

NAVSHIPS 0967-000-0030

NON-REGISTERED

(Formerly NAVSHIPS 900,000.3)

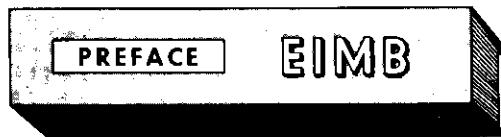
**ELECTRONICS
INSTALLATION
AND
MAINTENANCE BOOK**

SONAR

**DEPARTMENT OF THE NAVY
BUREAU OF SHIPS**

PUBLISHED: APRIL 1962

Change 3: April 1966 (0967-000-0033)



POLICY AND PURPOSE

The Electronics Installation and Maintenance Book (EIMB) has been established as the means for collecting, publishing, and distributing, in one convenient documentation source, those subordinate maintenance and repair policies, installation practices, and overall electronics equipment and material-handling procedures required to implement the major policies set forth in Chapter 67 of the Bureau of Ships Technical Manual. All data contained within the EIMB are authoritative, and derive their authority from Chapter 67 of the Bureau of Ships Technical Manual, as established in accordance with Article 1201, U. S. Navy Regulations.

Since its inception, however, EIMB has been expanded to include selected information items of general interest to electronics installation and maintenance personnel. These items are such as would generally be contained in text books, periodicals, or technical papers, and form, along with the information cited above, a comprehensive, single-source reference document. In application, the EIMB is to be used for information and guidance by all military and civilian personnel involved in the installation, maintenance, or repair of electronic equipment under cognizance, or technical control, of the Bureau of Ships. All information, instructions, and procedures in the EIMB supplement such instructions and data supplied in equipment technical manuals and other approved maintenance publications.

ORGANIZATION

The EIMB is organized into a series of handbooks to afford maximum flexibility and ease in handling. The handbooks are stocked and issued as separate items so that activities requiring extra copies of any handbook may obtain them with relative ease.

The handbooks fall within two categories: general information handbooks and equipment oriented handbooks. The general information handbooks contain data which are of interest to all personnel involved in installation and maintenance, regardless of their equipment specialty. The titles of the various general information handbooks give only an overall idea of their data content; a more complete description of each handbook is provided in the "General" handbook.

The equipment handbooks are devoted to information on a particular equipment class and provide general test procedures, adjustments, general servicing information, and field change identification data.

The following table lists all handbooks of the series, together with their old and new NAVSHIPS numbers. (The new NAVSHIPS numbers, although not presently imprinted on all handbooks of the EIMB series, serve also as the stock numbers which are to be used on any requisitions submitted.)

HANDBOOK TITLE	OLD NAVSHIPS NO.	NEW NAVSHIPS NO.
(General Information Handbooks)		
General and Index	900,000.100	0967-000-0100
Installation Standards	900,000.101	0967-000-0110
Electronic Circuits	900,000.102	0967-000-0120
Test Methods and Practices	900,000.103	0967-000-0130
Reference Data	900,000.104	0967-000-0140
RFI Reduction	900,000.105	0967-000-0150
General Maintenance	- - -	0967-000-0160

INSTRUCTION SHEET

This sheet provides instructions for inserting Change 3 to the Sonar Handbook, NAVSHIPS 0967-000-0030 (formerly NAVSHIPS 900,000.3). This handbook is the Sonar chapter of the Electronics Installation and Maintenance Book.

The purpose of this change is to update the FRONT MATTER; Section 3, FCIG; and add additional entries to Section 4, SERVICE NOTES of the Sonar Handbook.

It should take no more than fifteen minutes to complete this change, if the following instructions are followed.

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

<u>Page</u>	<u>Remove</u>	<u>Insert</u>
FRONT MATTER		
TP/ii	Change 2 / Change 2	Change 3 / Change 3
iii/iv	Change 2 / Original	Change 3 / Change 3
v/vi	Change 1 / Change 1	Change 3 / Change 3
vii/viii	- / -	Change 3 / Change 3
Section 3 - FCIG		
3-i/3-ii	Change 1 / Change 1	Change 3 / Change 3
3-iii/Blank	Change 1 / Blank	Change 3 / Blank
3-1/3-2	Change 2 / Change 2	Change 3 / Change 3
3-3/3-4	Change 2 / Change 2	Change 3 / Change 3
3-4A/Blank	- / -	Change 3 / Blank
3-7/3-8	Change 2 / Change 2	Change 2 / Change 3
3-9/3-10	Change 2 / Change 2	Change 3 / Change 3
3-11/3-12	Change 2 / Change 2	Change 3 / Change 3
3-13/3-14	Change 2 / Change 2	Change 3 / Change 3
3-15/3-16	Change 2 / Change 2	Change 3 / Change 3
3-17/3-18	Change 2 / Change 2	Change 3 / Change 3
3-19/3-20	Change 2 / Change 2	Change 3 / Change 3
3-20A/Blank	- / -	Change 3 / Blank
3-21/3-22	Change 2 / Change 2	Change 2 / Change 3
3-25/3-26	Change 2 / Change 2	Change 2 / Change 3
3-27/Blank	- / -	Change 3 / Blank
3-27A/3-28	- / -	Change 3 / Change 2
3-39/3-40	Change 2 / Change 2	Change 2 / Change 3

Section 4 - Service Notes

2. In Section 4 all pages should be inserted in alphabetical and numerical sequence.

<u>Page</u>	<u>Remove</u>	<u>Insert</u>
AN/BQR-2:3,4	Original / Change 2	Original / Change 3
AN/BQS-6:1	- / -	Change 3 / Blank
AN/PQS-1:1	- / -	Change 3 / Blank
AN/SQS-4:13	Change 2 / Blank	Change 3 / Blank
AN/SQS-23:7,8	Change 2 / Change 2	Change 2 / Change 3
AN/SQS-29:5,6	Change 2 / Change 2	Change 2 / Change 3
AN/SQS-30:1	- / -	Change 3 / Blank
AN/SQS-31:1	- / -	Change 3 / Blank
AN/SQS-32:1	Change 2 / Blank	Change 3 / Blank
AN/UQC-1:3,4	Change 1 / Change 1	Change 1 / Change 3
OA-7010-15:1	- / -	Change 3 / Blank

INSTRUCTION SHEET

3. Insert USER ACTIVITY TECHNICAL MANUAL COMMENT SHEET, NAVSHIPS 4914, as last page of handbook.
4. Destroy superseded pages only after a check has been made against this instruction sheet to assure that changed pages and final tear-out page have been inserted.
5. Record all previous entries of changes and the accomplishment of this change in pen-and-ink on the RECORD OF CORRECTIONS MADE page.

HANDBOOK TITLE	OLD NAVSHIPS NO.	NEW NAVSHIPS NO.
(Equipment Oriented Handbooks)		
Communications	900, 000. 1	0967-000-0010
Radar	900, 000. 2	0967-000-0020
Sonar	900, 000. 3	0967-000-0030
Test Equipment	900, 000. 4	0967-000-0040
Radiac	900, 000. 5	0967-000-0050
Countermeasures	900, 000. 7	0967-000-0070

INFORMATION SOURCES

Periodic revisions are made to provide the best current data in the EIMB and to keep abreast of new developments. In doing this, many source documents are researched to obtain pertinent information. Some of these sources include the Electronics Information Bulletin (EIB), the Bureau of Ships Journal, electronics and other text books, industry magazines and periodicals, and various military installation- and maintenance-related publications. In certain cases, Bureau of Ships publications have been incorporated into the EIMB in their entirety and, as a result, have been cancelled. A list of the documents which have been superseded by the EIMB and are no longer available is given in Section 1 of the "General" handbook.

SUGGESTIONS

The Bureau of Ships recognizes that users of the EIMB will have occasion to offer comments or suggestions. To encourage more active participation, a self-addressed comment sheet is provided in the back of each handbook. Complete information should be given when preparing suggestions. It is most desirable that the suggestor include his name and mailing address on the form to facilitate direct correspondence in the event that further information or clarification is required by the Bureau. An additional advantage in supplying name and address is the fact that all such comments received can be given an immediate reply from the Bureau regarding the suggestion; the lengthy delay before learning of its disposition or action being taken will be eliminated. Any communication from the Bureau of Ships to a suggestor will be made through a personal letter to the individual concerned.

If a comment sheet is not available or correspondence is lengthy, suggestions should be directed to the following:

Chief, Bureau of Ships
Department of the Navy
Washington, D. C. 20360
Attn: Fleet Electronics Effectiveness
Branch, Code 678

CORRECTIONS

Report all inaccuracies and deficiencies noted in all Bureau of Ships technical publications (including this manual, ship information books, equipment manuals, drawings, and such) by a "Planned Maintenance System (PMS) Feedback Report, OPNAV 4700.7 (Rev. 5-65)" or superseding form. If PMS is not yet installed in this ship, report technical publication deficiencies to the Bureau of Ships by any convenient means.

DISTRIBUTION

The Electronics Installation and Maintenance Book is transmitted to using activities through automatic distribution procedures. Activities not already on the EIMB distribution list and those requiring changes to the list should submit correspondence to the following:

Chief, Bureau of Ships
Department of the Navy
Washington, D. C. 20360
Attn: Code 679A2

Activities desiring extra copies of EIMB handbooks or binders should submit requisitions directly to Naval Supply Depot, Philadelphia, Pennsylvania. Complete instructions for ordering publications are given in the Navy Stock List of Forms and Publications, NAVSANDA Publication 2002.

RECORD OF CORRECTIONS MADE

LIST OF EFFECTIVE PAGES

PAGE NUMBER AND TITLE	CHANGE IN EFFECT	PAGE NUMBER AND TITLE	CHANGE IN EFFECT
Title Page	Change 3	AN/SQR-8:1	Original
ii-iii Preface	Change 3	AN/SQS-1:1	Original
iv Correction Page	Change 3	AN/SQS-4:1-7	Original
v-vi Effective Pages	Change 3	AN/SQS-4:8, 9	Change 1
vii-viii Table of Contents	Change 3	AN/SQS-4:10-12	Change 2
		AN/SQS-4:13	Change 3
Section 1 - General		AN/SQS-10:1-4	Original
Title Page	Change 1	AN/SQS-11:1	Original
1	Original	AN/SQS-23:1	Original
2	Change 1	AN/SQS-23:2-4	Change 1
3 to 28	Original	AN/SQS-23:5-7	Change 2
29	Change 1	AN/SQS-23:8-10	Change 3
30, 31	Change 2	AN/SQS-29:1, 2	Original
		AN/SQS-29:3	Change 1
Section 2 - Circuit Applications		AN/SQS-29:4, 5	Change 2
Title Page	Change 1	AN/SQS-29:6	Change 3
2-1	Change 1	AN/SQS-30:1	Change 3
		AN/SQS-31:1	Change 3
Section 3 - FCIG		AN/SQS-32:1	Change 3
Title Page	Change 1	AN/SQS-T3A:1	Change 1
3-1 to 3-iii	Change 3	AN/UNQ-7:1	Change 1
3-1 to 3-4A	Change 3	AN/UQC-1:1	Original
3-5 to 3-7	Change 2	AN/UQC-1:2, 3	Change 1
3-8 to 3-20A	Change 3	AN/UQC-1:4	Change 3
3-21	Change 2	AN/UQM-1:1	Original
3-22	Change 3	AN/UQN-1:1	Original
3-23 to 3-25	Change 2	AN/UQN-1:2	Change 1
3-26 to 3-27A	Change 3	AN/UQS-1:1-6	Original
3-28 to 3-39	Change 2	AN/UQS-T1:1	Original
3-40	Change 3	AN/USQ-1:1	Original
3-41 to 3-44	Change 2	AN/WMQ-3:1	Change 2
		AT-186/UQC:1	Change 1
Section 4 - Service Notes		CN-186/U:1	Original
Title Page	Change 1	JP:1, 2	Original
3-SN-1 to 3-SN-23	Original	JT:1-3	Original
AN/BQC-1:1, 2	Original	NGA:1, 2	Original
AN/BQH-2:1	Change 1	NGB:1	Original
AN/BQM-1:1, 2	Original	NJ:1, 2	Original
AN/BQN-1:1	Original	NK:1	Original
AN/BQQ-3:1	Change 1	NMB:1	Original
AN/BQQ-3:2	Change 2	NMC:1-3	Original
AN/BQR-2B:1-3	Original	OA-7010-15:1	Change 3
AN/BQR-2B:4	Change 3	OC-1B/S:1, 2	Original
AN/BQR-3:1-3	Original	OCN:1	Original
AN/BQR-4:1	Change 2	OCP:1	Original
AN/BQR-7:1	Change 2	OKA:1	Original
AN/BQS-2:1-3	Original	QBD:1	Original
AN/BQS-2:4	Change 1	QBE:1-3	Original
AN/BQS-4:1	Change 1	QBF:1, 2	Original
AN/BQS-6:1	Change 3	QC:1-5	Original
AN/BSH-2:1	Original	QCQ:1-13	Original
AN/PQS-1:1	Change 3	QCS:1-6	Original
AN/SQA-2:1	Original	QCU:1-6	Original
AN/SQM-1:1	Change 1	QDA:1, 2	Original
AN/SQN-1:1	Original	QFA:1-3	Original
AN/SQR-4:1	Original	QFB:1	Original

