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OPERATOR AND ORGANIZATIONAL MAINTENANCE MANUAL

**RADIO FREQUENCY MONITOR SET
AN/USQ-42**

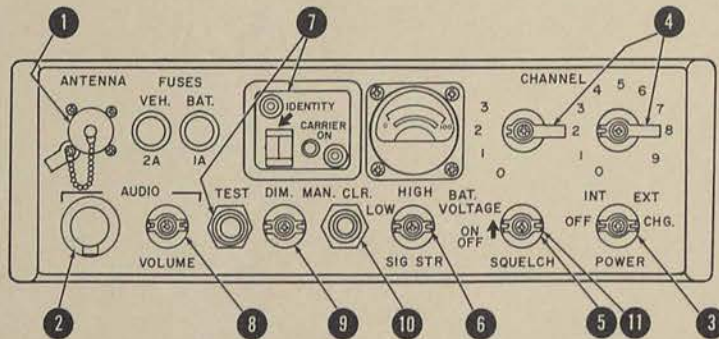
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HEADQUARTERS, DEPARTMENT OF THE ARMY

19 **APRIL 1968**

CONDENSED OPERATING INSTRUCTIONS FOR RADIO FREQUENCY MONITOR SET, AN/USQ-42



To operate:

a. THE NUMBERS OF STEPS 1 through 11 BELOW RELATE TO THE NUMBERS ON THE DIAGRAM.

- (1) Connect the antenna to the ANTENNA connector.
- (2) Connect the headphone to the AUDIO connector.
- (3) Turn the POWER switch to INT.
- (4) Turn the CHANNEL switches to the desired operating channel.
- (5) Turn the SQUELCH control to OFF.
- (6) Turn the SIG switch to LOW.
- (7) Push the TEST switch. See that the numbers 88 appear in the IDENTITY indicator.
- (8) Adjust the AUDIO VOLUME control for a desirable sound level.
- (9) Adjust the DIM control for a comfortable viewing brightness.
- (10) Push the MAN CLR switch to clear the IDENTITY display.
- (11) To reduce the rushing noise when no signal is being received, turn the SQUELCH control ON and adjust it until the rushing noise is at a low level.

To turn off:

- b. Turn the POWER switch (3) to OFF.

OPERATOR AND ORGANIZATIONAL MAINTENANCE MANUAL

RADIO FREQUENCY MONITOR SET AN/USQ-42

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Figure 1-1. Radio Frequency Monitor Set AN/USQ-42.

CHAPTER 1

INTRODUCTION

Section I. GENERAL

1-1. Scope

a. This manual describes Radio Frequency Monitor Set AN/USQ-42 and covers installation, operation, and operator's and organizational maintenance. It includes instructions for cleaning and inspecting the equipment and replacement of parts available at the organizational maintenance category.

b. The basic issue items list (BIIL) appears in appendix B.

1-2. Indexes of Publications

a. *DA Pam 310-4*. Refer to the latest issue of DA Pam 310-4 to determine whether there are new editions, changes, or additional publications pertaining to the equipment.

b. *DA Pam 310-7*. Refer to DA Pam 310-7 to determine whether there are modification work orders (MWO's) pertaining to the equipment. DA Pam 310-7 lists all authorized Department of the Army modification work orders, identifying the type, model, series, and Federal stock number of the item to be modified; the number, date, and classification of the MWO; the category of maintenance authorized to perform the modification; and the man-hours required to apply the modification to each item.

1-3. Forms and Records

a. *Reports of Maintenance and Unsatisfactory Equipment*. Use equipment forms and records in accordance with instructions provided in TM 38-750.

b. *Report of Packaging and Handling Deficiencies*. Fill out and forward DD Form 6 (Report of Packaging and Handling Deficiencies) as prescribed in AR 700-58 (Army), NAVSUP Publication 378 (Navy), AFR 71-4 (Air Force), and MCO P4610-5 (Marine Corps).

c. *Discrepancy in Shipment Report (DISREP) (SF361)*. Fill out and forward Discrepancy in Shipment Report (DISREP) (SF361) as prescribed in AR 55-38 (Army), NAVSUP Pub 459 (Navy), AFM 75-34 (Air Force), and MCO P4610.19 (Marine Corps).

d. *Report of Equipment Manual Improvements*. Report of errors, omissions, and recommendations for improving this publication by the individual user is encouraged. Reports should be submitted on DA Form 2028 (Recommended Changes to DA Publications) and forwarded direct to Commanding General, U.S. Army Electronics Command, ATTN: AMSEL-ME-NMP-AD, Fort Monmouth, N.J. 07703.

Section II. DESCRIPTION AND DATA

1-4. Purpose and Use

(fig. 1-1)

Radio Frequency Monitor Set AN/USQ-42 is a manpack or vehicular, portable, frequency modulated (fm) receiver. It is used to monitor signals from as many as 27 remote sensors on any one of 31 channels. When a sensor transmission is received, the AN/USQ-42 displays the remote sensor identity number on a front panel display and provides a headphone output of the received audio signal.

1-5. Technical Characteristics

Number of channels.....	31
Number of sensor codes per channel.	1 to 27
Type of reception.....	Voice and tone-modulated identity codes (fm).
Types of antennas:	
Manpack operation....	Antenna AS-2280/USQ-42.
Stationary operation..	Base, Antenna AB-1093/ USQ-42.
Vehicular operation...	Vehicular antenna for M161 truck mounting.

