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# TM 11-893

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

*TM 11-893*

HANDBOOK

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OF  
OPERATING and MAINTENANCE  
INSTRUCTIONS  
FOR

AN ART-4(XA-3)

AN ART-4(XA-4)

RADIO TRANSMITTING  
EQUIPMENT

DEPARTMENT OF THE ARMY • MARCH 1948

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AN ART - 4(XA-3)  
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RADIO TRANSMITTING  
EQUIPMENT

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DEPARTMENT OF THE ARMY

• MARCH 1948

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*United States Government Printing Office*

*Washington : 1948*

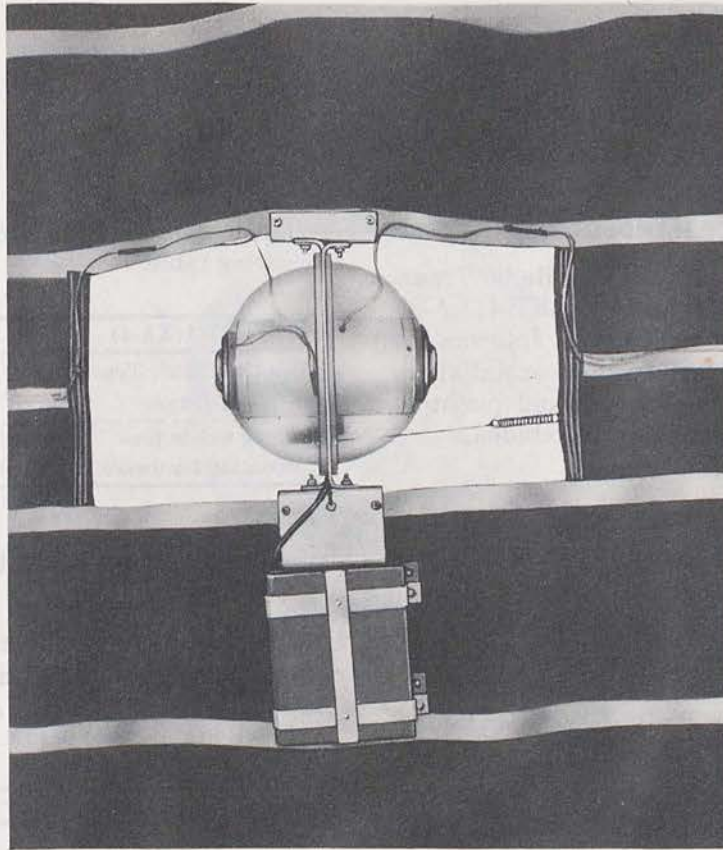
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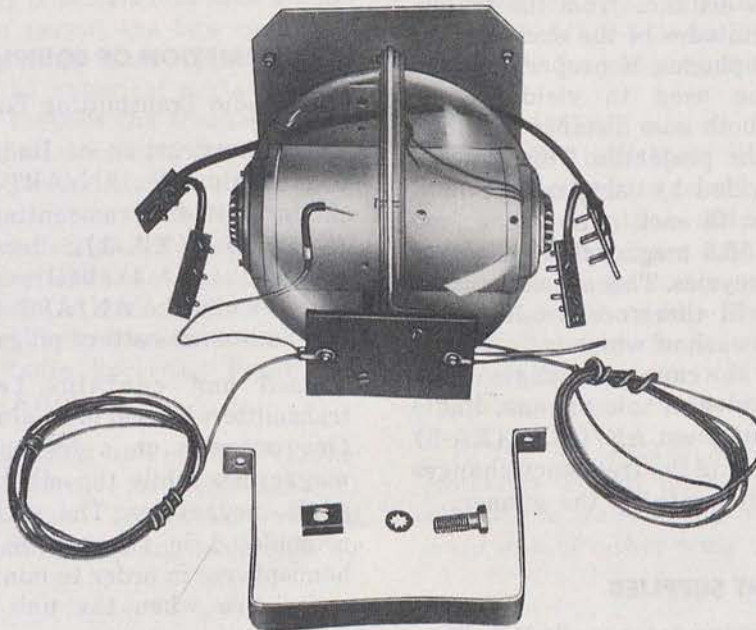
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**Figure 1. Radio Transmitting Equipment AN/ART-4(XA-4)—Complete and Installed**



**Figure 2. Radio Transmitting Equipment AN/ART-4(XA-3)—Complete**

## SECTION I. GENERAL DESCRIPTION

### 1. PURPOSE OF HANDBOOK

This handbook describes Radio Transmitting Equipment AN/ART-4(XA-3) and AN/ART-4(XA-4). Information concerning the operation, installation, adjustment, minor repair and maintenance of the equipment is included.

### 2. FUNCTION OF EQUIPMENT

Radio Transmitting Equipment AN/ART-4(XA-3) & AN/ART-4(XA-4) constitutes the transmitting portion of the Firing Error Indicator and are to be used and operated in conjunction with Firing Error Indicator Radio Receiving Equipment AN/GRR-1(XA-2).

These transmitters emit frequency modulated signals produced by shockwaves, from passing projectiles, impinging on two condenser microphones MI-101. Owing to the characteristic variation of the intensity of shockwave pressure with distance from the trajectory, the magnitudes of the excitation of the two microphones, if properly identified, may be used to yield signals indicative of both miss distance and miss direction of the projectile. This identification is provided by using independent transmitters with each microphone, one operating at 55.5 megacycles, the other at 56.75 megacycles. This acoustic target transmitter will therefore produce two carrier waves each of which is frequency modulated by the capacity changes of the respective condenser microphone. Radio Receiving Equipment AN/GRR-1(XA-2) will then translate the frequency changes into indications useful to the gunner.

### 3. EQUIPMENT SUPPLIED

All the Equipment supplied is illus-

trated in figures 1, 2, and listed in the following table.

AN/ART-4(XA-4)	AN/ART-4(XA-3)
A-6a Red Plastic Type Tow Target	ANTENNAS
Flag weight plus Mounting Hardware	Mounting hardware for complete installation

### 4. EQUIPMENT REQUIRED BUT NOT SUPPLIED

Equipment required but not supplied with Radio Transmitting Equipment AN/ART-4(XA-3) & AN/ART-4(XA-4) is shown in the table below.

