



Request for Quote

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

CREATION DATE : 08-JUL-19
 BID NUMBER: 7598881
 TITLE: RUBBER TIRE BACKHOE

 BID CLOSING DATE AND TIME:09-AUG-2019 10:30:00

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
 US

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 DOT MAINTENANCE BUSINESS OFFICE
 360 LINCOLN AVE
 WARWICK, RI 02888
 US

Requisition Number: 1615268

Note to Bidders: All questions regarding this solicitation must be forwarded to 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 1:00 pm at 360 Lincoln Ave, Warwick RI 02888 2nd floor conference room. DOT: 4X4 RUBBER TIRE BACKHOE MAKE: _____ MODEL: _____	3.00	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: 7598881

VENDOR: _____

Rhode Island
Department of Transportation

Highway Maintenance Division

4 X 4 RUBBER TIRE BACKHOE

GENERAL:

The following specification is for Three (3) 4x4 Backhoes for use by RIDOT. The Backhoe unit bid shall be the manufacturer's production model such as a "JOHN DEERE™ 410 L", or approved equal, that meets or exceeds the following minimum specifications.

The units shall be 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 backhoe providers and respective up-fitting 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.

BACKHOE MANUFACTURER AND MODEL NUMBER:

Indicate manufacturer and model number of the units quoted.

Manufacturer: _____

Model: _____

SPECIFICATIONS FOR BACKHOE

ALL SPECIFICATIONS ARE CONSIDERED MINIMUM UNLESS OTHERWISE NOTED. AND

1. Engine: Tier T4, water cooled turbocharged diesel, w/cold starting aid, wet replaceable cylinder liners and replaceable valve guides and seats.
2. Output: 114 hp@2200 rpm.
3. Torque: 330 ft-lb@1400 rpm.
4. Transmission shall be power shift with a minimum of five (5) forward and three (3) reverse gears with a single lever control for directional and gear changes.
5. Travel speed shall not be less than 25 mph.
6. Front axle shall be a mechanical-front wheel drive axle with automatic limited-slip traction control.
7. Rear axle shall have a hydraulically operated 100% mechanical lock with in cab controls.
4. Operating Weight: 18,000 lbs.
5. Front Loader Breakout force: 10,000 lbs.
6. Front Loader Lift Capacity: 6,000 lbs.
7. Front Loader Dump Clearance (Bucket at 45degrees): 8'- 10"
8. Front Loader Dump Reach (Bucket at 45degrees): 2'- 6"
9. Bucket Digging Force: 10,476 lbs.
10. Front Loader Bucket Size: 1.3 Cubic Yard
11. Front Loader Bucket cutting edge shall be replaceable and the width shall exceed tire width.
12. Front Loader Unit shall be equipped with automatic bucket positioner with adjustable position indicator, automatic and adjustable boom kick-outs for lift and lowering.
13. Backhoe Type: Extendable Dipperstick (4')
14. Backhoe Digging Depth (2' flat bottom): 19' – 6"
15. Backhoe Reach (center of swing pivot): 19' retracted - 23' extended
16. Backhoe Digging Force: Bucket -15,000 lbs.
17. Backhoe Digging Force: Crowd - 10,000 lbs.
18. Backhoe Boom Lift (Maximum Reach): Not Extended - 5,500 lbs.
19. Unit shall be equipped with grease blocks/manifolds for easy greasing of hidden pins

Comply: _____

OPERATOR’S ENVIRONMENT

- 1. Unit shall be equipped with a fully enclosed cab meeting ROPS and FOPS standards per ISO 3471, ISO 3449, ISO 6055 and SAE J386.
- 2. Cab shall be equipped with an air circulation system capable of heating, defrosting, air conditioning and pressurizing the cab. The defroster must be effective on all windows.
- 3. Interior sound level shall not exceed 68 dB (A) in accordance to SAE J2105.
- 4. Cab shall be equipped with a fresh-air inlet and the Filtration system must be >98% efficient with SAE fine dust test (SAE J1533).
- 5. The Backhoe shall have Travel Mode and all necessary lighting to allow for road use (headlights/stop/turn/tail/blinker/plate)
- 6. Unit shall have following equipment: Front and rear Full Fenders, one combination lock kit, floor mat, interior lights, two (2) interior and two (2) exterior rear-view mirrors, left and right opening window, tinted safety glass, 3” (76 mm) retractable seatbelt (SAE J386), adjustable hydraulic lever console, operator’s seat with high backrest and heating, storage compartment, sun visor, AM/FM radio with handsfree “Bluetooth”, 12v outlet, beverage holder, front and rear windshield washers and wipers, interval function for front and rear windshield wipers, service platforms with anti-slip surfaces and hand rails on rear fenders, speedometer, rearview camera.

