

# Request for Quote

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS  
ONE CAPITOL HILL  
PROVIDENCE RI 02908

CREATION DATE : 09-JUL-19  
BID NUMBER: 7598886  
TITLE: VIDEO INSPECTION TRUCK FOR STORMWATER  
  
BID CLOSING DATE AND TIME:09-AUG-2019 11:00:00

BUYER: Ward, Alyssa J  
PHONE #: 401-574-8472

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DOT ACCOUNTS PAYABLE  
TWO CAPITOL HILL, RM 230  
SMITH ST  
PROVIDENCE, RI 02903  
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DOT MAINTENANCE BUSINESS OFFICE  
360 LINCOLN AVE  
WARWICK, RI 02888  
US

Requisition Number: 1614199

Note to Bidders: All questions regarding this solicitation must be forwarded to [doa.purquestions7@purchasing.ri.gov](mailto:doa.purquestions7@purchasing.ri.gov) no later than July 30th, 2019 at 4:00pm.

Line	Description	Quantity	Unit	Unit Price	Total
1	A pre-bid conference will be held on July 23rd, 2019 at 2:00 pm at 360 Lincoln Ave, Warwick RI 02888 2nd floor conference room. DOT: VIDEO INSPECTION TRUCK Line Note to Bidders: MAKE _____ MODEL _____	1.00	Each		

Delivery: \_\_\_\_\_

Terms of Payment: \_\_\_\_\_

It is the Vendor's responsibility to check and download any and all addenda from the RIVIP. This offer may not be considered unless a signed RIVIP generated Bidder Certification Cover Form is attached and the Unit Price column is completed. The signed Certification Cover Form must be attached to the front of the offer

**Contract Terms and Conditions**

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**Terms and Conditions**

**BID STANDARD TERMS AND CONDITIONS**

**TERMS AND CONDITIONS FOR THIS BID**

**RIVIP INFO - BID SUBMISSION REQUIREMENTS**

It is the vendor's responsibility to check and download any and all addenda from the RIVIP. This offer may not be considered unless a signed RIVIP generated Bidder Certification Cover Form is attached and the Unit Price column is completed. The signed Certification Cover Form should be attached to the front of the offer. Each bid proposal must be submitted in a separate sealed envelope with the bidder's name and address and the specific "Solicitation Number," "Solicitation Title," and the "Bid Proposal Submission Deadline" marked in the upper left-hand corner of the envelope.

The bid proposal must be delivered (via mail, messenger service, or personal delivery) to the Division of Purchases and date-stamped/receipted by the date and time specified for the bid proposal submission deadline. Bidders should mail bid proposals sufficiently in advance of the bid proposal submission deadline to ensure timely delivery to the Division of Purchases or, when delivering a bid proposal in person or by messenger, should allow additional time for parking and clearance through security checkpoints. Bid proposals must be addressed to:

Rhode Island Department of Administration

Division of Purchases, 2nd Floor

One Capitol Hill, Providence, RI 02908-5855

Bid proposals that are not received by the Division of Purchases by the bid proposal submission deadline for whatever reason will be deemed late and will not be considered. The submission time will be determined by the time clock in the Division of Purchases. Postmarks will not be considered proof of timely submission.

Bid proposals in electronic format are not accepted at this time.

At the bid proposal submission deadline, bid proposals will be opened and read aloud in public.

**DIVESTITURE OF INVESTMENTS IN IRAN REQUIREMENT:**

**No vendor engaged in investment activities in Iran as described in R.I. Gen. Laws §37-2.5-2(b) may submit a bid proposal to, or renew a contract with, the Division of Purchases. Each vendor submitting a bid proposal or entering into a renewal of a contract is required to certify that the vendor does not appear on the list maintained by the General Treasurer pursuant to R.I. Gen. Laws §37-2.5-3.**

**DELIVERY PER AGENCY**

DELIVERY OF GOODS OR SERVICES AS REQUESTED BY AGENCY.

SOLICITATION NUMBER: 7598886

VENDOR \_\_\_\_\_

**Rhode Island**

**Department of Transportation**

**Highway Maintenance Division**

**Video Inspection Truck**

**GENERAL:**

The following specification is for one (1) Video Inspection Truck for the Rhode Island Department of Transportation, Highway Maintenance Department. The truck shall be a "RAM Promaster® 3500 EXT High Roof Cargo Van", or approved equal, that meets or exceeds the following minimum specifications. The Video Inspection unit shall be the latest current model of standard design manufactured, complete with all standard equipment, special tools and warranties. Bidders are to supply the latest printed literature and detailed specifications on equipment the bidder purposes to furnish. All specifications listed within this bid packet are minimum requirements. It is expected that chassis providers and respective up-fitting/body builders communicate and understand the coordination that is required for this build.

All completed units shall comply with all applicable O.S.H.A. ANSI, FMVSS standards and regulations. The specifications listed below shall be considered minimum requirements.

The dimensions in this specification are not intended to preclude any manufactures. Minor deviations to the dimensions based on sound engineering and proven product life in municipal applications are acceptable.

Any manufacture's deviation from the specification, no matter how minor, shall be noted on a separate sheet and be referenced to the section. The deviation shall be explained in detail and identified as an Exception, Clarification or Enhancement. Any "or equal" or "equivalent" items for brand specified components shall be listed with the bid package. Complete description and literature on the "or equal" components shall be supplied for consideration by the RIDOT. The burden of proof regarding "or equal" items will be upon the vendor. Responses that do not include an Exception, Clarification or Enhancement sheet on the bidder's letterhead shall be determined to be non-responsive.

