

**Statement Of Work
For
Rebuild of Radio Set,
AN/MRC-138B
NSN 5820-01-337-5294**

SOW-00-847-2-09613A-1/1

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

Table of Contents

Section/Para	Page
1.0 Scope	1
1.1 Background	1
2.0 Applicable Documents	1
2.1 Military Standards	1
2.2 Other Government Documents and Publications	1
2.3 Industry Standards	3
3.0 Requirements	3
3.1 General Tasks	3
3.2 Detail Tasks	4
3.2.1 Phase I - Pre-induction	4
3.2.2 Phase II - Rebuild	4
3.2.3 Phase III - Inspection, Testing and Acceptance	4
3.2.4 Packaging, Handling, Storage and Transportation (PHS&T)	5
3.3 Configuration Management	5
3.3.1 Configuration Control	5
3.4 Government Furnished Equipment (GFE)/Government Furnished Materiel (GFM)	6
3.5 Contractor Furnished Materiel	6
3.6 Electrostatic Discharge (ESD) Control Program	6
3.7 Electromagnetic Environmental Effects (E ³) Procedures	6
3.8 Quality Assurance Provisions	6
3.9 Acceptance	6
3.10 Rejection	7

Appendix A

STATEMENT OF WORK FOR THE
Rebuild of the Radio Set, AN/MRC-138B
NSN 5820-01-337-5294

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-130	Identification Marking of U.S. Military Property
MIL-STD-2073-1C	DoD Standard Practice for Military Packaging

Military Standards (For Reference Only).

MIL-STD-973	Configuration Management
-------------	--------------------------

2.2 Other Government Documents and Publications. The issues of those documents cited below shall be used.

TM-07749A/07743-12/1A w/Ch. 1 - 4	Radio Set AN/GRC-193 Radio Set AN/MRC-138 Systems Instructions	DEC 1986 PCN 184 075260 00
--------------------------------------	--	-------------------------------

SL-4-07743A/07749A	Repair Parts List For Radio Set AN/MRC-138/GRC-193	DEC 1980 PCN 124 077430 00
TM-07749A/07743A-12/2 w/Ch. 1	Operator and Organizational Maintenance Instructions for Amplifier-Converter AM-6879	JAN 1979 PCN 184 075261 00
TM-07749A/07743A-40/3 w/Ch. 1-3	Field Maintenance Instructions for Amplifier-Converter AM-6879 (Vol. 1)	JAN 1979 PCN 184 075263 00
TM-07749A/07743A-40/4 w/Ch. 1-2	Field Maintenance Instructions for Amplifier-Converter AM-6879 (Vol. 2)	JAN 1979 PCN 184 075264 00
TM-87107B-34/1 w/Ch. 1-2	Theory of Operation and Maintenance Instructions for Amplifier AM-6545/GRC-193 (Vol. 1)	JAN 1980 PCN 184 087106 00
TM-87107B-34/2 w/Ch. 1	Theory of Operation and Maintenance Instructions for Amplifier AM-6545/GRC-193 (Vol. 2)	JAN 1980 PCN 184 087107 01
TM-87117B-34/1 w/Ch. 1	Theory of Operation and Maintenance Instructions for Antenna Coupler CU-2064 (Vol. 1)	JAN 1980 PCN 184 087116 00
TM-87117B-34/2 w/Ch. 1	Theory of Operation and Maintenance Instructions for Antenna Coupler CU-2064 (Vol. 2)	JAN 1980 PCN 184 087117 00
MI-07743B-35/1	Installation of Radio Set AN/MRC-138	AUG 1988 PCN 160 977059 00
SOW-8352-08770A-1/1	M998 HMMWV	AUG 1998
Design Control Reference	Cage 01365	P/N 755 017B10 00
TM-4750-15/2-4 w/Ch. 1	Painting and Registration Marking for Marine Corps Combat and Tactical Equipment	PCN 182 047504 00
DOD 4000.25-1-M	MILSTRIP Manual	

NAVICPINST 4491.2A	Requisitioning of Contractor Furnished Material From The Federal Supply System	
RS-07749A/07743A-50/5 w/Ch. 1-2	Rebuild Standard for Amplifier-Coverter AM-6879	JAN 1979 PCN 170 070749 00
RS-87107B-50/3 w/Ch. 1-2	Rebuild Standard for Amplifier AM-6545	JAN 1980 PCN 170 080107 00
RS-87117B-50/3 w/Ch. 1	Rebuild Standard for Antenna-Coupler CU-2064	JAN 1980 PCN170 080117 00
TI-5820-25/22	Electromagnetic Environmental Effects (E3) Procedures for Installation of Communication Equipment on US Marine Corps Platform	MAY 1999 PCN 168 047801 00

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, 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 rebuild phases 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. 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. Incorporate all current Engineering Change Proposals (ECPs) and Modification Instructions (MIs).

a. Data plate. Each repaired Radio Set shall have a rebuild data plate affixed in accordance with MI-07743B-35/1. The data plate shall meet the requirements of MIL-STD-130 and TM 4750-15/2-4.

