pluto	6	Iapetus	18	Callisto
7	Saturn	7	Mimas	19	Europa
8	Uranus	8	Miranda	20	Ganymede
9	Venus	9	Nereid	21	Moon
		10	Oberon	22	Titan
		11	Phobos	23	Io
		12	Proteus		

MultiStarOrbiter

Enter the number in the number field and Click on “Find Number” or the name in the name field and click on “Find Name”.

The screenshot shows the 'System Textures' dialog box in MultiStarOrbiter. The window title is 'System Textures'. At the top, there is a file path 'D:\My Documents\MultiStarOrbiter.mdb' and an 'Open' button. Below this, a section titled 'Default Textures' states 'Default textures can not be modified.' and contains two columns of planet data:

Planets	
Planet Nbr: 1	Planet Type: Earth
Planet Nbr: 2	Planet Type: Jupiter
Planet Nbr: 3	Planet Type: Mars
Planet Nbr: 4	Planet Type: Mercury
Planet Nbr: 5	Planet Type: Neptune
Planet Nbr: 6	Planet Type: Pluto
Planet Nbr: 7	Planet Type: Saturn
Planet Nbr: 8	Planet Type: Uranus
Planet Nbr: 9	Planet Type: Venus

To the right of the planet list is a 'Moons' section with a similar table:

Moons			
Moon Nbr: 1	Moon Type: Ariel	Moon Nbr: 13	Moon Type: Rhea
Moon Nbr: 2	Moon Type: Deimos	Moon Nbr: 14	Moon Type: Tethys
Moon Nbr: 3	Moon Type: Dione	Moon Nbr: 15	Moon Type: Titania
Moon Nbr: 4	Moon Type: Enceladus	Moon Nbr: 16	Moon Type: Triton
Moon Nbr: 5	Moon Type: Hyperion	Moon Nbr: 17	Moon Type: Umbriel
Moon Nbr: 6	Moon Type: Iapetus	Moon Nbr: 18	Moon Type: Callisto
Moon Nbr: 7	Moon Type: Mimas	Moon Nbr: 19	Moon Type: Europa
Moon Nbr: 8	Moon Type: Miranda	Moon Nbr: 20	Moon Type: Ganymede
Moon Nbr: 9	Moon Type: Nereid	Moon Nbr: 21	Moon Type: Moon
Moon Nbr: 10	Moon Type: Oberon	Moon Nbr: 22	Moon Type: Titan
Moon Nbr: 11	Moon Type: Phobos	Moon Nbr: 23	Moon Type: Io
Moon Nbr: 12	Moon Type: Proteus		

Below the planet and moon lists are three main sections:

- Root Path:** A text field containing 'D:\Personal\Orbiter' and a 'Select Root path for Orbiter' button.
- Object Selection:** Radio buttons for 'Planets' (selected) and 'Moons', with the instruction 'Select the object you want to work with'.
- Operation:** A 'Modify' button, a 'Cancel' button, a 'Nbr:' field with the value '10', a 'Type:' field with the value 'Terminus', and a 'Save' button.

Once it shows up, You can change the name to another texture you have created. Click on “Save”.

MultiStarOrbiter

To add a texture you have already created, select either Planets or Moons and click on the “Add” button.

The screenshot shows the 'System Textures' dialog box in MultiStarOrbiter. The window title is 'System Textures'. At the top, there is a file path 'D:\My Documents\MultiStarOrbiter.mdb' and an 'Open' button. Below this, a section titled 'Default Textures' states 'Default textures can not be modified.' The main area is divided into two columns: 'Planets' and 'Moons'. Each column contains a list of objects with their numbers and types. The 'Planets' column lists 9 objects (Earth to Venus), and the 'Moons' column lists 23 objects (Ariel to Io). At the bottom, there is a 'Root Path' section with a text box containing 'D:\Personal\Orbiter' and a 'Select Root path for Orbiter' button. To the right of this is an 'Object Selection' section with radio buttons for 'Planets' (selected) and 'Moons', and a label 'Select the object you want to work with'. Further right is an 'Operation' section with an 'Add' button, a 'Nbr' field with the value '11', a 'Type' field with the value 'Terminus', and a 'Save' button. A 'Cancel' button is also present at the top right of the 'Operation' section.

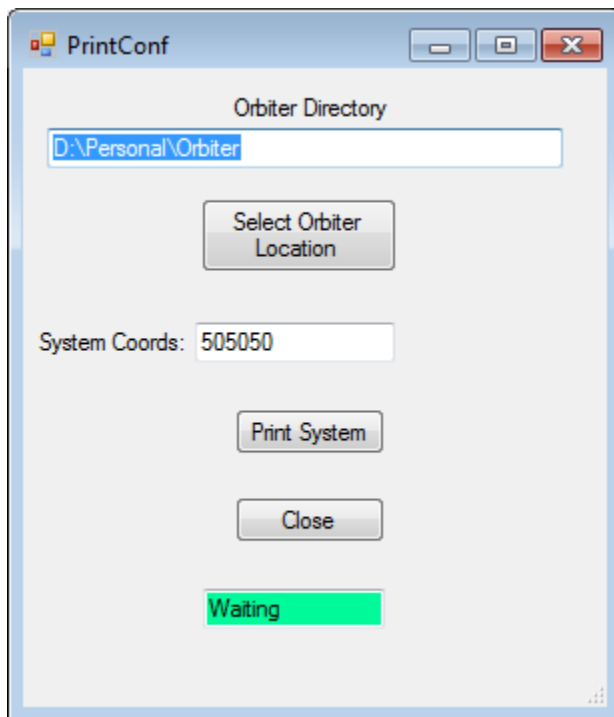
Planets		Moons			
Planet Nbr: 1	Planet Type: Earth	Moon Nbr: 1	Moon Type: Ariel	Moon Nbr: 13	Moon Type: Rhea
Planet Nbr: 2	Planet Type: Jupiter	Moon Nbr: 2	Moon Type: Deimos	Moon Nbr: 14	Moon Type: Tethys
Planet Nbr: 3	Planet Type: Mars	Moon Nbr: 3	Moon Type: Dione	Moon Nbr: 15	Moon Type: Titania
Planet Nbr: 4	Planet Type: Mercury	Moon Nbr: 4	Moon Type: Enceladus	Moon Nbr: 16	Moon Type: Triton
Planet Nbr: 5	Planet Type: Neptune	Moon Nbr: 5	Moon Type: Hyperion	Moon Nbr: 17	Moon Type: Umbriel
Planet Nbr: 6	Planet Type: Pluto	Moon Nbr: 6	Moon Type: Iapetus	Moon Nbr: 18	Moon Type: Callisto
Planet Nbr: 7	Planet Type: Saturn	Moon Nbr: 7	Moon Type: Mimas	Moon Nbr: 19	Moon Type: Europa
Planet Nbr: 8	Planet Type: Uranus	Moon Nbr: 8	Moon Type: Miranda	Moon Nbr: 20	Moon Type: Ganymede
Planet Nbr: 9	Planet Type: Venus	Moon Nbr: 9	Moon Type: Nereid	Moon Nbr: 21	Moon Type: Moon
		Moon Nbr: 10	Moon Type: Oberon	Moon Nbr: 22	Moon Type: Titan
		Moon Nbr: 11	Moon Type: Phobos	Moon Nbr: 23	Moon Type: Io
		Moon Nbr: 12	Moon Type: Proteus		

Enter the name of the texture and click on the “Save” button.

