

# InkWelle Particle Designer

The InkWelle Particle Designer is a tool that allows you to interactively design a particle system, then output code that you can use in your in-world particle generator. Controlled by clicking buttons or accessing a menu.

For more information about this and other products by InkWelle, including a Support FAQ, please visit www.inkwelle.com.

For technical support, please IM Davie Zinner. For information about InkWelle and other InkWelle products, please IM Katie Welles.

# Table of Contents

Sectior	1: Overview and Setup	2
1.1	Who Should Use This Product?	2
1.2	User Access	2
1.3	Features	2
1.4	Setup	3
1.5	Load Particle Textures	3
Sectior	2: Operation	3
2.1	General Operation Steps	3
2.2	Hover Text	4
2.3	Button Categories	4
2.4	Understanding the Particle Designer Buttons	4
2.5	Specifying Values	ō
2.6	Understanding the Particle Designer Menu	ō
2.7	Color Swatches	ō
Sectior	3. Button Details	ó
3.1	Button Index	5
3.2	Green Section Buttons: Source Patterns	3
3.3	Yellow Section Buttons: Number	9
3.4	Red Section Buttons: Initial Condition 10	С
3.5	Orange Section Buttons: Post-Burst Movement	1
3.6	Purple Section Buttons: Appearance	2
3.7	Blue Section Buttons: System Buttons	4

# Section 1: Overview and Setup

The InkWelle Particle Designer is a tool that allows you to interactively design a particle system using your own particles that you load into the system, then output a script that you can use in your in-world objects. It is controlled by clicking buttons or accessing a menu.



# 1.1 Who Should Use This Product?

The InkWelle Particle Designer makes it easy to create a particle effect. Just click the buttons until you get the desired effect, then click the "Write Script" button to generate the script that you then paste into your own script. Even a beginning scripter can use this product, but if you are completely new to SL and scripting then please take some time to learn the basics. Particles utilize advanced concepts, so understanding some of these concepts is important. In order to effectively use this product, you should be comfortably familiar with the SL coordinate system, how to copy and paste content into scripts, compiling scripts, and moving objects into inventory. Also see section 3 of this manual where we recommend further reading about SL particles.

# 1.2 User Access

The InkWelle Particle Designer is designed so if you rez it on land that allows scripts. The owner can configure the InkWelle Particle Designer to be useable by just the owner, the owner's group, or everyone. If the access is set to Group or Everyone, then messages will be whispered - which means the user should stand within 10 meters to see messages. If the access is set to Owner then messages will be visible to the owner only. The default setting is to allow access by the Owner only.

# 1.3 Features

- 65-prim console that is accessible by anyone
- Optional resizable HUD version (HUD and console should not be used at the same time)
- Optional detached emitter prim
- Outputs a fully functioning particle script for you to put in your own object.
- Comes pre-loaded with a selection of full-permission particle textures, plus you can add your own.

# 1.4 Setup

To set up, rez the Particle Designer console, or wear the Particle Designer HUD. Please note that the Console and the HUD may interfere with each other, so you should only have one rezzed and in use at a time.

The advantages of using the HUD is that you can use it even in areas where you do not have many prims left in your prim allowance (the console is made of 65 prims). The advantages of the console is that you can maximize your available screen usage, and you can allow anyone to use it. Do not use the HUD and the console versions at the same time.

The console has a sphere at the top which will emit your particles as you design them. If you rez or wear an optional emitter prim, the console will know to use it in addition to the one that is built in. If you use the HUD version of the Particle Designer, you must rez an optional emitter to see the particles.

NOTE: If you accidentally unlink the Particle Designer, be sure that when you relink it, that the main large panel is the base ("root") prim.

# 1.5 Load Particle Textures

The Particle Designer comes with a small number of sample particle textures in its inventory that you are free to use. These sample textures have full permissions, so you may use them for any purpose. However we encourage you to load your own textures into it as well. Be sure that any textures you load in are full perm—meaning they must be copyable, modifiable, and transferable. Note that this is necessary only for use in the InkWelle Particle Designer as you develop your design. It is NOT necessary for the particles you use in your final emitter object to be full perm.