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 the Rebuild Standard. 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/07743-12/1A w/Ch. 1 - 4; SL-4-07743A/07749A; TM-07749A/07743A-12/2; TM-07749A/07743A-40/3 w/Ch. 1-3; TM-07749A/07743A-40/4 w/Ch. 1-2; TM-87107B-34/1 w/Ch. 1-2; TM-87107B-34/2 w/Ch. 1; TM-87117B-34/1 w/Ch. 1; TM-87117B-34/2 w/Ch. 1; RS-07749A/07743A-50/5 w/Ch. 1-2; RS-87107B-50/3 w/Ch. 1-2; RS-87117B-50/3 w/Ch. 1; SOW-8352-08770A-1/1 and Design Control Reference Cage 01365 PN 755 017B10 00. Incorporate all current Engineering Change Proposals (ECPs), Technical Instructions (TIs); Modifications Instructions (MIs); TM-4750-15/2-4 and 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/07743-12/1A w/Ch. 1 - 4; SL-4-07743A/07749A; TM-07749A/07743A-12/2; TM-07749A/07743A-40/3 w/Ch. 1-3; TM-07749A/07743A-40/4 w/Ch. 1-2; TM-87107B-34/1 w/Ch. 1-2; TM-87107B-34/2 w/Ch. 1; TM-87117B-34/1 w/Ch. 1; TM-87117B-34/2 w/Ch. 1; RS-07749A/07743A-50/5 w/Ch. 1-2; RS-87107B-50/3 w/Ch. 1-2; RS-87117B-50/3 w/Ch. 1; SOW-8352-08770A-1/1 and Design Control Reference Cage 01365 P/N 755 017B10 00.

3.2.4 Packaging, Handling, Storage and Transportation (PHS&T)

a. The Contractor shall be responsible for preservation and packaging of items being rebuilt under the terms of this SOW. Items being prepared for long term storage or shipment to overseas destinations shall be level "A" in accordance with MIL-STD-2073-1C, Table A.VI., Electronic Equipment. Items being prepared for domestic shipment and/or immediate use shall be Level "B."

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

c. The Marine Corps will provide the contractor with the shipping address(es) for delivery of the rebuilt equipment. The contractor shall be responsible for arranging for shipment to the pre-designated site(s). The Marine Corps will be responsible for transportation costs associated with shipping the subject equipment to and from the Contractor.

3.3 Configuration Management.

3.3.1 Configuration Control. The contractor shall implement configuration control to established configuration items. The baseline configuration has been established in the Technical Data Package and applicable MIs and ECPs. 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 Waiver. MIL-STD-973, paragraph 5.4.3 or 5.4.4 and Appendix E may be used 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 the 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/MRC-138A**

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, Mount Assembly	1	_____	_____
2. MT-4874/URC, RT-1209A & AM-6874 mount	1	_____	_____
3. RT 1209A Clamps	2	_____	_____
4. AM-6874 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, Y cable, Circuit Breaker to KY-99 & AM6545B	1	_____	_____
2. W1, RF, AM-6545B to AM-6879	1	_____	_____
3. W2, Pwr/Control, AM-6545B to AM-6879	1	_____	_____
4. W4, Primary Power, Circuit Breaker to Veh. Batt.	1	_____	_____
5. W5, RF, AM-6545B to CU-2064A	1	_____	_____
6. W6, Pwr/Control., AM-6545B to CU-2064A	1	_____	_____
7. W7, KY-65 to AM-6879	1	_____	_____
8. W8, RF, HV, CU-2064A to Antenna	1	_____	_____
9. W10, Pwr/Control/RF, AM-6879 to RT-1209A	1	_____	_____
10. W14, KY-65 to AM-6545B	1	_____	_____
11. W15, Audio Cable, AM-6879 to RT-1209A	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 | _____ | _____ |

AT-1011/U Antenna Inventory/Serviceability Check:

	<u>Qty</u>	<u>Condition</u>	<u>Remarks</u>
1. Antenna Element, AT-1043	4	_____	_____
2. Antenna Element, AT-1039	1	_____	_____
3. Antenna Element, AT-1042	1	_____	_____
4. Antenna Element, AT-1040	1	_____	_____
5. Antenna Element, AT-1041	1	_____	_____
6. Antenna Mast Plate, MT-26525	1	_____	_____
7. Antenna Case, Cotton	1	_____	_____
8. Antenna Cover, Safety	1	_____	_____

Accessories Inventory/Serviceability Check:

	<u>Qty</u>	<u>Condition</u>	<u>Remarks</u>
1. Adapter, Antenna to Antenna Base (NVIS)	1	_____	_____
2. Box Assembly, Circuit Breaker	1	_____	_____
3. Case, Accessory,	1	_____	_____
4. Handset, H250A	1	_____	_____
5. CW Key, Telegraph	1	_____	_____
6. Lead, Electrical	1	_____	_____

