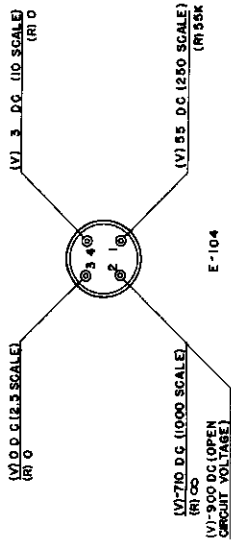
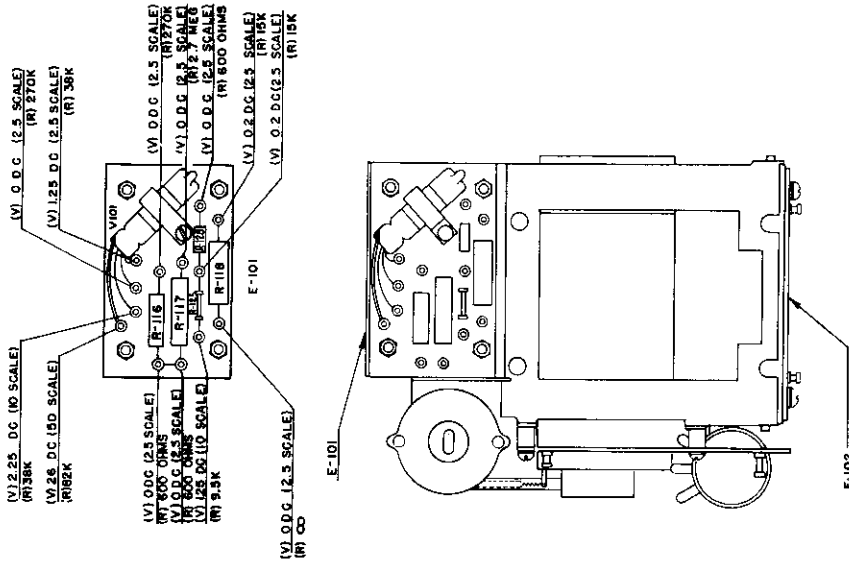
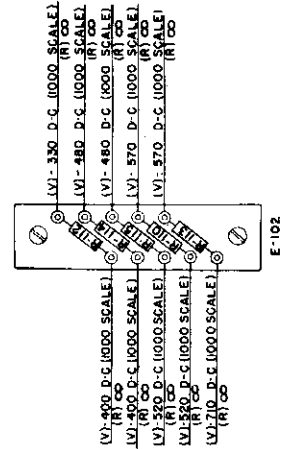
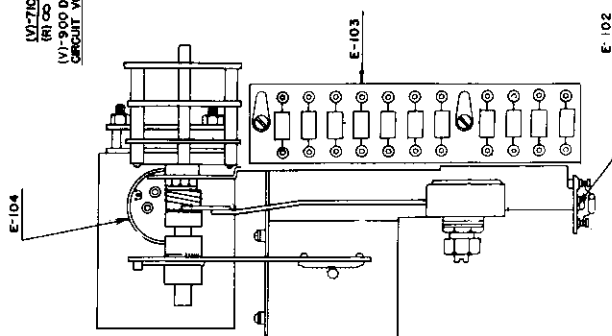


Figure 5-8. Troubleshooting Chart



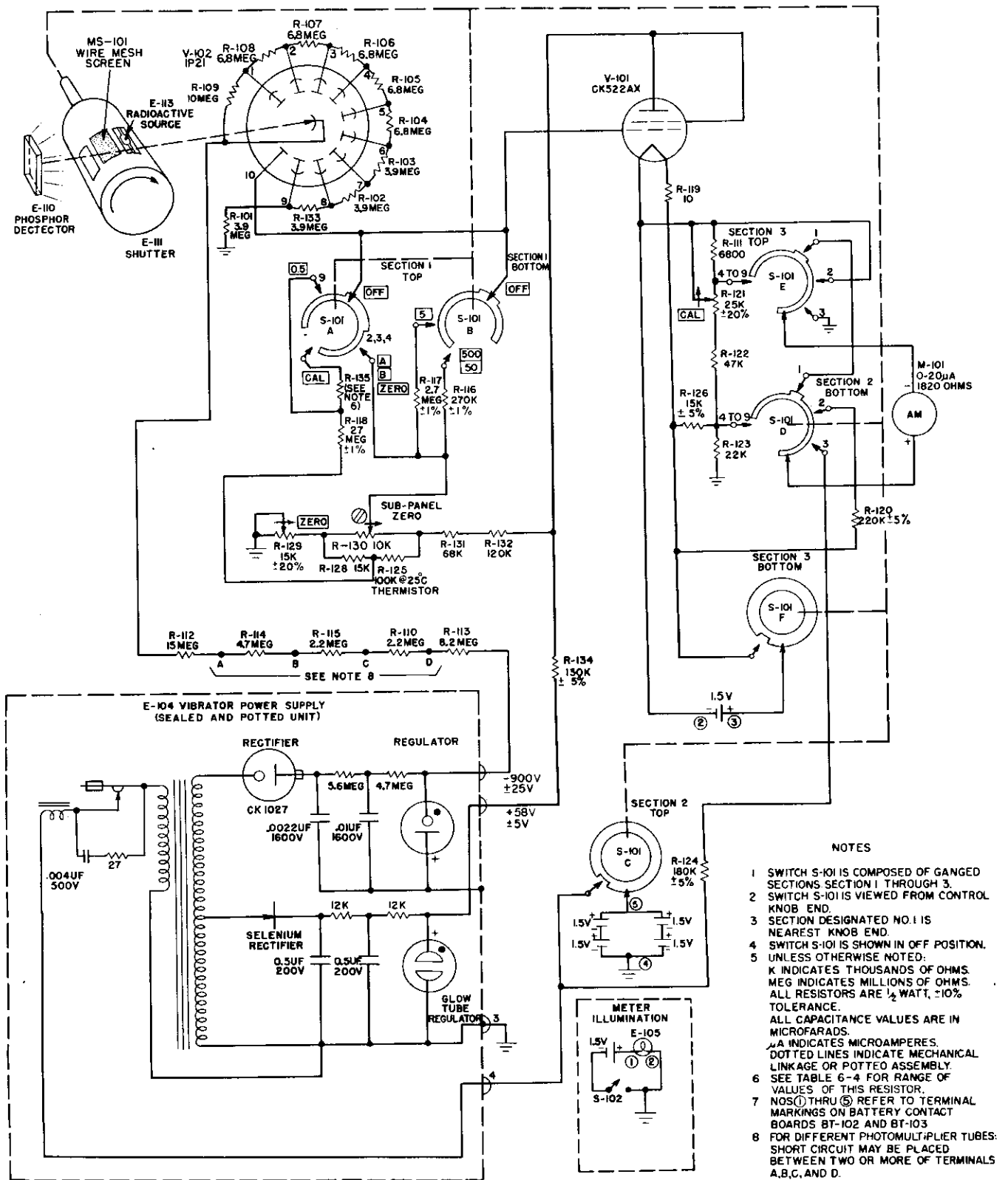
(V) 0	(2.5 SCALE)	(R) 38K	(V) 0	D.C.	(2.5 SCALE)
(V) 2.7	(10 SCALE)	(R) 270K	(V) 1.5	D.C.	(10 SCALE)
(V) 4 OHMS	(50 SCALE)	(R) 18K	(V) 90	D.C.	(250 SCALE)
(V) 2.5	(50 SCALE)	(R) 82K	(V) 9.5	D.C.	(50 SCALE)
(V) 1.25	(10 SCALE)	(R) 270K	(V) 9.5	D.C.	(50 SCALE)
(V) 1.3	(10 SCALE)	(R) 117K	(V) 1.4	D.C.	(10 SCALE)
(V) 1.3	(10 SCALE)	(R) 117K	(V) 1.4	D.C.	(10 SCALE)
(V) 1.4K	(10 SCALE)	(R) 270K	(V) 1.4	D.C.	(10 SCALE)
(V) 1.4	(10 SCALE)	(R) 270K	(V) 0	D.C.	(2.5 SCALE)
(V) 1.4	(10 SCALE)	(R) 270K	(V) 2.7	D.C.	(10 SCALE)
(V) 1.4	(10 SCALE)	(R) 270K	(V) 2.7	D.C.	(10 SCALE)
(V) 1.4	(10 SCALE)	(R) 270K	(V) 2.7	D.C.	(10 SCALE)
(V) 1.4	(10 SCALE)	(R) 270K	(V) 2.7	D.C.	(10 SCALE)



NOTES

1. READINGS TAKEN WITH NEW BATTERIES AND WITH R-121 AND R-129 IN FULL CLOCKWISE POSITION. RANGE SELECTOR SWITCH S-101 IN 500 POSITION FOR VOLTAGE READINGS. OFF POSITION FOR RESISTANCE READINGS.
2. MEASURED TO CHASSIS WITH 20,000 OHMS PER VOLT VOLTMETER.
3. VOLTAGES READ ON TERMINAL BOARD E-102 ARE ONLY FOR MULTIMETER. LOAD CURRENT AND CAN BE USED ONLY AS A GENERAL GUIDE.

Figure 5-9.  
Radiometer IM-75/PDR-18A, Voltage and Resistance Chart



- NOTES
- 1 SWITCH S-101 IS COMPOSED OF GANGED SECTIONS SECTION 1 THROUGH 3.
  - 2 SWITCH S-101 IS VIEWED FROM CONTROL KNOB END.
  - 3 SECTION DESIGNATED NO. 1 IS NEAREST KNOB END.
  - 4 SWITCH S-101 IS SHOWN IN OFF POSITION.
  - 5 UNLESS OTHERWISE NOTED: K INDICATES THOUSANDS OF OHMS. MEG INDICATES MILLIONS OF OHMS. ALL RESISTORS ARE 1/2 WATT, ±10% TOLERANCE. ALL CAPACITANCE VALUES ARE IN MICROFARADS. µA INDICATES MICROAMPERES. DOTTED LINES INDICATE MECHANICAL LINKAGE OR POTTED ASSEMBLY.
  - 6 SEE TABLE 6-4 FOR RANGE OF VALUES OF THIS RESISTOR.
  - 7 NOS (1) THRU (5) REFER TO TERMINAL MARKINGS ON BATTERY CONTACT BOARDS BT-102 AND BT-103.
  - 8 FOR DIFFERENT PHOTOMULTIPLIER TUBES: SHORT CIRCUIT MAY BE PLACED BETWEEN TWO OR MORE OF TERMINALS A,B,C, AND D.

Figure 5-10  
Radiacmeter IM-75/PDR-18A, Schematic Diagram

range selector switch S-101 in the ZERO position. Loosen the hexagonal lock-nut and adjust the sub-panel ZERO potentiometer R-130 until meter M-101 reads zero. After adjusting potentiometer R-130, carefully tighten the hexagonal lock-nut, to prevent any change in adjustment during use of the instrument. The dark current of photomultiplier tube V-102 is now compensated. Therefore, there should be no change in the zero reading of meter M-101, when range selector switch S-101 is changed from ZERO position to the 0.5 position.

**WARNING**

RADIOACTIVE SOURCE E-113 CONTAINS RADIOACTIVE MATERIAL CONSISTING OF APPROXIMATELY 100 MICROCURIES OF STRONTIUM-90, A BETA RAY EMITTING RADIOISOTOPE. WHEN REMOVING SHUTTER ASSEMBLY E-111 CONTAINING RADIOACTIVE SOURCE E-113, USE A PAIR OF LONG NOSE PLIERS. DO NOT ALLOW THE RADIOACTIVE MATERIAL FIXED ON THE SURFACE OF THE METAL HOLDER FOR RADIOACTIVE SOURCE E-113, TO COME IN CONTACT WITH HANDS OR SKIN. AVOID SCRAPING THE SURFACE OF E-113, AS IT MIGHT DISLodge RADIOACTIVE MATERIAL. WHEN DISPOSING OF A DEFECTIVE SHUTTER ASSEMBLY E-111, CONTAINING RADIOACTIVE SOURCE E-113, OBSERVE PRESCRIBED PRECAUTIONS FOR SAFE HANDLING AND DISPOSAL OF RADIOACTIVE MATERIALS.

