Turret Demo Scripts - Quick Start Guide

Learning from the Demo Scene

The fastest way to understand how everything works is to explore the included demo scene:

1. Open `Assets/Mythantic_Turret_Mobile_RTS/Scenes/DemoScene`
2. This scene contains fully configured examples of each turret platform
3. The Inspector panels for each turret show the recommended settings
4. Use this scene as a reference when setting up your own turrets

> **Pro Tip:** The demo scene is your best learning resource! It shows exactly how everything should be connected and configured. Feel free to play with the settings in play mode to see how they affect turret behavior.

Getting Started in 5 Minutes

1. Learn from the Demo

1. Open the demo scene
2. Select a turret in the scene
3. Look at how components are connected in the Inspector
4. Use this as a template for your own setup

2. Basic Setup

1. Drop your turret model into the scene
2. Add the `TurretController` script to your turret
3. In the Inspector, you'll need to assign:
   - Weapon Mount (the part that moves up/down)
   - Aim Reference (usually the tip of the barrel)
   - At least one Projectile Spawn Point

> **Tip:** Not sure which part should be the Weapon Mount or Aim Reference? Check the demo scene - the turrets there show exactly which parts to use!

3. Quick Configuration

The most important settings you'll want to adjust first:

- **Base Rotation Speed**: How fast the turret turns left/right
- **Weapon Rotation Speed**: How fast the turret aims up/down
- **Attack Range**: How far the turret can see enemies
- **Fire Rate**: How fast the turret shoots

> **Tip:** The demo scene turrets use balanced settings that work well in most situations. Start with these and adjust to taste.

4. Testing Your Turret

1. Add an object to your scene
2. Tag it as "Enemy" (this is what the turret will target)
3. Hit Play - your turret should track and shoot at the enemy!

Common Questions

"My turret setup doesn't look right"

The fastest solution is to:

1. Open the demo scene
2. Find a turret similar to what you want
3. Compare your setup with the demo
4. Copy settings from the demo to your turret

"My turret isn't shooting!"

Check these common issues:

- Is your enemy tagged as "Enemy"?
- Did you assign a Projectile Prefab in the inspector?
- Is the enemy within Attack Range?
- Compare your setup with the demo scene

"How do I make the turret shoot faster/slower?"

Adjust the `Fire Rate` in the inspector:

- Higher numbers = faster shooting
- Lower numbers = slower shooting
- Check the demo scene for examples of different fire rates

"Can I use these scripts in my game?"

Yes! While these scripts were made to demonstrate the turret models, you're free to:

- Use them in your games
- Modify them to fit your needs
- Learn from them to make your own systems

Customization Guide

Adjusting Turret Behavior

Make It More Aggressive

```
Attack Range: 30 → 50
Fire Rate: 1 → 2
Projectile Speed: 20 → 30
```

Make It More Defensive

```
Attack Range: 30 → 15
Base Rotation Speed: 180 → 360
Weapon Rotation Speed: 180 → 360
```

Adding Visual Effects

1. Create a particle effect prefab
2. Assign it to the "Explosion Prefab" field
3. Adjust "Particle Count" to control effect intensity

Technical Details

(For advanced users who want to modify the scripts)

TurretController

Controls the main turret behavior:

- Movement
- Target tracking
- Firing system
- Animation

Key settings:

```
csharp
baseRotationSpeed    // How fast turret turns (0-360)
attackRange          // How far turret can shoot (1-200)
fireRate             // Shots per second (0.1-10)
```

HomingProjectile

Controls how projectiles behave:

- Movement
- Target tracking
- Impact effects

Key settings:

```
csharp
speed                // How fast projectiles move (1-200)
rotationSpeed        // How fast they turn (0-720)
homingStrength       // How aggressively they track (0-20)
```

Tips for Better Performance

1. **Adjust Attack Range**: Lower range = less computation
2. **Particle Effects**: Keep particle count under 50
3. **Fire Rate**: Stay below 5 for best performance

Going Further

Easy Modifications

1. Change projectile appearance
2. Adjust firing effects
3. Modify rotation speeds
4. Change targeting behavior

Advanced Modifications

1. Add damage systems
2. Implement target priority
3. Create custom firing patterns
4. Add team-based targeting

Script Parameters Reference

TurretController Parameters

Movement Settings

```
csharp
[Range(0, 360)] public float baseRotationSpeed = 180f;
[Range(0, 360)] public float weaponRotationSpeed = 180f;
[Range(0.01f, 1f)] public float alignmentThreshold = 0.1f;
```

- `baseRotationSpeed` : Controls horizontal rotation speed
- `weaponRotationSpeed` : Controls vertical aim speed
- `alignmentThreshold` : Fine-tunes rotation precision

Combat Settings

```
csharp
[Range(1f, 200f)] public float attackRange = 30f;
[Range(0.1f, 10f)] public float fireRate = 1f;
```

- `attackRange`: Maximum engagement distance
- `fireRate` : Shots per second per spawn point

HomingProjectile Parameters

Movement Settings

```
csharp
[Range(1f, 200f)] public float speed = 20f;
[Range(0f, 720f)] public float rotationSpeed = 360f;
[Range(0f, 10f)] public float homingStrength = 10f;
```

Effect Settings

```
csharp
public GameObject explosionPrefab;
[Range(1, 100)] public int particleCount = 30;
```

Technical Requirements

- Unity 2020.3 or newer
- Standard Unity physics system
- No special packages needed

Need Help?

- Check the example scene to see everything set up correctly
- Contact support through the Unity Asset Store
- Comments in the code explain how everything works

Note: The included demo scene is your best reference for understanding how these scripts work in practice. It contains working examples of all features and can serve as a template for your own implementations. While the scripts are free to use as you see fit, the demo scene provides a solid foundation to build upon.