

**Statement of Work
for
Rebuild of the Radio Set, AN/GRC-193B
NSN 5820-01-270-5103**

SOW-00-847-2-09213A-1/1

**Prepared by
Life Cycle Management Center, Code 847-2
Marine Corps Logistics Bases, Albany, GA.**

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STATEMENT OF WORK FOR THE
Rebuild of the Radio Set, AN/GRC-193B
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1.0 Scope. This Statement of Work (SOW) establishes and sets forth tasks and identifies the work efforts that shall be performed by the Contractor (for purposes of this SOW, Contractor is defined as the commercial or government entity performing the rebuild in the rebuild effort of the Radio Set. These documents contain requirements to restore the Radio Set to Condition Code "A." Condition Code A is defined as "serviceable/issuable without qualification, new, used, repaired or reconditioned materiel which is serviceable and issuable to all customers without limitation or restriction, including materiel with more than 6 months shelf-life remaining."

1.1 Background. Rebuild is defined as "That maintenance technique to restore an item to a standard as near as possible to original or new condition in appearance, performance, and life expectancy. This is accomplished through a maintenance technique or complete disassembly of the item, inspection of all parts or components, repairs or replacement of worn or unserviceable elements using original manufacturing tolerances and/or specifications and subsequent reassembly of the items."

2.0 Applicable Documents. The following documents form a part of this SOW to the extent specified. Unless otherwise specified, the issues of these documents are those listed in the Department of Defense Index of Specifications and Standards (DoDISS) and supplement thereto which is in effect on the date of solicitation. In the event of conflict between the documents referenced herein and the contents of this SOW, the contents of this SOW shall be the superseding requirement.

2.1 Military Standards.

MIL-STD-129	DoD Standard Practice for Military Marking
MIL-STD-2073-1C	DoD Standard Practice for Military Packaging

Military Standards (For Reference Only).

MIL-STD-973	Configuration Management
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2.2 Other Government Documents and Publications. The issues of those documents cited below shall be used.

TM-07749A/07743-12/1A	Radio Set AN/GRC-193	Dec 1986
	Radio Set AN/MRC-138A	PCN 184 075260 00
	System Instructions	

TM-07749B-45/2 TM -115820-1045-34	General Support, Direct Support, & Depot Maintenance Manual	June 1992 PCN 184 077491 00
TM-07748A-45/2 TO31R2-2PR-104-2	Field Maintenance Instruction AN/PRC-104	Jan 1979 PCN 184 075258 00
TM-07748A-45/3	Maintenance Prints AN/PRC-104	Nov 1981 PCN 184 075259 00
SL-4-07748A TO31R2-2-PRC-104-4	Repair Parts List AN/PRC-104	Apr 1979 PCN 124 077480 00
SL-4-07743A/07749A	Repair Parts List For Radio Set AN/MRC-138 /GRC-193	Dec 1980 PCN 124 077430 00
Design Control Reference	Cage 14304	P/N 755017A1010
TM-4750-15/2	Painting and Registration Marking for Marine Corps Combat and Tactical Equipment	
Drawing 755017C1010	Radio Set, AN/GRC-193B	
Drawing 755017C4010	Plate, Identification, Radio Set, AN/GRC-193B	
TI-5820-25/22		PCN 168 047801 00
DOD 4000.25-1-M	MILSTRIP Manual	
NAVICPINST 4491.2A	Requisitioning of Contractor Furnished Material From The Federal Supply System	

2.3 Industry Standards.

ANSI/EIA 625 Requirements for Handling Electrostatic-Discharge Sensitive
ESDS Devices

ANSI/ISO/ASQC Q9002-1994 Quality Systems

(Copies of military specifications and standards are available from the Naval Publications and Forms Center, (ATTN: NPODS), 5801 Tabor Avenue, Philadelphia, PA 19120-5099. Copies of other government documents and publications required by contractors in connection with specific SOW requirements shall be obtained through the Weapon System Manager: Life Cycle

Management Center, Attn: Code 847-2, 814 Radford Blvd. STE 20320, Albany, Georgia 31704-0320, commercial telephone number (912) 439- 6543 or DSN 567-6543. Copies of engineering drawings, if applicable, shall be obtained from Life Cycle Management Center, Attn: Code 825-3, 814 Radford Blvd. STE 20320, Albany, Georgia 31704-0320, commercial telephone number (912) 439-6410 or DSN 567-6410.)