Comply: _____

WARRANTY: (NO EXCEPTIONS)

The standard manufacturer’s warranty shall be extended for the period of 60 months/7500 hours to include 100% parts, labor and other incidentals which are cover under the standard new loader warranty.

Comply: _____

WORK LIGHTS:

- Two (2) 48 watt LED mounted on the front top of the cab, one (1) each side
 - Two (2) 48 watt LED mounted on the rear top of the cab, one (1) each side
 - Two (2) LED boom lights installed that provide illumination to the work area and do not interfere with the operation of the boom.
- All light wiring shall be installed in conduit to stay out of the elements. Final placement of all lighting shall be approved by RIDOT Motor Pool.

Comply: _____

SOLICITATION NUMBER: 7598881

VENDOR: _____

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 top of the cab, one (1) each side

Two (2) mounted on the back top of the cab, one (1) each side

NOTE: All light wiring shall be installed in conduit to stay out of the elements. Each directional LED is to be programmed and flash in an alternating pattern. Final placement of all lighting shall be approved by RIDOT Motor Pool.

Comply: _____

SAFETY FEATURES:

Controls shall feature a master ON/OFF switch for complete power shutdown.

Comply: _____

WARRANTY: (NO EXCEPTIONS)

There shall be a 24-month parts and labor warranty on any up-fitting and attachments.

Comply: _____

ADDITIONAL EQUIPMENT:

LOADER:

Quick change loader tool carrier to allow fork and bucket changes from within the cab.

Adjustable Fork attachment with 60" tines

Two (2) heavy duty welded clevis hooks on bucket for chain work, placed at the direction of RIDOT

Auxiliary loader hydraulic functions

BACKHOE:

Hydraulic Thumb Attachment with Thumb Lock

24" (0.75cy) Rock Bucket

Hydraulic Tilting Grading Bucket

Minimum width 36"

Minimum Tilt 45 degrees side to side (90 degrees total)

Maximum Operating Pressure 2500 PSI

Bolt-On Cutting Edge

HardOx® Steel Bucket side cutters and wear bars

Hydraulic Thumb Attachment

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

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 for each loader. All units keyed alike.

Comply: _____

MANUALS:

Vendor shall provide current editions of all available 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, hydraulics and all components.

The service manuals shall include a complete wiring diagram of the connections for all components. It shall be color coded and include sketches and pictures of how the wiring is installed

One operator's manual detailing the recommended operating procedure shall be delivered with each unit.

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 unit provided by the vendors upfitting installer.

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_____

DELIVERY SCHEDULE:

Fabrication of the first prototype unit shall be completed within one hundred twenty (120) days of the successful proposal. All remaining units ordered shall be delivered to RIDOT, ready for immediate use, no later than sixty (60) days from approval of the prototype. All bidders shall provide as part of their bid a schedule for the delivery of all units to RIDOT 360 Lincoln Ave, Warwick, RI 02888. This date shall be listed as the number of days following issuance of a Notice-to-Proceed 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_____

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.

Comply_____

CERTIFICATE OF ORIGIN, TITLE and DELIVERY DOCUMENTATION:

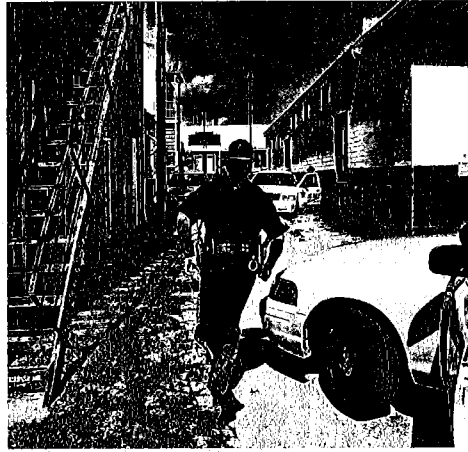
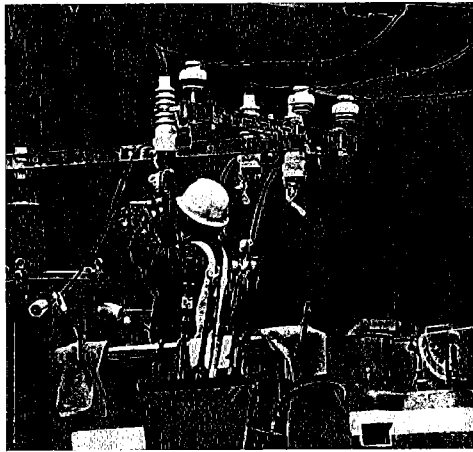
At the time of delivery to the State, each vehicles delivered shall be accompanied by a window sticker, title certificate, "Certificate of Origin," and registration documents.