Types of antennas—Continued

Helicopter operation	Aircraft Antenna AT-209/ARR-26 for UH-1D helicopter mounting.
Power source	8.4-volt, rechargeable nickel cadmium battery pack; 8.4-volt, nonrechargeable mercury battery pack; 24- to 32-volt dc source.
Rechargeable battery life	50 hours over 10-day period based on continuous receiver operation and a 10

percent visual display duty cycle.

Nonrechargeable battery Minimum of 24 hours during a 3-day period.

1-6. Components

(fig. 1-1)

The components of the AN/USQ-42 are listed in the basic issue items list (app B). Dimensions and weights of the components are given in the chart below.

Component	Overall dimensions (in.)			Unit weight (lb)
	Height	Width	Depth	
Monitor, Radio Frequency R-561/USQ-42 including battery pack.	4	13	6½	15
Antenna AS-2280/USQ-42	18 (length)			1
Base, Antenna AB-1093/USQ-42	19 (length disassembled)			3

1-7. General Description

(fig. 1-1)

Radio Frequency Monitor Set AN/USQ-42 consists of Monitor, Radio Frequency, R-1561/USQ-42 and minor components. Bag, Cotton Duck CW-

1033/USQ-42 (carrying bag) is used to store Base, Antenna AB-1093/USQ-42, Antenna AS-2280/USQ-42, Digital Display Cable Assembly, and Headset H-139. Harness, Electrical Equipment ST-158/USQ-42 (harness) is used to carry the R-1561/USQ-42 in manpack operation.

CHAPTER 2

INSTALLATION

Section I. SERVICE UPON RECEIPT OF EQUIPMENT

2-1. Unpacking

(fig. 2-1)

The AN/USQ-42 may be packed in a wooden packing box or a cardboard shipping carton. Unpack the AN/USQ-42 carefully to prevent damage to the equipment.

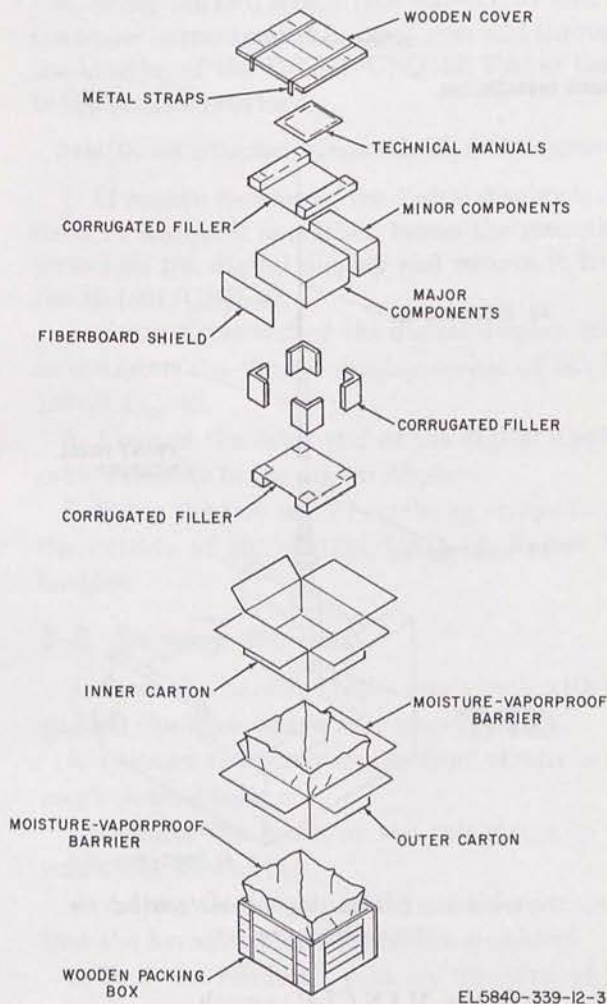


Figure 2-1. Typical packaging diagram.

2-2. Checking Unpacked Equipment

a. Inspect the equipment for damage that may have occurred during shipment. If the equipment has been damaged, fill out and forward DD Form 6 (para 1-3*b*).

b. Check to see that the equipment is complete as listed on the packing slip. If a packing slip is not available, check the equipment against the basic issue items list (app B). Report all discrepancies in accordance with TM 38-750. The equipment should be placed in service even though a minor assembly or part that does not affect proper functioning is missing.

c. Check to see whether the equipment has been modified. If the equipment has been modified, the MWO number will appear on the front panel, near the nomenclature plate. Check to see whether all MWO's current at the time the equipment is placed in use have been applied.

Note. Current MWO's applicable to the equipment are listed in DA Pam 310-7.

d. Check the latest issue of DA Pam 310-4 to see whether the applicable maintenance literature is current. (Equipment issued by depots may have been in stock for some time and may contain superseded manuals.)

2-3. Installation of Battery Pack

(fig. 2-2)

Note. Installation procedures for the rechargeable and nonrechargeable battery packs are identical.

a. Place the R-1561/USQ-42 face down on a level surface.

b. Release the four spring latches on the battery pack cover by pushing the topmost part of each latch down and away from the case.

c. Lift the battery pack cover straight up from the R-1561/USQ-42. Be careful not to bend the connector pins inside the case.