LIST OF EFFECTIVE PAGES

PAGE NUMBER AND TITLE	CHANGE IN EFFECT	PAGE NUMBER AND TITLE	CHANGE IN EFFECT
QFD:1	Original	TR-193()/UQC:1	Change 1
QFG:1	Original	WCA:1-8	Original
QGA:1-10	Original	WEA:1-8	Original
QGB:1, 2	Original	WFA:1-5	Original
QHB:1-7	Original	51080:1	Original
QJA:1-6	Original	55098:1	Original
QJB:1-5	Original	55100:1	Original
RO-7/BQR:1	Change 2	55134:1	Original
RO-66/UQ:1	Original	78201:1	Original
RO-79/BQR:1	Change 2		
TR-127/WQM:1	Change 2		
TR-183-186/SQS:1	Change 1	Section 5 - Reference Data Title Page	Change 1

NOTES

1. The effective cut-off date for the FCIG in this change is 21 February 1966.
2. Material used for Section 4, Service Notes, was collected from the Electronics Information Bulletin, Numbers 650 through 673, inclusive.
3. Effective with Change 4 and in succeeding changes, a source reference code will be inserted immediately following or directly below the last line or copy of each article used in Section 4, Service Notes. The following examples show the coding method used to identify origin of material used.

Origin	Code
EIB 674	(674)
EIB 13S (Shore Quarterly Supplement)	(13S)
Bureau of Ships Journal Vol 14, No. 6	(J14-6)
BuShips Electron, Vol 7, No. 5	(E7-5)
CEIB 7 (Classified EIB)*	(C7)

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

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3-1. POLICY

a. The Bureau of Ships Manual, Chapter 67, which establishes the policy for alterations and modifications to electronic equipment, defines alterations as any change in hull, machinery, fittings, or equipment affecting design, material, number, location, or relationship of the component parts of an assembly or system.

b. Only in actual emergencies will alterations to, or modification of, electronic equipment under the cognizance of the Bureau of Ships be undertaken without prior approval of, or direction by, the Bureau. All requests for approval shall be forwarded via the chain of command; state the exact nature of the proposed alteration or modification, reason therefor (also whether for permanent or for special temporary use), and appropriation to which chargeable. Unauthorized alterations to equipment under contractual guarantee may result in the nullification or cancellation of the guarantee and financial loss to the Government, and may result in failure of the equipment to provide the service for which it was installed. If alterations are accomplished under emergency conditions, adequate consideration must be given to safety of personnel and equipment and to the basic performance requirements. The Bureau should be advised at the earliest practicable date of the actual changes made.

c. Field changes are the means by which approved and authorized alterations or modifications are made to the Bureau of Ships electronic equipments. These changes are mandatory and shall be accomplished on equipment affected in accordance with the instructions contained in the field change bulletin.

d. Certain field change bulletins include the statement that "Bureau of Ships approval is required prior to accomplishment." Such statements should be disregarded. The only restrictions on the accomplishment of official field changes are those indicated in the Field Change Identification Guide (FCIG). Examples of such restrictions are as follows:

(1) Funding (funds must be cited).

(2) Field Change is equivalent to an alteration (ShipAlt must be assigned).

(3) Field Change is not applicable:

(a) Limited to specified serial numbered equipments (5-AN/SRT-14 applies only to serials 6 through 21).

(b) Limited to specific equipment configurations (1-RDR - applies only if equipment includes every type 10508 shock mount).

(c) Limited to applications requiring compatible interface (12-AN/SPA-8A to produce AN/SPA-32 for use in AN/SPS-39).

3-2. DOCUMENTATION

This guide is a revised list of field changes to electronics equipment under the technical control of the Bureau of Ships. It is in effect upon receipt.

3-3. OBJECTIVE

a. The objective of the FCIG is to provide a current list of field changes together with information enabling technical personnel to determine by inspection the applicable field changes that have been accomplished.

b. This guide does not indicate availability of the field change or correction material within the supply system.

3-4. DEFINITIONS

a. FIELD CHANGE. A field change is any modification or alteration authorized by the Bureau of Ships or agency concerned to be made to an electronics equipment subsequent to delivery to the government. Official field change numbers are published in the Electronics Information Bulletin (EIB) and this FCIG.

b. FIELD CHANGE KIT. A field change kit is the formal means made available to permit accomplishment of a field change. A kit may consist only of published matter or be an assembly of published matter and required material.

c. CLASSIFICATION OF FIELD CHANGE. Field changes are of the following types and classes:

(1) Types

(a) Type 1 - A Type 1 field change includes a publications package and all parts and materials required to accomplish the change to a single equipment and to revise equipment nameplates and manuals.

(b) Type 2 - A Type 2 field change consists only of publications material which provides instructions for accomplishing the change and revising the equipment nameplates and manuals. A Type 2 field change may or may not require that parts be requisitioned.

(c) Type 3 - A Type 3 field change includes a publications package and a portion of the parts and materials required to accomplish the change to a single equipment and to revise equipment nameplates and manuals.

(2) Classes (added as a hyphenated suffix to the type)

(a) Class A - Funding for installation is not required. These field changes are approved for accomplishment by forces afloat or station personnel without further reference to the Bureau of Ships.

(b) Class B - Fleet or shore funding for installation is required. These field changes are approved for accomplishment by Naval shipyards, tenders, repair facilities or shore maintenance authority without further reference to the Bureau of Ships.

(c) Class C - Bureau of Ships funding for installation is required. To meet urgent operational commitments, the Bureau may approve accomplishment of Class C field changes subject to Type Commander's funding. This class of field change includes, but is not limited to, those changes in operational improvement. Such changes are accomplished in the Material Improvement Program's order of priority. These field changes are approved for accomplishment by Naval shipyards, tenders, repair facilities, or shore maintenance activities.

3-5. INSTRUCTIONS REGARDING ACCOMPLISHMENT

a. BACKGROUND. Accomplishment of applicable field changes is essential to the proper functioning, identity, and logistic support of electronics equipments. Effective 1 October 1957, electronics field change kits were transferred from "N" to "F" cognizance. This permits the issue of field changes to ships and activities without charge to their allotments.

b. RECORDING. The completion of all official field changes, alterations, and modifications to electronic equipment shall be recorded on the Electronics Equipment History card, NAVSHIPS 536.

c. REPORTING. Except as required in Bureau of Ships Instruction 10550, 1B Series, accomplishment of field changes should not be reported to the Bureau of Ships. However, the performance and operational reports, required on certain equipments, should list the field changes that have not been accomplished.

3-6. HOW TO USE THIS GUIDE

a. USE. Equipment designations are arranged alphanumerically. Space has been provided on each page for pen and ink additions or corrections published in the EIB. Periodically, the Index will be updated by the issuing of revised pages.

(1) Information on each field change is given in the following sequence:

(a) The field change number

(b) The field change title

(c) Correction material - temporary corrections, and revisions to existing equipment publications, complementary technical manuals, and technical manuals accomplishing field change kits.

(d) The type - class (the type and preferred activity to accomplish the field change, i.e., Types 1, 2, and 3, Classes A, B, and C.

(e) The modifying activity (i.e., FA - forces afloat, YF - yard forces) and the number of manhours required to accomplish the field change.

(f) The bulletin NAVSHIPS number or other reference.

(g) The Federal Stock Number assigned to a particular field change. Suffixes are given to identify various categories and for record purposes. They are as follows:

SUFFIX MEANING

C	FSN cancelled; material disposed of
C1	FSN cancelled in accordance with BUSHIPS ltr ser 880-276 of 18 April 1957
C2	FSN cancelled in accordance with BUSHIPS ltr ser 880C-285 of 22 April 1957
C3	FSN cancelled in accordance with BUSHIPS ltr ser 880C-295 of 26 April 1957
C4	FSN cancelled in accordance with BUSHIPS ltr ser 880D-398 of 22 May 1957

Where the word "None" appears, the field change is either a Type 1 kit which was not converted to a Federal Stock Number or a Type 2 kit not requiring a stock number.

(h) The serial numbers or applicable conditions of specific equipments affected by a particular field change. "BUSHIPS" indicates that specific field changes to indicated equipments are as designated by the Bureau of Ships. Accomplishment of these changes should be arranged for in accordance with current instructions.

(i) The identification information applicable to each field change for use in determining its accomplishment.

(2) Reference to field changes should always be by use of the assigned field change number and the equipment designation; for example, 6-AN/SPS-6C represents the 6th field change to AN/SPS-6C.

b. ABBREVIATIONS. Except for those listed below, the abbreviations used in the FCIG were taken from Standard Abbreviations (JANAP 169), Military Standard Abbreviations for Use on Drawings (MIL-STD-12A).

ACU	Antenna control unit
ATDIR	Attack director
ATF	Automatic target follower
ATR	Anti-transmit-receive
BDI	Bearing direction indicator
BKT	Bracket
CCL	Communication control link
CPLR	Coupler
DLVD	Delivered
DPLXR	Duplexer
FC	Field Change
FE	Field engineer
FS	Frequency shift
GTT	Generated target training
HYDPH	Hydrophone
IMPED	Impedance
I & S	Installation and Service Bulletin
LSTN	Listening
MAGGY	Magnetron

MCC	Maintenance close contact
MFD	Microfarad
MFI	Multiple feature
MODIF	Modification
MTB	Maintenance true bearing
MTR	Meter
NLM	Noise level monitor
NOR	Norfolk
NRTC	Naval Reserve Training Center
NS	NavShips
N. T. -	Navy type
ODN	Own doppler nullifier
PERFRM	Performance
P/N	Part number
P/O	Part of
RA	Receiver-amplifier
RAI	Receiver-amplifier-indicator
RCG	Reverberation controlled gain
RECVR	Receiver
RHI	Remote height indicator
RIB	Radio Installation Bulletin
RMB	Radio Maintenance Bulletin
RNG	Range
RPPI	Remote plan position indicator
RTRB	Reliable true and relative bearing
SMB	Sonar Maintenance Bulletin
TB	Terminal board
TDC	Torpedo data computer
TDR	Time delay relay
TRB	True and relative bearing
TVG	Time variation of gain
VSWR	Voltage standing wave ratio
WGT	Weight
XDUCER	Transducer
XFMR	Transformer
()	Series

c. CORRECTIONS. Recommendations for correction of errors and the addition of pertinent information to this guide should be reported to the Electronics Publications Section (Code 679A2), Bureau of Ships, and include:

- (1) Designation of affected equipment.
- (2) Location of error by page and line.
- (3) Description of error and indication of what change should be made.

