12 February 1963 — RADAR TEST HARNESS AN/APM-124

Cog Service: USN FSN: — Functional Class: 12.12.6

USA | USN | USAF

TYPE CLASS: Used by

MANUFACTURER'S NAME/CODE NUMBER: Jetronic Industries, Inc., (91820).

(No Illustration Available)

FUNCTIONAL DESCRIPTION:

Radar Test Harness AN/APM-124 provides interconnecting cabling and power distribution for Coder Group AN/APA-89 during shop test.

No field changes in effect at time of preparation (28 January 1963).

TECHNICAL CHARACTERISTICS: None.

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Radar Test Harness AN/APM-124 includes:			
1	Mounting, Receiver MT-2218/APM-124		2 x 10-9/16 x 12-1/6	
1	Cable Assy C-2374-501			
1	Cable Assy C-2386-501			
1	Cable Assy, Power, Electrical C-2375-501			
1	Cable Assy C-2387-502			
1	Cable Assy C-2387-503			
1	Mounting, Control MT-2217/APM-124			
1	Distribution Box J-1095/APM-124		3-1/8 x 4-13/16 x 8-7/16	

REFERENCE DATA AND LITERATURE:

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: None used.

CRYSTALS: None used.

SEMI-CONDUCTORS: None used.

AN/APM-124 RADAR TEST HARNESS

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)

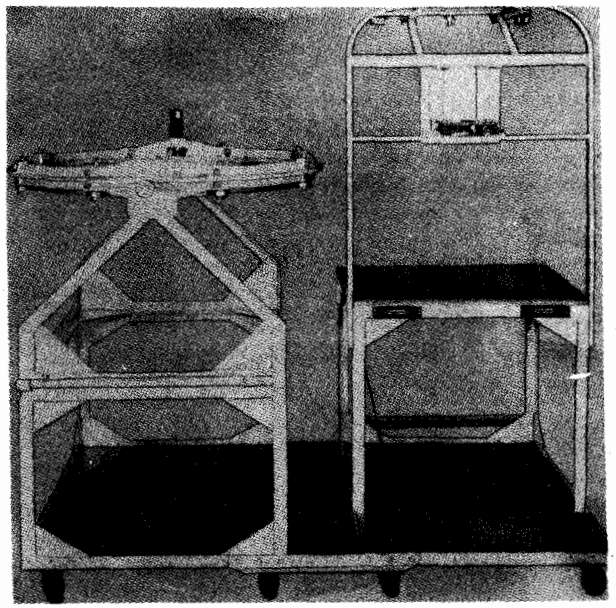
PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG:

DESIGN COG: USN, BuWeps

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Jetronic Industries, Inc.	Philadelphia, Pa.	N-383-(17)-54153A	

RADAR TEST ASSEMBLY



Radar Test Assembly AN/APM-60

FUNCTIONAL DESCRIPTION

The AN/APM-60 is designed to provide a convenient mounting for Radar Sets AN/APS-31, 32, 33 or 34 during maintenance in the shop. The antenna mounting section is adjustable in the pitch and roll planes, for checking tilt stabilization on all four of the present AN/APS-30 series. This section is also adjustable in the azimuth plane, and incorporates a built-in autosyn for checking azimuth stabilization on the AN/APS-33 and 34.

The AN/APM-60 may be adapted for use with other radios such as Radio Set AN/APS-4 or Radar Equipment AN/APS-15.

Azimuth Stabilization Autosyn type Pioneer AY-43-D provided on antenna mounting section.

No field changes in effect at time of preparation (5 June 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

Four AC power outlets for test equipment are provided along the sides of the table.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

NAVAER 08-5S-78: Technical Manual of Test Equipment for Airborne Electrical and Electronic Equipment.

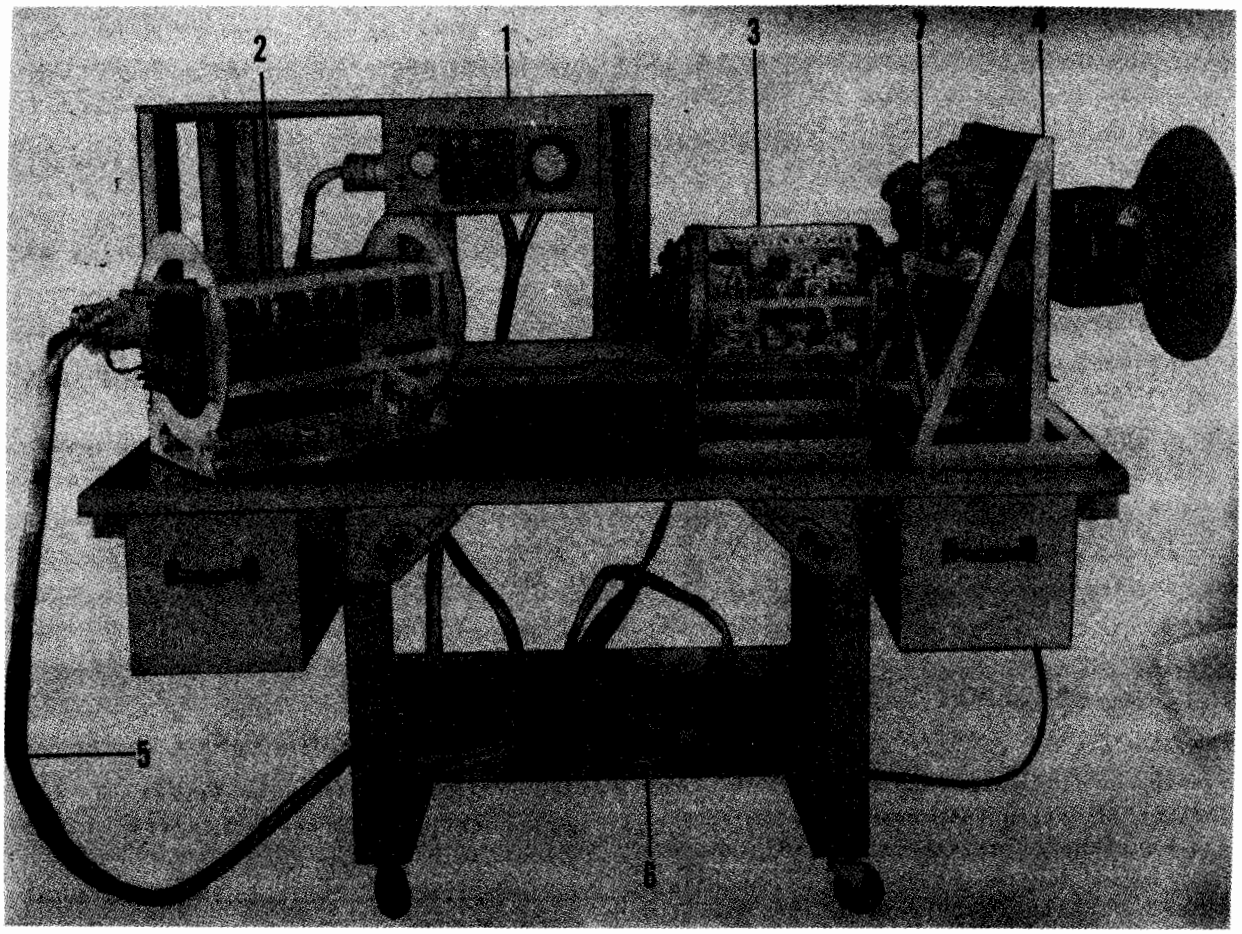
TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUAER
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Synchronizer and Modulator Table.		
1	Indicator and Control Box Mounting Frame.		
1	Cable Support.		
1	Table Connecting Link.		
1	Connecting Link Adaptor Angle.		
1	Lower half of Antenna Mounting Frame		
1	Upper half of Antenna Mounting Frame.		
1	APS-31 or 32 Antenna Mounting Ring.		
2	Roll Elevation Lift.		
1	Set of 27 Inter-Unit Connecting Cables.		

September 1956

RADAR TEST ASSEMBLY AN/APM-61



Radar Test Assembly AN/APM-61

FUNCTIONAL DESCRIPTION

The AN/APM-61 is a harness equipment used to bench test Radar Set AN/APS-19. It can be used with a complete AN/APS-19 or any individual unit thereof.

No field changes in effect at time of preparation (6 June 1956).

MANUFACTURER'S OR CONTRACTOR'S DATA

Sperry Gyroscope Co. Inc., Great Neck, N.Y.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

NAVAER 08-5S-78: Technical Manual of Test Equipment for Airborne Electrical and Electronic Equipment.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUAER
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	

AN/APM-61 RADAR TEST ASSEMBLY

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Test Panel Assembly.		
1	Power-Synchronizer Rack Assembly.		
1	Transmitter-Receiver Rack Assembly.		
1	Antenna Rack Assembly.		
1	No. 1 Cable Assembly.		
1	No. 2 Cable Assembly.		
1	Flexible Waveguide Assembly.		

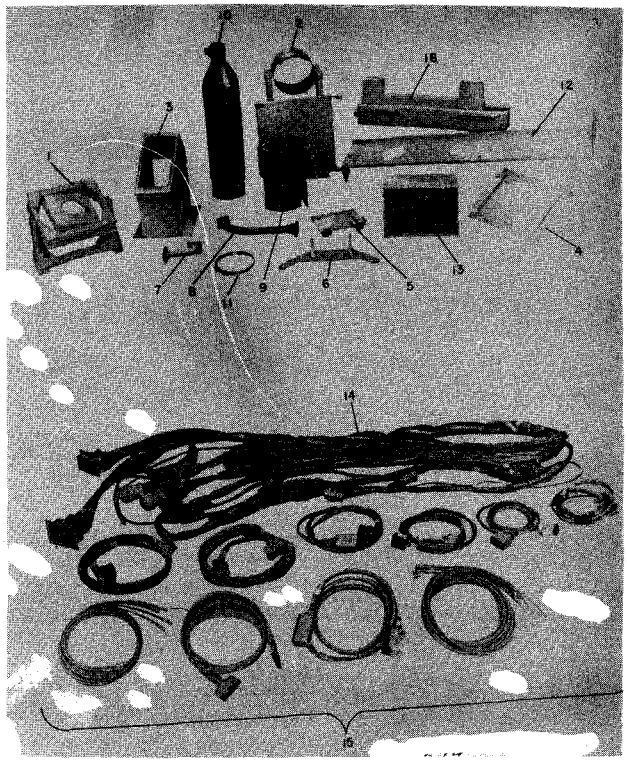
4 June 1962 | TEST BENCH CABLE SET AN/APM-87

Cog Service: | FSN: | Functional Class:

USA | USN | USAF

TYPE CLASS:

MANUFACTURER'S NAME/CODE NUMBER: Westinghouse Electric Corporation.



Test Bench Cable Set AN/APM-87

FUNCTIONAL DESCRIPTION:

The AN/APM-87 is designed to include mounting racks, an electrical test panel, cables, and other support equipment necessary for servicing various components of Armament Control System Aero 13F in electronic shops either aboard ship or at shore stations. The electrical test panel and several of the servicing stands can also be used with other aircraft equipments similar to the Aero 13F.

No field changes in effect at time of preparation (3 April 1961).

TECHNICAL CHARACTERISTICS:

OPERATING PDWER RQMT: 115 v ac, 400 cps, 3 ph, 26 v dc.

RELATION TO OTHER EQUIPMENT:

The AN/APM-87 is designed to be used with but not part of Radar Set AN/APQ-50.

AN/APM-87 TEST BENCH CABLE SET

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Bench Cable Set AN/APM-87 consists of:			
1	Mounting MT-1769/APM-87			
1	Mounting MT-1768/APM-87			
1	Mounting MT-1766/APM-87			
1	Mounting MT-1764/APM-87			
1	Mounting MT-1763/APM-87			
1	Mounting MT-1765/APM-87			
1	Waveguide Ass'y CG-1515/APM-87			
1	Waveguide Ass'y CG-1516/APM-87			
1	Centrifugal Fan HD-270/APM-87			
1	Air Duct Hose HD-269/APM-87			
1	Mounting MT-1767/APM-87			
1	Interconnecting Box J-791/APM-87		8-1/4 x 9 x 12	
1	Wiring Harness CX-3920/APM-87			
1	Cable Ass'y CG-1517/U			
1	Cable Ass'y CX-3927/U			
1	Cable Ass'y CX-3926/U			
1	Cable Ass'y CX-3925/U			
1	Cable Ass'y CX-3921/U			
1	Cable Ass'y CX-3922/U			
1	Cable Ass'y CX-3923/U			
1	Cable Ass'y CX-3924/U			
8	Cable Ass'y CG-1519/U			
4	Cable Ass'y CG-1518/U			
1	Mounting MT-1756/APM-87		2-5/8 x 7-1/4 x 23-3/8	

REFERENCE DATA AND LITERATURE:

NAVAER 16-45-571: Technical Manual for Test Bench Cable Set AN/APM-87

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: None used.

CRYSTALS: None used.

SEMI-CONDUCTORS: None Used.

