Remotec Inc, a subsidiary of Northrop Grumman, has over 25 years of experience designing, producing, and fielding Unmanned Ground Vehicles (UGVs), more than any other company. Users around the world depend on Remotec UGVs every day to help them meet a wide range of missions and scenarios knowing they can trust the rugged, reliable, and proven Andros™ systems – with the added confidence that Remotec® will be there to support them. With over 2,200 systems in the field, Remotec is the standard by which all other UGVs are measured. Our customers include the US military, US government civilian agencies, state and local governments, foreign government agencies, and commercial entities.

Remotec offers the widest range of UGVs and accessories in the market. This provides many options to our customers to meet their requirements without compromising capabilities.

We work closely with our customers, including our U.S. Government customers, to develop additional capabilities and features that will meet new and emerging threats, and where feasible, we design an upgrade path to add these new capabilities and features to fielded systems.

The ability to integrate new capabilities on fielded systems ensures Andros users will be able to respond to evolving threats while providing maximum value for their investment.

All of Remotec’s unmanned vehicle systems are ISO 9001:2008 compliant

Remotec …
Keeping Danger at a Distance

Table of Contents

Andros FX™ ................................................................. 2
Andros Titus™ ............................................................... 5
Andros HD™ Series ..................................................... 8
Andros F6B™ ............................................................... 11
Andros Upgrades ......................................................... 14
Control Systems & Data Link ...................................... 15
Audio/Video Options .................................................... 17
Sensor Mounts ............................................................. 18
Dynamic Tools - Disrupters, Breaching & Launchers) ......................................................... 19
Initiators ....................................................................... 19
Misc. Tools & Accessories ........................................ 20
Maintenance & Miscellaneous ................................. 22
Training & Service ....................................................... 23

GSA Contract Information
Remotec’s GSA Contract #GS-07F-0538M
Andros FX™

Bringing Xtreme mobility and dexterity to robot users worldwide
Andros FX: Designed with the user in mind, Andros FX was created from the ground up based on over 25 years of Remotec unmanned ground vehicle (UGV) experience and on design direction and requirements from our customers. A combination of advanced mobility and high dexterity coupled in one vehicle, the Andros FX provides unmatched capabilities to defeat vehicle-borne improvised explosive devices (IEDs) in addition to many other threats. Andros FX expands the user’s ability to complete a wide range of missions faster and with greater confidence, all while maintaining Andros’ global reputation for rugged, reliable, easy-to-use vehicles.

Track-Pod Mobility
- Quad track pods provide the mobility needed for the widest range of scenarios - indoors, outdoors and every combination in between
- Each track pod can be controlled individually to level the vehicle on uneven terrain, increasing the flexibility of employment and minimizing concerns about vehicle tip-overs

Nine degrees of Freedom Arm
- Two additional arm rolls provide the ability to access vehicles and maneuver in confined spaces such as parking lots and buildings previously out of reach
- Significantly increased lift capacity of objects and greater dexterity for handling the toughest missions
- New gripper palm camera with lights for faster, more accurate grasping

Improved Menu System
- Nine factory presets plus Nine user-defined presets
- 3-D vehicle images help operators view and visualize the configuration of the arm and articulators
- One or four cameras can be displayed. Single camera mode offers three picture-in-picture camera views that can be moved and resized
- Vehicle tilt and cant positions displayed on the screen help ensure confident maneuvers across any terrain
- Vehicle maintenance information provided via touch screen graphics

Andros FX Key Features

- Optional Thermal Camera

- Lifts 125 lbs at full extension/275 lbs in front of vehicle

- Vehicle Maintenance Window

- Manual brake release knob

- Gripper camera and IR proximity sensor

- Two additional arm rolls change the standard seven degrees of freedom arm to nine degrees of freedom

- Quad articulating track pods provide superior capability for stair climbing, negotiating obstacles and increasing the reach, yet still turning in small areas for operations in buildings and confined spaces

Copyright © 2018 Northrop Grumman Systems Corporation, All Rights Reserved
**Dimensions**
- Height: 57” (1397 mm)
- Width: 28” (711 mm)
- Length: 43” (1092.2 mm) tracks up

**Weight**
- 1000 lbs (454 kg)

**Mobility**
- Articulated tracks with position feedback capable of individual control
- Slope: 45º incline and stairs
- Speed: 0 to 5 mph (0 to 8 kph)
- Traverse: Gap opening up to 27” (685 mm) and Obstacles up to 25” (635 mm)
- Turning: 48” (1219mm)