AN/ART-4(XA-4)	AN/ART-4(XA-3)
Two Battery BA-49	Four Battery BA-49
	Mark 1 Model 1 Navy Type Towed Glider

### 5. DESCRIPTION OF EQUIPMENT

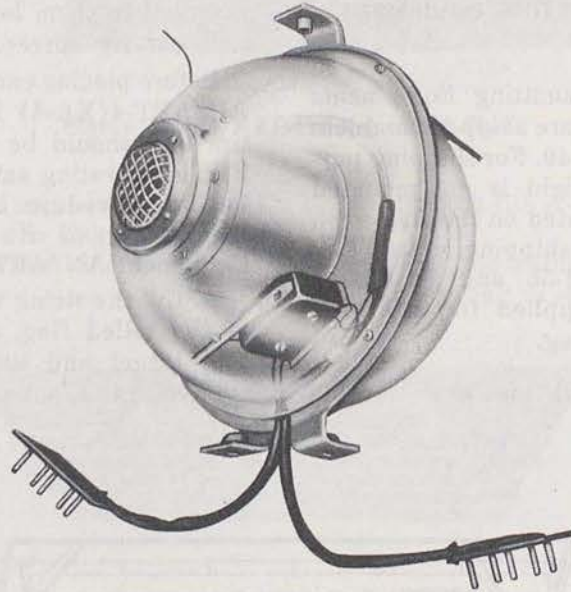
#### A. Radio Transmitting Equipment:

The construction of Radio Transmitting Equipment AN/ART-4(XA-4) is similar to Radio Transmitting Equipment AN/ART-4(XA-3), however the AN/ART-4(XA-4) utilizes a micro-switch while the AN/ART-4(XA-3) has two additional battery plugs.

Each unit contains two identical transmitters housed in an aluminum tube. One operates on a frequency of 55.5 megacycles while the other operates at 56.75 megacycles. The entire assembly is enclosed in two plastic transparent hemispheres in order to minimize the air turbulence when the unit is towed in flight.

The Radio Transmitting Equipment AN/ART-4(XA-4) & AN/ART-4(XA-3)

are shown in figures 3 and 2. As shown, the plastic spherical case has two



**Figure 3. Radio Transmitting Equipment AN/ART-4(XA-4) Not Mounted**

diametrically opposed openings over which are mounted protective screens. The assembly is designed in such a manner so as to permit the two condenser type microphones to fit approximately flush with the spherical surface. Each microphone controls the frequency of a radio oscillator circuit so that the shift away from the undisturbed carrier frequency is a measure of the microphone diaphragm deflection. Each microphone thus frequency modulates a separate and distinct channel of radio communication between the Radio Transmitting Equipment and Radio Receiving Equipment AN/GRR-1(XA-2).

The transmitting unit of Radio Transmitting Equipment AN/ART-4(XA-4) obtains its power from two external batteries enabling this unit to operate for

a period of approximately two hours.

Four external batteries furnish power to the transmitter of AN/ART-4(XA-3) which will permit it to operate for about four hours.

#### B. Antenna:

Each transmitter delivers radio-frequency energy to an end-fed half-wave antenna. In the AN/ART-4(XA-4) model, the Antennas are positioned on the inside of the cotton webbing which runs down the middle of the flag. The low frequency antenna is ahead of the Transmitter Unit while the high-frequency antenna is toward the rear.

In the AN/ART-4(XA-3) model the Antennas extend laterally from either side of the transmitting unit to the forward end of either wing tip.

## SECTION II.

### OPERATION AND INSTALLATION

#### 1. RADIO TRANSMITTING EQUIPMENT AN/ART-4(XA-4)

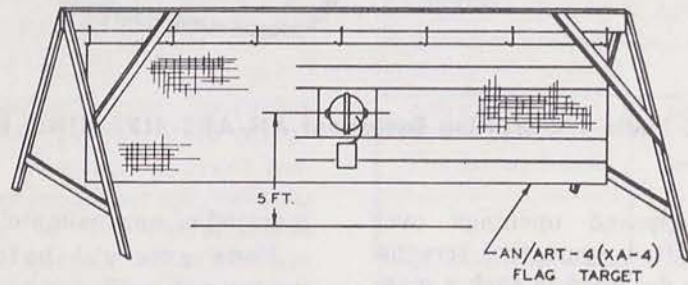
The Radio Transmitting Equipments AN/ART-4(XA-4) are shipped complete minus Batteries BA-49. For shipping purposes, the flag weight is not mounted and should be mounted on the flag upon removal from the shipping crate. Pin-Flat Head AN-394-55 and Pin-Cotter AN-380-2-2 are supplied for attaching the weight to the flag.

NOTE: Be sure all flags have weights

mounted to them before towing as they will not fly correctly without it.

Before placing each Radio Transmitter AN/ART-4(XA-4) into service, the entire unit should be tested to determine if it is operating satisfactorily. The following procedure is recommended for the testing of Radio Transmitting Equipment AN/ART-4(XA-4).

A. Cut the string which binds the ends of the rolled flag, carefully unroll the flag target and suspend it on a rack similar to that shown in figure 4.



SUGGESTED CONSTRUCTION OF WOODEN TEST RACK.  
NO METAL STRUCTURAL MEMBERS SHOULD BE USED.

**Figure 4. Flag and Rack**

If the Battery BA-49 has not been previously installed, they should be mounted at this time, one on each side of the flag in their respective battery brackets. Figure 1 shows the Battery BA-49 correctly mounted.

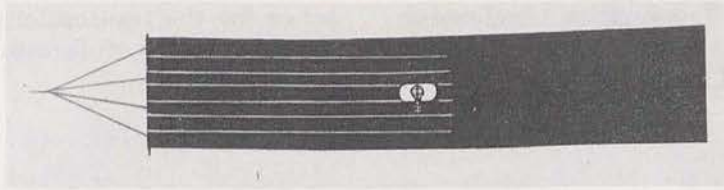
B. Test Battery BA-49 by using Test Set TS-(XA-78)/UR. Use only those batteries that test good with this set.

C. Check for proper Radio Frequency Field Strength of the Radio Transmitter

unit by using Test Set TS-(XA-78)/UR. See Instruction Book of Test Set TS-(XA-78)/UR paragraph 3-3 for proper testing procedure.

NOTE: After the transmitter has been tested, remove it as quickly as possible from the rack and relieve the tension on the switch spring. Do not allow the switch to be on unless testing the transmitter as these batteries have a limited life and should be conserved.



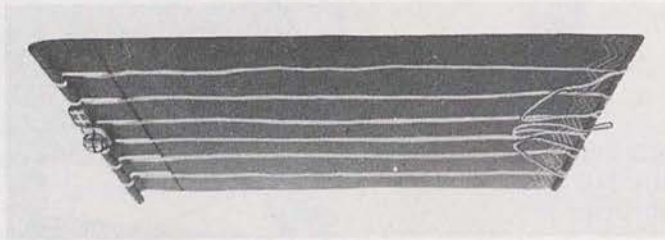


**Figure 5. AN/ART-4(XA-4) Laid Flat**

D. The following procedure is recommended in re-rolling the flag for a satisfactory unfurling when released from the Tow-Plane.

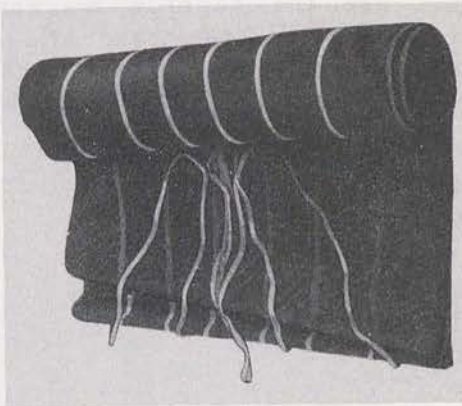
1. Stretch the A-6a Flag out flat, see figure 5.