TEST BENCH CABLE SET AN/APM-87

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)

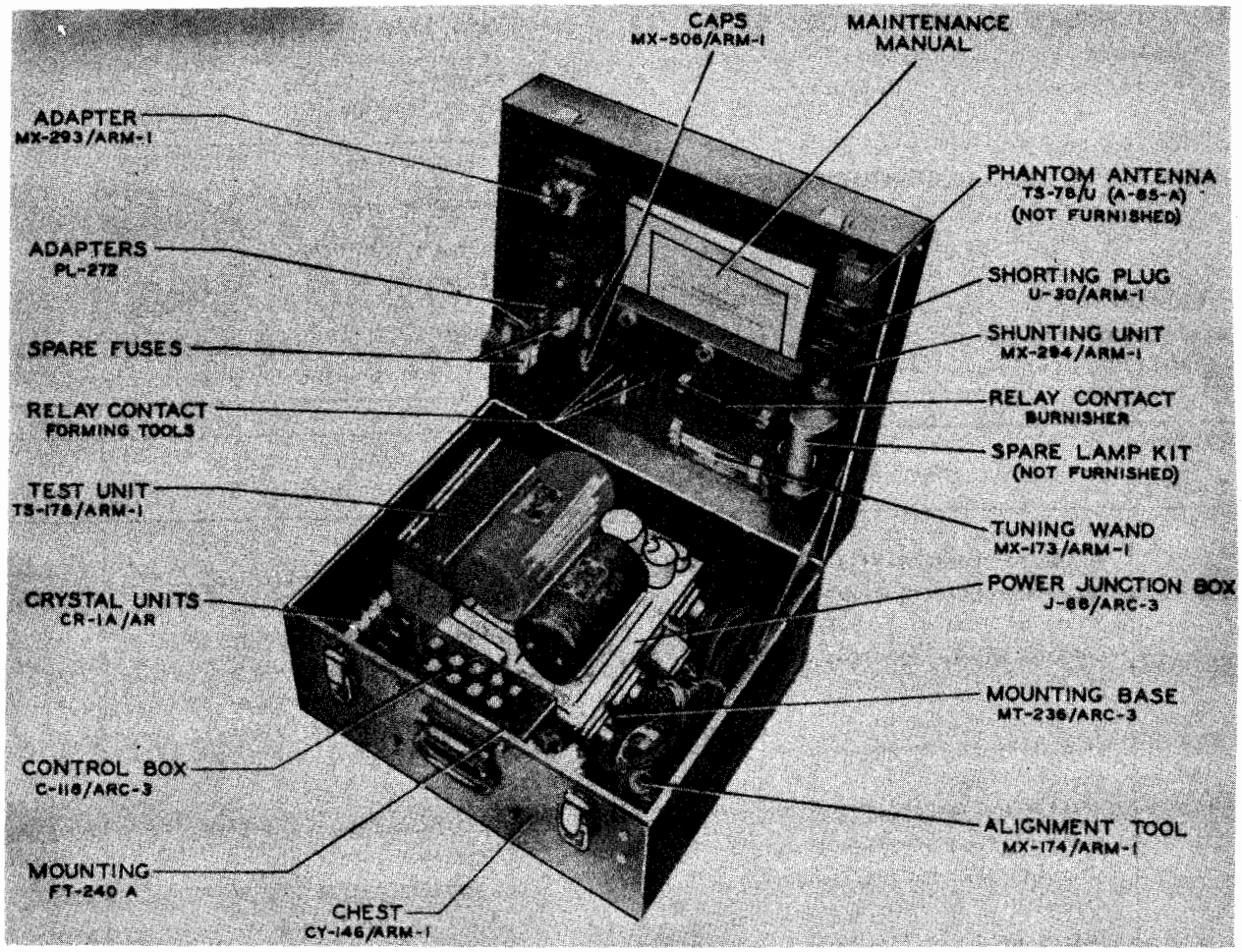
PROCUREMENT DATA

PROCURING SERVICE
SPEC &/OR DWG:

DESIGN COG: BuAer

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Westinghouse Electric Corporation	Baltimore, Maryland	NOas-54-460	

RADIO TEST SET AN/ARM-1



Radio Test Set AN/ARM-1

FUNCTIONAL DESCRIPTION

The AN/ARM-1 is designed for use in the alignment, testing, and maintenance of Radio Set AN/ARC-3. Crystal units are supplied that permits the AN/ARC-3 to be tested throughout the 100 to 156 megacycle frequency range. It is transportable by air or vehicle but is not designed for operation during flight.

No field changes in effect at time of preparation (8 September 1958).

EQUIPMENT REQUIRED BUT NOT SUPPLIED

(1) Phantom Transmitter Antenna, (1) Signal Generator I-96-A, (1) Output Meter.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 100 to 156 mc.
TEST UNIT METER
SCALE: 0 to 100 in 50 scale divisions.
SENSITIVITY: 0 to 50 ua DC D'Arsonval movement.
ACCURACY: ±2%.
DYNAMOTOR OUTPUT
DY-21/ARC-3: 410 v DC intermittent full load, 325 ma.
DY-22/ARC-3: 210 v DC continuous full load, 125 ma.
POWER REQUIREMENTS: 28 ±0.5 v DC.

April 1959

Test-Miscellaneous Test

AN/ARM-1 RADIO TEST SET

MANUFACTURER'S OR CONTRACTOR'S DATA

Colonial Radio Corp., Buffalo, N.Y.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes used.

(6) CR-1A/AR
Total Crystals: (6)

REFERENCE DATA AND LITERATURE

AN16-30ARM1-2: Technical Manual for Radio Test Set AN/ARM-1.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	USAF
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	

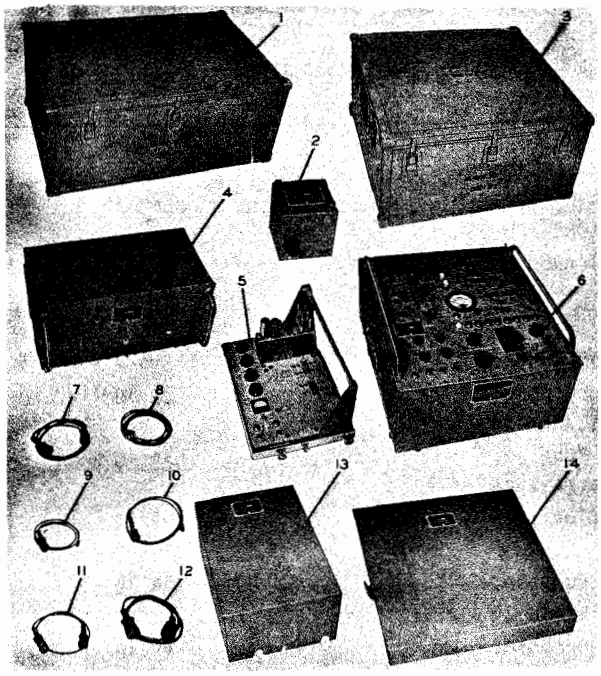
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Power Junction Box J-68/ARC-3	5-3/16 X 8-3/8 X 10-11/32	6.7
1	Dynamotor Unit DY-21/ARC-3	3-7/16 X 4 X 7-1/2	8.4
1	Dynamotor Unit DY-22/ARC-3	3-7/16 X 4 X 6-17/32	4.8
1	Mounting Base MT-236/ARC-3	11/16 X 8-7/8 X 10-13/16	0.75
1	Control Box C-118/ARC-3	2-5/8 X 5-7/8 X 6-1/8	1.75
1	Mounting FT-240-A	5/16 X 5-1/2 X 6-3/8	0.21
1	Chest CY-146/ARM-1	9-7/16 X 15-1/4 X 17-1/2	26.0
1	Test Unit TS-178/ARM-1	3-1/8 X 4-1/8 X 7-1/16	2.8
2	Adapter PL-272	0.992 dia X 1-7/8	0.115
1	Adapter MX-293/ARM-1	21/64 X 1-3/16 X 1-5/16	0.083
1	Shorting Plug U-30/ARM-1	1-1/4 X 1-5/16 dia	0.035
1	Shunting Unit MX-294/ARM-1	0.180 X 1-1/16 X 1-3/8	0.03
1	Alignment Tool MX-174/ARM-1	1-1/16 dia X 6-11/16	0.122
1	Tuning Wand MX-173/ARM-1	13/63 X 1-3/16 X 6	0.03
1	Set of Relay Maintenance Tools		0.11
1	Cord CX-214/ARM-1	12 lg	0.5
1	Cord CX-215/ARM-1	60 lg	0.75
1	Cord CX-216A/ARM-1	60 lg	0.8
1	Cord CX-217/ARM-1	10 lg	0.5
6	Crystal Unit CR-1A/AR	7/16 X 1-1/8 X 1-3/16	0.07
2	Cap MX-506/ARM-1		0.02
2	Spare Fuse Kit		

USA USN USAF

TYPE CLASS: Used by

MANUFACTURER'S NAME/CODE NUMBER: Collins Radio Company, (13499).



1. Case CY-2234/ARM-26
2. Drive, Tuning MX-2258/ARM-26
3. Case CY-2242/ARM-26
4. Power Supply PP-1814/ARM-26
5. Test Set TS-1081/ARM-26
6. Test Set TS-1082/ARM-26
7. Cable Assembly CX-4211/ARM-26
8. Cable Assembly CX-4212/ARM-26
9. Cable Assembly CX-4214/ARM-26
10. Cable Assembly CX-4215/ARM-26
11. Cable Assembly CX-4210/ARM-26
12. Cable Assembly CX-4216/ARM-26
13. Cover CW-442/ARM-26
14. Cover CW-443/ARM-26

Radio Test Set AN/ARM-26

FUNCTIONAL DESCRIPTION:

Radio Test Set AN/ARM-26 is used to test and align the modules and components of Radio Set AN/ARC-38. The test set can be used to isolate trouble detected during tests on the radio set using Test Bench Cable Set AN/ARM-29. In addition to the regular equipment supplied with Radio Set AN/ARC-38, the test set will also test Radio Set Control C-1612/ARC-38 and the 144-crystal oscillator which is used with this control.

No field changes in effect at time of preparation (30 March 1962).

TECHNICAL CHARACTERISTICS:

POWER REQUIREMENTS: 115 v, 50 to 420 cyc, single ph, 3.5 amp.

AN/ARM-26 RADIO TEST SET

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Radio Receiver-Transmitter RT-311/ARC-38; (1) Microphone ANB-M-1; (1) Electronic Multimeter TS-505/U; (1) Headset H-1/AR; (1) Frequency Meter AN/USM-26.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Radio Test Set AN/ARM-26 includes:			
1	Test Set, Electronic Circuit Plug-in Unit TS-1082/ARM-26		12-1/4 x 19 x 21	47.93
1	Power Supply PP-1814/ARM-26		8-3/4 x 12 x 17-3/4	50.87
1	Test Set, Oscillator TS-1081/ARM-26		8-11/16 x 10-11/16 x 16-3/8	9.50
1	Drive, Tuning MX-2258/ARM-26		4-5/8 x 5-3/4 x 6-3/16	2.75
1	Cable Assy, Special Purpose, Electrical CX-4210/ARM-26		36 lg	1.18
1	Cable Assy, Special Purpose, Electrical CX-4211/ARM-26		36 lg	0.50
1	Cable Assy, Power, Electrical CX-4212/ARM-26		96 lg	0.68
1	Cable Assy, Special Purpose, Electrical CX-4214/ARM-26		54 lg	0.43
1	Cable Assy, Special Purpose, Electrical CX-4215/ARM-26		60 lg	0.31
1	Cable Assy, Special Purpose, Electrical CX-4216/ARM-26		66 lg	1.56
1	Cover, Test Set CW-443/ARM-26		2-11/16 x 18-11/16 x 21-3/16	4.12
1	Cover, Oscillator CW-442/ARM-26		8-11/16 x 10-13/16 x 15-11/16	4.93
1	Case, Test Set CY-2242/ARM-26		14-25/32 x 25-7/8 x 27-3/16	48.56
1	Case, Test Set CY-2234/ARM-26		14-11/16 x 21-5/8 x 33-7/16	46.06

REFERENCE DATA AND LITERATURE:

NAVWEPS 16-30ARM26-501: Handbook of Operating Instructions for Radio Test Set AN/ARM-26.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (2) 0A2WA (1) 12AT7WA (2) 5654/6AK5W (2) 5686 (1) 5726/6AL5W
(2) 5749/6BA6W (2) 5751 (1) 5763 (3) 5814A (1) 6080WA

CRYSTALS: (1) 2000.0 kc (1) 3750.0 kc (1) 3500.0 kc (1) 7250.0 kc (1) 14,250.0 kc
(1) 3093.0 kc (1) 12,500.0 kc (1) 1750.0 kc

SEMI-CONDUCTORS: (12) 1N198 (1) 1N137A (2) CK776 (9) 353 1546 00

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)

PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG: MIL-T-19250(AER)

DESIGN COG: USN, BuWeps

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Collins Radio Company	Cedar Rapids, Iowa	NOas 57-438	

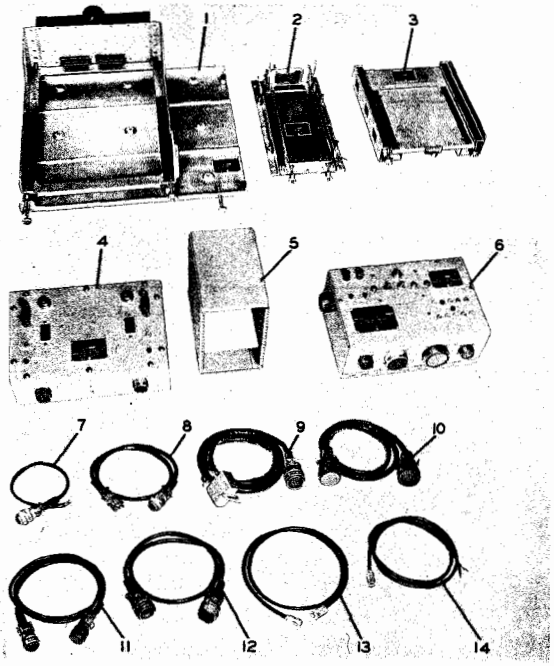
20 June 1962 TEST BENCH CABLE SET AN/ARM-29

Cog Service: USN FSN: Functional Class: 12.12.6

USA	USN	USAF

TYPE CLASS: Used by

MANUFACTURER'S NAME/CODE NUMBER: Collins Radio Company, (13499).



1 Mounting MT-1895/ARM-29
2 Mounting MT-1894/ARM-29
3 Mounting MT-1896/ARM-29
4 Distribution Box J-871/ARM-29
5 Mounting MT-1697/ARM-29
6 Interconnecting Box J-872/ARM-29
7 Cable Assembly CX-4213/ARM-29
8 Cable Assembly CX-4221/ARM-29
9 Cable Assembly CX-4217/ARM-29
10 Cable Assembly CX-4218/ARM-29
11 Cable Assembly CX-4219/ARM-29
12 Cable Assembly CX-4220/ARM-29
13 Cable Assembly CG-1616/ARM-29
14 Cable Assembly CG-1617/ARM-29

Test Bench Cable Set AN/ARM-29

FUNCTIONAL DESCRIPTION:

Test Bench Cable Set AN/ARM-29 provides a means for testing and trouble shooting the components of Radio Set AN/ARC-38. The Test Bench Cable Set has the mounts and the cables necessary for operating the radio set on the test bench. It is not necessary to remove the modules from the units of the radio set to make tests.

No field changes in effect at time of preparation (27 March 1962).

TECHNICAL CHARACTERISTICS: None.

