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ELECTRONICS FIELD CHANGE BULLETIN

2-AN/PDR-27CY

DEPARTMENT OF THE NAVY; NAVAL ELECTRONIC SYSTEMS COMMAND

WASHINGTON, D. C. 20360

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REPLACES POWER SUPPLY SECTION

(NO FEDERAL STOCK NUMBER)

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TYPE (I) CLASS (C)

OPERATIONAL CHANGE ( )

ESTIMATED MANHOURS (2)

NON-OPERATIONAL CHANGE (X)

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PREPARED BY

MULTRONICS, INC., 5712 FREDERICK AVENUE, ROCKVILLE, MARYLAND

CONTRACT N151-24736A

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**APPROVAL NOTICE:** Naval shipyards or repair facilities shall accomplish this field change on ships-or shore-installed "equipment affected" without reference to the Naval Electronics Systems Command upon allocation of funds by the management bureau, type commander, or Field Technical Authority.

**EQUIPMENT AFFECTED:** Radiac Set, AN/PDR-27CY; Radiacmeter, IM-140/PDR-27CY; Serial numbers as selected by the Navy Department.

**PURPOSE:** To replace present power supply section and batteries with a standard BATTERY POWER SUPPLY, PP-4814/PDR-27C, and standard size "D" batteries, mil type BA-30. (NOT SUPPLIED.)

**PREVIOUS FIELD CHANGES:** Any previous field changes issued for the Radiac Set, AN/PDR-CY, except those affecting the power supply circuitry, its components, and the batteries, should be accomplished prior to the installation of this field change.

**EFFECT ON NOMENCLATURE:** The following nomenclature changes have been assigned to identify the modified instruments.

TABLE 1: LIST OF MATERIAL REQUIRED:

ITEM	DESIG.	QTY	CY	D	E	F	G	H	NOTE	DESCRIPTION
1	1	1	X	X	X	X	X	X	--	Battery Power Supply, PP-4814/PDR-27C
2	1BT1 to 1BT5	10	X	X	X	X	X	X	1	Battery, Dry Cell, Size 'D' Mil type BA-30, FSN N6135-120-1020. (5 active, 5 spare)
3	R111	1	X	X	X	X	X	X	--	Resistor, Fixed, Film: 205,000 ohms, 1/2W 1%; Mil-R-10509, type RN70B2053F.
4	1MP10	1	X	X	X	-	X	-	--	Foam, Filler Block, Mfr. 15249, type B12842A10.
5	1MP9	1	X	X	X	X	X	X	--	Rubber Cushion, Mfr. 15249, type B12842A11-1.
6	P103	1	-	-	-	X	-	X	--	Connector, Electrical, Plug: 15 pin female, Mfr. 71785, type 15S.
7	P103B	1	-	-	-	X	-	X	--	Shell, Connector: u/w P103; Mfr. 71785, type DA-19977-1.
8	--	1	-	X	X	X	X	X	1	Wire, Insulated; Stranded, 22 Awg Mil-W-16878/1C (NAVY) type B, color Red.
9	--	1	X	-	-	-	-	-	1	Wire, Insulated; Stranded, 22 Awg Mil-W-16878/1C (NAVY) type B, color Orange.
10	--	1	X	-	X	X	X	X	1	Wire, Insulated; Stranded, 22 Awg Mil-W-16878/1C (NAVY) type B, color White.
11	--	1	-	X	X	X	X	X	1	Wire, Insulated; Stranded, 22 Awg Mil-W-16878/1C (NAVY) type B, color Black.
12	--	1	X	X	X	X	X	X	1	Wire, non-insulated; Solid, 22 Awg (Bus Wire)
13	--	AR	X	X	X	X	X	X	1	Insulation, Black, Size 22 (Spaghetti)
14	--	AR	-	X	X	X	X	X	1	Insulation, Black, Size 3/16 inside diameter (Spaghetti).
15	--	1	X	X	X	X	X	X	-	Kit c/o 1 ea of the following modification Plates.
15C	1MP12C	1	X	-	-	-	-	-	-	AN/PDR-27CXX
15D	1MP12D	1	-	X	-	-	-	-	-	AN/PDR-27DX
15E	1MP12E	1	-	-	X	-	-	-	-	AN/PDR-27EX
15F	1MP12F	1	-	-	-	X	-	-	-	AN/PDR-27FX
15G	1MP12G	1	-	-	-	-	X	-	-	AN/PDR-27GX
15H	1MP12H	1	-	-	-	-	-	X	-	AN/PDR-27HX
16	--	1	X	X	X	X	X	X	-	Kit c/o 1 ea of the following modification Plates.
16C	1MP13C	1	X	-	-	-	-	-	-	IM-206/PDR-27CXX
16D	1MP13D	1	-	X	-	-	-	-	-	IM-207/PDR-27DX
16E	1MP13E	1	-	-	X	-	-	-	-	IM-208/PDR-27EX
16F	1MP13F	1	-	-	-	X	-	-	-	IM-209/PDR-27FX
16G	1MP13G	1	-	-	-	-	X	-	-	IM-210/PDR-27GX
16H	1MP13H	1	-	-	-	-	-	X	-	IM-211/PDR-27HX
17C	--	1	X	-	-	-	-	-	1	Technical Manual NAVSHIPS 93086
17D	--	1	-	X	-	-	-	-	1	Technical Manual NAVSHIPS 91649
17E	--	1	-	-	X	-	-	-	1	Technical Manual NAVSHIPS 91685
17F	--	1	-	-	-	X	-	-	1	Technical Manual NAVSHIPS 91856
17G	--	1	-	-	-	-	X	-	1	Technical Manual NAVSHIPS 92071
17H	--	1	-	-	-	-	-	X	1	Technical Manual NAVSHIPS 92126
18	--	AR	X	X	X	X	X	X	1	Solvent, Methyl Ethyl Ketone or Trichloroethylene
19	--	AR	X	X	X	X	X	X	1	Solder, type 60/40 rosin core
20	--	2	X	X	X	X	X	X	-	Supplementary Technical Manual for Radiac Set, AN/PDR-27CXX, DX, EX, FX, GX, HX, NAVSHIPS 0967-283-6010.