*c.* Because of the long life of the radioactive beta ray calibrating source, E-113, mounted in shutter assembly, E-111, it should not require replacement during the life of the instrument, unless it is damaged during repair procedures. The replacement of radioactive source E-113 requires a recalibration of Intensity Meter IM-75/PDR-18A. Remove all batteries from the battery box, as directed in paragraph 1*b* of this Section, before proceeding. To replace E-113, remove the set from the case, as directed in paragraph 4*a* of this Section. Then remove phosphor detector housing assembly E-110 by removing the four retaining screws and withdraw E-110 from the photomultiplier housing A-104. When removing E-110, do not touch the milky-white phosphor itself or allow dirt or dust to collect on it. Next remove the photomultiplier tube V-102 and sub-assembly O-102 as directed in paragraph 1*f* of this Section. Unscrew pull-bar guide O-108 and swing gear assembly O-101 out of the way. Remove hexagonal nut and spur gear O-123 on the shaft of shutter E-111. The shutter E-111 may now be withdrawn from the photomultiplier housing A-104. In-

stall new shutter E-111, replace hexagonal nut and spur gear O-123. Rotate the shaft of shutter E-111 until the wire mesh screen MS-101 is positioned in the center of the rectangular opening in photomultiplier housing A-104 that mounts the phosphor housing assembly E-110. Rotate the range selector switch to the 500 position. Replace gear assembly O-101 and pull-bar guide O-108. If necessary, minor adjustments in the position of the shaft of shutter E-111 can be made by loosening the two retaining screws on the rack gear of gear assembly O-101, and moving the rack gear as required. Adjust the rack gear so as to rotate the shaft of shutter E-111 until the wire mesh screen MS-101 is positioned exactly in the center of the rectangular opening in the photomultiplier housing A-104. Tighten the two rack gear retaining screws. Rotate range selector switch S-101 to the OFF position. Replace phosphor detector assembly E-110. Replace photomultiplier tube sub-assembly O-102. Recalibrate Radiacmeter IM-75/PDR-18A as directed in paragraph 5*f* of this Section.

*d.* Because phosphor detector assembly E-110 has an unlimited life, it should never require replacement unless it is damaged during repair procedures. The replacement of phosphor detector assembly E-110 requires recalibration of Intensity Meter IM-75/PDR-18A. The surface of the phosphor itself must be kept free of grease, finger marks, dust and dirt, or the calibration of Radiacmeter IM-75/PDR-18A will be affected. Cleaning instructions are given in paragraph 5*e* of this Section. To remove phosphor detector assembly E-110 for either cleaning or replacement, first remove the set from the case, as directed in paragraph 4*a* of this Section. Then remove phosphor detector housing assembly E-110 by removing the four retaining screws and withdrawing E-110 from the photomultiplier housing A-104. When installing replacement assembly, do not touch the milky-white phosphor itself, or allow dirt or dust to collect on it. After installing a replacement phosphor detector assembly E-110, recalibrate radiacmeter IM-75/PDR-18A as directed in paragraph 5*f* of this Section.

*e.* To clean the surfaces of the phosphor, remove the phosphor detector assembly E-110 as directed in paragraph 5*d* of this Section. Remove dust by gently brushing the surface with a clean soft brush, such as camel's hair. To remove grease and other foreign matter that adheres to the surface of the phosphor, immerse the phosphor detector assembly E-110 in a water solution of a mild soapless detergent. Use one teaspoon of a mild soapless detergent to a quart of water at a temperature not exceeding 38°C. (100°F.). Do not use soap or a soap solution because such solutions tend to leave a soap film deposit on the phosphor surface, which will impair its operation. With the phosphor detector assembly E-110 immersed in the solution, gently scrub the surfaces of the phosphor with a clean, light brush, such as a one-inch paint brush. After scrubbing, remove the phosphor detector assembly and

immerse in clear water, to remove any traces of detergent from the surfaces of the phosphor. Allow E-110 to dry in air, away from dust and dirt. When dry, reinstall phosphor detector assembly E-110 in photo-multiplier housing A-104.

#### Note

It is not necessary to recalibrate Radiacmeter IM-75/PDR-18A after cleaning and reinstalling phosphor detector assembly E-110. However, phosphor detector assemblies are not interchangeable among various IM-75/PDR-18A Radiacmeters. Therefore, if the original E-110 assembly is not reinstalled in the instrument, the Radiacmeter IM-75/PDR-18A must be recalibrated.

f. To recalibrate Radiacmeter IM-75/PDR-18A, a standard source of radiation (not supplied) is necessary. A standard source consisting of a measured weight of Radium, between 10 and 100 milligrams, may be used. Standard sources smaller than 10 milligrams of Radium may be used only in emergencies, since calibration errors up to 15 or 20 percent may easily result. First, remove any short circuits that may have been placed across one or more of the resistors R-111 through R-115 at points A to D as shown in figure 2-2. Resistors R-111 through R-115 are located on terminal board E-102, identified in figure 5-3. Reassemble Radiacmeter IM-75/PDR-18A. Make the A and B voltage checks and the ZERO adjustment as described in Table 5-1. Turn the range selector switch to its 0.5 position and turn CAL potentiometer R-121 fully counterclockwise. Place Radiacmeter IM-75/PDR-18A at a calculated distance from the standard source, in order to give full scale deflection on the 0.5 roentgen-per-hour scale, using the following formula:

$$D = \sqrt{\frac{1.3 W}{R/\text{hr.}}} - 0.3$$

where:

D = distance between cross marks on radiation detector and the radiation source, in inches

W = the weight of Radium in the standard radiation source, in milligrams

R/hr = radiation intensity in roentgens per hour

The + marks on the outside of the case of Radiacmeter IM-75/PDR-18A locate the position of the phosphor detector E-110 inside the case. Set the standard source at a distance D away from the top end of the case. Measure D between the + marks on the right or left side of the case and the standard source. The distance D in the formula is computed for free-space radiation from the standard source. Hence, both Radiacmeter IM-75/PDR-18A and the standard source must be kept at least five feet from the nearest wall, floor or ceiling, in order to eliminate all significant radiation scattering from the walls of the room. Observe all

prescribed precautions for handling of the standard radioactive material. Turn CAL potentiometer R-121 to obtain full scale deflection on microammeter M-101. If full scale deflection on meter M-101 is not obtained, turn the range selector switch S-101 to the OFF position; remove the panel assembly from the case and connect a wire across the terminals of resistor R-110, located on terminal board E-102 identified in figure 5-3. Repeat the calibration procedure above. If full deflection on meter M-101 is still not obtained, remove the short circuit from R-110 and short-circuit resistor R-114 and again repeat the calibration procedure. If necessary, also short circuit one or both of resistors R-115 and R-110 until full scale meter deflection is obtained on meter M-101 when CAL potentiometer R-121 is adjusted, with Radiacmeter IM-75/PDR-18A in the radiation field computed by the formula. Next, remove Radiacmeter IM-75/PDR-18A from the standard radiation source. Use care not to disturb the setting of the CAL potentiometer R-121. Turn the range selector switch S-101 to the CAL position. If meter M-101 reads within full scale to approximately  $\pm 5\%$ , no further adjustment is necessary. If meter M-101 reads less than 95% or more than 105% of full scale deflection, read the color code resistance value of R-135 on terminal board E-103. Select the next higher or lower value, respectively, of resistor R-135 as listed in Table 6-4, and install in place of the original R-135. Prior to installing, turn range selector switch S-101 to the OFF position. After installation, again turn range selector switch S-101 to the CAL position. Do not disturb the setting of CAL potentiometer R-121. If meter M-101 still reads less than 95% or more than 105% of full scale deflection, select the next higher or lower value for R-135 listed in Table 6-4, and install it, as above. When meter reads full scale deflection within  $\pm 5\%$ , the calibration procedure is completed.

#### 6. MECHANICAL ADJUSTMENTS AND REPAIRS.

##### a. RANGE SELECTOR SWITCH S-101.

(1) To replace range selector switch S-101, remove the front panel assembly from the instrument case as directed in paragraph 4a of this Section. Remove batteries from battery box BT-101 as described in paragraph 1b of this Section. Turn the range selector switch to the OFF position. Remove the four sub-assembly chassis retaining screws and the meter linkage pivot screw H-109, identified in figure 5-3. Lift the sub-assembly chassis A-105 and swing it back on the hinges in the mounting brackets, A-106, as in figure 5-4. Remove all electrical connections to selector switch S-101. Loosen set screws on cams O-103, O-104, O-105 and O-121. Unscrew hexagonal clamping nut that secures range selector switch S-101 to sub-assembly chassis A-105 and carefully remove the switch, being careful not to drop the hexagonal clamping nut and its associated washer, or cams O-104 and O-105.

Before installing a new switch, turn the shaft of the new switch fully clockwise, as viewed from the ex-

tended shaft end. This is the OFF position of selector switch S-101. Insert the new switch shaft into the hole in sub-assembly chassis A-105 from which the old switch shaft was removed. Be sure to place all the components on the shaft in the correct order, namely washer, hexagonal clamping nut, cam O-121 and spring O-107, cam O-104, cam O-105 and cam O-103. Engage the end of the new switch shaft in the hole in bracket A-109. Tighten the hexagonal clamping nut until the new switch is securely fastened to sub-assembly chassis A-105. Restore all electrical connections to selector switch S-101. Position the panel knob for range selector switch in the OFF position. Return sub-assembly chassis A-105 to its normal position. Make sure the flat shaft of selector switch S-101 engages the slot in the cam on the panel knob shaft. Replace the sub-assembly chassis retaining screws. Place meter scale changing linkage O-109 over meter scale changing arm O-122 and replace meter linkage pivot screw, H-109. Rotate meter scale changing arm O-122 to its most clockwise position, so that the edge of the meter scale changing linkage O-109 is bearing against the bracket of sub-assembly chassis A-105 that supports the photomultiplier tube housing, A-104. Rotate cam O-121 clockwise until it stops against cam follower on meter linkage shaft O-109. Tighten set screw in cam O-121. Assemble torsion spring O-107 to restore torsion to meter linkage O-109. Slide cams O-104 and O-105 against cam O-121 and tighten set screws in cams O-104 and O-105. Turn the panel knob of range selector switch S-101 to the ZERO position. Make sure spring O-106 is engaged in shutter positioning linkage O-101. Rotate cam O-103 counterclockwise until the pin in the shutter linkage arm O-101 is ready to be engaged and moved by plate on cam O-103, then tighten set screw in cam O-103. Rotate range selector switch knob to each position and check to be sure meter scale changes and positions properly.

Check the operation of shutter E-111 as follows. Remove phosphor detector housing assembly E-110 by removing the four retaining screws and withdrawing E-110 from the photomultiplier housing A-104. Use care not to allow dirt or finger marks on the milky-white phosphor. Place range selector switch S-101 successively in OFF, A, B and ZERO position. The opening in photomultiplier housing A-104 should be closed by shutter E-111 for each of these positions of S-101. Place range selector switch S-101 in the CAL position. The radioactive source E-113 should position itself in the exact center of the opening of the photomultiplier housing A-104. Rotate S-101 to the 500 position. The screen in shutter E-111 should now be positioned in the center of the opening. Rotate switch S-101 successively to the 50, 5 and 0.5 positions. For

these three positions an opening in shutter E-111 should coincide with the opening of the photomultiplier housing A-104, exposing the photomultiplier tube V-102. If the shutter E-111 does not position correctly, cam O-103 may not have been correctly replaced as directed in this paragraph. Minor adjustments in the position of shutter E-111 can be made by means of the rack gear of gear assembly O-101 as follows. Place the range selector switch in the CAL position. Loosen the two retaining screws on the rack gear of gear assembly O-101. Move the rack gear as required to position the radioactive source E-113 in shutter E-111, exactly in the center of the opening in photomultiplier housing A-104. Tighten the two rack gear retaining screws. Replace phosphor detector assembly E-110.

*b.* METER M-101.

(1) To remove meter M-101, remove the front panel assembly from the instrument case, as directed in paragraph 4*a* of this Section. Remove batteries from battery box BT-101 as directed in paragraph 1*b* of this Section. Turn the range selector switch to the OFF position. Remove the four sub-assembly chassis retaining screws and the meter linkage pivot screw H-109, and swing sub-assembly chassis A-105 back on its hinges in the mounting brackets A-106, as in figure 5-4. Remove the two electrical connections to meter M-101. Loosen the set screw in arm O-122 and remove arm O-122 from meter scale changing shaft. Unscrew the four spacing posts H-115 in each corner of meter M-101. Spacing posts H-115 are slotted to accommodate a screwdriver. Remove meter M-101 and replace with new meter. Replace the four spacing posts H-115. Replace arm O-122 on meter scale changing shaft, but do not tighten set screw in arm O-122. Return sub-assembly chassis A-105 to its normal position and replace the four sub-assembly chassis retaining screws. Place meter scale changing linkage O-109 over meter scale changing arm O-122 and replace meter linkage pivot screw, H-109. Rotate meter scale changing arm O-122 to its most clockwise position, so that the edge of the meter scale changing linkage O-109 is bearing against the bracket of sub-assembly chassis A-105 that supports the photomultiplier tube housing A-104. Without moving arm O-122, rotate the meter scale changing shaft clockwise as far as it will go. Tighten set screw in arm O-122. Replace electrical connections to meter M-101.