You can now close the form.

Creating a System Configuration File

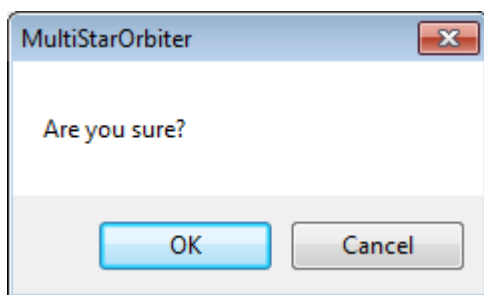
After finding a system in Edit Star Systems, click on the “Create Cnf Files” button.



The Orbiter Directory path is filled from the INI file.

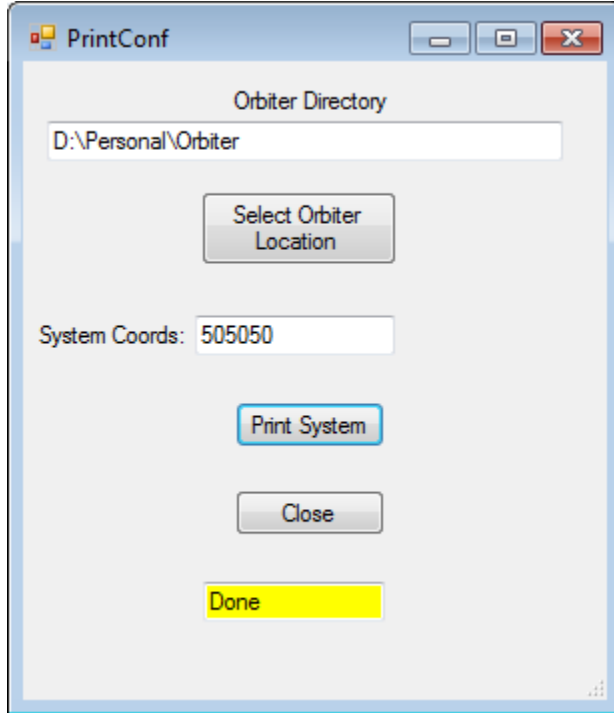
Click on the “Print System” button.

A warning window pops up. Note that clicking “OK” will create a number of .CNF files in your Config folder.



MultiStarOrbiter

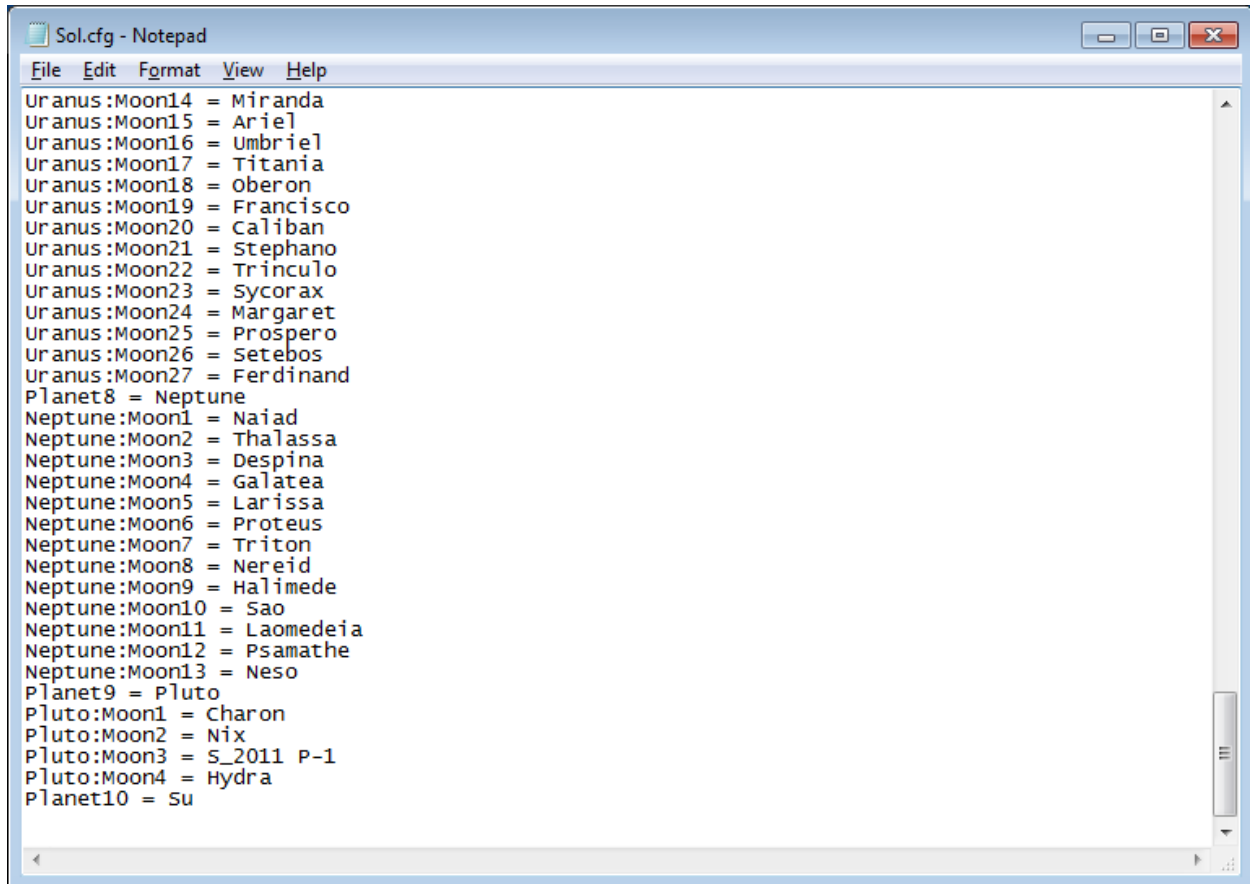
Once the file creation process is complete, you will get a yellow “Done” at the bottom.



Once done, close the form.