**CHASSIS MANUFACTURER AND MODEL NUMBER:**

Indicate manufacturer and model number of the chassis quoted.

Manufacturer: \_\_\_\_\_

Model: \_\_\_\_\_

Video Equipment Manufacturer: \_\_\_\_\_

Video Equipment Model: \_\_\_\_\_

**NOTE:** It is expected that chassis providers and respective up-fitting/body builders communicate and understand the coordination that is required for this build. Any manufacture's deviation from the specification,

SOLICITATION NUMBER: 7598886

VENDOR \_\_\_\_\_

no matter how minor, shall be noted on a separate sheet and be referenced to the section. The deviation shall be explained in detail and identified as an Exception, Clarification or Enhancement.

**Cargo Van High Roof 159" Wheelbase EXT**

Comply: \_\_\_\_\_

**Powertrain: 3.6 Liter Minimum Gas**

- Minimum Output of 280 hp
- Minimum Torque of 260 lb.-ft.
- 220 amp alternator
- 800 CCA amp battery with run down protection
- Engine oil cooler, transmission oil cooler
- 6-speed automatic transmission with overdrive, lock-up, driver selection
- Limited slip differential
- Trailer Tow Package
- Proportional Electronic Trailer Brake Controller
- Stainless steel exhaust
- 87 mph Maximum Speed
- 9,350 lbs. Minimum GVWR

Comply: \_\_\_\_\_

**Warranty:**

- |                       |                        |
|-----------------------|------------------------|
| Basic                 | 60 month/100,000 miles |
| Powertrain            | 60 month/100,000 miles |
| Corrosion Perforation | 60 month/100,000 miles |

Comply: \_\_\_\_\_

**Wheels & Tires:**

- Tires: LT225/75R16E BSW All-Season Tires
- Wheels: 16" x 6.0" Steel with Wheel Center Caps
- Spare Tire and Wheel: Match above

Comply: \_\_\_\_\_

**Paint:**

Bright White Clear coat

Comply: \_\_\_\_\_

**Interior Colors:**

Gray/Black

Comply: \_\_\_\_\_

**Chassis:**

159" Wheel Base

Comply: \_\_\_\_\_

**Cargo Area:**

- Cargo Area Width at Beltline 75"
- Cargo Area Width at Wheelhousings 56"
- Cargo Area Height: 76"

Comply: \_\_\_\_\_

**Cargo Doors:**

- Rear Door Opening Height 70"
- Rear Door Opening Width 56"
- Side Door Opening Height 69"
- Side Door Opening Width 49"

Comply: \_\_\_\_\_

**Other Requirements**

RV Ready Prep Package

Comply: \_\_\_\_\_

**Safety:**

Power steering, 4-wheel anti-lock disc braking system & driveline traction control, Hill Start Assist, Driver and passenger side airbags, Driver and passenger power folding and extendable outside heated mirrors, Rear window defroster, cab clearance lights, back up alarm, backup camera that provides automatic rear view camera and monitor for priority view of rear of vehicle when truck is in reverse, Rear Park-Assist.

Comply: \_\_\_\_

**Comfort and Convenience:**

Air conditioning, remote start, AM/FM, "bluetooth", clock, 2 speakers, fixed antenna, Cruise control with steering wheel controls, 2 12V DC power outlets, retained accessory power, tilt adjustment steering wheel, intermittent windshield wipers, power windows and door locks and Upfitter switches. 2 front 4-way adjustable and swivel vinyl bucket seats with adjustable head restraints, full cloth headliner, vinyl/rubber floor covering, separate floor mats, Cargo Area vinyl/rubber floor covering, Rear Heater and A/C, Upper and Lower Side Wall Paneling with insulation.

Comply: \_\_\_\_\_

**Analog Instrumentation:**

Display includes tachometer, oil pressure gauge, engine temperature gauge, voltmeter gauge, oil temperature gauge, transmission fluid temp gauge, engine hour meter, systems monitor, redundant digital speedometer, trip odometer,

Comply: \_\_\_\_\_

**Exterior Features:**

Front license plate bracket, Splash Guards, front tow hooks, Trailer-Tow Package with 2" receiver, mud flaps, roof rack and cross braces, and Driver and Passenger side black running boards or Steps.

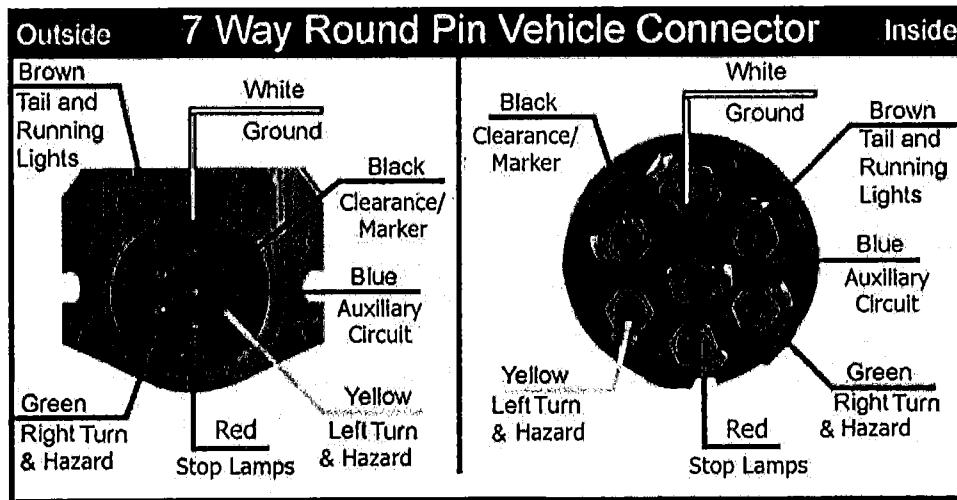
Comply: \_\_\_\_\_

**TRAILER PLUG:**

A trailer plug compatible with RIDOT equipment shall be supplied.