SONAR	NAVSHIPS	900,000.3	FCIG
1-AN/BQA-2 - Installation of Bearing Isolation Relay Correction material: NS93686(B) 2-A FA-8 None			
SERIAL: Equipments which are associated with AN/BQQ-1 IDENTITY:			
1-AN/BQA-8 - Installation of a Resistor and an Insulator Terminal Correction material: T- to NS96142 2-A FA-1			
SERIAL: CP-764/BQA-8 Sonar Performance Computers Series A, B, and C. IDENTITY: Presence of 470 ohm ½ watt resistor 1A2R58 between pin 1 of XA3 and an insulator terminal on bottom of chassis 1A2.			
1-AN/BQH-1 - Increased resolution of the velocity and depth scale; modifies equipment to AN/BQH-1A. Correction material: TM for AN/BQH-1A, NS94209 1-A FA-60 NS981402 None			
SERIAL: 1, 2, 4, 5, 6, 7, 8, 9, 12, (NObsr 75772) 3, 10, 11, 13, 14, 15, 16, 17, 18, 20, 21, 22, 24 (NObsr 81057) 19, 23 (NObsr 81362) IDENTITY: The modified recorder will have a larger drum, 2 additional scale indicator lights and a depth scale adjust switch. The modified Repeater will have a larger drum and 2 additional scale indicator lights.			
1-AN/BQH-2C - Equalization of Lower Portion of Band Number One Processing Circuit Correction material: T- to NS 94776 2-A FA- None			
SERIAL: All Spectrum Analyzers GS64363 (Unit 2A4), part of Data Gathering Set AN/BQH-2 IDENTITY: Proper recording of accomplishment on Field Change Accomplished plate			
1-AN/BQM-1 - Providing the noise for a "Simulated Target" for Sonar Listening Set AN/BQR-2B. Correction material: T-1 to NS92150 2-A FA-4 NS981258 None			
SERIAL: All IDENTITY: New label covering the engraving "OCP" on the front panel entitled "AN/BQR-2B Simulated Target"			
1-AN/BQN-4A - Installation of Clamps to Secure Jacks J301, J302 and J303 in Receptacles Correction material: None required 2-A FA-2 None			
IDENTITY: Presence of clamps installed over plugs P301, P302, and P303 and jacks J301, J302, and J303.			
1-AN/BQQ-3 (XN-2) - Utilizing AN/BQQ-3 (XN-2) as Input to AN/UNQ-7A or as Visual Presentation Information Recorded on AN/UNQ-7A Magnetic Tape. Correction material: T-1 to NS94047 2-A FA-8 NS981708			
SERIAL: All IDENTITY: Presence of headphone jack JJ-034, MIL-J-641			
		1-AN/BQQ-3 (XN-2) - Provision of Interconnection Between Sonar Classification Set AN/BQQ-3(XN-2) and Sound Recorder-Reproducer Set AN/UNQ-7A Correction material: T-1 to NS94047 2-A FA-8 NS981708 None	
		SERIAL: Equipments to be operated in conjunction w/ Sound Recorder-Reproducer Set AN/UNQ-7A. IDENTITY: Headphone jack labelled "AN/UNQ-7A RECORD" installed.	
		2-AN/BQQ-3 (XN-2) - Provide Increased Detection and Classification Capabilities Correction material: T-2 to NS94047 2-A FA-8 NS981709	
		SERIAL: All IDENTITY: Mounting new filter bracket for FL-5 and FL-6.	
		3-AN/BQQ-3 (XN-2) - To Permit AN/BQS-6 Spherical Area to be Used as Input to AN/BQQ-3 (XN-2) Correction material: T-3 to NS94047 2-A FA-8 NS981710	
		SERIAL: All IDENTITY: Selector switch located in normally vacant area in main cabinet.	
		4-AN/BQQ-3(XN-2) - Provides AN/BQQ-3(XN-2) Systems with the Analyzing Capabilities of AN/BQQ-3 (Converts to AN/BQQ-3) (Supersedes FC'C 1, 2, and 3) Correction material: T- to NS95770 (new Book) 1-A FA-110 981748	
		1-AN/BQQ-3 - Addition of Production Changes Correction material: T- to NS NAVSHIPS 95770, Volumes II and III 1-A FA- NS 0285-080- 0400 None	
		SERIAL: All	
		1-AN/BQQ-3A - Same as 1-AN/BQQ-3	
		1-AN/BQR-2 - Cancelled	
		2-AN/BQR-2 - AN/BQM-1 for BDI test, use 2A FA-1 NS 98746 None	
		SERIAL: All IDENTITY: New 5 pin receptacle (J-404) mounted on top of BDI amp chassis between T-401 and T-402.	
		1-AN/BQR-2A - Cancelled	
		2-AN/BQR-2A - Same as 2-AN/BQR-2	
		1-AN/BQR-2B - Never procured as a separate Field Change. Incorporated in Field Change 2-AN/BQR-2B NAVSHIPS 981336	

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2-AN/BQR-2B - Modification of Sonar Listening Set AN/BQR-2B, -2C.			
Correction material: T-3 to NS92792(A)			
1-A FA-120 NS981336 F5845-897-4052			
SERIAL: All			
IDENTITY: Modification of nameplates attached near the unit nameplates.			
3-AN/BQR-2B - Modification to Provide CRT Focus Control in IP-334/BQR-2B Azimuth Indicator and IP-334A/BQR-2B Azimuth-Range Indicator, IP-334B/BQR-2B			
Correction material: T-4 to NS-92792			
2A FA-4 NS 981671 None			
SERIAL: All IP-334/BQR-2B, 2C, IP-334A/BQR-2B, 2C, IP-334B/BQR-2B, -2C			
IDENTIFICATION: Presence of focus control on the Indicator to the right of the SIZE control.			
4-AN/BQR-2B - Protection from 285 VDC when Operating S-304 Switch			
Correction material: None			
2-A FA-2 NS 981672 None			
SERIAL: Equips on which FC 2-AN/BQR-2B and 1-AN/BQR-2C have been accomplished.			
IDENTITY: Presence of an insulator board installed over resistor board E301 in the Control-Indicator. Resistor board E301 can be seen thru the small door at the top right-hand corner of the lower case.			
5-AN/BQR-2B - Performance and Operational Convenience			
Correction material: Change 3 to NS92792 (A)			
1-A FA-40 NS981625 FSN-F5845-953-9920			
SERIAL: All			
IDENTITY: Units which are affected by this field change are identified by a modification nameplate attached near the unit nameplate.			
6-AN/BQR-2B - Replacement of Capacitor C-241			
Correction: to NS92792(A)			
2-A FA-1/2 None			
SERIAL: All			
IDENTITY: Change rating of C-241 to 100,000 mmf			
7-AN/BQR-2B - Installation of Hi Band Phase Shift Adjustment R-305			
Correction material: T- to NS92792(A)			
2-A FA-1½ None			
SERIAL: All			
IDENTITY: Presence of R-305 on the BDI-ATF Chassis.			
8-AN/BQR-2B - To be supplied			
9-AN/BQR-2B -Sonar Listening Set-Wiring Modification			
Correction material: to NS 92792(A)			
2-A FA-1 None			
SERIAL: All			
IDENTITY: Absence of jumpers between pins 5 and 6 and between pins 7 and 8 of Transformer T-205 located on the Control Indicator Audio and Recorder Chassis			

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1-AN/BQR-3A - Ref and pwr circuits, isolate Correction material: T-3 to NS 91904 2A FA-4 NS98519 None SERIAL: All			
IDENTITY: Connection removed from: T-1001 term 3 and R-1002; TB-119 term 5 and TB-121 term 5. Connection made between: TB-105 term 3 and TB-121 term 9; TB-121 term 9 and R-1002 (where lead was removed); TB-106 term 4 (via TB-121 term 10) to TB-119 term 5.			
2-AN/BQR-3A - Same as 2-AN/BQR-3			
3-AN/BQR-3A - Improved RLI meter presentation Correction material: T-5 to NS 91904 2A FA-1 NS98864 None SERIAL: All			
IDENTITY: Replacement of R-940 (on bottom of receiver chassis) having a resistance of 22 K. ohms.			
1-AN/BQR-4A - 60-cycle inter fer elimination Correction material: T-1 to NS 91951 3A FA-4 NS98534 F5845-642-7905 SERIAL: All			
IDENTITY: Presence of new connectors P-404 and J-404 on audio amp chassis (right-rear).			
2-AN/BQR-4A - Noise reduction B YF-40 NS98896 None SERIAL: All			
IDENTITY:			
1-AN/BQR-7A - Alteration of Low-frequency Roll-off Characteristics Correction material: Change 1 to NS 93685(A), T-2 to NS 93685.42 1-A FA-60 NS 981660 SERIAL: To be assigned by BUSHIPS			
IDENTITY: Modification plate attached to units 1, 2, 3, 4, and 6 directly below or adjacent to existing nameplate.			
2-AN/BQR-7A - Improve reliability of +285 Volt DC Power Supply (6A1)			
Correction material: T-2 to NS93685(A) 2-A FA-1 NS981771 None IDENTITY: Orange jumper lead between resistor R48 and transistor Q9 (Collector).			
3-AN/BQR-7A - Increase Current Capabilities of -20 Volt DC Power Supply to accommodate Equalization Amplifiers. Correction material: CH-2 to NS93685(A) 1-A FA-1 NS981772 SERIAL: To be assigned by Bureau of Ships			
IDENTITY: Primary connections to transformer 6A1T3 are on pins 1 and 2. Presence of new resistor (6A1R29) in parallel with existing 6A1R12. 6A1R4 is a 470-ohm, 2 watt resistor.			
4-AN/BQR-7A - Boost the low frequency components of signals feeding AN/BQQ-3 Correction material: CH-1 to NS93685(A) 1-A FA-3 NS981773 SERIAL: To be assigned by Bureau of Ships			
IDENTITY: Equalization Amplifiers A3 and A4 plugged in on Chassis 3A4. Primarily connections to transformer 6A1T3 are on pins 1 and 2. Presence of a new resistor (6A1R29) in parallel with existing 6A1R12. 6A1R4 is a 470-ohm, 2 watt resistor.			
5-AN/BQR-7A - Decrease Preamplifier Gain and Modify Test Set Correction material: CH-2 to NS93685(A) 1-A FA-4 NS981774 F5845-757-7624 SERIAL: To be assigned by Bureau of Ships			
IDENTITY: Modification plate attached to units 1 and 4 directly below or adjacent to existing nameplate.			
6-AN/BQR-7A - E/M Interference Reduction Correction material: T-1 of EDO Report 6234 1-A FA-576 NS0967-064-1100 SERIAL: All			
IDENTITY: Presence of metal shields over Synchro 2A, 5A, 1M1, Unit 2; Synchro 3A, 5A, 1M1 in Unit 3; Synchro Bearing Indicator 4A, 5A, 2 in unit 4 will indicate the accomplishment of this change.			
1-AN/BQR-7B - Replace four type IN277M Diodes with four type JAN-1N538 Diodes Correction material: None 1-A FA-1 NS981763 SERIAL: A1 thru A8. All other sets have been corrected by an identical production.			
IDENTITY: If this change has been made, diodes 5A4E4CR1 thru CR4 are type JAN-1N538 and not IN277M.			
2-AN/BQR-7B - Modification to make it compatible for installation of AN/BQA-8 Sonar Performance Computer Correction material: T- to Interim Tech Man. Report 6234 2-A FA-1 None SERIAL: All			
IDENTITY: Leads from pin 5 and 7 of transformer 4A6T8 to terminals 1A and 2A respectively on terminal board 4RB46 and the removal of the jumpers on the secondary winding of transformer 4A6T8 which is located in the Control Indicator.			
3-AN/BQR-7B - Same as 6-AN/BQR-7A			
1-AN/BQS-2 - Prod chg, add Correction material: T-5 to NS 92154(B) 1A FA-8 NS98625 None SERIAL: 1-6			
IDENTITY: C-165 installed, transducer scanner rack. Jumper removed between R-381 and R-431 on TB E-307.			

