

# CALIBER® T5

## SMALL EOD / SWAT ROBOT



Sharing the same core design principles as the MK3 CALIBER® robot, the CALIBER® T5 packs mission critical features into a smaller, lighter, narrower robot chassis. What makes the CALIBER® T5 different is a single highly agile robotic arm with 5 degrees of movement including a turret, shoulder, elbow, wrist and claw joint.

### MOBILITY

Measuring only 17.25" (44 cm) wide, the CALIBER® T5 is best suited to EOD and SWAT teams needing to deploy a compact robot into narrow passages such as buses, trains and planes. Weighing in at only 140 lbs (64 kgs), the robot can be quickly deployed from a trunk of a car. With a vertical reach of 66" the CALIBER® T5 can reach most suspicious devices. The optional Arm Extension Kit extends the reach of the arm to 105" (267 cm); allowing for easy access to overhead airplane or bus compartments.

### WEAPONS SYSTEM

The T5 comes equipped with a single Disrupter Mount and is interoperable with most popular brands of recoilless disrupters. An optional mount for a Benelli M4 shotgun is also available. Integrated Cross hairs on the CCU screen with 2 green lasers and 1 color camera are used for sighting weapons. 4 independent firing circuits are used for initiating disrupters, bottle charges or x-ray systems.

### DRIVE SYSTEM

Powerful drive motors control the chain driven rubber tracks, while a 3 speed transmission accelerates the robot up to 5 mph (8 km/h) while providing the low end torque to climb steep stairs and easily navigate all types of rugged terrain including snow and sand.

### COMMAND & CONTROL UNIT (CCU)

The weather resistant CCU provides precise, simultaneous operation using the variable speed drive joystick and dedicated Pan-Tilt-Zoom (PTZ) Camera joystick. An intuitive 3D layout of the robot on the deck of the CCU includes backlit buttons and user feedback ensuring ease of use during operations. The low reflection 15" (38.1cm) LCD color screen shows clear images in both bright and low light conditions from any of the 5 color cameras. To minimize unsafe actions, the CCU requires a two-step function for firing disrupters or weapons by featuring a removable key switch and dual push-button operation. Video jacks allow for camera output to an auxiliary monitor. Audio jacks allow for output to powered speakers. Optional features include Picture-in-Picture (PIP) (COFDM only) and Digital Video Recorder for recording MPEG and JPEG and audio. Please see the CCU datasheet for more details on CCU features.

### MISSION TIME

24 VDC quick-change rechargeable batteries extend your mission time to 2 – 4 hours (mission dependant). Feedback screen on CCU indicates battery status of robot and CCU. It literally takes seconds to swap batteries or you can charge the batteries directly inside the robot chassis without removing them. 2 robot battery packs are provided as a part of the standard package.



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## Standard Features & Capacities

FEATURE	DESCRIPTION
Drive System	<ul style="list-style-type: none"> <li>• Chain driven with 3-speed transmission</li> <li>• Rubber tracks with anti-flip bar for climbing stairs.</li> <li>• Low Gear: Stair Climbing &gt; 1 mph (1.6 km/h)</li> <li>• Med. Gear: 0-2 mph (0-3.2 km/h)</li> <li>• High Gear: 0-5mph (0-8 km/h)</li> </ul>
Turning circle	0 degrees
Robot Battery Pack	2 x 8Ah 24V DC lead acid rechargeable, quick change
Battery Chargers	1 x Robot: 24 VDC/110 or 220 VAC 1 x CCU: 12 VDC/110 or 220 VAC
CCU	<ul style="list-style-type: none"> <li>• Command and Control Unit to operate robot</li> <li>• Multi-function control, with simultaneous use of variable speed joysticks</li> <li>• Dedicated joystick for PTZ camera</li> <li>• 15" (38.1cm) bright daylight readable LCD Screen</li> <li>• Battery status indicator</li> <li>• Video jacks output to auxiliary monitor</li> <li>• Audio output and MP3 audio inputs</li> <li>• Weather resistant</li> </ul>
RF System	Wireless system (900 MHz data, 2.4 GHz video)
Turret and Arm rotation	+/- 120 degrees
Shoulder rotation	0 - 180 degrees
Elbow rotation	0 - 270 degrees
Claw rotation	360 degrees continuous rotation. 25 cm (10") opening, rubber lined effectors
Lift capacity	8kg (18 lbs) - Arm Extended 20kg (45 lbs) - Arm Retracted
Vertical reach	66" (168 cm)
Horizontal reach	47" (119 cm)
Front Drive Camera	Infra Red Color Camera CCD
Rear Drive Camera	Infra Red Color Camera CCD
PTZ Camera	<ul style="list-style-type: none"> <li>• Pan- Tilt-Zoom color camera</li> <li>• 26 X optical zoom • 2 x LED light</li> <li>• 360° continuous rotation</li> <li>• Folds down for transportation</li> <li>• Telescopic height adjustment (manual)</li> </ul>
Claw Camera	Color Camera CCD with LED Light
Weapons Camera	Color Camera CCD with green lasers for aiming Recoilless Disrupters
Turret Lights	2 LED lights mounted on Turret
Firing system	4 independent isolated circuits
Disrupter Mount	Single Mounting bracket for one Recoilless Disrupter – 20mm Proparms, RE70M3, PAN with recoil adapter <i>(*Note: use recoilless disrupters only, call for other systems)</i>
Hardwire Tether	Standard 500 ft. (153m) tether reel with Slip Ring; used as an alternative to RF controls
2 - Way Audio	Two-way communication (talk/listen) with transmitter, receivers and PTT headset; audio in/out ports to connect to MP3 player or external speakers
Training Course	One day Robot Operation and Maintenance course. Either at ICOR or customers facility
<b>WARRANTY</b>	<b>2-YEAR LIMITED WARRANTY</b>
<b>TECHNICAL SUPPORT</b>	<b>UNLIMITED TECHNICAL SUPPORT</b>