*c.* SHUTTER E-111.

(1) To replace shutter E-111, follow the same procedure as in replacing radioactive source E-113, as directed in paragraph 5*c* of this Section.

### DIRECTIONALITY OF RADIACMETER AN/PDR-18A

The response of the AN/PDR-18A as a function of direction of incident radiation has been measured, and a plot of results is given below.

Response is shown on the curve as percent of maximum response, which occurs when the radiation is directed at the front of the instrument. When the radiation is directed at the right side of the instrument, the response is approximately 66% of the maximum, etc. Data was taken on the 50 R/hr scale with 80KV x-rays.

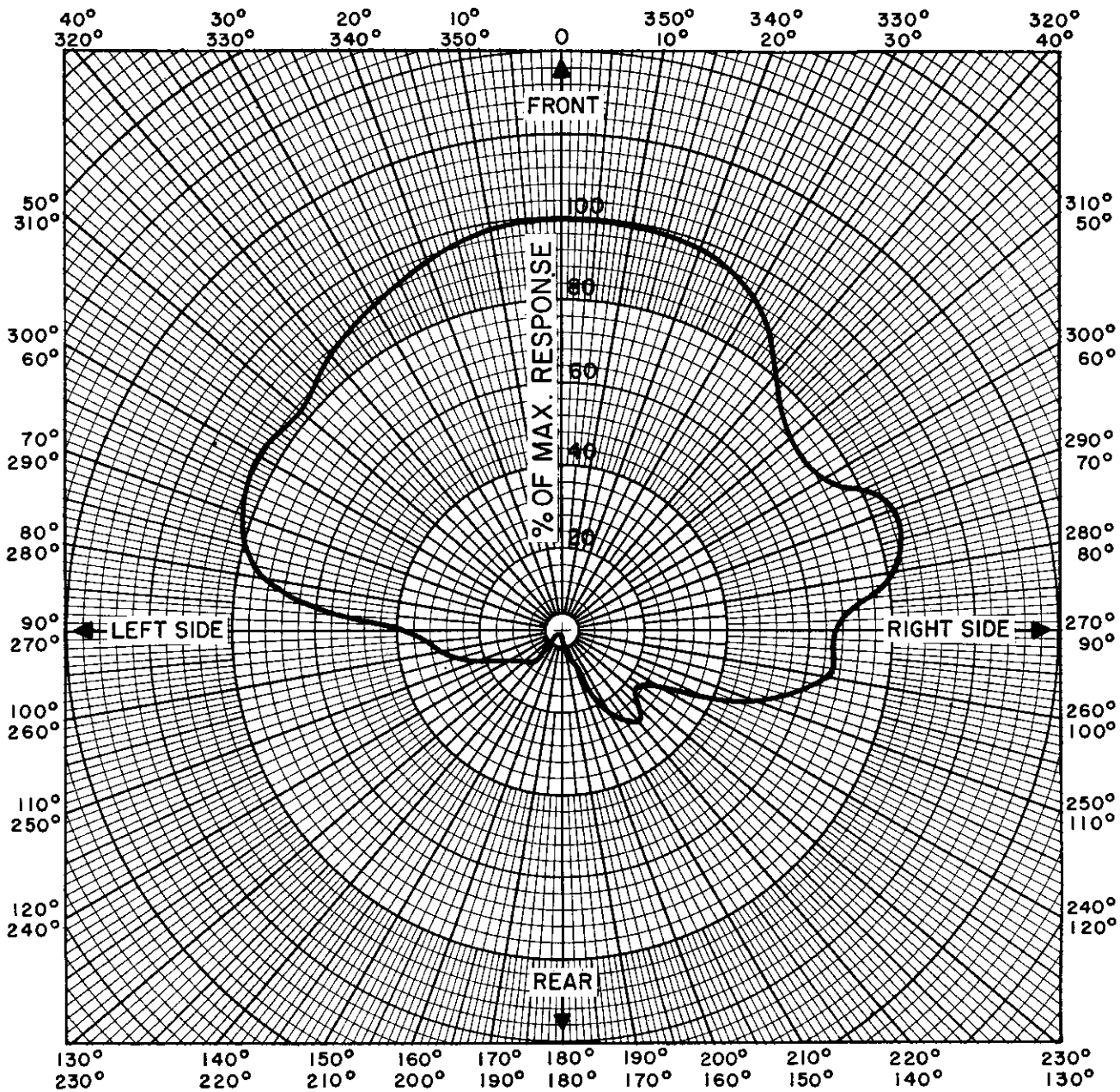






TABLE 5-3. TUBE OPERATING VOLTAGES AND CURRENTS

TUBE TYPE	FUNCTION	PLATE P (E)	PLATE (M)	SCREEN	SUPP. E	CATH. E	GRID E	HEATER E	
1P21	Photo-multiplier	0 V D-C				-675 to -580 V D-C			
			1st Dynode = -565 to -485 V D-C 2nd Dynode = -487 to -420 V D-C 3rd Dynode = -375 to -323 V D-C 4th Dynode = -330 to -285 V D-C 5th Dynode = -255 to -218 V D-C 6th Dynode = -177 to -152 V D-C 7th Dynode = -133 to -114 V D-C 8th Dynode = -77 to -66 V D-C 9th Dynode = -44 to -38 V D-C						
CK-522AX	Signal Amplifier	26	.22	26	26	1.3	-1.3	1.25	

TABLE 5-4. RATED TUBE CHARACTERISTICS

TUBE TYPE	FILA-MENT VOLT-AGE (V)	FILA-MENT CUR-RENT (A)	PLATE VOLT-AGE (V)	GRID BIAS (V)	SCREEN VOLT-AGE (V)	PLATE CUR-RENT (MA)	SCREEN CUR-RENT (MA)	A-C PLATE RESIS-TANCE (OHMS)	VOLT-AGE AMPLI-FICATION FACTOR (MV)	TRANSCON-DUCTANCE (MICROMHOS)		EMISSION	
										NOR-MAL	MW MVM	15 (MA)	TEST VOLT
1P21			1250 Max.			1 Max. 0.1 AVG.							
								with 100 volts per dynode stage and 100 volts between dynode number 9 and anode: Anode dark current = 0.1 M amp. Sensitivity: At 4000 Angstrom = 74,000 M amps/M watt Luminous = 80 amp/lumen. avg. Current Amplification = 2,000,000 Equivalent Noise Input = $5 \times 10^{-13}$					-11
CK-522AX	1.25	.020	22.5	0	22.5	.30	.08	600,000	—	450	—	—	—

**SECTION VI**  
**PARTS LISTS**

*Table 6-1. Weights and Dimensions of Spare Parts Boxes*

*Table 6-2. Shipping Weights and Dimensions of Spare Parts Boxes*

*Table 6-3. List of Major Units*

*Table 6-4. Combined Parts and Spare Parts List*

*Table 6-5. Cross Reference Parts List*

*Table 6-6. Applicable Color Codes and Miscellaneous Data*

*Table 6-7. List of Manufacturers*

TABLE 6-1. WEIGHTS AND DIMENSIONS OF SPARE PARTS BOXES

EQUIPMENT SPARES						TENDER SPARES						STOCK SPARES					
SPARE PARTS BOX	OVER-ALL DIMENSIONS			VOL-UME	WEIGHT	SPARE PARTS BOX	OVER-ALL DIMENSIONS			VOL-UME	WEIGHT	SPARE PARTS BOX	OVER-ALL DIMENSIONS			VOL-UME	WEIGHT
	HEIGHT	WIDTH	DEPTH				HEIGHT	WIDTH	DEPTH				HEIGHT	WIDTH	DEPTH		
												1	25	17	33 $\frac{3}{4}$	14,300	

TABLE 6-2. SHIPPING WEIGHTS AND DIMENSIONS OF SPARE PARTS BOXES

EQUIPMENT SPARES							TENDER SPARES							STOCK SPARES						
SHIP-PING BOX NUMBER	SPARE PARTS BOX	OVER-ALL DIMENSIONS			VOL-UME	WEIGHT	SHIP-PING BOX NUMBER	SPARE PARTS BOX	OVER-ALL DIMENSIONS			VOL-UME	WEIGHT	SHIP-PING BOX NUMBER	SPARE PARTS BOX	OVER-ALL DIMENSIONS			VOL-UME	WEIGHT
		HEIGHT	WIDTH	DEPTH					HEIGHT	WIDTH	DEPTH					HEIGHT	WIDTH	DEPTH		

TABLE 6-3. LIST OF MAJOR UNITS

SYMBOL GROUP	QUANTITY	NAME OF MAJOR UNIT	NAVY TYPE DESIGNATION
101 to 199	1	Radiac Meter	IM-75/PDR-18A
	1	Carrying Case	CY-1092/PDR-18

TABLE 6-4. TABLE OF REPLACEABLE PARTS

REF. DESIGN.	STOCK NOS. SIG. CORPS, NAVY AIR FORCE	NAME AND DESCRIPTION	LOCATING FUNCTION
100-199 Series	F16-Q-114423-200	RADIACMETER IM75/PDR-18A, part of RADIAC AN/PDR-18: aluminum case; Navy gray finish; portable, battery operated; high range, Gamma ray survey instrument; consisting of a photomultiplier tube, associated circuitry, indicating meter and self-contained batteries; instrument has four ranges, 0-0.5 R/hr., 0-5 R/hr., 0-50 R/hr., and 0-500 R/hr.; approx. weight, 10 lbs.; approx. 10-3/4" x 5-1/4" x 8" over-all. Manufacturer and manufacturer's designation, TL, IM75/PDR-18A-1D; contractor's drawing and part number, IM75/PDR-18A-1D.	Portable high range Gamma ray scintillation survey instrument.
A-101	*N17-P-2237-2647	COVER: instrument; Navy gray finish; die cast aluminum; rectangular shape, 9-25/32" lg. x 5-1/4" wide x 1/4" thick; six mtg. holes 7/32" diam. spaced 4-5/16" x 2-1/2" and 8-13/16" on centers. Manufacturer and manufacturer's designation, TL, IM75-18-13X; contractor's drawing and part number, IM75-18-13X.	Seals off instrument; mounts operating parts.
A-102	N17-C-945002-137	COVER: battery box; die cast aluminum; Navy gray finish; approx. 3-1/4" x 4-1/4" x 7/16" over-all; mts. four holes 7/32" diam. spaced 1-1/2" x 3-3/4" on centers. Manufacturer and manufacturer's designation, TL, IM75-19-4D; contractor's drawing and part number, IM75-19-4D.	Seals off battery compartment, mounts handle and battery box assemblies.
A-103	*N16-C-10607-6626	CABINET: instrument case; die cast aluminum, Navy gray finish; 5-1/16" wide x 4-1/4" high x 9-5/8" long; two water-tight compartments; carrying strap pins on each end of case. Manufacturer and manufacturer's designation, TL, IM75-3-5F; contractor's drawing and part number, IM75-3-5F.	Case for RADIACMETER IM75/PDR-18A.
A-104	N16-H-800001-256	HOUSING: light-tight housing for photomultiplier tube; black phenolic; 1.687" x 1.750" x 3.437"; mtg. four #4-40 tapped holes spaced 1.437" x 1.125"; includes O-124 shutter shaft bushing. Manufacturer and manufacturer's designation, TL, IM75-251B; contractor's drawing and part number, IM75-251B.	Light shield for V-102; mounts shutter and phosphor crystal assemblies.
A-105	N16-C-68703-9240	CHASSIS: sub-assembly unit for mtg. parts for RADIACMETER IM75/PDR-18A; steel, cadmium plated; approx. 4-1/2" wide x 5-3/4" lg. x 3" deep; mts. on four #8-32 screws. Iridite per Navy Spec. 46Pl. Manufacturer and manufacturer's designation, TL, IM75-21X; contractor's drawing and part number, IM75-21X.	Mtg. chassis for parts of RADIACMETER IM75/PDR-18A; bolts to back of ammeter M-101.
A-106	*N16-B-750001-689	BRACKET: chassis mounting; steel, cadmium plated, L-shaped, 2-1/2" x 3/8"; mtg. single 5/32" hole. Long leg has slot 1/2" lg. x 1/8" wide. Manufacturer and manufacturer's designation, TL, IM75-18-10X; contractor's drawing and part number, IM75-18-10X.	Bracket for mounting chassis A-105; screws to back of instrument cover, A-101.
A-107	*N17-B-300101-108	PLATE, mounting: meter window; steel, cadmium plated; semicircular, 1-11/16" radius; mtg. six holes spaced 60° apart on 1-1/2" radius. Manufacturer and manufacturer's designation, TL, IM75-18-5X; contractor's drawing and part number, IM75-18-5X.	Mounting plate for meter window; mounts on meter window seal gasket, O-113.
A-108	*N17-P-400941-104	PLATE, bottom: cover plate for battery box; steel, cadmium plated; V-shaped channel, 2-3/8" lg. x 13/16" wide x 0.050" thk. Manufacturer and manufacturer's designation, TL, IM75-5-3X; contractor's drawing and part number, IM75-5-3X.	Holds batteries in position within battery box, BT-101.
A-109	*N17-B-750001-243	BRACKET: switch shaft support; L-shaped; steel, cadmium plated; 1-5/8" x 3/4" x .062" thk. x 1/2" high; mts. by two slots, 5/32" wide x 1/4" lg., spaced .375" on center. Manufacturer and manufacturer's designation, TL, IM75-2-9D; contractor's drawing and part number, IM75-2-9D.	Supports shaft of switch, S-101; screws to housing A-104.