2. Fold the trailing end over the front half of the flag as shown in figure 6.



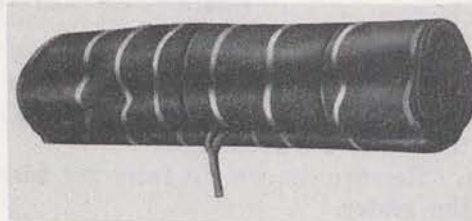
**Figure 6. AN/ART-4(XA-4) Folded for Roll**

3. Roll the flag tightly, starting at the transmitter unit, see figure 7. Be sure the switch is off and there is no tension on the switch spring.



**Figure 7. AN/ART-4(XA-4) Partially Rolled**

4. Secure each end of the finished rolled flag with a single strand of 25 pound test cotton string which is provided with each transmitting unit. See figure 8. Do not use heavier cord.



**Figure 8. AN/ART-4(XA-4) Rolled and Tied**

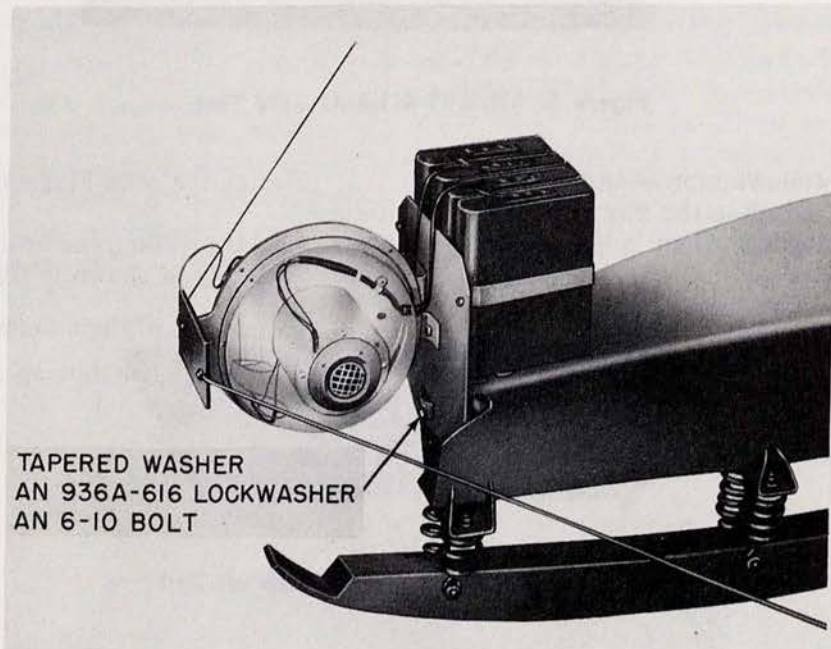
5. The flag is now ready for use and may be placed in the towing plane.

E. When releasing the flag from the Tow-Plane, use the minimum length of Tow-Cable possible, approximately 3 to 4 feet. Never toss the flag out of the Tow-Plane but slowly push it out because a sudden jerk or shock may damage the electrical components in the transmitter. Do not remove the cotton string which is tied around the flag as it will break when the target enters the slip-stream of the Tow-Plane. Slowly reel out the Tow Cable until the flag is towing between 1500 and 2000 feet from the plane.

## 2. RADIO TRANSMITTING EQUIPMENT AN/ART-4(XA-3).

The Radio Transmitting Equipment, AN/ART-4(XA-3) is to be mounted on a Mark I Model I Navy Type Towed Glider

and is shipped with mounting hardware for a complete installation. Batteries for the transmitter of AN/ART-4(XA-3), are not furnished with this equipment.

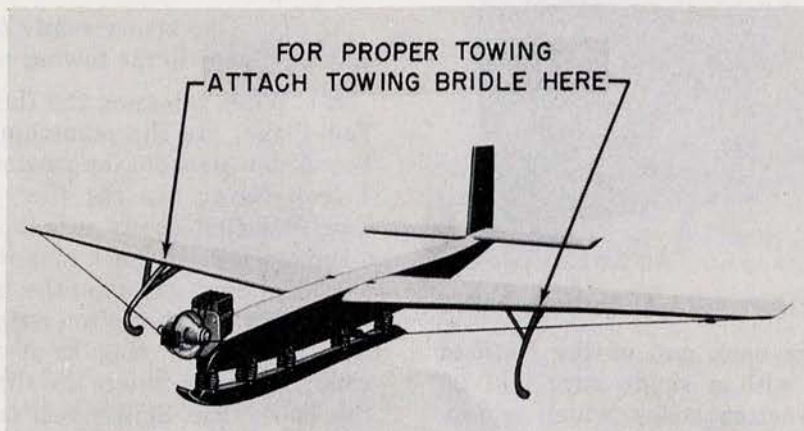


**Figure 9. AN/ART-4(XA-3) Mounted on Glider**

Procedure for mounting Radio Transmitting Equipment AN/ART-4(XA-3) on the glider are as follows:

- a. Remove the weight from the nose of the glider.
- b. As shown in figure 9, mount the

transmitter assembly to the glider. In the lower mounting hole on the mounting plate use the tapered washer, AN-936A-16 lock washer, and AN6-10 bolt provided for this purpose in the assembly. In the two side mounting holes,



**Figure 10. AN/ART-4(XA-3) Complete Glider Installation**

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use the hardware which is supplied with each glider for mounting the towing bars to the front protruding and mounting studs.

c. Attach the antenna wires to the front tip of the wings with either wood screws, eye bolts, etc. See figure 10 for complete installation.

d. Install four battery BA-49 to the rear of the mounting plate with the front edge of the batteries resting in the angle support. Bolt the Battery Strap to the mounting plate with the bolts provided for that purpose.

e. Connect the batteries to the transmitter. The battery cables on the AN/ART-4(XA-3) are terminated in four male plugs, two designated LF and two HF, to fit into the socket connection of the BA-49 batteries.

3. It may be desired to check the Transmitter Frequency and output before the glider is placed in actual operation. Testing the transmitter for power output, frequency and battery condition may be accomplished by using Test Set TS-(XA-78)/UR. See Instruction Book for Test Set TS-(XA-78)/UR and Opera-

tion Instructions provided in the cover of the Test Set TS-(XA-78)/UR.

4. For Air-to-Air firing do not tow the glider by the towing bars provided with each glider. For proper towing attach the towing bridle to the front mounting bolt that fastens the Wing Skids to the wing. The towing bars and struts must be removed as they will hinder the towing bridle when the glider is towed from this position.

Note: It is extremely desirable to use a nylon towing bridle in place of a steel cable, as a metal cable may disturb the radiation pattern of the antenna.

The wings and stabilizer should be adjusted so that when the glider is towed in flight it should fly at approximately 40 degrees below horizontal.

