

May 1969

### INSTRUCTION SHEET

This sheet provides instructions for Change 10 to the Countermeasures Handbook, NAVSHIPS 0967-000-0070 (formerly NAVSHIPS 900,000.7), Countermeasures Chapter of the Electronics Installation and Maintenance Book.

The purpose of this change is to update the Countermeasures Handbook through the addition of new and revised material to the Front Matter; Section 2, Circuit Applications; Section 3, FCIG; Section 4, Service Notes; and Section 5, Reference Data.

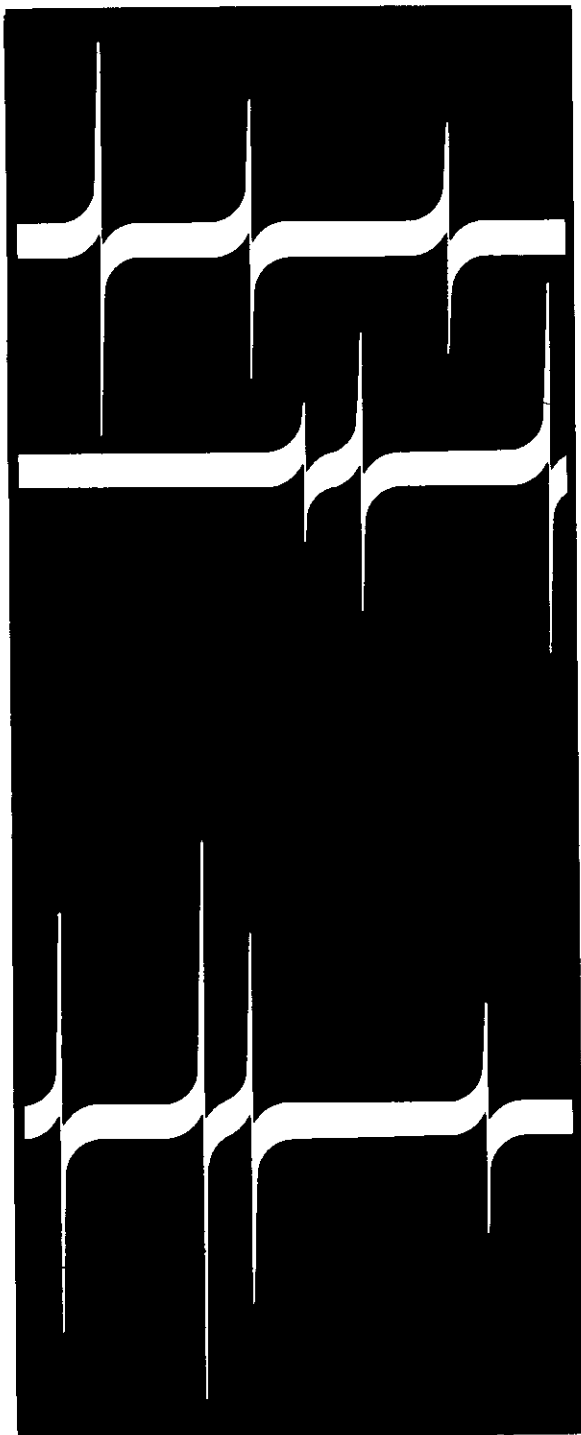
1. Remove superseded pages and insert change pages as indicated below:

<u>Page</u>	<u>Remove</u>	<u>Insert</u>
FRONT MATTER		
Title Page/ii	Change 8/Change 8	Change 10/Change 10
iii/iv	Change 8/Blank	Change 10/Blank
v/vi	Change 7/Change 5	Change 10/Change 10
SECTION 2 - CIRCUIT APPLICATIONS		
2-1	Change 1/Blank	Change 10/Blank
SECTION 3 - FCIG		
3-1 thru 3-15	Change 8/Change 8	Change 10/Change 10
SECTION 4 - SERVICE NOTES		
4-1	Change 1/Blank	Change 10/Blank
AN/BLA-1:1	Change 1/Blank	Change 10/Blank
AN/SLR-3:1	Change 1/Blank	Change 10/Blank
AN/SLR-10:1	Change 1/Blank	Change 10/Blank
AS-371B/S:1	Change 1/Blank	Change 10/Blank
AS-944/BLR:1	Change 1/Blank	Change 10/Blank
AS-962/BLR:1	Change 1/Blank	Change 10/Blank
AS-994/BLR:1	Change 1/Blank	Change 10/Blank
SECTION 5 - REFERENCE DATA		
5-1	Change 1/Blank	Change 10/Blank

2. Destroy superseded pages only after a check has been made against this instruction to assure that all change pages have been inserted.

3. Record the accomplishment of this change in pen-and-ink on the RECORD OF CORRECTIONS MADE page.

4. Insert USER ACTIVITY TECHNICAL MANUAL COMMENT SHEET as last page of this handbook.



**countermeasures**

***ELECTRONICS  
INSTALLATION  
AND  
MAINTENANCE  
BOOK***

**NAVSHIPS 0967-000-0070,  
PUBLISHED: JANUARY 1962  
Change 10: May 1969 (0967-000-0071)**

**DEPARTMENT OF THE NAVY • NAVAL SHIP ENGINEERING CENTER**

**FOR OFFICIAL USE ONLY**

**BOX SCORE**  
**COUNTERMEASURES HANDBOOK NAVSHIPS 0967-000-0070**

EDITION	PUBLICATION DATE	STOCK NUMBER	LATEST EIB COVERED(1)	FCIG CUTOFF DATE(2)
Basic	January 1962	0967-000-0070		
Change 1**	**	**		
Change 2	July 1965	0967-000-0072		
Change 3**	**	**		
Change 4	October 1966	0967-000-0074		
Change 5	May 1967	0967-000-0075		
Change 6	August 1967	0967-000-0076		
Change 7	July 1968	0967-000-0077		
Change 8	February 1969	0967-000-0078		
Change 9(3)	February 1967	0967-000-0079		
Change 10	May 1969	0967-000-0071	732	28 February 1969

NOTES

(1) The number listed in this column indicates that this handbook issue incorporates information from EIB issues up to and including the one shown. In addition to this column entry, a source reference code is inserted immediately following the last line of copy of pertinent articles picked up in EIMB handbooks. The following examples show the coding method used to identify origin of material used:

<u>ORIGIN</u>	<u>CODE</u>
EIB 674	(674)
EIB 13S (Shore Quarterly Supplement)	(13S)
Naval Ship Systems Command Technical News Vol 14, No. 6	(TN14-6)
CEIB 7 (Classified EIB)*	(C7)

\*Only articles which have been revised to omit classified data but retain information of value and lasting interest.

(2) The entry in this column indicates that all field changes assigned up to and including the date shown have been picked up in the FCIG of this issue.

(3) This change consists of the Tab Separator Package.

\*\*These issues, Change 1, dated October 1964 and Change 3 dated April 1966 have been superseded by Change 10 dated April 1969 and Change 4 dated October 1966 respectively

## LIST OF EFFECTIVE PAGES

PAGE NUMBER	CHANGE IN EFFECT	PAGE NUMBER	CHANGE IN EFFECT
Front Matter		AN/BLR-1:4,5	Change 4
Title Page	Change 10	AN/BLR-1:6	Change 2
ii thru iv	Change 10	AN/BLR-1:7,8	Change 4
v	Change 10	AN/FLR-1:9	Change 5
vi	Change 10	AN/FLR-11(V):1	Change 5
vii and viii	Change 7	AN/SLA-12:1	Change 6
A/B	Change 5	AN/SLR-2:1	Change 5
Section 1 - General		AN/SLR-3:1	Change 10
Section Separator		AN/SLR-10:1	Change 10
1	Change 2	AN/ULQ-6:1,2	Change 5
2 thru 6	Original	AN/WLR-1:1 thru 7	Change 8
7	Change 2	AS-371B/S:1	Change 10
8	Original	AS-393/BLR:1	Original
9	Change 5	AS-570/SLR:1	Original
10	Original	AS-571/SLR:1,2	Change 4
11 and 12	Change 4	AS-616/SLR:1	Change 4
13 and 14	Change 6	AS-626/BLR-1:1,2	Original
Section 2 - Circuit Applications		AS-944/BLR:1	Change 10
Section Separator		AS-962/BLR:1	Change 10
2-1	Change 10	AS-994/BLR:1	Change 10
Section 3 - FCIG		AS-1071/BLR:1	Change 4
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AN/BLA-2B:1	Change 4	IP-480/WLR-1:1	Change 6
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\* Paragraph numbers in Section 1 have not been changed for the purpose of economy and will not be changed until complete revision is required.

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This section is under preparation. When completed it will contain descriptions of circuit applications pertaining to countermeasures equipment.

A compilation of electronic circuits is contained in the Electronic Installation and Maintenance Handbook, NAVSHIPS 0967-000-0120, Electronic Circuits (formerly NS 900,000.102).

**1-AM-1017/SLR:** Installation of Elapsed Time Meter  
Correction material: Incorporated in revised Technical Manual  
1-A FA-2 NS0967-106-9020 2F5895-056-1373  
SERIAL: 4, 372, 168, 283, 356, 6, 382 and DLG-33 (USS FOX)  
IDENTITY: Observing that an elapsed time meter is installed on the front panel of the AM-1017/SLR above the 2A spare fuses.

**2-AM-1017/SLR:** Installation of Selenium Rectifier, Variable Resistor and Electronic Amplifier (Modifies equipment to AM-1017/SLR)  
Correction material:  
1-A FA-16 NS0967-106-9030 2F5895-889-7628  
SERIAL: Only to equipment designated by NAVSECNORDIV  
IDENTITY: Nomenclature changed to AM-1017B/SLR

**1-AM-1017A/SLR:** Same as 2-AM-1017/SLR

**1-AN/BLA-1:** Make compatible with AN/WLR-1 (Modifies Equipment to AN/BLA-2C)  
Correction material:  
1-A FA-20 NS981623 F5895-987-9523  
SERIAL: A1 through A100 (made only when the AN/WLR-1 is being installed)  
IDENTITY: The horizontal synchro and resolver housed in a casting on the base plate is replaced by a three-tier construction containing a vertically placed synchro and resolver, a two gear assembly with slotted disc and a transistorized component board with photo-diode pickup and amplifier circuitry.

**1-AN/BLA-2A:** Cancelled

**2-AN/BLA-2A:** Addition of Elapsed Time Meter  
Correction material: T-3, NS0967-063-7012 to NS0967-063-7010 (Formerly NS93690)  
1-A FA-2 NS0967-063-7040 2F5895-056-1290  
SERIAL: A3 and A9  
IDENTITY: Partially withdraw Antenna Control Unit, C-2693/BLR from its cabinet to observe an elapsed time meter mounted just to the right of Synchro B202.

