

ObstaX Mini User Manual (Complete PDF)

1. Welcome

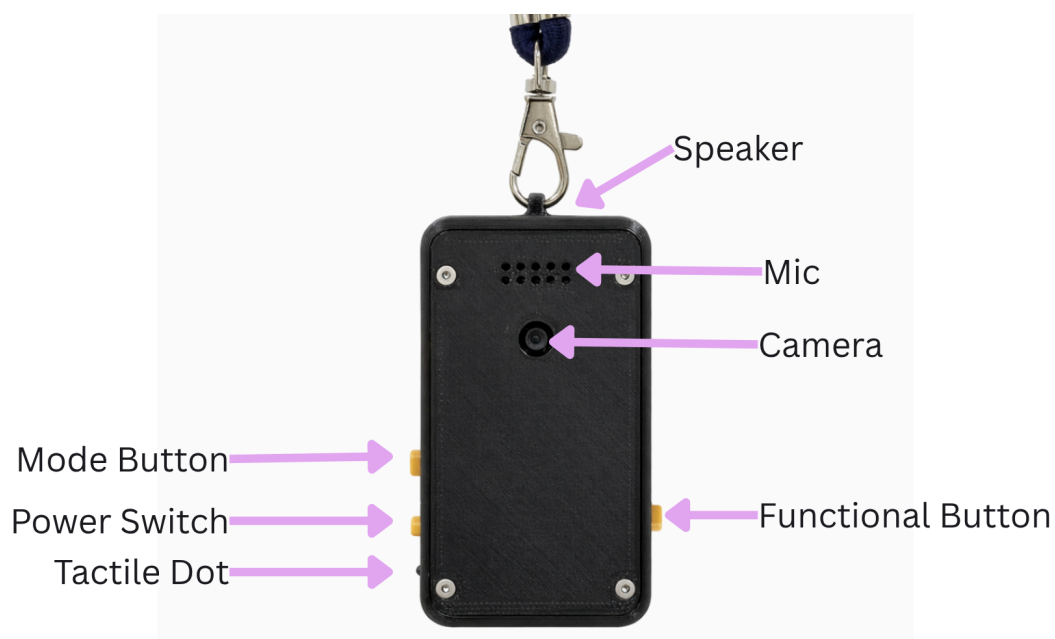
ObstaX Mini is a lightweight assistive device designed to help users understand the surroundings and communicate information clearly through audio.

This manual explains how to set up, use, and care for your ObstaX Mini safely and effectively.

2. What's in the Box

- ObstaX Mini device
 - Magnetic Charging Cable
 - 5V2A Charging Brick
 - Washable and adjustable lanyard
 - ObstaX Mini Quick Start Card
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3. Device Overview



Buttons & Ports

- Power Switch
- Mode Button
- Functional Button
- Magnetic Charging Port
- Speaker
- Mic
- Camera

Tactile Orientation

Right Side: Power & Modes

- Power Switch (Lower Button): A sliding switch located on the bottom-right edge.
- To turn ON: Slide the switch down toward the small raised tactile dot.
- To turn OFF: Slide the switch up, away from the dot.
- Mode Button (Upper Button): Located directly above the Power Switch on the same side. This is a standard push-button used to cycle through features.

Left Side: Action

- Functional Button is a single push-button located on the left edge of the device.
- Single press for capturing the image depending on the current mode.
- Long-press for Scene Querying
- Double-click to check battery levels

Top & Front: Audio & Sensors

- Speaker: Located on the very top edge of the device, facing upward for clear audio delivery to your ears.
- Microphone: Located on the front face, directly above the camera lens. You can identify it by two horizontal rows of tiny pinholes.
- Camera Lens: Positioned on the front face below the microphone. Note: Avoid touching the lens area to maintain image clarity.

Bottom: Power

- Magnetic Charging Port: Located on the very bottom edge of the device. The charging cable will magnetically "snap" into place when brought close to this port.
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4. Getting Started

Powering On

- Slide down the power button located at the side of the device.
- A startup sound confirms the device is on.

Powering Off

- Slide the power button on the side of the device up.

