

Research & Education Kit

# Autonomous Platform Embodied Data Collection

**Research & Education Kit** Ready-to-use robot development platform, integrated mobile base and multi-sensor system, pre-installed ROS environment. Enables rapid autonomous mobility and perception experiments for academia and research.

**Embodied AI Kit** The mobile manipulation system bases on the ALOHA platform, which designed for dual-arm collaboration and teleoperation research. It supports teleoperation and autonomous operation for research and education.

## Mobile Manipulation

Integrates mobile bases, robotic arms, sensors, and computing platforms with ROS and simulation tools for algorithm development and system expansion.

## Hardware-Software Integration

Pre-installed ROS environment with high-performance computing and multi-sensor integration (LiDAR, vision, IMU), ready for education and research out of the box.

## Autonomous Navigation

Supports SLAM mapping, path planning, and dynamic obstacle avoidance for stable autonomous navigation in complex environments.



\* Configurations, appearance, and specifications shown are for reference only and subject to actual product delivery.

# Modular ALOHA

Built on the RANGER MINI 3.0 platform, this dual-arm teleoperation system adopts a leader-follower split architecture. By separating control and execution units, it enables flexible deployment and scalable system expansion for bimanual manipulation research, teleoperation, and embodied AI data collection.

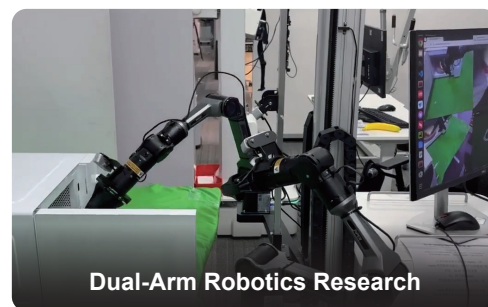
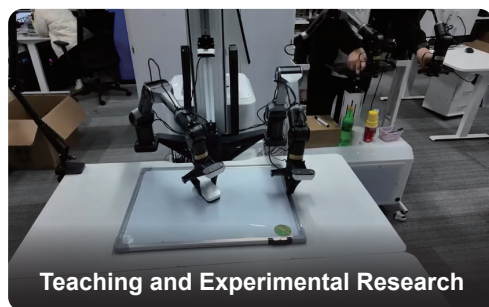
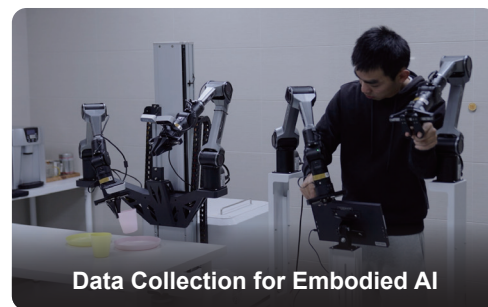
**Leader-follower Split Architecture**  
Supports cross-space teleoperation and multi-scenario experimental framework.

**Large-Scale Real-World Data Acquisition**  
Supports stable data collection and batch task execution.

**Modular Task Expansion**  
Supports end-effector, sensor and module replacement per task.

**Mobile Platform Adaptation**  
Works with mobile base for mobile manipulation tasks.

## APPLICATIONS ▾



## SOFTWARE SPECS

|                             |                                     |
|-----------------------------|-------------------------------------|
| <b>Model</b>                | Modular ALOHA                       |
| <b>OS</b>                   | Ubuntu 20.04                        |
| <b>ROS version</b>          | ROS1 Noetic/Optional ROS2 Humble    |
| <b>Simulation</b>           | Gazebo/Isaac Sim/MuJoCo             |
| <b>Algorithms &amp; SDK</b> | Provides Sample Algorithms and SDK  |
| <b>Model Support</b>        | Upgradable to PI0/PI0.5/LeRobot/RDT |

## HARDWARE SPECS

**Mobile Chassis**  
RANGER MINI 3.0



**End Effector**  
Gripper\*2



**Sensor**  
Depth Camera\*3+Lidar\*1



**Interactive control**  
11.6-inch Screen + Keyboard



**Robotic Arm**  
PIPER\* 4



**End Effector**  
Teacher Pendant\*2



**Computing Unit**  
4060 Graphics Card Industrial PC



\*All specifications are for reference only. Actual configuration shall be as delivered.

\*For stable teleoperation and reliable communication, front-end and rear-end devices are connected via CAN cable by default.