**3-AN/BLA-2A:** Provide Reduced Antenna Speed Auto-Spin Operation  
Correction material: T-4, NS0967-063-7013 to TM, NS0967-063-7010  
1-A FA-8 NS0967-063-7050 EIC CC19000  
SERIAL: All serials  
IDENTITY: The speed control unit will be mounted on inside of the cover J-1280/BLA-2( ) or J-789/BLR

**1-AN/BLA-2B:** Cancelled

**2-AN/BLA-2B:** Same as 3-AN/BLA-2A except  
Correction material: T-1, NS0967-908-5011 to TM, NS0967-908-5010 and EIC CC20000

**1-AN/BLA-2C:** Cancelled

**2-AN/BLA-2C:** Same as 3-AN/BLA-2A except  
Correction material: T-2, NS0967-908-4013 to TM, NS0967-908-4010 and EIC CC21000

**1-AN/BLR-1:** CRT Brilliance, Video Response, and External Video Termination Modifications  
Correction material: Change 3 to NS92419(A)  
1-A YF-88 NS98811 F5895-507-5603  
SERIAL: All Serial numbers supplied on Contract NObsr-52150  
IDENTITY: Tube V908 on Mixer Amplifier CV-69/ULR chassis is 6AH6 type.

**2-AN/BLR-1:** Oscillator Frequency Stability Improvement and Provisions for Use of Test Set TS-907/ULR for Tuner Alignment  
Correction material: T-5 to NS91973  
1-A FA-2 NS98723 F5895-501-0765  
SERIAL: RF Tuner TN-137, Serials 1-174  
IDENTITY: Temperature compensator 0-345 present in RF Tuner TN-137/ULR

**3-AN/BLR-1:** Addition of Means to Allow Use of Test Set TS-907/ULR  
Correction material: T-6 to NS91973  
1-A FA-2 NS98724 F5895-501-0797  
SERIAL: RF Tuner TN-138/ULR, Serials 1-269  
IDENTITY: Bearing block of rf tuner is mounted by filester head screws.

**4-AN/BLR-1:** Add Sound Powered Telephone Jacks  
2-A FA-2 NS935-254-9192  
SERIAL: All  
IDENTITY: Presence of sound powered telephone jacks

**5-AN/BLR-1:** Wiring Changes Required to Provide Delay of 115 VAC to Tuning Motor B-1701  
Correction material: T-12, NS0967-037-4013 to NS0967-037-4010 (Formerly NS91973)  
2-A FA-2 NS0967-037-4140 None  
SERIAL: All  
IDENTITY: Presence of two (2) wires on pin 6 of relay K-1702 in Indicator-Control Unit IP-10/ULR

**6-AN/BLR-1:** Cancelled

**7-AN/BLR-1:** Synchronization of the Sweep Generator to Improve Unstable Sawtooth Voltages  
Correction material: T-12, NS0967-037-4013 to NS0967-037-4010 (Formerly NS91973)  
2-A FA-1 NS0967-037-4140 None  
SERIAL: All CV-69/ULR and CV-70/ULR  
IDENTITY: Visually inspect the CV-69 for a 4-inch length of insulated wire connected from pin 4 of V-909 to R-949; CV-70 for a 4-inch length of insulated wire connected from pin 4 of V-1112 to R-1118.

**8-AN/BLR-1:** Modification to Tube Socket Caps  
Correction material: T-12, NS0967-037-4013 to NS0967-037-4010 (Formerly NS91973)  
2-A FA-2 NS0967-037-4140 None  
SERIAL: All  
IDENTITY: Presence of longer tube caps which extend and cover the base of tube 2K48 in TN-142/ULR of the subject equipment.



**9-AN/BLR-1:** Use of OB2WA Tubes in the Power Supply and the RF Tuners

Correction material: T-12, NS0967-037-4013 to NS0967-037-4010 (Formerly NS91973)

2-A FA-4 NS0967-037-4140 None

SERIAL: All

IDENTITY: A capacitor (0.022 mfd) connected between pins 5 & 7 of tube sockets XV-405, XV-406, XV-407, XV-507, XV-508, XV-607, XV-608, XV-806, XV-807, and XV-808 respectively of RF tuners, TN-138/ULR, TN-139/ULR, TN-140/ULR, and TN-142/ULR.

**10-AN/BLR-1:** Relocation of F-2801 in PP-312/ULR Power Supply

Correction material: T-12, NS0967-037-4013 to NS0967-037-4010 (Formerly NS91973)

2-A FA-8 NS0967-037-4140 None

SERIAL: All

IDENTITY: This field change has been accomplished if fuseholders are located on the front panel of PP-312/ULR Power Supply.

**11-AN/BLR-1:** Substitution of Tube Type 8113 for Type 6AK5

Correction material: T-12, NS0967-037-4013 to NS0967-037-4010 (Formerly NS91973)

2-A FA-1-1/2 NS0967-037-4140 None

SERIAL: All

IDENTITY: Presence of type 8113 tubes in place of type 6AK5 tubes in tuners.

**12-AN/BLR-1:** Addition of Relay in AC Interlock Circuit and Fusing of Power Transformers

Correction material: T-11, NS0967-037-4012 to NS0967-037-4010 (Formerly NS91973)

2-A FA-8 NS0967-037-4210 None

SERIAL: All

IDENTITY: Presence of a relay mounted on inner left crossbrace on bottom of Power Supply PP-312/ULR

**13-AN/BLR-1:** Provision of Monitor Jacks for Band 7 Klystron Anode

Correction material: T-12, NS0967-037-4013 to NS0967-037-4010 (Formerly NS91973)

2-A FA-4 NS0967-037-4140

SERIAL: All

IDENTITY: Presence of two new test jacks, labeled "Klystron I", in Power Supply PP-312/ULR

**1-AN/FLR-7:** Cancelled

**1-AN/FLR-11(V):** Modification of Magnetic Tape Recorder RO-219/F and Magnetic Tape Reproducer RP-135/F

1-A YF-4 NS981705 None

SERIAL: All

IDENTITY: Presence of Modified Head Shield

**2-AN/FLR-11(V):** Modification of Head Cable Assemblies of Ampex FR-114B Magnetic Tape Recorder and Reproducer

Correction material: T- to NS

1-A YF-2 NS981780 None

SERIAL: Magnetic Tape Recorder RO-219/F, Units 1 and 2 of AN/FLR-11(V) and Magnetic Tape Reproducer RP-135F, Unit 15 of AN/FLR-11(V)

IDENTITY:

**3-AN/FLR-11(V):** RFI Reduction in CED Recorder/Reproducer (RO-247 and RP-132)

Correction material: T-1 to NS95738

1-A FA-3 NS981804

SERIAL: All

IDENTITY:

**4-AN/FLR-11(V):** Modification of Signal Data Converter CV-1474/FLR-11(V) and Core Memory Unit MU-466/FLR-11(V) of Data Recording Subgroup

Correction material: T- NS

NS94563

1-A FA-2 NS0967-003-6000

SERIAL: All

IDENTITY:

**5-AN/FLR-11(V):** Installation of Additional Test Points in Control Chassis of Signal Data

Recorder/Reproducer RO-247/F and RP-132/F

Correction material: T- to NS95738

2-A FA-3 NS0967-003-6060 None

SERIAL: RO-247/F and RP-132/F Equipment

IDENTITY: Presence of vertical cable harness on right rear side of circuit board assembly of control unit chassis tray.

**6-AN/FLR-11(V):** Modification of Data Converter CV-1953/FLR-11(V), Unit 8

This is a special limited installation.

**7-AN/FLR-11(V):** Addition of Filter Capacitor in Low Voltage Power Supply of Panoramic Indicator

Correction material: T- to NS94579

2-A FA-1 NS

SERIAL: All Panoramic Indicator Units IP-682-F and SB-15a, SB-15a/R or SB-15/R-50 used in development models of AN/FLR-7 and AN/FRA-44 equipments

IDENTITY: Presence of a 450 VDC, 80 microfarad, electrolytic capacitor C-136 in parallel with R-105 and R-107 in low-voltage power supply circuit. First appeared in EIB: 16S and 17S

**8-AN/FLR-11(V):** Flywheel Replace in RO-247/F and RP-132/F

Correction material: T- to NS95738

2-A FA-2 NS

SERIAL: All

IDENTITY:

First appeared in EIB: 16S

**9-AN/FLR-11(V):** Installation Test Points in Rear Panel of R-1171/FLR-11(V)

Correction material: T-1, NS0967-221-6012 to NS0967-221-6010 (Formerly NS94562)

2-A FA-1-1/2 NS0967-046-3150

SERIAL: R-1171/FLR-11(V) in Off-Line AN/FLR-11(V) equipment

IDENTITY: Presence of three additional test point connectors on rear chassis of Receiver R-1171/FLR-11(V) marked "+200", "-150" and "GROUND"

**10-FLR-11(V):** Modification of Countermeasures Receiver, R-1344/FLR-11(V) and Signal Generator O-1286/LFR-11(V) to Provide DC Power Interlock

Correction material: T-2, NS0967-046-3032, NS0967-046-3052 to NS0967-046-3030, NS0967-046-3050

1-A YF-1 (per NS0967-046-3110 chassis)

SERIAL: R-1344/FLR-11(V), all serial numbers; O-1286/FLR-11(V), all serial numbers

IDENTITY: Relay assembly present in chassis

**11-AN/FLR-11(V):** Modification of Receiver-Recorder Display Group OA-4412/FLR-11(V) and Receiver-Recorder Group OA-4443/FRA-54(V)

Correction material: Change 2, NS0967-046-3013 to NS0967-046-3010 (Formerly NS94581A)

1-A FA-200 NS0967-046-3120

SERIAL: AN/FLR-11 (Phase 1) and AN/FRA-54 (Phase 1)

IDENTITY:

**12-AN/FLR-11(V):** Modification of Countermeasures Receiver R-1125/FLR

Correction material: Change 2, NS0967-046-3013 to NS0967-046-3010 (Formerly NS94581A)

1-A FA-12 NS0967-046-3140

SERIAL: All Countermeasures Receivers R-1125/FLR

IDENTITY: Modified receivers designated R-1230/FLR

**13-AN/FLR-11(V):** Modification of Oscillator-Power Supply O-928/FLR

Correction material: Change 2, NS0967-046-3013 to NS0967-046-3010 (Formerly NS94581A)

1-A FA-12 NS0967-046-3140

SERIAL: All Oscillator-Power Supplies O-928/FLR

IDENTITY: Presence of five connectors type MS3102A-18-IS on rear panel

**14-AN/FLR-11(V):** (S)

**1-AN/FRA-44:** Cancelled

**1-AN/FRA-54(V):** Same as 1-AN/FLR-11(V)

**2-AN/FRA-54(V):** Modification of Head Cable Assemblies of Ampex FR-114B Magnetic Tape Recorder and Reproducer

Correction material: T- to NS

1-A YF-2 NS981780

SERIAL: Magnetic Recorder RO-219/F, Units 1 and 2 of AN/FRA-54(V) and Magnetic Tape Reproducer RP-135/F, unit of AN/FRA-54(V)

IDENTITY:

**3-AN/FRA-54(V):** To Prevent Frequency Multiplier Board Breaking into Self Oscillation

Correction material: T- to NS

1-A FA-2 NS981800

SERIAL: CP-699/FRA-54(V) and CP-756/FRA-54(V)

IDENTITY: In module RCA 8640197-501(A14) resistor R2 is 2.61K, 1/8W, +1%, and resistor R7 (12.1K, 1/8W, +1%) has been added

**4-AN/FRA-54(V):** Provision of a Continuous Bearing Tone Signal

Correction material: T- to NS

1-A FA-1 NS981801

SERIAL: TD-620/FRA-54(V) and TD-705/FRA-54(V)

IDENTITY:

**5-AN/FRA-54(V):** Same as 3-AN/FLR-11(V)

**6-AN/FRA-54(V):** Same as 5-AN/FLR-11(V)

**7-AN/FRA-54(V):** Same as 7-AN/FLR-11(V)

**8-AN/FRA-54(V):** Same as 8-AN/FLR-11(V)

**9-AN/FRA-54(V):** Same as 11-AN/FLR-11(V)

**10-AN/FRA-54(V):** Same as 12-AN/FLR-11(V)

**11-AN/FRA-54(V):** Same as 13-AN/FLR-11(V)

**3-AN/FRD-10(XN-2):** Addition of Signal Extinguish Switch in Automatic Azimuth Indicator

Correction material: T-1, NS0967-141-4021 (Vol. II), T-1, NS0967-141-4031 (Vol. III), and T-1, NS0967-141-4041 (Vol. IV) to NS0967-141-4020 (Vol. II), NS0967-141-4030 (Vol. III), and NS0967-141-4040 (Vol. IV) (Formerly NS94593 Vol. I, II, III)

2-A FA-1 NS0967-141-4070 None

SERIAL: Unit 19

IDENTITY: Presence of pushbutton switch located midway between on-off switch and pilot light at lower right-hand corner of azimuth indicator.