\*Not furnished as a maintenance part. If failure occurs do not request replacement unless the item cannot be repaired or fabricated.

TABLE 6-4. TABLE OF REPLACEABLE PARTS—Continued

REF. DESIGN.	STOCK NOS. SIG. CORPS, NAVY AIR FORCE	NAME AND DESCRIPTION	LOCATING FUNCTION
A-110	N17-L-51660-1001	BASE, lampholder: miniature screw base lampholder. Brass, nickel plated; 125 volts, 75 watts; 11/16" lg. x 1-3/16" wd. x 3/8" thk. One 3/16" dia. mtg. hole; one solder lug; mts. at right angle to axis of socket. Manufacturer and manufacturer's designation, TL, 100L-38X; contractor's drawing and part number, 100L-38X.	Socket for meter illumination light; mts. on back of instrument cover in front of ammeter
A-111	N17-B-750001-244	BRACKET: meter illumination light support; L-shaped; steel, cadmium plated; 1-3/16" x 11/32" x .047" thk.; mts. by slot 5/64" wide x 3/8" lg. Manufacturer and manufacturer's designation, TL, IM75-18-12X; contractor's drawing and part number, IM75-18-12X.	Supports meter illumination lamp, E-105 on cover, A-101.
A-112	N17-P-405021-107	PLATE, side: side plate for battery box; aluminum Navy gray finish; 4-1/4" x 2.955" x 0.415"; mtg. eight .156 diam. holes spaced 1-3/4" x 1-3/4" x 5/8". Manufacturer and manufacturer's designation, TL, IM75-24-1B; contractor's drawing and part number, IM75-24-1B.	Screws to battery box cover, A-102 and forms two of the sides of the battery box.
A-113 to A-199		not used.	
BT-101	*N17-B-150001-141	BATTERY BOX: battery box for six "A" batteries; includes battery contact springs and contacts; approx. 3" x 4" x 4-5/8" over-all. Box cover-aluminum, contact boards-black polystyrene. Supplied w/o batteries. Manufacturer and manufacturer's designation, TL, IM75-5X; contractor's drawing and part number, IM75-5X.	Battery box assembly for RADIANMETER IM75/PDR-18A; bolts to instrument cover, A-101.
BT-102	N17-C-83594-5601	PLATE, contact-mounting: black polystyrene with contacts for batteries; 4" x 2-1/8"; mtg. six 1/8" diam. holes spaced 1-3/4" x 1-3/4" x 5/32"; includes contacts and bus bar connectors. Manufacturer and manufacturer's designation, TL, IM75-14X; contractor's drawing and part number, IM75-14X.	Contact board for battery box; forms one side of box.
BT-103	N17-C-83594-5551	PLATE, contact-mounting: black polystyrene with contacts for batteries; 4" x 2-1/8"; mtg. six 1/8" diam. holes spaced 1-3/4" x 1-3/4" x 5/32"; includes contacts, bus bar connectors and a cable clamp. Manufacturer and manufacturer's designation, TL, IM75-39X; contractor's drawing and part number, IM75-39X.	Contact board for battery box; forms one side of box.
BT-104 to BT-199		not used.	
E-101	*N17-B-78008-1985	TERMINAL BOARD: No. 1; thirteen solder post terminals irregularly spaced on laminated phenolic board; 1-11/16" wide x 2-7/8" lg. x 3/8" high; mtg. four 3/16" diam. holes spaced 2-1/8" x 1-1/4". Manufacturer and manufacturer's designation, TL, IM75-25X; contractor's drawing and part number, IM75-25X.	Mounting for R-116, R-117, R-118, R-125, R-128, and V-101; fastens to studs holding power supply, E-104.
E-102	*N17-B-77935-3015	TERMINAL BOARD: No. 2; twenty-two solder post terminals 9/32" on center spaced 5/8" apart; laminated phenolic board 3-13/16" lg. x 1-1/16" wide x 1/16" thk.; mtg. two 3/16" diam. holes spaced 2-5/16" apart on centers. Manufacturer and manufacturer's designation, TL, IM75-26X; contractor's drawing and part number, IM75-26X.	Mounting for R-111, R-119, R-120, R-122, R-123, R-124, R-126, R-13., R-132, R-134, and R-135; mounts on side of ammeter, M-101.
E-103	*N17-B-78157-9175	TERMINAL BOARD: No. 3; ten solder post terminals 3/8" on center spaced 5/8" apart; laminated phenolic board, 3-3/8" lg. x 13/16" wide x 1/16" thk.; mtg. two 13/16" diam. holes spaced 2-3/4" x 1/8" on center. Manufacturer and manufacturer's designation, TL, IM75-27X; contractor's drawing and part number, IM75-27X.	Mounting for R-110, R-112, R-114, and R-115; located on chassis in front of ammeter, M-101.

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TABLE 6-4. TABLE OF REPLACEABLE PARTS—Continued

REF. DESIGN.	STOCK NOS. SIG. CORPS, NAVY AIR FORCE	NAME AND DESCRIPTION	LOCATING FUNCTION
E-104	N16-P-68553-2250	POWER SUPPLY: vibrator type, non-synchronous; input 3 volts at approx. 60 ma. output (a) high voltage $-900 \pm 25$ volts at $15\mu\text{a}$ , 2% regulation; (b) low voltage 55-63 volts at $250\mu\text{a}$ , 3% regulation; 2-7/8" lg. x 2-3/8" high x 1-13/16" wide; mtg. four #6-32 studs spaced 1-1/4" x 2-1/8" on centers. Manufacturer and manufacturer's designation, Victoreen, Model 532; contractor's drawing and part number, 100B3-27F.	Power supply for RADIACMETER IM75/PDR-18A; located on chassis in back of phototube housing A-104.
E-105	N17-L-6271-100	LAMP, incandescent: 1.35 volts at .06 amps; T-3-1/4 clear bulb; miniature screw base; 15/16" lg.; burn any position. Sig. C. #2-5877-3. Manufacturer and manufacturer's designation, G.E. Type 1800; contractor's drawing and part number, 100L-41.	Meter illumination light; screws into lampholder base, A-110.
E-106	**N16-K-700552-444	KNOB: round; gray polystyrene; 1/4" shaft diam. two #6-32 set screws; unmarked; 7/8" diam. x 29/32" high; brass insert, cadmium plated, shaft hole 1/2" deep; 3/4" diam. x 15/32" deep counter-bore. Manufacturer and manufacturer's designation, TL, IM75-18-11X; contractor's drawing and part number, IM75-18-11X.	"Zero adjust" knob; mts. on shaft of R-129 on instrument cover, A-101.
E-107	N16-K-700552-444	Same as E-106.	Calibration adjust knob; mts. on shaft of R-121 on instrument cover, A-101.
E-108	**N16-K-700169-575	KNOB: lever type; pointer, tenite, black, matte finish; 1/4" diam. shaft; double #8-32 set screw; 57/64" x 1-3/16" over-all; aluminum insert; 3/4" dp. hole; counter-bore, 5/16" dp. Manufacturer and manufacturer's designation, TL, IM75-18-14B; contractor's drawing and part number, IM75-18-14B.	Function selector switch knob; mounts on extension shaft, O-110.
E-109	N16-P-404101-311	PLATE, mounting: tube socket mounting plate; steel, cadmium plated; 1-3/4" x 1-11/16" x 1/16"; mtg. two #4-40 flat head screws. Manufacturer and manufacturer's designation, TL, IM75-17-1A; contractor's drawing and part number, IM75-17-1A.	Mounts tube socket for V-102; screws to cover cap, O-102.
E-110	N16-H-800001-311	HOUSING: light-tight housing for phosphor; includes multi-crystalline stilbene phosphor crystal. Manufacturer and manufacturer's designation, TL, IM75-38X; contractor's drawing and part number, IM75-38X.	Light-tight cover and stilbene phosphor for radiation detector; mounts on phototube housing, A-104.
E-111	F16-S-39799-1004	SHUTTER, window: Shutter for phototube housing assembly; black phenolic; 1.410" O.D. x 1.280" I.D. x 2" lg.; has three openings spaced 60° apart, each approx. 1" x 1/2"; opening two has mesh cemented in place; opening three has a Sr-90 calibration source of approx. 100 ucuries; the closed end of the shutter has a shaft .185" diam. x 3/8" lg.; includes gear, O-123, retainer ring, O-126, lock-washer, nut, H-117. Manufacturer and manufacturer's designation, TL, IM75-252B; contractor's drawing and part number, IM75-252B.	Shutter connects through cam and linkages to the function selector switch S-101; positions the proper opening or source in front of cathode of photomultiplier tube, V-102; located inside of housing, A-104.
E-112	N17-I-59611-5284	INSULATION, feed-through: consists of one screw #4-40, 11/16" long, one rubber insulator and two rubber sealing washers. Modified from Lundey #250S by removing ceramic spacers and adding "O" ring. Manufacturer and manufacturer's designation, TL, IM75-253B; contractor's drawing and part number, IM75-253B.	Feedthrough bushing to battery compartment; bolts to instrument case, A-103.

\*\*Note: Replace with standard knob.

TABLE 6-4. TABLE OF REPLACEABLE PARTS—Continued

REF. DESIGN.	STOCK NOS. SIG. CORPS, NAVY AIR FORCE	NAME AND DESCRIPTION	LOCATING FUNCTION
E-113	N16-C-14239-1001	CALIBRATOR, radioactive source: Sr-90 calibrating source; approx. 100 $\mu$ c of Sr-90 sealed in holder, 1-7/32" x 23/32" over-all. Part of E-111; for reference only. Manufacturer and manufacturer's designation, TL, IM75-31B; contractor's drawing and part number, IM75-31B.	Internal calibrating source, cemented to shutter, E-111.
E-114	N17-C-780960-351	CLAMP, electrical: black rubber insulator; over-all length 0.857"; mounts in 0.161" diam. hole; includes following parts: Fillister head screw, hex nut, Shakeproof solder lug, washers, Lundey feed-through terminal, rubber "O" ring, and cable clamp. Manufacturer and manufacturer's designation, TL, IM75-255A; contractor's drawing and part number, IM75-255A.	Feedthru bushing to battery compartment; bolts to instrument case, A-103.
E-115	N17-C-781583-301	CLAMP, electrical: black rubber insulator; over-all length 1-15/64"; mounts in .161" diam. hole; includes following parts: Fillister head screw, solder lugs, washers, "O" rings, rubber insulator, hex nut, stand-off, and cable clamp. Manufacturer and manufacturer's designation, TL, IM75-256A; contractor's drawing and part number, IM75-256A.	Feedthru bushing to battery compartment; bolts to instrument case, A-103.
H-101	N16-S-690501-140	STRAP, carrying: Navy gray vinylchloride; approx. 1-1/2" wide x 40" lg. both ends terminated with huckles with two movable keepers. Manufacturer and manufacturer's designation, North & Judd Cat. #5864; contractor's drawing and part number, ST-123/PDR-18.	For carrying RADIACMETER IM75/PDR-18A over the shoulder.
H-102	N17-H-150001-157	HANDLE: Aluminum casting, type 356 anodized, Navy gray finish; 6" lg. x 3-3/4" high x 1" diam.; includes 3/8" 16 machine screw, (H-108); mts. meter illumination switch S-102. Manufacturer and manufacturer's designation, TL, IM75-254A; contractor's drawing and part number, IM75-254A.	Instrument carrying handle.
H-103	*N17-W-56095-6392	WINDOW: window for meter face; clear plexiglass; semicircular, 1-11/16" radius; mtg. six .154" diam. holes spaced 60° apart on 1-1/2" radius. Manufacturer and manufacturer's designation, TL, IM75-18-3X; contractor's drawing and part number, IM75-18-3X.	Meter viewing window. Mts. inside cover, A-101 on gasket, O-113.
H-104	*N16-C-300872-641	CLAMP: tube clamp; steel; cadmium plated; single screw mtg.; 3/16" lg. x 1/4" wide x 1/4" deep; clamps 5/16" diam. tube. Manufacturer and manufacturer's designation, TL, IM75-8-1X; contractor's drawing and part number, IM75-8-1X.	Tube clamp for V-101; screws to terminal board, E-101.
H-105		SCREW, machine: slot drive; flat head; stainless steel, normal hardness; #1-64 thread; 1/8" long; for reference only. Contractor's drawing and part number, SF164-3.	Holds shutter shaft to shutter.
H-106	N43-S-16469-5638	SCREW, machine: hexagonal head, unfinished; stainless steel; #10-32 NF-2; 4-15/32" lg.; thread 5/8" lg.; 5/32" thk. head, 3/8" across flats. Manufacturer and manufacturer's designation, TL, IM75-2-1X; contractor's drawing and part number, IM75-2-1X.	Hold cover, A-101 to case, A-103.
H-107	*N43-S-16469-5505	SCREW, machine: hexagonal head, unfinished; stainless steel, #10-32, NF-2; 23/32" lg.; 3/8" lg. thread; 5/32" thk. head, 3/8" across flats. Manufacturer and manufacturer's designation, TL, IM75-2-3X; contractor's drawing and part number, IM75-2-3X.	Hold battery box, B-101 to instrument cover, A-101.