**Manipulator**
- Variable Speed Control for precision
- Dual-sided quick change accessory mounting system
- Torso Rotate: +/−150° w/position feedback
- Shoulder: 224º w/position feedback
- Lower Arm Roll: +/−170º w/position feedback
- Elbow: 225º w/position feedback
- Upper Arm Roll: +/−170º w/position feedback
- Wrist: 215º w/position feedback
- Wrist extend: 6” (152.4 mm)
- Gripper rotate: 360º continuous w/feedback
- Gripper: 0” to 8” open/close (0 to 203 mm)
- Grip force: 0 to 125 psi (809 kPa)
- Gripper Range estimator 3.9” to 31.5” (10 to 80 cm)
- Lifting: 275 lbs at 18” (61 kg @ 457 mm), 125 lbs at full extension (124 kg)
- Vertical reach: 130.5” (3314.7 mm) with tracks down and arm fully extended
- Horizontal reach: 87” (2209.8 mm) from front of vehicle

**Cameras**

**Surveillance:**
- Color camera with IR switching
- 360x zoom
- Extra low light color pan/tilt/zoom with full 360° continuous pan, +/-90° tilt
- Auto/Manual Focus and Iris
- LED lights with remote switching from white to IR
- Vertical Surveillance Camera Extend: 24” (609 mm)
- Optional Thermal Camera

**Arm:**
- Fixed Color camera with
- LED light with remote switching from white to IR
- Optional Surveillance Pan/Tilt Camera

**Front and Rear Drive:**
- Color that changes to B/W in low light conditions with fixed focus
- Sensitive to IR illumination

**Gripper Camera:**
- B/W low light with fixed focus
- Sensitive to IR illumination

**Optional Thermal Camera:**
- Mounted in Surveillance Pan/Tilt mast or arm housing
- White or Black Hot polarity with orientation invert or revert
- Array size 320 X 240
- Viewing temperature range -40° C to +80° C
- Spectral Band of 8 - 14 µm

**Optional Tool Camera:**
- B/W lowlight with fixed focus
- Auto Iris
- Optional laser enhancing lens
- Sensitive to IR illumination

**Audio**
- 2 Way Audio System with weather-proof speaker and microphone

**Electrical**
- 6 Isolated firing circuits: 24VDC
- Power supply: 36VDC 58 amp-hr gel-cell battery pack, Battery Charger, 110 or 220 VAC operation
- 1/4 Turn Connectors for easy connect/disconnect
- Data Links: Interchangeable Fiber Optic Cable Reel, RF COFDM/Spread Spectrum System,

**Environmental**
- Designed to meet IP67
- Sealed, weather resistant enclosure
- Operating temperatures -20° C to +50° C

**Other**
- 2.5 days of operator/maintenance training in Clinton, TN
- CD-ROM based operator and maintenance manual
- One year limited warranty

*Design features are subject to periodic updates based, in part, on the direction and feedback received from customers. Attachments (such as cameras and sensors) and accessories are subject to customer preferences and periodic updates by Remotec and its suppliers. Those depicted or described herein are representative and may vary at time of sale. Current product specifications are available from a Remotec sales representative.
Andros Titus™

Smarter. Lighter. Faster.
Andros Titus™ provides the performance, ruggedness and reliability expected of a larger Andros vehicle in a smaller package. The system design focused on mobility, manipulator dexterity, the user interface and life cycle costs. While offering excellent initial operational capabilities, the system is designed for growth to keep your investment current well into the future.

Vehicle & Chassis
• Excellent mobility across a wide range of terrain such as sand and snow
• Modular design approach allows users to reconfigure the base unit to meet a variety of missions
• Superior stair climbing thanks to the proven Andros dual-articulator design—the culmination of 25 years of extreme use
• 16.25” width (w/articulators) for use on airplanes, buses and trains
• Vehicle speed 7.5+ mph (12+ kph)
• Quick-swap BB 2590 batteries

Manipulator
• Preset positioning for rapid deployment
• 6 degrees of freedom, including torso rotate
• 15 lb (6.8 kg) full extension/20 lb (9 kg) close to body
• Manipulator can be removed quickly, without tools, to exchange for future specialized manipulators & payloads

Operator Control Unit
• Innovative touchscreen/physical button hybrid controller
• Main, Quad-screen, PIP camera view windows, all resizable and moveable on the screen by user
• Easy-to-use and learn approach to the user interface makes operation of the OCU a breeze
• 3D real-time, on-screen position feedback

Andros Titus Key Features

New manipulator design with all internal components provides superior capability, in a quick-release, versatile package

State of the art diagnostics and troubleshooting, including on-board diagnostics LCD screen

Quick-release articulators provide unmatched stairclimbing & mobility, or can be removed for narrow spaces such as bus or airplane aisles

Optional Thermal imager

Integrated 1W or 5W for communication

Multiple Picatinny rails for sensor & payload attachment

Widely used & commercially available quick-swap BB 2590 batteries

Copyright © 2018 Northrop Grumman Systems Corporation, All Rights Reserved
Andros Titus is the most versatile and customizable unmanned ground system we’ve ever produced. From supporting indoor to outdoor missions and every combination in between, Titus is designed to provide the greatest employment flexibility to help you achieve mission success.

