

NAVSHIPS 92743

(Non-Registered)

INSTRUCTION BOOK
for
TEST ADAPTER
MX-2012/U

RADIO CORPORATION OF AMERICA
RCA VICTOR DIVISION
CAMDEN, NEW JERSEY, U. S. A.

BUREAU OF SHIPS DEPARTMENT OF THE NAVY

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BUREAU OF SHIPS
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From: Chief, Bureau of Ships
To: All Activities Concerned with the Installation,
Operation, and Maintenance of the Subject
Equipment

Subj: Technical Manual for Test Adapter MX-2012/U
NAVSHIPS 92743

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2. When superseded by a later edition, this publication shall be destroyed.

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A. G. MUMMA
Chief of Bureau

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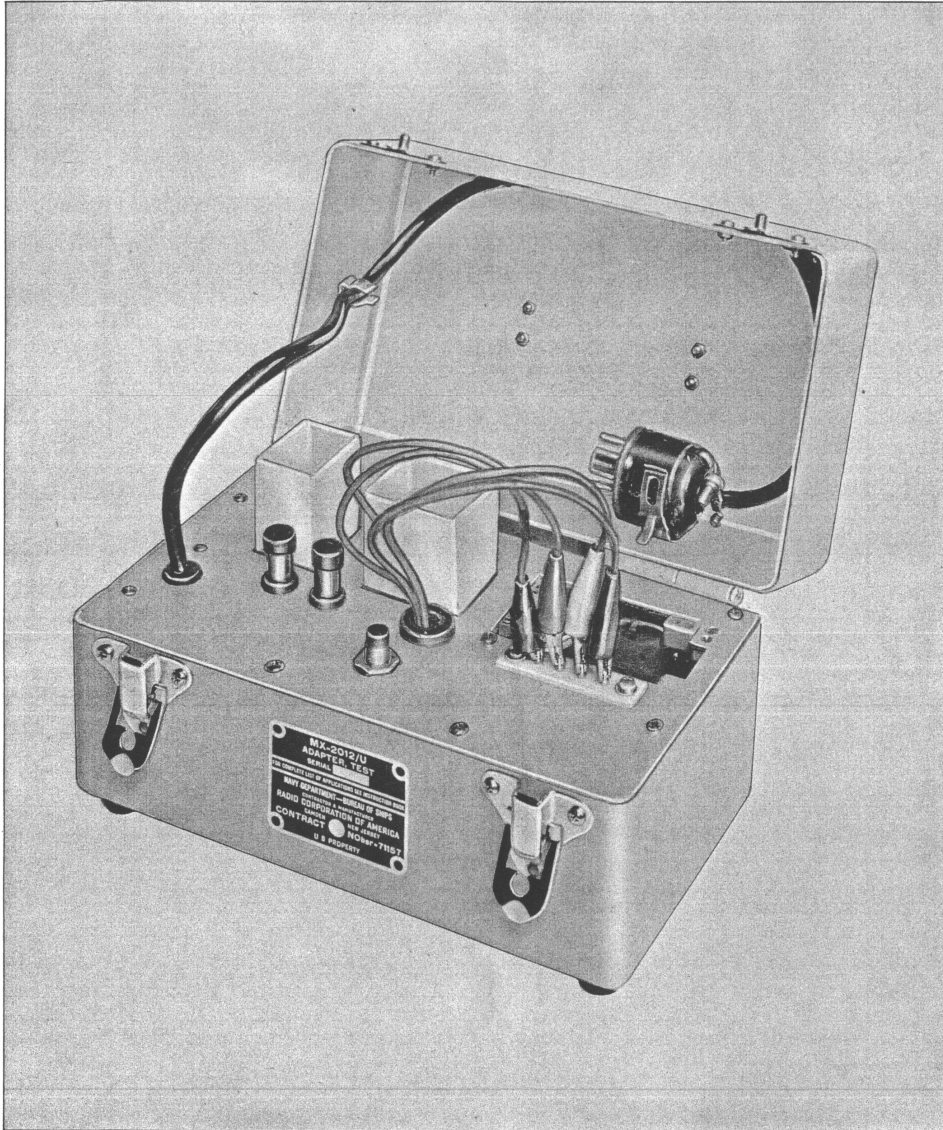


Figure 1-1. Test Adapter MX-2012/U

SECTION 1 GENERAL DESCRIPTION

1. SCOPE OF THIS BOOK.

This instruction book covers the Test Adapter MX-2012/U, figure 1-1, used in conjunction with Tube Tester series TV-3/U, TV-3A/U, TV-3B/U and TV-3C/U. Sections on description, theory, installation, operation, maintenance, and parts lists are included.

2. PURPOSE AND BASIC PRINCIPLES.

Test Adapter MX-2012/U, when used with a tube tester of the TV-3/U series, provides convenient facilities for testing subminiature vacuum tubes wired into sub-assemblies of three different types. Interconnections in the Test Adapter between the subassembly jacks and the male octal plug enable the tube tester facilities to be connected to the mounted tubes for normal testing. Subassemblies from the following listed radio receiving sets can be accommodated:

AN/FRR-18	AN/MRR-1	AN/SRR-11
AN/FRR-19	AN/MRR-2	AN/SRR-12
AN/FRR-21	AN/MRR-3	AN/SRR-13
AN/FRR-22		AN/SRR-13A
AN/FRR-23		
AN/FRR-32/R-618		

In addition, unmounted type 5644 tubes can be tested.

3. DESCRIPTION OF TEST ADAPTER MX-2012/U.

The Test Adapter is mounted in an aluminum case with a removable hinged lid. An interconnecting cable and plug assembly is stored inside the lid with spring clips. The combined recessed panel and chassis holds the subassembly sockets, four jumper cables and their terminal board, a momentary contact (pushbutton) switch and two binding posts for checking regulator tubes.