**3-AN/FRD-10(V):** Addition of Signal Extinguisher Switch in Automatic Azimuth Indicator

Correction material: T-2, NS0967-141-3021 (Vol. II), T-2, NS0967-141-3031 (Vol. III), T-2, NS0967-141-3041 (Vol. IV) and to NS0967-141-3020 (Vol. II), NS0967-141-4030 (Vol. III), and NS0967-141-3040 (Vol. IV) (Formerly NS94555, Vol. II, III, IV)

2-A FA-1 NS0967-141-3070 None

SERIAL: 1P-693/FRD-10(V)

IDENTITY: Presence of pushbutton switch located midway between on-off switch and pilot light at lower right-hand corner of azimuth indicator.

**1-AN/FSA-17:** Improvement of the Fault Alarm System

Correction material: Change 1 to NS93207(A)

1-C FA-37 NS981498 None

SERIAL: 1 through 11

IDENTITY: Designation plate: "Fault Alarm: on panel of Power Transfer Unit is change to "AUX EQUIPMENT ALARM" and connector J1207 is added. Diode CR 1803 is added to relay K1209 in each of the detector units, Change No. 1 is indicated on the title page of NAVSHIPS 93207(A).

**1-AN/FSH-1:** Increase in Record Time

Correction material: T-1 to NS94143

1-C FA-5 NS981376 None

SERIAL: A1 through A18. All other sets were corrected by an identical production change

IDENTITY: The new carriage drive shaft has 26 threads per inch, as compared to 18 threads per inch on the shaft originally supplied with the equipment.

**1-AN/SLA-1:** Cathode-Ray Tube Socket Modification

Correction material: None

A FA-1 NS98241 None

SERIAL: 1-6

IDENTITY: C/R tube socket, X-250A, drilled in pin 1 with  $\frac{3}{64}$  drill for oversize pin  $\frac{3}{16}$  of new type K-1052-P-2 C/R tube.**2-AN/SLA-1:** Cathode-Ray Tube Protective Circuit Improvement

Correction material: None

A FA-4 NS98260 F5895-346-4650

SERIAL: 3-12

IDENTITY: Addition of two NE-2 neon tubes on TB-20A of the clamping diode chassis

**3-AN/SLA-1:** Circuit Change

Correction material: None

A FA-4 NS98262 None

SERIAL: 3, 4, 5

IDENTITY: C-303 (470 mmf), is added in parallel with R-215 on TB-203.

**4-AN/SLA-1:** Replacement and Addition of Resistors

Correction material: None

A FA-4 NS98264 F5895-301-9181

SERIAL: 3-12

IDENTITY: 4 resistors added: three 82K, 10%, 1 watt, and one 220K, 10% in C/R circuit. R-220, R-222 on TB-203 are now 82K. R-252, R-254 on TB-206 are now 82K.

**1-AN/SLA-2:** Stability Improvement of AN/SLA-2 (to make it equal to AN/SLA-2A)

Correction material: T-3 to NS0967-896-6010

1-A FA-6 NS98821 None

SERIAL: 1-51

IDENTITY: New nameplates; IP-210/SLA-2A immediately below old plate IP-210/SLA-2, and IP-214/SLA-2A immediately below old plate IP-214/SLA-2.

**2-AN/SLA-2:** Video Output Addition

Correction material: See T-1 to NS0967-896-6010

2-A FA-1 NS0967-896-6030 None

SERIAL: All

IDENTITY: Coaxial connector on front end of panel.

**3-AN/SLA-2:** Stability Improvement of AN/SLA-2

Correction material: T- to NS0967-896-6010

2-A FA-1 None

SERIAL: All

IDENTITY:

**4-AN/SLA-2:** Replacement of Selenium Rectifier CR-101 with Silicon Diodes in +28 Volt Supply of PP-874/SLA-2 and PP-874/SLA-2A

Correction material: T-4, NS0967-896-6011 to NS0967-896-6010 (Formerly NS92005)

SERIAL: All

IDENTITY: Absence of selenium rectifier stack CR-101, capacitor C-116 and by the presence of a sub-chassis mounting four 1N248 silicon diodes in PP-874 of AN/SLA-2 and AN/SLA-2A.

First appeared in EIB: 597

**1-AN/SLA-2A:** Never Used**2-AN/SLA-2A:** Never Used**3-AN/SLA-2A:** Stability Improvement of AN/SLA-2A

Correction material: T-3 to NS0967-896-6010

2-A FA-1 NS0967-896-6040 None

SERIAL: All

IDENTITY: R101 between pins 1 and 2 of V103 is 120K. Inside metal panel marked Test Points A and B, Neon lamp EI01 is replaced by a 33K resistor. In pulse analyzer indicator: R-633 (820K) is removed from TB-206-1/2 orange and violet wire is connected to TB-206-11; blue wire runs from R-634-1 to R-772-1; black wire runs from J-203-2 to V-805-10, and white wire runs from R634-3 to pin 1 of V805A.

**4-AN/SLA-2A:** Same as 4-AN/SLA-2**1-AN/SLA-10:** Replacement of Switch Matrix Assemblies

Correction material: Ch 2 to NS96146

1-A FA-0.5 NS0967-169-2040

SERIAL: All

IDENTITY: New Switch Matrix Assembly 2A17 is stamped R357650-2 on wiring side of board; new Switch Matrix Assembly 2A19 is stamped R357650-4 on wiring side of board.

**1-AN/SLA-12:** Replacement of Filter Capacitors 1A1A5A1-C1 and 1A1A5A1-C2 to Improve Reliability

Correction material: T-2, NS0967-031-7002 to NS0967-031-7000

1-A FA-2 NS0967-031-7010 EIC CA28000

SERIAL: All

IDENTITY: Installation of 50 volt capacitors C1 and C2 in Attenuator Assembly 1A1A5

**2-AN/SLA-12:** Protects Polarization Control Circuitry, Provides Antennas with Greater Structural Strength, Increases Isolation between ECM Transmit and Receiver Antennas, and Improves Conductivity of Waveguides

Correction material:

1-A FA-24 NS0967-031-7020 EIC CA28000

SERIAL:

IDENTITY:

**3-AN/SLA-12:** Replacement of Rotary Joint Gland Nut

Correction material: T-3, NS0967-031-7003 to

NS0967-031-7000

1-A FA-2 NS0967-031-7040 EIC CA28000

SERIAL: All equipments

IDENTITY: Presence of accessible spanner wrench notches on the AS-1751/SL Rotary Joint (3AIMP11) Gland Nut, or by inspecting the field change accomplishment plate.

**1-AN/SLQ-12A:** Provide Emission Status Monitoring

Correction material: T-1, NS0967-231-0011 to

NS0967-231-0010

2-C FA-2 NS0967-231-0150 EIC CE5000

SERIAL: Equipments to be designated by NAVSEC requiring emission status Indicator Set AN/SSQ-54

IDENTITY: The presence of a receptacle, labelled J8, on the left side of Control Indicator C-6389/SLQ-12A

**1-AN/SLR-2:** CRT Brilliance, Video Response, and External Video Termination Modifications

Correction material: Ch 3 to NS92419(A)

1-A YF-150 NS98811 F5895-507-5603

SERIAL: All serial numbers supplied on Contract NObsr 52150

IDENTITY: R120 "meter zero" added on main chassis.

**2-AN/SLR-2:** Oscillator Frequency Stability Improvement and Provision for Use of Test Set TS-907/ULR for Tuner Alignment

Correction material: T-5 to NS0967-037-4010

1-A FA-2 NS98723 F5895-501-0765

SERIAL: RF Tuner TN-137, Serials 1-174

IDENTITY: Temperature compensator, 0-345, present in RF Tuner TN-137/ULR

**3-AN/SLR-2:** Addition of Means to Allow Use of Test Set TS-907/ULR

Correction material: T-6 to NS0967-037-4010

1-A FA-2 NS98724 F5895-501-0797

SERIAL: RF Tuner TN-138/ULR, Serials 1-269

IDENTITY: Bearing block of RF Tuner TN-137/ULR is mounted by fillister-head screws.

**4-AN/SLR-2:** Installation of RF Shield for Bands 5 and 6

Correction material: None

1-A YF-4 NS981025 F5895-543-1510

SERIAL: All

IDENTITY: Installation of metal divider in CY-1273/ULR between TN-139/ULR and TN-140/ULR.

**5-AN/SLR-2:** Same as 4-AN/BLR-1**6-AN/SLR-2:** Same as 5-AN/BLR-1**7-AN/SLR-2:** Same as 7-AN/BLR-1**8-AN/SLR-2:** Same as 8-AN/BLR-1**9-AN/SLR-2:** Same as 9-AN/BLR-1**10-AN/SLR-2:** Same as 10-AN/BLR-1**11-AN/SLR-2:** Same as 11-AN/BLR-1**12-AN/SLR-2:** Same as 12-AN/BLR-1**13-AN/SLR-2:** Same as 13-AN/BLR-1**1-AN/SLR-9:** Increase of Audio Level

Correction material:

NS981577

SERIAL: A1 through A4, A6 through A14

IDENTITY:

**1-AN/SLR-10:** Modification to True Relative Switching

Correction material: T-1, NS0967-120-5031 to

NS0967-120-5030 (Vol. III), T-1, NS0967-120-5041 to

NS0967-120-5040 (Vol. IV) (Formerly NS94162)

2-A FA-1 NS0967-120-5090

SERIAL: All

IDENTITY: Resistor R215 connected between pins A and B of Relay K204, and R216 connected between pins A and B of Relay K214.