\*Not furnished as a maintenance part. If failure occurs do not request replacement unless the item cannot be repaired or fabricated.

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TABLE 6-4. TABLE OF REPLACEABLE PARTS—Continued

REF. DESIGN.	STOCK NOS. SIG. CORPS, NAVY AIR FORCE	NAME AND DESCRIPTION	LOCATING FUNCTION
H-108	N43-S-79153-5015	SCREW, machine: hexagonal head, unfinished; cold-rolled steel, cadmium plated; #3/8-16 NC-2; 5/8" lg.; 1/2" lg. thread; non-standard, 1/8" thk. head, 1/2" across flats; through-hole located centrally, along axis of thread; for reference only. Manufacturer and manufacturer's designation, TL, IM75-19-2X; contractor's drawing and part number, IM75-19-2X.	Holds handle, H-102 to battery box cover, A-102.
H-109	*N43-S-99500-308	SCREW, pivot: hexagonal head, unfinished; steel, cadmium plated; #4-40, NC-2, 1/4" lg.; 9/64" lg. thread; 1/32" thk. head, 3/8" across flats; shoulder .182" diam. x .047" lg. Manufacturer and manufacturer's designation, TL, IM75-2-4C; contractor's drawing and part number, IM75-2-4C.	Pivot screw for meter scale changing linkage.
H-110	N17-S-150263-101	SEAL, WATER: seal nut; steel, nickel plated, machine finish, chamfered corners; 3/8"-32 NC-2 thread; 9/32" thk., threaded through; 5/8" across flats; with rubber "O" ring on bottom and neoprene boot. Manufacturer and manufacturer's designation, Radio Freq. Labs, H1268; contractor's drawing and part number, 100A2-3.	Used to mount potentiometer, R-121 to instrument cover, A-101.
H-111		Same as H-110.	Used to mount potentiometer, R-129, to cover, A-101.
H-112		Same as H-110.	Used to mount switch, S-101 to instrument cover, A-101.
H-113	N17-P-69706-9031	POST, spacing: terminal board stand-off mount; brass cadmium plate; no dimension greater than one inch. Manufacturer and manufacturer's designation, TL, IM75-6-2X; contractor's drawing and part number, IM75-6-2X.	Used as stand-off for terminal board, E-101; located on power supply, E-104.
H-114	*N17-P-69718-6401	POST, spacing: meter mounting; brass, cadmium plated; 7/8" lg. x 1/4" diam. o/a; #8-32 x 9/32" lg. thd. shank one end #8-32 x 5/16" deep tapped hole other end; slotted at tapped hole end. Manufacturer and manufacturer's designation, TL, IM75-18-7X; contractor's drawing and part number, IM75-18-7X.	Used as stand-off for meter; located between meter, M-101 and cover, A-101.
H-115	*N17-P-69723-1031	POST, spacing: chassis mounting, brass, cadmium plated; 1-3/32" lg. x 1/4" O.D., single #8-32 thread, 5/16" lg. one end, #8-32 x 5/16" deep tapped hole other end; slotted at tapped end. Manufacturer and manufacturer's designation, TL, IM75-18-6X; contractor's drawing and part number, IM75-18-6X.	Mounts chassis, A-105 to meter, M-101.
H-116	*N33-W-322-2550	WASHER, flat: steel, cadmium plated, with rubber "O" ring for seal; washer, .438" O.D. x 2/6" I.D. x .040" thk.; "O" ring .276" O.D. x .176" I.D. x .050" thk. Manufacturer and manufacturer's designation, Wolfe, 10-3/16-200 AC; contractor's drawing and part number, 100X-88.	Seals head of screw, H-106 to cover, A-101.
H-117		NUT: hexagonal head; steel, nickel plated, machine finish, turned; #5-40 NC-2 thread; 7/64" thick; 1/4" across flats; for reference only. Contractor's drawing and part number, N540-2.	Hold gear on shutter shaft.
H-118		PIN, dowel: stainless steel; 1/8" diam. x 7/8" lg.; for reference only. Manufacturer and manufacturer's designation, Esna, 79-028-125-0875; contractor's drawing and part number, RP125-3.	Part of instrument case, A-103; used for fastening carrying strap, H-101.
H-119	N41-W-2444	WRENCH: Allen set screw wrench: .050 across flats; 21/32" x 1-27/32" over-all; tool steel, parkerize; for #4 Allen set screw. Manufacturer and manufacturer's designation, Allen Mfg., #050; contractor's drawing and part number, WA4-2.	Located inside carrying case.

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TABLE 6-4. TABLE OF REPLACEABLE PARTS—Continued

REF. DESIGN.	STOCK NOS. SIG. CORPS, NAVY AIR FORCE	NAME AND DESCRIPTION	LOCATING FUNCTION
H-120	N41-W-2445	WRENCH: Allen set screw wrench; 1/16" across flats; 21/32" x 27/32" over-all; tool steel, parkerize; for #6 Allen set screw. Manufacturer and manufacturer's designation, Allen Mfg., #116; contractor's drawing and part number, WA6-1.	Located inside carrying case.
H-121	N41-2446	WRENCH: Allen set screw wrench; 5/64" across flats; 45/64" x 1-31/32" over-all; tool steel, parkerize; for #8 Allen set screw. Manufacturer and manufacturer's designation, Allen Mfg. #564; contractor's drawing and part number, WA8-1.	Located inside carrying case.
H-122	N17-C-780880-980	CLAMP: cable clamp; ethyl cellulose plastic (clear); finish-fungicide; one 13/64" diam. mtg. hole; 1/2"W x 13/16"L x 5/16"H; clamps 3/16" diam. cable. Manufacturer and manufacturer's designation, Holub Ind. Cat. #3; contractor's drawing and part number, 100V1-46.	Clamps battery cable to instrument cover, A-101.
H-123 to H-199		not used.	
M-101	F17-M-32179-6299	METER, ammeter: D.C. meter; JAN #1-6; 0-20 microamperes; square plastic case; 3-1/2" x 3-3/4" x 1-1/2"; 2% accuracy of full scale reading; D'Arsonval movement; 37 millivolts full scale, 1820 ohms; calibrated for non-magnetic panel; 50 divisions; scale changing meter, has black figures on colored backgrounds; backgrounds white, fire engine red, light magenta, orange, and yellow; mts. with four .180" diam. holes spaced 1-15/16" x 3-15/32"; two solder terminals; 1/4" diam. shaft protruding through back of case changes meter scales. JAN and Navy type number, JAN 1-6 (C22739); manufacturer and manufacturer's designation, Wemco CAY22739 or Marion 100M-30; contractor's drawing or part number, 100M-30, 100M-30A.	Indicates roentgen rates for RADIACMETER IM75/PDR-18A.
M-102 to M-199		not used.	
MS-101		CLOTH, wire: nickel plated copper; 100 x 100 sq. mesh; 1" x 3/4" o/a; open area 10% ± 1%; for reference only. Manufacturer and manufacturer's designation, J. O. Jelliffe, 100 COUNT Leptromesh; contractor's drawing and part number, IM75-20-3A.	Light attenuator for 500 R/hr. range, mounted in shutter, E-111.
O-101	N16-A-700001-235	ARM: shutter positioning linkage; steel, cadmium plated; consists of an arm, cam follower and a rack gear; approx. 3/16" x 7/8" x 3-5/16" over-all. Manufacturer and manufacturer's designation, TL, IM75-13X; contractor's drawing and part number, IM75-13X.	Mounts between shaft of switch S-101 and pull bar guide, O-108 and is driven by cam, O-103 and positions shutter.
O-102	N16-C-146493-101	CAP: phototube socket cap; molded black phenolic; 1.687" x 1.750" x .625" over-all; mtg. four #4-40 holes spaced 1.375" x 1.250". Manufacturer and manufacturer's designation, TL, IM75-16-1E; contractor's drawing and part number, IM75-16-1E.	Cap to cover phototube socket X-101; mts. to phototube housing, A-104.
O-103	*N16-C-125001-323	CAM: shutter actuating cam; steel, cadmium plated; 11/32" lg. x 13/16" O.D. approx.; two #4-40 NC-2 tapped holes spaced 90° apart. Manufacturer and manufacturer's designation, TL, IM75-12X; contractor's drawing and part number, IM75-12X.	Mounts on shaft of switch, S-101, positions the shutter, E-111 thru gear assembly, O-101.

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TABLE 6-4. TABLE OF REPLACEABLE PARTS—Continued