Comply: \_\_\_\_\_

RIDOT Standard Truck Wiring Diagram



PLASTIC GROTE SOCKET	#82-2145
ACCEPTS PLASTIC GROTE PLUG	#82-2140



**Operator Studio**

solid bulkhead wall with pass-through door with aluminum kick plate and window  
Formica desk with wall outlets above and below  
cork board wall above desk surface  
overhead recessed LED lighting  
19" Tru-Vu desk-mounted monitor  
high-back operator chair  
carpeted walls and ceiling  
black treaded rubber floor  
safety light switches in truck cab  
rack cabinet (for computer/DVD-RW)  
wall file  
video distribution booster  
USB charger

Comply: \_\_\_\_\_

**Equipment Bay**

stainless steel work surfaces  
built-in heavy-duty storage/tool box  
passenger side full-height storage cabinet  
wash-down system (on-demand pump, lighted switch, 18-gallon water tank with exterior fill, 25' retractable hose reel)  
overhead recessed LED lights  
crawler drawer under reel  
rear-facing 19" Tru-Vu monitor  
plywood ceiling/walls covered in gray FRP  
black-treaded rubber floor  
aluminum storage shelf and caddy with trash can  
wheel drawer  
110V Swingout Work Light  
rubber glove dispenser  
rubber counter mat  
remote mount  
lanyard

Comply: \_\_\_\_\_

**CCTV PIPE INSPECTION CAMERA:**

One (1) Truck Basic Rovver X Crawler System which includes:

One (1) VC500 Controller with Vision Report Software installed. VC500 controller system is a touch & viewing screen. The controller's screen is 10 inches. Controller comes with a 15ft cable to connect to reel. Internal memory for recording & pictures included and can be exported via USB Drive.

Comply: \_\_\_\_\_

A second controller is provided, and it is wireless system. Controller operates camera, crawler & reel. The wireless remote will have a 20' range. It doesn't have a touch/viewing screen.

Comply: \_\_\_\_\_

One (1) RAX300 Automatic Cable Reel with 300M (1,000ft) cable. The Automatic Cable Reel shall be fully synchronized with crawler's movement to ensure no tension is applied to the crawler's forward progress. It shall be lightweight for easy removability from the vehicle for remote inspections. The Reel mounting frame shall have one (1) emergency stop cable.

Comply: \_\_\_\_\_

RCX 90 Camera will be pan, tilt and zoom. Camera will have LED light ring for illumination of the pipe. Camera shall have the ability to do laser measurements inside the pipe (measure cracks, bends, water level, pipe diameter, etc.)

Comply: \_\_\_\_\_

One (1) RX130 crawler with Quick Change version wheels. Crawler shall operate on 6-wheel driven system, proportional and directional steering. 512hz sonde is built into crawler body for locating. Built into the crawler body shall be a back-eye camera with LED lights and color picture. Three (3) sets of Rubber wheels (6", 12" & 15") shall be provided, for 6" to 15" pipe diameter. One (1) set of XXL Rubber wheels for 24" and up diameter pipes. Two (2) sets of PVC Aggressive wheels for 6" to 12" pipe diameters. One (1) set of XXL pneumatic tires for 24" and up diameter pipes.

Comply: \_\_\_\_\_

One (1) Pressurization Kit. All components of the Rover X system shall be pressurized units (camera, crawler, elevator kit and aux lights.) This pressure kit shall come with pressure regulator and two CO<sup>2</sup> canisters to ensures the system is kept water tight.

Comply: \_\_\_\_\_

One (1) DigiSewer Side Wall Scanning Camera (attaches to RX130 crawler)

Comply: \_\_\_\_\_

One (1) RX Carraige -

Comply: \_\_\_\_\_

One (1) Remote Lift Accessory - Camera Elevator Kit for RX130 - for pipes with 12" diameter and larger, raises the RCX90 on the RX130 Crawler

Comply: \_\_\_\_\_

One (1) LED Auxiliary Light with Backeye Camera for ROVVER X 130 and Camera Elevator

Comply: \_\_\_\_\_

One (1) Laser profiler – inclinometer for ROVVER X 130

Comply: \_\_\_\_\_

One (1) solenoid locator for ROVVER X 130

Comply: \_\_\_\_\_

**Warranty:**

A minimum 60 month warranty shall be provided for the entire CCTV PIPE INSPECTION CAMERA system.

