Topson Games - Camera Controller

Thank you for using our free Camera Controller for Unity!

This Camera Controller is designed as a free tool to give you a complete Camera System for your RTS / Strategy game.

Discover Our Complete Systems!

If you're looking for advanced solutions for large-scale battles and complex unit formations, be sure to check out our main assets:

Large Scale Combat System

Large Scale Formation System

Helpful links

Website

Discord

Documentation

CameraController Component

This is the main configuration component for all camera behavior. Add it to your Main Camera GameObject.

Input Actions via Reference This section links the camera's functions to your Unity Input System Asset.

- moveActionReference: The 2D Vector action for panning the camera (e.g., WASD).

- zoomActionReference: The 1D Axis action for zooming in and out (e.g., Mouse Scroll Wheel).

- sprintActionReference: The Button action to increase pan speed (e.g., Left Shift).

- rotateActionReference: The Button action that must be held to enable rotation (e.g., Middle Mouse Button).

Movement Settings

- panSpeed: The base speed for camera movement.

- sprintMultiplier: How much faster the camera moves when the sprint key is held (e.g., a value of 2 means 200% speed).

- zoomSpeed: How quickly the camera zooms in and out.

- rotationSpeed: The speed of horizontal (left/right) rotation.

- pitchRotationSpeed: The speed of vertical (up/down) rotation.

- minZoomHeight / maxZoomHeight: The closest and furthest the camera can zoom, measured in world units (Y-axis).

Pitch Rotation Settings

- minPitch / maxPitch: The minimum and maximum vertical angle (in degrees) the camera can tilt to. 10 is almost top-down, 80 is a low, cinematic angle.

Smoothing Settings These values control the smoothness and inertia of the camera, preventing abrupt starts and stops. A lower value means a faster, more responsive camera, while a higher value results in a smoother, more cinematic feel.

- panSmoothTime: Smoothing for WASD movement.

- zoomSmoothTime: Smoothing for the scroll wheel zoom.

- rotationSmoothTime: Smoothing for the camera rotation.

Screen Edge Controls

This allows you to move / rotate the camera by dragging the mouse to the screens edge and further

- Screen Edge Border Thickness: Thickness until the end of the screen where the dragging should take place
- Panning Mode: Which Borders should be affected
- Enable Screen Edge Rotation: Should the camera rotate when the mouse is on the left or right screen border

Ground Clipping Prevention

This system prevents the camera from clipping into the terrain when zooming or moving over hills.

- groundLayer: The physics layer your terrain or ground plane is on. The camera will use a raycast on this layer to detect the ground height.

- minHeightAboveGround: The minimum distance the camera will always keep from the ground.

Cursor

- lockCursor: If checked, confines the mouse cursor to the game window, which is common for RTS games.

World Boundaries

This feature locks the camera within a defined playable area.

- lockCamera: A master switch to enable or disable the boundary lock.

- worldCorner1 / worldCorner2: Assign two empty Transform objects placed at the diagonal corners of your map. The script will draw a Gizmo in the Scene View to help you visualize this boundary.