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Radio Receiver-Transmitter RT-311/ARC-38; (1) Antenna Coupler CU-351/AR or CU-509/AR;

AN/ARM-29 TEST BENCH CABLE SET

(1) Dynamotor Power Supply DY-118/ARC-38; (1) Radio Set Control C-1398/ARC-38; (1) Radio Set Control C-1399/ARC-38; (1) Test Bench PSN3; (1) Headset H-1/AR; (1) Microphone ANB-M-1; (1) Power Source Connector A-47C; (1) RF Wattmeter CAWY-67 or CAWY-82; (1) DC Ammeter CV-301; (1) AC Ammeter IS-76.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Bench Cable Set AN/ARM-29 includes:			
1	Mounting MT-1895/ARM-29		9-1/2 x 23-5/8 x 26	19.50
1	Mounting MT-1894/ARM-29		5-3/4 x 8-3/4 x 16-3/4	5
1	Mounting MT-1896/ARM-29		2-7/8 x 12-1/2 x 16-1/16	3.81
1	Distribution Box J-871/ARM-29		5-1/4 x 9-13/32 x 13	4.87
1	Mounting MT-1897/ARM-29		5-3/4 x 8-3/8 x 9-13/32	1
1	Interconnecting Box J-872/ARM-29		6 x 9-3/32 x 13-15/32	6.87
1	Cable Assy, Power, Electrical CX-4213/ARM-29		24 lg	0.43
1	Cable Assy, Special Purpose, Electrical CX-4221/ARM-29		48 lg	1
1	Cable Assy, Special Purpose, Electrical CX-4217/ARM-29		96 lg	3.06
1	Cable Assy, Special Purpose, Electrical CX-4218/ARM-29		72 lg	3
1	Cable Assy, Special Purpose, Electrical CX-4219/ARM-29		72 lg	1
1	Cable Assy, Special Purpose, Electrical CX-4220/ARM-29		48 lg	1.43
1	Cable Assy, R.F. CG-1616/ARM-29		60 lg	0.68
1	Cable Assy, R.F. CG-1617/ARM-29		60 lg	0.68

REFERENCE DATA AND LITERATURE:

NAVWEPS 16-30ARM29-501: Handbook of Operating Instructions for Test Bench Cable Set AN/ARM-29.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: None used.

CRYSTALS: None used.

SEMI-CONDUCTORS: None used.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	16	113

PROCUREMENT DATA

PROCURING SERVICE: USN
DESIGN COG: USN, BuWeps
SPEC &/OR DWG: MIL-T-19251A

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Collins Radio Company	Cedar Rapids, Iowa	NOas-57-438-r	$1,730.41

31 May 1962 — TEST SET, INDICATOR AN/ARM-31

Cog Service:	FSN:	Functional Class:
	USA USN USAF	

TYPE CLASS:

MANUFACTURER'S NAME/CODE NUMBER: Collins Radio Company.

(No Illustration Available)

FUNCTIONAL DESCRIPTION:

The AN/ARM-31 is designed to provide input power control, interconnecting cables, channel selectors, precision and aircraft indicators, and metering facilities for use in testing and adjusting the instrumentation (indicating) functions of the Airborne TACAN equipment including Radio Set AN/ARN-21.

No field changes in effect at time of preparation (3 April 1961).

TECHNICAL CHARACTERISTICS:

TYPES OF TESTS
- ONE: Measurement of range & bearing accuracy AN/ARN-21.
- TWO: Monitoring of the identity tone of AN/ARN-21.
- THREE: Measurement of CU-395/ARN-21A range and bearing repeating accuracy.
- FOUR: Measurement of ID-307/ARN bearing repeating accuracy.
- FIVE: Check of range potentiometers in CU-395/ARN-21A and ID-310/ARN.
- SIX: Check of the north reference relay in CU-395/ARN-21A.
- SEVEN: Check the phase discriminator circuits of CU-395/ARN-21A or CV-279/ARN.
- EIGHT: Duplicate the AN/ARN-21 control box functions.

OPERATING DATA
- COMPASS SIMULATOR: Bearing readings 0 to 360 degrees.
- COURSE INDICATOR: Deviation from selected course.
- RELATIVE BEARING: 0 to 360 degrees.
- COURSE INDICATOR
  - ACTUAL BEARING: 0 to 360 degrees.
  - RELATIVE BEARING: 0 to 360 degrees.
- RANGE INDICATOR: Distance readings 0 to 195 miles.
- MASTER RANGE UNIT: Distance readings 0 to 195 miles.
- MASTER BEARING UNIT: Bearing readings 0 to 360 degrees.
- NULL METER: 0 to 200 microamperes.

OPERATING POWER RQMT: 103.5 to 126.5 v ac, 50 to 420 cps, single ph; 24 to 29 v dc.

RELATION TO OTHER EQUIPMENT:

THE AN/ARM-31 is designed to be used with but not part of AN/ARM-22( ) Radio Test Set and AN/USA-6( ) Frequency Converter Group.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

AN/ARM-31 TEST SET, INDICATOR

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Set, Indicator AN/ARM-31 consists of:		21 x 21-7/16 x 28-7/8	
1	Test Set, Indicator TS-1159/ARM-31		18 x 19-9/16 x 20-3/4	
1	Case, Test Set CY-2386/ARM-31		21 x 21-7/16 x 28-7/8	
1	Cover, Test Set CW-469/ARM-31		1-1/8 x 22-1/4 x 28-3/4	
2	Cable Ass'y, Special Purpose, Electrical Stromberg Pt. no. 666097-012			
1	Cable Ass'y, Special Purpose, Electrical Stromberg Pt. no. 666097-015			
1	Cable Ass'y, Special Purpose, Electrical Stromberg Pt. no. 666097-013			
1	Cable Ass'y, Special Purpose, Electrical Stromberg Pt. no. 666097-044			
1	Cable Ass'y, Special Purpose, Electrical Stromberg Pt. no. 666097-030			
1	Cable Ass'y, Special Purpose, Electrical W-6/ARM-31			
1	Cable Ass'y, Power, Electrical Stromberg Pt. no. 666097-003			
1	Cable Ass'y, Power, Electrical Stromberg Pt. no. 666097-002			
1	Cable Ass'y, Power, Electrical Stromberg Pt. no. 666097-010			
1	Cable Ass'y, Special Purpose, Electrical Stromberg Pt. no. 666097-014			

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Adapter, Stromberg Pt. no. 666097-004			
1	Adapter, Stromberg Pt. no. 666097-005			
1	Adapter, Stromberg Pt. no. 666097-006			

REFERENCE DATA AND LITERATURE:

NAVSHIPS 93400: Preliminary Data Form for Test Set, Indicator AN/ARM-31.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Data not available.

CRYSTALS: Data not available.

SEMI-CONDUCTORS: Data not available.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)

PROCUREMENT DATA

PROCURING SERVICE: DESIGN COG: BuAer
SPEC &/OR DWG: MIL-T-19205(AER)

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Collins Radio Company	Cedar Rapids, Iowa	NOas-57-641	

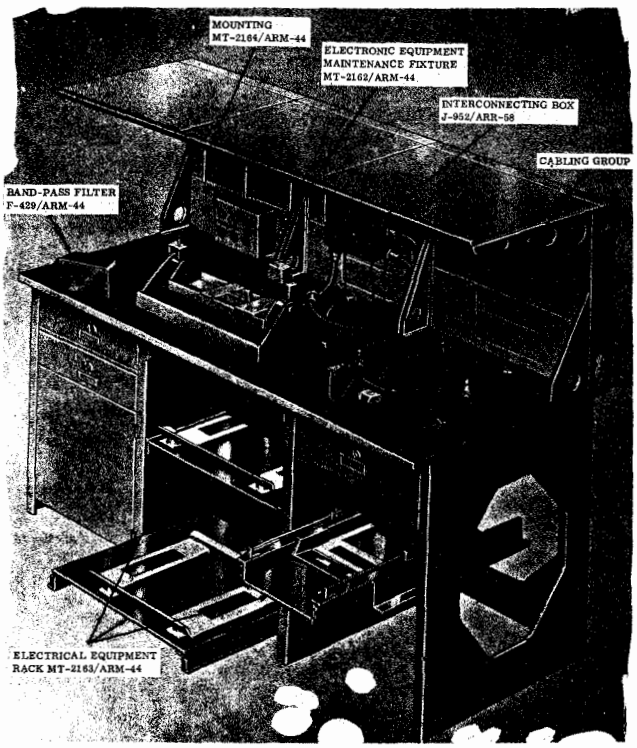
11 May 1962
Cog Service: USN FSN:

TEST HARNESS, RADIO RECEIVING SET AN/ARM-44
Functional Class: 12

USA USN USAF

TYPE CLASS: Used by

MANUFACTURER'S NAME/CODE NUMBER: The Magnavox Co., (90100).



Test Harness, Radio Receiving Set AN/ARM-44

FUNCTIONAL DESCRIPTION:

Test Harness, Radio Receiving Set AN/ARM-44 includes items to position, support, and interconnect the AN/ARR-58 system and test equipment during test operations on a test bench. The AN/ARM-44 with its associated test equipment affords maintenance personnel simple and efficient maintenance procedures while providing compact layout efficiently utilizing the maintenance work area.

No field changes in effect at time of preparation (18 September 1961).

TECHNICAL CHARACTERISTICS:

INPUT POWER: 28 v dc; 115 v, 400 cyc, 3 ph.
TEMPERATURE RANGES
NORMAL OPERATION: M20 deg to P40 deg C (M4 deg to P104 deg F).
NON-OPERATING: M62 deg to P85 deg C (M80 deg to P185 deg F).

AN/ARM-44 TEST HARNESS, RADIO RECEIVING SET

HUMIDITY: Up to 100% at temperature up to 40 deg C (104 deg F).

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Table, Electrical Test and Maintenance; (2) R. F. Amplifier AM-1871/ARR-58; (4) Radio Receiver R-863/ARR-58; (4) A. F. Amplifier AM-1870/ARR-58; (2) Interconnecting Box - Power Supply J-953/ARR-58; (1) Radio Set Control C-2411/ARR-58; (1) Radio Set Control C-2410/ARR-58; (1) Monitor Panel MX-2408/ARR-58; (1) Power Supply PP-1923/ARR-58.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Harness, Radio Receiving Set AN/ARM-44 includes:			
1	Electronic Equipment Maintenance Fixture MT-2162/ARM-44		10-1/2 x 12-1/2 x 29-1/6	18.75
1	Electrical Equipment Rack MT-2163/ARM-44		18 x 20 x 38	65
1	Mounting MT-2164/ARM-44		4 x 4-1/16 x 17-3/8	1.62
1	Band-Pass Filter F-429/ARM-44		6-11/64 x 6-3/8 x 8-25/32	4.37
1	Interconnecting Box J-952/ARR-58		5 x 6-29/32 x 7-3/4	5
1	Cable Group 708382-1			12

REFERENCE DATA AND LITERATURE:

NAVAER 16-30ARM44-1: Operation and Service Instructions with Illustrated Parts Breakdown for Test Harness, Radio Receiving Set AN/ARM-44.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: None used.

CRYSTALS: None used.

SEMI-CONDUCTORS: None used.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1		

TEST HARNESS, RADIO RECEIVING SET AN/ARM-44

PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG:

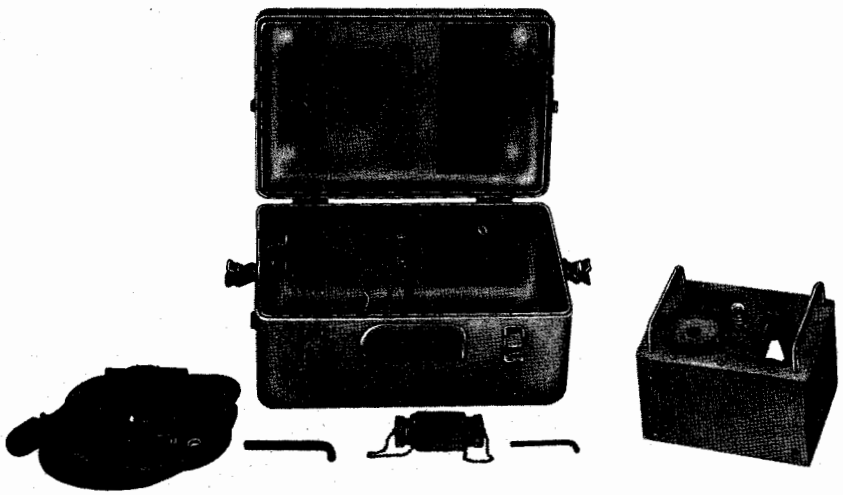
DESIGN COG: USN, BuWeps

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
The Magnavox Co.	Chicago, Ill.	NOas 58-826-i	

1 June 1962		TEST SET, GUIDED MISSILE LAUNCHER AN/ASM-11
Cog Service: USN FSN:		Functional Class: 12.7
USA	USN	USAF

TYPE CLASS: Used by

MANUFACTURER'S NAME/CODE NUMBER: U. S. Naval Avionics Facility, (02387).



Test Set, Guided Missile Launcher AN/ASM-11

FUNCTIONAL DESCRIPTION:

Test Set, Guided Missile Launcher AN/ASM-11 is designed for performing accurate and safe operational tests on the launchers which carry and launch SIDEWINDER 1 and 1A missiles.

No field changes in effect at time of preparation (11 September 1961).

TECHNICAL CHARACTERISTICS:

POWER REQUIREMENTS: 115 v, 400 cyc, single ph; 28 v dc.
VOLTMETER: 0 to 50 v/400 v, ac or dc.

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

AN/ASM-11 TEST SET, GUIDED MISSILE LAUNCHER

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Set, Guided Missile Launcher AN/ASM-11 includes:			
1	Case, Test Set CY-2474/ASM-11		8.5 x 10 x 16	
1	Test Set, Guided Missile Launcher TS-1200/ASM-11		5.3 x 6.8 x 8.37	
1	Cable Assy, Special Purpose, Electrical CX-4517/ASM-11		192 lg	
1	Adapter, Connector U-180/4		1.625 x 1.625 x 4.406	
1	Wrench, Hexagon, Key		7/32	
1	Wrench, Hexagon, Key		3/8	

REFERENCE DATA AND LITERATURE:

NAVWEPS 16-30ASM11-1: Handbook of Operation and Maintenance Instructions for Test Set, Guided Missile Launcher AN/ASM-11.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: None used.

CRYSTALS: None used.

SEMI-CONDUCTORS: (10) 1N538 (2) 2N158

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)

PROCUREMENT DATA

PROCURING SERVICE: USN DESIGN COG: USN, BuWeps
SPEC &/OR DWG:

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
U. S. Naval Avionics Facility	Indianapolis, Indiana		

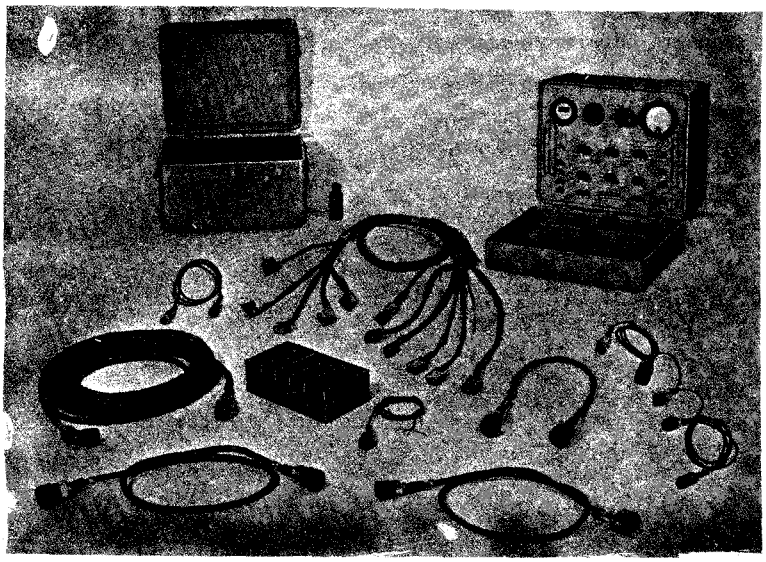
11 June 1962 | TEST SET, MAGNETIC DETECTOR AN/ASM-6

Cog Service: USN FSN: | Functional Class: 12.1

USA	USN	USAF

TYPE CLASS: Used by

MANUFACTURER'S NAME/CODE NUMBER: Dalmo Victor Company, (15786).



