

- Clear routes for troops on the move...
- Identify, excavate and move IEDs and unexploded ordnance...
- Examine suspicious vehicles and packages at vital checkpoints...

The next-generation iRobot PackBot 510 with Engineer Kit is an agile, adaptable robot capable of identifying, digging up and carrying IEDs as large as a 155 mm shell while keeping combat engineers and warfighters at safe distances.



Protect combat engineers and personnel from deadly explosions

PackBot 510 performs multiple missions:

Route Clearance

Safely investigates and moves IEDs spotted by a route clearance team as it sweeps for threats on mission routes

Explosive Hazard Identification (IEDs / UXOs)

Identifies roadside bombs, car bombs, and unexploded weapons, protecting troops tasked with IED identification from unnecessary risk

Checkpoints / Inspections / Explosives Detection

Using advanced vision and surveillance capabilities, PackBot 510 with Engineer Kit effectively examines vehicles, packages, and buildings to locate deadly IEDs

Enhanced Next-Gen Features:

Rugged and lightweight

Operator Control Unit increases ease of use and mobility.

Advanced chassis for 30% faster speeds, better navigation and increased dragging capacity.

Improved manipulator doubles lifting, carrying and manipulation capabilities.

New game-style hand controller enables faster training and higher mission success in the field.

Four cameras ensure optimal surveillance and maneuverability in a variety of environments.

Ordnance Lift System

The adjustable Ordnance Lift System digs under, moves and carries a variety of objects and ordnance weighing up to 100 lbs (45.3 kg).

Flipper Tool Bar

Accommodates single or multiple tools to aid in the excavation, clearing and manipulation of objects or surface clutter. Supports a variety of tools provided by Stratom, Inc.

Vision and Targeting Head

Equipped with powerful cameras to ensure that operators can see and overcome whatever is in the robot's path.

Manipulator 1.0

Doubles lifting, carrying and manipulation capabilities. 360° base rotation allows for precision targeting and placement of disrupters. Elbow joints enable the robot to lift up to 30 lbs (13.6 kg) with arm in a compact position or 10 lbs (4.5 kg) while extended.

Arm Cameras (2)

Color arm cameras provide enhanced views and operation. One camera points at the head, allowing for maneuvering in tight situations. The second camera points at the gripper on the manipulator, enabling easier handling of objects.

Surveillance Camera

Continuous pan and 220° tilt, color CCD with 312x zoom, auto-focus, image stabilization and low-light capabilities.

Drive Camera

Wide-angle, mounted on base of unit with multiple positions allowing for forward, rear and downward views. It can also view manipulator positions.

Lights

Variable-intensity LEDs are mounted at each camera location. Surveillance camera has both white and IR LED arrays for illuminating in all ambient light conditions.

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iRobot PackBot 510 with Engineer Kit Contents

- PackBot 510 Chassis
- Rugged 15" Laptop OCU
- GPS
- 2 Hand Controllers
- Headphones
- QuickClamp Accessory Mount with Accessory Port
- CommSelect 5140 Payload (4.9 GHz)
- 4 BB-2590/U Batteries
- 2 BB-2590/U Battery Cradles
- Ordnance Lift Kit
- Flipper Tool Bar Kit
- Route Clearance Tool Kit
- Rugged Shipping Cases
- User Documentation
- Aware 2.0 License

Optional Accessories

- Thermal Camera
- External Firing Circuit
- Picatinny Rail Mounting System
- SmartSpool Fiber Optic Spooler

Specifications with Engineer Kit

- Microelectronics & Sensors
- On-board computer with overhead protection, compass accelerometers, inclinometer
- Height: 16" with Manipulator in stowed position
87" with Manipulator fully extended
- Width: 16" with Quickflip flippers off
20.5" with flippers on
- Length: 32" with flippers stowed
40" with flippers extended
- Weight: 68 lbs (includes 4 batteries)

Total Capacity

- Eight payload bays
- Can carry up to 46 lbs (20.9 kg) at one time

Communications

- RF: Fully digital 4.9 GHz
(up to 3,280' / 1000 m range* line of sight)
- Optional 2.4 GHz radio and long range antenna
* Configuration dependent

Manipulator Specification

- Extension: 80" (203.2 cm)
Lifting capacity:
- 10 lbs (4.5 kg) at full extension
 - 30 lbs (13.6 kg) at close-in position

This literature has been compiled for worldwide circulation.

While general information, pictures and descriptions are provided, some illustrations and text may include product options and accessories NOT AVAILABLE in all regions. iRobot reserves the right to change specification, design and price of the products described in this literature without notice. These items are on the USML and require Department of State export license.

Degrees of Freedom (DoF):

- 8 independent DoF
- Shoulder rotation: Continuous
- Shoulder pivot: 220°
 - Elbow 1: 340°
 - Elbow 2: 340°
- Gripper rotation: Continuous
- Gripper open: 180°
- Head rotation: Continuous
- Head tilt: 220°

Battery Endurance

- 4 BB-2590/U (Lithium Ion) Batteries
- 8+ hours depending on mission profile
- Up to 6+ miles (9.6 km) of travel

OCU Specifications and Capabilities

The ruggedized, lightweight 15" OCU provides operators with pre-set manipulator positions and 3-D active robot on-screen display, enabling operators to easily position and visualize the robot.

Size

- 13.5" (35.1 cm) W x 11.6" (29.4 cm) L x 3.1" (7.8 cm) H

Weight

- Approximately 14 lbs (6 kg)

Environmental

- All Weather Operation

Screen

- 15.1" (38.4 cm) XGA (1024 x 768) anti-reflective TFT LCD

Power

- Removable 11.1V/660mAh Lithium-Ion battery
- AC Adaptor 90V-240V 50/60Hz input. Complies with military power source AC 115V 400Hz

Software

- Aware 2.0
- Multi-image display with full screen option
- Multiple pre-set manipulator positions
- Auxiliary USB, Ethernet, video output
- Two way audio communications
- Power-saving sleep mode
- 3-D active model of vehicle
- Image capture capability
- Gauge display of batteries
- Gauge display of fiber
- Multiple speed ranges
- Multi-lingual