**Dimensions**
- **Width:** 16.25” (base system); 24.25” with optional wheels
- **Length:** 28.75” (articulators folded); 51.5” (articulators extended)

**Weight**
- **135 lbs** (base system, including manipulator)

**Mobility**
- All-terrain with four articulated tracks
- **Slope:** 45º including stairs
- **Speed:** 0 to 5+ mph (tracks only); 7.5+ mph with optional wheels
- **Turning:** Within the length of the vehicle

**Manipulator**
- Quick-release manipulator
- Variable Speed Control for precision
- Control methods:
  - “Fly the Gripper”
  - Joint-by-joint
  - Preset Positioning
- Torso rotate +/- 180º
- Shoulder -90º to +135º
- Elbow +/- 135º
- Wrist +/- 135º
- Grip rotate: 360º continuous w/feedback
- Gripper: 0” to 4” open/close; 0-45 lbs pressure
- Lifting: 10 lbs at full extension; 15 lbs close to platform

**User Interface**
- Cabled, hand-held control unit with color touchscreen & integrated tactile controls
- 8.4” Daylight readable screen
- Xbox-style controller
- 2-way audio
- Vehicle Mount Kit

**Cameras**

**Surveillance:**
- Color camera with Night Vision (IR) switching
- 216:1 zoom
- Pan/tilt/with 360º pan; +/-90º tilt
- Auto/Manual Focus and Iris
- White Light/IR LED illumination

**Arm:**
- Color camera with fixed focus
- Auto Iris
- Integrated white light LED ring

**Front Drive:**
- Color camera with fixed focus
- Auto Iris
- Integrated white light LEDs

**Rear Drive:**
- Color camera with fixed focus
- Auto Iris

**Audio**
- 2 Way Audio System with weatherproof speaker and microphone

**Environmental**
- IP65

**Power**
- BB2590 Batteries
- 3 hour continuous driving run-time

**Communication**
- 1W COFDM, No License Required (NLR) w/Vehicle Mount Kit
  - 500m+ Line of Sight (LOS)
  - 350m Non-line of sight (NLOS)
- 5W COFDM, License Required w/Vehicle Mount Kit
  - 600m+ Line of Sight (LOS)
  - 500m Non-line of sight (NLOS)
  - Fiber optic reel available as an option

**Optional Accessories**
- Toolless, quick-release wheels
- Thermal imager
- Recoilless disruptor mount
- Supports various sensors. Call Remotec Sales for the current list
The Andros HD-2™ has gained the reputation as the medium size response vehicle work horse for Military, and First-Responders worldwide. The HD-2 provides a rugged, reliable vehicle with unmatched strength in its weight class.

**Best-in-class Manipulator**
- 6 degrees of freedom (including torso rotate) provides a more dextrous and capable arm
- The HD-2 manipulator provides the most lift in its weight class (up to 145 lbs)

**Position Presets**
- Select from nine of the most commonly used positions, such as park, deploy, stair mode, and drive mode among others
- Users may also save up to 10 of their own, user-defined presets.
- All presets are quickly accessible and easy to select

**On-Screen Graphics**
- Improved software provides an on-screen representation the arm and articulator positions
- The vehicle representation allows you to monitor feedback from on-board sensors in the manipulator (torso, shoulder, elbow, and wrist) & articulators
- Errors and failures of joints, as well as restricted movements, are communicated graphically on-screen

Andros HD-2 Key Features

- Seven degrees of freedom ensures optimum dexterity & flexibility
- Zero-backlash manipulator with internalized motors & integrated sensors providing real-time on-screen position feedback
- 36V battery for extended operation
- Powered rear articulators adds stair climbing capabilities
- Lift up to 145 lbs. with the strongest manipulator in its class
- Improved Pan & Tilt with LED adjustable white light, 216:1 zoom®
- Integrated front drive camera, speaker, microphone, firing circuits, and LED lighting
- Get down range faster (5 mph) with an improved drive system

Copyright © 2018 Northrop Grumman Systems Corporation, All Rights Reserved
On-screen graphics provide real-time vehicle positioning (torso, shoulder, elbow, wrist, and articulators)

A key improvement in the HD Series over its predecessor is incredible stair climbing ability. The front articulators have been lengthened for stability, and new powered rear articulators are tracked for greater traction.