To load, right-click the Particle Designer to go into Edit mode, then open the Contents tab. Next drag the textures from your inventory into the contents tab of the Particle Designer.

# Section 2: Operation

# 2.1 General Operation Steps

To create a particle script, you use the buttons on the Particle Designer to get your desired result, then write out the final script.

You can start with a sample particle effect, such as a fountain, by selecting it or another preset from the menu (click the Menu button to access the menu) and then making adjustments to it to get your desired affect.

Whether starting with a sample or starting from scratch, follow these general steps to operate the Particle Designer:

- Select a Source Pattern. Select one of the five main Source Patterns (from the Green section of buttons). This will specify the pattern in which the particles are emitted from the generator. If you select one of the three "Angle" patterns, then specify the angle details using the Start Angle, End Angle, and Source Omega buttons.
- Set other features. Use the other buttons to set other features, as follows:
  - Yellow Section: Number. Specify the number and density of particles using the buttons in the Yellow section.
  - **Red Section: Initial Condition**. Use the buttons in the Red section to specify the velocity and direction of each particle when it first appears.
  - Orange Section: Post-Burst Movement. Use the buttons in the Orange section to specify how the particles behave after the initial burst. Do they interact with the wind? Do they go in a specific direction?

- **Purple Section: Appearance.** The buttons in the Purple section allow you to specify which particle texture to use for each particle, what color to set it to, whether it emits light, and how transparent it is.
- Blue Section: System Buttons. Use the Help button any time you need a reminder of what a button does and the Menu button to access other features, including the ability to save your work as a preset. If necessary, use the Orientation button to change the direction of the particle emitter sphere.
- Watch the particles from the emitters. As you use the buttons to change the particles, you can click an emitter ball to turn the particles on or off. This is useful if the particles obscure your building area, especially if you are developing with multiple emitters simultaneously.
- Write Script. When you are satisfied with your particle design, click the "Write Script" button to generate the script to put into your own object. The script is ready for you to paste into an empty script document.
- Put your script in your emitter. Put your new particle script into any object you own and have modify rights to. You may need to edit certain parts of he script to accommodate the new object or to specify a different target UUID. You may also need to adjust the rotation of your emitter prim.

# 2.2 Hover Text

Note that after 2 minutes of no button presses, the hover text above the emitter ball(s) and the hover text above the console and HUD will dim to 20% so that you can better see and enjoy your particle effect.

The parameter values displayed in hover text are formatted for readability. For example, instead of: Start Scale 1.750000 Range: <0.010000, 0.010000, 0.010000>...<4.000000, 4.000000>

we show you: Start Scale 1.75 Range: <0.01, 0.01, 0.01>...<4.00, 4.00, 4.00>

# 2.3 Button Categories

Buttons are in color-coded groups as follows:

- Green Source Patterns. Select one of the five main Source Patterns to specify the pattern in which the particles are emitted from the generator. If you select one of the three "Angle" patterns, then specify the angle details using the Start Angle, End Angle, and Source Omega buttons.
- Yellow Number. These buttons specify the number or particles.
- **Purple Appearance**. The buttons in the Purple section allow you to specify which particle texture to use for each particle, what color to set it to, whether it emits light, and how transparent it is.
- **Red Initial Condition**. These buttons specify the initial condition of the buttons when they are first emitted from the generator, as it pertains to their velocity and direction.
- Orange Post-Burst Movement. These buttons specify how the particle should be changed following their initial emission from the generator, as it pertains to their velocity and direction. Do they interact with the wind? Do they go in a specific direction?
- Blue System Features. These buttons provide system features, including menu access, help text, and generating a script with your final particle settings.