NOTE 1 items supplied by Installation Activity.

PREVIOUS TYPE	NOMENCLATURE	MODIFIED TYPE
AN/PDR-27CY	Radiac Set	AN/PDR-27CXX
IM-140/PDR-27CY	Radiacmeter	IM-206/PDR-27CXX
- - -	Battery Power Supply	PP-4814/PDR-27C

## IDENTIFICATION OF ACCOMPLISHMENT:

- (1) Modification Plate for AN/PDR-27CXX appears in close proximity to Identification Plate for Radiac Set, AN/PDR-27CY on case.
- (2) Modification Plate for IM-206/PDR-27CXX appears in close proximity to Identification Plate for Radiacmeter, IM-140/PDR-27CY on Radiacmeter unit.
- (3) The new modular power supply, located in the battery compartment of the radiacmeter unit, may be identified by Identification Plate, PP-4814/PDR-27C, BATTERY POWER SUPPLY.

## LIST OF MATERIALS REQUIRED:

Table 1 is the list of material required for accomplishment of this Field Change. All items listed under Note 1 are to be supplied by the Installing Activity.

## TOOLS AND TEST EQUIPMENT:

Required by Installation Activity

Screwdriver, Common, 6 inch  
 Pliers, Longnose, 6 inch  
 Pliers, Diagonal Cutting (dykes), 4 inch  
 Soldering Iron, 100W.  
 Small Brush  
 Electronic Multimeter, AN/PSM-4  
 Electrostatic Voltmeter (0-1500 volts)  
 Oscilloscope OS-8E/U  
 Transistor Checker, AN/USM-206  
 Radiac Calibrator Set, AN/UDM-1A

## PROCEDURE:

- ( ) 1. Remove Radiacmeter IM-140/PDR-27CY from case.
- ( ) 2. Remove the cover, Battery Compartment A103 from the Panel, Mounting A102 by loosening the four captive screws H106.

- ( ) 3. Remove vibrator power supply A401. Unsolder all wires connected to E101 in the Battery Compartment.
- ( ) 4. Remove batteries from vibrator power supply. Replace cover. Discard vibrator power supply and batteries separately.
- ( ) 5. Remove Panel, Mounting A102 from Housing A101 by loosening the six captive screws H106.

## NOTE

For changes to radiacmeter circuitry and components, refer to Wiring Diagrams and Schematics.

## NOTE

Steps 6 thru 19 involve changes to the radiacmeter circuitry side of the Terminal Board E101. For purposes of this field change, pin 1 is at the top end nearest the front panel.

- ( ) 6. Unsolder the ORANGE wire from pin 1 of E101. Tag it wire 2.
- ( ) 7. Unsolder the BLK-YELLOW wire from pin 4 of E101. Solder it to pin 1 of E101. It now becomes wire 1.
- ( ) 8. Unsolder the BLUE wire from pin 2 of E101. Tag it wire 5.
- ( ) 9. Solder the new wire 2 (removed and tagged in step 6) to pin 2 of E101. It now becomes wire 2.
- ( ) 10. Unsolder the WHT wire and the BLK-RED wire from pin 3 of E101. Place a piece of Insulation (Item 13 of Field Change Kit) over one of the wires. Splice the two wires. Cover the splice with the insulation.
- ( ) 11. Unsolder the BLK-WHT wire from pin 8 of E101. Solder it to pin 3 of E101. It now becomes wire 3.

## NOTE

In steps 12 thru 25, care must be taken so that the wiring is not torn loose or any components broken. In installing the new wires, care must be taken to dress the leads in such a manner that they will not interfere with the actions of the switch or the meter switching mechanism.

- ( ) 12. Remove the ORANGE wire and the WHITE wire connected to pin 11 of Switch S101C, Front. Splice them together and tape the splice to insulate it.
- ( ) 13. Strip (1/4") and tin the WHITE wire (Item 10 of the Field Change Kit). Solder this end to pin 4 of E101. Dress the wire along the chassis to Switch S101. Strip, tin, and solder this end to Pin 11 of Switch S101C, Front. This wire now becomes wire 4.
- ( ) 14. Unsolder the WHITE wire from Pin 5 of E101. Tag it wire 6.
- ( ) 15. Solder the new wire 5 (removed and tagged in step 8) to Pin 5 of E101. It now becomes wire 5.
- ( ) 16. Unsolder the RED wire from Pin 6 of E101. Tag it wire 7.
- ( ) 17. Solder the new wire 6 (removed and tagged in step 14) to Pin 6 of E101. It now becomes wire 6.
- ( ) 18. Unsolder the BLK wire from Pin 7 of E101. Solder it to Pin 8 of E101. It now becomes wire 8.
- ( ) 19. Solder the new wire 7 (removed and tagged in step 16) to Pin 7 of E101. It now becomes wire 7.
- ( ) 20. Jumper pins 10 and 11 of Switch S101B-Rear with a piece of bus wire (Item 12 of Field Change Kit).