**Dimensions**
- Height: 25” (635 mm)
- Width: 26” (660 mm)
- Length: 48” (1209 mm)
- Ground Clearance: 4” (102 mm)

**Weight**
- 260 lbs (118 kg)

**Mobility**
- Tracked over wheels with front & rear articulators
- Slope: 45º incline, 37º stairs
- Speed: 0 to 5 mph (0 to 8.4+ kph)
- Traverse: Opening up to 20” (508 mm)
- Turning: Within the length of the vehicle

**Manipulator**
- Variable Speed Control for precision
- Dual-sided quick change accessory mounting system
- Torso Rotate: 318º w/feedback
- Shoulder: 88º w/position feedback
- Elbow: 254º w/position feedback
- Wrist: 254º w/position feedback
- Arm extend: 81” max. grip height (2054 mm)
- Grip rotate: 360º continuous w/feedback
- Gripper: 0” to 6” open/close (0 to 150 mm)
- Lifting: 145 lbs close to chassis (65.8 kg)
- Vertical reach: 52” (1321 mm)
- Horizontal reach: 34” (851 mm) from front of vehicle

**Cameras**

**Arm:**
- Color camera with Auto/Manual focus
- Auto/Manual Iris
- LED light with remote switching from white to IR
- Extra low light color pan/tilt/zoom with full 360º 216:1 zoom, continuous pan, 180º tilt

**Front Drive:**
- Color camera with manually adjustable tilt

**Rear Drive:**
- Black & white, low light with fixed focus

**Audio**
- 2 Way Audio System with weatherproof speaker and microphone

**Electrical**
- 6 Isolated firing circuits: 24VDC
- Power supply: 36VDC
- JAUS Compliant
- 1/4 Turn Connectors for easy connect/disconnect
- Data Links: Interchangeable Fiber Optic Cable Reel, RF Analog/ Hybrid System

**Environmental**
- Sealed, weather resistant enclosure
- Wet or dry surfaces

**Other**
- 1.5 days of operator/maintenance training in Clinton, TN
- CD-ROM based operator and maintenance manual
- One year parts & labor warranty

**Operator Control Unit**
- TAC-1 OCU with built-in 8.4” LCD
- Truck Mount Kit for vehicle integration
- Switchbox for direct connection to robot
- Tabletop with 15” LCD monitor with daylight readable, anti-glare screen
- Picture-in-picture display with camera selection switch
- Graphic display of vehicle status, console battery condition, camera setup functions, and sensor feedback
- Video and audio output for event recording
- Joystick control for easy navigation
- Removable key firing circuit system
- Heavy duty, portable, weather resistant
- Includes 50 amp-hr 12VDC battery and 110VAC smart charger
- Operates on either 12VDC battery or GFI 110 or 220 VAC cord
- Microphone, speaker, and volume control
- One of the data link options must be purchased
Andros F6B™

The most trusted & reliable unmanned system for Military and First Responders.
The F6B’s ruggedness, reliability and ease of use are reasons why it sets the standard for robot users around the world. The combination of performance and price make it the most popular Andros platform with Military and First Responders.

### On-Screen Graphics
- On-screen vehicle image provides visual arm and articulator position information for increased operator awareness during remote operations
- Moveable Picture in Picture provides additional camera views for better situational awareness

### Position Presets
- Select from nine of the most commonly used positions, such as park, deploy, stair mode, and drive mode among others
- Users may also save up to 10 of their own, user-defined presets. All presets are quickly accessible, easy to select and quickly deployed

### Improved Menu System
- More graphic, and intuitive menu-based interface
- Menus are easier to navigate, and easier to read
- The improved software also makes removing graphics or accessing status screens much more simple, giving the end-user quick access to distraction free driving

### Andros F6B Key Features

- **Gripper with continuous rotate**
- **Accessory interface mount for up to 4 disruptors or a combination of disruptors, sensors, shotguns, and x-rays**
- **Manipulator arm with seven degrees of freedom ensuring optimum dexterity with position feedback**
- **Dual articulating tracks provide the best capability for stair climbing, negotiating obstacles and increasing the reach while still turning in a small area for operations in buildings and confined spaces**
- **Pan & Tilt with LED adjustable white light, 216:1 zoom**
- **24” camera extender for essential “top down” view**
- **Optional rear drive camera**
- **Quick-release pneumatic wheels for rapid width reduction**
**Dimensions**
- Height: 58.5" (1486 mm)
- Width: 29" or 17.5" (445 mm) without wheels
- Length: 52" (1320 mm)
- Ground Clearance: 3.5" (89 mm)

**Weight**
- 490 lbs (220 kg)

**Mobility**
- Articulated tracks with position feedback and quick release wheels
- Slope: 45° incline, 37° stairs
- Speed: 0 to 3+ mph (0 to 4.8+ kph)
- Traverse: Opening up to 21" (533 mm) and Obstacles up to 18" (457 mm)
- Turning: Within the length of the vehicle

