

The iRobot® 110 FirstLook® is a compact, rugged and expandable lightweight robot that provides immediate situational awareness, performs persistent observation, and investigates and manipulates dangerous and hazardous materials while keeping the operator out of harm's way.



iRobot 110 FirstLook

FirstLook is easily carried, throwable, and quickly deployed.

Among numerous integrated accessories and payloads, FirstLook can be equipped with a Small Lightweight Manipulator (SLM) to interact with the environment.

Sensor agnostic, FirstLook integrates numerous third-party sensors for HazMat, CBRN missions and supports thermal imagers for invaluable real-time information in darkness, fog, smoke, and other visually challenging environments.



Multi-mission flexibility

Portable

FirstLook is light, small, and stores in a standard load-out. The throwable robot weighs approximately 5 lbs and is 4" tall, 9" wide, and 10" long.

Rugged and Agile

FirstLook can survive 15 foot drops onto concrete and is waterproof down to 3.3 feet. Equipped with flippers, the robot can overcome obstacles up to 7" high, turn in place, and self-right when flipped over.

Expandable

FirstLook operates in challenging conditions. The robot can operate for more than 6 hours on typical missions and is equipped with 4 NIR enabled cameras, providing 360° continuous awareness.

Manipulation

FirstLook equipped with the Small Lightweight Manipulator (SLM) provides hands and eyes-on control in all situations. SLM can lift 3 lbs and extends 12" above the ground.



Robot

The iRobot 110 FirstLook provides multi-mission flexibility on a compact, rugged and battle-proven chassis.

- Throwable (robot without accessories or payloads)
- Highly mobile tracked propulsion with skid steering and zero radius turn
- Integrated rechargeable battery
- Operational in all weather environments and confined spaces



Operator Control Unit

The rugged, lightweight, OCU enables easy robot operation

- Intuitive graphic user-interface
- Recognizes and enables accessory specific behaviors
- Displays real-time video from multiple visible and NIR cameras
- Displays robot and flipper orientation, communications signal strength, battery charge level, and system configuration details
- Includes robot discovery/selection and help pages

iRobot 110 FirstLook Robot Components and Specifications

110 FirstLook System Components

FirstLook Robot
Operator Control Unit
Robot and OCU AC charger with
BB-2590 Adapter

Robot Specifications

Size	4" H x 9" W x 10" L (10.2 cm x 22.9 cm x 25.4 cm)
Weight	5.2 lbs (2.4 kg)
Speed	Up to 3.4 mph (5.5 km/h)
Communication	Line of sight range up to 656 ft (200 m) Digital Radio Modular Interface 2.4 or 4.9 GHz Mesh Radio
Cameras	Four (4) built in cameras (front, rear, and side-facing) Adjustable exposure and gain Sensitive to visible and Near IR (NIR) light 8x digital zoom
Illumination	Near IR (NIR)
Run time	More than six (6) hours on average
Accessory Expansion	Accessory port facilitates integration of specialized cameras, thermal imagers, hazmat sensors, SLM, IDAC and charge deployment accessories
Rugged	IP 67 (submersible to 3.3 ft / 1 m)
Operating Temperature Range	-4° to 131° F (-20° to 55° c)
Autonomous behaviors and poses	Self-right Lock/Deploy (with IDAC)

Operator Control Unit (OCU)

OCU Components

Rechargeable
Game-style controller
Integrated Radio

OCU Specifications

Size	1.8" H x 9.3" W x 4.5" L (4.6 cm x 23.6 cm x 11.4 cm) excluding collapsible antenna
Weight	2 lbs (0.9 kg)
Run Time	More than six (6) hours on average
Environmental	Rugged, water-resistant
LCD Screen	5" (12.7 cm) 800 x 480 resolution

iRobot 110 FirstLook – Multi-mission flexibility

FirstLook's intuitive design allows for rapid, tool-less sensor integrations, enabling the operator to complete multiple objectives with one robot on the same mission.

Mission

Description

Configuration includes

Intelligence, Surveillance, and Recon



The base robot and OCU combination provides an ideal solution for acquiring superior situational awareness in a range of tactical environments. The 110 FirstLook and OCU offer an expandable solution for your needs.

FirstLook Robot and OCU

- Portable, throwable, rechargeable
- 5.2 lbs (2.4 kg)
- 4 visible and NIR cameras
- Rugged, hand-held, game-style and rechargeable OCU with MESH radio communications

EOD, Object Manipulation, and Neutralization



Equipped with a rugged and proven third-party arm, 110 FirstLook can investigate, manipulate and lift objects as heavy as 3 lbs (1.4 kg).

FirstLook Robot and OCU

- FirstLook SLM
- Actuated mast camera
- Actuated arm pitch and gripper open/close
- Pre-set poses
- SLM weight: 3.5 lbs (1.6 kg)
- Robot w/ SLM: 8.7 lbs (4 kg)
- Max lift: 3 lbs (1.4 kg)

CBRN Response



FirstLook provides a sensor agnostic platform to deliver third-party sensors to areas of interest and investigation. Easily integrated sensors can mount on the robot chassis and be viewed remotely on the OCU, ensuring safe stand-off distance.

FirstLook Robot and OCU

- Sensors supported
- Joint Chemical Agent Detector (JCAD)
- Smiths LCD 3.3, Smiths Detection
- MultiRAE, RAE Systems
- Radiac, Canberra

Day/Night and All Weather Operations



Within seconds, the infantry can detach their L-3 Weapon Thermal Monocular unit and attach it to the FirstLook for integrated LWIR (thermal) imaging capability. The thermal image transmits directly to the robot OCU for real time heat signatures of humans and vehicles.

FirstLook Robot and OCU

- Integrated Deployment and Camera
- L-3 Weapon Thermal Monocular (WTM)



Accessories

Small Lightweight Manipulator (SLM)

SLM Components

Manipulator
Mast Camera with Illuminator

SLM Specifications

Size Stowed	3" H x 7.5" W x 10.5" L (7.6 cm x 19.1 cm x 26.7 cm)
Weight	3.7 lbs (1.7 kg)
Gripper Reach	9.2" (23.4 cm)
Max Lift Capacity	3.5 lbs (1.6 kg)
Actuated Degrees of Freedom	Shoulder Pitch, 225° Gripper Open/Close Camera Mast Pitch, 90°
Manual Degrees of Freedom	Gripper roll, 0° or 90° Camera Pan/Tilt
Mast Camera Height Range	1.5" – 8" (3.8 cm – 20.3 cm)
Rugged	IP 65

Integrated Deployment and Camera (IDAC)

IDAC Components

270° adjustable mast camera angle
Visible light illumination
Three motorized pins

IDAC Specifications

Size	6.1" H x 4.5" W x 7.5" L (15.5 cm x 11.3 cm x 19.1 cm)
Weight	.8 lbs (0.36 kg)
Mast Camera Height	6.1" (15.5 cm)
Payload mounting points	Three (3) synchronously actuated pins Various mounting points Eye bolt on back face for tether

FirstLook Supported Sensors

	iRobot FirstLook carries and integrates an array of third-party sensors
Carries	Joint Chemical Agent Detector (JCAD) Smiths LCD 3.3, Smiths Detection MultiRAE, RAE Systems Canberra Radiac, Canberra
Integrates	Weapon Thermal Monocular (WTM), L-3

iRobot and RE2 developed a rugged Small Lightweight Manipulator to give 110 FirstLook lifting, carrying, and manipulating capabilities. Together, iRobot and RE2 transformed FirstLook into a compact, fully functional dismantled system.

This literature has been compiled for worldwide circulation. While general information, picture 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

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