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2-AN/BQS-2 - Prod chg, add Correction material: T-5 to NS 92154(B) 1A FA-4 NS98626 None SERIAL: 1-25 IDENTITY: R-458 installed in transmit bearing selector amplifier.			
3-AN/BQS-2 - Prod chg, add Correction material: T-5 to NS 92154(B) 1A FA-16 NS98627 None SERIAL: 1-25 IDENTITY: C-1155 installed in magnetic recorder (trans-recvr rack). Sweep gen chassis (console), R-1915 located on TB E-1902 changed from 1 to 2 W. Opn sw (S-1707) changed to 3 deck type.			
4-AN/BQS-2 - Prod chg, add Correction material: T-5 to NS 92154(B) 1A FA-6 NS98628 None SERIAL: 1-50 IDENTITY: F-1201 installed in trans. HV. Shielded wires installed in upper trans. Wire from J-1204 to pin 8 of XV-1201 now shielded in upper trans chassis.			
5-AN/BQS-2 - Prod chg, add Correction material: T-5 to NS 92154(B) 1A FA-4 NS98629 None SERIAL: 1-35 IDENTITY: Modification of keyer chassis in trans rack. Remove V-807, with FC accomplished, pin 3 to ground should be 330 ohms.			
6-AN/BQS-2 - Leak det in xduc AT-299/BQS-2, instl 1A YF-3 NS98648 F5845-642-6971 SERIAL: 001, 002, 004-026, 027, 030-056 IDENTITY: Leak detector installed inside transducer. Note: Accomplished only by naval transducer repair facility.			
7-AN/BQS-2 - Reduce sensit to ext noise transients, Correction material: None rewire 2A FA-2 NS98749 None SERIAL: 1-87 IDENTITY: A lead has been run between ground (located behind preamp no. 15, bottom chassis, front of door) and TB-123-15. Ends of original lead have been dummied off.			
8-AN/BQS-2 - Improve reliability Correction material: None A FA-1/2 NS98749 None SERIAL: All IDENTITY: Captive screw located immediately above blower exhaust louvers on transmitter-receiver RT-210/BQS-2, front panel, has been replaced by fillister head screw.			
9-AN/BQS-2 - Reliability kit, install Correction material: TM for AN/BQS-2, NS 92154(B) 1B YF-200 NS98913 F5845-543-0142 SERIAL: All IDENTITY: Voltage regulating transformer TF-242/U and standby mode switch have been installed.			
10-AN/BQS-2 - Damage to L-912, prevent Correction material: None 2A FA- None NS981063 None SERIAL: All IDENTITY: Bracket to protect tuning slug of coil L-912 has been installed.			
11-AN/BQS-2 - Pwr supply voltage test points, provide Correction material: T-1 to NS 92154(A) 2A FA-8 NS98957 None SERIAL: All IDENTITY: Test points J-1303 thru J-1305, J-1403 thru J-1409, and J-1502 thru J-1505 have been installed.			
12-AN/BQS-2 - Reduce excessive heat and improve equip reliability 1-A FA-250 NS981093 F5845-679-4605 SERIAL: All IDENTITY: R-1311 installed			
1-AN/BQS-4 - General improvement. Correction material: 2-A FA-2 NS981436 SERIAL: 1 thru 6 (AN/BQS-4), 1 thru 45 (OA-1283/BQS-4A). IDENTITY: 2.2-megohm resistor for R4602 in lieu of 1.0-megohm resistor, 620,000-ohm resistor for R2278 in lieu of 510,000-ohm resistor, 220,000-ohm resistor for R867 in lieu of 470,000-ohm resistor. Lead from transducer is on terminal E5002 and lead from dummy load is on terminal E5001.			
2-AN/BQS-4 - Modification of sonar detecting-ranging sets. Correction material: Change 1 to NS93530; Supplementary Parts List for NS93530; T-1 to NS93530.32; T-1 to NS93530.42 1-AC FA-250 NS981434 F5845-847-8718 SERIAL: All IDENTITY: Units which are affected by this field change are identified by a modification nameplate attached near the unit nameplate; changes nomenclature AN/BQS-4 to 4B; AN/BQS-4A to 4C.			
3-AN/BQS-4 - Modification to Provide Adjustment of Timing Chassis Regulated Voltages Correction material: T-3 to NS 93530 2-A FA-1 NS 981673 None SERIAL: All IDENTITY: Presence of the additional variable resistor R-2557 on the Regulated Amplifier Chassis			
4-AN/BQS-4 - Replace Resistor R-2832 Correction material: T- to NS93530 2-A FA-1/2 None SERIAL: All IDENTITY: Inspection of R2830 to determine if it is 2 watt resistor.			
1-AN/BQS-4A - Same as 1-AN/BQS-4			
2-AN/BQS-4A - Same as 2-AN/BQS-4			

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3-AN/BQS-4A – Same as 3-AN/BQS-4			
4-AN/BQS-4A – Same as 4-AN/BQS-4			
1-AN/BQS-4B – Reliability Improvement			
Correction material:			
2-A FA-5	None		
SERIAL: All AN/BQS-4B's except A1 and up. All AN/BQS-4C's except A4 and up.			
IDENTITY: Presence of R-5157 marked "BIAS ADJ" on the exciter chassis, and by measuring the D.C. resistance of the dummy load for 140 ohms with E-5002 disconnected.			
2-AN/BQS-4B – Same as 4-AN/BQS-4			
3-AN/BQS-4B – Replacement of Resistor R-2364			
Correction T- to NS93580			
2-A FA-1/2	None		
SERIAL: All			
IDENTITY: Visually inspecting R-2364 and determining it to be a 2-watt resistor.			
4-AN/BQS-4B – Replacement of Scan Switch Drive Coupling			
Correction material: CH-2 to NS 93530			
1-A FA-5 NS 0967-051-1070			
SERIAL: All			
IDENTITY: The new coupling is an all-metal, gap-type coupling. The old coupling is a flexible rubber type. Visual identification may be made by inspection after the end bell of the scan switch is removed.			
5-AN/BQS-4B – Modification to provide Adjustment of Timing Chassis Regulated Voltages			
Correction material: T- to NS 93530			
2-A FA-1	None		
SERIAL: All			
IDENTITY: Presence of additional variable resistor R2557 on regulated amplifier chassis			
1-AN/BQS-4C – Same as 1-AN/BQS-4B			
2-AN/BQS-4C – Same as 4-AN/BQS-4			
3-AN/BQS-4C – Same as 3-AN/BQS-4B			
4-AN/BQS-4C – Same as 4-AN/BQS-4B			
5-AN/BQS-4C – Same as 5-AN/BQS-4B			
1-AN/BQS-4D – Same as 4-AN/BQS-4B except SERIAL A7 of AN/BQS-4D			
1-AN/BQS-6, Sonar Set – Wiring Modification			
Correction material: to NS 93663(A)			
2-A FA-1	None		
SERIAL: All			
IDENTITY: Leads connected to pins 4 and 6 of transformer 8A8T7 which is located in the Receiver Cabinet			
1-AN/FQM-1 – Installation of exhaust blowers			
2-A FA-12	None		
SERIAL: 1-5			
IDENTITY: Blower motor assy is mounted in top of panel of consoles A & B.			
1-AN/FQQ-1(V) – Pwr plant fan, add			
Correction material: None			
A FA-3 NS98826	None		
SERIAL: 1-9			
IDENTITY:			
2-AN/FQQ-1(V) – Freq multiplier-recorder oil seal, chg			
Correction material: None			
2A FA-4 NS98826	None		
SERIAL: 1-10			
IDENTITY:			

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1-AN/SQM-2 - Installation of a BNC Connector on the Front Panel of the Sound Measuring Meter ME-219/SQM-2 Correction material: T- to NS93417 2-A FA-1 None SERIAL: All IDENTITY: Presence of a BNC coaxial connector on the front panel of the Sound Measuring Meter.			
1-AN/SQG-12 - Improved rcg circuit SERIAL: All IDENTITY:			
1-AN/SQR-4 - Rewire signal data converter Correction material: NS None SERIAL: 1-6 IDENTITY:			
2-AN/SQR-4 - Improve RCG circuit Correction material: FA-25 NS98352 F SERIAL: All IDENTITY:			
1-AN/SQR-8 - Termination of sweep deflection when installed w/o depth ind Correction material: Change 1 to NS 92371(A) 1A FA-1 NS98848 F5845-568-2091 SERIAL: All IDENTITY: TB-15A, (3) 680 ohm res added at term 4, 5, 6.			
2-AN/SQR-8 - Shielded wiring in rcvr chassis, add Correction material: T-2 to NS 92372(A) A FA-1 NS98900 None SERIAL: 1-200 IDENTITY: Shielded wires in rcvr on pins 1, 2, & 3 of XK-1801			
3-AN/SQR-8 - Fuse requirement, chg Correction material: None 2A FA- NS981075 None SERIAL: 1 thru 210 (mod 1), 1 thru 221 (mod 2), 1 thru 238 (mod 3), 1 thru 241 (mod 4). IDENTITY: F-1510 and F-1701 now 1 amp normal in second anode hi voltage power supply.			
4-AN/SQR-8 - Data card N-24026, repl Correction material: None A FA-1 NS98952 None SERIAL: All IDENTITY: Aluminum data card on front of sonar data computer CP-266/SQR-8.			
		5-AN/SQR-8 - Repl metal screws with nylon screws in transfer sw assy and chg wiring of deck 4 in xmtr cabinet Correction material: None 2-A FA-8 NS98981 None SERIAL: All IDENTITY: Buss bars in sw assy SA-403/SQR-8 are mounted with nylon screws	
		1-AN/SQR-8A - Same as 1-AN/SQR-8	
		2-AN/SQR-8A - Same as 2-AN/SQR-8	
		3-AN/SQR-8A - Same as 3-AN/SQR-8	
		4-AN/SQR-8A - Same as 4-AN/SQR-8	
		5-AN/SQR-8A - Same as 5-AN/SQR-8	
		6-AN/SQR-8A - Bottom vibration mounts on MCC scanner sw F-1802, repl 1-A FA-4 NS981023 F5845-624-3992 SERIAL: Mod 1 (1-4), Mod 2 (1-10), Mod 3 (1-6), Mod 4 (1-8) and various spares IDENTITY: Vibration mounts are installed	
		1-AN/SQS-T3A - Modif to operate with AN/SQS-29 thru AN/SQS-32A. Correction material: T-1 to NS93234 1-A FA-6 NS981184 F SERIAL: Equipments installed with AN/SQS-29 thru AN/SQS-32A. IDENTITY: Relay K707 added.	
		2-AN/SQS-T3A - Replacement of Rotary Switches S-202, S-203, S-204, and S-205 Correction material: S-203, S-204, and S-205 1-A FA-2 NS 981222 F-6940-752-5592 SERIAL: 1 thru 62 IDENTITY:	
		3-AN/SQS-T3A - Design Modification Kit including; (1) replacement of capacitor C720 and (2) installation of Potentiometer R982 Correction material: T-2 to NS93234 (A) 1-A FA-4 NS981226 F6940-752-5705 SERIAL: 1 thru 120 IDENTITY:	
		4-AN/SQS-T3A - Design modification kit including; (1) replacement of capacitor C720 and (2) installation of potentiometer R982. Correction material: T-2 to NS93234 (A) 1A FA-4 NS981227 None SERIAL: 121 thru 137 IDENTITY:	