4. REFERENCE DATA.

- a. NOMENCLATURE: Test Adapter MX-2012/U.
- b. CONTRACT NUMBER: NObsr 71157 dated 3 January 1956.
- c. CONTRACTOR: Radio Corporation of America, RCA Victor Division, Camden, New Jersey, U. S. A.
- d. COGNIZANT INSPECTOR: Inspector of Naval Material, Camden, New Jersey.
- e. NUMBER OF COMPLETE PACKAGES PER COMPLETE SHIPMENT: 1.
- f. TOTAL CUBIC CONTENT (approximate): Crated, 0.75; Uncreated, 0.1 cubic foot.
- g. TOTAL WEIGHT: Crated, 5; Uncreated, 1.75 pounds.
- b. EQUIPMENT SIMILARITIES. There are no other equipments similar to the Test Adapter MX-2012/U.
- i. VACUUM TUBE COMPLEMENT. There are no vacuum tubes used in the Test Adapter MX-2012/U.

TABLE 1-1. EQUIPMENT SUPPLIED

QUANTITY PER EQUIPMENT	NAME OF UNIT	NAVY TYPE DESIGNATION	OVERALL DIMENSIONS			VOLUME	WEIGHT
			HEIGHT	LENGTH	WIDTH		
1	Test Adapter	MX-2012/U	5.25	8	4.5	0.1	1.75

Dimensions in inches, volume in cu. ft., weight in pounds.

TABLE 1-2. EQUIPMENT AND PUBLICATIONS REQUIRED BUT NOT SUPPLIED

QUANTITY PER EQUIPMENT	NAME OF UNIT	NAVY TYPE DESIGNATION	REQUIRED USE	REQUIRED CHARACTERISTICS
1	TUBE TESTER	TV-3/U, TV-3A/U, TV-3B/U, OR TB-3C/U	Supply test functions	_____
1	INSTRUCTION BOOK FOR ABOVE TESTER	NAVSHIPS 91254, 91435, 91747, or 92193	Supply instructions for tube tester	_____

TABLE 1-3. SHIPPING DATA

SHIPPING BOX NO.	CONTENTS		OVERALL DIMENSIONS			VOLUME	WEIGHT
	NAME	DESIGNATION	HEIGHT	LENGTH	WIDTH		
1	Test Adapter	MX-2012/U	6.62	11.75	6.37	0.3	5

Dimensions in inches, volume in cu. ft., weight in pounds.

SECTION 2 THEORY OF OPERATION

1. GENERAL DESCRIPTION.

The Test Adapter MX-2012/U is a wiring adapter to enable testing of subminiature tubes mounted on subassemblies without removing the tubes from the subassemblies. An eight-wire cable with an octal plug connects the Test Adapter to the octal socket on the Tube Tester of the TV-3/U series.

2. APPLICABLE EQUIPMENTS.

See Section 1, paragraph 2, for the applicable equipments.

3. CIRCUIT DESCRIPTION.

Three sockets, mounted on the panel of the Test Adapter MX-2012/U, provide the connections to the various subassemblies containing the tubes under test. Four color-coded jumper cables extend through the panel to make additional connections direct to terminals indi-

cated under the "NOTES" column of the tube test chart on the subassemblies as needed. These jumper cables are "stored" by clipping each one to a terminal on an unconnected terminal strip. Two push-type binding posts provide connections to the leads of type 5644 regulator tubes for testing. A double-pole, make-contact pushbutton switch is pressed in some tests when the tube tester pushbutton is pressed.

The individual socket assemblies are wired in such a manner as to connect the elements of the tubes, in the subassemblies being tested, to the corresponding circuits of the tube tester. Thus the tubes can be tested, using the normal tube tester functions. The four jumper cables complete the circuits where components on the subassemblies interfere with normal tube tester circuits. The pushbutton switch completes the circuits to pins 5 and 6 of the octal plug. This is pressed to complete these circuits at the same time the tube tester button is pressed when checking some subassemblies, as indicated by tube test chart notes.

SECTION 3 INSTALLATION

1. UNPACKING.

a. GENERAL. — Equipment supplied is given in table 1-1 and shown in figure 1-1. Shipping data is given in table 1-3.

b. UNPACKING PROCEDURE. — The only tool required is a knife with a broad flat blade.

(1) Pry open the end flaps of the outer corrugated carton.

(2) Slide the inner carton out of the outer carton and pry open the end flaps.

(3) Slide the contents out of the carton, cut and remove the moisture barrier.

(4) Check contents for damage.

2. INSTALLATION.

Place the Test Adapter MX-2012/U on the bench near the Tube Tester of the TV-3/U series. Open or remove the lid of the Test Adapter and insert the octal plug of the cord into the octal socket on tube tester. Plug tube tester power cord into appropriate power line outlet.

3. INITIAL ADJUSTMENTS.

No initial adjustments are required to put the Test Adapter MX-2012/U into operation.

SECTION 4 OPERATION

I. CAPABILITIES AND LIMITATIONS.

The Test Adapter MX-2012/U is designed to be used in conjunction with Tube Tester TV-3/U, TV-3A/U, TV-3B/U or TV-3C/U for testing subminiature tubes mounted in subassemblies used in the following radio receiving sets:

AN/FRR-18	AN/MRR-1	AN/SRR-11
AN/FRR-19	AN/MRR-2	AN/SRR-12
AN/FRR-21	AN/MRR-3	AN/SRR-13
AN/FRR-22		AN/SRR-13A
AN/FRR-23		
AN/FRR-32/R-618		

In addition, unmounted type 5644 tubes can be tested. Because of the special nature of the subassemblies, only the subassemblies from the above sets can be accommodated.