System Configuration file modification

If you have the Add-On “3D Sun” from dagoO, you will need to modify the system config file. Locate the file in the config folder, and edit it by adding another planet at the bottom. (Planetxx = Su where xx is the next available planet)

A screenshot of a Notepad window titled "Sol.cfg - Notepad". The window displays a list of celestial bodies in a text file format. The list includes moons of Uranus, Neptune, and Pluto, followed by planets Neptune, Pluto, and a placeholder "Su".

```
Sol.cfg - Notepad
File Edit Format View Help
Uranus:Moon14 = Miranda
Uranus:Moon15 = Ariel
Uranus:Moon16 = Umbriel
Uranus:Moon17 = Titania
Uranus:Moon18 = Oberon
Uranus:Moon19 = Francisco
Uranus:Moon20 = Caliban
Uranus:Moon21 = Stephano
Uranus:Moon22 = Trinculo
Uranus:Moon23 = Sycorax
Uranus:Moon24 = Margaret
Uranus:Moon25 = Prospero
Uranus:Moon26 = Setebos
Uranus:Moon27 = Ferdinand
Planet8 = Neptune
Neptune:Moon1 = Naiad
Neptune:Moon2 = Thalassa
Neptune:Moon3 = Despina
Neptune:Moon4 = Galatea
Neptune:Moon5 = Larissa
Neptune:Moon6 = Proteus
Neptune:Moon7 = Triton
Neptune:Moon8 = Nereid
Neptune:Moon9 = Halimede
Neptune:Moon10 = Sao
Neptune:Moon11 = Laomedeia
Neptune:Moon12 = Psamathe
Neptune:Moon13 = Neso
Planet9 = Pluto
Pluto:Moon1 = Charon
Pluto:Moon2 = Nix
Pluto:Moon3 = S_2011 P-1
Pluto:Moon4 = Hydra
Planet10 = Su
```

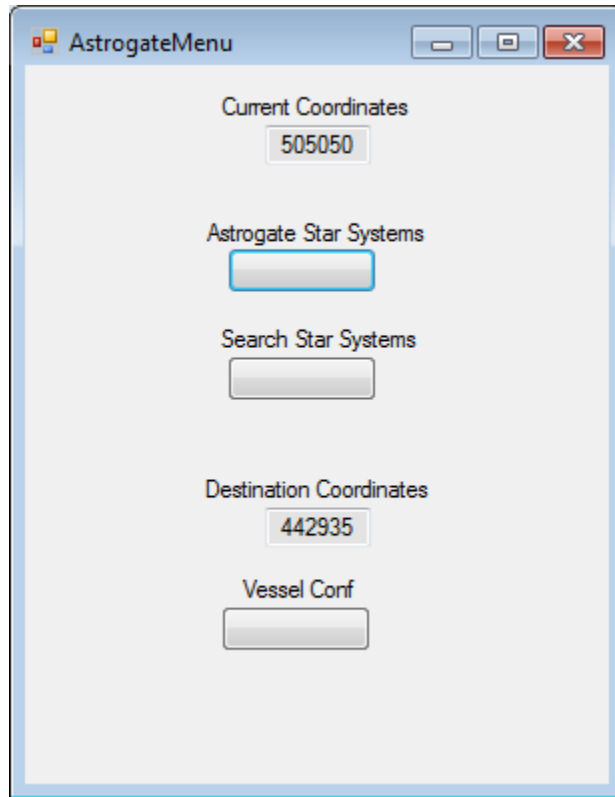
Here is the Add-On download:

<http://orbithangar.com/searchid.php?ID=4284>

Launching AstrogateStars

Double click on AstrogateStars.exe

(If it does not launch, try running MultiStarOrbiter first and creating an .INI file.)



Galaxy Navigation

Clicking on the “Astrogate Star Systems” button brings up a form that I am developing into a Galaxy navigation system. This is not fully implemented at this time as I am not fully convinced my math is working correctly. To use, simply but a destination coordinate in, enter a range (between 1 and 6, inclusive). Click on Calculate. Click on Jump. Repeat the last two steps until you arrive at your destination.

The screenshot shows a software window titled "Astrogate" with a standard Windows-style title bar (blue with a close button). The window contains several input fields and buttons for navigation calculations. The layout is as follows:

- Current Coordinates:** Three input fields labeled X1, Y1, and Z1. X1 contains the value 50, Y1 contains 50, and Z1 contains 50.
- Heading:** Three input fields labeled XY, XZ, and Range. All are currently empty.
- Destination Coordinates:** Three input fields labeled X2, Y2, and Z2. X2 contains 44, Y2 contains 29, and Z2 contains 35.
- Ship Rotation:** Two input fields labeled X and Z. Both are empty.
- Course:** Three input fields labeled XY Course, Total Dist., and XZ Course. All are empty.
- Next Location:** Three input fields labeled X, Y, and Z. All are empty.
- Buttons:** A "Calculate" button is located to the right of the Heading fields. "OK" and "Cancel" buttons are located at the bottom right of the window.

Searching the Galaxy

Click on the “Search Star Systems” button. It behaves just like “Editing Star Systems” in MultiStarOrbiter but does not have the edit function. It has a more extensive search parameter that is based on the current location in Galaxy Navigation. For the time being, enter 99 in “Range to Search”. Hovering your cursor over the “Enter Selection Data” field will explain what can be entered there.

The **SearchStars** dialog box is used for searching star systems. It features the following sections and fields:

- Star System:**
 - Select By:** Enter Selection Data (505050), Range to search.
 - Select By:** Star Coord, Star Name, Stellar Type, Star Type.
 - Origin:** 505050, **Destination:** 505050.
 - Just closing will not save current records.**
 - Star System:** Star Coord, System Name, Star Name, Stellar Type, Star Type, Mass, Radius, Star Color R, Star Color B, Star Color G, Long Asc Node, Nbr Planets.
- Planets:**
 - Select:** [Select]
 - Planet Type:**, **Planet Name:**, **Semi Major Axis:**, **Eccentricity:**, **Inclination:**, **Long Perihelion:**, **Long Asc Node:**, **Mean Longitude:**, **Mass:**, **Size:**, **Albedo R:**, **Albedo G:**, **Albedo B:**, **Sidreal Rot Period:**, **Obliquity:**, **LAN:**, **Atm Pressure0:**, **Atm Density0:**, **Atm Gas Constant:**, **Atm Gamma:**, **Atm Alt Limit:**, **Atm Horizon Alt:**, **Atm Haze Shift:**, **Atm Color R:**, **Atm Color G:**, **Atm Color B:**, **Atm Haze Color R:**, **Atm Haze Color G:**, **Atm Haze Color B:**, **Atm Haze Extent:**, **Cloud Alt:**, **Cloud Rot Period:**, **Cloud Shadow Depth:**, **Cloud Microtexture Alt L:**, **Cloud Microtexture Alt U:**, **Nbr Moons:**, **Rings L:**, **Rings U:**, **Planet IDX:**.
- Moons:**
 - Select:** [Select]
 - Moon Type:**, **Moon Name:**, **Semi Major Axis:**, **Inclination:**, **Long Perihelion:**, **Long Asc Node:**, **Mean Longitude:**, **Mass:**, **Size:**, **Albedo R:**, **Albedo G:**, **Albedo B:**, **Sidreal Rot Period:**, **Obliquity:**, **LAN:**, **Atm Pressure0:**, **Atm Density0:**, **Atm Gas Constant:**, **Atm Alt Limit:**, **Atm Horizon Alt:**, **Atm Haze Extent:**, **Atm Haze Den:**, **Atm Haze Shift:**, **Atm Color R:**, **Atm Color G:**, **Atm Color B:**, **Atm Haze Color R:**, **Atm Haze Color G:**, **Atm Haze Color B:**, **Atm Haze Color G:**, **Cloud Alt:**, **Cloud Rot Period:**, **Cloud Shadow Depth:**, **Cloud Microtexture Alt L:**, **Cloud Microtexture Alt U:**, **Moon IDX:**.