**1-AN/SLR-12:** True Bearing Circuit Modification

Correction material: T-1, NS0967-010-6001 to

NS0967-010-6000

2-A FA-6 NS0967-010-6060

SERIAL: All shipboard equipment installed manufactured by General Electronic Laboratories on Contracts NObsr 93067 and 93415

IDENTITY: Presence of new wires between terminals 1, 2, 11 and 12 of Terminal Board ITB4 and terminals 12, 13, and 14 of relays 1A14K2 and 1A14K3, in the Control Indicator C-6612/SLR-12.

**1-AN/SLT-1:** Addition of Antenna Control

Correction material: Ch 1 to NS91258

A FA-10 NS98223 F5895-301-9043

SERIAL: 2-40

IDENTITY: One antenna cont. unit, C-805/SLT-1, is mounted on the right side of the xmtr cont. C-584/SLT-1. The other antenna cont. unit is mounted on the right side of the cont. indicator modulator group, OA-125/SLT-1.

**2-AN/SLT-1:** Replacement of Pump Filter in Cooling System

Correction material: T-2 to NS91258

A FA-1/2 NS98229 F5895-301-9046

SERIAL: 1-32

IDENTITY: New type filter mft-12 1/2 1013-CT-1

**3-AN/SLT-1:** Replacement of Switch S604 and Air Duct 0824 - Addition of Fuse Board Covers

Correction material: None

A FA-4 NS98230 F5820-301-9094

SERIAL: 1-18

IDENTITY: Presence of covers on F604 and F605 fuses.

**4-AN/SLT-1:** Addition of Lead in PP-452/SLT-1

Correction material: T-2 to NS91258

A FA-1 NS98232 F5895-508-7592

SERIAL: 1-39

IDENTITY: An additional or larger wire is installed between K-102-11 and TB-111-5 in top left section of control power supply unit. This new lead is  $\frac{1}{10}$  wire, black, and is laced to existing cabling.

**5-AN/SLT-1:** Installation of Modulator Meter Kit

A FA-3 NS98270 F5895-346-4651

SERIAL: 2-40

IDENTITY: New terminal board installed near meter, M-302, containing C-322 and R-355.

**6-AN/SLT-1:** AN-301/SLT-1 Modification

Correction material: Ch 2 to NS91258

A FA-4 NS98297 F5895-301-9650

SERIAL: 1-40

IDENTITY: One additional stuffing tube is mounted, making a total of 6. The new tube is mounted seven inches from the side of the chassis.

**7-AN/SLT-1:** Oscillator  $\frac{1}{2}$  Output Meter Modification

Correction material: Ch 2 to NS91258

A FA-2 NS98323 F5892-325-6319

SERIAL: 1-40

IDENTITY: In control power supply  $\frac{1}{2}$  20 black wire added from K-601-8 to TB-618-6. Buss jumper wire added from K-601-2 to K-601-8. A  $\frac{1}{2}$  20 red wire added from TB-618-8 to K-601-6.

**1-AN/ULA-3:** Circuit Modification

Correction material: T-1, NS0967-885-7011 to NS0967-885-7010 (Formerly NS95674)

2-A FA-1/4 NS0967-885-7020

SERIAL: Units up through  $\frac{1}{2}$  74**1-AN/ULA-4:** Same as 1-AN/ULA-3 except

Correction material: None

**1-AN/ULQ-5:** Replacement of Electron Tube 7270 and its Separate Associated Filament Transformer, TE-9554 With Electron Tube 7271 and its Associated Filament Transformer TE-12247

Correction material: T-1, NS0967-893-6011 to NS0967-893-6010 (Formerly NS94080)

2-A FA-1 NS0967-893-6060 None

SERIAL: All when maintenance to subassembly 1A1 is required when tube 7270 (1A1V8) and its separate associated filament transformer (1A1T2) in subassembly 1A1 have been replaced by tube 7271 and its separate associated filament transformer.

IDENTITY:

**1-AN/ULQ-5AX:** Addition of Relays to Provide Isolated Switch Circuits for Emitter Status Indicator Set AN/SSQ-54

Correction material: T-1, NS0967-894-3011 to NS0967-894-3010 (formerly NS94721)

2-C FA-2 NS0967-894-3050 EIC CF02000

SERIAL: Those AN/ULQ-5AX equipment installations designated by NAVSHIPS requiring emission status monitoring signal data to Emitter Status Indicator Set AN/SSQ-54

IDENTITY: Connector J502 on the bottom of Control Indicator C-4388/ULQ-5AX

**1-AN/ULQ-6:** Replacement of High Level Traveling Wave Tube 2V1

Correction material: T-8 to NS0967-056-7010

2-A FA-3 NS0285-079-0900

SERIAL: All

IDENTITY: The new high level traveling wave tube, type D2048 has a round 6-pin miniature connector plug with a lock ring.

**2-AN/ULQ-6:** Installation of AN/ULQ-6 TWT Data Nameplate

Correction material: T-2, NS0967-056-7201 to NS0967-056-7010

2-A FA-1/2 NS0967-893-6060

SERIAL: All

IDENTITY: AN/ULQ-6( ) TWT nameplate adhered to top of unit 1

**3-AN/ULQ-6:** Replacement of High Level TWT 2V1

Correction material: T- to NS0967-056-7010

1-A FA-16 NS0967-056-7080

SERIAL: All shipboard installations

IDENTITY:

**1-AN/ULQ-6A:** Elimination of Antenna Hunting

Correction material: T-2, NS0967-071-6014 to NS0967-071-6010

2-A FA-1/2 NS0967-893-6060

SERIAL: All Control Amplifiers AM-3562/ULQ-6A (Unit 7)

IDENTITY: Determining that resistor R4 in unit 7 of the Electronic Control Amplifier is 10,000 ohms, 1/2 watt in lieu of 47,000 ohms, 1/2 watt.

**2-AN/ULQ-6A:** Replacement of High-Level TWT 2V1

Correction material: T-1, NS to NS0967-071-6010; T-1, NS0967-071-6041 to NS0967-071-6040

1-A FA-1 NS0285-078-0800 F5895-909-7547

SERIAL: All

IDENTITY: Tube 2V1 and focus coil replaced by new permanent periodic magnet TWT type QKW-1132C1.

**3-AN/ULQ-6A:** Elimination of 28V Power Supply Failures  
Correction material: T-2, NS0967-071-6014 to NS0967-071-6010

2-A FA-1 NS0967-893-6060 None

SERIAL: All

IDENTITY: Diodes ICR8, ICR9 (unit 1) are JAN IN1202 in lieu of IN1614.

**4-AN/ULQ-6A:** Prevention of Diode Rectifiers 2A3CR3 and 2A3CR4 Failures

Correction material: T-2, NS0967-071-6014 to NS0967-071-6010

2-A FA-1 NS0967-893-6060 None

SERIAL: All

IDENTITY: A 100-ohm, 5-watt resistor R59 is installed between diode CR4 and thermal stub E71 in subassembly 2A3 Radio Frequency Amplifier AM-3561/ULQ-6A (unit 2).

**5-AN/ULQ-6A:** Addition of Signal Generator

Correction material: Ch 3, NS0967-071-6013 to NS0967-071-6010 and Ch 1, NS0967-071-6042 to NS0967-071-6040 (MSB)

1-A NS0967-071-6090 2F5895-067-8985

SERIAL: All (151)

IDENTITY:

**6-AN/ULQ-6A:** Provides for Externally Swept Audio Modulation

Correction material: None

3-A FA-4 NS0967-071-6100

SERIAL: Ships designated by CINCLANFLT and CINCPACFLT

IDENTITY: Installation of Audio Oscillator CDDT-114S

**7-AN/ULQ-6A:** Drill Holes to Provide Access to Modulator Adjustments

Correction material: None

4-A FA-1

SERIAL: All equipments using AM-3561/ULQ-6A (Unit 2)

IDENTITY: Presence of three access holes for R-35, R-100, and R-101 on the right side of AM-3561/ULQ-6A chassis drawer slider, with unit fully extended.

**8-AN/ULQ-6A:** Replacement of Resistors 1A3R37, 2A3R25, and 2A3R26

Correction material: T-7, NS0967-071-6019 to NS0967-071-6012

1-A FA-1 NS0967-071-6110

SERIAL: All

IDENTITY: Determining the value of the following resistors, 1A3R37 - 120 ohms (Unit 1) 2A3R25 - 619 ohms, and 2A3R26 - 1470 ohms (Unit 2)

**1-AN/ULQ-6B:** Incorporation of Factory Field Change Service Orders as a Unit Field Change

Correction material: None

2-A FA-2 NS0967-050-9050 2F5895-089-6076

SERIAL: AN/ULQ-6B Serials 1A thru 8A, 13A thru 16A; 39A thru 42A; 47A thru 55A; 69A thru 77A; 86A and 87A

IDENTITY: Proper recording on Unit 1 that modification has been accomplished on the equipment.

**2-AN/ULQ-6B:** Addition of Teflon Bushing and Lubricant to Connector for Waveguide Air Line

Correction material: None

2-A FA-2-3/4 NS0967-050-9060 2F5895-089-6081

SERIAL: Serials 1A thru 8A; 13A thru 16A; 39A thru 42A

IDENTITY: Tag on Unit 2, indicating modification has been accomplished.

**3-AN/ULQ-6B:** Addition of Air Pressure Shield for Unit No. 1

Correction material: None

2-A FA-1/2 NS0967-050-9070 2F5895-089-6082

SERIAL: 1A thru 8A; 13A thru 16A; 23A thru 32A; 39A thru 42A

IDENTITY: Tag on Unit 1 indicating modification has been accomplished.

**4-AN/ULQ-6B:** Tube Cap Replaced on Assemblies 1A2 and 2A2

Correction material: None

2-A FA-3/4 NS0967-050-9080 2F5895-089-6083

SERIAL: 1A thru 8A; 13A thru 16A; 49A thru 51A; 53A; 69A; 71A; 73A and 74A; 77A

IDENTITY: Tags on Units 1 and 2 indicating modification has been accomplished.

**5-AN/ULQ-6B:** Incorporation of Factory Field Change Service Orders as a Unit Field Change

Correction material: None

2-A FA-7-1/2 NS0967-050-9090 2F5895-089-6087

SERIAL: 1A thru 8A; 13A thru 16A; 39A thru 42A; 47A thru 55A; 69A thru 77A; 86A and 87A

IDENTITY: Tag on Unit 1 indicating modification has been accomplished.

**6-AN/ULQ-6B:** Modifications to Assemblies 1A3, 2A1, and 2A2

Correction material: None

2-A FA-2-1/2 NS0967-050-9100 2F5895-089-6092

SERIAL: 1A thru 8A; 13A thru 16A

IDENTITY: Tag on Unit 1 indicating modification has been accomplished.

**7-AN/ULQ-6B:** Audio Oscillator 1A3 Modification

Correction material: None

2-A FA-9 NS0967-050-9110 2F5895-089-6096

SERIAL: A17; A23 thru A38; A46 thru A60; A62; A64 thru A66; A68 thru A81; A86 thru A88; B76 thru B80; B82 thru B110; B112 thru B166; B186 thru B202; and B204

IDENTITY: Tag on Unit 1 indicating modification has been accomplished on the equipment.