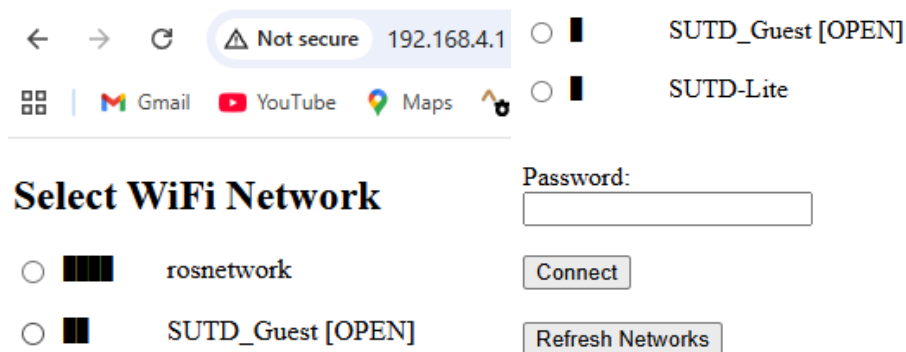
Setting up Wifi

Turning on the mobile hotspot on your mobile device

- Ensure your phone's hotspot is set to 2.4GHz/Maximise Compatibility mode
- Avoid special characters in SSID and passwords.

Setting up Obstax Mini Wifi

1. When wifi is disconnected, there will be an audio notification.
2. During the audio notification, long-press the functional button to turn on Wifi setup mode.
3. Using a laptop or a mobile phone (a separate device from the one with mobile hotspot), connect to the wifi "Obstax Mini Setup"
4. Open a browser and go to 192.168.4.1



5. Select the wifi* to connect to (2.4GHz only), type in the password and click "Connect"
6. If you hear "Connected to wifi!", the connection is complete.

7. If not, the password might be wrong / trying to connect to a 5GHz wifi.
Power cycle and retry.

Resetting Wifi

Wait for the disconnect audio notification, redo 1-7.

* Captive Portals: Note that the device cannot connect to public Wifi networks requiring a web-based "Sign-in" or "Accept Terms" page (e.g., hotel or airport Wifi).

5. What ObstaX Mini Can Do

ObstaX Mini uses a camera and artificial intelligence to understand its surroundings and communicate information clearly via audio.

Scene Description

- Describes the scene in front of the user (e.g. indoor/outdoor, people, objects, colours)
- Helps users build situational awareness

Scene Querying

- Users can ask specific questions verbally, such as:
 - "Is there a chair nearby?"
 - "How many people are here?"
 - "What's on the menu?"
 - "Do you see any toilet sign?"
 - "How do I go from Vivocity to Changi Airport via public transport?"
 - "How's the weather today?"
 - "Is Kopitiam at Changi City Point open now?"
- ObstaX Mini answers through spoken audio. It may also decide to query the internet for information.

Bus Number Recognition mode

- Detects and reads out bus numbers aloud.

Currency Recognition mode

- Identifies banknotes and announces the value.
- Able to identify SGD \$2,\$5,\$10,\$50,\$100 quickly.

Tip: Hold the banknote about a palm's length away from the camera in a brightly lit area. If it isn't detecting, try flipping the note over or moving to a spot with better lighting. Be careful not to block the lens with your fingers while holding it.

All information is delivered through audio feedback.

Use at your own risk. AI is known to hallucinate. Obstax Pte. Ltd. is not liable for incorrect answers provided by the AI.

6. Usage Guide

Mode switching

- **Short-Press the mode button** above the power switch to change the device mode. The default mode for the device is Scene Description mode.
- Once clicked, the device will change to another mode and announce the mode it is currently at, such as
 - Bus Number recognition mode
 - Currency recognition mode
 - Scene Description

Scene Querying

To use the scene querying feature, simply **long-press the functional button**. After hearing a beep, ask a verbal question in English. Release the functional button when done asking.

Bus Number Recognition mode

- Simply point the device towards the direction of a bus.
- This mode will turn off after 5 minutes to save power.

Currency Recognition mode

- Place a banknote in front of the device.
- Adjust the distance to ensure the banknote can be captured by the camera.
- Ensure the camera is not obstructed.
- This mode will turn off after 5 minutes to save power.

Battery Level Checking

In any mode, double-click the functional button for battery level checking.