**Manipulator**
- Variable Speed Control for precision
- Dual-sided quick change accessory mounting system
- Torso Rotate: +/-90° w/feedback
- Shoulder: 210° w/position feedback
- Elbow: 210° w/position feedback
- Wrist: 180° w/position feedback
- Wrist extend: 8" (203 mm)
- Grip rotate: 360° continuous w/feedback
- Gripper: 0° to 8" open/close (0 to 203 mm)
- Lifting: 135 lbs at 18" (61 kg @ 457 mm), 60 lbs at full extension (27 kg)
- Vertical reach: 109" (2764 mm) with tracks down and arm fully extended
- Horizontal reach: 56" (1422 mm) from front of vehicle

**Cameras**
- **Surveillance:**
  - Color camera with Low Light switching
- **Arm:**
  - Extra low light color pan/tilt/zoom with full 360° 216:1 zoom, continuous pan, 180° tilt
  - Auto/Manual Focus and Iris
  - LED lights with remote switching from white to IR
  - Motorized camera extender
- **Front Drive:**
  - B&W low light fixed focus; Auto Iris
  - Optional Arm Pan & Tilt Camera
- **Audio**
  - 2 Way Audio System with weather-proof speaker and microphone
- **Electrical**
  - 7 isolated firing circuits: 24VDC
  - Power supply: 24VDC 32 amp-hr gel-cell battery pack, Battery Charger, 110 or 220 VAC operation with optional cable reel link and AC power supply
  - JAUS Compliant
  - 1/4 Turn Connectors for easy connect/disconnect
  - Data Links: Interchangeable Fiber Optic Cable Reel, RF Analog/Hybrid System, or Hard-line Cable Reel System
- **Environmental**
  - Sealed, weather resistant enclosure
  - Wet or dry surfaces

**Other**
- 2.5 days of operator/maintenance training in Clinton, TN
- CD-ROM based operator and maintenance manual
- One year parts & labor warranty

**Operator Control Unit**
- TAC-1 OCU with built-in LCD option
- Truck Mount Kit for vehicle integration
- Removable switchbox for direct connection to robot
- Tabletop with 15" LCD monitor with daylight readable, anti-glare screen
- Picture-in-picture display with camera selection switch
- Graphic display of vehicle status, console battery condition, camera setup functions, and sensor feedback
- Video and audio output for event recording
- Joystick control for easy navigation
- Removable key firing circuit system
- Heavy duty, portable, weather resistant
- Includes 50 amp-hr 12VDC battery and 110VAC smart charger
- Operates on either 12VDC battery or GFI 110 or 220 VAC cord
- Microphone, speaker, and volume control
- 38 lbs., 10" x 23" x 18" (H/W/D) (17.3 kg, 254 x 584 x 457 mm H/W/D)
- One of the data link options must be purchased

Copyright © 2018 Northrop Grumman Systems Corporation, All Rights Reserved
Remotec is in constant contact with our users to help identify new and emerging requirements. We also look at capability gaps that make it difficult for robot users to effectively complete their missions. We use all of this information to help guide our Research and Development Program to help ensure we provide products that meet the needs of our users.

As we develop new capabilities for our vehicles, we do our very best to design these capabilities so they can be added to systems already in the field.

We know your robot is a large investment. We want to do everything possible to keep it current so you have the latest capabilities to employ on your missions.

Contact a member of the Remotec Service Department to see what we can do to increase the capabilities of your system.

Copyright © 2018 Northrop Grumman Systems Corporation, All Rights Reserved
**Control Systems & Data Link**

**Andros Tabletop Controller**
Operator Control Unit with 15” LCD, daylight readable monitor and removable switchbox controller for direct connection to vehicle. Video and audio outputs allow for event recording and optional headset display. Heavy duty, portable, weather resistant enclosure. Includes 50 amp-hr. 12VDC battery and 110VAC smart charger. 18” (46cm) x 23” (58.5cm) x 10” (25cm)

**TAC-1 Operator Control Unit**
The TAC-1 Operator Control Unit features an 8.4” Integrated LCD monitor, and works perfectly with the Truck Mount Kit for vehicle/ command post integration. Also connects directly to the robot.

**Andros Hand Controller**
Walk behind control for ANDROS vehicles featuring simple drive controls (steering, articulators, and drive speed) with a 6’ coiled cord lead.

**Truck Mount Kit**
Free up valuable space in your response vehicle. This wall or work counter mountable kit allows you to connect video monitors, DVRs, audio systems, Andros Switchbox or TAC-1 OCU, and your choice of data link, replacing the standard tabletop controller.