REF. DESIGN.	STOCK NOS. SIG. CORPS, NAVY AIR FORCE	NAME AND DESCRIPTION	LOCATING FUNCTION
O-104	*N16-C-599931-163	COLLAR, shaft: steel, cadmium plated; 1/2" diam. doughnut; 1/2" O.D. x 1/4" I.D. x 1/4" lg.; mts. with two #4-40 set screws, spaced 90° apart. Manufacturer and manufacturer's designation, TL, T1-6-1; contractor's drawing and part number, T1-6-1.	Bearing to retain gear assembly, O-101. Mounts on shaft of switch, S-101.
O-105		Same as O-104.	Same as O-104.
O-106	*N17-S-46747-7121	SPRING: helical extension type; for shutter cam return; .016" diam. music wire, cadmium plated; 1/8" O.D. x 1/2" lg.; approx. 31 turns; right hand spiral; parallel eye terminals; terminals bent on 1/16" radius at one end and 1/8" radius on other. Manufacturer and manufacturer's designation, TL, 100SP-2B; contractor's drawing and part number, 100SP-2B.	Connects between gear assembly, O-101 and housing A-104, and holds gear assembly cam follower against cam, O-103. ●
O-107	N17-S-46861-1755	SPRING: torsion type; meter scale linkage return spring; .020" diam. music wire; 7/16" long x 1-1/4" diam. when relaxed; approx. 9 turns; 3/16" draw bar hook on one end and large flat eye at other. Manufacturer and manufacturer's designation, TL, IM75-6-4X; contractor's drawing and part number, IM75-6-4X.	Return spring for cam, O-121 and linkage, O-109.
O-108	N16-G-935001-103	GUIDE, pull-bar: guide for shutter operating linkage; brass, cadmium plated. Manufacturer and manufacturer's designation, TL, IM75-7-9X; contractor's drawing and part number, IM75-7-9X.	Guide for gear assembly, O-101; mts. on housing, A-104.
O-109	*N16-L-49001-112	LINK, control lever: meter scale changing linkage; consists of two pieces approx. 4" lg. x 1/4" wide x 1/16" thk.; steel, cadmium plated; mts. with collar on 1/4" diam. shaft on one end, and on meter arm on other. Manufacturer and manufacturer's designation, TL, IM75-11C; contractor's drawing and part number, IM75-11C.	Mounts on shaft of switch, S-101 and on meter arm using pivot screw, H-109; used to position meter scales by actuating, S-101.
O-110	*N16-S-21226-1208	SHAFT SUB-ASSEMBLY: switch extension shaft and bearing; steel, cadmium plated; 1-3/16" x 1/2" diam. over-all; mts. by 3/8"-32 threaded bushing. Manufacturer and manufacturer's designation, TL, IM75-40X; contractor's drawing and part number, IM75-40X.	Switch shaft extension and sleeve bearing; feeds-thru cover, A-101.
O-111	*N17-C-965001-346	TUBING: subminiature electron tube mount; neoprene; 5/16" I.D. x 9/16" lg. x 1/32" wall thickness. Manufacturer and manufacturer's designation, TL, IM75-8-2B; contractor's drawing and part number, IM75-8-2B.	Shock mount for V-101; mounts under clamp, H-104.
O-112	*N17-G-161138-950	GASKET: handle gasket; neoprene; round, one hole, 1" O.D. x 11/16" I.D. x 1/16" thk., 30-40 durometer, black. Slot on inside dia. 7/64" lg. x 3/32" wd. Manufacturer and manufacturer's designation, TL, IM75-19-3X; contractor's drawing and part number, IM75-19-3X.	Seals handle, H-102 to cover, A-102.
O-113	*N17-G-150408-650	GASKET: meter window gasket; neoprene; black, 30-40 duro.; semicircular, 1-11/16" radius x 5/64" thk.; approx. 3-3/8" lg. x 2-1/2" wd. o/a. Manufacturer and manufacturer's designation, TL, IM75-18-4X; contractor's drawing and part number, IM75-18-4X.	Seals window, H-103 to cover, A-101.
O-114	*N17-G-154217-738	GASKET: phototube socket gasket; neoprene; black, 30-40 duro.; rectangular, 1-5/8" x 1-3/4" x 1/16" thk.; three holes, one 1-1/4", other two 3/16" dia. located on diagonal of rectangle 1-1/4" x 1-1/8". Manufacturer and manufacturer's designation, TL, IM75-7-7X; contractor's drawing and part number, IM-75-7X.	Provides light-tight seal between socket cap, O-102 and housing, A-104.

\*Not furnished as a maintenance part. If failure occurs do not request replacement unless the item cannot be repaired or fabricated.

TABLE 6-4. TABLE OF REPLACEABLE PARTS—Continued

REF. DESIGN.	STOCK NOS. SIG. CORPS, NAVY AIR FORCE	NAME AND DESCRIPTION	LOCATING FUNCTION
O-115	*N17-G-161141-368	GASKET: switch gasket; neoprene; black, 30-40 duro.; round 1" O.D. 3/4" I.D. x 1/16" thk. Manufacturer and manufacturer's designation, TL, IM75-4-3X; contractor's drawing and part number, IM75-4-3X.	Seal switch, S-102, to handle, H-102.
O-116	*N17-G-154372-767	GASKET: phosphor housing gasket; neoprene; black, 30-40 duro.; rectangular, 1-15/16" x 1-5/8" x 1/16" thk. Manufacturer and manufacturer's designation, TL, IM75-2-6X; contractor's drawing and part number, IM75-2-6X.	Seals phosphor housing, E-110 to phototube housing, A-104.
O-117	N17-G-157555-504	GASKET: instrument cover gasket; neoprene; black, 30-40 duro.; rectangular, 9-5/8" x 5-1/8" x 1/8" thk.; two holes, one 6-5/32" x 4-13/16", other 3" x 4-13/16". Manufacturer and manufacturer's designation, TL, IM75-18-2X; contractor's drawing and part number, IM75-18-2X.	Seals cover, A-101, to cabinet A-103; mounts in groove on cover, A-101.
O-118	*N17-G-150457-497	GASKET: battery box cover seal; neoprene; 3-1/2" x 3-3/4" x 1/16" thk. Manufacturer and manufacturer's designation, TL, IM75-2-2X; contractor's drawing and part number, IM75-2-2X.	Seals cover, A-102, to cover, A-101.
O-119		RING, retainer: steel, cadmium plated; .742" diam. x .024" ± .0015" thk. For reference only. Manufacturer and manufacturer's designation, SPRILOX, RR-68C; contractor's drawing and part number, 100Q2-25.	Retains switch contacts of S-102 switch housing.
O-120		SHAFT: gear shaft for shutter mechanism; brass, cadmium plated; one end threaded W/#5-40 thd; 1/8" diam. 5/32" lgth. of thd., other end 5/8" diam., 1/16" lg.; shoulder has three #1-64 tapped holes equally spaced 120° apart on .437" diam. B.C. 23/32" lg. by 5/8" diam. c/a; for reference only. Manufacturer and manufacturer's designation, TL, IM75-20-2X; contractor's drawing and part number, IM75-20-2X.	Connects gear, O-123, to shutter; part of shutter assembly, E-111.
O-121	*N17-C-150001-134	CAM: meter scale switching cam; steel, cadmium plated; 1/2" diam. x 1/4" long; mts. on 1/4" diam. shaft; two #4-40 NC-2 tapped holes spaced 90° apart; cut-out .156" from center of cam. Manufacturer and manufacturer's designation, TL, T1-6-2A; contractor's drawing and part number, T1-6-2A.	Meter scale changing cam; mounts on shaft of switch, S-101.
O-122	N16-A-70001-234	ARM: arm for scale changing meter; steel, cadmium plated; mts. on 1/4" diam. shaft; one #4-40 clinch nut one end and two #4-40 set screws 1/8" lg. other end. Manufacturer and manufacturer's designation, TL, IM75-30X; contractor's drawing and part number, IM75-30X.	Mounts on meter, S-101 scale changing shaft and thru link, O-109 switches meter scales.
O-123		GEAR, spur: spur type; brass, cadmium plated; shutter driving mechanism; 12 teeth; 48 pitch, 1/4" pitch diam.; .291" O.D., 1/8" I.D., 1/8" thk.; for reference only. Manufacturer and manufacturer's designation, Grant Gear, 27; contractor's drawing and part number, 100G2-1.	Mounts on shaft of shutter and meshes with gear assembly, O-101, positions shutter; part of shutter assembly, E-111.
O-124	*N16-B-800165-151	BUSHING: shaft bushing; brass, cadmium plated; 7/8" O.D. x .187" I.D. x 13/64" lg., 3/8" diam. shoulder on one end; 13/64" lg. o/a; tapped #2-56. Manufacturer and manufacturer's designation, TL, IM75-7-2X; contractor's drawing and part number, IM75-7-2X.	Part of housing assembly, A-104; offers bearing to shutter drive shaft.
O-125	*N42-R-2045-4680	RING, retainer: spring steel; round, .288" O.D. x .230" I.D. x .029" thk. Manufacturer and manufacturer's designation, Natl. Lock Washer, XRC-315; contractor's drawing and part number, 100Q2-23.	Part of shaft assembly, O-110; hold shaft inside bushing.

\*Not furnished as a maintenance part. If failure occurs do not request replacement unless the item cannot be repaired or fabricated.

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TABLE 6-4. TABLE OF REPLACEABLE PARTS—Continued

REF. DESIGN.	STOCK NOS. SIG. CORPS, NAVY AIR FORCE	NAME AND DESCRIPTION	LOCATING FUNCTION
O-126	N42-R-2047-10	RING, retainer (external): beryllium copper; shaft diam. .187", groove width 0.017"; ring free diam. .168"; thickness .015". Manufacturer and manufacturer's designation, Waldes, 5100-18C; contractor's drawing and part number, 100Q2-1.	Part of shutter assembly, E-111; hold shutter shaft in sleeve bearing.
O-127	N33-P-1559-710	PACKING, preformed: rubber "O" ring 1/4" O.D. x 1/8" I.D. x 1/16" thk. Manufacturer and manufacturer's designation, Linear, 1820-1; contractor's drawing and part number, 100X-33.	Slips over threaded end of screw, H-106, to retain screw with cover.
O-128		Same as O-127.	
O-129 to O-199		not used.	
R-101	N16-R-51137-811	RESISTOR, fixed: composition; 3.9 megohms $\pm 10\%$ ; 1/2 watt; "F" characteristic; .175" diam. x .406" lg. max.; insulated, moisture resistant; two wire leads. JAN and Navy type number, JAN, RC20-BF395K; manufacturer and manufacturer's designation, IRC, Type BTS 1/2; contractor's drawing and part number, E395-2.	Voltage divider for V-102; located on socket, X-101.
R-102		Same as R-101.	Voltage divider for V-102; located on socket, X-101.
R-103		Same as R-101.	Voltage divider for V-102; located on socket, X-101.
R-104	N16-R-51245-811	RESISTOR, fixed: composition; 6.8 megohms $\pm 10\%$ ; 1/2 watt; "F" characteristic; .175" diam. x .406" lg. max.; insulated, moisture resistant; two wire leads. JAN and Navy type number, JAN, RC20-BF685K; manufacturer and manufacturer's designation, IRC, Type BTS 1/2; contractor's drawing and part number, R-685-4.	Voltage divider for V-102; located on socket, X-101.
R-105		Same as R-104.	Voltage divider for V-102; located on socket, X-101.
R-106		Same as R-104.	Voltage divider for V-102; located on socket, X-101.
R-107		Same as R-104.	Voltage divider for V-102; located on socket, X-101.
R-108		Same as R-104.	Voltage divider for V-102; located on socket, X-101.
R-109	N16-R-51236-811	RESISTOR, fixed: composition; 10 megohms $\pm 10\%$ ; 1/2 watt; "F" characteristic; .175" diam. x .406" lg. max.; insulated, moisture resistant; two wire leads. JAN and Navy type number, JAN, RC20-BF106K; manufacturer and manufacturer's designation, IRC, Type BTS 1/2; contractor's drawing and part number, R106-4.	Voltage divider for V-102; located on socket, X-101.
R-110	N16-R-51065-811	RESISTOR, fixed: composition; 2.2 megohms $\pm 10\%$ ; 1/2 watt; "F" characteristic; .175" diam. x .406" lg. max.; insulated, moisture resistant; two wire leads. JAN and Navy type number, JAN, RC20-BF225K; manufacturer and manufacturer's designation, IRC, Type BTS 1/2; contractor's drawing and part number, R225-6.	Voltage divider for V-102; located on terminal board E-103.
R-111	N16-R-50201-811	RESISTOR, fixed: composition; 6800 ohms $\pm 10\%$ ; 1/2 watt; "F" characteristic; .175" diam. x .406" lg. max.; insulated, moisture resistant; two wire leads. JAN and Navy type number, JAN, RC20BF682K; manufacturer and manufacturer's designation, IRC, Type BTS 1/2; contractor's drawing and part number, R682-4.	Meter, M-101, sensitivity shunt; located on terminal board, E-102.