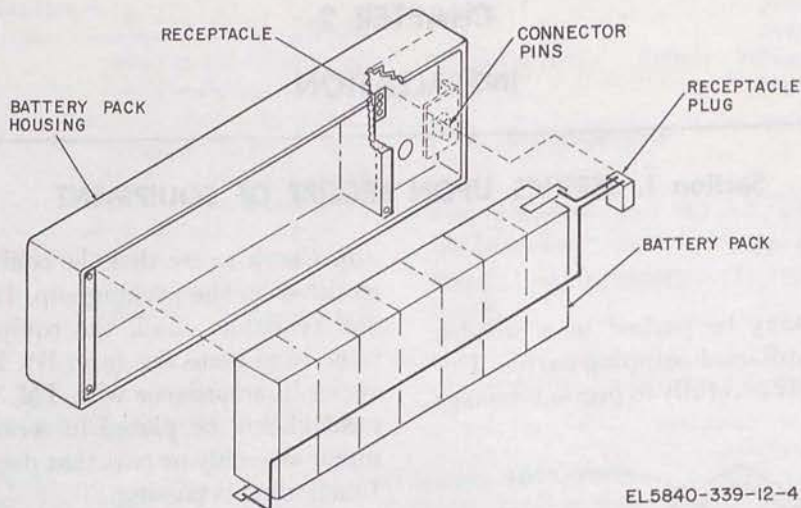
d. Insert the battery pack in its proper location in the battery pack cover, with the end containing the plug next to the receptacle.

e. Insert the battery plug into the battery pack cover receptacle. Do not force the plug; it will go in only one way.

f. Carefully place the cover back in its original position, and align the connector pins.

g. Push down gently.

h. Refasten the four spring latches.



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Figure 2-2. Battery pack installation.

2-4. Installation of AS-2280/USQ-42 for Short Whip Operation

Screw the AS-2280/USQ-42 into the ANTENNA connector on the R-1561/USQ-42.

2-5. Assembly and Installation of AB-1093/USQ-42 for Long Whip Operation (fig. 2-3)

a. Loosen the ferrule at the top of AB-1093/USQ-42.

b. Extend the inner portion of the unit to its full length. Tighten the ferrule.

c. Screw the AS-2280/USQ-42 into the threaded hole in the top of AB-1093/USQ-42.

d. Place the R-1561/USQ-42 face up on a level surface.

e. Connect AB-1093/USQ-42 to the ANTENNA connector of the R-1561/USQ-42. Tighten the connector adaptor.

2-6. Initial Checking and Adjustment of Equipment

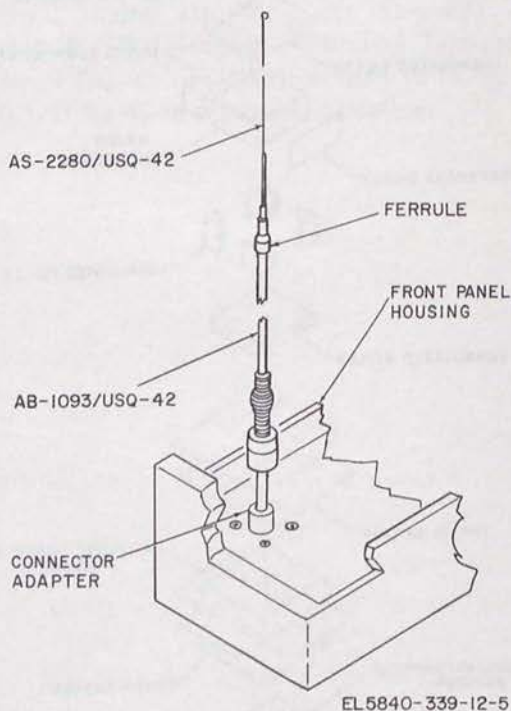
a. Visually check to see that the battery pack is installed and that all latches are closed.

b. Set the POWER switch to INT.

c. Push the TEST switch.

d. Check to see that the number 88 appears on the R-1561/USQ-42 digital display.

e. Connect the headset to the AUDIO connector.



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Figure 2-3. AB-1093/USQ-42, installation for long whip operation.

f. Push the MAN.CLR. switch.

g. Set the SQUELCH control to OFF.

h. Turn the AUDIO VOLUME control clockwise until a rushing noise is heard in the headset.

i. Set the POWER switch to OFF.

Section II. MANPACK INSTALLATION

2-7. Installation for Manpack Operation

(fig. 2-4)

a. Connect the headset to the R-1561/USQ-42 AUDIO connector.

b. Connect Antenna AS-2280/USQ-42 to the R-1561/USQ-42 ANTENNA connector.

c. Place the harness on a level surface with all straps extended.

d. Place the R-1561/USQ-42 in the metal braces of the harness, with the front panel of the unit toward the top of the harness.

e. Bring the two straps (not shown), located at the upper corners of the harness, over and through the handles of the R-1561/USQ-42. Fasten them to the buckles provided.

Note. Do not bring these straps over the R-1561/USQ-42.

f. If remote viewing of the digital display is desired in manpack operation, loosen the mounting screws on the digital display and remove it from the R-1561/USQ-42.

g. Connect one end of the digital display cable assembly to the digital display socket of the R-1561/USQ-42.

h. Connect the other end of the digital display cable assembly to the digital display.

i. Bring the two sets of retaining straps across the outside of the R-1561/USQ-42. Fasten the buckles.