# 2.4 Understanding the Particle Designer Buttons

See Section 3 in this document for details about each button. The button textures change to tell you what state they are in:

- Some buttons enable you to specify a parameter. For example the Start Color button allows you to select the RGB values to specify a color. When you click a parameter button, it becomes dark to show that it is activated, then you can use the slider or arrows at the top of the panel to adjust the selected parameter. (In the case of specifying colors, you can also use the color palette buttons on the panel.)
- Some buttons are toggle which enable or disable certain modes or features. When you click a toggle button, its green LED will turn on or off to show if it is enabled or disabled.
- When a button is unavailable, it is grayed-out
- The "Menu" button will bring up the menu. See "Understanding the particle Designer Menu" for more information.
- The "Help..." buttons turns on the context help system. When the Help button is selected, click on another button to see help text about that feature.

# 2.5 Specifying Values

Clicking some buttons will activate the sliders and arrows at the top pf the panel so you can specify a value. The range and values for each button is given in Button Details later in this document.

- The white hover text above the panel shows which parameter is currently selected, its current value, and its range of possible values.
- The slider bar gives you a graphical representation of the values you are setting.
- Click anywhere on the slider bar to set the value to middle. For example, if the range is 0.0 to 1.0, clicking anywhere on the slider bar will set the value to 0.5.
- Click on the right or left-pointing single arrow to increment the value by a small amount, or click on a double arrow to increment by a greater amount. The single or inner arrows generally change the value by 1/100 of full scale, and the double or outer arrows change the value by 1/10 full scale.
- Some parameter values are indicated on a logarithmic scale to make it easier to finely adjust the lower end of the parameter range.

# 2.6 Understanding the Particle Designer Menu

Click the "Menu" button to bring up a blue dialog menu with the following options:

- Help. Gives you a notecard with Button Details information
- About. Tells you about Particle Designer and InkWelle
- Access. Choose Owner, Group, or Everyone to configure who can use the InkWelle Particle Designer.
- **Reset**. Resets the Particle Designer scripts and sets all values back to default. This does not affect the textures (If you accidentally deleted the textures, this will not recover them). This also does not reset the color swatches if you changed them.
- Samples. Lets you select a preconfigured particle effect to modify. Samples include laser, rocket plume, smoke, fountain, bling, bonfire, and starburst.
- Save/Restore. Lets you save and restore up to six configurations for later use.

# 2.7 Color Swatches

There are eight color swatches at the top of the panel. These are set to a range of "basic" colors. To change the color of your particles, click the "Start Color" button, then click on a color swatch that is closest to the color you want. Then use the arrows and sliders at the top of the panel to fine-tune the RGB values to get the final color you want. See the information in Button Details under "Start Color," "End Color," and "Interpolate Color" for more information.

You can change these swatches to whatever colors you want by editing the prim and changing its color following the directions below:

- Consider saving a copy of the original Particle Designer in your inventory so that you can revert back to the original colors if you want.
- In edit mode, click on the "Edit linked object" checkbox.
- Click on the swatch that you want to change. Be sure that only that one prim is selected!
- Open the Texture tab in the Edit pane and adjust the color to your liking.
- When finished, exit from Edit mode. Consider renaming this copy of your modified Particle Designer before saving it in your inventory.

# Section 3. Button Details

This section gives information for the use of each button. After an index showing which section each button is in, the rest of section describes each button by category. For additional information about the parameters of the SL particle system, consult one of the LSL wikis such as:

http://wiki.secondlife.com/wiki/LIParticleSystem http://www.lslwiki.net/lslwiki/wakka.php?wakka=IIParticleSystem

# 3.1 Button Index

This table shows each button and tells you which section it is in. This table also shows whether the button is a "Toggle" (T)-- one that enables or disables a state (these buttons have LEDs on them to show their state); a "Parameter" (P) button which allows you to specify a value; or a "System" (S) button. A screenshot of the buttons follows this table

