

MILAGROW RoboElf 90cm

MILAGROW RoboElf 90cm Humanoid Robot Instruction Manual

Model: RoboElf 90cm

1. INTRODUCTION

The MILAGROW RoboElf 90cm is an advanced humanoid robot designed for commercial and personal assistance applications. It integrates sophisticated technology to provide interactive and intelligent assistance in various environments, from retail and hospitality to education and smart homes. This manual provides essential information for the safe and effective operation, maintenance, and troubleshooting of your RoboElf.

2. PRODUCT OVERVIEW

The RoboElf features a sleek, ergonomic design with advanced sensory capabilities and dynamic perception. It is equipped with 60 sensors, 3 cameras, and 12 freely moving wheels for comprehensive environmental interaction and navigation. The robot's core is powered by a Robotic Operation System (ROS) and integrates with a cloud platform and dedicated mobile application for enhanced functionality.

Key Features:

- **Humanoid Design:** An ergonomic design for optimal robot experience.
- **360-degree Perception:** Utilizes over 60 sensors for comprehensive awareness.
- **HD Touch Screen:** A 10.1-inch HD visual screen for high-resolution viewing and precise touch control.
- **Animated Waving Arms:** Motion arms with options for 250 flashing colors for expressive interactions.
- **Advanced Sound System:** Integrated sound capabilities for clear communication.
- **Robotic Operation System (ROS):** The underlying software platform for intelligent functions.
- **Cloud Platform Integration:** Connects to a cloud platform for data processing and service delivery.
- **Mobile App Control:** Seamless control and interaction via a dedicated mobile application.



Figure 2.1: The MILAGROW RoboElf showcasing its humanoid form.



Figure 2.2: Detailed diagram of RoboElf features including 3D camera, HD camera, LED, HD touch screen, touch sensor, PIR, subwoofers, infrared sensor, IR reception sensor, charger port, status LED, and metal dome.

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Video 2.1: An overview of the MILAGROW RoboElf's capabilities, demonstrating its use in various scenarios such as restaurant service, retail sales, museum guidance, and educational settings.

3. SETUP

3.1 Unboxing and Initial Placement

1. Carefully remove the RoboElf from its packaging. Due to its weight (55 kg), it is recommended to have at least two people for safe handling.
2. Place the RoboElf on a flat, stable surface in the desired operating area. Ensure the area is clear of obstructions for initial movement and sensor calibration. The robot is designed for hard floor surfaces.

3.2 Powering On and Charging

1. Locate the power port on the RoboElf (refer to Figure 2.2 for charger port location).
2. Connect the provided power adapter to the robot and a suitable power outlet.
3. Press the main power button. The robot's eyes and screen will illuminate, indicating it is powering on.
4. Allow the robot to fully charge before its first use. The charging status will be displayed on the HD touch

screen.

3.3 Network Connection and App Pairing

1. On the RoboElf's HD touch screen, navigate to the 'Settings' menu and select 'Network'.
2. Choose your Wi-Fi network and enter the password to connect.
3. Download the official MILAGROW RoboElf application from your device's app store.
4. Follow the in-app instructions to pair your mobile device with the RoboElf. This typically involves scanning a QR code displayed on the robot's screen.

3.4 Initial Calibration

Upon first connection or after significant relocation, the RoboElf may require environmental calibration. Follow the on-screen prompts or app instructions to allow the robot to map its surroundings using its 60 sensors and 3 cameras. Ensure the robot has an unobstructed path during this process.

4. OPERATING INSTRUCTIONS

The RoboElf can be operated via voice commands, its integrated HD touch screen, or the dedicated mobile application.

4.1 Basic Navigation and Movement

- **Voice Control:** Use pre-programmed voice commands (e.g., "RoboElf, move forward," "RoboElf, turn left") to direct its movement. Refer to the app for a full list of commands.
- **App Control:** Use the joystick or directional controls within the mobile app for precise navigation.
- **Autonomous Navigation:** Once an area is mapped, the RoboElf can navigate autonomously to designated points or follow pre-set routes.