2-8. Donning Harness

a. Place the harness on the user's back with the padded shoulder straps over the shoulders.

b. Connect the hooks on the front straps to the user's webbed belt.

c. Connect the hooks on the belt straps in the rear to the webbed belt.

d. Adjust the length of the shoulder straps so that the harness rides high on the shoulders.

e. Pull the retaining pins on the clips of the carrying bag up.

f. Hang the carrying bag on the slots provided in the webbing on the left side of the harness. Push down the retaining pins.

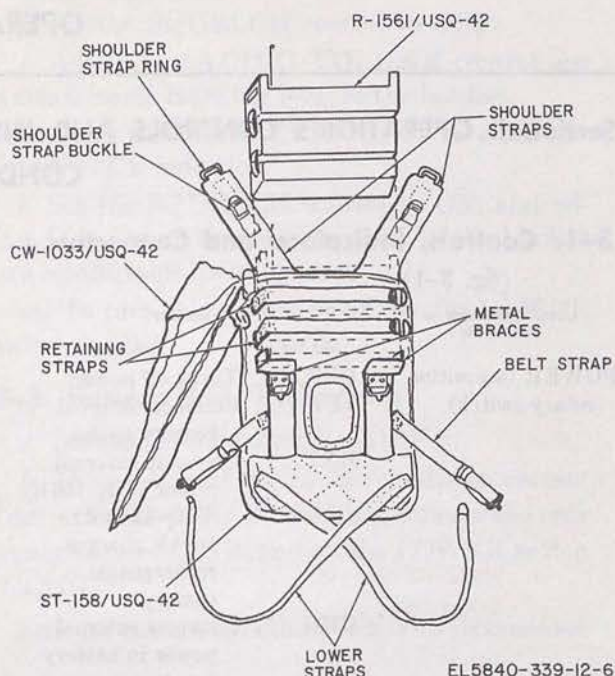


Figure 2-4. Installation of R-1561/USQ-42 in harness.

g. Bring the two lower straps on the sides of the harness under the arms. Pass the left side strap through the loop at the bottom of the carrying bag to prevent it from flapping.

h. Connect the two lower straps to the buckles on the shoulders. Pull them tight to prevent the harness from bouncing.

i. Bring the digital display under the right arm. Temporarily put it in the right shirt pocket.

j. Put on the headset.

k. If a personal pack is carried, hang it from the hooks on the metal braces.

2-9. Siting Instructions

The AN/USQ-42 is a sensitive receiver, but operates at high frequencies; therefore, the location of the equipment greatly affects the incoming signal strength. Normally, line-of-sight range can be expected; that is, if the transmitters are not behind hills or other obstructions, satisfactory reception is probable. Valleys or other low places are not good sites. Location on a hilltop or on top of a building will increase the operating range.

CHAPTER 3

OPERATION

Section I. OPERATOR'S CONTROLS AND INSTRUMENTS AND OPERATION UNDER USUAL CONDITIONS

3-1. Controls, Indicators, and Connectors (fig. 3-1)

<i>Control, indicator, or connector</i>	<i>Sw pos</i>	<i>Function</i>
POWER (4-position rotary switch).	OFF-----	Turns off power.
	INT-----	Connects internal battery to set.
	EXT-----	Connects external power to R-1561/USQ-42 and trickle charges rechargeable battery.
	CHG-----	Connects external power to battery for charging.
ANTENNA connector.		Connects antenna to R-1561/USQ-42.
FUSES:		
VEH-----		External power fuse.
BAT-----		Internal battery fuse.
AUDIO connector		Connects headset to R-1561/USQ-42.
AUDIO VOLUME control.		Adjusts sound level in headset.
IDENTITY indicator		Displays identity number of last sensor received.
CARRIER ON indicator.		Lights while carrier signal is being received.
TEST switch-----		Tests R-1561/USQ-42 internal logic and IDENTITY indicator.

<i>Control, indicator, or connector</i>	<i>Sw pos</i>	<i>Function</i>
DIM. control-----		Varies brightness of IDENTITY and CARRIER ON displays.
MAN. CLR. switch		Clears IDENTITY indicator.
Meter-----		Indicates signal strength or battery voltage, depending on setting of SIG STR switch.
SIG STR (3-position rotary switch).		Controls indication on meter.
	<i>Sw pos</i>	<i>Meter indication</i>
	LOW----	Signal strength.
	HIGH---	Signal strength.
	BAT.	Red or green to indicate internal battery voltage.
	VOLT-AGE.	
	<i>Sw pos</i>	<i>Action</i>
CHANNEL (2 rotary switches).	0-3-----	Selects first digit of channel number.
	0-9-----	Selects second digit of channel number.
SQUELCH control-----	OFF-----	Disables squelch circuits.
	ON (variable).	Enables squelch circuits and varies squelch level.
Power connector-----		Connects 8.4 volts dc from external mounting adapter regulator to POWER switch.
Digital display cable assembly (fig. 1-1).		Permits remote viewing of the digital display during man-pack operation.