TABLE 6-4. TABLE OF REPLACEABLE PARTS—Continued

REF. DESIGN.	STOCK NOS. SIG. CORPS, NAVY AIR FORCE	NAME AND DESCRIPTION	LOCATING FUNCTION
R-112	N16-R-51371-811	RESISTOR, fixed: composition; 15 megohms $\pm 10\%$ ; 1/2 watt; "F" characteristic; .175" diam. x .406" lg. max.; insulated, moisture resistant; two wire leads. JAN and Navy type number, JAN, RC20-BF156K; manufacturer and manufacturer's designation, IRC, Type BTS 1/2; contractor's drawing and part number, R156-4.	Voltage divider for V-102; located on terminal board, E-103.
R-113	N16-R-51281-811	RESISTOR, fixed: composition; 8.2 megohms $\pm 10\%$ ; 1/2 watt; "F" characteristic; .175" diam. x .406" lg. max.; insulated, moisture resistant, two wire leads. JAN and Navy type number, JAN RC20-BF825K; manufacturer and manufacturer's designation, IRC, Type BTS 1/2; contractor's drawing and part number, R825-2.	Voltage divider for V-102; located on terminal board, E-103.
R-114	N16-R-51173-811	RESISTOR, fixed: composition; 4.7 megohms $\pm 10\%$ ; 1/2 watt; "F" characteristic; .175" diam. x .406" lg. max.; insulated, moisture resistant; two wire leads. JAN and Navy type number, JAN, RC20-BF475K; manufacturer and manufacturer's designation, IRC, Type BTS 1/2; contractor's drawing and part number, R475-6.	Voltage divider for V-102; located on terminal board, E-103.
R-115	N16-R-51065-811	Same as R-110.	Voltage divider for V-102; located on terminal board, E-103.
R-116	N16-R-73233-9051	RESISTOR, fixed: composition; 270,000 ohms $\pm 1\%$ ; 1/2 watt; .255" diam. x 5/8" lg.; vinylite sleeve; two wire leads; "carbofilm" type, deposited carbon on ceramic rod. Manufacturer and manufacturer's designation, Wilcor, Type CP 1/2; contractor's drawing and part number, R274-7.	Grid resistor for V-101; mounted on terminal board, E-101.
R-117	N16-R-73338-2671	RESISTOR, fixed: composition; 2.7 megohms $\pm 1\%$ ; 1/2 watt; .255" diam. x 5/8" lg.; vinylite sleeve; two wire leads; "carbofilm" type, deposited carbon on ceramic rod. Manufacturer and manufacturer's designation, Wilcor, Type CP 1/2; contractor's drawing and part number, R275-5.	Grid resistor for V-101; mounted on terminal board, E-101.
R-118	N16-R-73399-2001	RESISTOR, fixed: composition; 27 megohms $\pm 1\%$ ; 1/2 watt; .325" diam. x 7/8" lg.; vinylite sleeve; two wire leads; "carbofilm" type, deposited carbon on ceramic rod. Manufacturer and manufacturer's designation, Wilcor, Type CP1; contractor's drawing and part number, R276-1.	Grid resistor for V-101; mounted on terminal board, E-101.
R-119	N16-R-68315-6241	RESISTOR, fixed: wire wound, non-inductive; 10 ohms $\pm 10\%$ ; 1/2 watt; 15/16" diam. x 21/32" lg. max.; insulated, moisture resistant; two wire leads. JAN and Navy type number, JAN, RU3C100K; manufacturer and manufacturer's designation, IRC, Type BW 3; contractor's drawing and part number, R100-5.	Current-limiting resistor for V-101 filaments; located on terminal board, E-102.
R-120	N16-R-50713-431	RESISTOR, fixed: composition; 220,000 ohms $\pm 5\%$ ; 1/2 watt; "F" characteristic; .175" diam. x .406" long max.; insulated, moisture resistant; two wire leads. JAN and Navy type number, JAN, RC20-BF224J; manufacturer and manufacturer's designation, IRC, Type BTS 1/2; contractor's drawing and part number, R224-5.	Meter multiplier for checking "A" battery; located on terminal board, E-102.
R-121	N16-R-87752-5410	RESISTOR, variable: composition; 25,000 ohms $\pm 20\%$ ; 2 watt; 100°C. max. continuous operating temp.; three solder lug terminals, enclosed molded phenolic case, 1/4" diam.; linear taper; insulated contact arm, no off position; normal torque. Manufacturer and manufacturer's designation, AB, J32248; contractor's drawing and type number, P253-8A.	Variable sensitivity control for meter, M-101; mounted on cover, A-101.

TABLE 6-4. TABLE OF REPLACEABLE PARTS—Continued

REF. DESIGN.	STOCK NOS. SIG. CORPS, NAVY AIR FORCE	NAME AND DESCRIPTION	LOCATING FUNCTION
R-122	N17-R-50480-811	RESISTOR, fixed: composition; 47,000 ohms, $\pm 10\%$ ; 1/2 watt; "F" characteristic; .175" diam. x .406" lg.; insulated, moisture resistant; two wire leads. JAN and Navy type number, JAN, RC20-BF473K; manufacturer and manufacturer's designation, IRC, Type BTS 1/2; contractor's drawing and part number, R473-7.	Part of meter sensitivity control network; located on terminal board, E-102.
R-123	N16-R-50732-811	RESISTOR, fixed: composition; 22,000 ohms $\pm 10\%$ ; 1/2 watt; "F" characteristic; .175" diam. x .406" lg.; insulated, moisture resistant; two wire leads. JAN and Navy type number, JAN, RC20BF223K; manufacturer and manufacturer's designation, IRC, Type BTS 1/2; contractor's drawing and part number, R223-7.	Cathode resistor for V-101; mounted on terminal board, E-102.
R-124	N16-R-50695-437	RESISTOR, fixed: composition; 180,000 ohms $\pm 5\%$ ; 1/2 watt; "F" characteristic; .175" diam. x .406" lg. max.; insulated, moisture resistant; two wire leads. JAN and Navy type number, JAN, RC20-BF184J; manufacturer and manufacturer's designation, IRC, Type BTS 1/2; contractor's drawing and part number, R184-4.	Meter multiplier for "B" battery check; located on terminal board, E-102.
R-125	N16-R-85186-1081	RESISTOR, thermal: temperature compensating; thermal coefficient at 25°C., $-4.4\%$ per degree C.; .125" diam. x .560" lg. Manufacturer and manufacturer's designation, WECO, Type 13A; contractor's drawing and part number, R104-10A.	Dark current compensating resistor; mounted on terminal board, E-101.
R-126	N16-R-50335-431	RESISTOR, fixed: composition; 15,000 ohms $\pm 5\%$ ; 1/2 watt; "F" characteristic; .175" diam. x .406" lg. max.; insulated, moisture resistant; two wire leads. JAN and Navy type number, JAN, RC20-BF153J; manufacturer and manufacturer's designation, IRC, Type BTS 1/2; contractor's drawing and part number, R153-8.	Bucking current limiting resistor; mounts on terminal board, E-102.
R-127		not used.	
R-128	Applied for Aug. 29, 1952	RESISTOR, fixed: composition; 15,000 ohms $\pm 5\%$ ; 1/2 watt; "F" characteristic; .175" x .406" lg. max.; insulated, moisture resistant; two wire leads. JAN and Navy type number, JAN, RC20BF153K; manufacturer and manufacturer's designation, IRC, Type BTS 1/2; contractor's drawing and part number, R153-2.	Grid bias resistor in dark current compensating network; located on terminal board, E-101.
R-129	N16-R-87710-9510	RESISTOR, variable: composition; 15,000 ohms $\pm 20\%$ ; 1/4 watt @ 40°C. max. continuous; 3 solder lugs closed metal case 31/32" max. diam. x 29/64" max.; round brass, nickel plated shaft, 1/4" diam. x 1" lg. from mtg. surface of potentiometer; JAN A linear taper; insulated contact arm; normal torque; 3/8"-32 bushing; non-turn lug on .438" radius at 9 o'clock; supplied with lockwasher and nut. JAN and Navy type number, RV2ATRE153B; manufacturer and manufacturer's designation, Chicago Tel. Type 45; contractor's drawing and part number, P153-1A.	Panel "ZERO" adjust.
R-130	N16-R-87682-5375	RESISTOR, variable: composition; 10,000 ohms $\pm 20\%$ ; 2 watts, 100°C. max. continuous; three solder lugs; closed metal case, 1-1/16" diam. x 9/16" deep; slotted steel shaft, 1/4" diam. x 5/8" lg.; linear taper; insulated contact arm, no off position; normal torque with shaft lock; 3/8-32 x 1/2" lg. bushing, no locating lug; supplied with lockwasher, mounting nut and shaft locking nut. Manufacturer and manufacturer's designation, AB, JL-32249; contractor's drawing and part number, P-103-11A.	Sub-Panel "Zero" adjust. located on chassis, A-105.

TABLE 6-4. TABLE OF REPLACEABLE PARTS—Continued

REF. DESIGN.	STOCK NOS. SIG. CORPS, NAVY AIR FORCE	NAME AND DESCRIPTION	LOCATING FUNCTION
R-131	N16-R-50552-811	RESISTOR, fixed: composition; 68,000 ohms $\pm 10\%$ ; 1/2 watt; "F" characteristic; .175" diam. x .406" lg. max.; insulated, moisture resistant; two wire leads. JAN and Navy type number, JAN, RC20-BF683K; manufacturer and manufacturer's designation, IRC, Type BTS 1/2; contractor's drawing and part number, R683-6.	Low voltage supply voltage divider network; located on terminal board, E-107.
R-132	N16-R-50651-811	RESISTOR, fixed: composition; 120,000 ohms $\pm 10\%$ ; 1/2 watt; "F" characteristic; .175" diam. x .406" lg. max.; insulated, moisture resistant; two wire leads. JAN and Navy Type number, JAN, RC20BF124K; manufacturer and manufacturer's designation, IRC, Type BTS 1/2; contractor's drawing and part number, R124-4.	Low voltage supply voltage divider network; located on terminal board, E-102.
R-133	N16-R-51137-811	Same as R-101.	Voltage divider for V-102; located on socket, X-101.
R-134	N16-R-50659-431	RESISTOR, fixed: composition; 130,000 ohms $\pm 5\%$ ; 1/2 watt; "F" characteristic; .175" diam. x .406" lg. max.; insulated, moisture resistant; two wire leads. JAN and Navy type number, JAN, RC20BF134J; manufacturer and manufacturer's designation, IRC, Type BTS 1/2; contractor's drawing and part number, R134-1.	Low voltage supply voltage divider network; located on terminal board, E-102.
R-135		THIS RESISTOR IS SELECTED AS ONE OF FOUR TO OBTAIN PROPER CALIBRATION; FOR REFERENCE ONLY.	
R-135A	N16-R-50993-811	RESISTOR, fixed: composition; 1.2 megohms $\pm 10\%$ ; 1/2 watt; "F" characteristic; .175" diam. x .406" lg. max.; insulated, moisture resistant; two wire leads. JAN and Navy type number, JAN, RC20BF125K; manufacturer and manufacturer's designation, IRC, Type BTS 1/2; contractor's drawing and part number, R125-8.	Grid resistor for calibration; located on terminal board, E-102.
R-135B	N16-R-51092-811	RESISTOR, fixed: composition; 2.7 megohms $\pm 10\%$ ; 1/2 watt; "F" characteristic; .175" diam. x .406" lg. max.; insulated, moisture resistant; two wire leads. JAN and Navy type number, JAN, RC20BF275K; manufacturer and manufacturer's designation, IRC, Type BTS 1/2; contractor's drawing and part number, R275-6.	Same as R-135A.
R-135C	N16-R-51137-811	Same as R-101.	Same as R-135A.
R-135D	N16-R-50858-811	RESISTOR, fixed: composition; 5.6 megohms $\pm 10\%$ ; 1/2 watt; "F" characteristic; .175" diam. x .406" lg. max.; insulated, moisture resistant; two wire leads. JAN and Navy type number, JAN, RC20BF565K; manufacturer and manufacturer's designation, IRC, Type BTS 1/2; contractor's drawing and part number, R565-3.	Same as R-135A.
R-136 to R-139		not used.	
S-101	N17-S-65973-1401	SWITCH, rotary: 9 position three pole; 3 sections; brass, silver-plated contacts; 1-1/4" diam. x 1-1/2" lg. shorting contacts; normally open; solder lug terminals; single hole mtg., on #3/8-32" x 1/2" lg. bushing, shaft 1/4" diam. x 1-1/2" lg.; modified for counter clockwise rotation. Manufacturer and manufacturer's designation, Grigsby-A, D-4446-4MLW3; contractor's drawing and part number, 100S-82X.	Function selector switch mounts on chassis, A-105.
S-102	N17-S-56381-1501	SWITCH, push: single pole, single throw; stainless steel, passivated case; 31/32" diam. x 9/16" body over-all; momentary action, normally open; #6 shakeproof solder lug terminal; mts. in handle by 7/8"-14 thread on switch body. Manufacturer and manufacturer's designation, TL, IM75-15G; contractor's drawing and part number, IM75-15G.	Meter illumination light switch; mounts in handle, H-102.

TABLE 6-4. TABLE OF REPLACEABLE PARTS—Continued

REF. DESIGN	STOCK NOS. SIG. CORPS, NAVY AIR FORCE	NAME AND DESCRIPTION	LOCATING FUNCTION
S-103 to S-109		not used.	
V-101	N16-T-65220-0000	TUBE, electron: sub-miniature pentode type CK-522AX. Manufacturer and manufacturer's designation, Raytheon CK522AX; contractor's drawing and part number, CK522AX.	Cathode-follower current amplifier for metering circuit; mounts on terminal board, E-101.
V-102	N16-T-51821	TUBE, electron: JAN 1P21; multiplier type phototube. JAN and Navy type number, JAN 1P21; manufacturer and manufacturer's designation, RCA, JAN 1P21; contractor's drawing and part number, 1P21.	Light sensitive element for detecting phosphor scintillations; mounts in socket, X-101 and is enclosed by housing, A-104.
V-103 to V-199		not used.	
X-102	N16-H-73135-1845	SOCKET, tube: 11 contact magnal; retainer ring mounting; 1-1/4" diam. cut-out required for mtg. round body 1-1/2" diam. x 1/2" high excluding terminals; brass, silver-plated contact; mica-filled phenolic. Manufacturer and manufacturer's designation, Amphenol, 78-S11T; contractor's drawing and part number, 100D-53A.	Tube socket for V-102; mts. on plate, E-109.