3.0 Requirements.

3.1 General Tasks. In fulfilling the specified requirements, the Contractor shall:

a. Provide materials, labor, equipment, facilities and missing/repair parts, necessary to inspect, diagnose, restore, and test and calibrate the Radio Set. Upon completion of rebuild, the subject item shall be Condition Code "A."

b. Conduct in-process and final on-site testing for witness by a Marine Corps authorized representative.

3.2 Detail Tasks. The following tasks describe the different phases for rebuild of the Radio Set.

3.2.1 Phase I- Pre-induction. A pre-induction inspection analysis shall be performed for each Radio Set using the Contractor Facility's diagnosis, inspection and testing techniques to determine extent of work and parts required. These findings shall be annotated on the Pre-Induction Checklist (Appendix A).

3.2.2 Phase II -Rebuild. After pre-induction tests and inspections have been completed, repair of the Radio Set shall be accomplished in accordance with this SOW and Rebuild Standard. Deficiencies noted on the Pre-Induction Checklist (Appendix A) during Phase I shall be repaired/replaced. Components or assemblies shall not be disassembled for replacement of parts unless that part has failed, or the component assembly wherein the part is located is disassembled for repair.

a. Data plate. Each repaired Radio Set shall have a rebuild data plate affixed to the Radio Set in accordance with drawings 755017C4010 and 755017C1010.

b. Hardware.

(1) Replace broken, unserviceable and/or missing hardware including nuts, bolts, screws, washers, turn lock fasteners, mandatory replacement items, safety, and one-time use items, etc., in accordance with this SOW. Unserviceable would include any of the above that failed to function properly.

(2) Ensure proper hardware locking devices are present on all moving mechanical assemblies.

(3) Hardware normally supplied with commercial parts shall be used unless specifically prohibited.

3.2.3 Phase III - Inspection, Testing and Acceptance.

a. Inspection, Testing and Acceptance of the Radio Set shall be conducted in accordance with TM-07749A/07743-12/A; TM-07749B-45/2; TM-155820-1045-34; TM-07748A-45/2; TO31R2-2PR-104/2; TM-07748A-45/3; SL-4-07748A; TO31R2-2-PRC-104-4; SL-4-07743A/07749A; Design Control Reference, Cage 14304, P/N 755017A1010; Incorporate all current Engineering Change Proposals (ECPs) and Modification Instructions (MIs); TM-4750-15/2; Drawings 755017C4010 and 755017C1010; TI-5820-25/22.

b. The Contractor shall be responsible for conducting required tests and shall ensure all necessary personnel are notified prior to completion of the final acceptance. Acceptance tests shall be held at the contractor's facility, MCLB (Code 891), Albany, Georgia, representatives shall be given a minimum of two weeks notice prior to commencement of acceptance testing.

c. The Contractor shall be responsible for correcting any deficiencies identified during inspection/testing. MCLB (Code 891), Albany, Georgia, representatives may require the Contractor to repeat tests or portions thereof, if the original tests fail to demonstrate compliance with this SOW.

d. Acceptance testing on all Radio Sets repaired under the provisions of this SOW shall be accomplished in accordance with TM-07749A/0773-12/1A; TM-07749B-45/2; TM-115820-1045-34; TM-07748A-45/2; TO31R2-2PR-104-2; TM-07748A-45/3; SL-4-07748A; TO31R2-2-PRC-104-4; SL-4-07743A/07749A; Design Control reference, Cage 14304, P/N 755017A1010; Incorporate all current Engineering Change Proposals (ECPs) and Modification Instructions (MIs); Drawings 755017C4010 and 755017C1010; TI-5820-25/22.

3.2.4 Preparation for Shipment and Storage.

a. Equipment delivered under the terms of this SOW shall be prepared for shipment and storage in accordance with MIL-STD-2073-1C. Equipment scheduled for long term storage or shipment to overseas destinations shall be preserved to Level A. Equipment scheduled for immediate use and shipment to Continental United States destinations shall be preserved to Level B.

b. Marking. Marking of all items shall be in accordance with MIL-STD-129.

c. The Marine Corps will be responsible for transportation costs associated with shipping the Radio Set to the Contractor. The Contractor shall be responsible for shipment of the Radio Set to a pre-designated site. MCLB Albany, GA, Code 847-2, (912) 439-6544 or DSN 567-6544, will provide shipping instructions to the contractor.