Adjust Volume

In any mode, double-click the mode button (above the power switch) to adjust audio volume.

7. Battery & Charging

Charging

- Use the included charging cable and charging plug.
- Turn off the device by sliding the Power Switch upwards.
- Connect the magnetic cable to the device's magnetic charging port.
- The charging tone indicates that charging has started

Charge only with a Singapore SAFETY Mark-certified power adapter. Use of uncertified chargers may result in fire, explosion, or injury.

Battery Safety

- Do not expose to heat or water.
- Do not use damaged charging cables
- Charge when the battery is low.

Sleep mode

- Obstax Mini will enter sleep mode after 7 minutes to conserve energy.
 - Click any button to wake the device, an audio will be played when device wakes up.
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8. Wearing & Usage Tips



- Practice in familiar environments before outdoor use.
 - Wear the device at chest level by adjusting the strap length.
 - Make sure the camera is facing forward.
 - Keep the camera, mic and speaker unobstructed.
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9. Safety Information

- ObstaX Mini is an assistive aid, not a replacement for mobility tools
- Always remain aware of your surroundings
- Do not rely on the device in hazardous environments

9.1 Operating Range:

The device is designed to work in ambient temperatures between 15°C and 35°C.

Direct Sunlight:

Avoid leaving the camera lens pointed directly at the sun for extended periods, as this can degrade the CMOS image sensor over time.

Damage to device:

Do not subject the device to heavy impact or drops. If the device is dropped, internal components may be damaged even if no external cracks are visible. In the event of a drop, immediately turn off and stop using the device and contact Obstax Support for a safety inspection.

Overheating:

The Obstax Mini may feel slightly warm to the touch during extended use. This is normal behaviour as the AI processor works to understand your surroundings. If the device feels uncomfortably hot or there is an overheat audio notification, power it off and allow it to cool for 10 minutes before resuming use.

Never leave the Obstax Mini on a car dashboard or inside a parked vehicle. Temperatures in a closed car in Singapore can hit 60°C, which poses a significant fire risk due to the lithium battery.

9.2 Water & Moisture Resistance

Non-Waterproof

The Obstax Mini is NOT waterproof and does not have an IP rating.

Rain & Sweat

Do not wear the device in rainy conditions. While it can handle light humidity, direct exposure to water through the speaker mesh or microphone holes will cause permanent internal damage.

Liquids

Keep the device away from beverages, sinks, and bathrooms. If the device gets wet, power it off immediately and do not attempt to charge it until it is completely dry.

9.3 Usage Environment

Dust & Sand

Avoid using the device in extremely dusty environments or at the beach. Fine particles can enter the microphone ports or scratch the camera lens, reducing the accuracy of scene descriptions.

Interference

As a 2.4GHz Wi-Fi device, performance may be slower in areas with extreme electronic congestion (e.g., very crowded tech exhibitions or near unshielded industrial machinery).

10. Maintenance & Care

Self-repair or opening the device is prohibited. Obstax reserves the right to refuse service on any hardware that has been tampered with.

- Clean gently with a dry cloth
- Do not use liquids or solvents
- Store in a cool, dry place

11. Troubleshooting

No Sound

- Ensure the device is powered on

Device Not Responding

- Turn off the power switch and charge the battery.
- Restart the device by sliding the power switch off, then back on.

Device won't connect to Wifi

- Make sure the mobile hotspot SSID is not hidden.
- Make sure Maximise Compatibility is turned on for Apple devices.
- Make sure the mobile hotspot is on 2.4Ghz range.

Audio Distortion

- Check the speaker mesh for debris.