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1-AN/SQS-1 - Revision of synchro orders FA- NS98351 F5845-699-1367C2 SERIAL: 2-9, 19 IDENTITY:			
1-AN/SQS-4 - SA-12/SQ, Correct operation Correction material: T-3 to NS 92283(A) A FA-1 NS981076 None SERIAL: All AN/SQS-4, AN/SQR-8 IDENTITY: C-12001 in top section of SA-402/SQ is 4 micro farad.			
2-AN/SQS-4 - Pulse length sw; xmtr output ckt, chg A FA-4 NS98834 F5845-696-1391 SERIAL: 1-209 IDENTITY: Pulse length switch will have 3 wafers instead of 2.			
3-AN/SQS-4 - Termination of sweep deflection when installed w/o depth ind Correction material: Change 3 to NS 92283(A) A FA-1 NS98848 F5845-568-2091 SERIAL: All IDENTITY: 680-ohm resistor connected to terminals 1A-7, 1A-18, and 1A-19 in the control indicator.			
4-AN/SQS-4 - Tube & fuse requirements, chg Correction material: T3 to NS 92283(A) 2A FA- NS981077 F5845-568-2091 SERIAL: Part I 1 thru 213 (MOD 1), 1 thru 223 (MOD 2) 1 thru 238 (MOD 3), 1 thru 243 (MOD 4) Part II 1 thru 210 (MOD 1), 1 thru 221 (MOD 2) 1 thru 238 (MOD 3), 1 thru 241 (MOD 4) IDENTITY: Tube 5814A(V-1063) is installed on keying chassis in control indicator unit.			
5-AN/SQS-4 - Repl metal screws with nylon screws in sw assy and chg wiring of Deck 4 in xmtr cabinet Correction material: T-3 to NS 92283(A) 2-A FA-8 NS98981 None SERIAL: All IDENTITY: Buss bars in sw assy SA-403/SQ are mounted with nylon screws			
6-AN/SQS-4 - Rotating directional xmsn add Correction material: CTM for NS 93229 1-B YF- NS981042 F5842-646-9147 SERIAL: Serials are modified through Buships selection IDENTITY: Modifies equipment designation to AN/SQS-29, -30, -31 -32 and -29A, -30A, -31A, and -32A respectively			
7-AN/SQS-4 - Transducer matching network, repl Correction material: Change 6 to NS 92283(A) 1-B -1½ NS 981097 F5845-681-9742(MOD1) F5845-681-9743(MOD2) F5845-681-9745(MOD3) F5845-681-9744(MOD4) SERIAL: Only when TR-114A, 115A, 116A or 117A/SQS-4 is to be installed IDENTITY: New stock number on L5003 is N5950-681-2267 (MOD 1); N5950-681-2268(MOD2); N5950-681-2271(MOD3); N5950-681-2270(MOD4).			
8-AN/SQS-4 - Modification to AN/SQS-29 through AN/SQS-32A. Correction material: None 1-C YF- NS981230 F5845-646-9147 SERIAL: Selected by Buships. IDENTITY:			
9-AN/SQS-4 - Installation of switch S-10007. Correction material: T5 to NS92283(A) 2-A FA-8 NS981243 None SERIAL: All IDENTITY: Presence of switch S-10007 in transmitter door.			
10-AN/SQS-4 - Same as 12-AN/SQS-4A			
11-AN/SQS-4 - Installation of test jack. Correction material: T-5 to NS92283(A) 2-A FA-2-1/2 NS981243 None SERIAL: IP-286/SQ IDENTITY:			
12-AN/SQS-4 - Installation of Sum and Difference Forming Network Ahead of the Receiver Correction material: T-8 to NS92283(A) 1-A FA-8 NS981582 F5845-991-3355 SERIAL: All IDENTITY:			
13-AN/SQS-4 - Provide full scale sweep at the will of the operator. Correction material: 2-A FA-4 SERIAL: All IDENTITY: Presence of a toggle switch and a potentiometer installed on the right hand side of the console.			
14-AN/SQS-4 - Installation of Range and Bearing Test Set and Range Calibration Potentiometers Correction material: Ch. 9 to NS92283(A) 1-B YF-180 NS981728 SERIAL: Equipments selected by BuShips. IDENTITY: Test Set Sonar TS-2073/SQS is installed and range calibration potentiometer bracket is installed on the rear plate of the bearing train assembly (inside front control panel of control indicator).			
1-AN/SQS-4A - Same as 1-AN/SQS-4			
2-AN/SQS-4A - Not applicable			
3-AN/SQS-4A - Same as 3-AN/SQS-4			
4-AN/SQS-4A - Same as 4-AN/SQS-4			
5-AN/SQS-4A - Same as 5-AN/SQS-4			

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6-AN/SQS-4A - Shock mount assy from transducer flange, remove Correction material: None 2-A YF-1 NS981132 None SERIAL: 1-4 (Mod 1); 1-12 (Mod 2); 1-7 (Mod 3) 1-6 (Mod 4) IDENTITY: Shock mount assy removed from transducer flange		4-AN/SQS-10 - Cancelled	
7-AN/SQS-4A - Bottom vibration mounts on video scanner sw F4002, repl 1-A FA-4 NS981023 F5845-624-3992 SERIAL: Mod 2 (1, 2, 3); Mod 4 (1-6), and various spares IDENTITY: Vibration mounts are installed		5-AN/SQS-10 - Screen volt test jack, add Correction material: T-4 to NS 91544(B) A FA-1 NS98753 None SERIAL: All IDENTITY: Screen volt test jack on face of transmitter.	
8-AN/SQS-4A - Same as 6-AN/SQS-4		6-AN/SQS-10 - Atdir xfer relay socket, rewire Correction material: T-5 to NS 91544(B) A FA-1 NS98754 None SERIAL: All IDENTITY: Jumper wire removed between pin 12 and pin 22.	
9-AN/SQS-4A - Same as 7-AN/SQS-4		7-AN/SQS-10 - AT-177/SQ xdcr, make compatible with Correction material: Change 1 to NS 91544(B) A YF-80 NS98675 F5845-642-9809 SERIAL: Buships IDENTITY: Adds main and mcc tuning inductors. C-1401 thru C-1408 are removed and K-1 is added in this space. Per change #1.	
10-AN/SQS-4A - Same as 8-AN/SQS-4		1-AN/SQS-10A - Same as 2-AN/SQS-10	
11-AN/SQS-4A - Same as 9-AN/SQS-4		2-AN/SQS-10A - Same as 3-AN/SQS-10	
12-AN/SQS-4A - Same as 10-AN/SQS-29		3-AN/SQS-10A - Cancelled	
13-AN/SQS-4A - Same as 12-AN/SQS-4		4-AN/SQS-10A - Same as 5-AN/SQS-10	
14-AN/SQS-4A - Same as 13-AN/SQS-29		5-AN/SQS-10A - Same as 6-AN/SQS-10	
15-AN/SQS-4A - Same as 14-AN/SQS-4		6-AN/SQS-10A - Same as 7-AN/SQS-10	
1-AN/SQS-10 - Res, relay cap. in mtr, install Correction material: TM for AN/SQS-10, 10a, 11, 11a, NS 91544(A) A FA-6 NS98289 F5845-301-9718 SERIAL: 1-86 IDENTITY: Screen bypass capacitors, C-1022 and C-1023 are added across pins 2 and 4 of V-1007 and V-1009. Plate cap leads for tubes V-1006 to V-1010 are connected to resistors mounted above the tubes.		1-AN/SQS-11 - Same as 2-AN/SQS-10	
2-AN/SQS-10 - Synchro circuits, isolate Correction material: T-1 to NS 91544(A) A FA-3 NS98290(A) F5845-302-0119 SERIAL: All IDENTITY: On TB-12-A in data converter, lead is removed from term 9 to term 4 on K-1206. A new lead is added from term 4 on K-1206 to term 41 on TB-12A.		2-AN/SQS-11 - Same as 3-AN/SQS-10	
3-AN/SQS-10 - Improved reg circuits Correction material: None A FA-25 NS98353 F5845-302-0995 SERIAL: All IDENTITY: A new range sweep is installed.		3-AN/SQS-11 - Cancelled	
		4-AN/SQS-11 - Same as 5-AN/SQS-10	
		5-AN/SQS-11 - Same as 6-AN/SQS-10	
		6-AN/SQS-11 - Same as 7-AN/SQS-10	
		1-AN/SQS-11A - Same as 1-AN/SQS-10 except SERIAL 1-10.	
		2-AN/SQS-11A - Same as 2-AN/SQS-10	
		3-AN/SQS-11A - Same as 3-AN/SQS-10	

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4-AN/SQS-11A - Cancelled			
5-AN/SQS-11A - Same as 5-AN/SQS-10			
6-AN/SQS-11A - Same as 6-AN/SQS-10			
7-AN/SQS-11A - Same as 7-AN/SQS-10			
1-AN/SQS-17A - Replacement of a Fixed Resistor With a Potentiometer			
1-A FA-8 NS981714			
SERIAL: All			
IDENTITY: Presence of a bearing gain adjust potentiometer on the front casting of the control indicator cabinet.			
2-AN/SQS-17A - Wiring Modification			
1-A FA-18 NS981715			
SERIAL: 1 thru 5			
IDENTITY: Check wiring of potentiometer R3601. If the jumper is between pins 2 and 3 of the potentiometer and the lead from pin 1 is connected to component board E3601-2, the modification has been made.			
3-AN/SQS-17A - Modification to Exciter Chassis and TR Deck			
1-A FA-30 NS981716			
SERIAL: 1 thru 10			
IDENTITY: Check the various chassis and note if the modifications listed in the field change bulletin have been made.			
4-AN/SQS-17A - Prevents Recycling of Equipment when F6002 Blows.			
Correction material: T-1 to NS94673			
2-A FA-1 NS967-078-4050 None			
SERIAL: All			
IDENTITY: F6001 is wired directly to TB601-9. Fuse F6002 changed from 10 amps to 5 amps.			
1-AN/SQS-17B - Same as 4-AN/SQS-17A			
1-AN/SQS-23 - Reduction of vibration in 400 cycle servo motors and addition of filter in test set to facilitate making receiver noise measurements.			
Correction material: None			
1-B YF-80 NS981252 None			
SERIAL: 1 thru 47			
IDENTITY: Presence of new blower B-2015.			
2-AN/SQS-23 - Increased stability of true bearing and slant range circuits.			
Correction material: None			
1-A FA-4 NS981303 F5845-473-7879			
SERIAL: SM-170/SQS-23, Ser 1 through 33 and 43 through 55			
IDENTITY: Presence of new 15,000 ohm, 2 watt resistor R531.			
3-AN/SQS-23 - To provide more stable operation of the 270V supply in Power Supply PP-2161/SQS-23.			
Correction Material: None			
2-A FA-2 NS981309 None			
SERIAL: 1 through 64 (AN/SQS-23); 1 through 64 (PP-2161/SQS-23)			
IDENTITY: Presence of two new resistors, R-6169, in parallel between JP4-GND and JP4-4.			
4-AN/SQS-23 - Improved operation of Azimuth-Range-Indicator ID-800/SQ and Control-Indicator C-2708/SQ.			
Correction material:			
2-A FA-1 NS981342 None			
SERIAL: 1 through 68, 84 through 86 (ID-800/SQ); 1 through 63, 65 through 69, 84 through 87 (C-2708/SQ).			
IDENTITY:			
5-AN/SQS-23 - Provides aspect capability			
Correction material: None			
1-A FA-12 NS981414 F5845-856-8087			
SERIAL: As specified by BUSHIPS			
IDENTITY: Two equipment cabinets have been added to the installation; programmer-recorder and transmit beam control cabinets.			
6-AN/SQS-23 - Improved operation of phase changing (receive) network CV-752/SQS-23.			
Correction material: NS93625(A), and NS93612(A)			
2-A FA-1 NS981545 None			
SERIAL: CV-752/SQS-23 - Serials 1 through 87			
IDENTITY:			
7-AN/SQS-23 - Improved operation of Sum-Diff-switching transmitter power supply interlock circuit and oscillator-programmer section width control circuits			
Correction material: NS93617(A), NS93624(A), NS93621(A)			
2-A FA-4 NS981546 None			
SERIAL: Sonar Receiver Scanner R-918/SQS-23; Power Supply (Transmitter Bias) PP-2162/SQS-23 and Oscillator Programmer P-576/SQS-23, equipment serials AN/SQS-23 Serials 1 through 87.			
IDENTITY:			
8-AN/SQS-23 - Improved operation of sweep rate calibration circuits.			
Correction material: NS93612(A), NS93615(A)			
2-A FA-8 NS981571 None			
SERIAL: Control Indicator Type C-2708/SP in all AN/SQS-23 equipments, Serials 1 through 87, except Serials 35, 42 and 46			
IDENTITY:			
9-AN/SQS-23 - Cursor Full Scale Flyback Modification			
Correction material: Chg. 1 to NS93615(A); Chg. 1 to NS93612(A)			
2-A FA-4 NS981677 None			
SERIAL: C-2708/SQ in AN/SQS-23 (1 thru 87) and C-3742/SQS-23A (A1 thru A40)			
IDENTITY:			