Test Set, Magnetic Detector AN/ASM-6

FUNCTIONAL DESCRIPTION:

Test Set, Magnetic Detector AN/ASM-6 is a portable test instrument used to test, adjust, calibrate, and trouble shoot the Detecting Set, Magnetic AN/ASQ-10.

No field changes in effect at time of preparation (28 March 1962).

TECHNICAL CHARACTERISTICS:

POWER REQUIREMENTS: 115 v, 380 to 420 cyc, single ph, 2.4 amp; 28 v dc.
ALTITUDE: 10,000 ft (max).
TEMPERATURE: M20 deg to P40 deg C (M4 deg to P104 deg F).

RELATION TO OTHER EQUIPMENT: None

AN/ASM-6 TEST SET, MAGNETIC DETECTOR

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Detecting Set, Magnetic AN/ASQ-10; (1) Recorder RO-32/ASQ or Recorder, Milliammeter RD-47A/ASQ-8; (1) Magnetic Shield MX-1548/ASM-3 (optional); (1) Rocking Cradle (optional).

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Set, Magnetic Detector AN/ASM-6 includes:			
1	Test Set, Magnetic Detector TS-1193/ASM-6		12-5/8 x 17 x 20-5/8	36.5
1	Case, Test Set CY-2445/ASM-6		13-1/32 x 16-5/8 x 20-7/16	24.0
1	Cable Assy, Special Purpose, Electrical, Branched CX-4490/ASM-6		106-3/8 lg	5.5
1	Rack, Electrical Equipment MT-2033/ASM-6		3-1/2 x 6-1/2 x 12-1/8	2.0
1	Dummy Load, Electrical DA-192/ASM-6		1-15/16 dia x 4-9/16	1.5
1	Wiring Harness, Test Connector W-1 of AN/ASM-6		63 lg	1.1
1	Wiring Harness, Amplifier-Test Set Control W-2 of AN/ASM-6		68 lg	1.8
1	Cable, Power, Amplifier W-3 of AN/ASM-6		76 lg	0.5
1	Wiring Harness, Control-Test Set W-4 of AN/ASM-6		40 lg	1.5
1	Wiring Harness, Recorder W-5 of AN/ASM-6		63 lg	0.75
1	Wiring Harness, Cable, Power W-6 of AN/ASM-6		60 lg	0.25
1	Wiring Harness, Amplifier-Detecting Head W-7 of AN/ASM-6		600 lg	10.5

REFERENCE DATA AND LITERATURE:

NAVWEPS 16-30ASM6-501: Handbook of Operation Instructions for Magnetic Detector Test Set AN/ASM-6.

NAVWEPS 16-30ASM6-502: Handbook of Service Instructions for Magnetic Detector Test Set AN/ASM-6.

NAVWEPS 16-30ASM6-503: Illustrated Parts Breakdown for Magnetic Detector Test Set AN/ASM-6.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (1) 5751

CRYSTALS: None used.

SEMI-CONDUCTORS: (2) 1N255 (1) 1N430A (2) 1N457 (2) D89368

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)

PROCUREMENT DATA

PROCURING SERVICE: USN DESIGN COG: USN, BuWeps
SPEC &/OR DWG: MIL-T-19432A(AER), 15 March 1956

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Dalmo Victor Company	Belmont, California	NOas 57-361-r	$4,039.11
		NOw 60-0343-f	$2,284.88

12 February 1963 | TEST HARNESS RECEIVER GROUP AN/AWM-10
Cog Service: USN FSN: | Functional Class: 12.12.6

USA | USN | USAF

TYPE CLASS: Used by

MANUFACTURER'S NAME/CODE NUMBER: U. S. Naval Avionics Facility.

(No Illustration Available)

FUNCTIONAL DESCRIPTION:

AN/AWM-10 Test Harness Receiver Group is used to secure Receiver Group, Infrared OA-2061/AWG-8 to a test bench for servicing and testing.

No field changes in effect at time of preparation (5 February 1963).

TECHNICAL CHARACTERISTICS: None.

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Harness, Receiver Group AN/AWM-10 consists of:			
1	Rack, Electrical Equipment MT-2219/AWM-10		3-1/2 x 8 x 20	
1	Rack, Electrical Equipment MT-2220/AWM-10		14-1/4 x 14-3/4 x 17-1/2	
1	Rack, Electrical Equipment MT-2221/AWM-10		4-1/4 x 5-1/2 x 6-1/4	
1	Rack, Electrical Equipment MT-2222/AWM-10		8-1/2 x 8-3/4 x 14	
5	Cable Assy			

REFERENCE DATA AND LITERATURE:

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: None used.

CRYSTALS: None used.

SEMI-CONDUCTORS: None used.

AN/AWM-10 TEST HARNESS RECEIVER GROUP

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)

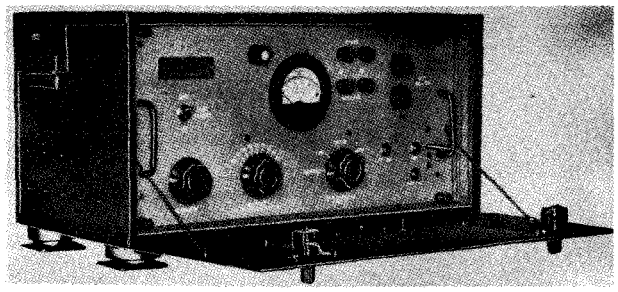
PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG:

DESIGN COG: USN, BuWeps

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
U. S. Naval Avionics Facility Dwg no. 59A67F1	Indianapolis, Ind.	Project Order 18993-702	

SONAR TEST SET AN/BQM-1



Sonar Test Set AN/BQM-1

FUNCTIONAL DESCRIPTION

The AN/BQM-1 is designed for use in determining the operating performance of sonar listening equipment with bearing deviation indicator (BDI) such as the model JT and AN/BQR-3 series. It includes a test target signal amplifier which supplies signal to the test target hydrophone.

The test set consists of a noise generating tube, a test target signal amplifier, an alignment signal amplifier, and switching and metering circuits. The test set is connected to a junction box which contains a push-pull circuit for injecting alignment signals into the sonar pre-amplifier.

No field changes in effect at time of preparation (18 May 1956).

RELATION TO OTHER EQUIPMENT

Noise Generators NT-60139 and NT-60140.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 1.5 to 40 kc.
OUTPUT IMPEDANCE: 1 ohm.
POWER REQUIRED: (1) 105-130 v, AC, 60 cps, single ph; (2) maximum power 55 W at 130 v.

MANUFACTURER'S OR CONTRACTOR'S DATA

Dyna-Labs., Inc., Garden City, N. Y.
Dwg No. D115, Contract NObsr 52638 dated 28 June 1951 and NObsr 57613 dated 22 July 1952.
Approximate Cost: $350.00.

TUBE COMPLEMENT

(1) 6D4	(1) 6AU6WA
(1) 5751	(1) 5Y3WGTA
(2) 6005/6AQ5W	

Total Tubes: (6)

REFERENCE DATA AND LITERATURE

NAVSHIPS 92150: Technical Manual for Sonar Test Set AN/BQM-1.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVER-ALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Test Set TS-754/BQM-1	11-1/16 X 12 X 21	59
1	Junction Box J-567/BQM-1	11/16 X 1-7/8 X 6-1/4	1-1/4
1	Cable Assembly CG-1160/U	48 lg.	1/4
1	Cable Assembly CG-1161/U	48 lg.	1/4
2	Technical Manuals	1/4 X 9 X 11-1/2	1

6 June 1962 — TEST SET, RADIO RECEIVER AN/DRM-2( )

Cog Service: — FSN: — Functional Class:

USA — USN — USAF

TYPE CLASS:

MANUFACTURER'S NAME/CODE NUMBER: Glenn L. Martin Company.

(No Illustration Available)

FUNCTIONAL DESCRIPTION:

The Test Set, Radio Receiver AN/DRM-2( ) is a group of test equipments, accessories, and benches arranged to test and repair the complete Receiver AN/DRW-9, or any section thereof.

No field changes in effect at time of preparation (8 June 1961).

TECHNICAL CHARACTERISTICS:

METHOD OF MOUNTING: Bench mounted.
OPERATING POWER RQMT: 117 v ac, 60 cps, single ph.

RELATION TO OTHER EQUIPMENT:

The AN/DRM-2( ) is designed to be used with, but is not part of, Bullpup Missile XASM-N-7.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
	Test Set, Radio Receiver AN/DRM-2( ) consists of:			
1	Transmitter			
16	Cables			
1	Receiver Test Set			
1	Transmitter Power & Control Box			
1	Test Crystal Stowage Box			
1	Receiver Alignment Accessories			
1	Receiver Support Fixture			
1	Tube Tester TV-7/U		6-1/16 x 8-3/8 x 15-5/8	18.0
1	Oscilloscope AN/USM-25A		9 x 11-1/8 x 17-1/2	35
1	Frequency Meter TS-323/UR		9-1/2 x 11-1/8 x 14-5/16	21
1	Signal Generator AN/URM-25E		14 x 15-1/2 x 22	58
1	Signal Generator AN/USM-44		13-3/4 x 16 x 20	62
1	Megacycle Meter AN/PRM-10		4-7/8 x 9-1/4 x 11	13.44

AN/DRM-2( ) TEST SET, RADIO RECEIVER

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Multimeter AN/PRM-4			
1	VTVM TS-505/U		9-1/2 x 9-1/2 x 11-1/2	
1	VTVM ME-6B/U		5-3/4 x 5-7/8 x 11-5/16	9.5
1	Power Bridge (Commercial-GFE)			
1	Sweep Generator (Commercial-GFE)			
1	Power Supply (Commercial-GFE)			
4	Attenuator (Commercial-GFE)			
1	Termination 50 cycle (Commercial-GFE)			
8	Adapter (Commercial-GFE)			

REFERENCE DATA AND LITERATURE:

Nomenclature Card for Test Set, Radio Receiver AN/DRM-2( ).

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Data not available.

CRYSTALS: Data not available.

SEMI-CONDUCTORS: Data not available.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)

PROCUREMENT DATA

PROCURING SERVICE: DESIGN COG: USN, BuShips
SPEC &/OR DWG: Commercial Spec no. GLM #842

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Glenn L. Martin Company Dwg no, 293-9295500	Baltimore, Maryland	NOas 53-846	

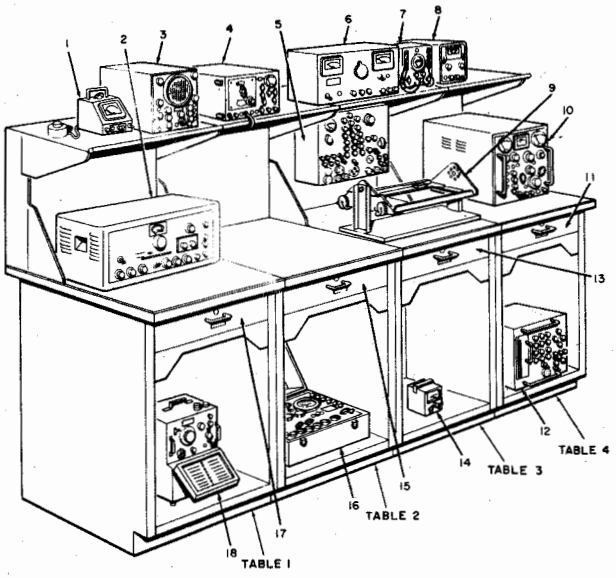
26 June 1962
Cog Service: USN FSN:

TEST SET, RADIO TRANSMITTER AN/DRM-3
Functional Class: 12.12.6

USA USN USAF

TYPE CLASS: Used by

MANUFACTURER'S NAME/CODE NUMBER: Martin Co., (04939).



1. MEGACYCLE METER, MODEL 59
2. SWEEP GENERATOR, 900A
3. OSCILLOSCOPE, 304A
4. SIGNAL GENERATOR AN/URM-25E
5. RADIO TRANSMITTER TEST SET TS-1308/DRM-3
6. REGULATED POWER SUPPLY, 204A
7. ELECTRONIC MULTIMETER TS-505 D/U
8. MICROWAVE POWER METER MODEL 430C
9. TEST STAND MT-2227/DRM-3
10. SIGNAL GENERATOR AN/USM-44A
11. ACCESSORY DRAWER
12. RADIO RECEIVER R-947/DRM-3
13. ACCESSORY DRAWER
14. MULTIMETER AN/PSM-4
15. ACCESSORY DRAWER
16. ELECTRON TUBE TEST SET TV-7/U
17. ACCESSORY DRAWER
18. FREQUENCY METER TS-323/UR

Test Set, Radio Transmitter AN/DRM-3

FUNCTIONAL DESCRIPTION:

Test Set, Radio Transmitter AN/DRM-3 is used to isolate defects and check the rf output of the command transmitter. It measures performance after replacement of defective parts, detects burned out indicator lamps in the event of failure, and permits maintenance of the receiver in the Test Receiver Unit.

No field changes in effect at time of preparation (3 April 1962).

TECHNICAL CHARACTERISTICS:

POWER REQUIREMENTS: 115 v, 50 to 60 cyc, single ph, 30 amp; 115 v, 380 to 420 cyc, 3 ph, 15 amp; 28 v dc, 10 amp.

RELATION TO OTHER EQUIPMENT: None.

AN/DRM-3 TEST SET, RADIO TRANSMITTER

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Set, Radio Transmitter AN/DRM-3 includes:			
1	Test Set, Radio Transmitter TS-1308/DRM-3			
1	Receiver, Radio R-947/DRM-3			
1	Radio Frequency Amplifier			
1	Stand, Test MT-2227/DRM-3			
1	Transmitter Alignment Service Unit			
1	Quartz Crystal Unit Set			

REFERENCE DATA AND LITERATURE:

NAVWEPS 16-30DRM-1: Instruction Book for Radio Transmitter Test Set AN/DRM-3.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (1) SV135 (8) 5654/6AK5W (7) 5670 (3) 5725/6AS6W (4) 5751 (4) 84-27-01 (15) 84-27-06 (1) 84-27-08

CRYSTALS: None used.