Comply: \_\_\_\_\_

**POWER (120 VAC, Inverter, and 12 VDC):**

**GENERAL**

- shore power cord with 120V wall adapter
- breaker box with auto-transfer switch
- Xantrex control panel
- 12V fuse block
- battery tender
- kill switch

**INVERTER**

A 3.0 KW Xantrax Pure Sine Wave Inverter shall be provided. The power inverter specifications are as follows:

- 3000 watts continuous power
- 6000 watts peak power
- Provide 24.25 Amps
- DC input voltage: 10.5-15V
- Anodized aluminum case provides durability
- Built in Cooling Fan
- Internal, Replaceable 30 Amp spade type Fuses
- 4-3 Prong 120 volt AC outlet
- Digital Amp-Wattage display Helps monitor overloads
- Overload Indicator
- Power ON/OFF Switch
- Two(2) 730 amp batteries
- Commercial Warranty 3 Years

Comply: \_\_\_\_\_

**CORD REEL:**

Akron model #ERWC-16-6 12 VDC Electric Rewind Cord Reel is to be supplied. The reel is to be placed at the direction of RIDOT. The reel is to be equipped with 150' of 12/3 SO cable. The end of the cable shall be terminated with a weatherproof box, duplex GFCI receptacle, strain relief and weatherproof cover. The reel shall be wired to operate from the inverter. The switches to operate the power and rewind shall be located on the reel.

Comply: \_\_\_\_\_

**ADDITIONAL EQUIPMENT:**

- 5 lb. ABC UL Rated 3A:40B:C industrial fire extinguisher, reflector kit, and first aid kit
- A 5 gallon absorption capacity universal spill response kit
- Two (2) grip strut wheel chocks

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VENDOR \_\_\_\_\_

One Motorola APX 1500 Project 25, 700/800 MHz digital radio installed and ready for use, powered by key-switch accessory. (Attachment #1)

Three sets of Ignition keys, with keyless entry remotes for all vehicles.

Extension ladder (16' man hole type)

Tool Package (Pick, Shovel, Sledge Hammer, Manhole Hook)

Tripod System for Confine Space Entry

Gas Meter for Confined Space Entry

Hand hold extension lamp w/ cable & 20' reel

Confined space safety gear

Manhole fence

Top Manhole roller

Tiger Tail

24' of Steel Reinforced Quick Connect Fiberglass Poles w/ Camera Hook

12V Hand Held Spotlight

Comply: \_\_\_\_\_

## **ELECTRICAL, WARNING and LIGHTING SYSTEMS**

### **ELECTRICAL SYSTEM:**

All electrical equipment installed shall conform to current automotive electrical system standards. The wiring shall be individually and permanently color-coded on the insulation, shall be properly supported and attached to body members and protected from abrasion. The main low voltage chassis to body interface point and distribution panel shall be provided at the rear of the chassis cab interior, behind the seat. This area shall provide easy access for service. The distribution panel shall be labeled and shall contain body electrical relays, and wire connection bar. The distribution panel shall contain electrical harness quick disconnects or connectors to facilitate removal of the body module in the future. Electrical connections in exposed areas shall be made using heat shrink or weatherproof connections. All electrical equipment switches shall be mounted on a switch panel mounted in the cab console with access to both the driver and passenger and be powered by key-switch accessory. These light switches shall be rocker type with integral indicator light to show when the circuit is energized. All switches shall be appropriately identified as to function. All console wiring shall allow for the components to be reposition within the console for user preference.

Comply: \_\_\_\_\_

### **WARNING LIGHTS:**

3.375" x 7.625" semi-oval, amber LED warning lights, model M7AC / M7FC integral flasher, scan lock patterning and clear lenses with chrome plated surface mount flange adapters shall be mounted in the following locations:

Two (2) mounted on the front grille area, one (1) each side

Two (2) mounted on the front fenders, below the chassis designation, one (1) each side

Two (2) mounted on the front roof, one (1) each side

Two (2) mounted on the rear roof, one (1) each side

Four (4) mounted in the rear corners of body one (1) each side facing the side and one (1) each side facing the rear.

NOTE: Final placement of all warning lighting shall be approved by RIDOT Motor Pool.

Comply: \_\_\_\_\_

### **WORK LIGHTING:**

Two (2) surface mount 48 watt LED flood light installed on the inside of the rear doors to light the rear of the van and two (2) surface mount 48 watt LED flood lights, one installed on each side of the van to light the sides of the truck. These Four (4) lights shall be individually switched.

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VENDOR \_\_\_\_\_

Supply two (2)-ELSS-SLAC-Scene Star LED, 15,000 lumen, floodlight wired to operate from 120 VAC inverter power. The floods shall be mounted on an extendable swivel poles and expandable tripod base. These floods, poles and bases shall be stored securely attached to the body when not in use and easily removable.

NOTE: Final placement of all work lighting shall be approved by RIDOT Motor Pool.

Comply: \_\_\_\_\_

**SWITCHING:**

Switches shall operate the compartment lights, load bed lights, working lights, all warning lights and a spare and be powered by key-switch accessory.

Comply: \_\_\_\_\_

**UPFIT, CONVERSION and BODY WARRANTY: (NO EXCEPTIONS)**

Two (2) year onsite warranty including all parts and labor. Any repairs that cannot be completed on site shall be transported by the supplier. Two (2) year onsite warranty including all parts and labor. Any repairs that cannot be completed on site shall be transported by the supplier.

Comply: \_\_\_\_\_

**MANUALS:**

Vendor shall provide current editions of all available cab and chassis manuals. This shall a hard copy of the manufacturers upfit documentation and all available overhaul and tune-up manuals, diagnostic, wiring, troubleshooting, and parts manuals for engine, transmission, differential and all components. The service manuals shall include a complete wiring diagram of the chassis connections for all components. It shall be color coded and include sketches and pictures of how the wiring is installed. The operator's manual shall detail the recommended operating procedure of each vehicle and the installed components. The manuals shall fully and clearly cover all components of the unit, including the pump, valves, controls, tanks, etc. Manuals shall also include comprehensive trouble shooting and diagnosis information for all functions.