On take off it is recommended the tow cable be between 200 and 300 feet long, depending on the length of runway. When a safe altitude is reached, slowly reel out the tow cable until the glider is towed between 1500 and 2000 feet from the plane. When landing the glider, reel in the tow cable to approximately 80 feet and cut the cable at the exact moment when the glider first hits runway.

### SECTION III. THEORY OF OPERATION

#### 1. GENERAL

The method used in the present Firing Error Indicator to accomplish the desired results relies on the fact that projectiles, as long as their speed relative to the air-mass substantially exceeds the speed of sound, send out acoustic waves from their trajectories. The intensity of the shock-wave at a given point in air is a characteristic diminishing function of the distance of that point from the trajectory of the bullet that caused it. The Firing Error Indicator Transmitters of Radio Transmitting Equipment AN/ART-4(XA-4) and AN/ART-4(XA-3) are mounted in the airborne targets which are linked by radio to the Firing Error Indicator, Radio Receiving Equipment AN/GRR-1(XA-2) located near the fir-

ing gun. The airborne transmitters mounted in the tow-target send signals to that receiving station indicative of the intensity of the shock-waves from the bullets as they pass in the vicinity of the target. The signals picked up by the Radio Receiving Equipment AN/GRR-1(XA-2) are automatically computed into information regarding the proximity of the bullet to the target.

Since two oppositely directed microphones are used in the Radio Transmitting Equipment, information is also furnished regarding the direction of the misses. This information is only reliable under certain limitations caused by the obliquity of the shooting. Reference should be made to Figure 11.

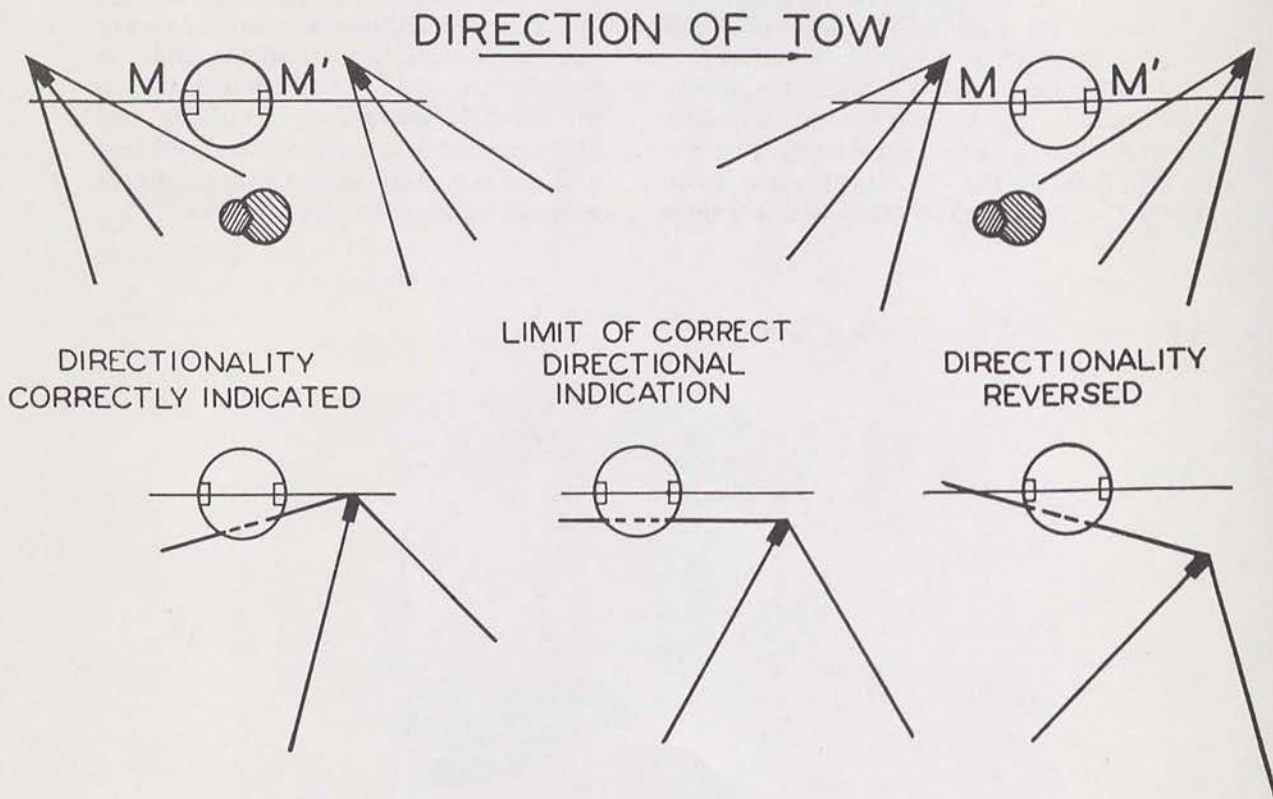


Figure 11. Limitations by Obliquity of Shooting  
(See Paragraph 3E, Section 3)

The Radio Transmitting Equipment AN/ART-4(XA-4) is mounted in the rectangular opening in the center of an A-6a flag target as shown in Figure 1. The axis through the two microphones is parallel to the direction of tow. Thus information as to whether the misses are leading or lagging the target, is automatically given.

Radio Transmitting Equipment AN/ART-4(XA-3) is to be mounted in front of a Mark 1 Model 1 Navy Type Towed Glider as shown in Figure 9. For pursuit curve training, towed gliders with the AN/ART-4(XA-3) equipment, gimballed mounted in the front center, permits different orientation of the microphone axis. Thus information as to whether misses are leading or lagging, high or low, right or left, is also automatically obtained.

With the transmitting equipment installed as indicated in the illustrations the flag target is normally used for ground-to-air firing and the glider target for air-to-air firing. If the glider targets are used for other types of firing the

transmitting equipment (axis of the two microphones) must be re-oriented so that the direction of fire is perpendicular to the axis of the microphones.

## 2. RADIO TRANSMITTING EQUIPMENT

As shown in Figure 18, the AN/ART-4(XA-4) & AN/ART-4(XA-3) Transmitters are of the Master-Oscillator-Power-Amplifier (M. O. P. A.) type, utilizing a duo-triode tube JAN-3A5 (V101). The transmitter consists of two identical units each operating on a separate frequency. A block diagram illustrating the four basic components of each unit is shown in Figure 17.

### A. MICROPHONE.

The microphone illustrated in Figure 12 is a condenser diaphragm type having a capacitance of 25 micro-microfarads. It is constructed so that it will withstand repeated application of 200 g shocks without damage or change in its characteristics. The frequency response is essentially flat from 1000 to 10,000 cycles per second.



Figure 12. Microphone Assembly

**B. MASTER-OSCILLATOR**

The tank circuit of the Master-Oscillator is directly modulated by the microphone. The frequency of this circuit is adjustable, over the range of 27.5 to 30 megacycles by means of capacitor C108. The acoustic sensitivity of the microphone is adjustable by capacitor C105, so that a frequency shift of 50.0 KC occurs in the Oscillator when a 50 gram weight is applied to the center of the diaphragm. This corresponds to a 100 KC shift in the output of the Power-Amplifier.