Plug-in assemblies Z1012, Z1101, Z1103, Z1106, and Z1107 are being supplied with 1N45 silicon diodes instead of type 5647 tubes, as supplied in earlier equipments. The checking procedures and values are the same except that heater short checks are unnecessary. The following list gives the Serial numbers of sets supplied with 1N45 diodes:

SRR-11	1275 and up	FRR-21	107 to 220, 335 and up
SRR-13A	1431 and up	FRR-22	236 and up
		FRR-23	343 to 492, 643 and up

2. SUMMARY OF OPERATION.

a. STARTING EQUIPMENT. — With the Test Adapter MX-2012/U plugged into a Tube Tester of the TV-3/U series and the tube tester power cable plugged into a power outlet, turn the tube tester POWER ON-OFF switch to ON.

TUBE TEST CHART

UNIT SYMBOL	TUBE TYPE	FIL.	SELECTORS	BIAS	TV3/U		TV3A/U, TV3B/U, TV3C/U		PRESS	GM (MIN.)	NOTES	FALSE SHORT SWITCH POSITION NO.
					SIGNAL SWITCH	SHUNT	SHUNT	SET				
V101	5899	6.3	JR2563-0	0	Normal	6000-High	0	C	Mut Cond	1200	Blk. 2*	None
V126	5899	6.3	JR2563-0	0	Normal	6000-High	0	C	Mut Cond	1200	Blk. 2*	None
V151	5636	6.3	JR2567-0	0	Normal	6000-High	0	C	Mut Cond	1400	Blk. 2*	1, 2, 3, 4, 5
V201	5840	6.3	JR2607-0	10	Low	15000-Low	0	D	Mut Cond	1500	Yel. 1* Blk. 2 Red 7 Blu. 5	None
V301	5899	6.3	JR2563-0	0	Normal	6000-High	0	C	Mut Cond	1500	Blk. 2*	None
V326	5899	6.3	JR2563-0	0	Normal	6000-High	0	C	Mut Cond	1500	Blk. 2*	None
V351	5636	6.3	JR2567-3	0	Normal	6000-High	0	C	Mut Cond	1500	Yel. 1* Blk. 2 Red 7	1, 2, 3, 4, 5
V352	5718	6.3	JR2607-0	19	Low	15000-Low	0	D	Mut Cond	2500	Yel. 11* Blk. 15 Blu. 18	1, 2, 3, 5
V401	5840	6.3	JR2607-0	10	Low	15000-Low	0	D	Mut Cond	1500	Yel. 1* Blk. 2	None
V501	5899	6.3	JR2563-0	0	Normal	6000-High	0	C	Mut Cond	1800	Yel. 1* Blk. 2	1, 2, 3, 5
V526	5899	6.3	JR2563-0	0	Normal	6000-High	0	C	Mut Cond	1500	Yel. 1* Blk. 2	1, 2, 3, 5
V551	5636	6.3	JR2567-0	0	Normal	6000-High	0	C	Mut Cond	1500	Yel. 1* Blk. 2 Red 7	1, 2, 3, 5

TUBE TEST CHART (Continued)

UNIT SYMBOL	TUBE TYPE	FIL.	SELECTORS	BIAS	TV3/U		TV3A/U, TV3B/U, TV3C/U		PRESS	GM (MIN.)	NOTES	FALSE SHORT SWITCH POSITION NO.
					SIGNAL SWITCH	SHUNT	SHUNT	SET				
V552	5718	6.3	JR2607-0	19	Low	15000-Low	0	D	Mut Cond	2500	Yel. 11* Blk. 15 Blu. 18	1, 2, 3, 5
V601	5718 or 5840	6.3	JR2607-0	10	Normal	3000-High	0	B	Mut Cond	1000	Yel. 1* Blu. 5	None
V701	5636	6.3	JR2567-4	0	Normal	6000-High	0	C	Mut Cond	1500		1, 2, 3, 4, 5
V801	5636	6.3	JR2567-4	0	Normal	6000-High	0	C	Mut Cond	1500		1, 2, 3, 4, 5
V901	5636	6.3	JR2567-4	0	Normal	6000-High	0	C	Mut Cond	1500		1, 2, 3, 4, 5
V1001	5899	6.3	JR2567-0	0	Low	15000-Low	0	D	Mut Cond	1800		1, 4, 5
V1002	5899	6.3	JR2567-0	0	Low	15000-Low	0	D	Mut Cond	1800		1, 4, 5
V1003	5899	6.3	JR2567-0	0	Low	15000-Low	0	D	Mut Cond	1800		1, 4, 5
V1004	5636	6.3	JR2567-4	0	Normal	6000-High	0	C	Mut Cond	1500		1, 2, 3, 4, 5
V1005	5647	6.3	JR0507-0	0	—	62	67	A	Diode	O.K.		None
V1006	5647	6.3	JR0507-0	0	—	62	67	A	Diode	O.K.		None
V1007	5718	6.3	JR2705-0	19	Low	15000-Low	0	D	Mut Cond	3000		1, 2, 3, 4, 5
V1101	5647	6.3	JR0507-0	0	—	62	67	A	Diode	O.K.		4, 5
V1102	5718	6.3	JR2705-0	19	Low	15000-Low	0	D	Mut Cond	3000		None
V1103	5647	6.3	JR0507-0	0	—	62	67	A	Diode	O.K.		None
V1104	5719	6.3	JR2705-0	15	Normal	6000-High	0	C	Mut Cond	800		1, 2, 3, 4, 5
V1105	5718	6.3	JR2705-0	19	Low	15000-Low	0	D	Mut Cond	3000		1, 2, 3, 4, 5
V1106	5647	6.3	JR0507-0	0	—	62	67	A	Diode	O.K.		None
V1107	5647	6.3	JR0507-0	0	—	62	67	A	Diode	O.K.		None
V1108	5719	6.3	JR2705-0	15	Normal	6000-High	0	C	Mut Cond	800		1, 2, 3, 4, 5
V1109	5902	6.3	JR2567-0	0	Normal	15000-High	0	D	Mut Cond	2800		2, 3
V1201	5718	6.3	JR2705-0	19	Low	15000-Low	0	D	Mut Cond	3000		None
V1202	5718	6.3	JR2705-0	19	Low	15000-Low	0	D	Mut Cond	3000		4
V1301	5840	6.3	JR2567-0	10	Low	15000-Low	0	D	Mut Cond	1500		2, 3
V1401	5718	6.3	JR2705-0	19	Low	15000-Low	0	D	Mut Cond	3000		None
V1402	5636	6.3	JR2567-4	0	Normal	6000-High	0	C	Mut Cond	1500		1, 2, 3, 4, 5
V1501	5718	6.3	JR2705-0	19	Low	15000-Low	0	D	Mut Cond	3000		None
V1502	5718	6.3	JR2705-0	19	Low	15000-Low	0	D	Mut Cond	3000		4
V1603	5644	6.3	KP0801-0	0	Normal	3000-High	0	B	Gas-1	400		1, 2, 3, 4, 5
V3001	5899	6.3	JR2563-0	0	Normal	6000-High	0	C	Mut Cond	1500	Blk. 2*	None
V3035	5899	6.3	JR2563-0	0	Normal	6000-High	0	C	Mut Cond	1500	Blk. 2*	None
V3101	5899	6.3	JR2563-0	0	Normal	6000-High	0	C	Mut Cond	1800	Yel. 1* Blk. 2	1, 2, 3, 5
V3135	5899	6.3	JR2563-0	0	Normal	6000-High	0	C	Mut Cond	1500	Yel. 1* Blk. 2	1, 2, 3, 5
V4401	5718	6.3	JR2607-0	10	Normal	3000-High	0	B	Mut Cond	1000	Yel. 1* Blu. 5	None