Manuals shall also cover all allied equipment and components installed on chassis provided by body installer. Shop manual shall explain, in detail, procedures for overhauling all major components.

Two operator's manuals detailing the recommended operating procedure shall be delivered with each unit. These shall be supplied in both hardcopy and electronic formats. They shall consist of the following: shop manual, parts manual including exploded views of major components with their part numbers, wiring diagram, operator's manual, and a summary of warranties offered in excess of the standard one year. The manuals shall fully and clearly cover all components of the components installed on chassis by the upfitter. Manuals shall also include comprehensive trouble shooting and diagnosis information for all functions. Shop manual shall explain, in detail, procedures for overhauling all major components.

Any deviations from this system shall be noted on the bid and approved by the RIDOT Division of Highway & Bridge Maintenance Administration. A complete system description and product literature for major components shall accompany the bid. Failure to provide manuals may result in 5 percent of total bid being withheld.

Comply\_\_\_\_\_

**TRUCK DELIVERY SCHEDULE:**

Fabrication of the first prototype unit shall be completed within one hundred twenty (120) days of the successful proposal. All bidders shall provide as part of their bid a schedule for the delivery of all trucks to

SOLICITATION NUMBER: 7598886

VENDOR \_\_\_\_\_

RIDOT 360 Lincoln Ave, Warwick, RI 02888. This date shall be listed as the number of days following issuance of a Notice-to-Proceed (allow 14 days for approval of the prototype) that the bidder shall successfully deliver all units to the Rhode Island Department of Transportation. . Weekly updates shall be provided during the fabrication process including progress, pictures and any changes from the original schedule. Failure to submit a schedule will result in the bid being considered non-responsive. Failure to meet the schedule will result in 3% retention on the total order.

Comply\_\_\_\_\_

**PREPARATION FOR DELIVERY:**

The vendor shall be responsible to complete new vehicle delivery inspection. The engine, transmission, differential and cooling system shall be filled to the manufacturer's recommended capacity. The vehicle will receive a new vehicle cleaning and preparation prior to delivery. All equipment shall be completely installed and adjustments made prior to delivery and to make the vehicle available for immediate use. The vehicle shall be free of any defects when delivered. All vehicles must be delivered without dealer's name or advertising of any type visible on the body.

If any deficiencies are observed and cannot be corrected within two (2) business days, the vehicle will be deleted from the invoice and payment will not made until corrective action is taken and the vehicle is re-inspected and accepted. It shall be the responsibility of the vendor for the pickup and delivery of the vehicle for re-inspection.

**TRAINING:**

A "hands on" operator/technician training session that meets the requirements OSHA shall be provided at RIDOT Division of Highway & Bridge Maintenance Headquarters. The training session topics will be coordinated through RIDOT Motor Pool section and may include but are not limited to complete unit functions and operation, proper maintenance and operation of all components, engine tune-up and maintenance, and multiplex systems. The training session shall accommodate at least 24 RIDOT employees. Training shall be provided approximately 3 weeks after delivery of the first unit.

**CERTIFICATE OF ORIGIN, TITLE and DELIVERY DOCUMENTATION:**

At the time of delivery to the State, each vehicles delivered shall be accompanied by a window sticker, title certificate, "Certificate of Origin," and registration documents.

1. The "Certificate of Origin" shall have the owner listed as "STATE OF RI/FLEET OPERATIONS, ONE CAPITOL HILL, PROVIDENCE, RI 02908." It shall include at a minimum, the following information:
  - THE MANUFACTURER, MODEL NAME AND NUMBER
  - THE MANUFACTURER'S VEHICLE IDENTIFICATION NUMBER (VIN)
  - THE NUMBER OF ENGINE CYLINDERS AND ENGINE TYPE
  - A GENERAL DESCRIPTION OF THE BODY AND GVW #
  - THE ODOMETER DISCLOSURE MUST BE COMPLETED ON THE VENDOR'S SIDE OF "CERTIFICATE OF ORIGIN".
2. Title certificates must be provided.
3. The successful vendors will be required to provide the following:
  - A completed application for registration and Title Certificate (TR-1) with the exception of Sections G and H. Owner to be listed as:  
State of RI/Fleet Operations, One Capitol Hill, Providence, RI 02908.
  - A completed Sales or Use Tax Exemption Certification - Motor Vehicles. Purchaser to be listed as: State of RI/Fleet Operations, One Capitol Hill, Providence, RI 02908.

**CONCLUDING STATEMENTS:**

SOLICITATION NUMBER: 7598886

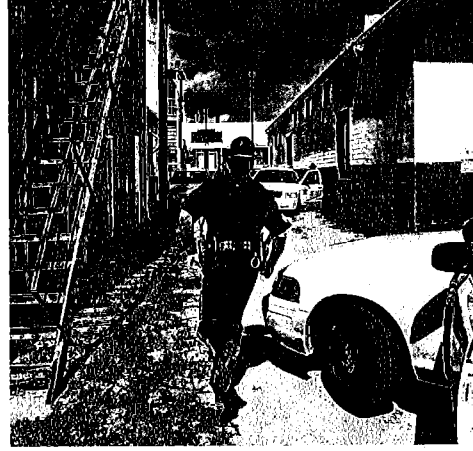
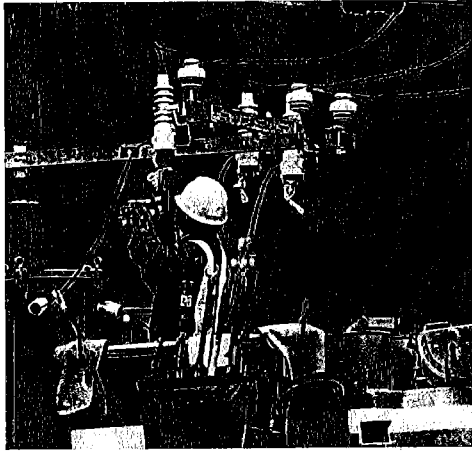
VENDOR \_\_\_\_\_