**8-AN/ULQ-6B:** Audio Oscillator IA3 Modification

Correction material:

2-A FA-9 NS0967-050-9120 2F5895-089-6100

SERIAL: IA thru 16A; 21A and 22A; 40A thru 42A

IDENTITY: Tag on Unit 1 indicating modification has been accomplished.

**9-AN/ULQ-6B:** Radar Blanking Jack (IA3J6) Relocation and Resistor (IA2R32) Replacement

Correction material: T-1, NS0967-050-9011 to

NS0967-050-9010

2-A FA-3 NS0967-050-9130

SERIAL: All

IDENTITY: Location of the RADAR BLANKING Jack (IJ13) directly below the VIDEO BLANKING Jack (IJ2) on the side of AM-4130/ULQ-6B (Unit 1)

**10-AN/ULQ-6B:** Video Compatibility Improvement

Correction material: Ch 1, NS0967-050-9012 to

NS0967-050-9010

1-A FA-32 NS0967-050-9140

SERIAL: All

IDENTITY:

**11-AN/ULQ-6B:** Modification to Allow use of Different Type Tube

Correction material: T-2, NS0967-050-9013 to

NS0967-050-9010

2-A FA-1 NS0967-050-9150

SERIAL: All

IDENTITY:

**12-AN/ULQ-6B:** Addition of Relays to Provide Isolated Switch Circuits for Emitter Status Indicator Set AN/SSQ-54

Correction material: T-5, NS0967-050-9016 to

NS0967-050-9010

2-C FA-2 NS0967-050-9160 EIC CF05000

SERIAL: Equipments to be designated by NAVSHIPS requiring emission status monitoring signal data to Emitter Status Indicator Set AN/SSQ-54

IDENTITY: Presence of a receptacle, labelled J3, on the rear of Control Indicator C-6325/ULQ-6B

**1-AN/UNQ-7:** Cancelled**1-AN/UNQ-7A:** Cancelled**1-AN/UNQ-7B:** Cancelled**1-AN/UNQ-7C:** Cancelled**1-AN/WLA-3:** Wiring Change to Improve Reliability

Correction material: T-1, NS0967-034-3001 to

NS0967-034-3000

2-A FA-24 NS0967-034-3010

SERIAL: All Airborne Instruments Laboratory equipments

IDENTITY: Absence of the AGC chassis in the AM-4075/WLA-3

**1-AN/WLA-3A:** Replace Interlock Switch Bracket and Increase Contact Area of Interlock Switch Shaft

Correction material: T-1, NS0967-253-2011 to TM, NS0967-253-2010

1-A FA-1

NS0967-253-2040 EIC CAO000

SERIAL: A1 thru A167, A169 thru A180, A182 thru A223, and B1 thru B4.

IDENTITY: The interlock switch shaft should have a spacer screwed on to the end of the shaft. The dimension from center of mounting holes to actuating surface of new interlock switch bracket is 11/16 inch whereas the old dimension is 13/16 inch.

**2-AN/WLA-3A:** Increases Contact Area of Interlock Switch Shaft

Correction material:

1-A FA-1

NS0967-253-2050 EIC CAO000

SERIAL: Power Supply PP-4907/WLA-3A (See Field Change Bulletin for serial numbers affected)

IDENTITY: The spacer and screw are added to the power supply interlock switch shaft, to increase the contact area.

**1-AN/WLR-1:** Replacement of Capacitors 14AIC22, 14AIC23 and 14AIC24

Correction material: T-2 to NS0967-034-2010

2-A FA-2 NS981305 F5895-086-6675

SERIAL: A1 through A16 (RF-89/WLR-1)

IDENTITY: Both side covers from sub-assembly A1 of Electrical Frequency Discriminator RE-89/WLR-1 have been removed and capacitors C-22, C-23, and C-24 are of the fixed type with a rating of 1000 uuf.

**2-AN/WLR-1:** Cancelled**3-AN/WLR-1:** Production Changes to Improve Operation and Maintainability

Correction material: Ch 1 to NS0967-034-2010

3-B FA-33 NS981397 F5895-991-0516

SERIAL: A1 through A16

IDENTITY: See bulletin

**4-AN/WLR-1:** Same as 3-AN/WLR-1 except

3-A

F5895-991-2177

SERIAL: A17 thru A56

**5-AN/WLR-1:** Same as 3-AN/WLR-1 except

2-A

F5895-991-0517

SERIAL: A57 thru A106

**6-AN/WLR-1:** Addition of External Audio and Video Connection to Tape Recorder

Correction material: T-7, NS0967-037-2018 to

NS0967-037-2010

2-A FA-10

NS0967-037-2150 None

SERIAL: All Collins and Sylvania

IDENTITY: Presence of a shielded cable connected to tip lug of Audio Jack J-17 of IP-480/WLR-1 and a parallel shielded cable from standoff E83, through feed-through hole between C13 and C14.

**7-AN/WLR-1:** Installation of Filters to Protect Mixer Crystal Diodes. (Applicable to Sylvania equipment. Refer to 7-AN/WLR-1A)

Correction material:

1-A FA-14 NS0967-037-3250 F5895-956-8984

SERIAL: S/N B-2 thru B-29 and S/N B-31 thru B-51  
IDENTITY: The filters are clearly visible on tuners CV-732 through CV-740. The presence of screws in the two holes on the side apron of the wired chassis, directly under the SERVO potentiometers, indicates that the filter has been installed in the CV-736.

**8-AN/WLR-1:** Substitution of Non-Locking Variable Resistor: RA20LASA252A for RA20A25A252AK

Correction material: T-12, NS0967-037-2025 to NS0967-037-2020 (Formerly NS93422, Vol. II)

2-A FA-6 NS0967-037-2240 None

SERIAL: All Collins and Sylvania

IDENTITY: Presence of locking type potentiometers for R-1 and R-3 of each tuner in place of the non-locking type presently used.

**9-AN/WLR-1:** Installation of Improvements in CV-739 and CV-740 Preselectors. Applicable only to Sylvania Equipment. Refer to 9-AN/WLR-1A

Correction material:

-A FA-4 NS981666 F5895-050-9000

SERIAL: AN/WLR-1 S/N B-2 - S/N B-109. All others have this production change

IDENTITY: See bulletin

**10-AN/WLR-1:** Installation of New Preselector Cam Screws to all Cam Dials. (Applicable only to Sylvania Equipment. Refer to 10-AN/WLR-1A)

Correction material: None

1-A FA-1 NS981704 F5895-066-4446

SERIAL: S/N B-2 - B-89, B91-B135, B137-B151

IDENTITY: Examination of the spring on CV-736 in question when related to the sketch will easily identify accomplishment.

**11-AN/WLR-1:** Corrects Nomenclature of Equipments Manufactured by Sylvania on NObsr-81365 (Modifies Equipment to AN/WLR-1A)

Correction material: T-11, NS0967-037-2016 to NS0967-037-2010 (Formerly NS93422, Vol. I)

2-A FA-2 NS0967-037-2240

SERIAL: All equipments manufactured by Sylvania under NObsr-81365

IDENTITY: All units and all literature will be marked "AN/WLR-1A" instead of "AN/WLR".

**12-AN/WLR-1:** Relocation of High Voltage Receptacle 6J2 in CV-737/WLR-1 and 7J2 in CV-738/WLR-1 Tuners

Correction material: None

2-A FA-1 NS0967-037-2240 None

SERIAL: All

IDENTITY: The CV-737/WLR-1 and CV-738/WLR-1 high voltage receptacles being located forward of the filament transformer T-1 instead of aft of it.

**13-AN/WLR-1:** Modification of IP-480/WLR-1 to permit Analysis and Scan Scopes to Function Simultaneously

Correction material: T-11, NS0967-037-2016 to NS0967-037-2010 (Vol. 1); T-12, NS0967-037-2025 to NS0967-037-2020 (Vol. 2)

2-A FA-2 NS0967-037-2240 None

SERIAL: All

IDENTITY: Presence of DPST in lieu of SPST as Photo-Normal Switch on IP-480/WLR-1.

**14-AN/WLR-1:** Addition of a New AC Line Interlock Circuit Relay to Eliminate Voltage Drop in Klystron Power Supply

Correction material: T-5 to NS0967-037-2010; T-1 to NS0967-065-2010; T-1 to NS93422.61

2-A FA-4 NS0285-077-9000 None

SERIAL: All

IDENTITY: Presence of relay 15K5 mounted on a bracket at bottom, left side of Power Supply PP-2156/WLR-1 chassis.

**15-AN/WLR-1:** Addition of Test Jacks for Measurement of Klystron Anode Current

Correction material: T-11, NS0967-037-2016 to NS0967-037-2010 (Vol. 1); T-12, NS0967-037-2025 to NS0967-037-2020 (Vol. 2)

2-A FA-4 NS0967-037-2240 None

SERIAL: All

IDENTITY: Presence of two new test jacks, labelled "KLYSTRON I", in Power Supply PP-2156/WLR-1.

**16-AN/WLR-1:** Provides Standby Mode of Operation

Correction material: T-6, NS0967-037-2019 to NS0967-037-2010

3-A FA-4 NS0967-037-2230

SERIAL: All

IDENTITY: Presence of a three-position (ON, OFF, STBY) POWER switch on IP-480/WLR-1.

**17-AN/WLR-1:** Access Hole Arrangement for CV-732/WLR-1, CV-733/WLR-1, and CV-734/WLR-1

Correction material: None

2-A FA-2 NS0967-037-2240 None

SERIAL: All

IDENTITY: Presence of holes in the oscillator and preselector covers.

**18-AN/WLR-1:** Replacement of Frequency Converter-Tuned Cavities with Electronic Frequency Converters and Addition of Power Supply Assembly

Correction material: T- to NS93422

3-A FA-2 NS0967-037-2250

SERIAL: All

IDENTITY: Presence of nameplates on the new RF tuners and an additional power supply.



**19-AN/WLR-1:** Installation of Elapsed Time Meters

Correction material: Incorporated in revised technical manual

1-A FA-8 NS0967-037-2260 2F5895-063-1753  
 SERIAL: A-77, A-80, A-60, and A-98. This field change is only applicable to equipment installed in ships selected by the MDCS (SHIPS) Test Program.  
 IDENTITY: Removing the cover from the Interconnecting Box J-1008/WLR-1 and observing the presence of eleven (11) elapsed time meters mounted on a panel in the lower portion of the Interconnecting Box J-1008/WLR-1.

**20-AN/WLR-1:** Wiring Change to Power Supply SG-333/WLR-1

Correction material: T-11, NS0967-037-2016 to NS0967-037-2010

2-A FA-1/2 NS0967-037-2270

SERIAL: All

IDENTITY: Jumper between 19R3 and 19R4, on Terminal Board 19TB-2, has been removed.