At the bottom, there are fields for **Distance from Current Location**, **Systems Found**, **Inner HGZ**, **Outer HGZ**, and **Current Planet's location**. **OK** and **Cancel** buttons are at the bottom right.

MultiStarOrbiter

Once you have found a Star System, you can browse it. If you find a planet that is in the Habitable Zone, a pop-up appears indicating the planet's name.

The **SearchStars** window is divided into several sections:

- Select By:** Includes fields for "Enter Selection Data" (505050) and "Range to search" (99). Below are checkboxes for "Star Coord", "Star Name", "Stellar Type", and "Star Type".
- Origin/Destination:** Fields for "Origin" (505050) and "Destination" (442935).
- Star System:** Fields for "Star Coord" (442935), "System Name" (System 442935), "Star Name" (442935), "Stellar Type" (M11a), "Star Type" (M), "Mass" (2.526157E+31), "Radius" (1128074040000), "Star Color R" (1), "Star Color B" (0.79215686274509), "Star Color G" (0.54117647058823), "Long Asc Node", and "Nbr Planets" (5).
- Planets:** A table of planet data with "Next" and "Select" buttons. The table includes fields like Planet Type, Planet Name, Semi Major Axis, Eccentricity, Inclination, Long Perihelion, Long Asc Node, Mean Longitude, Mass, Size, Albedo R, Albedo G, Albedo B, Sidereal Rot Period, Obliquity, LAN, Atm Pressure0, Atm Density0, Atm Gas Constant, Atm Gamma, Atm Alt Limit, Atm Horizon Alt, Atm Haze Shift, Atm Color R, Atm Color B, Atm Haze Color R, Atm Haze Color B, Atm Haze Color G, Atm Haze Color B, Cloud Alt, Cloud Rot Period, Cloud Shadow Depth, Cloud Microtexture Alt L, Cloud Microtexture Alt U, Nbr Moons, Rings L, Rings U, and Planet IDX.
- Moons:** A table of moon data with "Next" and "Select" buttons. The table includes fields like Moon Type, Moon Name, Semi Major Axis, Eccentricity, Long Perihelion, Long Asc Node, Mean Longitude, Mass, Size, Albedo R, Albedo G, Albedo B, Sidereal Rot Period, Obliquity, LAN, Atm Pressure0, Atm Density0, Atm Gas Constant, Atm Gamma, Atm Alt Limit, Atm Horizon Alt, Atm Haze Shift, Atm Haze Color R, Atm Haze Color B, Atm Haze Color G, Atm Haze Color B, Cloud Alt, Cloud Rot Period, Cloud Shadow Depth, Cloud Microtexture Alt L, Cloud Microtexture Alt U, and Moon IDX.
- Summary:** Fields for "Distance from Current Location", "Systems Found" (2), "Inner HGZ" (7.08134553213261), "Outer HGZ" (10.201738660547), and "Current Planet's location" (1.7305685602608).
- Buttons:** "OK" and "Cancel" buttons at the bottom right.



Click on "OK" to continue browsing.

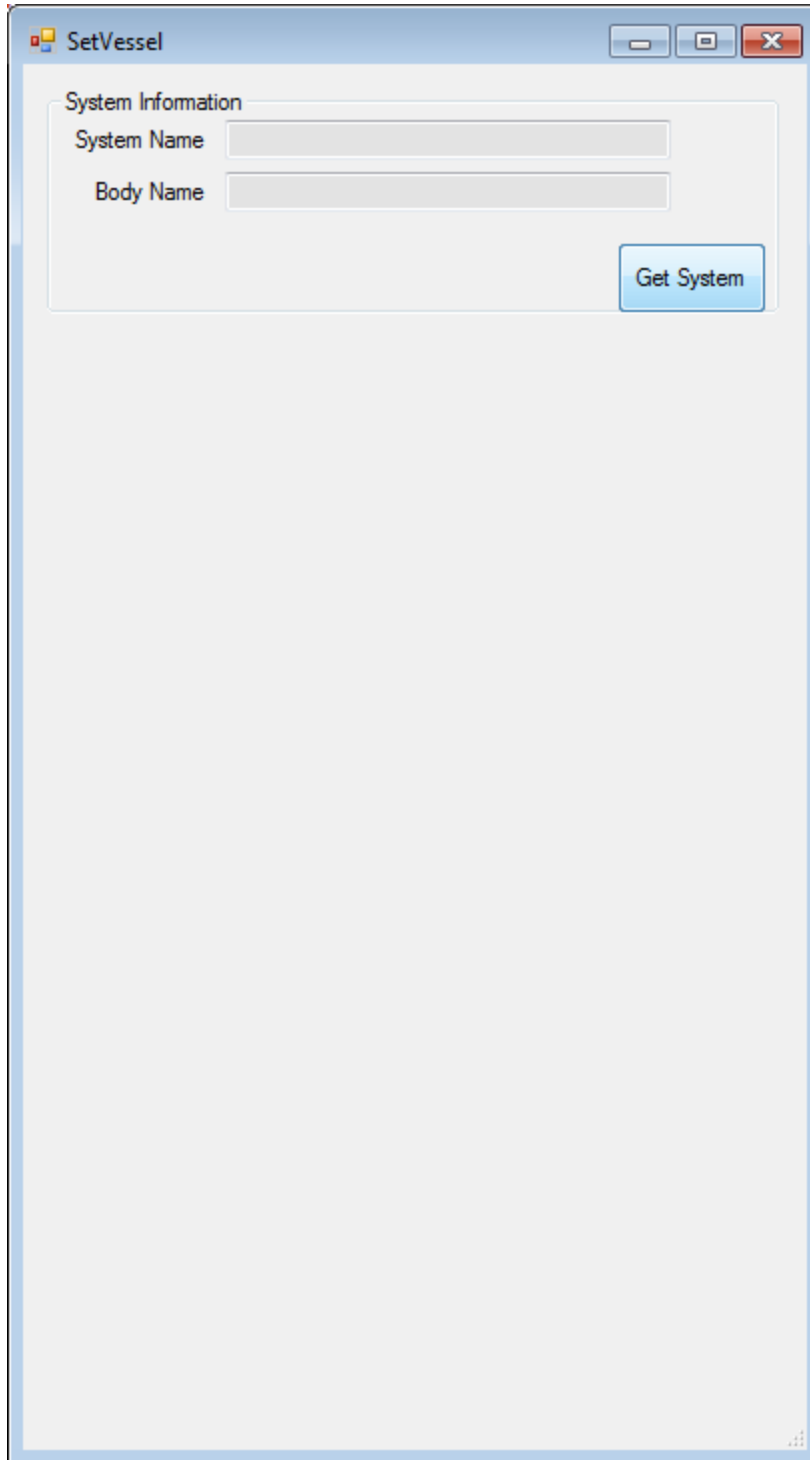
When done, Close the form.