Angle T	Source Patterns (Green)
Ang. C. Empty (Angle Cone Empty) T	Source Patterns (Green)
Angle Cone T	Source Patterns (Green)
Burst Radius P	Initial Condition (Red)
Burst Rate P	Number (Yellow)
Burst Speed Max P	Initial Condition (Red)
Burst Speed Min P	Initial Condition (Red)
Drop T	Source Patterns (Green)
Emissive T	Appearance (Purple)
End Alpha P	Appearance (Purple)
End Angle P	Source Patterns (Green)
End Color P	Appearance (Purple)
End Scale P	Appearance (Purple)
Explode T	Source Patterns (Green)
Follow Src. (Follow Source) T	Initial Condition (Red)
Follow Vel. (Follow Velocity) T	Post-Burt Movement (Orange)
Help S	System (Blue)
Interpolate (Color/Alpha) T	Appearance (Purple)
Interpolate (Scale) T	Appearance (Purple)
MenuS	System (Blue)
Orientation S	System (Blue)

Particle CountP	Number (Yellow)
Particle Max Age P	Number (Yellow)
Source Accel (Source Acceleration)P	Post-Burt Movement (Orange)
Source Max Age P	Number (Yellow)
Source Omega P	Source Patterns (Green)
Start Alpha P	Appearance (Purple)
Start Color P	Appearance (Purple)
Start Engle P	Source Patterns (Green)
Start Scale P	Appearance (Purple)
Target T	Post-Burt Movement (Orange)
Target Key P	Post-Burt Movement (Orange)
Texture P	Appearance (Purple)
Wind T	Post-Burt Movement (Orange)
Write Script S	System (Blue)
Z-Bounce T	Post-Burt Movement (Orange)



The above illustration shows the console's buttons, some buttons with the LEDs on (the green dots), a deactivated button (the grayed-out "End Scale" button), a selected button (the red "Burst Speed Min" button), and an activated slider (the Speed slider with the Speed scale shown above it).

7

# 3.2 Green Section Buttons: Source Patterns

The buttons in this section specify the pattern in which the particles are emitted from the generator.

### Angle

One of the five source pattern modes. This causes particles to be emitted along a 2D horizontal plane from the center of the emitter (perpendicular to the X axis). The particles will appear in an arc defined by Start Angle and End Angle. Choose this source pattern to create an oil slick or a puddle of liquid, or any effect where the particles initially appear on a "slice" of a plane.

### Type: Toggle

Related Buttons: Modify with Start Angle, End Angle, Source Omega

-----//-----

### Angle Cone

One of the five source pattern modes. This causes particles to be emitted in a 3D cone pattern defined by Start Angle and End Angle. Choose this source pattern to create a dense cone of particles, or any effect where the particles initially appear in one direction or on one side of the emitter in a volume that can be defined as a cone.

*Note*: This pattern mode is not officially documented or supported by Linden Lab, so might not always work as expected.

Type: Toggle

Related Buttons: Modify with Start Angle, End Angle, Source Omega

-----//-----

Angle Cone Empty (Abbreviated on the button as Ang. C. Empty)

One of the five source pattern modes. This causes particles to be emitted everywhere except for a 3D cone pattern defined by Start Angle and End Angle (the inverse of Angle Cone). Use Start Angle to specify the area of the main cone, then use End Angle to specify the space to leave empty.

Type: Toggle

Related Buttons: Modify with Start Angle, End Angle, Source Omega

-----//-----

Drop

One of the five source pattern modes. This causes particles to be emitted without an initial velocity or direction or constraints unless forces are applied after emission with other settings (such as wind). Choose this source pattern to create particles that drop to the ground, like to have leaves fall from a tree, or float upwards as in smoke, or any other effect where the particles are not "pushed" out of the emitter with an initial speed.

*Type:* Toggle

Related Buttons: Disables Burst Radius.

-----//-----

End Angle

Only enabled when one of the three Angle source patterns is selected. When using the Angle or Angle Cone source pattern mode, the Start Angle and End Angle define the arc where particles are emitted. When using the Angle Cone Empty source pattern mode, the Start Angle defines the arc where particles are emitted, and End Angle defines the arc in which particles are NOT emitted—creating an emptied "hollow" area in the "cone" of particles.

Type: Parameter.

Input and Range: Floating point, Radians from -pi to pi.

### Explode

One of the five source pattern modes. Causes particles to be emitted in all directions. Choose this source pattern to create a random explosion pattern, or any effect where particles appear with an initial speed and at any initial position around the emitter.