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 States 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:

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

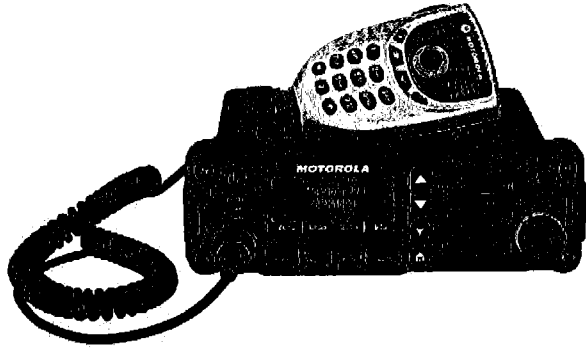
Keeping your crew safe is your number one priority. Like all our APX P25 radios trusted by responders worldwide, the APX 1500 mobile redefines safety. Your crews can count on quick, seamless interoperability and extended range wherever the mission may take them. You can depend on ADP software encryption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



02 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 (NPSFAC) / ±2.5 kHz		±5 kHz / ±2.5 kHz	±5 kHz / ±2.5 kHz		±5 kHz / ±2.5 kHz		
Modulation Fidelity (C4FM) 12.5 kHz 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	
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%	

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	-120 dBm	Pre-Amp -123 dBm	Standard -119 dBm	Pre-Amp -123 dBm	Standard -119 dBm	Pre-Amp -123 dBm	Standard -119 dBm
Digital Sensitivity	5% BER	-121 dBm	-121 dBm	-123 dBm	-123 dBm	-119 dBm	-123 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	
Spurious Rejection		91 dB	91 dB	95 dB		91 dB		91 dB		
Audio Distortion at rated*		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 —		

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)	M36URS9PW1AN
VHF (136-174 MHz)	M36KSS9PW1AN
UHF Range 1 (380-470 MHz)	M36QSS9PW1AN
UHF Range 2 (450-520 MHz)	M36SS9PW1AN

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	Golay, 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	<table border="1"> <tr> <td>136-174 MHz (1-25 Watt)</td> <td>9.5A (25W)</td> <td>764-870 MHz (10-35 Watt)</td> <td>(2***-25 Watts)</td> <td>9.5A (25W)</td> </tr> <tr> <td>380-470 MHz (1-25 Watt)</td> <td>9.5A (25W)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>450-520 MHz (1-25 Watt)</td> <td>9.5A (25W)</td> <td></td> <td></td> <td></td> </tr> </table>	136-174 MHz (1-25 Watt)	9.5A (25W)	764-870 MHz (10-35 Watt)	(2***-25 Watts)	9.5A (25W)	380-470 MHz (1-25 Watt)	9.5A (25W)				450-520 MHz (1-25 Watt)	9.5A (25W)			
136-174 MHz (1-25 Watt)	9.5A (25W)	764-870 MHz (10-35 Watt)	(2***-25 Watts)	9.5A (25W)												
380-470 MHz (1-25 Watt)	9.5A (25W)															
450-520 MHz (1-25 Watt)	9.5A (25W)															

MOBILE MILITARY STANDARDS 810 C, D, E, F, G											
	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	AOP 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

TRANSMITTER CERTIFICATION	
700/800 (764-775, 793-805, 806-824, 851-869 MHz)	AZ492FT7055
VHF (136-174 MHz)	AZ492FT4916
UHF R1 (380-470 MHz)	AZ492FT3826
UHF R2 (450-520 MHz)	AZ492FT4915

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

* Measured in the analog mode per TIA/EIA 609 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

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