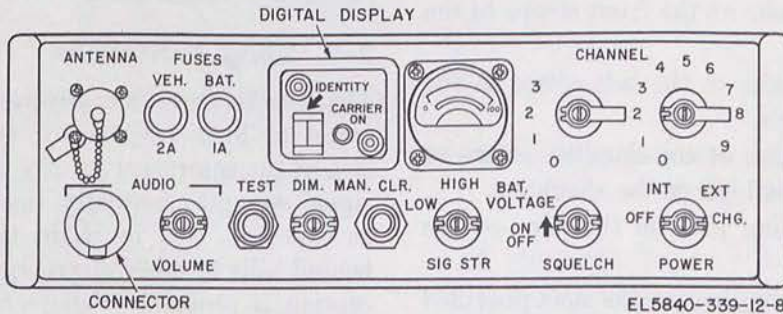


Figure 3-1. Controls, indicators, and connectors.

3-2. Operating Procedure

a. Connect the antenna to the ANTENNA connector (para 2-4 or 2-5).

b. Connect the headset to the AUDIO connector.

c. Set the POWER switch to INT.

Note. For vehicular or helicopter operation, set the POWER switch to EXT.

d. Set the SIG STR switch to BAT. VOLTAGE. If the meter indicates in the red zone, recharge the rechargeable battery pack or replace the nonrechargeable battery pack.

Note. Omit the procedure in *d* above for vehicular or airborne operation.

e. Set the SIG STR switch to LOW.

f. Set the CHANNEL switches to the assigned channel number.

g. Push the TEST switch. Check to see that the number 88 appears on the IDENTITY indicator. If the number 88 does not appear, return the unit for maintenance.

h. Adjust the DIM. control for a comfortable viewing brightness.

i. Set the SQUELCH control to OFF.

j. Adjust the AUDIO VOLUME control for a comfortable listening level in the headset.

k. Push the MAN. CLR. switch to clear the IDENTITY indicator.

l. Set the SQUELCH control to ON, and adjust it to reduce the rushing noise in the headset to a comfortable listening level.

m. To turn the equipment off, set the POWER switch to OFF.

3-3. Battery Pack Recharging

a. Set the POWER switch to OFF.

b. If a source of 24- to 32-volt direct current (dc) external power is available, connect the rear power connector to it, and set the POWER switch to CHG.

Note. The mercury cell battery pack is not rechargeable.

Section II. OPERATING UNDER UNUSUAL CONDITIONS

3-4. Recognition and Identification of Jamming

Under real or simulated tactical conditions, the unit can be jammed by the enemy. Jamming is easily done by transmission of a strong signal on the same frequency, making it difficult or impossible to hear the desired signal. Unusual noises or strong interference heard on the R-1561/USQ-42 may be enemy jamming, signals from a friendly station, noise from a local source, or a defective R-1561/USQ-42. To determine whether or not the noise is originating in the R-1561/USQ-42, disconnect the antenna. If the noise continues, the R-1561/USQ-42 is defective.

3-5. Antijamming Procedures

When jamming of a channel is first noticed, notify the superior officer immediately and continue to operate the equipment. To obtain maximum intelligibility of jammed signals, follow the procedures in *a* and *b* below.

a. Relocate the equipment so that nearby obstructions act as a screen in the direction of probable sites of enemy jamming transmitters. If possible, try several different locations within the designated area and stay at the one where jamming is minimum.

b. Vary the AUDIO VOLUME control. The level of the desired signal may possibly be raised enough to be distinguished from the jamming signal.

CHAPTER 4

OPERATOR'S MAINTENANCE INSTRUCTIONS

Section I. GENERAL REQUIREMENTS

4-1. Scope of Operator's Maintenance

The maintenance duties assigned to the operator of the AN/USQ-42 are listed below, together with a reference to the paragraphs covering the specific maintenance functions. The duties assigned do not require tools or test equipment.

- a. Preventive maintenance (paras 4-5 and 4-6).
- b. Cleaning (para 4-7)

c. Visual inspection (para 4-8).

d. Operational check (para 4-9).

4-2. Tools, Materials, and Test Equipment

Running spares supplied with or issued for use with the AN/USQ-42 are listed in appendix B. The maintenance duties assigned to the operator do not require any tools or test equipment; however, a lint-free cloth (FSN 8305-170-5062) is required.

Section II. PREVENTIVE MAINTENANCE

4-3. Operator's Preventive Maintenance

Preventive maintenance is the systematic care, servicing, and inspection of equipment to prevent the occurrence of trouble, to reduce downtime, and to assure that the equipment is serviceable.

a. *Systematic Care.* The procedures given in paragraphs 4-4, 4-5, and 4-6 cover the systematic care essential to proper upkeep and operation of the equipment. The cleaning operations (para 4-7) should be performed once a day. If the equipment is not used daily, the cleaning operations must be performed before operation of the equipment after any shutdown or once a week while the equipment is kept in standby condition. The other items must be checked before the equipment is placed in operation after a shutdown, during operation, or after it is turned off, as specified in the applicable paragraph.

b. *Preventive Maintenance Checks and Services.* The preventive maintenance checks and services charts (paras 4-5 and 4-6) outline inspections to be made at specific intervals. These inspections are made to determine whether the equipment is in good general (physical) condition and in good operating condition. To assist operators in maintain-

ing combat serviceability, the charts indicate what to inspect, how to inspect, and what the normal conditions are; the *References* column lists the paragraph or figure that contains additional information. If the defect cannot be remedied by the operator, higher category maintenance or repair is required. Records of these inspections must be made in accordance with TM 38-750.

