

Rotor Concept

Definition

- The rotor provides a virtual popup menu which allows VoiceOver users to quickly adjust settings and additional commands on the fly.
- The rotor is paired with the 1-finger swipe up/down gesture.
- When the rotor is on the desired item, swiping up or down will adjust that option.

Why Is The Rotor Important On An iPad?

- The **rotor** is a virtual popup menu that allows VoiceOver users to adjust settings and access additional commands quickly from anywhere.
- The rotor acts like a physical dial and is only available when VoiceOver is on.
- Here are a few examples of what the rotor can be used to:
 - Adjust VoiceOver's speech rate
 - Read text character-by-character
 - Select and edit text
 - Navigate documents and websites more efficiently

How the Rotor Works

- Think of the rotor like an old-fashioned radio dial or washing machine knob.
- To activate it, use the **2-finger twist gesture**:
 - **Clockwise** to move forward through rotor options.
 - **Counterclockwise** to move backward through rotor options.
- When the 2-finger twist gesture is used, the rotor briefly appears visually on the screen.
- Each 2-finger twist triggers a click sound (earcon), and VoiceOver announces the selected rotor option.

Pairing the Rotor with Other Gestures

- The **rotor gesture** is used together with the **1-finger swipe up/down gesture**.
 - One the rotor is on the desired item, swiping up or down will adjust that option.
 - Example:
 - Use the 2-finger twist until you hear “speech rate.”
 - Swipe up with 1 finger to increase speed.
 - Swipe down with 1 finger to decrease speed.
- The rotor is always available when VoiceOver is on, but it is only visible briefly after performing the 2-finger twist.
 - A 1-finger swipe up/down automatically adjusts the last selected rotor item, even if the 2-finger twist gesture is not performed.
 - The VoiceOver Playground lessons and games are an exception to the Rotor always being available. Since the app is specifically designed to teach VoiceOver gestures and

skills, the rotor is intentionally disabled, except for lessons and games that specifically focus on rotor-related skills.

- The items that appear in the rotor are app specific – meaning that the most useful items for that app, determined by the app developer, will appear in the rotor.

The VoiceOver Playground app does not require customization; however, if desired, advanced users can customize rotor settings by going to:

Settings > Accessibility > VoiceOver > Rotor

Prerequisite

- 2-finger twist
- 1-finger swipe up/down

How Does VoiceOver Announce The Rotor?

- When performing the 2-finger twist gesture, a click sound plays and VoiceOver announces the next item in the rotor.
- When performing the 1-finger swipe up/down gesture, VoiceOver announces the change to the item or the next sub-option under that rotor category. Example:
 - If the rotor is on “speech rate”, a swipe up will increase the speech rate.
 - If the rotor is on Edit, a swipe up/down will move through the options: Select, Paste, Set Bold, etc.

Earcon

- The **rotor gesture** plays a click sound.
- Each twist produces one click, signaling movement to a new rotor option.
 - The rotor earcon is a mechanical tick or click, while the moving to next/previous item earcon is quicker and sharper clicking sound.
- The 1-finger swipe up/down does not have an earcon; however, VoiceOver announces the action.

Lessons

Lessons without detailed explanations were covered in previous lessons.

Lesson 1: 2-Finger Twist

Lesson 2: Rotor Navigation

- **Goal:** Learn to navigate the rotor to find specific rotor options.
- **Screen Layout:**
 - The screen is initially blank. The rotor dial appears temporarily after each 2-finger twist gesture.
- **Breakdown:**
 - The child performs clockwise and counterclockwise 2-finger twist gestures.

- The child finds specific rotor items in order (snow, campfire, ocean, leaves) and listens to their sounds.
- The lesson is complete after the four items have been found.

Lesson 3: 1-Finger Swipe Up/Down

Lesson 4: Rotor Selection

- **Goal:** Learn to select a rotor option and activate it using the 1-finger swipe up/down.
- **Screen Layout:**
 - An upright rocket ship is ready for launch.
- **Breakdown:**
 - The child prepares the rocket by selecting rotor these options:
 - Add fuel
 - Board astronauts
 - Launch the rocket

Lesson 5: Rotor Activity (Speaking Rate)

- **Goal:** Learn to adjust VoiceOver's speaking rate using the rotor and 1-finger swipe up/down.
- **Screen Layout:**
 - A robot is standing in the center of the screen.
- **Breakdown:**
 - The child uses the rotor to navigate to "speaking rate".
 - The child uses a 1-finger swipe up multiple times to make the robot talk "very fast".
 - The child uses a 1-finger swipe down multiple times to make the robot talk "slowest".
 - The child uses a 1-finger swipe up multiple times to make the robot talk "normal" speed.

This structured approach helps children effectively navigate the rotor and change settings making the iPad more accessible and efficient for users with visual impairments, while practicing the 2-finger twist and 1-finger swipe up/down gestures.