SEMI-CONDUCTORS: (4) 1N126 (1) 1N82A

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)

PROCUREMENT DATA

PROCURING SERVICE: USN DESIGN COG: USN, BuWeps
SPEC &/OR DWG: MIL-T-21420(AER)

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Martin Co.	Orlando, Fla.	NOas-58-613	

4 June 1962 — TEST SET, GUIDED MISSILE, GUIDANCE AN/DSM-34( )

Cog Service: — FSN: — Functional Class:

USA — USN — USAF

TYPE CLASS:

MANUFACTURER'S NAME/CODE NUMBER: Glenn L. Martin Company.

(No Illustration Available)

FUNCTIONAL DESCRIPTION:

The Test Set, Guided Missile, Guidance AN/DSM-34( ) is designed to test the guidance section of the XASM-N-7 Bullpup Missile, and isolate any components not functioning properly.

No field changes in effect at time of preparation (8 June 1961).

TECHNICAL CHARACTERISTICS:

METHOD OF MOUNTING: Bench mounting.
OPERATING POWER RQMT: 117 v ac, 60 cps, single ph.

RELATION TO OTHER EQUIPMENT:

The AN/DSM-34( ) is designed to be used with, but is not a part of, the Bullpup Missile XASM-N-7.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
	Test Set, Guided Missile, Guidance AN/DSM-34( ) includes:			
1	Transmitter AN/ARW-71			
1	Guidance Section Support Pedestal			
1	Control Vane Load Simulator			
1	Guidance Section Test Set			
12	Cables			
1	Pneumatic Control Panel			
1	Guidance Section Support Fixture			
1	Auxiliary Receiver Cable Ass'y			
1	Test Crystal Stowage Box			
1	Pneumatic Wrench			
1	Gyro Caging Tool			
1	Multimeter AN/PSM-4		4.78 x 7.38 x 6.00	5.313
1	VTVM TS-505/U		9.5 x 9.5 x 11.5	
1	Power Bridge (PRD650B) GFE			
1	Power Supply (Elec. Meas. Corp. 204A)			

AN/DSM-34( ) TEST SET, GUIDED MISSILE. GUIDANCE

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Timer (Std. Elec. Time Co. MST) GFE			
1	Attenuator (Gen. Radio 874GA) GFE			
1	Attenuator (Gen. Radio 874G10) GFE			
1	Termination, 50 cycle (Gen. Radio 874WM) GFE			
3	Adapter (Gen. Radio 874QBT) GFE			

REFERENCE DATA AND LITERATURE:

Nomenclature Card for Test Set, Guided Missile, Guidance AN/DSM-34( ).

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Data not available.

CRYSTALS: Data not available.

SEMI-CONDUCTORS: Data not available.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)

PROCUREMENT DATA

PROCURING SERVICE: DESIGN COG: USN, BuShips

SPEC &/OR DWG: Commercial Spec no. GLM #842

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Glenn L. Martin Company Dwg no. 293-9295100	Baltimore, Maryland	NOas 53-846	

11 May 1962 — TEST SET, GUIDED MISSILE, CONTROL AN/DSM-35( )

Cog Service: FSN: Functional Class:

USA USN USAF

TYPE CLASS:

MANUFACTURER'S NAME/CODE NUMBER: Glenn L. Martin Company.

(No Illustration Available)

FUNCTIONAL DESCRIPTION:

The Test Set, Guided Missile, Control AN/DSM-35( ) is designed to be used for tests, and isolate, defective component parts of the control unit of the Bullpup Missile XASM-N-7.

No field changes in effect at time of preparation (9 June 1961).

TECHNICAL CHARACTERISTICS:

METHOD OF MOUNTING: Bench mounted.
OPERATING POWER RQMT: 117 v ac, 60 cps, single ph.

RELATION TO OTHER EQUIPMENT:

The AN/DSM-35( ) is designed to be used with, but not part of, Bullpup Missile XASM-N-7.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
	Test Set, Guided Missile, Control AN/DSM-35( ) includes:			
1	Control Vane Load Simulator			
1	Guidance Section Test Set			
1	Pneumatic Control Panel			
1	Control Vane Load Protractor			
1	Control Unit Leakage Tester			
1	Pneumatic Tank Relief Valve			
9	Cables			
1	Control Unit Support Fixture			
1	Timer (Std. Elec. Time Co.) (GFE)			
1	Power Supply (Weco 204A) (GFE)			

REFERENCE DATA AND LITERATURE:

Nomenclature Card for Test Set, Guided Missile, Control AN/DSM-35( ).

AN/DSM-35( ) TEST SET, GUIDED MISSILE, CONTROL

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Data not available.

CRYSTALS: Data not available.

SEMI-CONDUCTORS: Data not available.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)

PROCUREMENT DATA

PROCURING SERVICE: DESIGN COG: USN, BuShips
SPEC &/OR DWG: Commercial Spec no. GLM#842

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Glenn L. Martin Company Dwg no. 293-9295200	Baltimore, Md.	NOas 53-846	

11 May 1962		TEST SET, GUIDED MISSILE, GYRO AN/DSM-36( )
Cog Service:	FSN:	Functional Class:
USA	USN	USAF

TYPE CLASS:

MANUFACTURER'S NAME/CODE NUMBER: Glenn L. Martin Company.

(No Illustration Available)

FUNCTIONAL DESCRIPTION:

The Test Set, Guided Missile, Gyro AN/DSM-36( ) is used to test the gyro of the XASM-N-7 Bullpup Missile for proper performance.

No field changes in effect at time of preparation (9 June 1961).

TECHNICAL CHARACTERISTICS:

METHOD OF MOUNTING: Bench mounted.
OPERATING POWER RQMT: 117 v ac, 60 cps, single ph.

RELATION TO OTHER EQUIPMENT:

The AN/DSM-36( ) is designed to be used with, but not part of Bullpup Missile XASM-N-7.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
	Test Set, Guided Missile, Gyro AN/DSM-36( ) includes:			
1	Roll Reference Gyro Turntable Assy			
1	Gyro Caging Tool			
1	Pneumatic Supply Control Panel			
1	Gyro Test Adapter			
5	Cables			
1	Gyro Test Table (Ideal Lab. Tool & Supply Co.) (GFE)			
1	Time (Standard Electric Time Co. MST) (GFE)			
1	Stop Watch (A. R. & J. E. Meyan Co. 218) (GFE)			

REFERENCE DATA AND LITERATURE:

Nomenclature Card for Test Set, Guided Missile, Gyro AN/DSM-36( ).

AN/DSM-36( ) TEST SET, GUIDED MISSILE, GYRO

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Data not available.

CRYSTALS: Data not available.

SEMI-CONDUCTORS: Data not available.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)

PROCUREMENT DATA

PROCURING SERVICE: DESIGN COG: USN, BuShips
SPEC &/OR DWG: Commercial Spec No. GLM#842

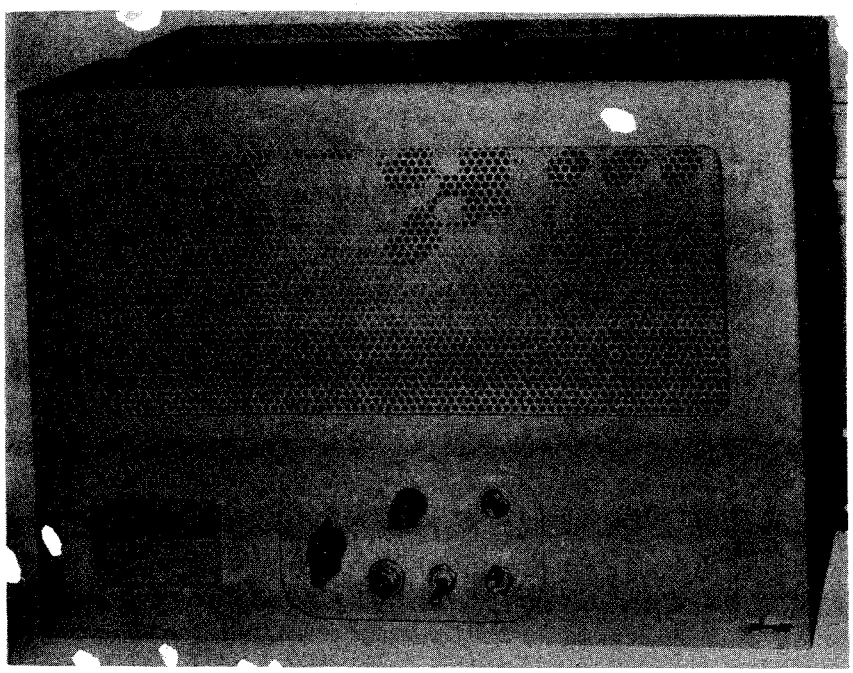
CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Glenn L. Martin Company Dwg no. 293-9295300	Baltimore, Md.	NOas 53-846	

28 May 1962 TELEGRAPH TEST SET AN/FGM-1

Cog Service:	FSN:		Functional Class:
	USA	USN	USAF

TYPE CLASS:

MANUFACTURER'S NAME/CODE NUMBER: Stelma Incorporated.



Telegraph Test Set AN/FGM-1

FUNCTIONAL DESCRIPTION:

Telegraph Test Set AN/FGM-1 electronically generates undistorted 7.42 baudot code telegraph characters (in an 88-character test message) at 60, 75, or 100 words per minute, for use in performance checks and maintenance of wire and radio-teletype circuits and equipments.

The 88-character test message (standard "fox" sentence preceded by three call letters and followed by numerals) is stored in a plug-in relay unit.

Terminals are provided to allow the use of remote control to start and stop the message.

No field changes in effect at time of preparation (21 July 1961).

TECHNICAL CHARACTERISTICS:

TEST MESSAGE GENERATED: <=↓NPG>THE>QUICK>BROWN>FOX>JUMPED>OVER>THE>LAZY>DOG↑'↕S>BACK↑>
1234567890<<<<<<<<<<<<<<<<(Max. of 88 characters).

AN/FGM-1 TELEGRAPH TEST SET

OUTPUT CIRCUIT: Neutral, keying relay (battery supplied from external source).
OPERATING SPEEDS: 60, 75, 100 wpm; 7.42 unit intervals per character.
OUTPUT DISTORTION: Less than 2% marking or spacing bias distortion.
OPERATOR LOCATION: Local or remote (terminals are provided for remote switch connection).
POWER REQUIREMENTS: Approx. 125 W, 115 v porm 10%, 50 to 60 cyc, single ph.

RELATION TO OTHER EQUIPMENT:

This equipment is the same as Telegraph Test Set AN/FGM-2, AN/FGM-3, and AN/FGM-4, except that the test messages differ.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Telegraph Test Set AN/FGM-1 includes:		9 x 12 x 19	17
5	Telegraph Distribution Panel CBVV-TDP-1		4 x 5-1/4 x 19	8
80	Electronic Relay CBVV-ER-17		1-1/2 x 1-1/2 x 3-1/4	

REFERENCE DATA AND LITERATURE:

NAVSHIPS 94048: Technical Manual for Telegraph Test Set AN/FGM-1.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (1) 082 (15) 5696 (1) 5881 (8) 5963 (1) 5V4GA (1) 6AU6

CRYSTALS: None used.

SEMI-CONDUCTORS: (69) 11SD1034 (3) 11S101037

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)

PROCUREMENT DATA

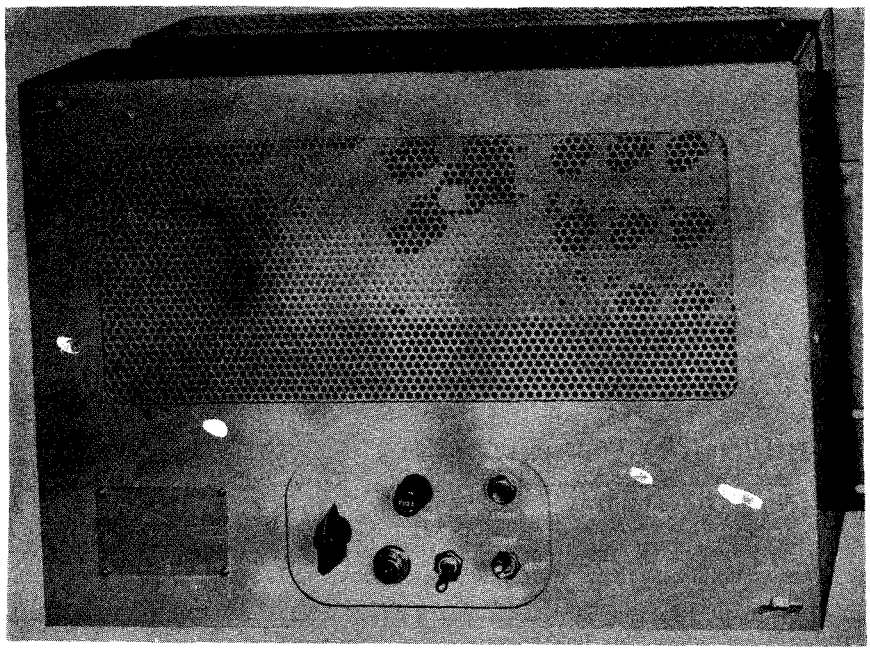
PROCURING SERVICE: DESIGN COG: USN, BuShips
SPEC &/OR DWG:

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Stelma Inc. Model no. EDU-100-75 (NPG sends)	Stamford, Conn.	NObsr-81076, 3 February 1960	$7,682.35

Cog Service:	FSN:	Functional Class:
	USA USN USAF	

TYPE CLASS:

MANUFACTURER'S NAME/CODE NUMBER: Stelma Incorporated.



Telegraph Test Set AN/FGM-2

FUNCTIONAL DESCRIPTION:

Telegraph Test Set AN/FGM-2 electronically generates undistorted 7.42 baudot code telegraph characters (in an 88-character test message) at 60, 75, or 100 words per minute, for use in performance checks and maintenance of wire and radio-teletype circuits and equipments.

The 88-character test message (standard "fox" sentence preceded by three call letters and followed by numerals) is stored in a plug-in relay unit.

Terminals are provided to allow the use of remote control to start and stop the message.

No field changes in effect at time of preparation (21 July 1961).

TECHNICAL CHARACTERISTICS:

TEST MESSAGE GENERATED: <≡ ↓ NPM>THE>QUICK>BROWN>FOX>JUMPED>OVER>THE>LAZY>DOG ↑ ↓S>BACK ↑>
1234567890<<<<<<<<<<<<<<< (max of 88 characters).