4-4. Preventive Maintenance Checks and Services Periods

a. Preventive maintenance checks and services of the equipment are required on a daily and weekly basis. Paragraphs 4-5 and 4-6 specify the items to be inspected and serviced. In addition to the routine services and inspection, the equipment should be reinspected and serviced immediately before going on a mission and as soon after the completion of the mission as possible.

b. Paragraph 4-6 specifies the preventive maintenance checks and services that must be performed once each week. If the equipment is being maintained in a standby condition, the daily (para 4-5) and the weekly (para 4-6) checks and services should be accomplished at the same time.

4-5. Operator's Daily Preventive Maintenance Checks and Services Chart

Sequence No.	Item to be inspected	Procedure	References
1	AN/USQ-42	<p>a. Check for completeness.</p> <p>b. Check to see that equipment is clean, dry, and free of grease, dirt, and mildew.</p> <p>c. Check to see that painted surfaces are free of bare spots and corrosion.</p>	<p>a. Appx B.</p> <p>b. Para 4-7.</p> <p>c. Report to higher category of maintenance.</p>
2	Operational	Perform the steps given in the checklist. Normal indications listed in the checklist are obtained.	Para 4-9.
3	Controls	Controls work smoothly, are tight on their shafts, and do not bind.	Report to higher category of maintenance.
4	Battery pack	Battery pack is free of leakage or corrosion and is fully charged. Remove battery pack when equipment is not to be used for 1 or more days.	Reverse the installation procedure in para 2-3.

4-6. Operator's Weekly Preventive Maintenance Checks and Services Chart

Sequence No.	Item to be inspected	Procedure	References
1	Headset	Check to see that cord is free of cuts, fraying, kinks, and broken insulation.	Report to higher category of maintenance.
2	Canvas items	Check to see that canvas items are free of mildew tears.	Para 4-7.
3	Antennas	Check to see that antennas are free of damage, loose fit, and dirt.	<p>a. Para 4-7.</p> <p>b. Report to higher category of maintenance.</p>

4-7. Cleaning

a. Remove dust and other loose dirt with a clean, soft cloth.

Warning: Prolonged breathing of cleaning compound is dangerous; make certain that adequate ventilation is provided. Cleaning compound is flammable; do not use near a flame. Avoid contact with the skin; wash off any that spills on your hands.

b. Remove grease and ground-in dirt from the case; use a cloth dampened (not wet) with Cleaning Compound (FSN 7930-395-9542).

c. Remove dust and other dirt from plugs and receptacles.

d. Clean the panel and control knobs; use a soft, clean cloth. If dirt is difficult to remove, dampen the cloth with mild soap and water.

e. Clean mildewed fabric items by scrubbing with a dry, stiff brush. If water is necessary to remove dirt, it must not be used until all mildew has been removed.

f. Remove oil and grease from fabric items by scrubbing with soap and warm water. Rinse well with clear water, and allow to dry thoroughly.

Section III. OPERATOR'S TROUBLESHOOTING

4-8. Maintenance Instructions

a. When the equipment fails to operate properly, turn the POWER switch to OFF and check the following items:

(1) The headset or antenna for loose connection (para 2-6).

(2) The battery pack for being too weak to operate the R-1561/USQ-42; check by setting the SIG STR switch to BAT. VOLTAGE; the meter should indicate in the green zone.

b. If the checks in a above do not locate the trouble, proceed to the operator's troubleshooting chart (para 4-9).

4-9. Operator's Troubleshooting Chart

a. *General.* The operator's troubleshooting chart will help the operator locate the trouble quickly. Use the corrective measures to repair the equipment. If the measures suggested do not restore normal operation, troubleshooting is required at a higher maintenance category. Note on the proper form what corrective measures were taken and how the equipment performed at the time of failure.

b. *Procedure.* Connect the headset to the AUDIO connector, and install an antenna (para 2-4). Perform the steps given in c below in the order given. Observe the operation of the R-1561/USQ-42, and perform any corrective measure given.

c. Checklist.

<i>Step</i>	<i>Action</i>	<i>Normal indication</i>	<i>Corrective measure</i>
1	Set POWER switch to INT.		
2	Depress TEST switch.	Number 88 appears on IDENTITY indicator.	Organizational maintenance is required.
3	Set SQUELCH switch to OFF. Adjust AUDIO VOLUME control.	Rushing noise is heard in headset and is adjustable with AUDIO VOLUME control.	Organizational maintenance is required.
4	Set SQUELCH switch to ON, and vary control.	Rushing noise is reduced in headset. Level variable with SQUELCH control.	Organizational maintenance is required.

CHAPTER 5

ORGANIZATIONAL MAINTENANCE INSTRUCTIONS

5-1. Scope of Organizational Maintenance

Paragraphs 5-2 through 5-8 cover organizational maintenance of Radio Frequency Monitor Set AN/USQ-42, including instructions for performing preventive maintenance, to be accomplished by the organizational repairman.

5-2. Tools, Materials, and Test Equipment Required

a. A small screwdriver (FSN 5120-277-9491) is required to remove front panel switches.

b. The following materials are required:

(1) Cleaning Compound (FSN 7930-395-9542).