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TABLE 6-5. CROSS REFERENCE — PARTS LIST

JAN DESIGNATION	KEY SYMBOL	STOCK NOS. SIG. CORPS, NAVY AIR FORCE	KEY SYMBOL	STOCK NOS. SIG. CORPS, NAVY AIR FORCE	KEY SYMBOL	STOCK NOS. SIG. CORPS, NAVY AIR FORCE	KEY SYMBOL
1-6 (C22739)	M-101	N17-P-400941-104	A-108	N17-P-69706-9031	H-113	N16-R-51245-811	R-104
RC20BF395K	R-101	N17-B-750001-243	A-109	N17-P-69718-6401	H-114	N16-R-51236-811	R-109
RC20BF685K	R-104	N17-L-51660-1001	A-110	N17-P-69723-1031	H-115	N16-R-51065-811	R-110
RC20BF106K	R-109	N17-B-750001-244	A-111	N33-W-322-2550	H-119	N16-R-50201-811	R-111
RC20BF225K	R-110	N17-P-405021-107	A-112	N41-W-2445	H-120	N16-R-51371-811	R-112
RC20BF682K	R-111	N17-B-150001-141	BT-101	N41-2446	H-121	N16-R-51281-811	R-113
RC20BF156K	R-112	N17-C-83594-5601	BT-102	N17-C-780880-980	H-122	N16-R-51173-811	R-114
RC20BF825K	R-113	N17-C-83594-5551	BT-103	F17-M-32179-6299	M-101	N16-R-73233-9051	R-116
RC20BF475K	R-114	N17-B-78008-1985	E-101	N16-A-700001-235	O-101	N16-R-73338-2671	R-117
RU3C100K	R-119	N17-B-78157-9175	E-102	N16-C-146493-101	O-102	N16-R-73399-2001	R-118
RC20BF224J	R-120	N17-B-77935-3015	E-103	N16-C-125001-323	O-103	N16-R-68315-6241	R-119
RC20BF473K	R-122	N16-P-68553-2250	E-104	N16-C-599931-163	O-104	N16-R-50713-431	R-120
RC20BF223K	R-123	N17-L-6271-100	E-105	N17-S-46861-1755	O-107	N16-R-87752-5410	R-121
RC20BF184J	R-124	N16-K-700552-444	E-106	N16-G-935001-103	O-108	N17-R-50480-811	R-122
RC20BF153J	R-126	N16-K-700169-575	E-108	N16-L-49001-112	O-109	N16-R-50732-811	R-123
RC20BF153K	R-128	N16-P-404101-311	E-109	N16-S-21226-1208	O-110	N16-R-50695-437	R-124
RV2ATRE153B	R-129	N16-H-800001-311	E-110	N17-C-965001-346	O-111	N16-R-85186-1081	R-125
RC20BF683K	R-131	F16-S-39799-1004	E-111	N17-G-161138-950	O-112	N16-R-50335-431	R-126
RC20BF124K	R-132	N17-I-59611-5284	E-112	N17-G-150408-650	O-113	N16-R-87710-9510	R-129
RC20BF134J	R-134	N16-C-14239-1001	E-113	N17-G-154217-738	O-114	N16-R-87682-5375	R-130
RC20BF125K	R-135A	N17-C-780960-351	E-114	N17-G-161141-368	O-115	N16-R-50552-811	R-131
RC20BF275K	R-135B	N17-C-781583-301	E-115	N17-G-154372-767	O-116	N16-R-50651-811	R-132
RC20BF565K	R-135D	N16-S-690501-140	H-101	N17-G-157555-504	O-117	N16-R-50659-431	R-134
1P21	V-102	N17-H-150001-157	H-102	N17-G-150457-497	O-118	N16-R-50993-811	R-135A
STOCK NOS. SIG. CORPS, NAVY AIR FORCE		N17-W-56095-6392	H-103	N17-C-150001-134	O-121	N16-R-51092-811	R-135B
N17-P-2237-2647	A-101	N16-C-300872-641	H-104	N16-A-70001-234	O-122	N16-R-50858-811	R-135D
N17-C-945002-137	A-102	N43-S-16469-5638	H-106	N16-B-800165-151	O-124	N17-S-65973-1401	S-101
N16-C-10607-6626	A-103	N43-S-16469-5505	H-107	N42-R-2045-4680	O-125	N17-S-56381-1501	S-102
N16-H-800001-256	A-104	N43-S-79153-5015	H-108	N42-R-2047-10	O-126	N16-T-65220-0000	V-101
N16-C-68703-9240	A-105	N43-S-99500-308	H-109	N33-P-1559-710	O-127	N16-T-51821	V-102
N16-B-750001-689	A-106	N17-S-150263-101	H-110	N16-R-51137-811	R-101	N16-H-73135-1845	X-101
N17-B-300101-108	A-107						

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PARTS LISTS

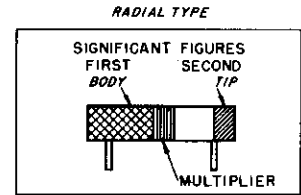
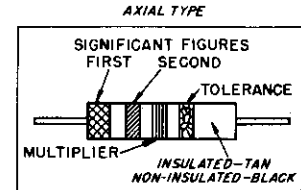
NAVSHIPS 91715  
AN/PDR-18A

Section 6

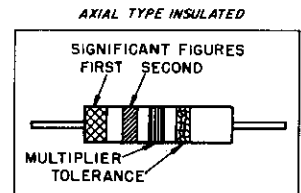
TABLE 6-6. APPLICABLE COLOR CODES AND MISCELLANEOUS DATA

# RESISTOR COLOR CODES

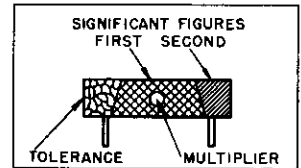
RMA COLOR CODE FOR FIXED COMPOSITION RESISTORS



JAN COLOR CODE FOR FIXED COMPOSITION RESISTORS

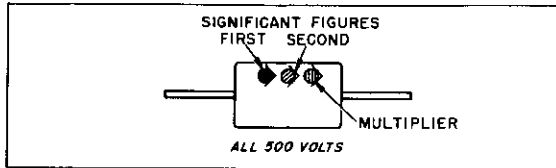


RADIAL TYPE NON-INSULATED

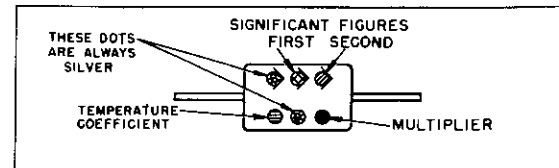


# CAPACITOR COLOR CODES

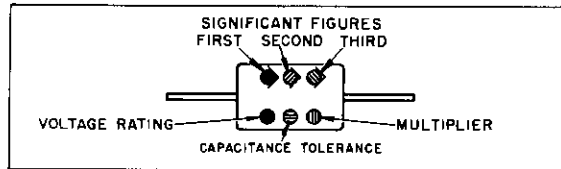
RMA 3-DOT COLOR CODE FOR MICA-DIELECTRIC CAPACITORS



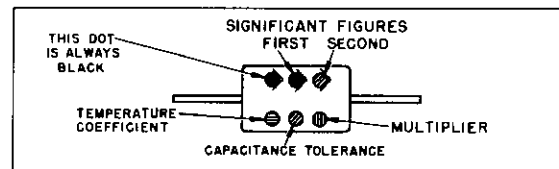
JAN 6-DOT COLOR CODE FOR PAPER-DIELECTRIC CAPACITORS



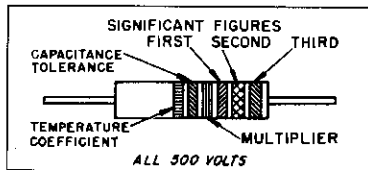
RMA 6-DOT COLOR CODE FOR MICA-DIELECTRIC CAPACITORS



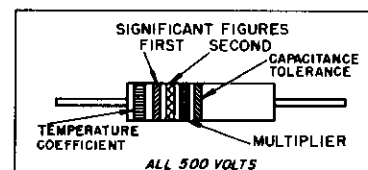
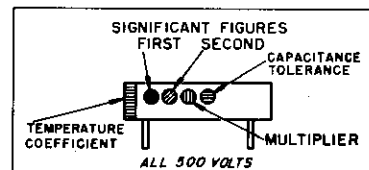
JAN 6-DOT COLOR CODE FOR MICA-DIELECTRIC CAPACITORS



RMA COLOR CODE FOR TUBULAR CERAMIC-DIELECTRIC CAPACITORS



JAN COLOR CODE FOR FIXED CERAMIC-DIELECTRIC CAPACITORS



RMA: RADIO MANUFACTURERS ASSOCIATION  
JAN: JOINT ARMY-NAVY

RESISTORS				CAPACITORS				
TOLERANCE	MULTIPLIER	SIGNIFICANT FIGURE	COLOR	MULTIPLIER			VOLTAGE RATING	TEMPERATURE COEFFICIENT
				RMA MICA AND CERAMIC-DIELECTRIC	JAN MICA AND PAPER-DIELECTRIC	JAN CERAMIC DIELECTRIC		
	1	0	BLACK	1	1	1	100	A
	10	1	BROWN	10	10	10	200	B
	100	2	RED	100	100	100	300	C
	1000	3	ORANGE	1000	1000	1000	400	D
	10,000	4	YELLOW	10,000			500	E
	100,000	5	GREEN	100,000			600	F
	1,000,000	6	BLUE	1,000,000			700	G
	10,000,000	7	VIOLET	10,000,000			800	
	100,000,000	8	GRAY	100,000,000		0.01	900	
	1,000,000,000	9	WHITE	1,000,000,000		0.1	1000	
5	0.1		GOLD	0.1	0.1		2000	
10	0.01		SILVER	0.01	0.01		500	
20			NO COLOR					

TABLE 6-7. LIST OF MANUFACTURERS

DESIGNATION	NAME	ADDRESS
AB	A B C Radio Laboratories	3334 N. New Jersey Street Indianapolis 5, Indiana
Allen Mfg.	Allen Manufacturing Co.	Hartford, Connecticut
Amphenol	American Phenolic Corp.	1830 S. 54th Avenue Chicago 50, Illinois
Chicago Tel.	Chicago Telephone Supply Corp.	1142 West Beardsley Avenue Elkhart, Indiana
Esna	Elastic Stop Nut Corp.	2330 Vauxhall Rd. Union, N. J.
G.E.	General Electric Co.	Nela Park Cleveland, Ohio
Grant Gear	Grant Gear Works	157 West 2nd Street Boston, Massachusetts
Grigsby	Grigsby-Allison Co., Inc.	407 N. Salem Avenue Arlington Heights, Illinois
Holub Ind.	Holub Industries, Inc.	Sycamore, Illinois
IRC	International Resistance Co.	401 N. Broad Street Philadelphia 8, Pennsylvania
Jelliff	C. O. Jelliff Mfg. Corp.	Southport, Conn.
Linear	Linear, Inc.	Philadelphia, Pennsylvania
Marion	Marion Electrical Instrument Co.	Manchester, N. H.
Natl. Lock Washer	National Lock Washer	40 Hermon Street Newark 5, New Jersey
Radio	Radio Corp. of America	Harrison, New Jersey
Radio Freq. Labs	Radio Frequency Labs, Inc.	Boonton 2, New Jersey
Raytheon	Raytheon Mfg. Co.	55 Chapel Street Newton, Massachusetts
Spirolox	Ramsey Corp.	3763 Forest Park Boulevard St. Louis, Missouri
TL	Tracerlab, Inc.	130 High Street Boston 10, Mass.
Victoreen	Victoreen Instrument Co.	5806 Hough Avenue Cleveland 3, Ohio
Waldes	Waldes Kohinoor, Inc.	47-16 Austel Place Long Island City 1, New York
Wemco	Westinghouse Electric Corp.	511 Wood Street P. O. Box 868 Pittsburgh, Pennsylvania
WECO	Western Electric Co.	233 Broadway New York, New York
Wilcor	Wilcor Products, Inc.	3835 W. 150th Street Cleveland 11, Ohio
Wolfe	Franklin C. Wolfe Co., Inc.	3644 Eastham Drive Culver City, Calif.

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