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Realistic 6D Aerial Explosions Pack Vol.1 - User Guide

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Overview

Thank you for purchasing the Realistic 6D Aerial Explosion Pack! This package provides high-quality explosion effects that are ready to use in your Unity projects. Simply drag and drop the prefabs into your scene to add dynamic explosions to your game.

Usage and Customizations

Adding Explosions to your scene:

1. Once you have imported the package, navigate to **Assets/DAVFX/Realistic 6D lighting Aerial Explosions/URP/Prefabs or HDRP/Prefabs**.
2. Drag and drop any prefab from the **Prefabs** folder into your scene.
3. Position the prefab where you want the explosion to occur.
4. The explosion will automatically play when the scene starts.

Customizing Explosions:

- To **scale** the **explosions**, set the **Scaling Mode** of all the particle systems to "**Hierarchy**". Now you can adjust the scale of the main particle system, and all its components will scale proportionally.
- Adjust the properties of the explosion effects by selecting the prefab and **tweaking parameters** in the **Inspector** (e.g., particle size, duration).
- Each explosion prefab includes a **material variant** of the original material, allowing for greater customization. You can modify settings such as **emissive intensity**, **color**, **emissive highlights**, and other shader properties to achieve the desired look.

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Key Features

- **Custom 6D Lighting Shader**: Explosions respond to environmental lighting, enhancing scene realism.
- **Motion Vector**: Smooth animations for natural movement in explosions.
- **Heat Distortion Effects**: Simulates realistic heatwave effects for added depth.
- **Advanced Customization**: Easily adjust various parameters of fire and smoke for each explosion.
- **Ready-to-Use Prefabs**: Drag-and-drop prefabs with no additional setup needed.
- **Compatibility**: Fully compatible with Unity's URP and HDRP.

Important Settings

URP & HDRP

▸ Since explosions include a **point light**, assign all particle system components to a **separate layer** from the light and **exclude that layer** from the **light's culling mask**. This prevents the light from **interfering with the explosions**, ensuring it only illuminates the surrounding environment. If lights are not required, you can disable them completely.

URP Only

▸ Make sure to enable the "**Opaque Textures**" option inside the **Universal Render Pipeline Asset**, otherwise the initial distortion effect of the explosions will not work.

HDRP Only

▸ To make 6D lighting work on HDRP, you need to **attach** the "**LightDataToShader**" script inside the script folder to **all the lights** in your scene.

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6D Lighting Shader

This package includes a custom **6D Lighting Shader** that simulates **realistic lighting** from **multiple directions**. The shader dynamically adjusts light reflection and diffusion based on the surrounding environment, creating a more immersive effect.

How to use:

- To adjust the shader settings, select the desired explosion prefab, then go to the Material section in the Inspector.
- Tweak the shader properties like the lightness or the 6-way shadow multiplier to match the lighting in your scene.

Additional Details

- **Particle System**: All explosion effects are created using Unity's built-in Particle System, ensuring compatibility and ease of customization.
- **Textures**: All explosion textures are 2048x2048.
- **Motion vector intensity**: To work correctly, the motion vector intensity should be kept very low (default is 0.0008). Avoid increasing the intensity too much.
- **Smoke explosion customization**: If you want to customize the color of explosions that do not have an emission map (such as smoke explosions), you need to disable the "Enable Emission Map" checkbox in the shader properties.
- **Common heat distortion issues:** To prevent heat distortion from occluding other transparent particles, the render queue is set to 2980. This ensures that heat distortion is rendered behind both opaque objects and other transparent particles. On HDRP, the sorting priority is set to -50.

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Performance Tips

▸ You can easily **reduce the texture resolution** of **six-point light textures** or **detail textures** (such as smoke trails) to improve performance on low-end devices without significantly affecting visual quality. Alternatively, you can **completely remove the six-point light textures** from the Inspector if they are not necessary for your scene.

▸ **Lower the number of particles** in the Emission module of the Particle System to optimize performance.

▸ **Disable heat distortion** if not necessary.

▸ Consider **disabling non-essential details like smoke trails** to further optimize performance. This can improve efficiency while maintaining the overall visual impact of the explosion.

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▸ Stay updated on future releases and exclusive content!

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Contacts

If you have any questions, need support, or want to provide feedback on the Explosions pack, feel free to contact me directly:

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