**C. POWER-AMPLIFIER.**

The Power-Amplifier doubler stage is adjustable over the range of 55 to 60 megacycles by means of capacitor C106. This stage will deliver a minimum of .5 watts to a 1500 ohm resistive load at any frequency within this range.

**D. ANTENNA.**

The radiating system for each transmitter consists of a half-wave end fed antenna. The high-frequency antenna is 94.5 inches long and the low-frequency antenna has a length of 96.5 inches.

**3. GENERAL OPERATION NOTES****A. RESOLVING TIME.**

The minimum permitted time interval between recorded rounds is 50 msec (1/20 seconds). This means that if more than one gun is fired, those rounds passing the target after the last round within a time interval less than 1/20 sec. will not be correctly recorded. Therefore in practice, only one .50 caliber machine gun firing automatic fire can be scored at one time without excessive error.

**B. RANGE.**

No range larger than 1500 yds. should be used for .50 caliber ammunition.

No range larger than 2000 yds. should be used for 40 mm ammunition.

**C. WEATHER CONDITION.**

This Radio Transmitting Equipment will not perform satisfactorily in rain or under icing conditions.

D. Target speeds in excess of 300 mph. are not recommended.

E. Firing may begin when the angle between the line of fire and the path of the target is approximately 30° to the right or left of 90°. Firing should cease when the angle is more than 30° beyond the 90° position of the gun.

## SECTION IV. MAINTENANCE

### 1. GENERAL

Maintenance of Radio Transmitting Equipment AN/ART-4(XA-4) and AN/ART-4(XA-3) consists only in testing the units for a satisfactory performance before they are placed in operation. Such procedures cover only minor adjustments and repairs.

### 2. TEST EQUIPMENT REQUIRED

The test equipment required is Test Set TS-(XA-78)/UR. See Instruction Book for Test Set.

### 3. ROUTINE MAINTENANCE AND TEST

The following procedure is recommended before any unit is placed in operation:

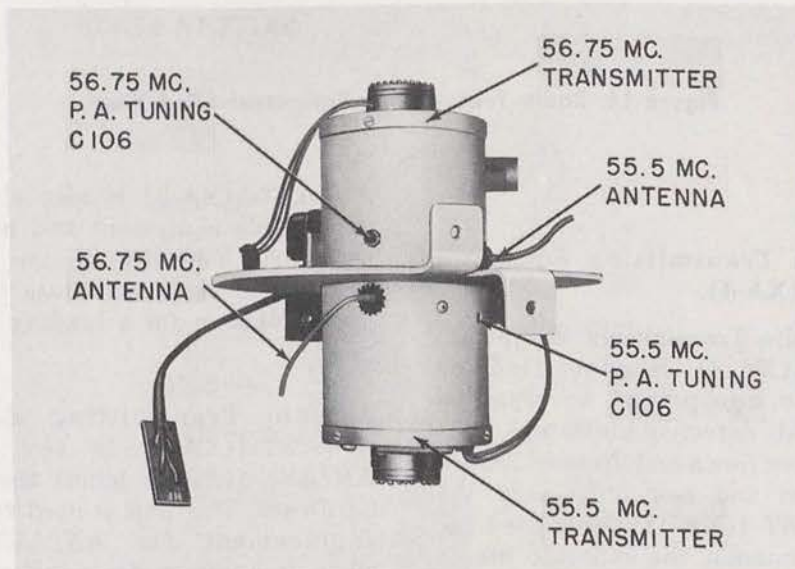
#### A. TESTING AND REPLACING BATTERIES.

Remove the cable plugs from each of the BA-49 batteries. Using Test Set TS-(XA-78)/UR plug the test cable into the battery to be tested. Turn the selector knob to EXT. BATT. TEST on the Test

Set and if the indicator lamp lights, the battery is satisfactory for operation. If the lamp fails to light, the battery should be replaced by one which checks "good."

#### B. TEST FOR RADIO-FREQUENCY OUTPUT.

Set up the Test Set TS-(XA-78)/UR on the tri-pod approximately 20 feet from the Radio Transmitting unit being tested. Plug in the batteries for the high-frequency (56.75 mc) transmitter channel. These plugs are designated HF. Turn the selector switch knob on the Test Set front panel to TARGET position. Then tune in the signal by adjusting the knob marked TUNE until the meter on the Test Set reads maximum. If the reticle of the window falls within the designated area (56.75) on the dial the transmitter is on frequency. Should this test show that the transmitter is off frequency the entire unit must be rejected.



**Figure 13, Radio Transmitting Equipment with Plastic Case Removed**

If the transmitter is on frequency adjust the output trimmer capacitor C106, see figure 13, in the transmitter

until a maximum meter reading is indicated on the Test Set meter.

The same procedure should be

followed when adjusting the Low-Frequency (55.5 mc) transmitter channel.

For detailed instructions and procedures see Section IV, Instruction Book for Test Set TS-(XA-78)/UR.

NOTE: Trimmer Capacitor C106, is the only capacitor that should ever be altered or adjusted. Under no circumstances adjust, alter or change capacitors C105 or C108, Figure 14, as special laboratory equipment is needed to make this readjustment.

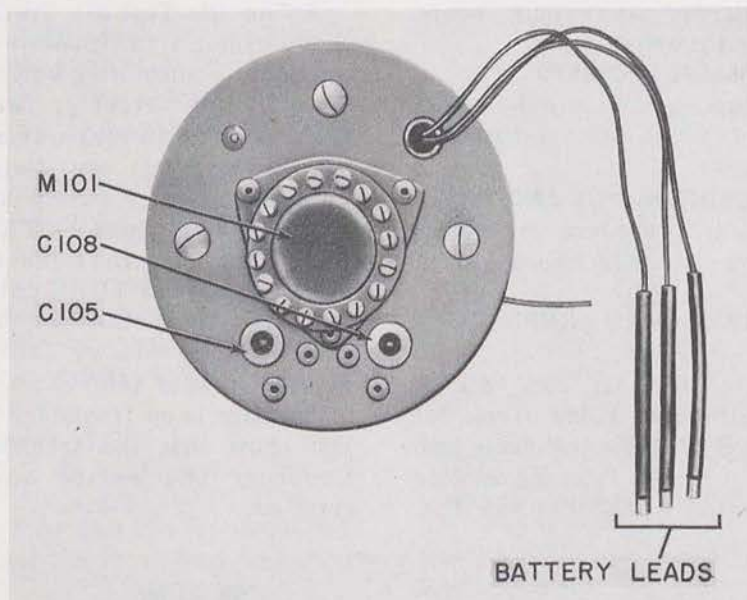


Figure 14. Radio Transmitting Equipment—End View

#### 4. REPAIR

##### A. Radio Transmitting Equipment AN/ART-4(XA-4).

Since Radio Transmitting Equipment AN/ART-4(XA-4) is classified as expendable equipment no repair is necessary. All defective units, and units that have been flown and dropped should be discarded and new units used. As each AN/ART-4(XA-4) is only used for one towing mission, the expected life of each transmitter in service is approximately only two and a half hours.