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10-AN/SQS-23 – Replacement of Deteriorated Interconnection Box Power Reduction Resistor Wiring in Interconnection Boxes J-1009, J-1010, and J-1037/SQS-23			
Correction material: None			
2-A FA-24 NS981687 None			
SERIAL: 1 thru 87 (AN/SQS-23), A1 thru A40 (AN/SQS-23A)			
IDENTITY:			
11-AN/SQS-23 – Provides Automatic Power Level Control and Transducer Signal Attenuation			
1-A FA-40 NS981624			
Correction material: Change 3 to NS93612(A), NS93615(A), NS93618(A), NS93619(A), NS93621(A), NS93624(A), NS93625(A).			
SERIAL: All except Ser. 3, 10 and 40 which have had this change made by contractor.			
IDENTITY: ATTENUATOR-ON-OFF Switch added to Front Control Panel of Control Indicator.			
12-AN/SQS-23 – Improved Operation of Receiver Scanner R-918/SQS-23 of AN/SQS-23 Ser 1 thru 87 and AN/SQS-23A Ser A1 thru A40			
Correction material: NS93617(A) NS93612(A)			
2-A FA-1 EIB None			
SERIAL: Receiver Scanner R-918/SQS-23 of AN/SQS-23 Ser 1 thru 87 and AN/SQS-23A Ser A1 thru A40			
IDENTITY:			
13-AN/SQS-23 – Providing Motor-Generator Dynamic Braking			
Correction material: Change 4 to NS 93612(A), Change 4 to NS 93624(A), Change 4 to NS 93621(A)			
1-A YF-144 NS 981644			
SERIAL: As specified by BUSHIPS with the exception of serial 68 which was installed by contractors representative in the USS Harwood (DD-861)			
IDENTITY: Two new Resistor Assemblies MX-4265/SQS-23B cabinets have been added to the installation.			
14-AN/SQS-23 – Modification of Power Supply PP-2161/SQS-23			
Correction material: NS 93568(A), and NS 93612(A)			
2-A FA-1 (man-day)			
SERIAL: Power Supply PP-2161/SQS-23 in AN/SQS-23 ser 1 thru 87 (PP-2161/SQS-23 cabinet serials 1 thru 87) and in AN/SQS-23A equipments Ser A-1 thru A-40 (PP-2161/SQS-23 cabinet serials A1 thru A-40).			
IDENTITY:			
15-AN/SQS-23 – Modification for Power Supply PP-2162/SQS-23 and PP-3041/SQS-23A			
Correction material: NS 93612(A), NS 93624(A)			
2-A FA-1			
SERIAL: PP-2162/SQS-23 in AN/SQS-23 ser 1 thru 87 and PP-3041/SQS-23A in AN/SQS-23A ser A1 thru A-40			
IDENTITY:			
16-AN/SQS-23 - Installation of Range and Bearing Test Set; installation of Tantalum Capacitors in AF Amplifier and Receive Depression Chassis			
Correction material: Ch 5 to NS93612(A), Ch 4 to NS93615(A), 93617(A), 93618(A), and 93625(A)			
1-B YF-140 NS981727			
SERIAL: All			
IDENTITY: Test Set Sonar TS-1779/SQS-23B is installed.			
17-AN/SQS-23 – Resistor Addition (TS-1779/SQS-23B - Range Ring Brightness Reduction			
Correction material 1/2 T- to NS93612(A), NS95745, NS94416			
2-A FA-1 None			
SERIAL: All			
18-AN/SQS-23 – Provides Aspect Capability			
Correction material: None			
1-A FA-12 NS981782 F5845-688-9902			
SERIAL: As specified by Bureau of Ships			
IDENTITY: Two equipment cabinets have been added to the installation Programmer Recorder and Transmit Beam Control cabinets.			
19-AN/SQS-23 – LVMG Overload Protection			
Correction material: T-1 to NS936612			
2-A FA-8 NS981811 None			
SERIAL: SA-635/SQ (All), SA-873/SQS-23B (all except B-12)			
IDENTITY: Relay K-24005 is installed on relay panel of the Motor Starter Cabinet.			
20-AN/SQS-23 – Addition of Amplifier Test Set AN/SQM-4			
Correction material: T- to NS			
2-B FA-2(wks) None			
SERIAL: All			
1-AN/SQS-23A – Same as 9-AN/SQS-23			
2-AN/SQS-23A – Same as 2-AN/SQS-23			
3-AN/SQS-23A – Improved Operation of Exciter MG			
Correction material: NS93612(A) NS93624(A)			
2-A FA-1			
SERIAL: Generator Control C-3743/SQS-23A of AN/SQS-23, Ser. A1 thru A40			
IDENTITY:			
4-AN/SQS-23A – Same as 12-AN/SQS-23			
5-AN/SQS-23A – Same as 13-AN/SQS-23			
6-AN/SQS-23A – Same as 14-AN/SQS-23			
7-AN/SQS-23A – Same as 15-AN/SQS-23			
8-AN/SQS-23A – Same as 16-AN/SQS-23			
9-AN/SQS-23A – Same as 17-AN/SQS-23			

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10-AN/SQS-23A - Same as 18-AN/SQS-23			
11-AN/SQS-23A - Same as 19-AN/SQS-23			
12-AN/SQS-23A - Same as 20-AN/SQS-23			
1-AN/SQS-23B - Same as 17-AN/SQS-23			
2-AN/SQS-23B - Provides Aspect Capability			
Correction material: None			
1-A FA-2 NS981783 F5845-688-9903			
SERIAL: As specified by Bureau of Ships			
IDENTITY: One equipment cabinet has been added to the installation; Programmer-Recorder cabinet.			
3-AN/SQS-23B - Same as 19-AN/SQS-23			
4-AN/SQS-23B - Same as 20-AN/SQS-23			
5-AN/SQS-23B - Improved Operation of Receiver-Scanner R-918/SQS-23 Audio Channel			
Correction material: to NS 93617(A)			
2-A FA-1 None			
SERIAL: Receiver Scanner R-918/SQS-23 serials A1 thru A31 and B1 thru B24			
IDENTITY: Proper recording on Field Change Accomplished plate.			
1-AN/SQS-23C - Same as 17-AN/SQS-23			
2-AN/SQS-23C - Same as 2-AN/SQS-23B			
3-AN/SQS-23C - LVMG Overload Protection			
Correction material: T-1 to NS 95745			
2-A F-8 NS 981812 None			
SERIAL: SA-873A/SQS-23B (All)			
IDENTITY: Relay K-24005 is installed on the relay panel of the Motor Starter Cabinet			
4-AN/SQS-23C - Same as 20-AN/SQS-23			
5-AN/SQS-23C - Improved Operation of Receiver-Scanner R-918A/SQS-23 Audio Channel			
Correction material: to NS 95745			
2-A			
SERIAL: Receiver-Scanner R-918A/SQS-23 of AN/SQS-23C, Serials A1 thru A20			
1-AN/SQS-26 (XN-2) - Installation of fault locator.			
Correction material: None			
1-A FA-624 NS981460 FSU not required			
SERIAL: Fault locator, Sonar TS-1728 (XN-1)/SQS-26 and AN/SQS-26 (XN-2)			
IDENTITY: TS-1728 (XN-1)/SQS-26 installed in Sonar Control Room.			
2-AN/SQS-26(XN-2) - Connection of Additional Test Points in System to Fault Locator			
Correction material: None Required			
1-A FA-400 NS981739			
SERIAL: All			
3-AN/SQS-26(XN-2) - Installation of Range and Bearing Calibration Modification			
Correction material: None			
1-A FA-23(man- days) NS981807			
SERIAL: All			
IDENTITY: Not applicable			
4-AN/SQS-26(XN-2) - Installation of Passive Test Control Unit and Passive Test Signal Generator Modification Kit			
Correction material: T- to NS			
1-A FA-10 NS 0285-079-0800			
SERIAL: AN/AQS-26(XN-2), one system furnished on NObsr 75240, AN/SQS-26, two systems furnished on NObsr 81384, AN/SQS-26AX twelve systems furnished on NObsr 87002			
IDENTITY: Check for the addition of connector J2 mounted above J1 at rear of unit 79 for AN/SQS-26(XN-2) only. Check for the bulkhead mounting of passive test control unit, unit 80, near azimuth recorder cabinet, unit 31, and passive test signal generator, unit 81 near bulkhead mounted distribution box, unit 79 close to the T-R switch.			
1-AN/SQS-26AX - Same as 2-AN/SQS-26			
2-AN/SQS-26AX - Same as 3-AN/SQS-26			
3-AN/SQS-26AX - Same as 4-AN/SQS-26(XN-2)			
4-AN/SQS-26AX - Same as 5-AN/SQS-26			
5-AN/SQS-26AX - Same as 6-AN/SQS-26 except SERIAL: A1 thru A12			
6-AN/SQS-26AX - Same as 7-AN/SQS-26			
7-AN/SQS-26AX - Same as 8-AN/SQS-26			
1-AN/SQS-26 - Modification Kit #2 - Transducer Element Indicator Kits.			
Correction material: None			
1-A FA-40 NS981791			
SERIAL: No. 1 and 2, Switch Assembly SA-811/SQS-26, (Unit 15)			
IDENTITY: Determination of accomplishment of this field change can be identified by visual inspection.			