Device don't recognise items

- Make sure the item is visible under moderate ambient light
 - Make sure the camera lens is not dirty
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12. Specifications

Processor	Xtensa LX7 dual-core, 32-bit processor that operates at up to 240 MHz
Battery Life	15 hours
Charging Time	2.5 hours
Weight	85g (+-5g)
Size	25mm x 47mm x 79mm (+-2mm)
Wireless	<ul style="list-style-type: none">• Complete 2.4GHz Wi-Fi subsystem• Bluetooth Low Energy 5.0 / Bluetooth Mesh
Sensors	<ul style="list-style-type: none">• Digital Microphone• Speaker
Camera	<ul style="list-style-type: none">• 3-Megapixel CMOS image sensor.• Built-in automatic exposure control (AEC), white balance (AWB), and black level calibration to ensure clear images in varying light.• Low-Light Sensitivity: 670 mV/lux-sec.• Field of View: 69 degrees.
Memory	On-chip 8MB PSRAM & 8MB Flash

13. Support & Contact

For help or feedback:

- Website: <https://www.obstax.sg/support>
- Email: support@obstax.sg

Firmware & Software Updates

- The ObstaX Mini is running custom proprietary software. To ensure the highest level of stability and security, firmware updates are currently performed by our technical team.
 - How to get updates: If a major system improvement or new feature is released, ObstaX will notify you via email or through our support page.
 - Update Process: To update your device, it must be sent back to our service centre. Please contact support@obstax.sg to check if your device is eligible for an upgrade or to arrange a service appointment.
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14. Data Privacy & Security

Set-up Preferences:

During the initial setup, any preferences you provide (such as language or specific notification settings) are stored securely on our servers to personalise your device experience.

Local & Private Cloud Processing (Bus & Currency):

- **Features:** Bus Number Recognition and Currency Recognition.
- **Data Handling:** Images captured for these features are processed in real-time through our own secure, cloud-hosted models.
- **Storage:** We do not store any images or video frames from these modes. Once the recognition is complete and the audio is delivered, the data is immediately deleted from our servers.

Third-Party AI Integration (Scene Description & Query):

- **Features:** Scene Description and Scene Querying.
- **Provider:** These features utilise the OpenAI GPT API.
- **Data Handling:** When you use these modes, the captured image and your verbal query are sent to OpenAI for processing.
- **Retention:** By default, OpenAI may retain API inputs and outputs for up to 30 days solely for abuse monitoring and service integrity purposes. This data is not used to train or improve their AI models.

- **Contextual Memory:** To ensure the AI understands follow-up questions (e.g., "What colour is it?" after asking "Is there a chair?"), we temporarily store a small history of your recent verbal queries. This is used solely to provide AI context for your current session.

Your Rights:

- **No Personal Profiling:** We do not use your data for advertising, nor do we sell your information to third parties. Your data is used only to improve the utility of the ObstaX Mini.
- **Security:** All data transmissions between the device and our cloud servers are encrypted using industry-standard protocols.

You can review the full ObstaX Privacy Policy on our website for more detailed information.

15. Legal & Compliance

Disclaimer

- **Not a Mobility Tool:** ObstaX Mini is an assistive aid and not a replacement for a white cane, guide dog, or trained sighted guide. It should not be used as the primary tool for street crossings or high-traffic navigation. ObstaX shall not be liable for any injury, loss, or damages arising from reliance on the device, including but not limited to navigation, hazard detection, or decision-making.
- **Latency Warning:** Audio descriptions may have a delay of several seconds. Do not rely on feedback for avoiding moving objects or vehicles in real-time.
- **Financial Disclaimer:** Verify high-value banknotes through a secondary method. Accuracy is not guaranteed for financial transactions. ObstaX is not responsible for financial loss resulting from incorrect currency recognition.
- **Not for medical use:** ObstaX Mini is not a medical device. It should not be used to identify medication, dosage instructions, or to diagnose health conditions. Always consult a medical professional.

By activating and using ObstaX Mini, you agree to our Terms & Conditions and Privacy Policy and data processing practices.

16. Environmental Protection and Disposal

Correct Disposal of This Product (Waste Electrical & Electronic Equipment)

ObstaX Mini and its electronic accessories (e.g., charging cable, power supply) should not be disposed of with other household waste at the end of their working life.

Battery Disposal

- The ObstaX Mini contains a built-in Lithium-Ion battery. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate these items from other types of waste and recycle them responsibly to promote the sustainable reuse of material resources.
- Please contact the retailer where you purchased this product, or your local government office, for details of where and how you can take these items for environmentally safe recycling.
- Do not attempt to dispose of the device in a fire, as the battery may explode.
- You may dispose of this device at designated e-waste collection bins located at major electronics retailers or community centres.