AN/FGM-2 TELEGRAPH TEST SET

OUTPUT CIRCUIT: Neutral, keying relay (battery supplied from external source).
OPERATING SPEEDS: 60, 75, 100 wpm; 7.42 unit intervals per character.
OUTPUT DISTORTION: Less than 2% marking or spacing bias distortion.
OPERATOR LOCATION: Local or remote (terminals are provided for remote switch connection).
POWER REQUIREMENTS: Approx. 125 W, 115 v porm 10%, 50 to 60 cyc, single ph.

RELATION TO OTHER EQUIPMENT:

This equipment is the same as Telegraph Test Set AN/FGM-1, AN/FGM-3, and AN/FGM-4, except that the test messages differ.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Telegraph Test Set AN/FGM-2 includes:		9 x 12 x 19	17
5	Telegraph Distribution Panel CBVV-TDP-1		4 x 5-1/4 x 19	8
80	Electronic Relay CBVV-ER-17		1-1/2 x 1-1/2 x 3-1/4	

REFERENCE DATA AND LITERATURE:

NAVSHIPS 94050: Technical Manual for Telegraph Test Set AN/FGM-2.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (1) 0B2 (15) 5696 (1) 5881 (8) 5963 (1) 5V4GA (1) 6AU6

CRYSTALS: None used.

SEMI-CONDUCTORS: (69) 11SD1034 (3) 11S101037

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)

PROCUREMENT DATA

PROCURING SERVICE:
SPEC &/OR DWG:

DESIGN COG: USN, BuShips

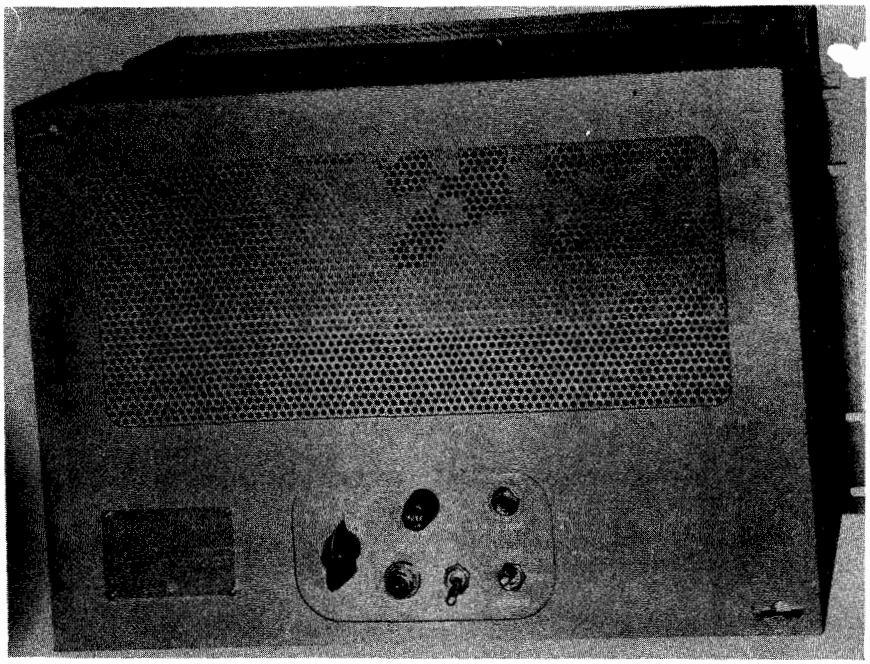
CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Stelma Incorporated Model no. EDU-100-75 (NPM sends)	Stamford, Connecticut	NObsr-81076, 3 February 1960	$7,701.85

Cog Service: FSN: Functional Class:

USA USN USAF

TYPE CLASS:

MANUFACTURER'S NAME/CODE NUMBER: Stelma Inc.



Telegraph Test Set AN/FGM-3

FUNCTIONAL DESCRIPTION:

Telegraph Test Set AN/FGM-3 electronically generates undistorted 7.42 baudot code telegraph characters (in an 88-character test message) at 60, 75, or 100 words per minute, for use in performance checks and maintenance of wire and radio-teletype circuits and equipments.

The 88-character test message (standard "fox" sentence preceded by three call letters and followed by numerals) is stored in a plug-in relay unit.

Terminals are provided to allow the use of remote control to start and stop the message.

No field changes in effect at time of preparation (21 July 1961).

TECHNICAL CHARACTERISTICS:

TEST MESSAGE GENERATED: <≡▼NSS>THE>QUICK>BROWN>FOX>JUMPED>OVER>THE>LAZY>DOG▲'▼S>BACK▲123456 7890<<<<<<<<<<<<<<<<(max. of 88 characters).

OUTPUT CIRCUIT: Neutral, keying relay (battery supplied from external source)

AN/FGM-3 TELEGRAPH TEST SET

OPERATING SPEEDS: 60, 75, 100 wpm; 7.42 unit intervals per character.
OUTPUT DISTORTION: Less than 2% marking or spacing bias distortion.
OPERATOR LOCATION: Local or remote (terminals are provided for remote switch connection).
POWER REQUIREMENTS: Approx. 125 W, 115 v porm 10%, 50 to 60 cyc, single ph.

RELATION TO OTHER EQUIPMENT:

This equipment is the same as Telegraph Test Set AN/FGM-1, AN/FGM-2, and AN/FGM-4, except that the test messages differ.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Telegraph Test Set AN/FGM-3 includes:		9 x 12 x 19	17
5	Telegraph Distribution Panel CBVV-TDP-1		4 x 5-1/4 x 19	8
80	Electronic Relay CBVV-ER-17		1-1/2 x 1-1/2 x 3-1/4	

REFERENCE DATA AND LITERATURE:

NAVSHIPS 94052: Technical Manual for Telegraph Test Set AN/FGM-3.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (1) 0B2 (15) 5696 (1) 5881 (8) 5963 (1) 5V4GA (1) 6AU6

CRYSTALS: None used.

SEMI-CONDUCTORS: (69) 11SD1034 (3) 11SD101037

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)

PROCUREMENT DATA

PROCURING SERVICE:
SPEC &/OR DWG:

DESIGN COG: USN, BuShips

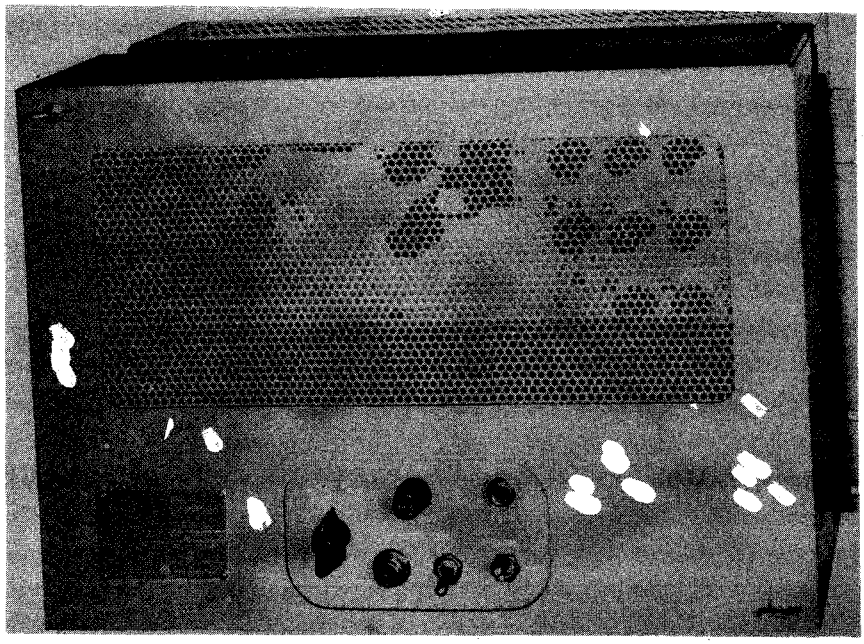
CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Stelma Inc. Model no. EDU-100-75 (NSS sends)	Stamford, Conn.	NObsr-81076, 3 February 1960	$7,682.35

Cog Service: FSN: Functional Class:

USA USN USAF

TYPE CLASS:

MANUFACTURER'S NAME/CODE NUMBER: Stelma Inc.



Telegraph Test Set AN/FGM-4

FUNCTIONAL DESCRIPTION:

Telegraph Test Set AN/FGM-4 electronically generates undistorted 7.42 baudot code telegraph characters (in an 88-character test message) at 60, 75, or 100 words per minute, for use in performance checks and maintenance of wire and radio-teletype circuits and equipments.

The 88-character test message (standard "fox" sentence preceded by three call letters and followed by numerals) is stored in a plug-in relay unit.

Terminals are provided to allow the use of remote control to start and stop the message.

No field changes in effect at time of preparation (21 July 1961).

TECHNICAL CHARACTERISTICS:

TEST MESSAGE GENERATED: <=▼NPO>THE>QUICK>BROWN>FOX>JUMPED>OVER>THE>LAZY>DOG▲'▼S>BACK▲>123456 7890<<<<<<<<<<<<<<<<(max. of 88 characters).

OUTPUT CIRCUIT: Neutral, keying relay (battery supplied from external source).

AN/FGM-4 TELEGRAPH TEST SET

OPERATING SPEEDS: 60, 75, 100 wpm; 7.42 unit intervals per character.
OUTPUT DISTORTION: Less than 2% marking or spacing bias distortion.
OPERATOR LOCATION: Local or remote (terminals are provided for remote switch connection).
POWER REQUIREMENTS: Approx. 125 W, 115 v porm 10%, 50 to 60 cyc, single ph.

RELATION TO OTHER EQUIPMENT:

This equipment is the same as Telegraph Test Set AN/FGM-1, AN/FGM-2, and AN/FGM-3, except that the test messages differ.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Telegraph Test Set AN/FGM-4 includes:		9 x 12 x 19	17
5	Telegraph Distribution Panel CBVV-TDP-1		4 x 5-1/4 x 19	8
80	Electronic Relay CBVV-ER-17		1-1/2 x 1-1/2 x 3-1/4	

REFERENCE DATA AND LITERATURE:

NAVSHIPS 94054: Technical Manual for Telegraph Test Set AN/FGM-4.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (1) 0B2 (15) 5696 (1) 5881 (8) 5963 (1) 5V4GA (1) 6AU6

CRYSTALS: None used.

SEMI-CONDUCTORS: (69) 11SD1034 (3) 11S101037

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)

PROCUREMENT DATA

PROCURING SERVICE:
SPEC &/OR DWG:

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Stelma Inc. Model no. EDU-100-75 (NPO sends)	Stamford, Conn.	NObsr-81076, 3 February 1960	$7,701.87

12 February 1963 — TEST SET, SONAR AN/FQM-2

Cog Service: USN FSN: — Functional Class: 12

USA USN USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Western Electric Co., (64959).

(No Illustration Available)

FUNCTIONAL DESCRIPTION:

The AN/FQM-2 is designed to provide tests and alignment facilities for Detecting-Ranging Set, Sonar AN/FQQ -5, -6, and -7(V).

No field changes in effect at time of preparation (19 September 1960).

TECHNICAL CHARACTERISTICS:

TYPE OF TESTS
- ONE: Measurement of time intervals.
- TWO: Frequency measurement.
- THREE: Phase shift measurement.
- FOUR: Voltage measurement.
- FIVE: Radio frequency circuit alignment.
- SIX: Observation of wave-forms.
- SEVEN: Distortion measurements.

OPERATING DATA
- SPECTRUM ANALYZER
  - RANGE: 20 cycles to 20 kc.
- METER INDICATOR: 30 mv to 300 v.
- ELECTRICAL COUNTER: 100000 counts per sec total register reset.
- OSCILLOSCOPE
  - FREQUENCY RESPONSE: DC to 100 kc sweep circuits included.

OPERATING POWER RQMT: 120 v ac, 60 cps, single ph.

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Set, Sonar AN/FQM-2 consists of;			
1	Electrical Equipment Cabinet			
1	Eraser, Magnetic MX-2933/U		10-1/2 x 17-1/2 x 19	
1	Counter, Electrical CP-528/U		8-3/4 x 16 x 19	

AN/FQM-2 TEST SET, SONAR

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Oscilloscope OS-102/U		8-3/4 x 19 x 20-1/4	
1	Analyzer, Spectrum TS-1344/U		10-1/2 x 14-1/2 x 19	

REFERENCE DATA AND LITERATURE:

NAVSHIPS 93239: Technical Manual for Test Set, Sonar AN/FQM-2.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Data not available.

CRYSTALS: Data not available.

SEMI-CONDUCTORS: Data not available.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)

PROCUREMENT DATA

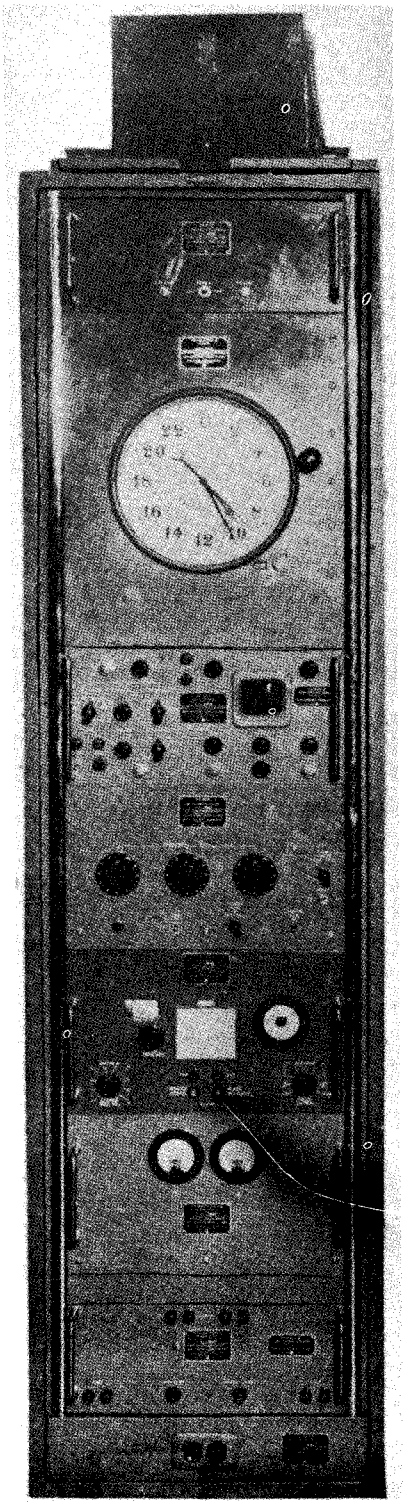
PROCURING SERVICE: USN
SPEC &/OR DWG:

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Western Electric Co. Part/Spec no. GS-58342	New York, N. Y.	NObsr-75167, 26 March 1958	

September 1956

TIME STANDARD AN/FSM-5A



Time Standard AN/FSM-5A

FUNCTIONAL DESCRIPTION

The Time Standard AN/FSM-5A, a fixed radio-station instrument consisting of a series of rack-mounted assembles, is used to supply and maintain time information and standard frequency. When set up and properly checked, this instrument is capable of supplying time information correct to within one millisecond and frequency accurate to one part in 50 million if operated in a room air-conditioned at 25° ±2° C.