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## Optional Features

FEATURE	DESCRIPTION
Digital COFDM Video System	Upgrade to a true COFDM digital system. Operating in 1.14 GHz and 1.4 GHz ensures transmission of video images free of distortion up to 1 Km non-line of sight. Ideal for mobile and urban environments.
Picture-in-Picture	Optional Quad Screen Picture-in-Picture (PIP) allows for simultaneous viewing of four cameras.
Digital Video Recorder	Hardwired into CCU case. Records up to 120GB of video and audio on an HDD & SD Card memory storage with USB 2.0 PC interface – MPEG-4, JPEG capable. Integrated 3.5" (8.8cm) color LCD screen
Claw Attachment Kit	Set of 10 tools for CALIBER® claw includes: window breaker, tire deflator, finger extension, cutting hook, utility knife, multiple effectors and hook & line accessories
Arm Extension Kit	Quick connect telescoping Arm Extension fits onto the existing arm, extends reach up to 105" (267 cm)
Spare Parts Kit	Set of basic spare parts for CALIBER®
X-ray Mount	X-ray mounting bracket for Vidisco XR-200 OR XR-300 <i>(please call for other systems)</i>
Truck Mount	External truck brackets for mounting RF antennas outside command vehicle.
Handheld Controller Unit	Lightweight HCU connected via tether input providing full motor control of robotic arm, drive system and LED lights
Handheld Screen	Secondary portable wireless RF LCD Screen. Ideal for SWAT entry teams.
Shock Tube Initiator	2-Channel Shock Tube Initiator with attachment mounts
Ramps	Set of lightweight, folding aluminum ramps for truck deployment
Auxiliary Pole Camera	Extendable Camera Pole mounts into weapons arm to add up to 74" (188 cm) of vertical surveillance
RF Extender	Increases Video and Data RF distance
Extra Battery Charger	Additional battery charger for either the robot battery or CCU battery
Heavy Duty Transit Case	Ideal for repeated shipping of robot.
Motorized PTZ	Control for motorized, telescoping mast for Pan-Tilt-Zoom (PTZ) Camera max reach of 55" (140 cm)
Motorized Anti-flip	Control for motorized anti-flip bar to shorten robot chassis in confined spaces
Fiber Optic Reel	1000' (305m) milspec fiber-optic tether reel with auto-spooler for use as a backup to RF control of the CALIBER® robot

## General Capacities

Mission Time	2 - 4 hours +, mission dependent
Width	17.25" (44 cm)
Height (Stowed Position)	22" (56 cm)
Length	34.5" (87 cm)
Ground clearance	2.75" (7 cm) - allows for driving in snow and sand
Weight	140 lbs (64 kg)
Drag Capacity	200 lbs (91 kg)
Stair Climbing	Climbs 8" (20 cm) stairs at 45 degrees with suitable traction
Weather resistance	Environmentally sealed; chem.-bio wash down capability