You can also create the Config files just like in "Edit Star Systems".

Creating a Scenario

Click on the button “Vessel Conf”

Click on “Get System”.



The screenshot shows a Windows-style dialog box titled "SetVessel". It has a standard title bar with minimize, maximize, and close buttons. The main content area is divided into a "System Information" section at the top, which contains two text input fields: "System Name" and "Body Name". To the right of these fields is a blue button labeled "Get System". The rest of the dialog box is a large, empty light gray area.

MultiStarOrbiter

The “Search Star Systems” form appears. Navigate to the Star System you want. Select the Star, Planet or moon you want to orbit and click on the corresponding “Select” button.

SearchStars

Select By
Enter Selection Data: g2v
Range to search: 99
Select By: ☐ Star Coord ☐ Star Name ☐ Stellar Type ☐ Star Type
Create Crf Files
Origin: Destination:
Just closing will not save current records
Star System
Star Coord: 505050
System Name: Sol
Star Name: Sun
Stellar Type: G2V
Star Type: G
Mass: 1.9891E+30
Radius: 695500000
Star Color R: 0.71372549019607
Star Color B: 0.35686274509803
Star Color G: 0.49411764705882
Long Asc Node:
Nbr Planets: 9

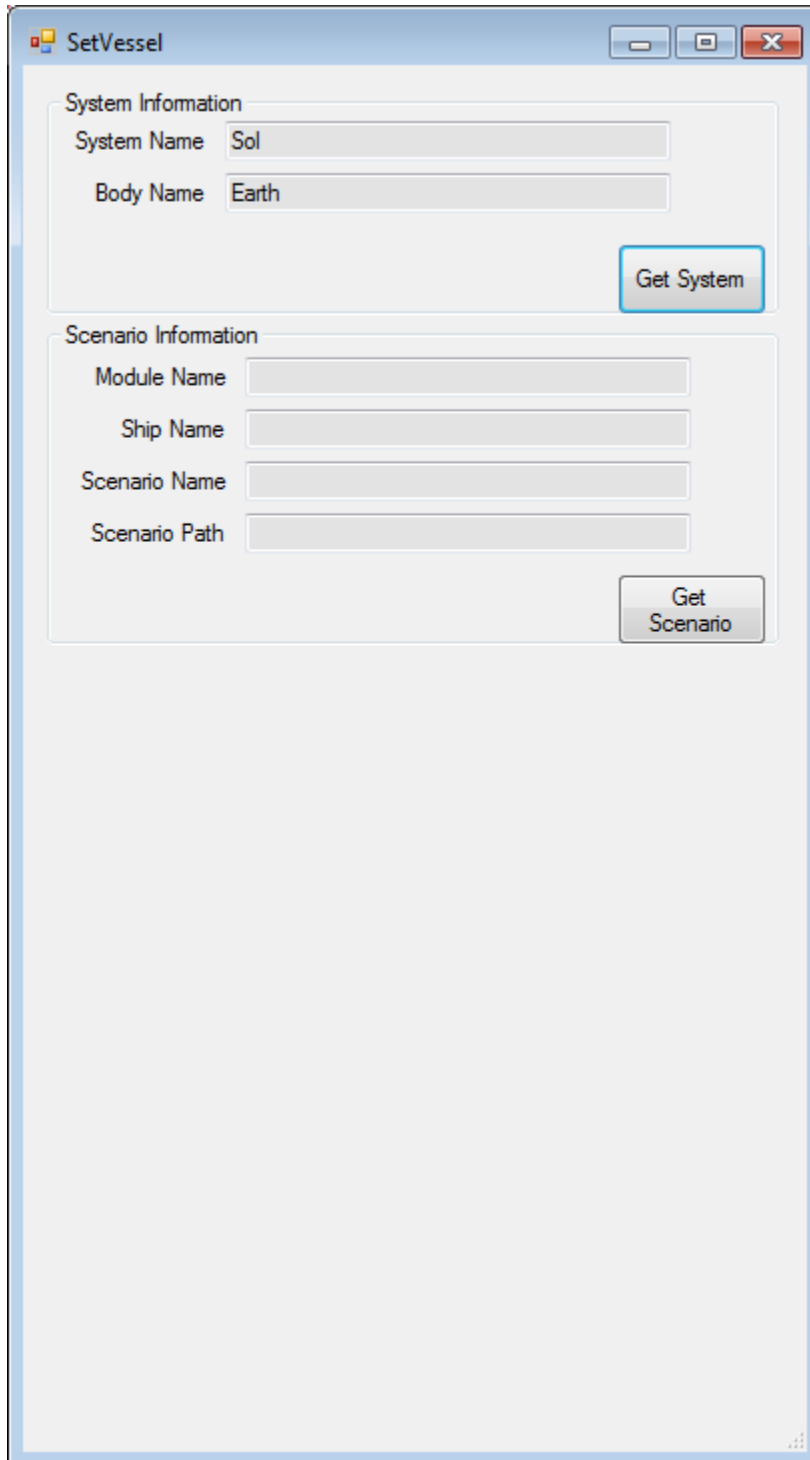
Planets
Next ☐ Previous ☐ Select ☒
Planet Type: 1
Planet Name: Earth
Semi Major Axis: 149600000000
Eccentricity: 0.0167
Inclination: 0
Long Perihelion: 1.79676742117618
Long Asc Node: -0.19653524388177
Mean Longitude: 1.75343368837597
Mass: 5.973698968E+24
Size: 6378100
Albedo R: 0.7
Albedo G: 0.85
Albedo B: 1
Sidereal Rot Period: 86164.09
Obliquity: 0.4092797095927
LAN: 0
Atm Pressure0: 101400
Atm Density0: 1.293
Atm Gas Constant: 286.91
Atm Gamma: 1.4
Atm Alt Limit: 200000
Atm Horizon Alt: 64000
Atm Haze Shift: 0
Atm Color R: 0.61
Atm Color B: 0.8
Atm Haze Color R: 0.75
Atm Haze Color G: 0.9
Atm Haze Color B: 1
Atm Haze Den: 0
Atm Haze Extent: 0.15
Cloud Alt: 7000
Cloud Rot Period: 1000000
Cloud Shadow Depth: 0.3
Cloud Microtexture Alt L: 35000
Cloud Microtexture Alt U: 250000
Nbr Moons: 1
Rings L: 0
Rings U: 0
Planet IDX: 50505003