* To test these tubes, connect the indicated clip lead to the terminal numbered as shown, and depress switch S101 on Test Adapter MX-2012/U in addition to designated pushbutton on tube tester.

b. ADJUSTING EQUIPMENT.—Consult tube tester instruction book for correct procedure of operating the tube tester. Use the chart in this section for the proper control settings and the special notes for adjusting the Test Adapter MX-2012/U.

NOTE

Make all settings and adjustments before inserting subassembly in socket; otherwise, the

tube tester may be damaged.

c. TESTING TUBES.—Plug the subassembly into the proper receptacle on the Test Adapter MX-2012/U. Press the proper pushbutton or pushbuttons as required and note the meter reading on the tube tester. Compare this reading with the minimum reading given in the preceding Tube Test Chart. The reading for indicating a good tube should be greater than the GM Reading given in the Tube Test Chart.

CAUTION

1. Before inserting the subassemblies in the Test Adapter MX-2012/U, scrape all paint, soldering flux or dirt off the contact surfaces.
2. A voltage of 6.3 volts exists across the binding posts E103 and E104 when checking plug-in units. A voltage of 150 volts exists across the binding posts E103 and E104 when pushbutton P5 of the tube tester is pressed during testing of type 5644 tubes. Under certain conditions 150v may exist between one of the unused clip leads and the chassis. Unused leads should be clipped to unconnected terminal board (E105).
3. The units can be inserted properly only one way. The pins on the underside of all plug-in units must be oriented to match the socket contacts of the Test Adapter MX-2012/U before inserting the unit.

Certain plug-in units have resistive circuit elements making it difficult to include a feasible, fully performing test for short-circuited tube elements as done in the tube tester itself. In the event of a suspected short circuit, the circuit resistance will cause the neon lamp to glow at less brilliancy than that caused by an interelement tube short. The following lists group the units in group 1 on which short tests are possible and group 2 which gives a false short indication due to circuit elements.

Group 1		Group 2	
V101	V1103	V151	V1004
V126	V1106	V351	V1007
V201	V1107	V352	V1101
V301	V1201	V501	V1104
V326	V1401	V526	V1105
V401	V1501	V551	V1108
V601	V1502	V552	V1109
V1005	V3001	V701	V1202
V1006	V3035	V801	V1301
V1102	V4401	V901	V1402
		V1001	V3101
		V1002	V3135
		V1003	

d. SPECIAL FUNCTIONS.—The only special function of the Test Adapter MX-2012/U is the testing of type 5644 voltage regulator tubes. These tubes are tested, unmounted, by connecting the wire leads to the two binding posts on the panel after setting the tube tester to the values given in the Tube Test Chart. Reverse leads if meter deflection indicates wrong polarity. A tube tester meter reading greater than 400 indicates a good tube.

e. STOPPING THE EQUIPMENT.—Stop the equipment by switching the POWER ON-OFF switch on the tube tester to the OFF position. To use the tube tester for normal operation, remove the octal plug on the Test Adapter MX-2012/U cable from the tube tester octal socket.

SECTION 5 OPERATOR'S MAINTENANCE

There is no operator's maintenance to be performed on this equipment.

SECTION 6 PREVENTIVE MAINTENANCE

Once each month clean the contacts of the three sub-assembly sockets and, if necessary, reshape the contacts to assure good contact.

SECTION 7

CORRECTIVE MAINTENANCE

FAILURE REPORTS

"Report each failure of the equipment, whether caused by a defective part, wear, improper operation, or an external cause. Use ELECTRONIC FAILURE REPORT form DD787. Each pad of the forms includes full instructions for filling out the forms and forwarding them to the Bureau of Ships. However, the importance of providing complete information cannot be emphasized too much. Be sure that you include the model designation and serial number of the equipment (from the equipment nameplate), the type number of the major unit (from the major unit nameplate), and the type number and reference designation of the particular defective part (from the instruction book). Describe the cause of the failure completely, continuing on the back of the form if necessary. Do not substitute brevity for clarity. And remember—there are two sides to the failure report - - -

"YOUR SIDE"

Every FAILURE REPORT is a boost for you:

1. It shows that you are doing your job.
2. It helps make your job easier.
3. It insures available replacements.
4. It gives you a chance to pass your knowledge to every man on the team.