(2) Cleaning cloth (FSN 8305-170-5062).

(3) Fine sandpaper.

c. The maintenance duties assigned to the organizational maintenance man do not require any test equipment.

5-3. Preventive Maintenance

a. Preventive maintenance is the systematic care, inspection, and servicing of the equipment to maintain it in serviceable condition, prevent breakdowns, and assure maximum operational capability. Preventive maintenance is the responsibility of all categories of maintenance concerned with the equipment and includes the inspection,

testing, and repair or replacement of parts, sub-assemblies, or units that inspection and tests indicate would probably fail before the next scheduled periodic service. Preventive maintenance checks and services of the equipment at organizational maintenance are made at quarterly intervals unless otherwise directed by the commanding officer.

b. Maintenance forms and records to be used and maintained on the equipment are specified in TM 38-750.

5-4. Quarterly Preventive Maintenance

Quarterly preventive maintenance on the equipment will be scheduled in accordance with the requirements of TM 38-750. All deficiencies or shortcomings will be recorded, and those not corrected during the inspection and service will be immediately reported to higher maintenance categories by forms and procedures specified in TM 38-750. Equipment with a deficiency that cannot be corrected by organizational maintenance should be deadlined in accordance with TM 38-750. Perform all the services listed in the quarterly preventive maintenance checks and services chart (para 5-5) in the sequence listed. Whenever a normal condition or result is not observed, take corrective action in accordance with the paragraph or manual listed under the *References* column.

5-5. Organizational Quarterly Preventive Maintenance Checks and Services Chart

Sequence No.	Item to be inspected	Procedure	References
1	Publications.....	a. Check to see that all publications are complete and in usable condition. b. Check to see that all changes pertinent to the equipment are on hand.	a. App B. b. DA Pam 310-4.
2	Modification work orders.	Check to see that all URGENT MWO's have been applied to the equipment and all NORMAL MWO's have been scheduled.	DA Pam 310-7.
3	Operation.....	Check to see that normal indications listed in the checklist are obtained.	Para 5-7.

5-6. Repainting and Refinishing Instructions

a. If bare spots or corroded areas are present on the case of the AN/USQ-42, repainting is required.

b. Refer to SB 11-573 for information regarding paint to be used.

Caution: Be careful to keep paint out of all connectors and connector threads.

c. Repaint and refinish in accordance with TB SIG 364.

5-7. Equipment Performance Checklist

a. *General.* The equipment performance check-

c. *Checklist.*

Step	Action	Normal indication	Corrective measures
1	Install AS-2280/USQ-42 antenna.....		
2	Set POWER switch to INT.....		
3	Depress TEST switch.....	Number 88 appears in IDENTITY indicator.	a. Replace digital display if test tone is heard in headset. b. Direct support category repair is required.
4	Depress MAN. CLR. switch.....	IDENTITY indicator goes blank.....	Direct support category repair is required.
5	a. Set SQUELCH switch to OFF... b. Vary AUDIO VOLUME control...	a. Rushing noise is heard in headset... b. Loudness is variable with AUDIO VOLUME control.	a. Check headset by substitution. b. Direct support category repair is required.
6	Set SQUELCH switch to ON, and vary control.	Rushing noise is reduced and can be varied with SQUELCH control.	Direct support category repair is required.
7	Set up nearby sensor. Set CHANNEL switch to sensor operating channel. Activate sensor.	a. CARRIER ON lamp lights..... b. Sensor identity number appears in R-1561/USQ-42 IDENTITY indicator. c. Audio signal transmitted by sensor is heard loud and clear in headset.	a. Replace CARRIER ON lamp. b. Direct support category maintenance is required. c. Direct support category maintenance is required.

Note. Do not perform this test if radio silence conditions are in effect.

5-8. Replacement of Parts

Parts replacement at the organizational maintenance category is limited to fuses, lamps, and control knobs.

a. *Fuse Replacement.* The fuses are contained in standard fuseholders and are removed by twisting in a counterclockwise direction.

list contains procedures for systematically checking performance. All corrective measures that the organizational maintenance personnel can perform are given in the *Corrective measures* column. If the corrective measure does not repair the equipment, troubleshooting is required by higher category of maintenance. Note on the appropriate form how the equipment performed and what corrective measures were taken.

b. *Procedures.* Check the performance of the equipment as outlined in the checklist below. Start at the beginning, and follow each step in the order given.

b. *Lamp Replacement.* The CARRIER ON indicator lamp is removed by turning in a counterclockwise direction.

c. *Control Knob Replacement.* Control knobs are removed with a screwdriver by unscrewing the holding screw in a counterclockwise direction.

CHAPTER 6

SHIPMENT AND LIMITED STORAGE AND DEMOLITION TO PREVENT ENEMY USE

Section I. SHIPMENT AND LIMITED STORAGE

6-1. Disassembly of Equipment

a. Disconnect the antenna that is used from the ANTENNA connector.

b. Disconnect the headset from the AUDIO connector.

c. If the digital display cable assembly is being used, remove the cable and replace the digital display in the R-1561/USQ-42.

d. Store the remote readout cable in the CW-1033/USQ-42.

e. Remove the battery pack from the battery pack cover.

f. Refasten the battery pack cover on the R-1561/USQ-42.

g. Store the antennas in the CW-1033/USQ-42.