Moons
Select ☐
Moon Type: 21
Moon Name: Moon
Semi Major Axis: 384400000
Eccentricity: 0.0554
Inclination: 0.09005898940290
Long Perihelion: 5.55276501521996
Long Asc Node: 2.18305782839451
Mean Longitude: 2.36090687917273
Mass: 7.3477E+22
Size: 1737100
Albedo R: 0.7
Albedo G: 0.85
Albedo B: 1
Sidereal Rot Period: 2360591.597
Obliquity: 0.02692024985275
LAN: 0
Atm Pressure0: 0
Atm Density0: 0
Atm Gas Constant: 0
Atm Gamma: 0
Atm Alt Limit: 0
Atm Horizon Alt: 0
Atm Haze Extent: 0
Atm Haze Den: 0
Atm Haze Shift: 0
Atm Color R: 0
Atm Color G: 0
Atm Color B: 0
Atm Haze Color R: 0
Atm Haze Color G: 0
Atm Haze Color B: 0
Cloud Alt: 0
Cloud Rot Period: 0
Cloud Shadow Depth: 0
Cloud Microtexture Alt L: 0
Cloud Microtexture Alt U: 0
Moon IDX: 5050500301

Distance from Current Location:
Systems Found: 1
Inner HGZ: 85280286542244
Outer HGZ: 1.2285902336679
Current Planet's location: 1.00001423349136
OK Cancel

Click on “OK”

Click on “Get Scenario”



The screenshot shows a Windows-style dialog box titled "SetVessel". It contains two main sections: "System Information" and "Scenario Information".

System Information:

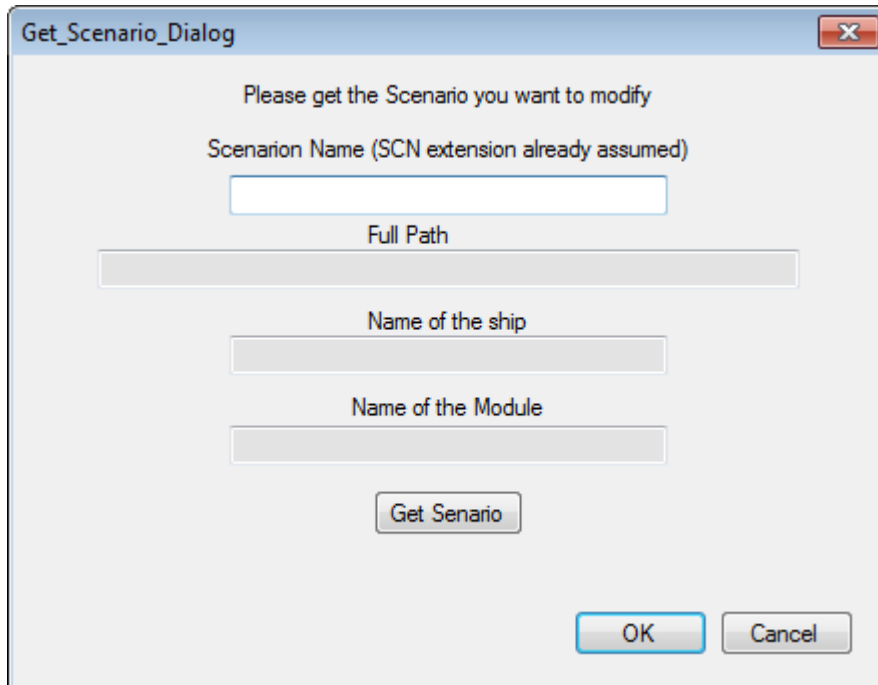
- System Name:** A text field containing the value "Sol".
- Body Name:** A text field containing the value "Earth".
- Get System:** A button located to the right of the System Name and Body Name fields.

Scenario Information:

- Module Name:** An empty text field.
- Ship Name:** An empty text field.
- Scenario Name:** An empty text field.
- Scenario Path:** An empty text field.
- Get Scenario:** A button located to the right of the Scenario Name and Scenario Path fields.