4.2 Interactive Functions

- **HD Touch Screen:** Interact directly with the robot's screen to access menus, display information, or select options.
- **Animated Arms:** The robot's arms can perform various gestures and light up with 250 colors for engaging interactions, such as welcoming guests or assisting with presentations.
- **Sound System:** The integrated sound system allows for clear verbal communication, playing music, or delivering announcements.

4.3 Specific Applications

The RoboElf is versatile and can be configured for various roles:

- **Housekeeper/Secretary/Bodyguard:** Through its advanced AI and facial recognition, RoboElf can assist with daily tasks, manage schedules, and provide security monitoring.
- **Order Service/Salesperson:** In commercial settings, it can take orders, provide product information, and even facilitate promotions by displaying QR codes for special offers.
- **Museum Guide/Educator:** RoboElf can provide informational tours, display educational content via its projector, and interact with visitors or students.
- **Smart Home Integration:** Connects with smart home devices to control lighting, temperature, and other automated systems.

5. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your RoboElf.

5.1 Cleaning

- **Exterior:** Use a soft, dry cloth to wipe down the robot's exterior. For stubborn marks, a slightly damp cloth with mild, non-abrasive cleaner can be used, followed by drying. Avoid excessive moisture.
- **Sensors and Cameras:** Gently clean the sensor lenses and camera surfaces with a microfiber cloth to ensure clear vision and accurate environmental perception. Do not use harsh chemicals.
- **HD Touch Screen:** Use a screen-specific cleaner and a microfiber cloth to clean the display. Avoid pressing too hard.

5.2 Battery Management

While batteries are not included as a separate item, the internal battery requires proper charging. Always use the original power adapter. Avoid completely draining the battery frequently to prolong its lifespan.

5.3 Software Updates

Regularly check for and install software updates via the mobile application or the robot's touch screen. Updates often include performance improvements, new features, and security enhancements.

5.4 Sensor Calibration Check

Periodically perform a sensor calibration check through the robot's settings menu to ensure optimal navigation and interaction capabilities.

6. TROUBLESHOOTING

If you encounter issues with your RoboElf, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
Robot does not power on	Low battery; Power cable not connected; Power button not pressed correctly.	Connect to power adapter and charge; Ensure power cable is securely connected; Press and hold the power button for 3-5 seconds.
Cannot connect to Wi-Fi	Incorrect password; Out of Wi-Fi range; Network issue.	Verify Wi-Fi password; Move robot closer to router; Restart router and robot.
Robot not responding to voice commands	Microphone obstructed; Environment too noisy; Incorrect command.	Check microphone area for obstructions; Reduce background noise; Refer to app for correct voice commands.
Movement is erratic or restricted	Obstructions in path; Sensors dirty or blocked; Uneven surface.	Clear the operating area; Clean all sensors and cameras; Ensure operation on a hard, flat surface.
Touch screen unresponsive	Software glitch; Screen dirty; Hardware issue.	Restart the robot; Clean the screen; If issue persists, contact support.

7. Specifications

Feature	Detail
Brand	MILAGROW
Model Name	RoboElf 90cm
Model Number	5c711c47-293e-4bd8-8f39-d9eeb576c8c9

Feature	Detail
Colour	White
Item Weight	55 kg
Package Dimensions	32 x 20 x 9 cm
Sensors	60 (for 360-degree perception)
Cameras	3 (for 3D Dynamic Perception)
Wheels	12 (freely moving)
Display	10.1 inch HD Touch Screen
Special Feature	Sound, Animated Waving Arms (250 colors)
Surface Recommendation	Hard Floor
Batteries Included	No (internal battery, not user-replaceable)
UPC	684753682838

8. WARRANTY AND SUPPORT

8.1 Warranty Information

The MILAGROW RoboElf 90cm comes with a standard manufacturer's warranty. Please refer to the warranty card included with your product or visit the official MILAGROW website for detailed terms and conditions regarding coverage, duration, and claims procedures.

8.2 Customer Support

For technical assistance, service requests, or any inquiries regarding your RoboElf, please contact MILAGROW customer support through the following channels:

- **Official Website:** www.milagrowhumantech.com
- **Mobile Application:** Access support features directly within the RoboElf app.
- **Contact Information:** Refer to the product packaging or official website for phone numbers and email addresses.

When contacting support, please have your product model number (RoboElf 90cm) and serial number ready.