## NOTE

Steps 21 thru 25 involve removal and replacement of high voltage terminal board E102. Care must be taken to insure that the wires connected to E102 are not strained or damaged.

- ( ) 21. Remove Clip 0117 from the top of Z101.
- ( ) 22. Remove terminal board E102 by loosening the two round head mounting screws on the left side of the board and by loosening the nut attached to the spade bolt on the right side of the board. Position the board as far away from switch S101 as possible without undue strain on the wiring.

## NOTE

In step 23, it may be necessary to cut the leads of the old Resistor R111 close to the body of the resistor, and use these leads as connections for the new Resistor R111, to be installed in step 24.

- ( ) 23. Remove Resistor R111 from Switch S101B-Front, Pin 4, and S101C-Rear, Pin 6. Discard.
- ( ) 24. Install new Resistor R111 (Item 3 of Field Change Kit) from Switch S101B-Front, Pin 4 to S101C-Rear, pin 6, or if necessary, to the leads of the old Resistor R111 removed in step 23. Solder.
- ( ) 25. Replace terminal board E102. Do not over-tighten the screws or nut. Replace Clip 0117 to top of Z101.

## NOTE

Steps 26 thru 34 involve connections for the new Battery Power Supply, PP-4814/PDR-27C (Item 1 of the Field Change Kit). Care must be taken to insure that the wire numbers of cable 1W1 of the Battery Power Supply coincide with the wire numbers of E101. Wire ends should be trimmed to approximately 1/4 inch, twisted tightly and tinned.

- ( ) 26. Solder to Pin 8 of E101, the BLACK wire no. 8 of cable 1W1. (Pin 8 is the bottom most pin in E101.)
- ( ) 27. Solder to Pin 7 of E101, the RED wire no. 7 of cable 1W1.
- ( ) 28. Solder to Pin 6 of E101, the BROWN wire no. 6B of cable 1W1.
- ( ) 29. Solder to Pin 5 of E101, the GREEN wire no. 5 of cable 1W1.
- ( ) 30. Solder to Pin 4 of E101, the YELLOW wire no. 4 of cable 1W1.
- ( ) 31. Solder to Pin 3 of E101, the VIOLET wire no. 3 of cable 1W1.
- ( ) 32. Solder to Pin 2 of E101, the GRAY wire no. 2 of cable 1W1.
- ( ) 33. Solder to Pin 1 of E101, the BLUE wire no. 1 of cable 1W1.
- ( ) 34. Cut the ORANGE wire, no. 6A, at the power supply board and at the end of the cable. It is not used in Radiac Set, AN/PDR-27CXX.

## NOTE

Steps 35 thru 42 involve making a continuity test of the wiring before installing batteries.

DO NOT CHECK TRANSISTORS WITH OHMMETER

- ( ) 35. Turn Range Switch S101 of radiacmeter to OFF.
- ( ) 36. Check continuity from Pin 6 (BLUE wire) of the power supply to Pin 3 of XZ101.
- ( ) 37. Check continuity from Pin 7 (GRAY wire) of the power supply to Pin 2 of XZ101.
- ( ) 38. Check continuity from the negative battery contact of 1BT5 directly under the cable numbering of the printed wiring board (VIOLET wire) to Resistor R111, then to Pin 4 of switch S101B-Front (BLK-WHT wire); then to ground with Range Switch S101 to BATT COND. position. After test, return Range Switch S101 to OFF.
- ( ) 39. Check continuity from Pin 2 (YELLOW wire) of the power supply to Pin 11 of switch S101C-Front.
- ( ) 40. Check continuity from Pin 5 (GREEN wire) of the power supply to Pin 11 of XZ101; then to Pin 7 of switch S101C-Front; then to positive end of capacitors C102 and C103.
- ( ) 41. Check continuity from Pin 1 (RED wire) of the power supply to Resistor R115 and capacitor C107.
- ( ) 42. Check continuity from Pin 3 (BLACK wire) of the power supply to ground of the Radiacmeter.
- ( ) 43. Check continuity from positive battery contact of 1BT5 on the Bottom Battery Holder 1MP2 (BROWN wire) to Mercury Switch S102.

## NOTE

Steps 44 thru 47 involve installation of batteries into Battery Power Supply, PP-4814/PDR-27C. Polarity must be observed when installing batteries. Care must be exercised to avoid bending or damaging the battery contacts.

- ( ) 44. Obtain 5 new Batteries, 1BT1 to 1BT5, type BA-30 (Item 2 of Field Change Kit) from the Supply Department.
- ( ) 45. Turn the power supply upside down. Remove the Bottom Battery Holder 1MP2 by removing the two screws 1H7.
- ( ) 46. Install the 5 Batteries 1BT1 to 1BT5, observing polarity as marked on the top and bottom battery holders.
- ( ) 47. Re-install the Bottom Battery Holder 1MP2 removed in step 45 by reversing the process.

## NOTE

Do not over-tighten mounting screws. Damage to the battery holder may result.