Type: Toggle

Related Buttons: Burst Radius

-----//-----

### Source Omega

Only enabled when one of the three Angle source patterns is selected. Causes the particles to be emitted as if the emitter prim rotated by this amount between every burst. It does not actually rotate the emitter prim, just the particle emission.

*Note*: To rotate the emitter prim, use the Orientation button.

Type: Parameter.

Input and Range: Set the XYZ vectors specified in radians from -pi to pi for each component

-----//-----

### Start Angle

Only enabled when one of the three Angle source patterns is selected. When using Angle or Angle Cone source pattern mode, the Start Angle and End Angle define the arc where particles are emitted. When using the Angle Cone Empty source pattern mode, the Start Angle defines the arc where particles are emitted, and End Angle defines the arc where particles are NOT emitted.

### Type: Parameter.

*Input and Range*: Floating point, Radians from -pi to pi. Set to 0 to fill the space up to the limit of the End Angle.

-----//-----

### 3.3 Yellow Section Buttons: Number

The buttons in this section specify the number or particles. In the parameter buttons that follow, each one has two "ranges." One is the range that SL allows for that parameter, which is often unlimited. The other is the range that the Particle Designer allows on the adjustment bar, which may be limited to its "useful" range. For example, it's not practical to show an adjustment bar that goes from 0.0 to 2,147,000,000.0 when all you normally use is between 0.0 and 2.0. The range shown for the parameter buttons below show the range allowed by the Particle Designer.

### **Burst Particle Count**

This is the number of particles that are emitted in each burst. Keep this number reasonable to avoid creating lag. Viewers are set to display only a limited number of particles at any one time (typically 1024 - 4096). The number of simultaneous particles that are being generated is shown in the white hover text above the main panel. Try to keep this number as low as possible so that everyone viewing your particles will see them all.

### Type: Parameter.

Input and Range: Integer, 0 to 1000 Particles, logarithmic scale

### Burst Rate

This is the interval between bursts of particles. Smaller numbers result in particles emitted faster and more smoothly, while larger numbers result in puffs of particles. Although the longest interval that can be specified using the Particle Designer is 10.0 seconds, you can change that to any floating point value in the script that you place in your own object.

### Type: Parameter.

Input and Range: Floating point, 0.0 to 10.0 Seconds, logarithmic scale

-----//-----

### Particle Max Age

This is how long particles remain visible. Increase this value to make the particle effect longer, bigger, wider, or denser. Although the longest age that can be specified using the Particle Designer is 10.0 seconds, you can change that to any floating point value in the script that you place in your own object.

### Type: Parameter.

Input and Range: Floating point, 0.0 to 20.0 Seconds, logarithmic scale

-----//-----

### Source Max Age

This is how long that your particle generator will continue to emit particles. After this time has expired, all particles stop. Set this to zero for continuous operation. The adjustment bar for this parameter is logarithmic to make it easier to adjust small values.

Type: Parameter.

Input and Range: Floating point, 0.0 to 60.0 Seconds (Zero means infinite), logarithmic scale

-----//-----

### 3.4 Red Section Buttons: Initial Condition

The buttons in this section specify the initial condition of the buttons when they are first emitted from the generator, as it pertains to their velocity and direction.

### **Burst Radius**

Burst Radius is the distance from the emitter where particles will first appear.

Type: Parameter.

*Input and Range*: Floating point. Specified in meters. The upper range of this scale is undocumented.

Related Buttons: Disabled when you set Follow Source.

-----//-----

### **Burst Speed Max**

This sets the maximum speed of the initial burst of particles as they are created. The particles come onto existence with a randomized speed between the Burst Speed Min and the Burst Speed Max. If you want a constant speed, set the Burst Speed Min and the Burst Speed Max to be the same.

#### Type: Parameter

Input and Range: Floating point. 0.0 to 20.0, logarithmic scale

Related Buttons: Set Burst Speed Min to the same setting to achieve a constant speed.