**Truck Cable Kit**
Install an external data link port on your response vehicle. Various lengths of cable are available and allow you to locate the external port any distance from the Operator Control Unit (OCU). Available in lengths of 10’, 20’, and 40’.

**TAC-X**
TAC-X is the latest evolution of Remotec hand controller technology specifically developed to match the capabilities of advanced Andros platforms such as the Andros FX and Andros Titus. TAC-X has been designed with the operator in mind for ease of use in high stress situations while also being easy to learn. It features an 8.4” daylight readable color display with resistive touch screen that can be used with gloves. Integrated X-Box style controls and on screen graphics makes navigation and use easy and intuitive.
Digital Hybrid Radio Control

This powerful RF system utilizes a patented, proprietary radio architecture coupled with COFDM technology to provide increased ranges of up to 10x that of competing systems in line-of-site operation, and non-line-of-site ranges that are the best in the industry.

Operate in modern urban environments and penetrate deep into large facilities such as sports stadiums and convention centers, in elevators and tunnels – nearly everywhere long-range operations are desired or required by the mission.

Vehicles shipped prior to 2007 will require a vehicle power supply upgrade. This radio requires an FCC license prior to use.

Cable Reel Assembly 330’

The Cable Reel Assembly is the most rugged tethered communications link available for ANDROS. Attach the included 25’ jumper between the control station and the cable reel, then attach the free end of the cable reel to the robot.

Radio Jumper Assembly 30"

This optional cable allows you to extend the placement of your console side radio for improved RF operation.

Fiber Optic Cable Reel

There are advantages over wireless. The Fiber Optic Cable Reel is a tethered link that provides crystal clear communication, has a maximum operating distance of 1200’ and features controller operated re-spooling. Unlike radio transmissions, fiber optic communication cannot be “tuned in” by others and is not susceptible to jamming or interference.

A spare spool of high-quality fiber optic cable for emergency situations is also available. Kevlar fiber running the full length of the cable gives it tensile strength and a triple insulation jacket protects the glass fiber itself from damage. (bottom left)
Audio/Video Options

**Camera Pan & Tilt Assembly**
Low light color pan/tilt/zoom camera with full 360°, 216:1 zoom, continuous pan, and 180° tilt. The camera also features an 80-watt halogen light with detachable IR lens, auto focus and iris, and the option for LED lighting on select models. This assembly can be used on the motorized extender or as an arm camera.

**Rear Drive Camera**
The optional rear drive camera is perfect for driving your Andros vehicle backwards, providing the same high-quality B&W, low light, fixed focus camera as the front drive system.

**Camera Sighting Kit**
This camera works with the Shotgun Mount, SL6 Mount, Street Sweeper Mount, Disrupter Mount, Dual Disrupter Mount and the Dual Pan Disrupter Mount. B&W camera with fixed focus. Auto iris compatible with optional Laser Filter Lens Assembly.

**Laser Assembly**
This 5mw laser removes the guesswork from sighting weapons. Disrupters with measured stand off benefit from two laser systems — when properly adjusted the two laser points will converge into a single point at the exact distance of your standoff.

**Laser Filter**
Recommended for use with the Laser Assembly, this optional filter for your weapons sighting camera increases the visibility of the laser on your control unit in bright outdoor.

**iRecon HD Camera System**
iRecon is the most capable, highest quality Pan-Tilt-Zoom, gripper-held camera accessory on the market. The “plug and play” design of the iRecon takes only seconds to install. From undercarriage vehicle inspection to confined space surveillance, the capabilities of the iRecon are endless.

**Gripper Camera Mount**
Allows you to hold the Pan & Tilt Camera (sold separately) in the gripper of the robot for scenarios requiring a lower profile for the manipulator such as looking under cars and in confined spaces.
Audio/Video Options (cont’d)

**High Intensity Light Assembly**
Provides a penetrating beam of light useful for military or SWAT operations where additional light or distraction techniques are necessary. The intense light dazzles the eye and provides a degree of cover for your team. This mount includes its own 12-volt battery power source.

**Sensor Mounts**

**APD2000/MULTIRAE/ADM 300 Detector Mounting Kit**
This assembly is designed to integrate the APD 2000 Gas detector and or the Multirae Gas detector with your Andros vehicle. Cable Jumper Assemblies for the APD 2000 and Multirae detectors are included. All sensors can be remotely operated through the Andros menu system.

**Contamination Smear Assembly**
Place contamination sampling pads (not included) on each of the six, spring-loaded probes, then mount this clever device in the tip of the gripper. Take up to six surface samples from six different locations by swiping a surface, taking note of the number stamped at the base of the probe (visible through the arm camera), and then simply rotate the gripper to sample from another location.