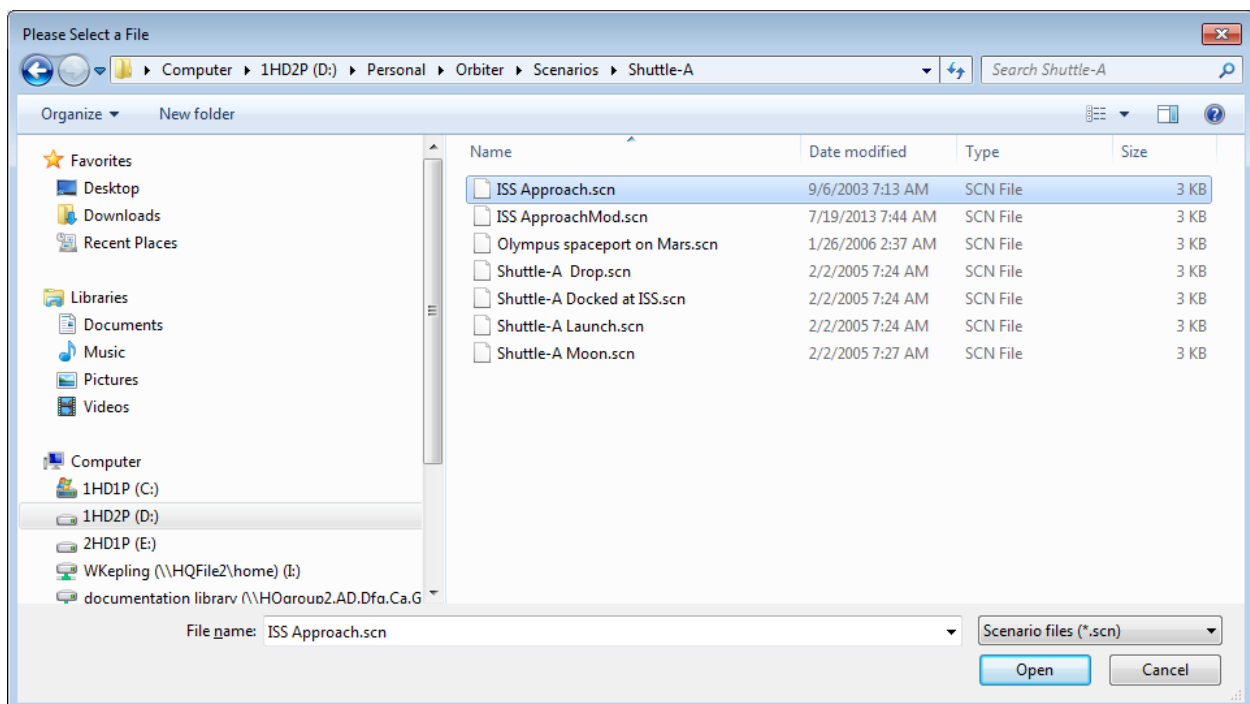
MultiStarOrbiter

Click on the “Get Scenario” button

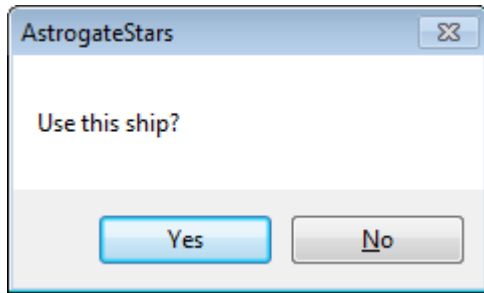


Navigate to and select the scenario that has the vessel you want in orbit over the selected system.

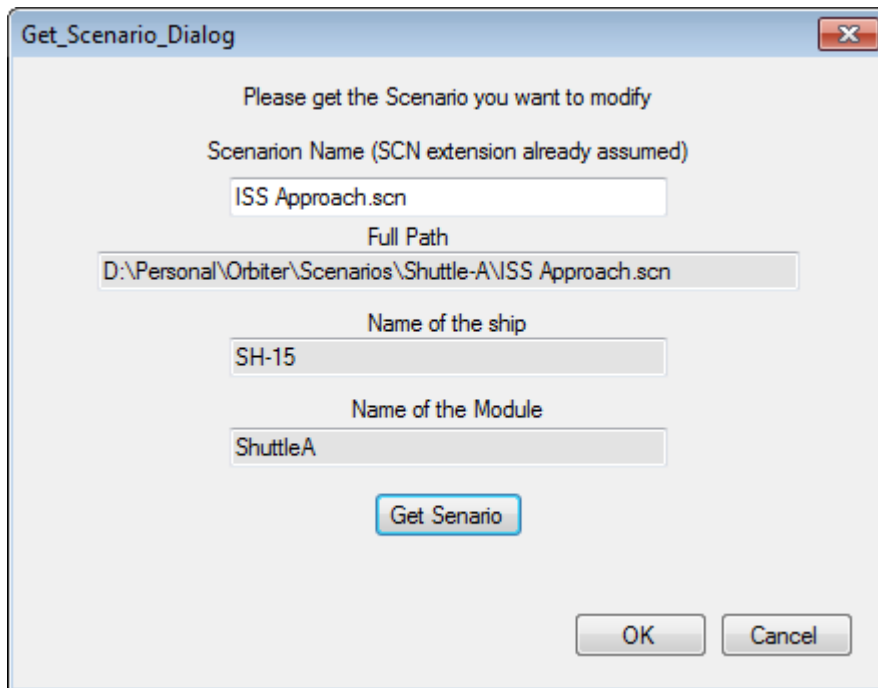
Click on “Open”.



If the ship shows up on the pop-up, click Yes. Click No until it doe.



Once you have the ship, click on "OK".



MultiStarOrbiter

Enter the height of the orbit above the surface of the body in meters. If there is an atmosphere and the orbit is in it, the form will let you know and ask for another value.

SetVessel

System Information

System Name:

Body Name:

Scenario Information

Module Name:

Ship Name:

Scenario Name:

Scenario Path:

Orbital Elements

Body's Mass in Kilograms:

Body's Radius in Meters:

Height of Orbit above Planet's Surface in Meters:

Desired SMA:

Desired LAN:

Desired Inclination:

Desired MJD Date:

RPOS:

RVEL:

MultiStarOrbiter

Enter the Semi-Major Axis for the orbit. It has to be greater than or equal to the Orbit Height.

SetVessel

System Information

System Name:

Body Name:

Scenario Information

Module Name:

Ship Name:

Scenario Name:

Scenario Path:

Orbital Elements

Body's Mass in Kilograms:

Body's Radius in Meters:

Height of Orbit above Planet's Surface in Meters:

Desired SMA:

Desired LAN:

Desired Inclination:

Desired MJD Date:

RPOS:

RVEL:

Enter the desired LAN (≥ 0 or < 360)

SetVessel

System Information

System Name:

Body Name:

Scenario Information

Module Name:

Ship Name:

Scenario Name:

Scenario Path:

Orbital Elements

Body's Mass in Kilograms:

Body's Radius in Meters:

Height of Orbit above Planet's Surface in Meters:

Desired SMA:

Desired LAN:

Desired Inclination:

Desired MJD Date:

RPOS:

RVEL:

Enter the desired inclination (≥ 0 or ≤ 90)

SetVessel

System Information

System Name:

Body Name:

Scenario Information

Module Name:

Ship Name:

Scenario Name:

Scenario Path:

Orbital Elements

Body's Mass in Kilograms:

Body's Radius in Meters:

Height of Orbit above Planet's Surface in Meters:

Desired SMA:

Desired LAN:

Desired Inclination:

Desired MJD Date:

RPOS:

RVEL:

MultiStarOrbiter

Enter the desired MJD date. Use this format: DD/MM/YYYY HH:MM:SS xM (where x is either A or P)

The screenshot shows a Windows-style dialog box titled "SetVessel". It contains three main sections: "System Information", "Scenario Information", and "Orbital Elements".

System Information:

- System Name: Sol
- Body Name: Earth
- Get System button

Scenario Information:

- Module Name: ShuttleA
- Ship Name: SH-15
- Scenario Name: ISS Approach1.scn
- Scenario Path: D:\Personal\Orbiter\Scenarios\Shuttle-A\ISS
- Get Scenario button

Orbital Elements:

- Body's Mass in Kilograms: 5.973698968E+24
- Body's Radius in Meters: 6378100
- Height of Orbit above Planet's Surface in Meters: 374000
- Desired SMA: 6752100
- Desired LAN: 169.03
- Desired Inclination: 74.51
- Desired MJD Date: 8/26/2013 8:20:50 AM
- RPOS: [empty text box]
- RVEL: [empty text box]
- Calculate Orbit button

MultiStarOrbiter

Click on the “Calculate Orbit” button.