## NOTE

Steps 48 thru 62 involve performing a voltage test before installation of the power supply. If the proper voltages are not obtained, and the wiring is correct, refer to the trouble shooting and maintenance procedures in the manuals and the supplement.

## WARNING

Dangerously high potentials are present in the set. Turn the Range Switch S101 of the radiacmeter to OFF before and after making meter connections. Observe polarity when making connections.

- ( ) 48. Put the multimeter on the 10 V d c or higher range. Connect the Minus to Pin 3, and the Plus to Pin 4 of E101. It should read between +5.0 to +7.5 V d c (with new batteries, it should read +7.5 V d c) with the Range Switch S101 in the OFF position.
- ( ) 49. Turn the Range Switch S101 to the BATT COND. position. (Due to loading, the reading on the multimeter may drop slightly.) Observe the reading on Meter M101 of the radiacmeter. It should read to the right of the center line.
- ( ) 50. Turn the Range Switch S101 to OFF. Disconnect the multimeter.
- ( ) 51. Put the multimeter on the +100 V d c or higher range. Connect the Plus to Pin 5 and the Minus to Pin 8 of E101.
- ( ) 52. Turn the Range Switch S101 to the 500 position. The reading on the multimeter should be exactly +56 V d c. If not, refer to Section 5, Paragraph 5-2b(1) of the supplementary manual (Item 20 of the Field Change Kit) for adjustment procedures for the voltage regulator. Check the other ranges in turn. The reading should not vary.

- ( ) 53. Turn the Range Switch S101 to OFF. Disconnect the multimeter.
- ( ) 54. Put the multimeter on the +2 V d c or higher range. Connect the Minus to Pin 1 and the Plus to Pin 2 of Terminal Board E101.
- ( ) 55. Turn the Range Switch S101 to the 500 position. The reading on the multimeter should be +1.25 V d c. Check the other three ranges. The reading should not vary.
- ( ) 56. Turn the Range Switch S101 to OFF. Disconnect the multimeter.
- ( ) 57. Put the multimeter on the +2 V d c or higher range. Connect the Plus lead of the multimeter to the BROWN wire located on the bottom of the Battery Holder, and the Minus lead to Pin 8 of E101.
- ( ) 58. Turn the Range Switch S101 to the 500 position. Tilt the radiacmeter upward to close S102. The multimeter should read +1.5 volts.
- ( ) 59. Turn the Range Switch S101 to OFF. Disconnect the multimeter.

#### WARNING

Steps 60 thru 62 involve testing of the 900 V d c circuit. Extreme caution must be observed.

- ( ) 60. Connect the Plus lead of the Electrostatic Voltmeter to Pin 7 and the Minus lead to Pin 8 (ground) of E101. Check to make sure it is on the proper range.
- ( ) 61. Turn the Range Switch S101 to the 500 position. The reading should be +900 V d c  $\pm 10\%$ . Check the other three ranges. The reading should not vary.
- ( ) 62. Turn the Range Switch S101 to OFF. Disconnect the voltmeter.

#### NOTE

Steps 63 thru 68 involve installation of the Battery Power Supply, PP-4814/PDR-27C into the battery compartment of the radiacmeter. Make sure that the Range Switch S101 of the radiacmeter is OFF.

- ( ) 63. Place the black Rubber Cushion 1MP9 (Item 5 of Field Change Kit) into the bottom of the battery compartment, toward the outside edge, where the power supply will be located.
- ( ) 64. Place the power supply into the battery compartment with the cut-out corner toward the Terminal Board E101. Dress the cable neatly up and down in the cut-out area of the power supply.
- ( ) 65. Insert the Foam Filter Block, 1MP10 (Item 4 of the Field Change Kit) into the space between the power supply and the center wall of the radiacmeter with the finger holes up.

- ( ) 66. Check to ascertain that the Power Supply and the Foam Filter Block are completely in the Battery Compartment.
- ( ) 67. Replace the Cover, Battery Compartment A103, which was removed in step 2. Do not over-tighten screws.
- ( ) 68. Replace the Panel, Mounting A102, which was removed in step 5.

## NOTE

Step 69 involves testing of the Radiacmeter. Refer to the Technical Manual NAVSHIPS 93086, Section 3, Paragraph 3, Initial Testing.

- ( ) 69. Perform the Initial Testing procedure. All tests, indications, and operation of the set should be the same as before.

## NOTE

Steps 70 thru 83 involve applying the modification plates to the equipment to indicate completion of the installation of the Field Change Kit. These plates should be in close proximity to the original nameplates.

- ( ) 70. Clean the area of the Radiacmeter where the modification plate will be affixed, very thoroughly with soap and water. Rinse with clear water, and dry the surface completely.
- ( ) 71. Select the Modification Plate "IM-206/PDR-27CXX", (Item 16C of the Field Change Kit).
- ( ) 72. Peel the blue paper from the back of the plate.

## NOTE

Do not touch the adhesive as this may prevent it from adhering properly.