##### B. Radio Transmitting Equipment AN/ART-4(XA-3) & AN/ART-4(XA-2)

The Radio Transmitting Equipment

AN/ART-4(XA-3) is also classified as expendable equipment and no repair is necessary. The life of the AN/ART-4(XA-3) is longer because the gliders are brought in for a landing after each mission.

Radio Transmitting Equipment AN/ART-4(XA-2) is the same as AN/ART-4(XA-3) minus the mounting hardware. This unit is used for a direct replacement for AN/ART-4(XA-3) when it becomes damaged or inoperative because of service or when a unit is suspected of unreliable operation. Radio Transmitting Equipment AN/ART-4(XA-2) is illustrated in Figure 15.



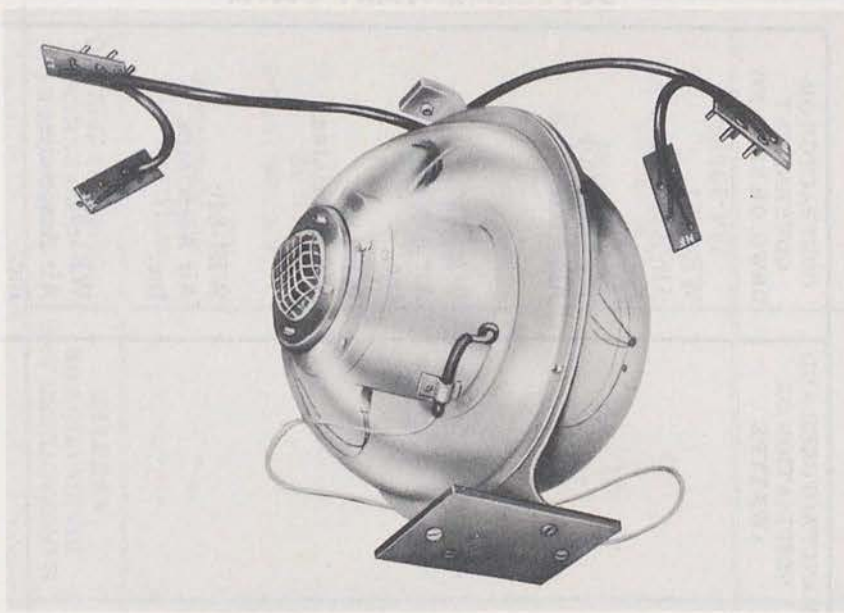


Figure 15. Radio Transmitting Equipment AN/ART-4(XA-2)

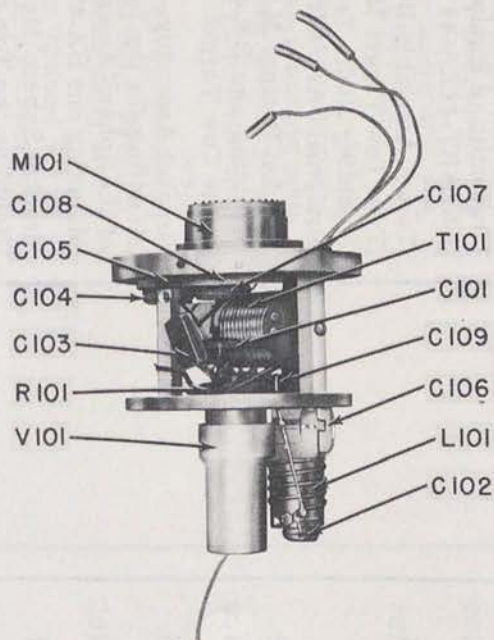


Figure 16. Radio Transmitting Equipment—Removed from Case—Side View

## SECTION V. TABLE OF REPLACEABLE PARTS

### Radio Transmitting Equipment Model AN/ART-4(XA-4)

REFERENCE SYMBOL	ARMY STOCK NO. NAVY STOCK NO.	NAME OF PART AND DESCRIPTION	MANUFACTURER AND DESIGNATION OR AWS TYPE	CONTRACTOR OR GOVERNMENT DRWG. OR SPEC. NO.
A-101		Sphere Assembly for Radio Transmitting Equipment AN/ART-4(XA-4)		WR4-861 Air Associates, Inc.
A-102		Target Assembly-Red plastic Type Tow Target Modified for Mounting Radio Transmitting Equipment AN/ART-4(XA-4)		WR4-552 Air Associates, Inc.
A-103		Bracket-Battery Mount for Mounting one BA-49 Battery to the Tow Target		WR3-857 Air Associates, Inc.
A-104		Bracket Assembly—Main Mounting for the lower end of the Sphere Assembly and Mounting one BA-49 Battery		WR3-856 Air Associates, Inc.
A-105		Bracket-Sphere Mounting for Mounting the Top end of the Sphere Assembly to the Tow Target		WR1-840 Air Associates, Inc.
A-105		Strap C an Aluminum Strap Mounted on the Opposite Side of A-104 to Keep Rivets from Pulling Through the Tow Target		WR1-839 Air Associates, Inc.

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 SECTION V.  
 SUPPLEMENTARY DATA

## SECTION V. TABLE OF REPLACEABLE PARTS

### Radio Transmitting Equipment Model AN/ART-4(XA-4)

REFERENCE SYMBOL	ARMY STOCK NO. NAVY STOCK NO.	NAME OF PART AND DESCRIPTION	MANUFACTURER AND DESIGNATION OR AWS TYPE	CONTRACTOR OR GOVERNMENT DRWG. OR SPEC. NO.
H-101		Spring—Steel spring $3\frac{3}{8}$ " O.D. extended tension $1\frac{1}{4}$ to $13\frac{3}{4}$ pounds, $2\frac{5}{8}$ " long		WR1-842 Air Associates, Inc.
H-102		Screw Truss head machine screw $\frac{1}{2}$ " long. Four required for holding 2 BA-49 batteries in place		AN-526-1032-8 AN-S-52
H-103		Bolt—Steel bolt $2\frac{1}{32}$ " long, 10-32 thread. Four required to hold Sphere Assembly to the mounting brackets 3-103 and A-104		AN-3-5A AN-B-3
H-104		Pin—Cotter $\frac{1}{2}$ " long for holding H-105 in place		AN-380-2-2 FF-P-386
H-105		Pin—Flathead $1\frac{59}{64}$ " long to hold weight to tow target.		AN-394-55 AN-P-33
H-106		Weight—3 pound weight to attach to front bottom of Tow Target		43A-19669
W-101		Antenna—#16 AWG $98\frac{1}{2}$ " long—low frequency antenna		
W-102		Antenna—#16 AWG $96\frac{1}{2}$ " long—high frequency antenna		

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## SECTION V. TABLE OF REPLACEABLE PARTS