6-2. Repackaging

Repackaging of equipment for shipment or limited storage normally will be performed at a packaging facility or by a repackaging team. If emergency packaging is required, select the materials from those listed in SB 38-100. Package the equipment in accordance with the original packaging as nearly as possible with the available materials.

Section II. DEMOLITION OF MATERIEL TO PREVENT ENEMY USE

6-3. Authority for Demolition

Demolition of the equipment will be accomplished only upon the order of the commander. Use the destruction procedures outlined in paragraph 6-4 to prevent further use of the equipment.

6-4. Methods of Destruction

Use any of the following methods to destroy the equipment:

a. Smash. Smash the controls, tubes, coils, switches, capacitors, transformers, and meter; use sledges, axes, handaxes, hammers, or crowbars.

b. Cut. Cut the output and power cord and slash the rf shield; use axes, handaxes, or machetes.

Warning: Be extremely careful with explosives and incendiary devices. Use these items only when the need is urgent.

c. Burn. Burn the cords and technical manuals; use gasoline, kerosene, oil, flamethrowers, or incendiary grenades.

d. Bend. Bend the panel and case.

e. Explode. If explosives are necessary, use firearms, grenades, or TNT.

f. Dispose. Bury or scatter the destroyed parts in slit trenches or foxholes, or throw them into nearby streams.

6-5. Priorities for Destruction

The following order of priority should be followed for demolition of the AN/USQ-42:

a. Monitor, Radio Frequency R-1561/USQ-42.

b. Antenna AS-2280/USQ-42.

c. Base, Antenna AB-1093/USQ-42.

d. Spare parts.

e. Accessory items.

f. Technical manuals.

6-6. Reporting of Destruction

Reporting the destruction of equipment will be done through command channels.

APPENDIX A

REFERENCES

Following is a list of applicable references available to the operator and organizational repairman of Radio Frequency Monitor Set AN/USQ-42:

- | | | | |
|-------------------|--|-----------------|--|
| DA Pam 310-4----- | Index of Technical Manuals, Technical Bulletins, Supply Manuals (types 7, 8, and 9), Supply Bulletins, and Lubrication Orders. | SB 38-100----- | Preservation, Packaging and Packing Materials, Supplies, and Equipment Used by the Army. |
| DA Pam 310-7----- | U.S. Army Equipment Index of Modification Work Orders. | TB SIG 364----- | Field Instructions for Painting and Preserving Electronics Command Equipment. |
| SB 11-573----- | Painting and Preservation Supplies Available for | TM 38-750----- | Army Equipment Record Procedures. |

Field Use for Electronics Command Equipment.

APPENDIX B

BASIC ISSUE ITEMS

Section I. INTRODUCTION

B-1. Scope

This appendix lists items comprising an operable equipment and those required for installation, operation, or operator's maintenance for Radio Frequency Monitor Set AN/USQ-42.

B-2. Explanation of Columns

The following is a list of explanations of columns in section II.

a. Source, Maintenance, and Recoverability Codes (SMR) Column.

(1) *Source code (S).* Not used.

(2) *Maintenance code (M).* The lowest category of maintenance authorized to install the item is indicated by the second code in the column. The maintenance category code and its explanation is:

Code	Explanation
C-----	Operator/Crew

(3) *Recoverability code (R).* The recoverability code is the third code in the column. It indicates whether unserviceable items should be returned for recovery or salvage. Recoverability code and its explanation is as follows:

Note. When no code is indicated in the recoverability column, the part will be considered expendable.

Code	Explanation
R-----	Applies to repair parts and assemblies that are economically repairable at DSU and GSU activities and are normally furnished by supply on an exchange basis.

b. Federal Stock Number Column. This column indicates the Federal stock number for the item.

c. Description Column. This column includes the Federal item name and any additional description of the item which may be required. A part number or other reference number is followed by the ap-

plicable five-digit Federal Supply Code for Manufacturers. Usable on code column is not used.

d. Unit of Issue Column. The unit used as a basis of issue (e.g., ea, pr, ft, yd, etc.) is given in this column.

e. Quantity Incorporated in Unit Pack Column. Not used.

f. Quantity Incorporated in Unit Column. The total quantity of the item used in the equipment is given in this column.

g. Quantity Furnished with Equipment Column. This column lists the quantity of the item supplied for initial operation of the equipment and/or the quantities authorized to be kept on hand by the operator for maintenance of the equipment. An asterisk (*) indicates that the item may be requisitioned as required.

h. Quantity Authorized Column. Not used.

i. Illustrations Column.

(1) *Figure number (a).* The number of the illustration on which the item is shown is indicated in this column.

(2) *Item No. or reference designation (b).* Not used.

B-3. Batteries

Dry batteries shown are used with the equipment but are not considered part of the equipment. They will not be preshipped automatically but are to be requisitioned in quantities necessary for the particular organization in accordance with SB 11-6.

B-4. Federal Supply Codes

This paragraph lists the Federal supply code with the associated manufacturer's name.

Code	Manufacturer's Name
10412-----	Resdel Engineering Corp.
27697-----	Western Indicator Co., Inc.
71400-----	Bussman Mfg., Division of McGraw-Edison Co.