Responses to this solicitation must be submitted in duplicate and each page shall be numbered (ex. 1 of X) and include the vender's name. A Pre-Bid conference will be held for this bid at a date to be determined. Bids must be predicated on the basis of the bidder's full and unencumbered title to the vehicle(s) as of the date of delivery to the State. Bids subject to lien or assignment at the time of delivery to the State, or which stipulate third party or joint payment, will be rejected. The State may, at its sole option, elect to require presentation(s) by offerors clearly in consideration for award.

End of Specification







**WORK SAFER WHEREVER THE MISSION TAKES YOU**

# APX™ 1500 PROJECT 25 MOBILE RADIO

Whether a marathon race is passing through the streets of downtown or a water main breaks in the city's largest pipeline, you need the ability to interoperate seamlessly and securely with other agencies and responders. You need to instantly connect and be informed to make better decisions to keep your responders and the community safe. While the advanced technology of APX radios expertly equips you for your day to day operations and the unexpected, your organization may be challenged to improve operating expenses.

The APX 1500 P25 mobile radio is equipped with all the features you need at a price you can afford. It delivers all the benefits of TDMA technology in the most compact P25 capable mobile in the industry. The APX 1500 brings together powerful technology in an easy-to-use radio that's easy on your budget. It seamlessly unifies public works, utility, rural public safety and transportation users to first responders so they can interoperate effectively in the moments that matter.

## BE UP TO THE MINUTE INFORMED

Keeping your crew safe is your number one priority. Like all our APX P25 radios trusted by responders worldwide, the APX 1500 mobile redefines safety. Your crews can count on quick, seamless interoperability and extended range wherever the mission may take them. You can depend on ADP software encryption for secure, tamperproof voice and data communications every time they connect.

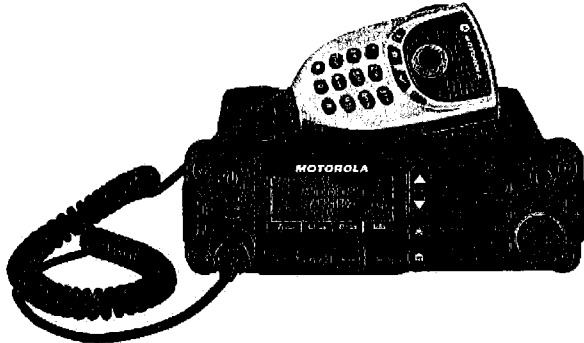
The O2 Control Head with color display is easy to read and operate in all lighting conditions, from bright sunlight to dark streets. The intelligent lighting on the O2 Control Head notifies your workers when a call is received, an emergency arises, or when they are out of range. Plus, an enlarged multifunction knob makes it easy to use talk-group and volume settings when they're wearing gloves.

## SIZED RIGHT FOR YOUR BUDGET

The APX 1500 gives you the ruggedibility and reliability you need at an affordable price. Since the APX 1500 is P25 Phase 2 capable for twice the voice capacity, you can add more users without adding more frequencies or infrastructure. Count on APX quality for years to come. The APX 1500 can withstand wet, dusty and hazardous conditions.

PRODUCT DATA SHEET | APX™ 1500 MOBILE RADIO





## APX 1500 SPECIFICATIONS

### FEATURES AND BENEFITS:

Available in 700/800 MHz, VHF, UHF R1 and UHF R2 frequency bands

Channels: Standard 512

Trunking Standards supported:

- Clear or digital private Trunked Operation

Analog MDC-1200 and Digital APCO P25 Conventional System Configurations

Narrow and wide bandwidth digital receiver (6.25kHz/12.5kHz/20kHz/25 kHz)

Embedded digital signaling (ASTRO and ASTRO 25)

Intelligent lighting

Radio profiles

Unified Call List

Meets applicable MIL-STD 810C, D, E, F, G

Ships standard IP56

Utilizes Windows XP, Vista and Windows 7 Customer Programming Software (CPS)

- Supports USB Communications
- Built in FLASHport™ support

Uses standard Dash mounted APX accessories

Software Key

ASTRO 25 integrated Voice and Data

ADP Privacy

Integrated GPS/GLONASS for outdoor location tracking

### OPTIONAL FEATURES:

Programming over Project 25 (POP25)

Text Messaging

12 character RF ID asset tracking

\*CPS version R12 03.00 and greater ordered after June 2014 will only support Windows 7 and 8

## APX 1500 CONTROL HEAD PORTFOLIO



### O2 RUGGED CONTROL HEAD

- Large color display with intelligent lighting
- 3 lines of text 14 characters max / 1 line of icons / 1 line of menus
- Built in 7.5 watt speaker
- Multifunction volume/channel knob
- Night/day mode button