- ( ) 73. With the small brush, spread a thin coat of Solvent (Item 18 of the Field Change Kit) completely over the adhesive.
- ( ) 74. Allow adhesive to become "tacky".
- ( ) 75. Affix modification plate to the radiacmeter quickly, before the adhesive hardens.
- ( ) 76. Apply pressure to the modification plate for approximately two minutes. If the plate peels up, again apply pressure until the adhesive sets up completely.
- ( ) 77. Clean the area of the Case, CY-963A/PDR-27A near the original Identification Plate for Radiac Set, AN/PDR-27CY, very thoroughly with soap and water. Rinse with clear water, and dry the surface completely.
- ( ) 78. Select the modification plate "AN/PDR-27CXX", (Item 15C of the Field Change Kit).
- ( ) 79. Peel the blue paper from the back of the plate.

- ( ) 80. With the small brush, spread a thin coat of Solvent (Item 18 of the Field Change Kit) completely over the adhesive.
- ( ) 81. Allow the adhesive to become "tacky".
- ( ) 82. Affix modification plate to the case quickly, before the adhesive hardens.
- ( ) 83. Apply pressure to the modification plate for approximately two minutes. If the plate peels up, again apply pressure until the adhesive sets up completely.

**ROUTINE INSTRUCTIONS:**

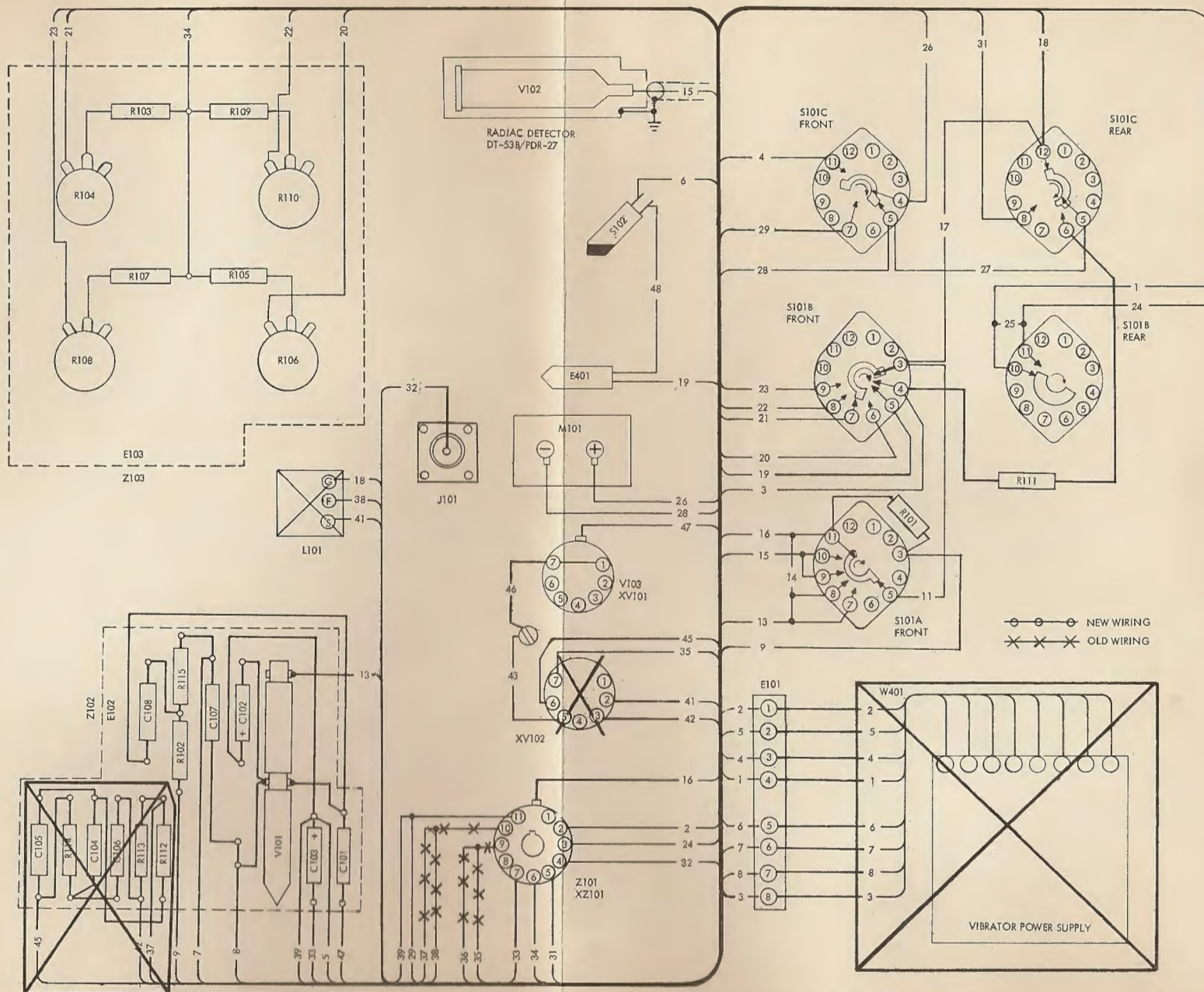
1. Corrections to publications and charts: The applicable equipment technical manuals shall be corrected in accordance with the following instructions:
  - (a) Maintenance Support Activities shall make the corrections or replacement, but shall keep the superseded data in the book for support of equipments that have not been modified. Holders of equipment shall not make these corrections or replacements until after the field change has been accomplished.
  - (b) Maintain Field Change Bulletin NAVSHIPS 0967-895-9030 and Supplementary Technical Manual NAVSHIPS 0967-283-6010 for Radiac Set CXX, DX, EX, FX, GX, HX, with Technical Manual NAVSHIPS 93086 for Radiac Set AN/PDR-27CY.
  - (c) This field change does not affect any other publications, plans, or charts.
2. Record of accomplishment: Personnel making this field change shall record the completion data of the change on the Record of Field Changes card NAVSHIPS 537.
3. Disposition of replaced material: The material listed below which has been removed, and the items of the Field Change Kit which are not used shall be turned in to the nearest supply activity for processing in accordance with current Naval Electronic Systems Command instructions.