No field changes in effect at time of preparation (11 June 1956).

RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied: One radio receiver which tunes to NSS or WWV w/output of 1 to 11 v, two 2.15 v lead-acid cells, (69) 2.15 v lead-acid cells, (1) Battery Rack, (1) 70 amp fuse and (1) 1 damp fuse.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

POWER SOURCE REQUIRED: 115 v, 60 cps.
POWER CONSUMPTION: 500 W.
SIGNAL DATA: 1 kc, 10 kc, 100 kc, 1000 kc, per sec.
KEYING PULSE: 0.3 sec duration, 1 pulse per sec repetition rate.
INDICATION: 3 in. CR Tube.

MANUFACTURER'S OR CONTRACTOR'S DATA

Western Electric Co. Inc., New York, N.Y.
Contract NObsr 57282, dated 1 Apr 1954

TUBE COMPLEMENT

(4) 6AC7	(1) 6X6GT	(8) 6AS6
(2) 6C4	(1) 6AQ5	(3) 5686
(11) 12AU7	(7) 6AS7	(2) 6X5
(1) 6W4	(2) 6X4	(14) 5963
(5) 5696	(3) 5R4	(2) 12AX7
(2) 5651	(1) OB2	(6) 6SN7
(1) 3JP1	(1) 6SL7	(2) 5U4
(1) OA2	(1) 884	

Total Tubes: (81)

AN/FSM-5A TIME STANDARD

(1) IN34
Total Crystals: (1)

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO

REFERENCE DATA AND LITERATURE

NAVSHIPS 91327A: Technical Manual for Time Standard AN/FSM-5A.
NAVSHIPS 91729: Technical Manual for R. F. Oscillator 0-76A/U.

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu Ft)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Cabinet CY-597/G			
1	Voltage Stabilizer			
1	Power Supply PP-455A/FSM-5A			
1	Power Supply PP-456A/FSM-5A			
1	R-F Oscillator 0-76/U			
1	Frequency Divider CV-87A/FSM-5A			
1	Time Comparator CV-88A/FSM-5A			
1	Oscilloscope OS-13/UA			
1	Clock TD-31/FSM-5A			
1	Binary Tester CV-88A6/FSM-5A			
	Spare Parts			
	Test Prod.			
	R-F Cable			

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	R-F Oscillator 0-76/U	10-1/4 X 19 X 20-1/4	95
1	Frequency Divider CV-87A/FSM-5A	7 X 18-3/4 X 19	29
1	Clock TD-31/FSM-5A	12-1/2 X 19 X 21	65
1	Time Comparator CV-88A/FSM-5A	10-1/2 X 18-1/2 X 19	40
1	Power Supply PP-445A/FSM/5A	10-1/2 X 19 X 19-1/4	86-1/2
1	Power Supply PP-456A/FSM-5A	7 X 16-1/4 X 19	41
1	Oscilloscope OS - 13/UA	8-3/4 X 19 X 20-1/4	44
1	Binary Tester CV-88A6/FSM-5A	8-1/4 X 8-7/8 X 9-7/8	9-3/4
1	Cabinet CY-597/G	22-3/8 X 26 X 87-1/2	322
1	Voltage Stabilizer	8-7/8 X 13-27/32 X 14-5/32	50
1	Spare Parts		
1	Test Prod MX-1015/U	50 lg	
1	R-F Cable CG-55/U	180 lg	

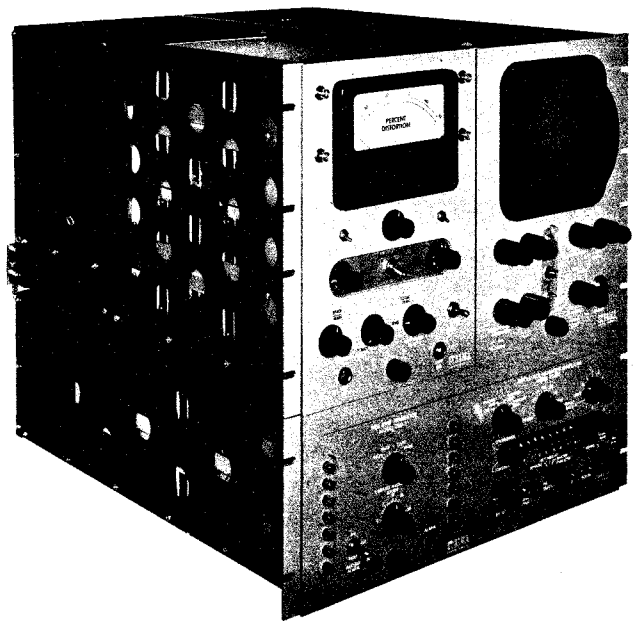
20 November 1962 | TEST SET, TELETYPEWRITER AN/GGM-1

Cog Service: USN FSN: 5815-897-5505 | Functional Class:

USA	USN	USAF

TYPE CLASS: Used by Used by

MANUFACTURER'S NAME/CODE NUMBER: Stelma Incorporated, (96238).



Test Set, Teletypewriter AN/GGM-1

FUNCTIONAL DESCRIPTION:

The Test Set, Teletypewriter AN/GGM-1 is designed to provide facilities for analyzing synchronous and start-stop data/telegraph signals to determine the types magnitudes of distortion present in the signal.

No field changes in effect at time of preparation (10 September 1962).

TECHNICAL CHARACTERISTICS:

TYPE OF DISPLAY: 5-inch CRT.
TYPES OF DISTORTION MEASUREMENT: Total peak, early peak, late peak and average peak.
RANGE OF DISTORTION MEASUREMENT: 0 to 50%.
INPUT IMPEDANCES
NEUTRAL INPUT
20 MA: 300 ohms.

60 MA: 100 ohms.
POLAR INPUT
20 OR 30 MA: 300 ohms.
HIGH IMPEDANCE: 50,000 ohms.
TIMING SIGNAL INPUT: 1,000 ohms.
LONG TERM MEASUREMENT ACCURACY: Porm 12%.
OPERATING TEMPERATURE RANGE: 0 deg C to 50 deg C.
AUTO CHARACTER BLANK RANGE: 0 to 2 seconds.
SWEEP CALIBRATION: Porm 2%.
INPUT SIGNALS
START-STOP: 7 to 16 unit intervals/character.
SYNCHRONOUS: All codes.
INPUT SIGNAL CURRENT
NEUTRAL: 20 to 60 ma.
POLAR AND HIGH IMPEDANCE: 20 to 30 ma.
INPUT SIGNAL BAUD RATES: Up to 600 baud.
OPERATING POWER RQMT: 115 v ac, 50 to 60 cps, single ph.

RELATION TO OTHER EQUIPMENT:

The AN/GGM-1 is designed to be used with, but not part of AN/FGC-25, 26 and 30 and AN/GGC-3.
The AN/GGM-1 is the same as Stelma Corporation's Commercial Model DAC-V.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Set, Teletypewriter AN/GGM-1 consists of:			
1	Digital Distortion Analyzer		8 x 12-1/4 x 12-1/2	11
1	Data-Scan Scope		8 x 12-1/4 x 19	27
1	Test Pattern Generator		5-1/4 x 8 x 19	9
1	Time Base Generator		8 x 9-3/4 x 19	10
1	Power Supply		7 x 8 x 9-3/4	25
1	Rack Shelf Adapter		12-1/4 x 19 x 19-1/4	5
1	Rack Shelf Adapter		6-1/2 x 19 x 19-1/4	4

REFERENCE DATA AND LITERATURE:

NAVSHIPS 94244: Technical Manual for Test Set, Teletypewriter AN/GGM-1.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (1) 1X2B (2) 0B2 (2) DA2 (1) 5ADP7 (1) GV6A (1) GV3A (2) 12BH7A
(2) 7730 (1) GAV6A (2) 6DJ8 (4) 5963

CRYSTALS: (3) CR-37/U

SEMI-CONDUCTORS: (217) 1N270 (7) 1N485 (2) 1N3195 (2) 1N3194 (6) C01 (5) 1N1227 (1) 1N752A (1) 1N646 (1) 1N3028 (7) 1N1341

TRANSISTORS: (413) ST-123 (4) 2N398 (7) ST-114 (42) ST-122 (12) ST-103 (2) ST-201 (2) ST-125 (18) ST-204 (1) 3N51 (1) 2N1231 (1) ST-205 (3) ST-113 (2) 2N1241

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)

PROCUREMENT DATA

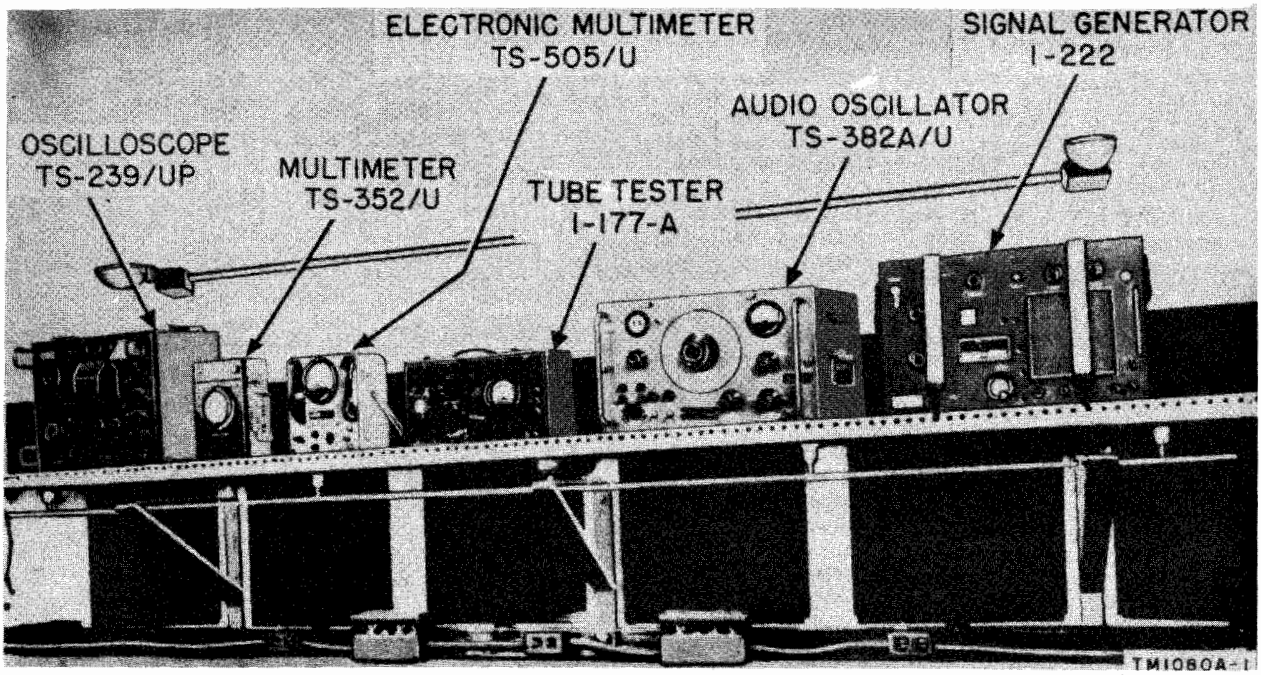
PROCURING SERVICE: USN DESIGN COG: USN, BuShips
SPEC &/OR DWG:

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Stelma Incorporated Model no. DAC-5	Stamford, Connecticut	P. O. 4559-PP-60-A3-A3	

April 1959

Test-Miscellaneous Test

TEST SET AN/GPM-1



Test Set AN/GPM-1

FUNCTIONAL DESCRIPTION

The AN/GPM-1 is designed as test equipment for ground radar and Identification Friend or Foe (IFF) radio sets. It consists of the instruments and cords necessary for general echelon maintenance.

Data on this sheet reflects the following field changes change no. 1.

RELATION TO OTHER EQUIPMENT

The AN/GPM-1 is designed to be used with but not part of Test Sets of the AN/MPM Series.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

OSCILLOSCOPE OS-26/USM-26.
- SIZE OF SCREEN: 3 inch.
- SWEEP CIRCUITS
  - RECURRENT: 8 cps to 600 kc.
  - TRIGGERED: 1.25 to 125,000 microseconds.
- DEFLECTION SENSITIVITY
  - VERTICAL: 0.035 v rms per inch.
  - HORIZONTAL: 4 v rms per inch.
- FREQUENCY RESPONSE
  - VERTICAL: 1.5 cps to 10 mc.
  - HORIZONTAL: 0.5 cps to 700 kc.
- BEAM MODULATION RESPONSE: 50 cps to mc.
- INPUT IMPEDANCE (SCOPE ALONE)
  - VERTICAL: 300,000 ohms, shunted by 35 uuf.
  - HORIZONTAL: 5.6 megohms, shunted by 25 uuf.
  - BEAM MODULATION: 56,000 ohms, shunted by 25 uuf.
- POWER REQUIREMENTS: 105 to 125 v AC, 50 to 100 cycles, single ph; 220 watts at 115 v 60 cps.

ELECTRON TUBE TEST SET TV-7/U.
- TYPE OF TEST: Dynamic mutual conductance test (for amplifier tubes); emission test (for rectifier tubes); short test; Gas test (amplifier tubes); continuity test (ballast tubes); pilot lamp test.
- METER RANGE: 0 to 120 arbitary units.
- POWER CONSUMPTION: 45 watts at 115 v and 50 cps.

VOLTMETER ME-30A/U
- FREQUENCY RANGE: 10 cps to 4 mc.
- ACCURACY (with line voltage from 103 to 127 v): ±2% of full scale (20 cps to

AN/GPM-1 TEST SET

1 mc); ±3% of full scale (10 cps to 4 mc).
INPUT IMPEDANCE
1 TO 300 V RANGE: 10 megohms paralleled by 15 uuf.
.001 TO .3 V RANGE: 10 megohms paralleled by 25 uuf.
CALIBRATION: Reads rms value of sine.
POWER SUPPLY: 115/230 ±10% at 50/1000 cps.