## Radio Transmitting Equipment Model AN/ART-4(XA-3)

REFERENCE SYMBOL	ARMY STOCK NO. NAVY STOCK NO.	NAME OF PART AND DESCRIPTION	MANUFACTURER AND DESIGNATION OR AWS TYPE	CONTRACTOR OR GOVERNMENT DRWG. OR SPEC. NO.
		Sphere Assembly—Radio Transmitting Equipment minus mounting hardware—same as AN/ART-4(XA-2)		WR4-864 Air Associates, Inc.
A-101		Strap—Battery Strap for holding BA-49 batteries to A-102		WR1-1376 Air Associates, Inc.
A-102		Main Mount Assembly—mounts Sphere Assembly to Glider and 4 BA-49 batteries on back side		WR2-1378 Air Associates, Inc.
A-103		Plate—Antenna plate—provides attachment for antennas and is mounted on front of Sphere Assembly—made of 3/16 phenolic sheet		WR1-1374 Air Associates, Inc.
E-101		Insulator—2 required, Johnson No. 30, 2" strain insulator—mounted at the ends of the antennas.		
H-101		Lockwasher—Internal teeth, for 3/8" bolt, mounted between H-103 and H-104		AN-936-A616

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## SECTION V. TABLE OF REPLACEABLE PARTS

### Radio Transmitting Equipment Model AN/ART-4(XA-3)

REFERENCE SYMBOL	ARMY STOCK NO. NAVY STOCK NO.	NAME OF PART AND DESCRIPTION	MANUFACTURER AND DESIGNATION OR AWS TYPE	CONTRACTOR OR GOVERNMENT DRWG. OR SPEC. NO.
H-102		Screw-2, Binder Head 10-32 x 7/16. for mounting A-101 to A-102		
H-103		Washer—Tapered washer, square aluminum tapered washer for mounting H-104 to bottom mounting hole on the glider.		WR1-1379 Air Associates, Inc.
H-104		Bolt—(3/8-24) 1-5/64" long, for mounting A-102 to glider		AN-6-10 AN-B-3
H-105		Screw—100 degree Flat Head machine screw—10-32 thread 1/2" long for mounting the Sphere Assembly to the mounting plate A-102		AN-507-1032-8 AN-S-52
H-106		Screw 2—100 degrees Flat Head machine screw—10-32 thread 1/2" long for mounting Plate-Antenna A-103 to front of Sphere Assembly		AN-507-1032-8 AN-S-52

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## SECTION V. TABLE OF REPLACEABLE PARTS

## Radio Transmitting Equipment Model AN/ART-4(XA-3)

REFERENCE SYMBOL	ARMY STOCK NO. NAVY STOCK NO.	NAME OF PART AND DESCRIPTION	MANUFACTURER AND DESIGNATION OR AWS TYPE	CONTRACTOR OR GOVERNMENT DRWG. OR SPEC. NO.
H-107		Screw—2 Binder head machine screw, 10-32 thread, 7/16" long —for attaching the Antennas to the Antenna plate A-103.		
H-108		Nut-2—Light Hexagon (Fine thread) 10-32 thread—fo: attachment to H-107		AN-345-10 FF-S-91
W-101		Antenna—2 required 18 AWG, 95" long.		

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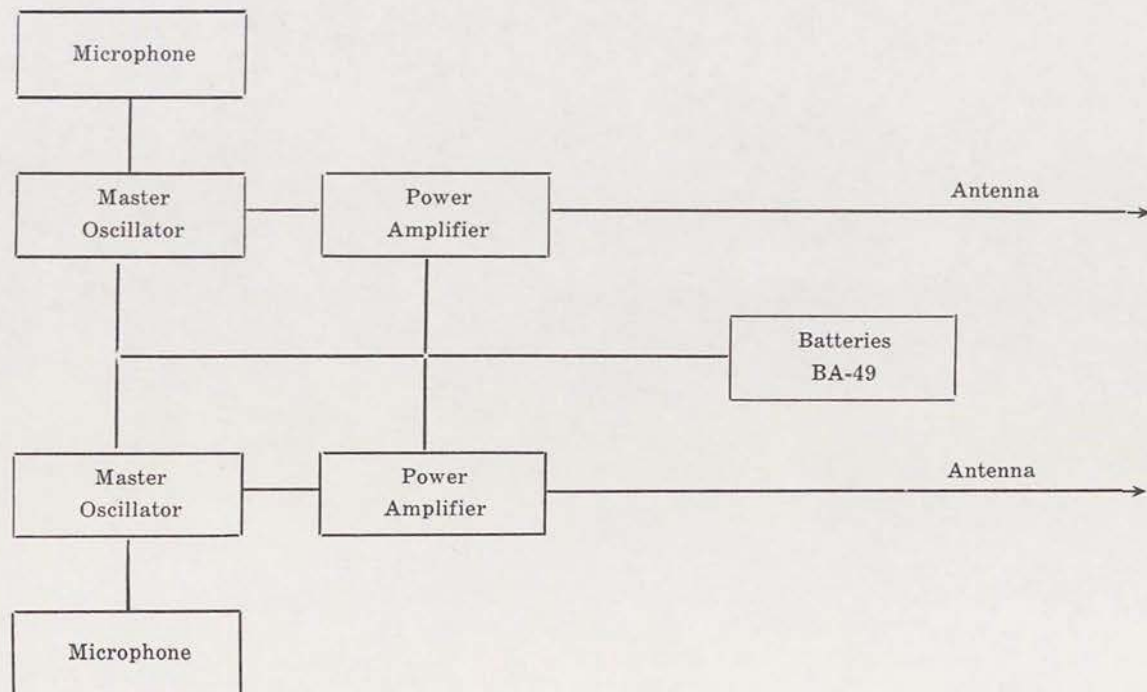
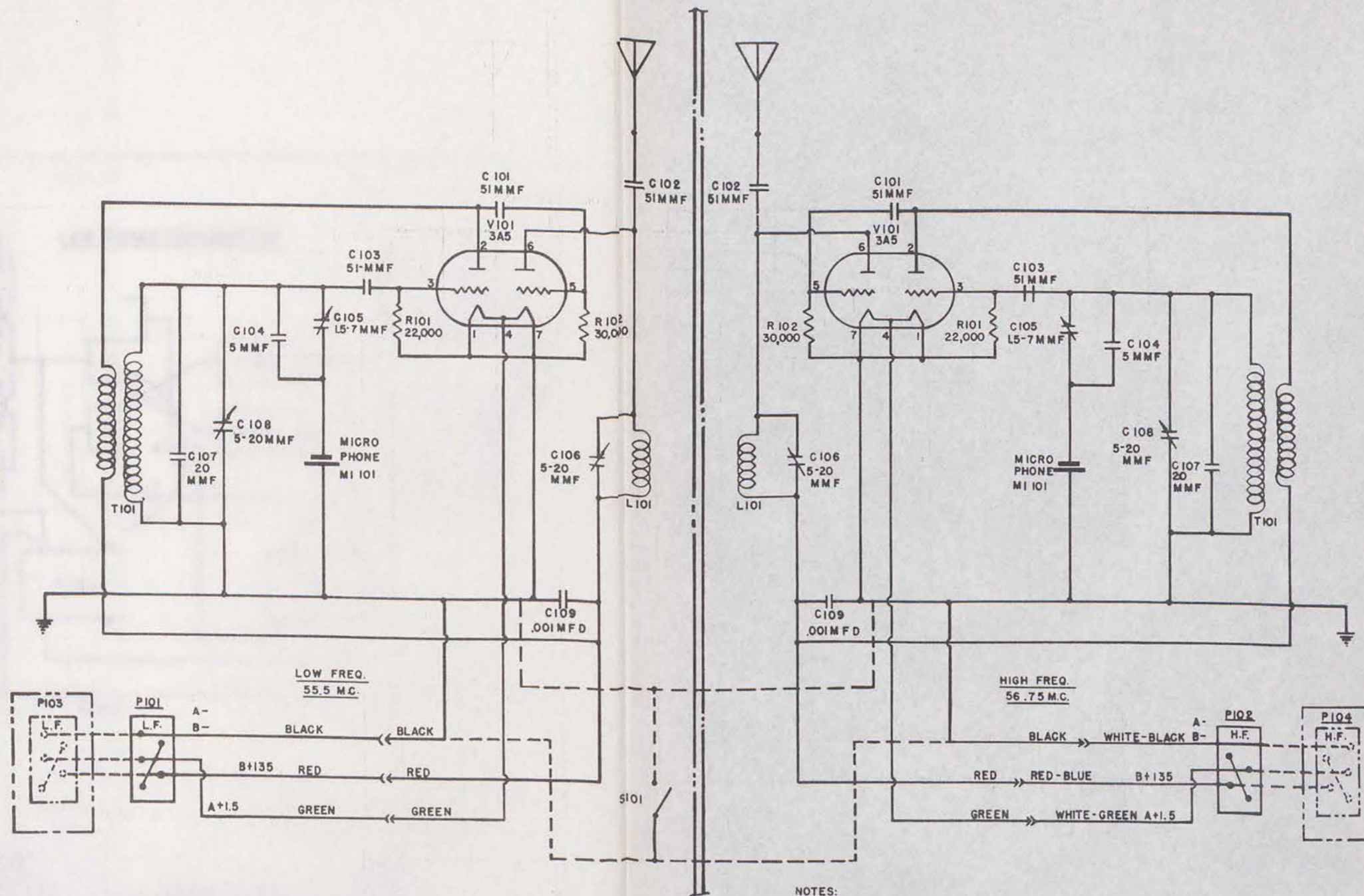