**21-AN/WLR-1:** Modification of Audio Circuitry in 12A4 Pulse Stretcher

Correction material: T-12, NS0967-037-2017 to NS0967-037-2010, Vol. 1; T-13, NS0967-037-2026 to NS0967-037-2020, Vol. 2 (formerly NS93422)

1-A FA-4 NS0967-037-2280 EIC CA0B000  
 SERIAL: Only those equipments when installed with the AN/SLA-10

IDENTITY: The Video Pulse Stretcher, 12A4, will have an additional component board mounted to its inner base near 12PI.

**1-AN/WLR-1A:** Same as 12-AN/WLR-1

**2-AN/WLR-1A:** Same as 13-AN/WLR-1

**3-AN/WLR-1A:** Same as 14-AN/WLR-1

**4-AN/WLR-1A:** Same as 15-AN/WLR-1

**5-AN/WLR-1A:** Same as 16-AN/WLR-1

**6-AN/WLR-1A:** Same as 6-AN/WLR-1

**7-AN/WLR-1A:** Same as 7-AN/WLR-1

**8-AN/WLR-1A:** Same as 8-AN/WLR-1

**9-AN/WLR-1A:** Same as 9-AN/WLR-1

**10-AN/WLR-1A:** Same as 10-AN/WLR-1

**11-AN/WLR-1A:** Same as 17-AN/WLR-1

**—12-AN/WLR-1A:** Same as 18-AN/WLR-1 (modifies equipment to AN/WLR-1E)

This Field Change Eliminates Requirement for FC 12, 14, and 15-AN/WLR-1; FC 1, 3, and 4-AN/WLR-1A (modifies equipment to AN/WLR-1D)

**13-AN/WLR-1A:** Same as 19-AN/WLR-1 except  
 SERIAL: B-14, B-54, and B-135

**14-AN/WLR-1A:** Same as 20-AN/WLR-1

**15-AN/WLR-1A:** Same as 21-AN/WLR-1 except  
 EIC CAOC000

**1-AN/WLR-1B:** Improvement of High Frequency Performance

Correction material: T- to NS0967-065-2010

3-C FA- NS981766

SERIAL: Gen. Instrument Corp. 1 thru 9 (Part A) - 19 thru 21 (Part B)

IDENTITY: There are three items which indicate that the field change described herein has been accomplished. All three are visible on the secondary capacitor A2 (54 of figure 3-9) in Overhaul and Repair Manual (NAVSHIPS 94932.61). A spacer (8 of figure 1), has been installed between the casting and the forward bearing retainer. One elastic clinch nut (14 of figure 1) has been removed from the spring plate. The drive shaft is metal clad for 1-15/32" from the front surface instead of 1-31/32"

**2-AN/WLR-1B:** Same as 12-AN/WLR-1

**3-AN/WLR-1B:** Same as 13-AN/WLR-1 except

Correction material: T-7, NS0967-065-2024 to NS0967-065-2010 (Formerly NS94932)

**4-AN/WLR-1B:** Same as 14-AN/WLR-1, except  
 Correction material: T-1, NS to NS0967-065-2010

**5-AN/WLR-1B:** Same as 15-AN/WLR-1, except  
 Correction material: T-7, NS0967-065-2024 to NS0967-065-2010

**6-AN/WLR-1B:** Same as 16-AN/WLR-1, except  
 Correction material: T-2, NS0967-065-2012 to NS0967-065-2010

**7-AN/WLR-1B:** Same as 17-AN/WLR-1

**—8-AN/WLR-1B:** Same as 18-AN/WLR-1, except  
 Correction material: T- , NS to NS0967-065-2010 (modifies equipment to AN/WLR-1F)

**9-AN/WLR-1B:** Same as 6-AN/WLR-1, except  
 Correction material: T-3, NS0967-037-2013 to NS0967-037-2010

**10-AN/WLR-1B:** Same as 19-AN/WLR-1 except  
 SERIAL: A-55 and A

**11-AN/WLR-1B:** Same as 20-AN/WLR-1, except  
 Correction material: T-5, NS0967-065-2016 to NS0967-065-2010

**12-AN/WLR-1B:** Same as 21-AN/WLR-1 except  
 Correction material: T-6, NS0967-065-2017 to NS0967-065-2010, Vol. 1; T-8, NS0967-065-2025 to NS0967-065-2020, Vol. 2 (formerly NS94932)  
 NS0967-065-2080 EIC CA0D000  
 SERIAL: All

**1-AN/WLR-IC:** Modifying Azimuth Indicator-Pulse Analyzer IP-480C/WLR-1 for Polar Direction Finding

Correction material: Ch. 1, NS0967-226-6011 to NS0967-226-6010, Vol. 1; Ch. 1, NS0967-226-6021 to NS0967-226-6020, Vol. 2

3-A FA-80 NS0967-226-6050 EIC CAOEO00  
SERIAL: All

IDENTITY: New bezel display assembly on the acquisition indicator of Azimuth Indicator-Pulse Analyzer IP-480C/WLR-1.

**2-AN/WLR-IC:** Modification of Audio Circuitry in 12A2A1, Pulse Analyzer

Correction material: T-1, NS0967-226-6013 to NS0967-226-6010, Vol. 1; T-1, NS0967-226-6022 to NS0967-226-6020, Vol. 2

1-A FA-4 NS0967-226-6040 EIC CAOEO00  
SERIAL: All

IDENTITY: There will be an additional component board, A3, over the delay line in IP-480C/WLR-1 subassembly 12A2A1, Pulse Analyzer

**3-AN/WLR-IC:** The Addition of Seven Feedthrough Capacitors in CY-2522C/WLR-1

Correction material: Ch. 2, NS0967-226-6012 to NS0967-226-6010, Vol. 1; Ch. 3, NS0967-226-6023 to NS0967-226-6020, Vol. 2

1-A FA-8 NS0967-226-6060 EIC CAOEO00  
SERIAL: All

IDENTITY: The addition of three additional feed-through capacitors in the CV-742C/WLR-1 and four additional feed-through capacitors in the rear case of the CV-741C/WLR-1

**1-AN/WLR-ID:** Same as 20-AN/WLR-1

**1-AN/WLR-IE:** Same as 20-AN/WLR-1

**1-AN/WLR-IF:** Same as 11-AN/WLR-1B

**1-AN/WLR-3:** F.C. Kit Modifies the Detector Switching Unit RF-81/WLR-3 to Detector Switching Unit RF-134/WLR-3A and modifies the Amplifier Control AM-1936/WLR-3 to AM-2996/WLR-3A for operation with the AN/BLR-1 equipment

Correction material: Ch 1 to NS0967-037-3010 (Formerly NS93139(A))

1-A YF-24 NS981299 2N5895-473-5118

SERIAL: For submarine installations only

IDENTITY: Equipment nomenclature changed to AN/WLR-3A

**1A-AN/WLR-3:** Supplement Information to Field Change 1-AN/WLR-3 for Operation with AN/WLR-1 Equipment

Correction material: T-1 to NS0967-037-3010 (Formerly NS93139(A))

1-A FA-30 NS981299 2N5895-973-3246

SERIAL: For submarine installations only

IDENTITY: Equipment nomenclature changed to AN/WLR-3A

**2-AN/WLR-3:** Cancelled

**3-AN/WLR-3:** Addition of Elapsed Time Meter

Correction material: T-1, NS0967-077-9011 to NS0967-077-9010 (Formerly 93139(A))

1-A FA-4 NS0967-077-9040 2F5895-056-1316

SERIAL: 205, 214, 278, and A-13. This field change is applicable only to serial numbers of equipment installed in ships selected by MDCS (SHIPS) Test Program.

IDENTITY: Partially withdraw Amplifier Control, AM-1936/WLR-3 or AM-2996/WLR-3A cabinet to observe an Elapsed Time Meter mounted along the left diagonal brace, aft of Allen wrench holding bracket.

**1-AN/WLR-3A:** Same as 3-AN/WLR-3 except

Correction material: T-1, NS0967-037-3011 to NS0967-037-3010

SERIAL: 76, 154, and 260

**1-AS-570/SLR:** Reflector Counterweight Replacement

Correction material: T-2 to NS91997(A)

B YF-5 NS98533 F5985-324-2067

SERIAL: 1-130

IDENTITY: New counterweight is cylindrical; mounted on threaded bolt attached to the antenna mounting ring.

Note: FC 1-OA-473/SLR must be accomplished prior to this FC.

**2-AS-570/SLR:** Extension of Frequency Coverage of AS-570/SLR (Changes to AS-605/SLR)

Correction material:

A YF-8 NS98619 F5985-324-9933

SERIAL: SHIPS w/AN/SLR-2 having AS-570/SLR and AS-571/SLR(50)

IDENTITY: Antenna nameplate changed to AS-605/SLR.

**3-AS-570/SLR:** Maintenance Improvements

Correction material: T-1 to NS92366

B YF-1 NS98701 None

SERIAL: 1-209

IDENTITY: Access hole drilled on side of rate generator, 1/2" in dia. 2-1/2" from top. (Rate generator housing)

**1-AS-571/SLR:** Addition of Radome Assembly on CW-456/SLR

Correction material: T-1 to NS0967-889-2010

1-B YF-8 NS98998 F5985-543-1478

SERIAL: All

IDENTITY: Addition of radome assembly.

**2-AS-571/SLR:** Installation of Safety Disconnect Switch

Correction material: T-3, NS0967-889-2013 to NS0967-889-2010 (Formerly NS92388)

2-A FA-1 NS0967-892-8050 None

SERIAL: When FC-1 (Addition of Radomes) is completed

IDENTITY: Presence of watertight switch mounted at the base of the antenna

**3-AS-571/SLR:** Cancelled

**1-AS-605/SLR:** Maintenance Improvements

Correction material: T-4 to NS91997(A)

2-A FA-1 NS98701 None

SERIAL: 1-209

IDENTITY: Safety wire installed on the four 6-32 x 7/16" long fillister-head screws of servo motor shaft adapter.

**1-AS-616/SLR:** Mechanical Improvements

Correction material: None

2-A FA-3 NS0967-892-8030 None

SERIAL: 1-363

IDENTITY: Lower main shaft oil seal KZ5330-291-7140 installed (symbol 0-410).

**2-AS-616/SLR:** Addition of Radome Assembly on CW-456/SLR

Correction material: T-2 to NS0967-892-8010

1-B YF-8 NS98998 F5985-543-1478

SERIAL: All

IDENTITY: Addition of radome assembly

**3-AS-616/SLR:** Same as 2-AS-571/SLR except

Correction material: T-3, NS0967-892-8011 to NS0967-892-8010 (Formerly NS92085(A))

SERIAL: When field change 2 has been completed.

IDENTITY:

**4-AS-616/SLR:** Cancelled**1-AS-899/SLR:** Arrow Installation on Antenna Direction Indicator

Correction material: None

2-A FA-12 NS0967-080-7050 None

SERIAL: All

IDENTITY: Aluminum arrow located on antenna reflector assembly and extended over and below antenna main bearing.

First Appeared in EIB: 614 and 621

**2-AS-899/SLR:** Installation of 120-Cycle Band Rejection Filter

Correction material: T-1 to NS94272(A)

1-A FA-1 NS981797 F5895-763-1375

SERIAL: Numbers Unknown

IDENTITY: Filter, when installed, lies behind C1201 in base of antenna.