**X-Ray Assembly**
The X-ray assembly mount allows the user to mount Golden X-Ray Systems Inspector 200, XR-150, and XR-200 units to the manipulator arm for taking a radioscopic image of a suspect package, one of the easiest and safest methods of determining a suspicious device’s contents. (Works with drum & “bread-maker” style film.)
Andros Products & Accessories

Dynamic Tools - Disrupters, Breaching & Launchers

Dual PAN Disrupter Mount
The Dual Disrupter Mount is designed to hold a pair of PAN Disruptors, or 20 mm or 29 mm Neutrex disrupters. In addition to the Proparms Disrupters, the dual disrupter mount can mount 12-gauge Royal Arms Disrupters. Wiring Harnesses are included for use with Optional Lasers and Weapons Sighting Camera Kit. Other PAN accessories include:

- Single PAN Disrupter Mount
- Titanium T3 PAN Disrupter
- PAN Disrupter Standard
- PAN Disrupter with Aluminum Stand
- PAN Disrupter with Electric Breech

Breacher Mount 37 & 40mm
The mount is primarily used in military or SWAT applications where 37mm projectiles such as gas canisters or other non-lethal munitions are called for. Breacher options include:

- GL6 40mm with or without rifling
- GL6 37mm with or without rifling
- BR-SL65 37mm (Sage or Arwen ammo)

Striker Mount
Mount is designed to hold the Striker 12 shotgun which is remotely operated via the Andros weapons circuit. The mount may be further accessorized with a video sighting camera and a laser for accurate targeting. Also available:

- Striker 12 Shotgun

Initiators

Shock Tube Initiator
Allows the machine to actuate disrupters and other devices requiring shock tube operation. Each of the individual initiating ports is wired directly to the corresponding “voltage” weapons ports on the upper portion of the Andros arm allowing up to two shock tube firing locations or a combination of voltage and shock tube. Available in 1, 2, or 4 channel units.

Charge Dropper Assembly
Use your Andros system to place explosive charges remotely and then retreat to a safe distance (330 ft. length) before detonating. Charge dropper assembly mounts behind gripper, and includes quick-release pin system.
## Misc. Tools & Accessories

### Gripper Block Assembly
This gripper block, which can be held inside the gripper of all Andros products, is designed to hold lengths of 1” PVC as frangible standoff, or other devices designed to fit into the assembly. The operator can place it aside for full use of the platform’s gripper, and then pick the tool back up by the Gripper Block for further use or retrieval.

### Picatinny Rail Claw Assembly
These stainless steel claws can be mounted with claws inward for gripping object (pipe bombs) or outward for opening card board boxes or any other soft material containers.

### Picatinny Rail Cable Cutter Assembly
Attaches to the end of the gripper fingers and allows operation of cable cutters. Gain access to areas by cutting through various cables, fences, wires and other obstacles preventing entry.

### Water Disrupter Deployer
Allows placement of a “suitcase” style disrupter under a vehicle or wherever the situation calls for. Once the disrupter is properly placed, simply back the Andros™ away and remotely detonate the disrupter using any of the available weapons circuits.

### Circular Saw Assembly
DeWalt 36v circular saw (36v battery included) assembly is held within the gripper of the Andros for remote operation.

### Cordless Drill Assembly
DeWalt 36v Cordless Drill (36v battery included) assembly is held within the gripper of the Andros for remote operation.

### Reciprocating Saw Assembly
DeWalt 36v Reciprocating Saw (36v battery included) is held within the gripper of the Andros for remote operation.
EU Partners Gas Dispenser Mount
Designed to hold a pressurized canister fitted with a spraying nozzle. Popular military or SWAT accessory for crowd control or other volatile situations where the operator determines it may be necessary to use CS gas or pepper spray to diffuse hostile actions. Nozzle mounts to surveillance camera allowing operator to direct the stream.

Ideal Mini Gander
System is able to pierce walls, windows, peer under cars, into trailers, and crawl spaces using spear point. Operation ready in under one minute, and weighing less than 10 lbs. the system includes two low-light black and white cameras, and easily connects to J32 weapons port.

Power Hawk Assembly
Remotec is proud to offer the Power Hawk System Upgrade Kit, developed with TSWG, for ANDROS F6A owners. This revolutionary system allows for the full use of the Power Hawk while maintaining a safe distance through the agility and dependability of the F6A, allowing you to perform forcible entry, remote cutting operation, vehicle access, mechanical breaching, open locks, cut through reinforced doors, 3/8” steel plate, and burglar bars. This assembly includes the Power Hawk unit, Power Hawk Adaption/Mounting Kit, and Power Hawk carrying case. Requires the Andros Trailer Hitch (not included).
B.A.T.S. (Block Accessory Tool) System
The Block Accessory Tool System from Edge Tactical is for mitigation and speedy recovery from IEDs or potential suicide bombers. Some of the system’s capabilities include the ability to disable a vehicle, break a car window, cut a suicide bomber vest away from a suspect, or rescue a person without loosing the full use of your Andros gripper.