3.3 Configuration Management.

3.3.1 Configuration Status Accounting (CSA).

a. The Contractor shall record and submit data on retrofit accomplished during Phase II.

b. The government will identify the configuration changes to be inspected by furnishing a Configuration Inspection Checklist to the Contractor. The Contractor shall use one checklist per Radio Set to record their inspection findings along with other required data.

c. The Contractor shall record serial numbers of the assemblies listed on the Configuration Inspection Checklist. The Contractor shall record the information on the same form that was used to record the application status of configuration changes.

3.3.2 Configuration Control. The contractor shall implement configuration control to established configuration items. Deviation from the established baseline configuration will not be allowed without the approval in writing from the Weapon System/Equipment Manager (Code 847-2). If necessary to temporarily depart from the authorized configuration, the contractor shall prepare and submit a Request for Deviation/Request for Waive using MIL-STD-973, paragraph 5.4.3 or 5.4.4, and subparagraphs and Appendix E, as a guide.

3.4 Government Furnished Equipment (GFE)/Government Furnished Materiel (GFM). GFE is government owned equipment authorized by contract for use by a Commercial/Government contractor. It is neither consumed during production nor incorporated into any product. GFM is materiel furnished to a contractor that will be consumed during the course of production or incorporated into product being manufactured/remanufactured under a contract/statement of work. In the event the Marine Corps does have GFE/GFM requirements the Management Control Activity (MCA/G316-2), Marine Corps Logistics Bases, Albany, Georgia, will coordinate required GFE and will maintain a central control on Marine Corps assets in the Contractor's possession. The MCA will forward a GFE Accountability agreement to the Contractor Facility for signature to establish a chain of custody and property responsibilities for Marine Corps assets.

3.5 Contractor Furnished Materiel. The Marine Corps has adopted the Navy's procedures regarding Contractor Furnished Materiel (NAVICPINST 4491.2A). In the event that Contractor Furnished Materiel is required for repair parts, the contractor shall requisition through the DOD Supply System. DOD 4000.25-1-M, (MILSTRIP) Chapter 11 authorizes contractors to requisition through the DOD Supply System.

3.6 Electrostatic Discharge (ESD) Control Program. The contractor shall establish, implement and document an ESD control program following the guidelines provided in EIA-625. ESD protective measures shall be used during manufacturing, handling, inspection, test, marking, packaging, storing and transporting ESD sensitive components.

3.7 Electromagnetic Environmental Effects (E3) Procedures. The Contractor shall plan for and use proper (E3) control procedures in the Rebuild process and shall utilize TI-5820-25/22 in conjunction with the detailed requirements specified in this document.

3.8 Quality Assurance Provisions.

The Contractor shall provide and maintain a Quality System that as a minimum, adheres to the requirements of ANSI/ISO/ASQC Q9002-1994, Quality System Model for Quality Assurance in Production, Installation, and Servicing. The program shall ensure quality throughout all areas to include design, fabrication, processing, assembly, inspection, test, maintenance, and preparation for delivery and shipping. Unless otherwise specified in the contract, the contractor shall be responsible for performance of all inspection requirements. The Government reserves the right to perform any of the inspections set forth in the contract where such inspections are deemed necessary to assure products and services conform to the prescribed requirements. The Contractor shall provide an Inspection and Test Plan that will ensure the Radio Set will meet or exceed the original performance characteristics of the Radio Set.

3.9 Acceptance.

The performance of the Contractor and the quality of work delivered, including all equipment furnished and documentation written or compiled, shall be subject to in-process review and inspection during performance. Inspection may be accomplished in-plant or at any work site or location, and Marine Corps representatives shall be permitted to observe the work or to conduct an inspection. Final inspection and acceptance testing shall be conducted at the Contractor's Facility. Final acceptance shall be conducted on 100 percent of items to verify that the units meet all requirements.

3.10 Rejection.

Failure to comply with any of the specified requirements listed herein shall be reason for rejection by MCLB (Code 891), Albany, representative. The Contractor shall, at no additional cost to MCLB, Albany, Georgia, correct the deficiencies and repeat the verification until an acceptable compliance with acceptance test procedures is demonstrated.

**Pre-Induction Checklist
AN/GRC-193B**

1. Using the following criteria, inspect the items listed below.
 - a. Refer to SOW-8352-08770A-1/1 for HMMWV inspection checklist.
 - b. Inspect for dirt, dust, sand, etc.
 - c. Inspect for rust and/or corrosion damage.
 - d. Inspect for any physical damage to different units. (cuts, dents, cracks, broken pins, etc.)
 - e. Ensure that all screws, washers, nuts, bolts, etc. are attached.
 - f. Inspect for dry rot on all rubber and plastic components.
 - g. Ensure that all covers and caps are attached.
 - h. Ensure that all knobs, switches and breakers operate freely and properly.
 - I. Inventory for accountability.