**3-AS-899/SLR:** Wiring Change Required for Compatible Operation with the AN/WLR-1 ECM Equipment and Antenna Control Unit

Correction material: T-1, NS0967-080-7011 to NS0967-080-7010 (Formerly NS93409)

2-C FA-1 NS0967-080-7040 None

SERIAL: All

IDENTITY: This Field Change can be identified by viewing from above the antenna and noting the clockwise rotation of the AS-899/SLR or AS-899A/SLR antenna when the Antenna Control-Indicator unit is in the "Automatic" operation mode.

**1-AS-899A/SLR:** Same as 2-AS-899/SLR**2-AS-899A/SLR:** Motor Coupling Replacement

Correction material: T-2 to NS0280-768-2003 (Formerly NS94272A)

1-A FA- NS0967-080-7030

SERIAL: All

IDENTITY: Refer to Technical Manual NS94272(A) tables 7-1 and 7-2

**3-AS-899A/SLR:** Same as 3-AS-899/SLR**1-C-1213/SLR:** Same as 3-C-1608/SLR except

Correction material: T- , NS to NS (Formerly NS91997(A))

**1-C-1608/SLR:** Polarization Switch Wiring Change

Correction material: Ch 1 to NS92490

1-A FA-2 NS98924 F5985-536-2412

SERIAL: When using AS-605/SLR or AS-899( )/SLR

IDENTITY: Instruction decal affixed to left of polarization switch on front panel when used with AS-605/SLR and AN/BLR-1 or AN/SLR-2. Instruction plates affixed near C-1608/SLR with AN/WLR-1( ) installation.

**2-C-1608/SLR:** Cancelled (Superseded by F.C. 4-C-1608/SLR)**3-C-1608/SLR:** Change of Nomenclature

Correction material: None

2-A FA-1/2 NS0967-892-5050

SERIAL: All equipments to which the Modification Kit MK-483/SLR has been installed.

IDENTITY: When the letter "A" has been added to the equipment designation on the nameplate of each applicable equipment.

**4-C-1608/SLR:** Installation of Control Relay to Remove 115VAC from D.F. Antenna Motors and Magnetic Amplifier Reactors (Cancels and Supersedes F.C. 2-C-1608/SLR)

Correction material: T-2 to NS92490

2-A FA-2 NS0967-892-5040

SERIAL: All

IDENTITY: Presence of relay installed at bottom of chassis, between TB-207 and TB-208

**1-C-1608A/SLR:** Installation of a Safety Cover to Protect Video Scanner

Correction material: T- to NS

2-A FA-2

SERIAL: All C-1608A/SLR

IDENTITY: Aluminum shield installed to protect photo-electric scanner assembly of MK-483/SLR kit.

**1-C-1609/SLR:** Wiring Change to Eliminate Blowing Fuses with AS-5701/SLR

Correction material: T-1 to NS0967-892-4010

A FA-2 NS98598 None

SERIAL: When used with AS-570/SLR only

IDENTITY: A jumper is added from term P of TB-605 to term P of TB-606 and to term F of TB-607 (located underside of chassis).

**2-C-1609/SLR:** Synchro Mount Insert Addition

Correction material: None

1-A FA-2 NS98858 F5895-699-5500

SERIAL: 1-360 manufactured under Contract NObsr-57340

IDENTITY: Housing of synchro B-603 counterbored to accept a granite cup.

**3-C-1609/SLR:** Antenna Control Change

Correction material: T-2 to NS0967-892-4010

2-A FA-1 NS981091 None

SERIAL: C-1609/SLR's that do not contain K-601. See NOTE after F.C. 6-C-1609/SLR

IDENTITY: New conductor running from term ½2 to TB-602 to term "B" of switch S-604.

**4-C-1609/SLR:** Polarization Switch Wiring Change

Correction material: Ch 1 to NS0967-892-4010

1-A FA-2 NS98924 F5895-526-2412

SERIAL: When using AS-605/SLR or AS-899( )/SLR

IDENTITY: Instruction decal affixed to left of polarization switch on front panel with AS-605/SLR and AN/BLR-1 or AN/SLR-2. Instruction plate affixed near C-1609/SLR with AN/WLR-1( ) installation. NOTE: F.C. 1-C-1609/SLR required prior to F.C. 4-C-1609/SLR.

**5-C-1609/SLR:** Modification of Control Indicator C-3118/SLR to C-3118B/WLR for use with AN/WLR-1

Correction material: T- , NS to NS0967-892-4010 (C-1609/SLR); T- , NS to NS0967-891-9010 (C-3118/WLR)

1-B FA-4 NS981493

SERIAL: All Control-Indicators C-1609/SLR used with AN/WLR-1

IDENTITY: Modification Kit MK-483B/WLR installed. Nomenclature changed to Control-Indicator C-3118B/WLR.

**6-C-1609/SLR:** Installation of Control Indicator Protector Plate for Time Delay Relay K-601

Correction material: None

2-A FA-1 NS0967-892-4060 None

SERIAL: All C-1609/SLR's that contain K-601

IDENTITY: Phenolic cover plate installed over K-601.

NOTE: Later versions of C-1609/SLR are manufactured to include F.C. 3 by relay K-601. Field Change 3-C-1609/SLR not applicable to equipment with K-601.

**7-C-1609/SLR:** Modification of Control Indicator C-1609/SLR to C-3118A/WLR for use with AN/WLR-1

Correction material: T- , NS to NS0967-238-4010 (C-3118A/WLR-1); T- , NS to NS0967-892-4010 (C-1609/SLR)

1-A FA-4 NS981656 F5895-967-9604

SERIAL: C-1609/SLR equipments when operated with AN/WLR-1

IDENTITY: Modified units will have a modification plate mounted in the vicinity of the original nameplate indicating a change in nomenclature from C-1609/SLR to C-3118/WLR.

NOTE: Field Changes 5-C-1609/SLR and 7-C-1609/SLR accomplish the same result, hence, one or the other is applicable with AN/WLR-1( ).

**8-C-1609/SLR:** Addition of Protective Circuit for D.F. Antennas

Correction material: Incorporated in revised Technical Manuals

2-A FA-6 NS0285-081-1200 None

SERIAL: When used with AS-605/SLR or AS-899( )/SLR only

IDENTITY: Automatic speed control potentiometer incorporates "ON-OFF" switch to preclude switching DF antennas while automatic speed control is in maximum speed position. NOTE: F.C. 4-C-1609/SLR must be accomplished prior to F.C. 8-C-1609/SLR.

**9-C-1609/SLR:** Installation of Elapsed Time Meter

Correction material: T-3, NS0967-892-4012 to NS0967-892-4010 (Formerly NS92495)

1-A FA-4 NS0967-892-4090

SERIAL: 105, 278, and 409. This field change is only ships selected by MDCS (SHIPS) Test Program.

IDENTITY: Removing the front panel locking screws and withdrawing unit forward to observe an elapsed time meter mounted just below potentiometer R-608.

**1-C-3118/WLR:** Same as 8-C-1609/SLR**2-C-3118/WLR:** Same as 9-C-1609/SLR except

Correction material: T-1, NS0967-891-9011 to NS0967-891-9010 (Formerly NS93505)

SERIAL: A-43, 220, 471, 582, and B-17

**1-C-3118A/WLR:** Same as 8-C-1609/SLR**2-C-3118A/WLR:** Same as 9-C-1609/SLR except

Correction material: T-1, NS0967-891-9011 to NS0967-891-9010 (Formerly NS93505)

SERIAL: A-43, 220, 582, and B-17

**1-C-3118B/WLR:** Same as 8-C-1609/SLR**2-C-3118B/SLR:** Same as 9-C-1609/SLR except

Correction material: T-1, NS0967-891-9011 to NS0967-891-9010 (formerly NS93505)

SERIAL: A-43, 220, 471, 582 and B-17

**1-DAK:** Not applicable**1-DBM-1:** SI07, Wiring Change

A FA-6 FC-2-45 F5825-301-8440C1

SERIAL: 1-100

IDENTITY: If oscillation of the true bearing dial occurs while the selector switch is in the relative bearing position the field change is not accomplished.

**2-DBM-1:** Scanning Cap Coupling Change

A FA-1/2 FC 10-45 F5840-311-2475C1

SERIAL: 1-100

IDENTITY: The rubber scanning capacitor coupling is replaced by metal.

**3-DBM-1:** Bullet in Antenna R.F. Rotary Joint Change  
A FA-1 FC-26-45 F5840-311-2473C1  
SERIAL: 1-252  
IDENTITY: In the antenna new pins are silver plated soft brass.

**4-DBM-1:** Installation of Equalizer for LF Antenna  
B YF-1 FC-49-46 F5840-311-2474C1  
SERIAL: 1-289  
IDENTITY: A 20 mmfd capacitor is placed in series with the vertical antenna and relay K-201; from the junction of capacitor and relay is inductor L-203 in series with a 47 ohm resistor to ground.

**1-DUUG-1B:** Addition of New Interlock Micro-Switch  
Correction material: T-1, NS0967-944-2011 to NS0967-944-2010 (Formerly NS93717)  
2-A FA or NS0967-944-2020 None  
YF-8  
SERIAL: All  
IDENTITY: Presence of a red and white wire running to the interlocks of the upper and lower units of the DUUG-1.

**2-DUUG-1B:** Replacement of Primary Power Fuses  
Correction material: T-1, NS0967-944-2011 to NS0967-944-2010 (Formerly NS93717)  
2-A FA-2 NS0967-944-2020 None  
SERIAL: All  
IDENTITY: Fuse identification plate attached to the lower chassis front panel under the primary fuse holders.

**1-DUUG-1C:** Same as 1-DUUG-1B

**2-DUUG-1C:** Same as 2-DUUG-1B

**3-DUUG-1C:** Replacement of Resistor 10R-22 and Capacitor 10C-06  
Correction material: None required  
2-A FA-1 NS0967-944-2020 None  
SERIAL: All  
IDENTITY: Proper recording of Field Change number on Field Changes Accomplished Plate.

**1-OA-473/SLR:** Nomenclature Change from OA-473/SLR to OA-570/SLR Control-Indicator C-1213/SLR; Amplifier-Control AM-825/SLR  
Correction material: T-2 to NS91997(A)  
1-A FA-3 NS98532 F5985-324-2066  
SERIAL: 1-160  
IDENTITY: New nameplates appear on AS-570 & C-1213.

**1-OA-532/BLR-1:** Installation of Dual Rotary Joint  
1-A YF-20 NS98997 F5985-626-2319  
SERIAL: Concurrent with installation of AN/WLR-3  
IDENTITY: Modifies equipment designation to OA-1903/BLR-1

**1-OA-1903/BLR-1:** Replacement of Servo Amplifier with IF Synchro in C-1164/BLR-1  
Correction material: None  
2-A FA-12 NS0967-961-5020 None  
SERIAL: All  
IDENTITY: Noting the Absence of the servo amplifier and the presence of an IF synchro in C-1164/BLR-1.