<u>REF. DESIG.</u>	<u>QUANTITY</u>	<u>NAME OF PART</u>	<u>STOCK NUMBER</u>
R111	1	Resistor, Composition	
401-499	1	Vibrator Power Supply C/O the following items:	
A401	1	Case & Contact Assembly	
A402	1	Bottom Cover	
BT401 to BT408	8	Battery, Dry	
C401	1	Capacitor, Paper	
C402	1	Capacitor, Paper	
C403	1	Capacitor, Ceramic	
C404	1	Capacitor, Ceramic	
CR401	1	Diode, Silicon Junction	
CR402	1	Rectifier, Metallic	
CR403	1	Rectifier, Metallic	
E402	1	Top Contact Board Assembly	
E403	1	Terminal Board & Lug Assembly	
E404	1	Terminal Board Insulator	
G401	1	Vibrator	
H401	1	Lock Washer	
H402	1	Connecting Pin	
H404	1	Threaded Insert	
H405	1	Bushing	
H406	1	Cable Clamping Nut	
H407	1	Hex Nut	
N402	1	Plate, Identification	
0401	1	Gasket	
0402	1	"O" Ring	
0403	1	"O" Ring	
0404	1	Washer, Rubber	
R401	1	Resistor, Composition	
R402	1	Resistor, Composition	
R403	1	Resistor, Composition	
R404	1	Resistor, Composition	
T401	1	Transformer	
W401	1	Cable, Battery	

4. Disposition of field change bulletin: Maintenance support activities shall maintain a library copy of this field change bulletin. Holders of equipment shall not destroy this field change bulletin, but shall maintain it with the technical manual after the field change has been accomplished, the equipment tested, and the applicable manuals, drawings, charts, and identification plates have been corrected or replaced.

The other five unused Field Change Bulletins shall be turned in to the supply agency along with the replaced material.

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RADIAC METER  
IM-140/PDR-27CY

AN/PDR-27CY ; WIRING DIAGRAM

## WIRE LIST FOR RADIAC SET, AN/PDR-27CY

WIRE	COLOR	FROM	TO	REMARKS
1	BLK-YEL	E101-4	S101B-R10	Move to E101-1
2	ORG	E101-1	XZ101-2	Move to E101-2
3	BLK-WHT	E101-8	S101B-F4	Move to E101-3
4	WHT	E101-3	S101C-F11	Move to E101-4
5	BLU	E101-2	C103	Move to E101-5
6	WHT	E101-5	S102	Move to E101-6
7	RED	E101-6	C107	Move to E101-7
8	BLK	E101-7	XZ102-GRD	Move to E101-8
9	RED	S101A-F3	R102	Heavy wire
10	--	-	-	Not used
11	BLK	S101A-F5	S101B-F3	Ground bus
12	--	-	-	Not used
13	YEL	S101A-F7-8	V101-P	Heavy wire
14	BUS	S101A-F7-8	S101A-F11	Bus
15	SHIELD	S101A-F9-10	V102-P	Shield
16	SHIELD	S101A-F11	Z101-CAP	Shield
17	BLK	S101B-F3	S101C-R12	Ground bus w/sleeving
18	BLK	S101C-R12	L101-G	Ground bus
19	WHT	S101B-F5	E401	-
20	WHT-RED	S101B-F6	R106	-
21	WHT	S101B-F7	R104	-
22	WHT-YEL	S101B-F8	R110	-
23	WHT-ORG	S101B-F9	R108	-
24	WHT-BLK	S101B-R11	XZ101-3	-
25	--	-	-	Not used
26	RED	S101C-F4	M101(+)	Heavy wire
27	BUS	S101C-F5	S101C-R5	Bus
28	BLK	S101C-F5	M101(-)	Heavy wire
29	YEL	S101C-F7	XZ101-11	-
30	WHT	XZ101-1	-	Previously deactivated
31	GRN	S101C-R8	XZ101-5	-
32	WHT	XZ101-1	J101	-
33	BLU	S101-7	C103(-)	-
34	SHIELD	XZ101-6	R103/R109	Shield
35	BRN	XZ101-9	XV104-7	Previously deactivated; remove
36	BRN	XZ101-9	-	Previously deactivated; remove
37	RED	XZ101-10	R112/R113	Previously deactivated
38	RED	XZ101-10	L101-F	Previously deactivated
39	YEL	XZ101-11	C103(+)	-
40	--	-	-	Not used
41	RED-BLU	LV102-2	L101-S	Previously deactivated
42	ORG	XV102-3	R113	Previously deactivated
43	BLK	XV102-5	LUG BY V101	Ground bus
44	--	-	-	Not used
45	GRN	XV102-6	C105	Previously deactivated
46	BLK	XV101-1-7	LUG BY V101	Ground bus
47	RED	XV101-CAP	C101	Heavy wire
48	YEL	E401	S102	-