"BUREAU SIDE"

The Bureau of Ships uses the information to:

1. Evaluate present equipment.
2. Improve future equipment.
3. Order replacements for stock.
4. Prepare field changes.
5. Publish maintenance data.

Always keep a supply of failure report forms on board. You can get them from the nearest Forms and Publications Supply Point."

Because of the simplicity of the equipment, corrective maintenance will consist of continuity tests for locating open circuits, and replacement of parts. Use the schematic diagram, figure 7-3, as a guide for the continuity checks. The location of the items is shown in the photo-

graphs, figures 7-2 and 7-3, and the wiring details are given in the connection diagram, figure 7-4. Construction is simple, requiring no special disassembly or assembly procedures.

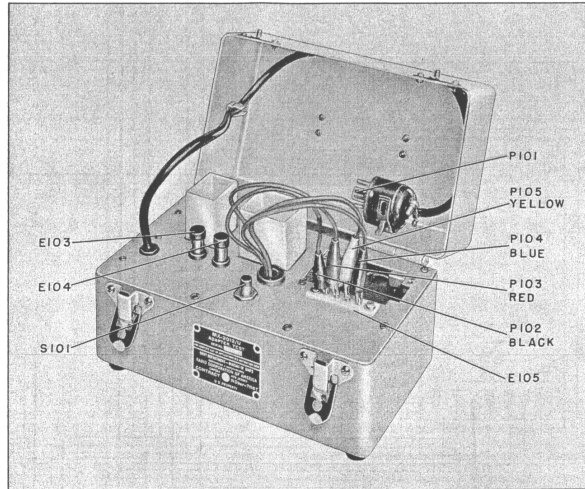


Figure 7-2. Test Adapter MX-2012/U, Panel Components

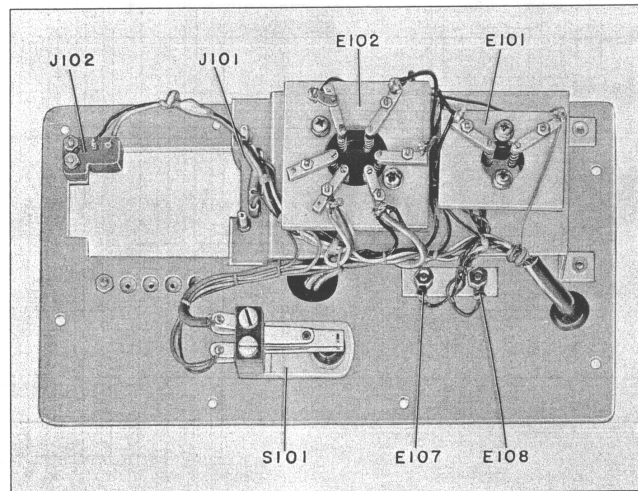