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2-AN/SQS-26 – Bandpass Filter and Passive Equalizer Addition			
Correction material: None			
1-A FA- NS0285-076-3502			
SERIAL: AN/SQS-26 (Two furnished on NObsr 81384), AN/SQS-26X (12 furnished-Nobsr 87002)			
IDENTITY: See Bulletin.			
3-AN/SQS-36 – Provides easy access to indication of status of fuses			
Correction Material:			
2-A FA-1 NS None			
SERIAL: All			
IDENTITY: Presence of plexiglass cover mounted over hole in cabinet.			
4-AN/SQS-26 – Same as 4-AN/SQS-26(XN-2)			
5-AN/SQS-26 - Installation of Range and Bearing Calibration Modification Kit			
Correction material T- to NS			
1-A FA-23 NS0285-080-0900			
SERIAL: All AN/SQS-26AX and AN/SQS-26			
IDENTITY: Distribution box (Unit 79) and associated cabling to AN/SAS-26AX or AN/SQS-26 equipment is installed.			
6-AN/SQS-26 Sonar Detecting Ranging Set – To eliminate Noise from the dual Beam Receiver			
Correction material: To be included in final TM NAVSHIPS 94406(A)			
2-A FA-16 None			
SERIAL: A1 and A2			
IDENTITY: Proper recording on Field Change Accomplished plate.			
7-AN/SQS-26 – Cabinet No. 2 A-Scan Drive Motor Change (To be supplied)			
8-AN/SQS-26 – Replaces Paper Take-Up Assembly and Adds Helix Motor Protective Fuse NObsr-95241			
Correction material: None required			
1-A FA-2 NS 0967-059-8210			
SERIAL: All			
IDENTITY: Part 1—Front panel of the paper take-up assembly contains a switch designated TAKE-UP-MOTOR. Part 2—A fuse holder is located on the bracket holding the input power connector for the helix drive motor. This bracket is located beside the helix drive motor.			
1-AN/SQS-29 – Repl of shock mounts on cabinet structure of pwr distribution panel SB-947/SQ			
Correction material: Change 1 to NS 93229			
1-A FA-2 NS981119 F5845-663-8733			
SERIAL: Having SB-947/SQ nos 1-20, 38-57, 81-95, 121-135			
IDENTITY: Vibration mounts Sangamo #876209 installed in place of Sangamo part #881136			
2-AN/SQS-29 – Improve in protection of high voltage motor gen sets			
Correction material: T-2 to NS 93229			
2-A FA-2 NS981117 None			
SERIAL: All			
IDENTITY: Cables R-SK117 and R-SK118 installed between HV motor gen and controller.			
3-AN/SQS-29 – Improve protection of motor gen sets			
Correction material: T-3 to NS 93229			
1-A FA-8 NS981120 F5845-663-8742			
SERIAL: C-2671/SQ nos 1-20, 38-57, 81-95, 121-135			
IDENTITY: F101 changed from 0.5 amp to 0.25 amp.			
4-AN/SQS-29 – Current limiting of 1000 volt gen output			
Correction material: T-4 to NS 93229			
1-A FA-2 NS981121 F5845-663-8743			
SERIAL: C2671/SQ nos 1-26, 38-71, 81-111, 121-161			
IDENTITY: Resistor assembly mounted between E-17005 and S-17004			
5-AN/SQS-29 – Add capacitor assy CB-7/SQ (modified)			
Correction material: T-5 to NS 93229			
2-A FA-4 NS981118 None			
SERIAL: All			
IDENTITY: Capacitor assy CB-7/SQ installed			
6-AN/SQS-29 - Protection of high voltage supply			
Correction material: T-6 to NS 93229			
1-A FA-1 NS981122 F5845-663-8844			
SERIAL: All w/major units Capacitor Assembly CB-7/SQ (modified) and Control-Power Supply C-2671/SQw/serial 1-170			
IDENTITY: Resistor board assembly on sidewall of Capacitor Assembly CB-7/SQ (modified)			
7-AN/SQS-29 – Provide greater range of adjustment for proper regulation of 900 volt output of Motor Generator PO-444/SQ			
Correction material: T-7 to NS93229			
FA- NS981123 None			
SERIAL: SB-947/SQ Nos. 1 thru 170			
IDENTITY:			
8-AN/SQS-29 – Modif. to operate with AN/SQS-T3A.			
Correction material: T-8 to NS93229			
2-A FA-6 NS981184 None			
SERIAL: Equipment installed with AN/SQS-T3A			
IDENTITY: S-25002 – Jumper removed between terminals 10 and 12 on wafer B.			

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9-AN/SQS-29 - Relocation of RCG control. Correction material: T-1 to NS93229, and T-6 to NS92283A 2-A FA-6 NS981244 None SERIAL: All IDENTITY: Presence of RCG control on front of the control indicator.				16-AN/SQS-29 - Protective Covers for High Voltage Distribution Panel SB-974/SQ Correction material: None 2-A FA-1 NS981467 None SERIAL: All IDENTITY: Location of two paper Base Phenolic protective shields in the power panel 974/SQ used in conjunction with Sonar AN/SQS-29, -29A through 32, -32A	
10-AN/SQS-29 - Cancelled				17-AN/SQS-29 - Modification of video scanning switches Correction material: Change 4 to NS93229 (A), Change 8 to NS92283.32, NS92283 (A), NS92283.42 3-C FA-8 NS981499 F5845-086-7630 (AN/SQS-29, 29A, 30, 30A) F5845-086-7631 (AN/SQS-31, 31A, 32, 32A)	
11-AN/SQS-29 - Add field keying circuits. Correction material: Change 4 to NS93229 (A) 1-A FA-24 NS981369 F5845-856-5451 SERIAL: OA-2062/SQS-29 (1 through 37); OA-2063/SQS-30 (1 through 43); OA-2064/SQS-31 (1 through 40); OA-2065/SQS-32 (1 through 50) IDENTITY: Field keying chassis is mounted on the upper left interior wall of the transmitter program control.				SERIAL: Equipment selected by BUSHIPS IDENTITY: Sweep generator nameplate bears number 825805	
12-AN/SQS-29 - Modifies equipment as VDS for use with AN/SQA-10. Correction material: Complementary TM for AN/SQS-29B, AN/SQS-29C 1-B FA-12 man NS981389 F5845-856-8089 (29, 29A) days F5845-856-8088 (30, 30A)				18-AN/SQS-29 - Elimination of the Bright Ring at Sweep Start Correction material: 2-A FA- - None SERIAL: IDENTITY:	
SERIAL: Equipments selected for modification by BUSHIPS IDENTITY: Four position XMIT MODE switch is added to the auxiliary control panel.				19-AN/SQS-29 - Same as 13-AN/SQS-4	
13-AN/SQS-29 - Provides aspect capability. Correction material: None 3-C FA-6 NS981390 F5845-856-8090 (AN/SQS-29, -29A) F5845-856-8091 (AN/SQS-30, -30A) F5845-856-8092 (AN/SQS-31, -31A) F5845-856-8093 (AN/SQS-32, -32A)				20-AN/SQS-29 - Installation of Sum and Difference Forming Network Ahead of the Receiver. Correction material: T-8 to NS 92283 (A) 1-A FA-8 NS981582 F5845-991-3355 SERIAL: All IDENTITY:	
SERIAL: As specified by BUSHIPS IDENTITY: Two equipment cabinets have been added to the installation. Programmer-recorder and transmit beam control cabinets				21-AN/SQS-29 - Add Dynamic Braking Correction material: Change 7 to NS93229(A) 1-A FA-20 NS981681 F5845-056-7149	
14-AN/SQS-29 - Cancelled, superseded by 25-AN/SQS-29				SERIAL: As specified by BUSHIPS IDENTITY: RESISTOR ASSEMBLY MX-4617/SQS and Relay Assembly RE-711/SQS are installed.	
15-AN/SQS-29 - Replace HV generator terminal boxes Correction material: Change 5 to NS93229 (A) 1-C FA-40 NS981457 F5845-560-7209 SERIAL: Motor-Generators PU-443/SQ IDENTITY: High-Voltage generator terminal box is large type (7-1/4 x 13 x 5 inches), and has a field center tap connection brought out into the box					

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22-AN/SQS-29 - Installation of Range and Bearing Test Set and Range Calibration Potentiometers Correction material: Ch. 8 to NS93229(A) 1-B FA-180 NS981728	SERIAL: Equipments selected by BuShips. IDENTITY: Test Set Sonar TS-2073/SQS is installed and range calibration potentiometer bracket is installed on the rear plate of the bearing train assembly (inside front control panel of control indicator).	8-AN/SQS-29A - Same as 8-AN/SQS-29	
23-AN/SQS-29 - Provides Aspect Capability Correction material: None 1-A FA-6 NS981784 F5845-688-9901	SERIAL: As specified by Bureau of Ships IDENTITY: Two equipment cabinets have been added to the installation; Programmer-Recorder and Transmit Beam Control cabinet.	9-AN/SQS-29A - Same as 9-AN/SQS-29	10-AN/SQS-29A - Cancelled
24-AN/SQS-29 - LVMG Overload Protection Correction material: T-1 to NS93229(A) 2-A FA-8 NS981810 None	SERIAL: SB-947/SQ, RE-711/SQS (All) IDENTITY: Installation of relay K-20019	11-AN/SQS-29A - Same as 11-AN/SQS-29	12-AN/SQS-29A - Same as 12-AN/SQS-29
25-AN/SQS-29 - Auxiliary Keying Reset, Control Indicator Correction material: T-1 to NS 93229(A) and NS92283(A) 2-A FA-4 None	SERIAL: Control Indicator C-1454/SQS-29, -29A, -29B, -29C thru -32A, -32B, 32C; Control Programmer C-2668/SQS-29, 29A, -B, -C, C-2669/SQS-30, -30A, -B, -C, C-2670/SQS-31, -31A, -B, -C, and C-2671/SQS-32, -32A, -B, -C. IDENTITY: Existence of the Programmer Rest nameplate on the console.	13-AN/SQS-29A - Same as 13-AN/SQS-29	14-AN/SQS-29A - Cancelled
26-AN/SQS-29 - Adds Transmitter Test Set AN/SQM-3 Correction material: T-10 to NS 93229(A) 1-B FA-40 NS 0285-081- F5845-985-9163 (MAN- 1400 DAYS)	SERIAL: As specified by BUSHIPS IDENTITY: Two equipment cabinets have been added to the installation: Display Cabinet and Load Assembly.	15-AN/SQS-29A - Same as 15-AN/SQS-29	16-AN/SQS-29A - Same as 16-AN/SQS-29
1-AN/SQS-29A - Same as 1-AN/SQS-29		17-AN/SQS-29A - Same as 17-AN/SQS-29	
2-AN/SQS-29A - Same as 2-AN/SQS-29		18-AN/SQS-29A - Same as 18-AN/SQS-29	
3-AN/SQS-29A - Same as 3-AN/SQS-29		19-AN/SQS-29A - Same as 13-AN/SQS-4	
4-AN/SQS-29A - Same as 4-AN/SQS-29		20-AN/SQS-29A - Same as 20-AN/SQS-29	
5-AN/SQS-29A - Same as 5-AN/SQS-29		21-AN/SQS-29A - Same as 21-AN/SQS-29	
6-AN/SQS-29A - Same as 6-AN/SQS-29		22-AN/SQS-29A - Same as 22-AN/SQS-29	
7-AN/SQS-29A - Same as 7-AN/SQS-29		23-AN/SQS-29A - Same as 23-AN/SQS-29	
		24-AN/SQS-29A - Same as 24-AN/SQS-29	
		25-AN/SQS-29A - Same as 25-AN/SQS-29	
		26-AN/SQS-29A - Same as 26-AN/SQS-29	
		1A-AN/SQS-29B - Correction of the VDS Hand Key Circuit Operation Correction material: T-1 to CTM NAVSHIPS 94310 2-A FA-1 (NS 981578) None	
		SERIAL: Control Indicator C-2666/SQ modified by Field Change 12-AN/SQS-29, -29A, -30, -30A, NS981389 for MOD-1, MOD-2 VDS Operation.	
		IDENTITY: In control indicator cabinet, jumper removed from terminal board 1C between terminals 30 and 31, terminals 1C-30 connected to 1A-90 and 1A-31 connected to 1A-91.	
		2-AN/SQS-29B - Same as 21-AN/SQS-29	
		3-AN/SQS-29B - Same as 22-AN/SQS-29	
		4-AN/SQS-29B - Same as 25-AN/SQS-29	

