Electric Rays Pro

QUICKSTART GUIDE | VERSION 1.0

Developed by Kampa

1. Package requirements

Unity: tested in **2022.3.62f2** and **6000.3.16f1**. **Render pipeline:** URP is required; Built-in and HDRP are not supported.

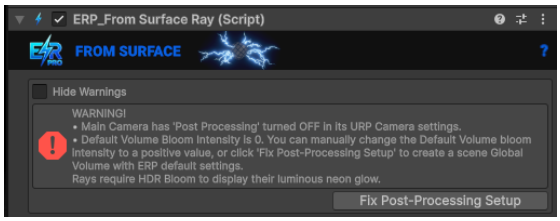
Packages: URP, Shader Graph, Burst and Mathematics. Start with the **Universal 3D / URP** template to include the required packages.

SamplesScene only: Unity UI is required. Both the old and new Input System are supported.

Prepare the scene

> **This walkthrough uses PointToPoint. ERP includes four ray types: PointToPoint, Lightning, OnSurface and FromSurface. See page 2 to choose the right component.**

Import ERP. In the Project window, open the imported ERP package's **Prefabs** folder and drag **ERP_PointToPointRay_Prefab** into your scene. Select its ray component. If a setup warning appears, click **Fix Post-Processing Setup** to enable Post Processing and/or create a Global Volume with the minimum setup.



Use the Inspector fix button when offered.

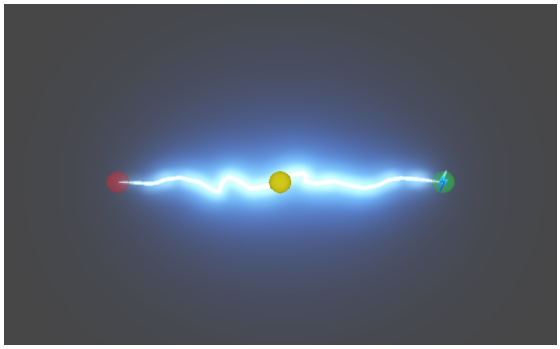
Check that your enabled camera is tagged **MainCamera**, with **Post Processing** on. A **Global Volume** needs a Volume Profile containing **Bloom**; enable its Intensity override and adjust the glow.

Position and shape the ray

1. Move **StartPoint** and **EndPoint** to the desired positions.

2. Move **MidPoint** to curve the ray, or adjust **Auto Mid Point**, **Trunk Ratio** and **Offset**.

3. To connect moving objects, enable **Constrain to Objects** and assign **Start Object** and **End Object**.

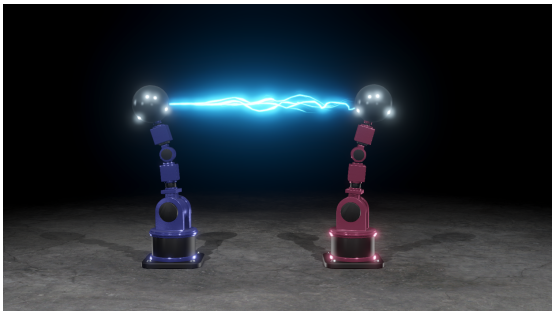


The three control points shape the connection.

ERP animates in the editor. Check the **Game view** to see the Main Camera and Bloom, then save the scene or create a prefab variant.

Next: Choose a component | Appearance and control

2. Choose the right component



PointToPoint

Connect two objects or manually place the start, midpoint and end.



Lightning

Create directed or random strikes with growth, hold and disappearance.



OnSurface

Crawl over a surface. Set Ray Count, Total Span Length and Mid Arch Lift.



FromSurface

Emit from mesh points. Choose AlongNormals, TowardsTarget or Custom direction.

Surface setup

Component / mode	Assign and check
OnSurface / NonDeforming	Assign Target Surface with a Collider on it or its children. Parent the ray to the target; use Reparent to Target if offered.
OnSurface / SkinnedMesh	Assign the SkinnedMeshRenderer to Target Surface. Enable mesh Read/Write when requested. ERP updates an internal collision surface.
FromSurface / NonDeforming	Assign a Target Surface with a MeshFilter and assigned mesh on it or its children. No Collider is required.
FromSurface / SkinnedMesh	Assign Target Skinned Mesh and enable mesh Read/Write when requested.

For Lightning, choose a Direction Mode and assign Target Ground/Object when targeting a transform. **Loop Strike** repeats discharges; **Trigger Strike** starts one manually.

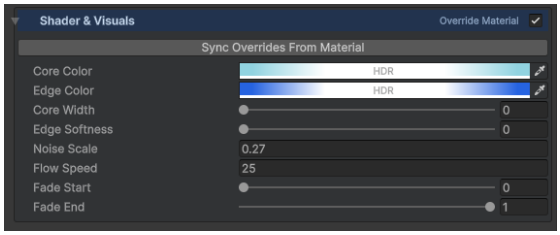
Read each Inspector warning. Use its fix button when offered. Missing Colliders or mesh sources require manual setup.

3. Customise and control

Tab	Start with
Ray	Width, segment count, displacement, curve profiles and material overrides.
Motion	Growth / disappearance, strike hold / loop timing, or surface crawling.
Branches	Sub Branch Levels, Branches Per Parent, spread and width.
Extra	Editor updates and gizmos. Enable Scene view Gizmos to see guides.

Appearance

Leave **Override Material** enabled for independent component settings. Set **Core Color / Edge Color** and HDR brightness; adjust **Core Width / Edge Softness** for the core and edges. **Noise Scale / Flow Speed** control the shader pattern; **Fade Start / Fade End** soften endpoints.



Shader & Visuals controls use the supplied ERP_Ray_Mat.

If both Core Width and Edge Softness are 0, the ray collapses to a single line

Timing and scripts

Use **Enable Ray** for growth and disappearance transitions. Disabling the GameObject or component stops the ray immediately. For manual Lightning or FromSurface strikes, disable **Loop Strike** and call **TriggerStrike()**.

```
using KampaTools.ElectricRays.Pro;

// Inside a MonoBehaviour; assign this field in the Inspector.
[UnityEngine.SerializeField] private ERP_LightningRay ray;
public void Fire()
{
    if (ray != null) ray.TriggerStrike();
}
```

Explore SamplesScene

Enter Play mode, select a category, subcategory and example, then toggle the ray. Inspect its settings in the Hierarchy. Copy settings changed in Play mode before exiting to keep them.

Performance: start with few rays, beams, branches and segments, then increase as needed. See the **User Manual** for the full control reference, troubleshooting and scripting methods.

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