Figure 7-3. Test Adapter MX-2012/U, Interior Components

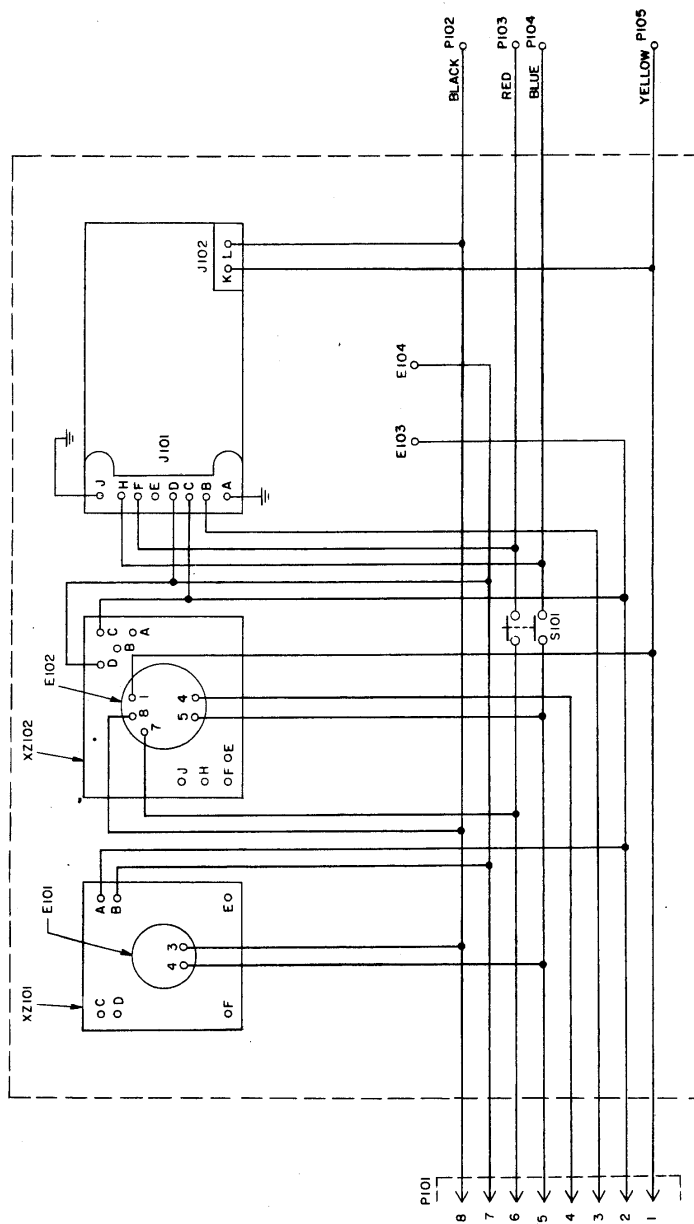
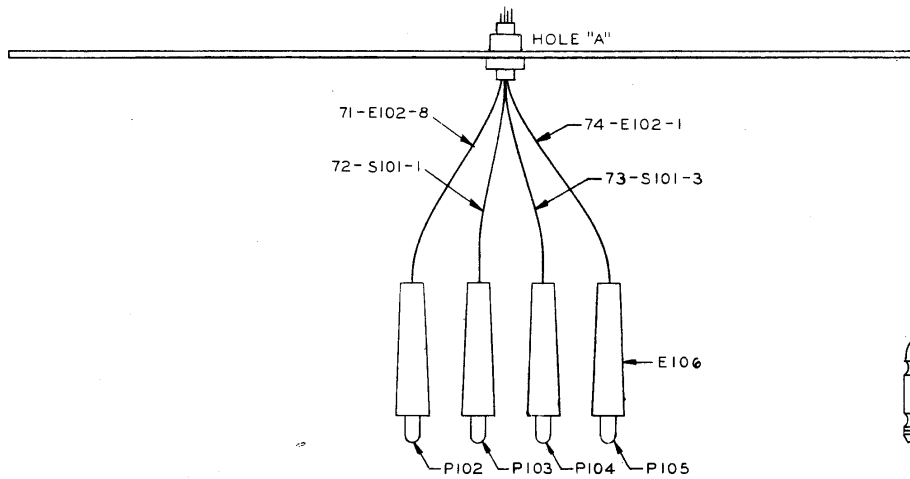
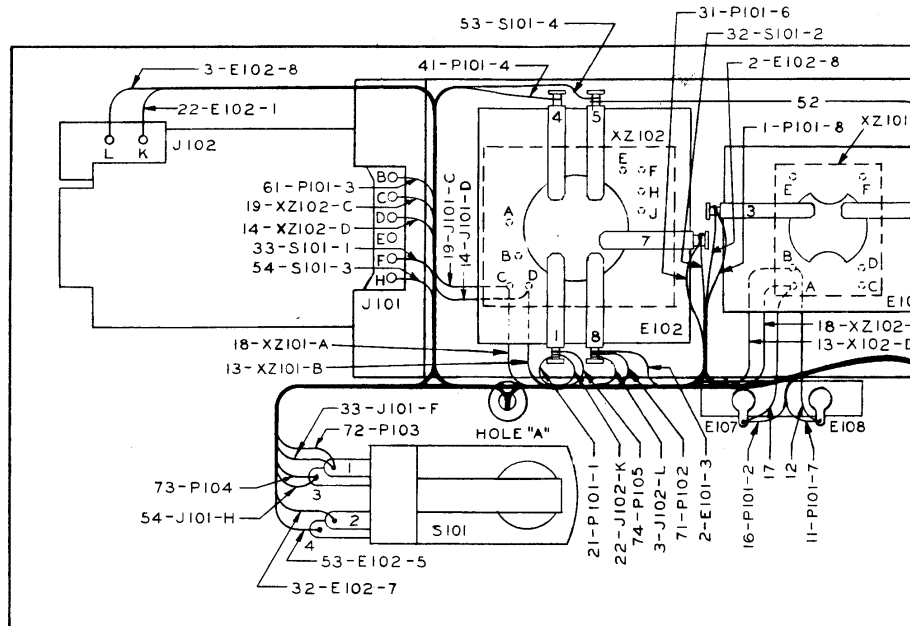
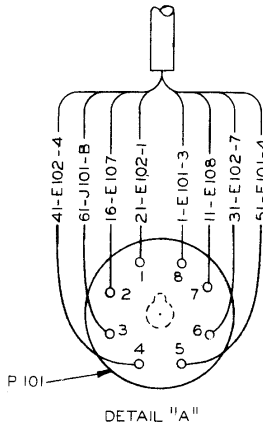
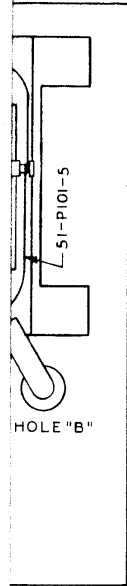


Figure 7-4. Test Adapter MX-2012/U, Schematic Diagram

**MX-2012/U
CORRECTIVE MAINTENANCE**



ORIGINAL



WIRE TABLE		
WIRE NO. INCLUSIVE	DESCRIPTION	
	COLOR	AND CONDUCTOR
1 TO 3	BLK.	7/.010
11 TO 14	BRN.	↑
16 TO 19	BRN./BLK. TR.	
21 - 22	YEL.	
31 TO 33	RED	
41	GRN.	
51 TO 54	BLUE	↓
61	WHT	7/.010
71	BLK	26/.005
72	RED	
73	BLUE	↑
74	YEL	26/.005

NOTES

- 1- CRIMP & SOLDER ALL ELECTRICAL CONNECTIONS.
- 2- CABLE & LACE WIRES AS SHOWN USING LACING CORD
- 3- NOS. IN WIRES REFER TO WIRE TABLE, CODING AT ENDS INDICATE WIRE NO. & DESTINATION OF WIRE, THUS: 21-PI01-1, 21= WIRE NO., PI01= ITEM PI01 & 1- TERMINAL NO.1 OF PI01 AS INDICATED ON THIS DWG.