S - Serviceable

U - Unserviceable

M - Missing

Rack Assembly and Hardware:

	<u>Qty</u>	<u>Condition</u>	<u>Remarks</u>
1. Rack, Electrical Equipment, MT-6014	1	_____	_____
2. MT-4874/URC, RT-1209A & AM-6879 mount	1	_____	_____
3. RT 1209A Clamps	2	_____	_____
4. AM-6879 Clamps	2	_____	_____
5. MT-4495, CU-2064A mount	1	_____	_____
6. Coupler hold down clamps, bolted down, fixed.	2	_____	_____
7. Coupler hold down clamps, thumb screw, adj.	2	_____	_____
8. MT-4497, AM-6545B mount	1	_____	_____
9. Amplifier hold down clamps, bolted down, fixed.	2	_____	_____
10. Amplifier hold down clamps, thumb screw, adj.	2	_____	_____
11. Hanger, Fiberglass, for W5, Coupler coax cable	1	_____	_____

Cable Assemblies:

1. W3, Power Supply PP-7333 to AM6545B	1	_____	_____
2. W1, RF, AM-6545B to AM-6879	1	_____	_____
3. W2, Audio, RT-1209A to AM-6879	1	_____	_____
4. W1, Pwr/Control and RF, RT-1209A to AM-6879	1	_____	_____
5. W6, Pwr/Control., AM-6545B to CU-2064A	1	_____	_____
6. W7, KY-65 to AM-6879	1	_____	_____
7. W2, Pwr/Control, AM-6879 to AM-6545B	1	_____	_____
8. W5, RF, CU-2064-AM-6545B	1	_____	_____
9. W14, KY-65 to AM-6545B	1	_____	_____
10. High Voltage RF, CU-2064 to Antenna	1	_____	_____

CU-2064A Antenna Coupler Inventory/Serviceability Check:

- 1. 50 Ohm Antenna Connector, J3 _____
- 2. Pressure relief valve _____
- 3. Whip Antenna Connector, J4 _____
- 4. Ground Studs, w/wingnuts _____
- 5. CONT Connector, J2 _____
- 6. RF Connector, J1 _____
- 7. Fan Intake _____
- 8. Flag Switch _____
- 9. Handles _____
- 10. Chassis _____

AM 6545B Power Amplifier Inventory/Serviceability Check:

- 1. Meter, M1 _____
- 2. RDY Light, DS1 _____
- 3. XMT Light, DS2 _____
- 4. TUN Light, DS3 _____
- 5. FIL Fault Light, DS4 _____
- 6. PA Fault Light, DS5 _____
- 7. CPLR Fault Light, DS6 _____
- 8. Fan Intake _____
- 9. FAN/LAMP TEST Switch _____
- 10. RF Connector, J5 _____
- 11. PWR Connector, J3 _____
- 12. RT CONT Connector, J2 _____
- 13. CB1, Circuit Breaker _____
- 14. ANT/CPLR CONT Connector, J1 _____
- 15. ANT/CPLR RF Connector, J4 _____
- 16. Handles _____
- 17. Chassis _____

RT 1209A Receiver/Transmitter Inventory/Serviceability check:

- 1. MODE Switch, (V REC, V TR, D TR, D REC), S8 _____
- 2. ON/OFF VOLUME Switch, S9/R1 _____
- 3. LIGHT, S10 _____
- 4. SB Switch, (LSB, USB) S7 _____
- 5. Audio Connector, A2J1 and A2J2 _____
- 6. Frequency Selector Pushbutton Switch, S1-S6 _____
- 7. RT Connector, J1 _____
- 8. Handles _____
- 9. Chassis _____

AM-6879 Amplifier-Converter Inventory/Serviceability Check:

1. Speaker, LS1	_____	_____
2. Adjust Knob, R2	_____	_____
3. Selector Switch, S3	_____	_____
4. Meter Jacks, TP1 and TP2	_____	_____
5. TTY/OFF/SPKR Switch, S1	_____	_____
6. Audio/Handset Connector, J1 and J2	_____	_____
7. 3 Amp Fuse, F1	_____	_____
8. On/Off/Squelch Switch, S2/R1	_____	_____
9. TTY Key Binding Post, E1 and E2	_____	_____
10. DC Loop Binding Post, E3 and E4	_____	_____

Accessories Inventory/Serviceability Check:

	<u>Qty</u>	<u>Condition</u>	<u>Remarks</u>
1. Adapter, Antenna to Antenna Base	1	_____	_____
2. Case, Accessory,	1	_____	_____
3. Handset, H250A	1	_____	_____
4. CW Key, Telegraph	1	_____	_____
5. Lead, Electrical	1	_____	_____
6. Cover, Antenna, Rubber	1	_____	_____

CONTRACT DATA REQUIREMENTS LIST

(1 Data Item)

Form Approved
OMB No. 0704-0188

The public reporting burden for this collection of information is estimated to average 110 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports (0701-0188), 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. Please DO NOT RETURN your form to the above address. Send completed form to the Government Issuing Contracting Officer for the Contract/PR No. listed in Block E.

A. CONTRACT LINE ITEM NO.	B. EXHIBIT	C. CATEGORY: TDP _____ TM _____ OTHER _____ X
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D. SYSTEM/ITEM AN/GRC-193B Radio Set	E. CONTRACT/PR NO.	F. CONTRACTOR
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1. DATA ITEM NO. A001	2. TITLE OF DATA ITEM Engineering Change Proposal	3. SUBTITLE Configuration Management
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4. AUTHORITY (Data Acquisition Document No.) DI-CMAN-80639B	5. CONTRACT REFERENCE SOW	6. REQUIRING OFFICE MCLBA (825)
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7. DD 250 REQ LT	9. DIST STATEMENT REQUIRED	10. FREQUENCY ASREQ	12. DATE OF FIRST SUBMISSION See Blk 16	14. DISTRIBUTION		
8. APP CODE A		11. AS OF DATE	13. DATE OF SUBSEQUENT SUBMISSION	a. ADDRESSEE		b. COPIES
						Draft

16. REMARKS				
<p>Blk 4 - Contractor format is authorized.</p> <p>Blks 10 & 12 - ECPs shall be submitted for all proposed changes which permanently affect the baseline of a configuration item. MIL-STD-973, Appendix D applies.</p> <p>ECPs will be reviewed and disposition determined within 30 calendar days upon receipt by the Government.</p> <p>ECPs shall be submitted on a 3.5" disk in ASCII format.</p> <p>Distribution Statement A: Approved for public release, distribution is unlimited</p>	MCLBA (825-2)	0	1	0
	15. TOTAL	→	0	1

G. PREPARED BY <i>Aene Collins</i>	H. DATE 23 Apr 99	I. APPROVED BY <i>Bill Coon</i>	J. DATE 4-26-99
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17. PRICE GROUP
18. ESTIMATED TOTAL PRICE

CONTRACT DATA REQUIREMENTS LIST
(1 Data Item)

Form Approved
OMB No. 0704-0188

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A. CONTRACT LINE ITEM NO.	B. EXHIBIT	C. CATEGORY: TDP _____ TM _____ OTHER _____ X
----------------------------------	-------------------	--

D. SYSTEM/ITEM AN/GRC-193B Radio Set	E. CONTRACT/PR NO.	F. CONTRACTOR
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1. DATA ITEM NO. A003	2. TITLE OF DATA ITEM Request For Waiver	3. SUBTITLE Configuration Management
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4. AUTHORITY (Data Acquisition Document No.) DI-CMAN-80641B	5. CONTRACT REFERENCE SOW	6. REQUIRING OFFICE MCLBA (825)
---	-------------------------------------	---

7. DD 250 REQ LT	8. DIST STATEMENT REQUIRED	10. FREQUENCY ASREQ	12. DATE OF FIRST SUBMISSION SEE BLK 16	14. DISTRIBUTION			
8. APP CODE A		11. AS OF DATE	13. DATE OF SUBSEQUENT SUBMISSION	a. ADDRESSEE MCLBA (825-2)	b. COPIES		
					Draft	Final	
						Reg	Repro

16. REMARKS Blk 4 - Contractor format is authorized. Blks 10 & 12 - RFWs shall be submitted to obtain authorization to deliver nonconforming material which does not meet prescribed configuration documentation. RFWs will be reviewed and disposition determined within 30 calendar days upon receipt by the Government. RFWs shall be submitted on a 3.5" disk in ASCII format. Distribution Statement A: Approved for public release, distribution is unlimited							
					15. TOTAL →	0	1

17. PRICE GROUP
18. ESTIMATED TOTAL PRICE

G. PREPARED BY <i>Dere Collins</i>	H. DATE 23 Apr 99	I. APPROVED BY <i>Bill Coon</i>	J. DATE 4-26-99
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