TRANSMITTER - TYPICAL PERFORMANCE SPECIFICATIONS										
	700 MHz		800 MHz		VHF		UHF Range 1		UHF Range 2	
Frequency Range/Bandsplits	764-776 MHz 794-806 MHz		806-824 MHz 851-870 MHz		136-174 MHz		380-470 MHz		450-520 MHz	
Channel Spacing	25/20/12.5 kHz		25/20/12.5 kHz		25/20/12.5 kHz		25/20/12.5 kHz		25/20/12.5 kHz	
Maximum Frequency Separation	Full Bandsplit		Full Bandsplit		Full Bandsplit		Full Bandsplit		Full Bandsplit	
Rated RF Output Power Adj*	3-30 Watts (2-3 Watts Itinerant)		3-35 Watts		1-50 Watts		1-40 Watts		1-45 Watts	
Frequency Stability* (-30°C to +60°C; +25°C Ref.)	±0.8 PPM		±0.8 PPM		±0.8 PPM		±0.8 PPM		±0.8 PPM	
Modulation Limiting*	±5 kHz / ±2.5 kHz		±5 kHz/±4 kHz (NPSAPC) /±2.5 kHz		±5 kHz / ±2.5 kHz		±5 kHz / ±2.5 kHz		±5 kHz / ±2.5 kHz	
Modulation Fidelity (C4FM) 12.5kHz Digital Channel	1.5%		1.5%		2.5%		1.1%		1.1%	
Emissions**	Conducted+ -75/-85 dBc	Radiated+ -20/-40 dBm	Conducted -75 dBc	Radiated -20 dBm	Conducted -85 dBc	Radiated -20 dBm	Conducted -85 dBc	Radiated -20 dBm	Conducted -85 dBc	Radiated -20 dBm
Audio Response*	+1, -3 dB (EIA)		+1, -3 dB (EIA)		+1, -3 dB (EIA)		+1, -3 dB (EIA)		+1, -3 dB (EIA)	
FM Hum & Noise	25 & 20 kHz 12.5 kHz	-50 dB -48 dB	-50 dB -48 dB	-50 dB -48 dB	-52 dB -51 dB	-51 dB -48 dB	-51 dB -48 dB	-51 dB -48 dB	-51 dB -48 dB	-51 dB -48 dB
Audio Distortion*	25 & 20 kHz 12.5 kHz	0.50% 0.50%	0.50% 0.50%	0.50% 0.50%	0.50% 0.50%	0.50% 0.50%	0.50% 0.50%	0.50% 0.50%	0.50% 0.50%	0.50% 0.50%

RECEIVER - TYPICAL PERFORMANCE SPECIFICATIONS										
	700 MHz		800 MHz		VHF		UHF Range 1		UHF Range 2	
Frequency Range/Bandsplits	764-776 MHz		851-870 MHz		136-174 MHz		380-470 MHz		450-520 MHz	
Channel Spacing	25/20/12.5 kHz		25/20/12.5 kHz		25/20/12.5 kHz		25/20/12.5 kHz		25/20/12.5 kHz	
Maximum Frequency Separation	Full Bandsplit		Full Bandsplit		Full Bandsplit		Full Bandsplit		Full Bandsplit	
Audio Output Power at 3% distortion*	7.5 W or 15 W ++		7.5 W or 15 W ++		7.5 W or 15 W ++		7.5 W or 15 W ++		7.5 W or 15 W ++	
Frequency Stability* (-30°C to +60°C; +25°C Ref.)	±0.8 PPM		±0.8 PPM		±0.8 PPM		±0.8 PPM		±0.8 PPM	
Analog Sensitivity*	12 dB SINAD	-120 dBm	-120 dBm	Pre-Amp -123 dBm	Standard -119 dBm	Pre-Amp -123 dBm	Standard -119 dBm	Pre-Amp -123 dBm	Standard -119 dBm	Standard -119 dBm
Digital Sensitivity	5% BER	-121 dBm	-121 dBm	-123 dBm	-119 dBm	-123 dBm	-119 dBm	-123 dBm	-119 dBm	-119 dBm
Intermodulation Rejection	25 kHz 12.5 kHz	82 dB 82 dB	82 dB 82 dB	84 dB 85 dB	86 dB 86 dB	82 dB 83 dB	86 dB 85 dB	82 dB 83 dB	86 dB 85 dB	86 dB 85 dB
Spurious Rejection		91 dB	91 dB	95 dB		91 dB		91 dB		91 dB
Audio Distortion at rated*		2%	2%	2%		2%		2%		2%
Selectivity*	25 kHz 12.5 kHz 30 kHz	85 dB 75 dB —	85 dB 75 dB —	89 dB 77 dB 90 dB		83 dB 72 dB —		83 dB 72 dB —		83 dB 72 dB —

DIMENSIONS		
	Inches	Millimeters
Mid Power Radio Transceiver	2 x 7 x 6.4	50.8 x 178 x 163
O2 Control Head	2.7 x 8.1 x 2.1	69 x 207 x 53
Mid Power Radio Transceiver and O2 Control Head - Dash Mount	2.7 x 8.1 x 8.8	69 x 207 x 223
Mid Power Radio Transceiver and O2 Control Head Weight	5.28 lbs	2.45 kg

RADIO MODELS	
700/800 (763-870 MHz)	M36URS9PWIAN
VHF (136-174 MHz)	M36KSS9PWIAN
UHF Range 1 (380-470 MHz)	M36QSS9PWIAN
UHF Range 2 (450-520 MHz)	M36SSS9PWIAN

SIGNALING (ASTRO MODE)	
Signaling Rate	9.6 kbps
Digital ID Capacity	10,000,000 Conventional / 48,000 Trunking
Digital Network Access Codes	4,096 network site addresses
ASTRO® Digital User Group Addresses	4,096 network site addresses
Project 25 - CAI Digital User Group Addresses	65,000 Conventional / 4,094 Trunking
Error Correction Techniques	Convolutional, BCH, Reed-Solomon codes
Data Access Control	Slotted CSMA. Utilizes infrastructure-sourced data status bits embedded in both voice and data transmissions.