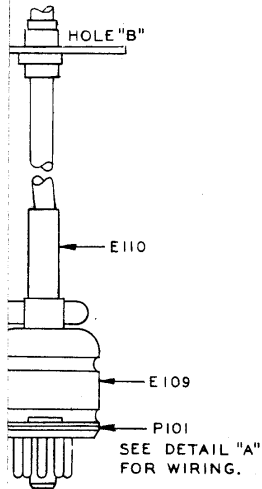


Figure 7-5. Test Adapter MX-2012/U, Connection Diagram

SECTION 8 PARTS LISTS

TABLE 8-1. WEIGHTS AND DIMENSIONS OF SPARE PARTS BOXES
Not Applicable

TABLE 8-2. SHIPPING WEIGHTS AND DIMENSIONS OF SPARE PARTS BOXES
Not Applicable

NOTE

1. Low Failure item — if required requisition from ESO referencing NavShips 900,180A.

TABLE 8-3. MAINTENANCE PARTS LIST

REF.	SYMBOL NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
E-101		ADAPTER, TEST: for use w/ TV-3/U Tube Tester; connects to item to be tested by integral connector; one 2-position switch; no operating power requirements; aluminum case, enamel finish; 8 in. lg by 5 in. wide by 5.62 in. high overall; RCA descriptive spec DS-105-585-28; RCA part/dwg 755956. CONTACT ASSEMBLY, ELECTRICAL: adapter test; 2 contact assembly, RCA part/dwg 8921456-501; contacts spring loaded; 1 ²⁹ / ₃₂ in. lg by 1 ¹ / ₄ in. wide by ³ / ₈ in. high overall; 2 solder lug type terminal; two ¹ / ₈ in. dia mounting holes on 0.812 in. mounting center; RCA part/dwg 482147-501.	Provides Direct Connection for Tube Contacts in IF and AF Plug-in Units
E-102		CONTACT ASSEMBLY, ELECTRICAL: adapter test; 5 contact assembly, RCA part/dwg 8921456-501; contacts spring loaded; 2 ¹ / ₁₆ in. lg by 1 ²⁷ / ₃₂ in. wide by ³ / ₈ in. high overall; 5 solder lug type terminal; two ¹ / ₈ in. dia mounting holes, 1 ¹ / ₃₂ in. C to C; RCA part/dwg 482180-501.	Provides Direct Connection for Tube Contacts in IF and AF Plug-in Units
E-103		POST, BINDING: plastic cap, w/spring action; cap not removable; brass, nickel plated base; ³ / ₄ in. overall height of post above mounting surface; ¹ / ₂ in. dia overall; w/mounting stud; ¹ / ₂ in. below mounting surface; 6-32 thread; hole type conductor attachment; ¹ / ₈ in. dia max wire opening; spec AAF-71-854-A; Hugh H. Eby, Inc. Catalog no. 8745; RCA part/dwg 8899403-1.	Provides Direct Connection for Type 5644 Tube Lead
E-104		Same as E-103.	Provides Direct Connection for Type 5644 Tube Lead
E-105	1	TERMINAL BOARD: laminated glass cloth; incl 4 stud type terminal; 1.94 in. lg by 0.50 in. wide by 0.06 in. thick overall; two 0.147 in. dia holes spaced 1.562 in. C to C; RCA part/dwg 8921467-501.	Supports Test Clips
E-106		CABLE NIPPLE: flexible plastic; straight; designed for ¹ / ₈ in. max. OD cable; 1 ¹ / ₈ in. lg overall by 0.312 in. max ID; preformed to fit clip; heat resistant; Mueller Electric Co. Catalog no. 32; RCA part/dwg 8921589-1.	Insulates Test Clips
E-107		TERMINAL, LUG: round tongue end; brass; tinned finish; no. 11 AWG solid wire accommodated; ⁵ / ₆₄ in. lg by 0.313 in. wide by 0.018 in. thick overall; hole style wire connection; 0.140 in. dia mounting hole, 0.719 in. from center to end of tongue; Shakeproof, Inc. Part/dwg no. 2523-6-00; RCA part/dwg 67592-8.	Wiring Connection to E-103
E-108		Same as E-107.	Wiring Connection to E-104

TABLE 8-3. MAINTENANCE PARTS LIST (Continued)