Kit includes: (1) Andros™ compatible gripper block, (2) Picatinny rail gripper blocks, rubberized flat hook, cutting hook, rescue hook, large deflator/punch, small deflator/punch, package ripper, window breaker, and custom carrying case.

Maintenance & Miscellaneous

Spare Vehicle Battery
Extend the mission time of your Andros platform with a spare vehicle battery. Batteries are easily accessible and easy to change out, ensuring that your operation can continue with minimal disruption. (HD CE battery shown, available for all models.)

Andros Trailer Hitch
This receiver assembly can be mounted to the front or rear of your Andros (excluding HD Series). Useful for a variety of operations such as towing trailers, or use with the Power Hawk Rescue System.

Spare Controller Battery
Get more mission time from your Operator Control Unit (OCU) with this 12v Spare Controller Battery. (Protective cover shown is not included.)

F6 Standard Spare Track
Articulator tracks worn, chewed, or broken during a mission? Keep the operation going by having a spare track on hand for quick and easy replacement.
Maintenance & Miscellaneous (cont’d)

Emergency Spare Parts Kit
This kit contains every major electrical component found inside your Andros along with hardware to rebuild one side of your machine’s chassis. For a complete list of included components, please contact Remotec Sales or Service.

Andros Overhaul Kit
The Overhaul Kit is designed to provide you with everything necessary to renew the investment you made in purchasing an Andros robot. Include a new battery and all hardware necessary to rebuild/renew all components of the arm and chassis.

Semi-Annual Maintenance Kit
Periodic maintenance is essential in keeping your Andros in top operating condition. Remotec Service recommends performing chassis maintenance at least twice yearly. This kit contains all of the hardware necessary to perform one of these maintenance sessions. For a complete list of included components, please contact Remotec Sales or Service.

Extended Service Contract
Keep your Andros under a Remotec Service Contract plan beyond the included first year with this contract. Contact Remotec Sales or Service for more information.

Training & Service

Remotec, Inc. offers specialized and custom training classes for all vehicles in our product line, tailored to your specific system and schedule.

The Standard Operation and Maintenance Course
This course covers mechanical maintenance, electrical troubleshooting and basic operations training. This training course greatly increases users’ confidence levels and teaches the importance of preventative maintenance. Most customers take advantage of this training at the time of purchase to provide a head start incorporating their robot into their existing arsenal of EOD tools.

Many customers, especially those in the military—due to the reallocation of personnel—repeat the class periodically to maintain operator confidence and train personnel who did not attend the original class.

This course is included in the initial purchase of an ANDROS system. The course must be scheduled within one year of purchase.

Service & Tune-Up Training
Remotec, Inc. also offers a second, more detailed class, for those customers whose systems have been fielded longer, with more strenuous use than most.

This Service/Tune-up Course is 30 hours long, allowing time to get into greater detail in regard to mechanical teardown, and thorough electrical tune-up. This class provides your operators and technical personnel to work with ours, performing a complete teardown inspection and rebuild of the system.

During this process Remotec will replace minor hardware (screws, nuts etc.) as necessary, replace any gaskets, and repair any stripped holes as required to ensure reliable future performance.

The training personnel will retune all amplifier controllers as necessary and check all other boards for proper adjustment, correct any minor wiring problems, board problems, lubricate, and perform a basic cleaning of the entire system.

The cost of the class includes all basic parts and material. Purchase of additional components to replace those that cannot be repaired may be necessary.

This extended class will also allow time for basic operator training and other driving tips as presented in the original basic training class. An additional training day for advanced driving is also available at additional cost.

This course is a great opportunity for your technical personnel to gain experience and build confidence on their hardware. It also provides piece of mind relating to your older system in terms of status and reliability, while enabling you to become acquainted with new options and accessories that have become available since the original system was purchased.

On-Site Training
Remotec is pleased to offer either of these courses on-site with Remotec technicians and instructors that will travel to your location.

The cost varies depending on the course and the travel costs associated with the location. Additional costs include: airfare, hotel, car rental, training course cost, per diem and travel labor. We can also accommodate more than six individuals and multiple robots if needed. Please contact us for more details if you require on-site training.
For more information, please contact:

Northrop Grumman
Mission Systems

US Office
353 JD Yarnell Parkway
Clinton, TN 37716
US Phone: 1-865-269-1259
Fax: 1-865-483-1426
www.remotec.northropgrumman.com

UK Office
Unit 5, Quinn Close
Manor Park, Whitley
Coventry, CV3 4LH
United Kingdom
UK Phone: +44 2476 516000