**2-OA-1903/BLR-1:** Replacement of Non-Polarized Connectors with Polarized Connectors  
Correction material: T-2, NS0967-961-5013 to NS0967-961-5010 (Formerly NS91974)  
2-A FA-1-1/2 NS0967-961-5020 None  
SERIAL: AM-793/BLR-1, C-1164/BLR-1 in the OA-532/BLR-1 Antenna Group  
IDENTITY: Presence of polarized connectors for J-4103 and J-4109

**1-OA-6416/FRD-10A(V):** Change in Cabling for OA-6416/FRD-10A, Used with Direction Finder Set AN/FRD-10A(V)

Correction material: T-2, NS0967-080-0042 to NS0967-080-0040 (Formerly NS95744, Vol. IV)  
2-A FA-1/4 NS0967-080-0100  
SERIAL: Applies only to OA-6416/FRD-10A(V), Channel Watcher Position 1. Other Channel Watcher Positions are not affected.  
IDENTITY: This field change can be identified by turning OFF the Power Supply, PP-3950/FRD-10A, for the Azimuth Indicator and the Control Indicator and observing that this does not render the Angle Counter inoperative.

**2-OA-6416/FRD-10A(V):** Addition of Connector in Leads to Airflyte Monitor Beam Selector Switch  
Correction material: T-1 to NS0967-080-0040 (Vol. 4)

2-A FA-2 NS0967-080-3010  
SERIAL: All used with AN/FRD-10A(V)  
IDENTITY: Slide Report Control Unit forward and observe connector installed in the leads to the Airflyte Monitor Beam Selector Switch.

**3-OA-6416/FRD-10A(V):** Fabrication and Installation Instructions for Mounting Transistor Specialties, Inc. (TSI) Digital Frequency Readout Module  
Correction material: T- to NS  
1-A FA-4 NS0967-080-3020  
SERIAL: All  
IDENTITY:

**1-PP-1092/U:** Installation of Thermal Time Delay Relay in Primary Circuit of T-2  
Correction material:  
2-A FA-2 NS None  
SERIAL: Equipments when installed for use with AN/ARC-1, -1A  
IDENTITY: Presence of a thermal time delay relay installed on the bottom of the power supply chassis adjacent to C-4.

**1-PU-383/M:** Improvement of Engine Reliability, Speed Control, and Operating Life

Correction material:

1-A YF-8 NS981492

SERIAL: 100 Navy-owned diesel-powered units

IDENTITY: New solenoid valve attached to governor

**1-R-839/FLR-2:** Minimizing Interaction Between Video Output and the Audio Level

Correction material: NS93148

2-A FA-1 NS981308 None

SERIAL: All

IDENTITY: Substitution of resistor R-124 (47K) with a 22K and a 16K resistor connected in series to the plate pin 6 of V-106.

**1-R-839A/FLR-2:** Same as 1-R-839/FLR-2

**1-R-839B/FLR-2:** Same as 1-R-839/FLR-2

**1-R-839C/FLR-2:** Same as 1-R-839/FLR-2

**1-X-RDJ:** Improvement of Pulse Analyzer Operation

A FA-3 NS98876 None

SERIAL: 1-25

IDENTITY: R-201, 1.2 meg between H1 side of horiz positioning cont R194A and R194B.

**1-RDJ:** Improvement of Pulse Analyzer Operation

A FA-2 NS98876 None

SERIAL: 1-250

IDENTITY: Ser 1-250; R-128 and R-129 replaced with 6800 ohm, 2 watt resistors. Ser 1-67 only: R-201, 1.2 meg, connected between R-194A and R-194B; high side of R-194A and R-192B connected to 150V DC unregulated supply. Ser 1-216 only: C-147 (between pin 5 of V-11) and position 2 & 3 of S-104B connected to pin 5 of V-111 and R-178.

**1-RDP:** Sweep Oscillator Shaft Extension

Correction material: See NS98734

2-A FA- NS98734 None

SERIAL: All

IDENTITY: Allows adjust of osc-tuning slug thru access hole.

**2-RDP through 3-RDP:** Cancelled

**4-RDP:** Reverse Capacitor Connections

Correction material: None

2-A FA-1 NS98258 F5820-321-2821

SERIAL: All

IDENTITY: Leads connecting C-105 to V-104 run parallel and connect to pins 3 & 6.

**1-SA-1136/FRD-10A(V):** Replacement of Switch SI in Beam Sector with a Four-Position Switch

Correction material: T-1 to NS0967-080-0020 (Vol. 2), T-1 to NS0967-080-0050 (Vol. 5), T-1 to NS0967-080-0060 (Vol. 6)

1-A YF-1 NS0967-080-1100 None

SERIAL: All

IDENTITY: The new switch is rotary rather than toggle.

**2-SA-1136/FRD-10A(V):** Replacement of Switch SI in Beam Sector with a Four-Position Switch

Correction material: T-1 to NS0967-080-0020 (Vol. 2); T-1 to NS0967-080-0050 (Vol. 5); T-1 to NS0967-080-0060 (Vol. 6)

1-A YF-1 NS0967-080-1100 None

SERIAL: All

IDENTITY: The new switch is rotary rather than toggle.

**1-SA-1137/FRD-10A(V):** Same as 1-SA-1136/FRD-10A(V)

**1-66132(CAGW):** Replacement of Radiating Stub

Correction material: None

1-A FA-1/2 NS98570 F5985-324-2065

SERIAL: All

IDENTITY: Base for new stub is approx. 7-1/2" wide. Old one is 3-1/2" approx. New stub is fibre glass and old one is wood.

**4-1. PURPOSE**

The purpose of this section is to provide technical personnel with a convenient source of installation, operation, and maintenance notes peculiar to specific types of countermeasures equipment.

**4-2. DOCUMENTATION**

The information contained in these service notes is based on data obtained from Navy publications such as the Electronics Information Bulletin (EIB), Naval Ship Systems Command Technical News, and from other approved publications.

**4-3. COUNTERMEASURES EQUIPMENT SERVICE NOTES**

The following service notes pages are numbered in alphanumeric order by countermeasures equipment nomenclature. However, the service notes for a specific equipment are arranged in functional order. For example, the first page of Magnetic Control Amplifier AM-1017/SLR service notes is designated AM-1017/SLR:1. The second page of notes for this equipment would be designated AM-1017/SLR:2. This method of page numbering provides for the future addition of service notes without re-numbering all of the other pages of this section.

**ADJUSTMENT PROCEDURE FOR AN/BLA-1**

A suggestion by the San Francisco Naval Shipyard provides a method for simplifying the adjustment procedures of the error and tachometer feedback controls in the AN/BLA-1 antenna control system.

In the J-1280/BLA-1, 8 potentiometers are mounted for controlling the speed and control of the 3 submarine D/F antennas, AS-1071/BLR, AS-994/BLR, and AS-962/BLR. The problem occurs when adjustment of a given antenna is required. A technician will identify the two potentiometers which adjust a particular antenna by means of the instruction book NAVSHIPS 94238.

To simplify procedures, it is recommended that an identification plate be placed above each set of potentiometers noting the antenna which these pots adjust.

When installing these nameplates, care should be taken to properly ring out the antenna system to make sure they are labeled properly. (614)



**WAVEGUIDE AND ADAPTERS AVAILABLE FOR COUNTERMEASURES RECEIVING SETS AN/BLR-1, AN/SLR-2, AND AN/SLR-3.**

See article in AN/BLR-1 section under the same title.

**AN/SLR-10 COUNTERMEASURES RECEIVING SET-  
CHANGES IN TEST CABLES**

Technical Manual NAVSHIPS 94162, figure 5-2A, shows a test cable to provide temporary connection to the power line when the various units of the AN/SLR-10 are removed for repair work. A possible shock hazard exists because of the use of alligator clips on this power cable.

This power cable should be made up using eyelet lugs, instead of the alligator clips, which may be fastened securely to the terminal strips. In addition, to make connections to jack J-210 or J-212 of Distribution Box J-1228/SLR-10, test jigs should be fabricated using mating connectors with the desired pin connections in each case brought out to a screw terminal strip attached to the mating plug. The power cord test cable may then be connected to the terminal strip in the manner required to perform the tests listed in the Technical Manual to determine proper operation of the equipment. (614)

**AN/SLR-10, PREVENTION OF FAILURE IN INDICATORS  
IP-585/SLR-10 AND IP-586/SLR-10**

The rotary alidades on both indicators for the AN/SLR-10 system (IP-585/SLR-10 and IP-586/SLR-10) are equipped with illumination lamps controlled by the function switch to light the panoramic scale and D/F alidade. The wiring is routed through separate slip-ring assemblies for panoramic and D/F lighting.

Failure of the indicators may be caused by the slip-ring contacts shorting against the metal alidade assembly if the retaining rivets on the slip-ring contacts become loose. Shorting of these contacts will cause extensive damage throughout the unit because of overheating of the low voltage wiring.

The slip-ring assemblies should be inspected at frequent intervals and the rivets should be tightened, if necessary, to remove this possibility of failure. (624)

**ENCAPSULATED SUBMARINE ECM ANTENNAS**

The program to reduce submarine ECM mast flooding and failures includes authorization by SHIPALTS SS 864, SSN 42, SSBN 7, and applicable change orders, to relocate AN/WLR-3 crystals and coax switches inboard, and to encapsulate all pressure seals for the antennas and mast flanges.

Encapsulation in accordance with Bureau approved drawings will be accomplished on all submarine ECM antennas, including AS-944/BLR, AS-1071/BLR, or similar types; AS-994/BLR; AS-962/BLR; AT-693/BLR; and AS-317B/S. All flanges on the mast assembly will be encapsulated, including those joining antennas and mast sections. Encapsulation is intended to supplement conventional seals such as O-rings and to provide additional barriers to pressure leaks. Exercise care in selecting and installing the proper size O-rings in flange pressure seals prior to encapsulation. Refer to USL Technical Memo 943.1-205-61.

No encapsulated pressure seal will be broken by ship force except in emergency and as authorized by the Commanding Officer. Tenders and shipyards serving submarines will be equipped to re-encapsulate pressure seals in accordance with prescribed materials and procedures. Therefore, repairs and maintenance which require breaking encapsulated pressure seals will normally be accomplished at those activities. (584)

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**COUNTERMEASURES**

**NAYSHIPS 0967-000-0070**

**SERVICE NOTES**

**ENCAPSULATED SUBMARINE ECM ANTENNAS**

See article in AS-371B/S section under the same title.

**CHANGE 10**

**AS-944/BLR:1**

**COUNTERMEASURES**

**NAYSHIPS 0967-000-0070**

**SERVICE NOTES**

**ENCAPSULATED SUBMARINE ECM ANTENNAS**

See article in AS-371B/S section under the same title.

**CHANGE 10**

**AS-962/BLR:1**

**COUNTERMEASURES**

NAVSHIPS 0967-000-0070

**SERVICE NOTES****ENCAPSULATED SUBMARINE ECM ANTENNAS**

See article in AS-371B/S section under the same title.

CHANGE 10

AS-994/BLR:1

This section is under preparation. When completed, it will contain reference data pertaining to countermeasures equipment.

A reference data encyclopedia is published in the Electronics Installation Maintenance Handbook series. It is titled "Reference Data", NAVSHIPS 0967-000-0140.



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