### Burst Speed Min

This sets the minimum speed of the initial burst of particles as they are created. See Burst Speed Max for more information.

### Type: Parameter

Input and Range: Floating point. 0.0 to 20.0, logarithmic scale

Related Buttons: Set Burst Speed Max to the same setting to achieve a constant speed.

-----//-----

### Follow Source

If you enable the Follow Source button, the particles already emitted will stay near the emitter prim as it moves. You won't see any effect from this setting unless the emitter prim is in motion

*Type:* Toggle

-----//-----

### 3.5 Orange Section Buttons: Post-Burst Movement

The buttons in this section specify how the particle should be changed following their initial emission fro the generator, as it pertains to their velocity and direction

### Follow Velocity

If you enable the Follow Velocity button, the particle emission pattern will change to reflect any change in velocity of the emitter prim.

*Type:* Toggle

-----//-----

### Source Acceleration

(Abbreviated on the button as Source Accel.) Source Acceleration is a steady force that is applied to each particle in the specified direction and strength after each particle comes into existence. This does not directly affect the direction that the particles are already traveling when they first appear; it affects the trajectory of the particles after they have appeared. Will interact with Wind and other forces.

### Type: Parameter

*Input and Range*: X, Y, Z (east, north, up) specified in a scale of -10.0 to 10.0 meters per second, logarithmic scale. Floating point.

-----//-----

### Target

This sets whether you want the particles to move toward a specific avatar or object. If Target is enabled, then you use the Target Key button to set the target to be either the emitter or the owner (see Target Key for more information). When you export your final script using the Write Script button, you can replace the UUID (key).

Type: Toggle

Input and Range: Emitter or owner

*Related Buttons:* Target Key selects the target; Enabling Target Key will disable Source Acceleration and Burst Radius buttons.

### Target Key

Use the Target Key button to select either the emitter or the owner (you) to be the target that the particles move toward. In the script, this will be specified by UUID (key). If the specified target is not found, the particles will move back toward the emitter. Use the Target toggle button to enable this setting ,then click on the Target Key button to select the emitter and the owner (you). In your own LSL script, you can replace the UUID for the target key with any valid object or avatar key.

### Type: Parameter

Input and Range: Emitter or owner

*Related Buttons:* Enabled by the Target button

-----//-----

### Wind

Enable the Wind button to cause the particles to be affected by the SL wind.

*Type:* Toggle

-----//-----

### **Z-Bounce**

Z-Bounce causes the particles to remain above the altitude of the emitter prim. Particles will "bounce" off this plane rather than go below it

Type: Toggle

-----//-----

### 3.6 Purple Section Buttons: Appearance

The buttons in this section specify the general appearance of the particles, such as which particle texture is used, what color they are, etc.

### Emissive

Enable the Emissive button to cause particles to be brighter, much like the Full-Bright texture setting on objects.

Type: Toggle

-----//-----

### End Alpha

End Alpha is the ending alpha (transparency) value of each particle at the end of its lifetime. This parameter can be specified only if the Interpolate button is enabled for Color and Alpha, otherwise only the Start Alpha is used. (If the Interpolate Color/Alpha button is not on, then End Alpha is ignored.) Use the arrows and sliders at the top of the panel to select the alpha value.

#### Type: Parameter

*Input and Range*: Floating point. The range is from 0.0 = transparent to 1.0 = opaque.

-----//-----

### End Color

End Color is the ending color value of each particle at the end of its lifetime. The End Color can be specified only if the Interpolate button is enabled for Color and Alpha, otherwise only the Start Color value is used. (If the Interpolate Color/Alpha button is not on, then End Color is ignored.) To specify a color, click on a color swatch that is closest to the color you want. This will snap the RGB inputs to that value. Then use the arrows and sliders at the top of the panel to fine-tune the RGB values to get the final color you want.