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5-AN/SQS-29B - Same as 24-AN/SQS-29	900,000.3	
6-AN/SQS-29B - Interference Reduction on Keying Interlock Line Correction material: T- to NS94310 and NS94713 2-A FA-8 None SERIAL: VDS Relay & Junction Box J-1998/SQS (AN/SQS-29B, C, -30B, C and VDS Relay and JTC Box J-2107/SQS (AN/SQS-31B, C and 32B, C IDENTITY: Capacitor (C-37001) located along the lower left side wall inside the VDS relay and junction box.	8-AN/SQS-30 - Same as 8-AN/SQS-29 9-AN/SQS-30 - Same as 9-AN/SQS-29 10-AN/SQS-30 - Cancelled	
7-AN/SQS-29B - Addition of Second Receiving and Display System Correction material: CH-1 to NS 94310 3-C FA-5 SERIAL: Serial numbers as authorized by Bureau of Ships IDENTITY: Equipment has VDS receiving and display system which includes data converter	11-AN/SQS-30 - Same as 11-AN/SQS-29 12-AN/SQS-30 - Same as 12-AN/SQS-29 13-AN/SQS-30 - Same as 13-AN/SQS-29 14-AN/SQS-30 - Cancelled	
8-AN/SQS-29B - Same as 26-AN/SQS-29	15-AN/SQS-30 - Same as 15-AN/SQS-29	
21-AN/SQS-29B - Same as 21-AN/SQS-29	16-AN/SQS-30 - Same as 16-AN/SQS-29	
1A-AN/SQS-29C - Same as 1A-AN/SQS-29B	17-AN/SQS-30 - Same as 17-AN/SQS-29	
2-AN/SQS-29C -	18-AN/SQS-30 - Same as 18-AN/SQS-29	
3-AN/SQS-29C - Same as 22-AN/SQS-29	19-AN/SQS-30 - Same as 13-AN/SQS-4	
4-AN/SQS-29C - Same as 25-AN/SQS-29	20-AN/SQS-30 - Same as 20-AN/SQS-29	
5-AN/SQS-29C - Same as 24-AN/SQS-29	21-AN/SQS-30 - Same as 21-AN/SQS-29	
6-AN/SQS-29C - Same as 6-AN/SQS-29B	22-AN/SQS-30 - Same as 22-AN/SQS-29	
7-AN/SQS-29C - Same as 7-AN/SQS-29B	23-AN/SQS-30 - Same as 23-AN/SQS-29	
8-AN/SQS-29C - Same as 26-AN/SQS-29	24-AN/SQS-30 - Same as 24-AN/SQS-29	
21-AN/SQS-29C - Same as 21-AN/SQS-29	25-AN/SQS-30 - Same as 25-AN/SQS-29	
1-AN/SQS-30 - Same as 1-AN/SQS-29	26-AN/SQS-30 - Same as 26-AN/SQS-29	
2-AN/SQS-30 - Same as 2-AN/SQS-29	1-AN/SQS-30A - Same as 1-AN/SQS-29	
3-AN/SQS-30 - Same as 3-AN/SQS-29	2-AN/SQS-30A - Same as 2-AN/SQS-29	
4-AN/SQS-30 - Same as 4-AN/SQS-29	3-AN/SQS-30A - Same as 3-AN/SQS-29	
5-AN/SQS-30 - Same as 5-AN/SQS-29	4-AN/SQS-30A - Same as 4-AN/SQS-29	
6-AN/SQS-30 - Same as 6-AN/SQS-29	5-AN/SQS-30A - Same as 5-AN/SQS-29	
7-AN/SQS-30 - Same as 7-AN/SQS-29	6-AN/SQS-30A - Same as 6-AN/SQS-29	

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10-AN/SQS-30A - Cancelled		4-AN/SQS-30C - Same as 25-AN/SQS-29	
11-AN/SQS-30A - Same as 11-AN/SQS-29		5-AN/SQS-30C - Same as 24-AN/SQS-29	
12-AN/SQS-30A - Same as 12-AN/SQS-29		6-AN/SQS-30C - Same as 6-AN/SQS-29B	
13-AN/SQS-30A - Same as 13-AN/SQS-29		7-AN/SQS-30C - Same as 7-AN/SQS-29B	
14-AN/SQS-30A - Cancelled		8-AN/SQS-30C - Same as 26-AN/SQS-29	
15-AN/SQS-30A - Same as 15-AN/SQS-29		1-AN/SQS-31 - Same as 1-AN/SQS-29	
16-AN/SQS-30A - Same as 16-AN/SQS-29		2-AN/SQS-31 - Same as 2-AN/SQS-29	
17-AN/SQS-30A - Same as 17-AN/SQS-29		3-AN/SQS-31 - Same as 3-AN/SQS-29	
18-AN/SQS-30A - Same as 18-AN/SQS-29		4-AN/SQS-31 - Same as 4-AN/SQS-29	
19-AN/SQS-30A - Same as 13-AN/SQS-4		5-AN/SQS-31 - Same as 5-AN/SQS-29	
20-AN/SQS-30A - Same as 20-AN/SQS-29		6-AN/SQS-31 - Same as 6-AN/SQS-29	
21-AN/SQS-30A - Same as 21-AN/SQS-29		7-AN/SQS-31 - Same as 7-AN/SQS-29	
22-AN/SQS-30A - Same as 22-AN/SQS-29		8-AN/SQS-31 - Same as 8-AN/SQS-29	
23-AN/SQS-30A - Same as 23-AN/SQS-29		9-AN/SQS-31 - Same as 9-AN/SQS-29	
24-AN/SQS-30A - Same as 24-AN/SQS-29		10-AN/SQS-31 - Cancelled	
25-AN/SQS-30A - Same as 25-AN/SQS-29		11-AN/SQS-31 - Same as 11-AN/SQS-29	
26-AN/SQS-30A - Same as 26-AN/SQS-29		12-AN/SQS-31 - Modification for Variable Depth Sonar (VDS) Correction material: Change 3 to NS93229 (A) 1-B YF-336 NS981335 F5845-856-9328 (AN/SQS-31, -32) F5845-858-3560 (AN/SQS-32, -32A)	
1A-AN/SQS-30B - Same as 1A-AN/SQS-29B		SERIAL: Equipments selected by BUSHIPS	
2-AN/SQS-30B - Same as 21-AN/SQS-29		IDENTITY:	
3-AN/SQS-30B - Same as 22-AN/SQS-29		13-AN/SQS-31 - Same as 13-AN/SQS-29	
4-AN/SQS-30B - Same as 25-AN/SQS-29		14-AN/SQS-31 - Cancelled	
5-AN/SQS-30B - Same as 24-AN/SQS-29		15-AN/SQS-31 - Same as 15-AN/SQS-29	
6-AN/SQS-30B - Same as 6-AN/SQS-29B		16-AN/SQS-31 - Same as 16-AN/SQS-29	
7-AN/SQS-30B - Same as 7-AN/SQS-29B		17-AN/SQS-31 - Same as 17-AN/SQS-29	
8-AN/SQS-30B - Same as 26-AN/SQS-29		18-AN/SQS-31 - Same as 18-AN/SQS-29	
1A-AN/SQS-30C - Same as 1A-AN/SQS-29B		19-AN/SQS-31 - Same as 13-AN/SQS-4	
2-AN/SQS-30C - Same as 21-AN/SQS-29			
3-AN/SQS-30C - Same as 22-AN/SQS-29			

SONAR	NAVSHIPS	900,000.3	FCIG
20-AN/SQS-31 - Same as 20-AN/SQS-29	22-AN/SQS-31A - Same as 22-AN/SQS-29		
21-AN/SQS-31 - Same as 21-AN/SQS-29	23-AN/SQS-31A - Same as 23-AN/SQS-29		
22-AN/SQS-31 - Same as 22-AN/SQS-29	24-AN/SQS-31A - Same as 24-AN/SQS-29		
23-AN/SQS-31 - Same as 23-AN/SQS-29	25-AN/SQS-31A - Same as 25-AN/SQS-29		
24-AN/SQS-31 - Same as 24-AN/SQS-29	26-AN/SQS-31A - Same as 26-AN/SQS-29		
25-AN/SQS-31 - Same as 25-AN/SQS-29	1-AN/SQS-31B - Add Second Receiving and Display System		
26-AN/SQS-31 - Same as 26-AN/SQS-29	Correction material: CTM		
1-AN/SQS-31A - Same as 1-AN/SQS-29	3-C FA- NS981632	F5845-994-3909	
2-AN/SQS-31A - Same as 2-AN/SQS-29	SERIAL: As authorized by BUSHIPS		
3-AN/SQS-31A - Same as 3-AN/SQS-29	IDENTITY: Equipment has VDS receiving and display system which includes Interconnecting Box J-2107/SQS		
4-AN/SQS-31A - Same as 4-AN/SQS-29	2-AN/SQS-31B - Same as 21-AN/SQS-29		
5-AN/SQS-31A - Same as 5-AN/SQS-29	3-AN/SQS-31B - Same as 22-AN/SQS-29		
6-AN/SQS-31A - Same as 6-AN/SQS-29	4-AN/SQS-31B - Same as 25-AN/SQS-29		
7-AN/SQS-31A - Same as 7-AN/SQS-29	5-AN/SQS-31B - Same as 24-AN/SQS-29		
8-AN/SQS-31A - Same as 8-AN/SQS-29	6-AN/SQS-31B - Same as 6-AN/SQS-29B		
9-AN/SQS-31A - Same as 9-AN/SQS-29	7-AN/SQS-31B - Same as 26-AN/SQS-29		
10-AN/SQS-31A - Cancelled	1-AN/SQS-31C - Same as 1-AN/SQS-31B		
11-AN/SQS-31A - Same as 11-AN/SQS-29	2-AN/SQS-31C - Same as 21-AN/SQS-29		
12-AN/SQS-31A - Same as 12-AN/SQS-29	3-AN/SQS-31C - Same as 22-AN/SQS-29		
13-AN/SQS-31A - Same as 13-AN/SQS-29	4-AN/SQS-31C - Same as 25-AN/SQS-29		
14-AN/SQS-31A - Cancelled	5-AN/SQS-31C - Same as 24-AN/SQS-29		
15-AN/SQS-31A - Same as 15-AN/SQS-29	6-AN/SQS-31C - Same as 6-AN/SQS-29B		
16-AN/SQS-31A - Same as 16-AN/SQS-29	7-AN/SQS-31C - Same as 26-AN/SQS-29		
17-AN/SQS-31A - Same as 17-AN/SQS-29	1-AN/SQS-32 - Same as 1-AN/SQS-29		
18-AN/SQS-31A - Same as 18-AN/SQS-29	2-AN/SQS-32 - Same as 2-AN/SQS-29		
19-AN/SQS-31A - Same as 13-AN/SQS-29	3-AN/SQS-32 - Same as 3-AN/SQS-29		
20-AN/SQS-31A - Same as 20-AN/SQS-29	4-AN/SQS-32 - Same as 4-AN/SQS-29		
21-AN/SQS-31A - Same as 21-AN/SQS-29	5-AN/SQS-32 - Same as 5-AN/SQS-29		