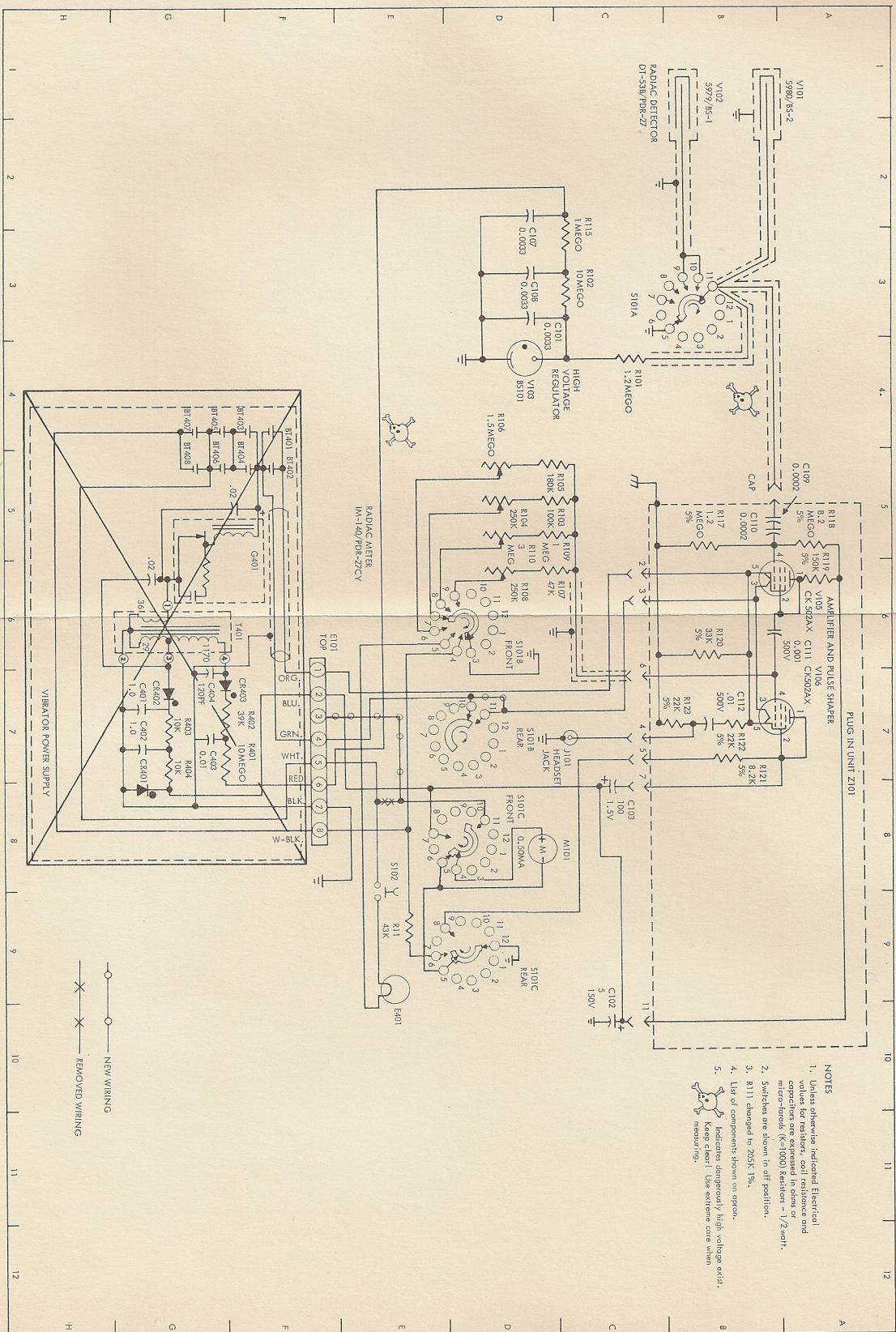
## Notes:

1. On S101, Desig "F" indicates Front side of wafer, "R" indicates rear.
2. Some of the original wiring is disconnected and/or deactivated but remains in the set.