Figure 17. Radio Transmitting Equipment—Block Diagram



NOTES:

1. PIQ3 — PIQ4 USED ON AN/ART-4 (XA-3) AND AN/ART-4 (XA-2) ONLY.
2. POWER SWITCH ON AN/ART-4 (XA-4) ONLY CONNECTIONS MADE ON A-B-LEADS AS SHOWN BY DOTTED LINES

Figure 18. Radio Transmitting Equipment—Schematic



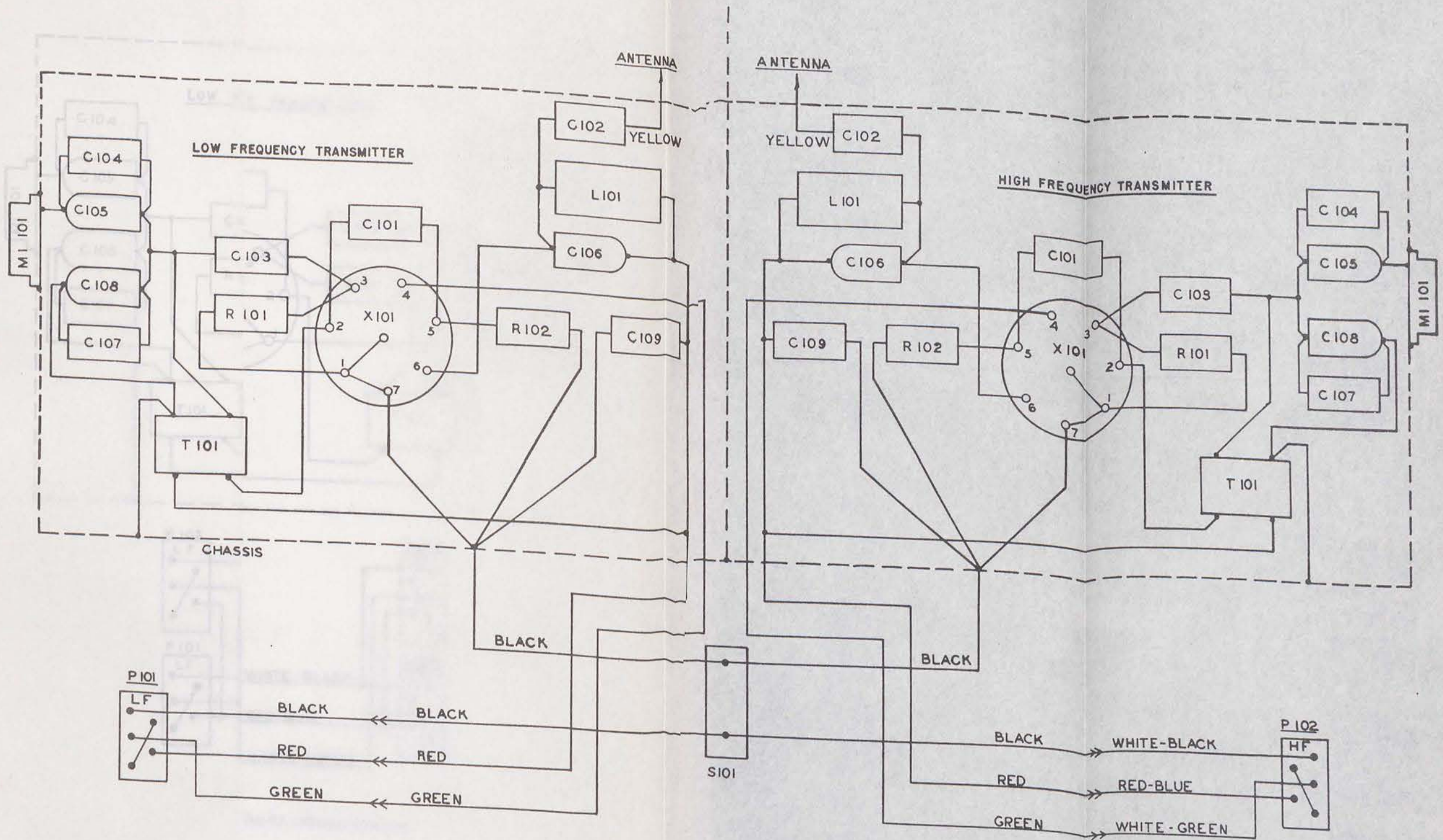


Figure 19. Radio Transmitting Equipment AN/ART-4(XA-4)—Wiring Diagram