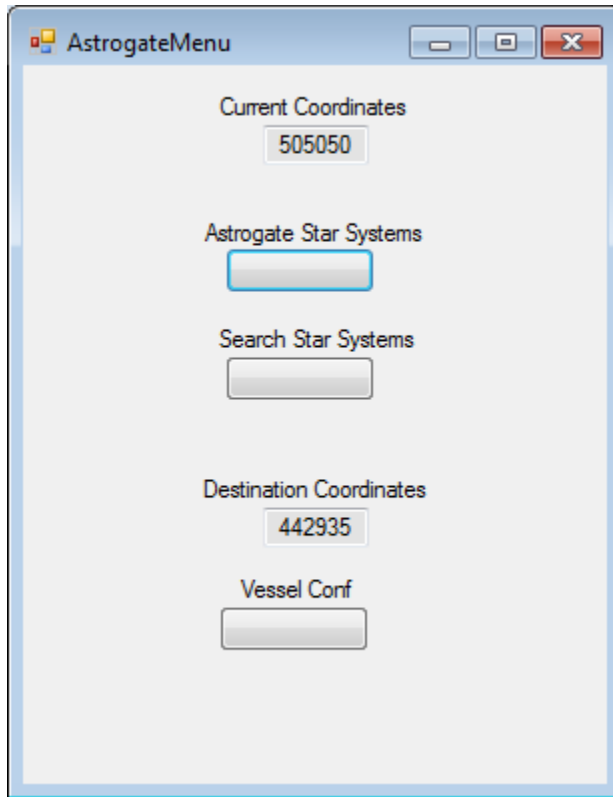
The screenshot shows the 'SetVessel' window with the following fields and buttons:

- System Information:**
 - System Name: Sol
 - Body Name: Earth
 - Get System button
- Scenario Information:**
 - Module Name: ShuttleA
 - Ship Name: SH-15
 - Scenario Name: ISS Approach1.scn
 - Scenario Path: D:\Personal\Orbiter\Scenarios\Shuttle-A\ISS
 - Get Scenario button
- Orbital Elements:**
 - Body's Mass in Kilograms: 5.973698968E+24
 - Body's Radius in Meters: 6378100
 - Height of Orbit above Planet's Surface in Meters: 374000
 - Desired SMA: 6752100
 - Desired LAN: 169.03
 - Desired Inclination: 74.51
 - Desired MJD Date: 8/26/2013 8:20:50 AM
 - RPOS: -1770333.11 6387944.17 1284890.81
 - RVEL: -390.41 1408.72 -7541.47
 - Calculate Orbit button (highlighted with a blue border)
 - Write Scenario button

For now, this is semi-accurate orbit over the body. I have not been successful in including the AgP into my orbit calculations. Eventually, I hope to figure out how to do this.

Click on the “Write Scenario” button.

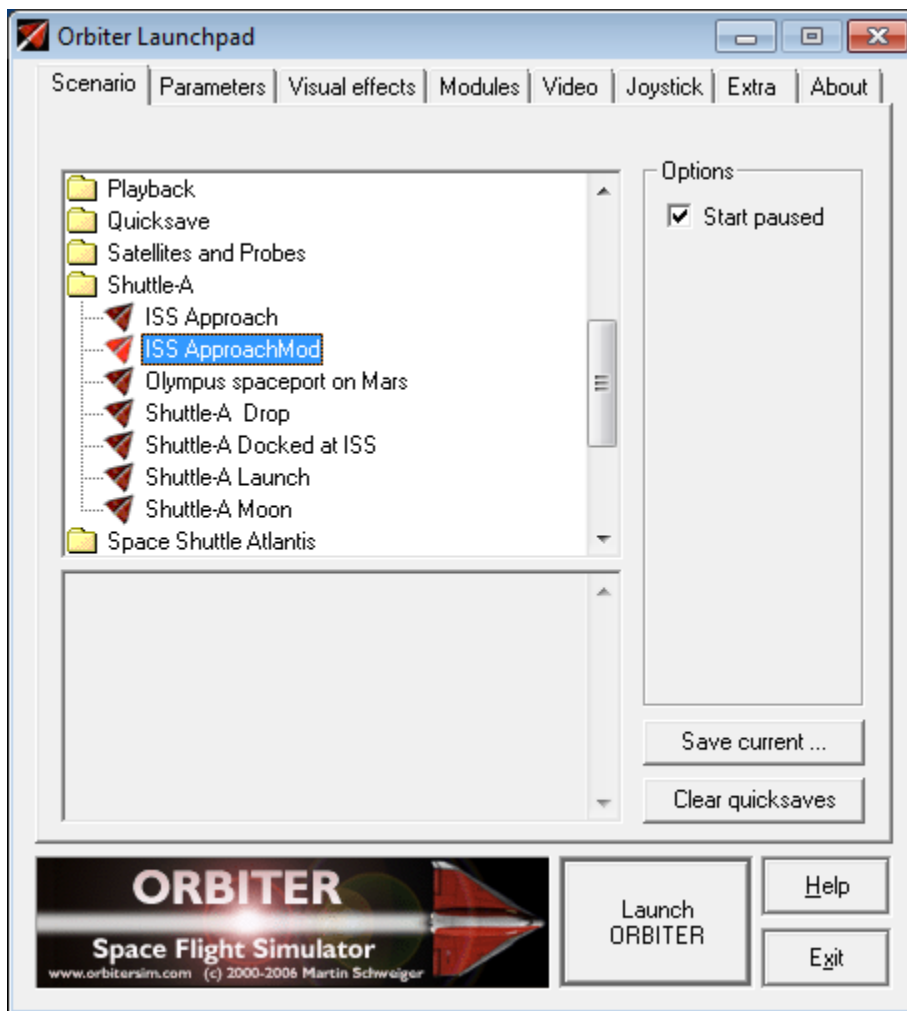
You can now close the SetVessel form.



You can now exit the program.

Launching Orbiter

The new scenario will be located in the base folder of the scenario you selected in “Astrogate”.



At this time, only the ship you selected will be in the orbit that was calculated. All other vessels will still have their old RPOS and RVEL parameters and will likely be either transported to the star, crashing into the body or going into orbit around the star. If your vessel was docked, the object it was docked with will come along nicely as well.

I plan improvements to this utility as soon as I can get the math figured out.

Contact info

Contact Albinon on the Orbiter forum.

<http://www.orbiter-forum.com/>