## WIRE LIST FOR RADIAC SET, AN/PDR-27CXX

WIRE	COLOR	FROM	TO	REMARKS
1	BLK-YEL	E101-1	S101B-R10	Moved from E101-4
2	ORG	E101-2	XZ101-2	Moved from E101-1
3	BLK-WHT	E101-3	S101B-F4	Moved from E101-8
4	WHT	E101-4	S101C-F11	Moved from E101-3
5	BLU	E101-5	C103	Moved from E101-2
6	WHT	E101-6	S102	Moved from E101-5
7	RED	E101-7	C107	Moved from E101-6
8	BLK	E101-8	Z102-GRD	Moved from E101-7
9	RED	S101A-F3	R102	Heavy Wire
10	--	-	-	Not Used
11	BLK	S101A-F5	S101B-F3	Ground Bus
12	--	-	-	Not Used
13	YEL	S101A-F7-8	V101-P	Heavy Wire
14	BUS	S101A-F7-8	S101A-F11	Bus
15	SHIELD	S101A-F9-10	V102-P	Shield
16	SHIELD	S101A-F11	Z101-CAP	Shield
17	BLK	S101B-F3	S101C-R12	Ground Bus w/sleeving
18	BLK	S101C-R12	(L101-G)	Ground Bus; tie point only
19	WHT	S101B-F5	E401	-
20	WHT-RED	S101B-F6	R106	-
21	WHT	S101B-F7	R104	-
22	WHT-YEL	S101B-F8	R110	-
23	WHT-ORG	S101B-F9	R108	-
24	WHT-BLK	S101B-R11	XZ101-3	-
25	BUS	S101B-R10	S101B-R11	New Wire
26	RED	S101C-F4	M101(+)	Heavy Wire
27	BUS	S101C-F5	S101C-R5	Bus
28	BLK	S101C-F5	M101(-)	Heavy Wire
29	YEL	S101C-F7	XZ101-11	-
30	--	-	-	Not Used
31	GRN	S101C-R8	XZ101-5	-
32	WHT	XZ101-4	J101	-
33	BLU	XZ101-7	C103(-)	-
34	SHIELD	XZ101-6	R103/R109	Shield
35	--	-	-	Not Used
36	--	-	-	Not Used
37	--	-	-	Not Used
38	--	-	-	Not Used
39	YEL	XZ101-11	C103(+)	-
40	--	-	-	Not Used
41	--	-	-	Not Used
42	--	-	-	Not Used
43	BLK	(XV102-5)	LUG BY XV102	Ground Bus; tie point only
44	--	-	-	Not Used
45	--	-	-	Not Used
46	BLK	XV101-1-7	LUG BY XV101	Ground Bus
47	RED	XV101-CAP	C101	Heavy Wire
48	YEL	E301	S102	



- NOTES
1. Unless otherwise indicated electrical values for resistors, coil resistance and capacitors are expressed in ohms or micro-ohms. (K=1000) Resistors = 1/2 watt.
  2. Switches are shown in off position.
  3. R111 changed to 205K 1%.  
4. List of components shown on open.
  5. Indicates dangerously high voltage exist. Keep clear! Use extreme care when measuring.

AN/PDR-27CY ; SCHEMATIC DIAGRAM

## PART LOCATION INDEX FOR RADIAC SET, AN/PDR-27CY

ACTIVE PARTS

REFERENCE DESIGN	LOC	REFERENCE DESIGN	LOC	REFERENCE DESIGN	LOC	REFERENCE DESIGN	LOC
C101	7C	J101	7C	R110	5D	S102	8E
C102	10C	M101	8D	R111	9E	V101	1B
C103	8C	R101	4C	R115	2C	V102	1B
C107	2D	R102	3C	R117	5B	V103	4D
C108	3D	R103	5C	R118	5A	XE401	
C109	5B	R104	5D	R119	6A	XV103	
C110	5B	R105	5C	R120	6B	XZ101	
C111	7B	R106	5D	R121	7B	Z101	7A
C112	7B	R107	6C	R122	7B		
E101	6F	R108	6D	R123	7C		
E401	9E	R109	5C	S101	3C, 6D, 7D, 8D, 9D		

DELETED AND DEACTIVATED PARTS

BT401	4F	C104		CR402	7G	R403	7G
BT402	5F	C105		CR403	7G	R404	7G
BT403	4F	C106		G401	6F	T401	6G
BT404	5F	C401	7G	R112		V104	
BT405	4G	C402	7G	R113		XV104	
BT406	5G	C403	7G	R114		W401	
BT407	4G	C404	7G	R401	7G		
BT408	5G	CR401	8G	R402	7G		

## Notes:

- For complete Maintenance Parts List, see Section 6, and Technical Manual NAVSHIP 93086.



## PART LOCATION INDEX FOR RADIAC SET, AN/PDR-27CXX

ACTIVE PARTS

REFERENCE DESIGN	LOC	REFERENCE DESIGN	LOC	REFERENCE DESIGN	LOC	REFERENCE DESIGN	LOC
C101	4D	J101	8D	R110	6D	S102	9E
C102	10C	M101	9D	R111	9E	V101	2B
C103	8C	R101	4C	R115	3D	V102	2B
C107	3D	R102	3C	R117	6B	V103	
C108	3D	R103	6D	R118	6A	XE401	
C109	6B	R104	5D	R119	6A	XV103	
C110	6B	R105	5D	R120	7B	XZ101	
C111	7B	R106	5D	R121	8B	Z101	8A
C112	7B	R107	6D	R122	7B		
E101	7F	R108	6D	R123	7C		
E401	10E	R109	6D	S101			

POWER SUPPLY, PP-4814/PDR-27C

1A1		1C7	6F	1CR7	5G	1Q5	6H
1BT1	4I	1C8	5F	1CR8	5F	1R1	3G
1BT2	4I	1C9	6F	1CR9	5F	1R2	3G
1BT3	4I	1C10	4H	1CR10	6F	1R3	3H
1BT4	5I	1C11		1CR11	6F	1R4	3H
1BT5	5I	1C12	5H	1J1	2I	1R5	5H
1C1	3G	1CR1	3G	1L1	3I	1R6	5H
1C2	4G	1CR2	3G	1P1	2I	1R7	
1C3	6H	1CR3	3G	1Q1	2G	1T1	5G
1C4	6G	1CR4	3G	1Q2	2G	1VR1	3G
1C5	6G	1CR5	5H	1Q3	3H	1W1	9F
1C6	5F	1CR6	5G	1Q4	6H		

## Notes:

- For complete maintenance Parts List, see Section 6 and Technical NAVSHIPS 93086
- Deleted and deactivated parts not listed nor shown.