Following is a list of the values for some common colors:

12

black	<0.0,	0.0,	0.0>
green	<0.2,	0.72,	0.42>
blue	<0.2,	0.63,	0.98>
light blue	<0.29,	0.91,	0.98>
red	<0.98,	0.2,	0.25>
yellow	<0.98,	0.96,	0.25>
orange	<0.98,	0.69,	0.25>
purple	<0.49,	0.31,	0.98>
pink	<0.96,	0.31,	0.910>
white	<1.0,	1.0,	1.0>

### Type: Parameter

*Input and Range*: Specified in red, green, and blue components (RGB). Range for each value is from <0.0, 0.0, 0.0> (black) to <1.0, 1.0, 1.0> (white).

-----//-----

### End Scale

End Scale is the ending size of each particle This parameter may be specified only if the Interpolate button is enabled, otherwise only the starting size specified by Start Scale is used.

### Type: Parameter

*Input and Range*: Floating point. Width and Height, from 0.02 to 4.0 meters, logarithmic scale.

### Emissive

Enable the Emissive button to cause particles to be brighter, much like the Full-Bright texture option on objects.

*Type:* Toggle

-----//-----

### Interpolate (Color & Alpha)

Press this Interpolate button to cause the color and alpha of the particles to smoothly change during their lifetime. When this button is active, you can specify starting and ending color and alpha values. If this button is not selected, only the starting color and alpha is used.

*Type:* Toggle

-----//-----

### Interpolate (Scale)

Press this Interpolate button to cause the size of the particles to smoothly change from Start Scale to End Scale size during their lifetime. If this button is not pressed, only the Start Scale is used.

*Type:* Toggle

-----//-----

#### Start Alpha

Start Alpha is the starting alpha (transparency) of particles when they first appear. The range is from 0.0 = opaque to 1.0 = transparent. If the Interpolate button is enabled for Color and Alpha, then you can also specify an End Alpha value. Use the arrows and sliders at the top of the panel to select the alpha value.

### Type: Parameter

*Input and Range*: Floating point. The range is from 0.0 = transparent to 1.0 = opaque.

### Start Color

Start Color is the starting color of particles when they first appear. If the Interpolate button is enabled for Color and Alpha, then you can also specify an End Color value. See End Color for more information about selecting a color value.

### Type: Parameter

*Input and Range*: Specified in red, green, and blue components (RGB). Range for each value is from <0.0, 0.0, 0.0> (black) to <1.0, 1.0, 1.0> (white).

#### -----//-----

### Start Scale

Start Scale is the starting size of each particle. If the Interpolate button is enabled, then you can also specify an ending size using the End Scale button.

### Type: Parameter

Input and Range: Floating point. Width and Height, from 0.02 to 4.0 meters, logarithmic scale.

-----//-----

### Texture

Click the Texture button to change which texture is used for the particles. When the Texture button is active, you can press the arrows on either side of the top bar to change textures. The textures will cycle through every available texture in the inventory (contents) of the Particle Designer. Drag your favorite texture into the Particle Designer's contents to make it available for particles. Only full-permission textures can be used in the Designer.

### Type: Parameter

*Input and Range*: Use the slider or arrows to specify a number that corresponds to the textures available in the emitter object. (In hover text the name of the texture is displayed.)

-----//-----

### 3.7 Blue Section Buttons: System Buttons

The buttons in this section provide system features, including menu access, help text, and generating a script with your final particle settings.

### Help...

Click this button to activate the Help system, then click on any other button to receive a description of the function of that button. If you press Help and then don't press anything else for 30 seconds, the Particle Designer will exit Help Mode and the Help button will return to the unselected state.

-----//-----

### Orientation

You may need to change the rotation of the emitter prim to get the particle effect you want. Click the Orientation button then choose the direction the emitter's positive Z-axis (local axis) should point. You can tell which side of the emitter sphere is on its positive Z axis by looking for a red bullseye or dot on its texture.

-----//-----

### Menu

Click the Menu button to access the Particle Designer system menu that provides additional options, such as save, restore, and reset.

### Write Script

When you have designed the particles that you like, you can obtain the LSL script for it by pressing this button. A complete script will be written to chat output. You can cut the text of the script from chat history (Ctrl-H) into a script, which can then be installed into any object to re-create the particle effect.