

# AR Camera ACCELEROMETER | Unity

 [makaka.org/ar-camera-accelerometer/](https://makaka.org/ar-camera-accelerometer/)



NOTE: Mobile camera implements markerless augmented reality (AR) by using an accelerometer and video camera on the player's mobile device to display 2D or 3D objects as though they were in the real world.

**AR Camera ACCELEROMETER** – augmented reality for 90% of all mobile devices without using gyroscope and compass, blends game objects and information with the environment around you.

## Accelerometer vs. Gyroscope

90% of all mobile devices have an accelerometer and video camera but only 20% have a gyroscope.

If you want greater coverage of devices, but less accuracy and stability, use AR Camera ACCELEROMETER.  
If you want greater accuracy and stability, use [AR Camera GYRO](#).

You can also try to use both cameras for different cases.

Different devices have different accelerometers, and therefore different deviations and drifts.

## AR Camera in Pokemon GO

If you want the same AR Camera like in Pokemon GO at the release time then you need [AR Camera GYRO](#).

## Camera view

You do not need to rotate or to move the camera in Unity Editor. You can position your own game objects in place of the demo objects.

## Tracking

There are 3 different forms of tracking.  
Only one at the same time can be selected for correct tracking.

The asset does not use a neural network to surfaces recognition. There is no surfaces recognition.

Tilting the phone away from yourself or toward yourself turns the camera in the game up or down.

## Back Camera

It is used to track rotation using camera and accelerometer. For rotation around the Y axis, an algorithm compares the pixel changes to the previous and current frames.

## None Camera

It is used to track rotation using the only accelerometer with an approximation.

It consumes fewer resources than camera tracking and probably it is compatible with 90% smartphones.

Tilting the phone to the left or right rotates the camera about the Y-axis.

## None Camera XZ Rotation

It is previous “None Camera” tracking but tilting the phone to the left or right rotates the camera about the Z-axis.

## Testing

### Android

You can test demo scene right in the Unity Editor with [Unity Remote](#) app. It supports accelerometer and device camera streams through USB-connection. But my testing device with Unity 2017.1 supports the only accelerometer for Unity Remote.

Besides, keep in mind, one Unity bug ([WEBCAMTEXTURE.WIDTH/HEIGHT ALWAYS RETURNS 16](#)) is still active if you press “Play” in the Unity Editor 2017.1. So do not use laptop webcam for testing of camera tracking.

Tested with:

- Lenovo A606 with Android 4.4;
- Default orientation > Landscape left.

### iOS

iPhone 4 or later has a gyroscope, so you can use [AR Camera GYRO](#) for greater accuracy and stability.

## Limitations

1. If we look straight down, the camera starts to rotate around the Y-axis very quickly.
2. Camera tracking does not respond to very fast movements (excessive motion, blurred images).
3. Camera tracking needs good illumination of the environment.

## Support

First of all, read the docs. If it didn't help, [get the support](#).