POWER AND BATTERY DRAIN	
Model Type	136-174 MHz, 380-470 MHz, 450-520 MHz, 764-870 MHz
Minimum RF Power Output	2***-25 Watts (764-776 MHz), 2***-25 Watts (794-806 MHz), 2***-25 Watts (806-824 MHz), 2***-25 Watts (851-870 MHz), 1-25 Watts (136-174 MHz), 1-25 Watts (380-470 MHz), 1-25 Watts (450-520 MHz)
Operation	13.8V DC ±20% Negative Ground
Standby at 13.8V	0.85A (764-870 MHz), 0.85A (136-174 MHz), 0.85A (380-470 MHz), 0.85A (450-520 MHz)
Receive Current at Rated Audio at 13.8V	3.2A (764-870 MHz), 3.2A (136-174 MHz), 3.2A (380-470 MHz), 3.2A (450-520 MHz)
Transmit Current (A) at Rated Power	136-174 MHz (1-25 Watt) 9.5A (25W) 380-470 MHz (1-25 Watt) 9.5A (25W) 450-520 MHz (1-25 Watt) 9.5A (25W)   764-870 MHz (10-35 Watt) (2***-25 Watts) 9.5A (25W)

	MIL-STD 810C		MIL-STD 810D		MIL-STD 810E		MIL-STD 810F		MIL-STD 810G	
	Method	Proc./Cat.	Method	Proc./Cat.	Method	Proc./Cat.	Method	Proc./Cat.	Method	Proc./Cat.
Low Pressure	500.1	I	500.2	II	500.3	II	500.4	II	500.5	II
High Temperature Storage	501.1	I	501.2	I/A1	501.3	I/A1	501.4	I/Hot	501.5	I/A1
High Temperature Operation	501.1	II	501.2	II/A1	501.3	II/A1	501.4	II/Hot	501.5	II
Low Temperature Storage	502.1	I	502.2	I/C3	502.3	I/C3	502.4	I/C3	502.5	I/C3
Low Temperature Operation	502.1	I	502.2	II/C1	502.3	II/C1	502.4	II/C1	502.5	II
Temperature Shock	503.1	-	503.2	I/A1-C3	503.3	I/A1-C3	503.4	I/Hot-C3	503.5	I/C
Solar Radiation	505.1	II	505.2	I	505.3	I	505.4	I	505.5	I/A1
Rain Blowing	506.1	I	506.2	I	506.3	I	506.4	I	506.5	I
Rain Steady	506.1	II	506.2	II	506.3	II	506.4	III	506.5	III
Humidity	507.1	II	507.2	II	507.3	II	507.4	-	507.5	II-Aggravated
Salt Fog	509.1	-	509.2	-	509.3	-	509.4	-	509.5	1 Proc
Blowing Dust	510.1	I	510.2	I	510.3	I	510.4	I	510.5	I
Blowing Sand	-	-	510.2	II	510.3	II	510.4	II	510.5	II
Vibration Min. Integrity	514.2	VIII/F, Curve-W	514.3	I/10	514.4	I/10	514.5	I/24	514.6	I-Cat. 24
Vibration Loose Cargo	514.2	XI	514.3	II/3	514.4	II/3	514.5	II/5	514.6	-
Shock Functional	516.2	I	516.3	I	516.4	I	516.5	I	516.6	I, V, VI

ENCRYPTION	
Supported Encryption Algorithms	ADP SW
Encryption Type	Digital
Key Storage	Tamper protected volatile or non-volatile memory
Key Erasure	Keyboard command

ENVIRONMENTAL SPECIFICATIONS	
Operating Temperature	-30°C / +60°C
Storage Temperature	-40°C / +85°C
Humidity	Per MIL-STD
ESD	IEC 801-2 KV
Water and Dust Intrusion	IP56, MIL-STD

\* Measured in the analog mode per TIA/EIA 603 under nominal conditions  
 \*\* Accuracy specs are for long-term tracking (95th percentile values >5 satellites visible at a nominal -130 dBm signal strength)  
 † Specs includes performance for the non-GNSS/GNSS bands  
 ‡ Output power in to 8 and 3.2 Ohm external speakers respectively  
 Specifications subject to change without notice. All specifications shown are typical. Radio meets applicable regulatory requirements.  
 Version 2, Dec 14

TRANSMITTER CERTIFICATION	
700/800 (764-775, 793-805, 806-824, 851-869 MHz)	AZ492F17055
VHF (136-174 MHz)	AZ492F14916
UHF/F1 (380-470 MHz)	AZ492F13826
UHF/F2 (450-520 MHz)	AZ492F14915

FCC EMISSIONS DESIGNATORS	
FCC Emissions Designators	8K10F1D, 8K10F1E, 8K10F1W, 11K0F3E, 16K0F3E, 20K0F1E

Motorola Solutions, Inc. 1301 E. Algonquin Road, Schaumburg, Illinois 60196 U.S.A. [www.motorolasolutions.com](http://www.motorolasolutions.com)

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