REF. SYMBOL	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
E-109		SHIELD, ELECTRICAL CONNECTOR: metallic material, resistant to corrosion; cylindrical; $\frac{3}{8}$ in. dia max cable opening; 1.375 in. lg approx by 1.091 in. dia overall; clamp mounted; American Phenolic Corp. Dwg no. 3-24; RCA part/dwg 8921595-1.	Protects Wiring Connection to P-101
E-110	1	BUSHING, FLANGED: rubber; 0.220 in. min ID by 0.302 in. max OD by $2\frac{3}{4}$ in. max lg overall; 0.505 in. max OD flange by $\frac{1}{16}$ in. max wide flange; Cannon Electric Co. Part no. 18220-4; RCA part/dwg 8869437-2.	Decreases ID of P-101 Clamp
H-101	1	INSULATOR, BUSHING: plastic; general purpose phenolic; black; irregular counterbore, flatted shank; $\frac{3}{16}$ in. overall dia; $\frac{3}{64}$ in. lgth of shank; $1\frac{1}{32}$ in. overall dia of shank; 0.385 in. dia hole; 0.300 in. across flats of shank; $1\frac{1}{64}$ in. high overall; spec AAF 71-854 amendment 2; Hugh H. Eby, Inc. Catalog no. 6146; RCA part/dwg 8899403-2.	Insulates E-103 and E-104 from Chassis
J-101		CONNECTOR, RECEPTACLE: 6 identical female contacts (style 10); 5 amps, 1000 v DC working, 1000 v rms; 2 connector mating ends; all connector mating ends are identical; plastic; straight shape; 1.156 in. lg by 0.593 in. wide by 0.375 in. high overall; polarized; non-locking type; no. 22 AWG wire accommodated; 2 mounting studs no. 4-40- $\frac{3}{8}$ in. lg, 1.156 in. mounting centers; spec JAN-P-14 Type MTS-E-4; RCA part/dwg 8834708-1.	Receptacle for RF Plug-in Units
J-102		CONNECTOR, RECEPTACLE, ELECTRICAL: 2 female contacts (style 10); 5 amp, 1000 v DC working, 1000 v rms; plastic; straight shape; $1\frac{3}{16}$ in. lg by $1\frac{1}{32}$ in. wide by 0.343 in. high overall; polarized; non-locking type; no. 22 AWG wire accommodated; two 0.102 in. dia mounting holes on 0.218 in. mounting centers; spec JAN-P-14 Type MTS-E-4; RCA part/dwg 8834712-1.	Receptacle for RF Plug-in Units
P-101		CONNECTOR, PLUG, ELECTRICAL: 8 male contacts (style 10); 1 connector mating end; plastic; straight shape; 1 in. lg by $1\frac{1}{4}$ in. dia overall; w/o enclosing shell; polarized; non-locking type; $\frac{3}{8}$ in. max cable accommodated; American Phenolic Corp. 86CP8T (302); RCA part/dwg 8838922-8.	Wiring Connection to TV-3/U Tube Tester
P-102		CLIP, ELECTRICAL: copper; 1.062 in. lg by 0.312 in. wide by 0.229 in. high; 1 solder lug type terminal; 0.187 in. max jaw opening when fully spread; $\frac{3}{32}$ in. dia mating terminal; Mueller Electric Co. Catalog no. 30-C; RCA part/dwg 8921445-1.	Wiring Connection to Tube in RF Plug-in Units
P-103		Same as P-102.	Wiring Connection to Tube in RF Plug-in Units
P-104		Same as P-102.	Wiring Connection to Tube in RF Plug-in Units
P-105		Same as P-102.	Wiring Connection to Tube in RF Plug-in Units
S-101		SWITCH, PUSH: contact arrangement 1A; SPST; 2 units; 120 v AC; 3 amps for nominal load; momentary action, normally open; metal body; $1\frac{1}{16}$ in. lg by $\frac{3}{4}$ in. wide by 0.76 in. high overall; external actuator, one piece shaft and button, $2\frac{5}{16}$ in. lg; 4 solder lug type terminal; mounting bushing $\frac{3}{16}$ -32 thread, $\frac{3}{8}$ in. lg from mounting surface; supplied w/red button; Switchcraft, Inc. Type FF Part no. 1004; RCA part/dwg 8923109-1.	Makes Circuit to P-103 and P-104
XZ-101		CONNECTOR, RECEPTACLE: 6 female contacts (style 7); 5 amps, 1000 v rms; 1 connector mating end; plastic; straight shape; 1 in. lg by $\frac{3}{4}$ in. wide by 0.286 in. high overall; polarized; non-locking type; two 0.128 in. dia mounting holes, 0.812 in. mounting centers; spec JAN-P-14; RCA part/dwg 744591-2.	Receptacle for IF and AF Plug-in Units

TABLE 8-3. MAINTENANCE PARTS LIST (Continued)

REF. SYMBOL	NOTES	NAME AND DESCRIPTION	LOCATING FUNCTION
XZ-102		CONNECTOR, RECEPTACLE: 8 female contacts (style 10); 5 amps, 1000 v DC working, 1000 v rms; 1 connector mating end; plastic; straight shape; 1.250 in. lg by 1 in. wide by 0.286 in. high overall; polarized; non-locking type; no. 22 AWG wire accommodated; two 0.128 in. dia mounting holes, 1 $\frac{1}{32}$ in. C to C; spec JAN-P-14; RCA part/dwg 744593-2.	Receptacle for IF and AF Plug-in Units

TABLE 8-4. STOCK NUMBER IDENTIFICATION

REF. DESIG.	STOCK NUMBER			
	FEDERAL	STANDARD NAVY	SIG- NAL CORPS	AIR FORCE
MX-2012/U	F6625-506-4359	F16-A022081-1248		
E-101	N6625-049-7156	N17-C083521-3259		
E-102	N6625-500-5197	N17-C083521-3319		
E-103	N5940-173-8407	N17-P069032-2921		
E-106	*N5940-340-5203	*N17-C049523-2672		
E-107	N5940-155-7690	N17-T026683-4685		
E-109	*N5935-259-1008	*N17-C201025-0844		
J-101	*N5935-257-9655	*N17-C073257-3744		
J-102	*N5935-283-3378	*N17-C073126-3839		
P-101	*N5935-255-0977	*N17-C071541-2601		
P-102	*N5940-327-5337	*N17-C802500-0101		
S-101	*N5930-636-4615	*N17-S057664-6771		
XZ-101	*N5935-280-2941	*N17-C073224-1698		
XZ-102	*N5935-259-7122	*N17-C073255-1514		

* For replacement use.

TABLE 8-5. CROSS REFERENCE PARTS LIST

FEDERAL STOCK NUMBER	KEY SYMBOL
F6625-506-4359	MX-2012/U
*N5930-636-4615	S-101
*N5935-255-0977	P-101
*N5935-257-9655	J-101
*N5935-259-1008	E-109
*N5935-259-7122	XZ-102
*N5935-280-2941	XZ-101
*N5935-283-3378	J-102
N5940-155-7690	E-107
N5940-173-8407	E-103
*N5940-327-5337	P-102
*N5940-340-5203	E-106
N6625-049-7156	E-101
N6625-500-5197	E-102

* For replacement use.

TABLE 8-6. LIST OF MANUFACTURERS

ABBREVIATION	NAME	ADDRESS
AMP	American Phenolic Corp.	1830 S. 54th Street Chicago 50, Ill.
	Cannon Electric Co.	6th and Cooper Streets Camden, N. J.
EBY	Hugh H. Eby, Inc.	18 W. Chelton Avenue Philadelphia, Pa.
	Mueller Electric Co.	1583 E. 31st Street Cleveland 4, Ohio
SH	Shakeproof, Inc.	405 Lexington Avenue New York, N. Y.
	Switchcraft, Inc.	1328-30 N. Halstead St. Chicago 22, Ill.