AUDIO OSCILLATOR TS-382A/U.
FREQUENCY RANGE: 20 to 200,000 cps.
CALIBRATION OF TUNING DIAL: 20 to 200.
BANDS
X1: 20 to 200 cps.
X10: 200 to 2000 cps.
X100: 2000 to 20000 cps.
X1000: 20,000 to 200,000 cps.
OUTPUT IMPEDANCE: 1,000 ohms.
FREQUENCY RESPONSE (Reference level 400 cps, 10 v into 1000 ohm lead).
20 CYCLES PER SECOND: Approx ±1 db.
150,000 CYCLES PER SECOND: Approx ±1 db.
FREQUENCY ACCURACY; ±6%.
FREQUENCY STABILITY: ±2%.
DISTORTION (RATED OUTPUT): Less than 3% at all frequencies.
HUM: 60 db below rated output.
ATTENUATOR ACCURACY: ±3% (except 10 uv range where accuracy is +2 or -3 uv.
POWER INPUT: 115 v, 50 to 1600 cps.
POWER OUTPUT: 100 mw.
FUSE RATING: 2 amp.

MANUFACTURER'S OR CONTRACTOR'S DATA

Reiner Electronics Co., Inc., New York, N.Y.
Sig Order No. 6853-PH-51, 6952-PH-51.

TUBE AND/OR CRYSTAL COMPLEMENT

TS-382A/U
(1) 0A3 (1) 5Y3WGTB
(1) 6AG7Y (1) 6J5
(2) 6SJ7 (1) 6SQ7
(1) 6V6Y (1) 6Y6G

Total Tubes: (9)
(2) 1N34A
Total Crystals: (2)

TS-505/U
(1) 12AT7WA (1) 5726-6AL5W
(2) 6AU6WA (1) 6X4WA
Total Tubes: (5)

No Crystals.

TS-239A/UP
(1) 0C3W (1) 3JP1
(1) 5R4WGB (3) 5654-6AK5W
(1) 5726-6AL5W (2) 6AG7Y
(2) 6C4WA (2) 6SN7WGTA
(2) 6X5WGT (8) 7F8W
Total Tubes: (23)

No Crystals.

TS-352/U
(1) CK705
Total Tubes: (1)

No Crystals.

ME-30A/U
(1) 0B2WA (1) 6AU5GT
(1) 6AX5GT (6) 6CB6
Total Tubes: (9)

No Crystals.

I-177
(1) 5Y3WGTB (1) 83
Total Tubes: (2)

No Crystals.

TV-7/U
(1) 5Y3GTB (1) 83
Total Tubes: (2)
No Crystals.

AN/USM-24
(1) 0A2WA (2) 1V2
(4) 12AT7WA (10) 12AU7
(1) 3JP1 (3) 5726-6AL5W
(1) 5744WA (2) 6AH6
(2) 6AN5WA (1) 6CB6
(1) 6C4WA (1) 6J6WA
(4) 6X4WA
Total Tubes: (33)

No Crystals.

REFERENCE DATA AND LITERATURE

Technical Manual TM11-1080A for the Test Set AN/GPM-1.

TYPE CLASSIFICATION

DESIGN COGNIZANCE TASSA

PROCUREMENT COGNIZANCE

STOCK NO.

R.D.B. IDENT. NO.

TEST SET AN/GPM-1

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Test Set AN/GPM-1 Including:		
*1	Oscilloscope TS-239A/UP	17 X 19-1/2 X 21-1/2	60
**1	Oscilloscope AN/USM-24	13 X 15 X 17-1/8	48
1	Electronic Multimeter TS-505/U	11-1/4 X 13 X 13	23
*1	Tube Tester I-177A	5-3/4 X 8-1/2 X 15-1/2	15.75
**1	Electron Tube Test Set TV-7/U	6-1/16 X 8-3/8 X 15-5/8	18
1	Audio Oscillator TS-382A/U	10 X 12-3/4 X 18-3/4	40
1	Multimeter TS-352/U	6-1/4 X 8-3/4 X 11-1/4	14.5
*1	Signal Generator I-222A	9-3/4 X 12 X 21-1/2	50
**1	Voltmeter ME-30A/U	7 X 10-1/2 X 10-3/4	15
**1	Radio Frequency Indicator TS-446/U	1/2 dia X 4-5/8	
1	Head Set HS-30		
1	Chest Mount FT-502	2-3/4 X 22-1/4 X 52-1/2	25
1	Outlet Box J-45/MPN-1	2-1/8 X 4 X 4	2
**1	Adapter Connector UG-274/U	27/64 X 1-1/16 X 1-9/32	
6	Cord CD-502 (black)		
6	Cord CD-502 (red)		
3	Cord CD-503 (black)		
3	Cord CD-503 (red)		
3	Cord CD-504 (black)		
3	Cord CD-504 (red)		
2	Cord CD-505		
1	Cord CD-605		
1	Cord CD-1102		
1	Cord CD-1103		
1	Cord CD-1106		
1	Cord CD-1141		
1	Cord CD-1265		
*1	Cord CD-67/MRQ-2		
**1	Cord CG-373A/U		

NOTE: *Supplied only with earlier Test Set AN/GPM-1
**Supplied only with later Test Set AN/GPM-1

12 February 1963 — TEST SET, RADIO AN/GRM-33

Cog Service: USN — FSN: F6625-724-2612 — Functional Class: 12

USA — USN — USAF

TYPE CLASS: Used by

MANUFACTURER'S NAME/CODE NUMBER: The Technical Materiel Corp., (82679).

(No Illustration Available)

FUNCTIONAL DESCRIPTION:

Radio Test Set AN/GRM-33 is intended for tuning and aligning associated single sideband exciters and transmitters. It is a multiple item mounted in a small rack.

No field changes in effect at time of preparation (6 February 1963).

TECHNICAL CHARACTERISTICS:

TYPE OF TESTS: Tuning and aligning of single sideband exciters; tuning and aligning of single sideband transmitters.

OPERATING DATA

FREQUENCY RANGE: 2 to 64 mc continuously tuned.

SWEEP WIDTHS

FIXED: 150, 500 cps, 2 kc, 10 kc, 20 kc.

CONTINUOUSLY VARIABLE: 0 to 100 kc, 0 to 2 kc.

AUDIO FREQUENCY TEST TONES: 935 cps, 2805 cps.

RADIO FREQUENCY TEST TONES: 1999 kc crystal controlled; 2001 kc crystal controlled.

INPUT CENTER FREQUENCY: 500 kc.

BAND PASS REGION: 450 to 500 kc.

IMAGE REJECTION: Better than 130:1 at input center frequency.

INPUT IMPEDANCE: 50 ohms at each of two terminals.

INPUT ATTENUATION: 0 to 65 db attenuation of the input signal in 5 db steps with an accuracy of porm 1% to 30 mc.

OPERATING POWER RQMT: 115/230 v ac, 50 to 60 cps, single ph.

RELATION TO OTHER EQUIPMENT:

AN/GRM-33 is designed as part of Transmitting Set, Radio AN/FRT-39( ).

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Set, Radio AN/GRM-33 includes:		20-5/8 x 21-1/2 x 49-3/4	

AN/GRM-33 TEST SET, RADIO

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Spectrum Analyzer Group AN/URM-116			
1	RF Oscillator O-330/FR		10-1/2 x 16 x 19	
1	Generator, Signal O-579/URT		3.75 x 11.5 x 11.8	
1	Passive Voltage Regulator			
1	Cabinet, Electrical Equipment CY-2805/GRM-33		20-5/8 x 21-1/2 x 49-3/4	

REFERENCE DATA AND LITERATURE:

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Data not available.

CRYSTALS: Data not available.

SEMI-CONDUCTORS: Data not available.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1		500

PROCUREMENT DATA

PROCURING SERVICE: USN DESIGN COG: USN, BuShips
SPEC &/OR DWG:

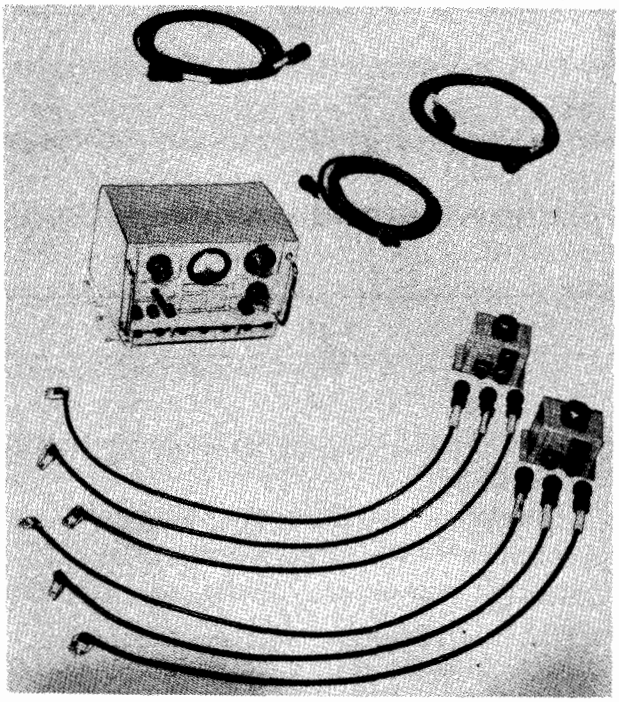
CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
The Technical Materiel Corp., Model no. PTE-1	Mamaroneck, N. Y.	NObsr-81106	$3,832.00

January 1958

MICROMETER ELECTRONIC MUTUAL INDUCTANCE

Test-Miscellaneous Test

AN/GSM-3



Micrometer Electronic Mutual Inductance AN/GSM-3

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 2000 kc.
OUTPUT INDICATION: Increments at null balance, to be converted to mils.
ACCURACY: 20 u in.
POWER SOURCE REQUIRED: 115 v, 60 cps, single ph, 100 W.

MANUFACTURER'S OR CONTRACTOR'S DATA

The Minnesota Electronics Corporation, St. Paul, Minn.
Contract No. NObsr-57434, dated 29 May 1952.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 5814 (1) OA2 (1) 5Y3WGT

Total Tubes: (3)

(6) 1N69

Total Crystals: (6)

FUNCTIONAL DESCRIPTION

The Electronic Micrometer is a precision device designed specifically to measure oil film thickness in journal bearings by electric means.

The instrument detectors are designed for measuring shaft to bearing clearances on a specific test equipment, the Amsler bearing test machine.

No field changes in effect at time of preparation (1 July 1957).

REFERENCE DATA AND LITERATURE

NAVSHIPS 92079, Technical Manual for Micrometer, Electronic, Mutual Inductance AN/GSM-3.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.
R.D.B. IDENT. NO.

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Micrometer, Electronic, Mutual Inductance AN/GSM-3 incl equipment spares	1.1	9 x 12 x 18-1/2	62

AN/GSM-3 MICROMETER ELECTRONIC MUTUAL INDUCTANCE

January 1958

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Micrometer, Electronic, Mutual Inductance AN/GSM-3 c/o 1 Clearance Computer CP-174/GSM-3 6 Magnetic Detector DT-103/GSM-3 2 Interconnecting Box J-549/GSM-3 1 Power Cable Assembly CX-2081/U (10 ft, 1g) 2 Special Purpose Cable Assembly CX-2321/U (20 ft, 0 in.) 6 Special Purpose Cable Assembly CX-2322/U (3 ft, 0 in.)	7-7/8 X 8-5/8 X 11-1/2	41

April 1959

Test-Miscellaneous Test

TEST SET AN/MPM-14

FUNCTIONAL DESCRIPTION

The AN/MPM-14 is designed as a special Test Set for Third Echelon mobile radar repair unit designed to include those items of test equipment peculiar to Radio Set AN/TPS-1, AN/TPS-1A, AN/TPS-1B, Radar Set AN/CPS-5, AN/CPX-2 and AN/TPI-1, necessary in addition to the basic test equipment for Third Echelon maintenance of these sets. The selection of test equipment is consistent with the requirements of mobility of the unit itself and with full consideration for the other items of equipment and parts necessary to provide a completely operable field unit. The tools, test and maintenance equipment and spare parts used by the mobile unit are transported in a 2-1/2 ton 6 by 6 truck.

No field changes in effect at time of preparation (2 December 1958).

RELATION TO OTHER EQUIPMENT

The AN/MPM-14 is designed to be used with but not part of Radio Set AN/TPS-1, AN/TPS-1A, AN/TPS-1B, Radio Set AN/CPS-5, AN/CPX-2 and AN/TPX-1.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

OPERATING POWER REQUIREMENTS: 115 v AC, 400 cps, 1300 watts; 28 v DC, 400 watts.

TUBE AND/OR CRYSTAL COMPLEMENT

Electron Tube and Crystal Data not Available.

REFERENCE DATA AND LITERATURE

Nomenclature Card AN/MPM-14 for Test Set.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	TASSA
PROCUREMENT COGNIZANCE	12.12
STOCK NO.	
R.D.B. IDENT. NO.	

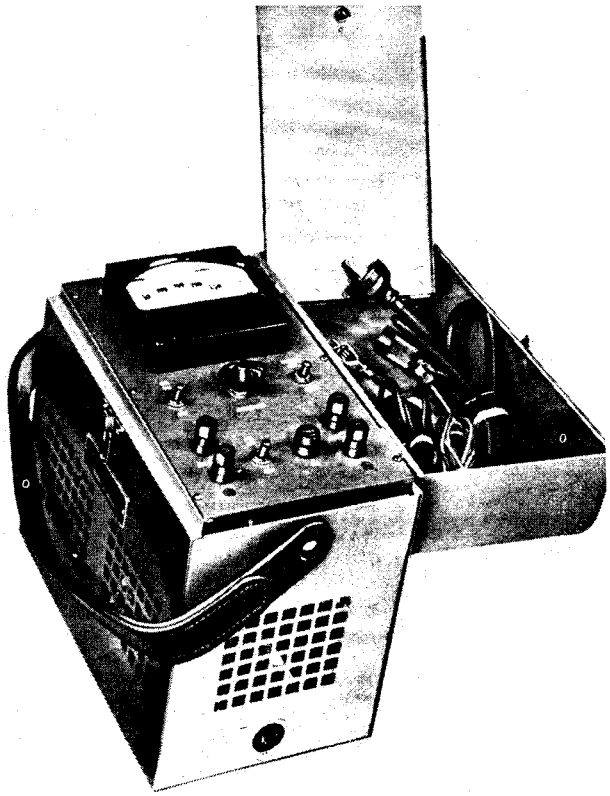
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Test Set AN/MPM-14		

USA	USN	USAF

TYPE CLASS: Sub. Std

MANUFACTURER'S NAME/CODE NUMBER: Teletype Corp., (59433).



Telegraph Terminal Test Set AN/PGM-1

FUNCTIONAL DESCRIPTION:

Telegraph Terminal Test Set AN/PGM-1 is an electronic type power supply which operates from an ac input of 115 v porm 10%, 50 to 60 cycles, to furnish a dc output (30 to 100 ma) which is continuously variable over a range of 175 to 275 volts. A meter, 0 to 300 volt dc, is located on the panel of the test set to indicate the output voltage or to measure an external dc voltage.

No field changes in effect at time of preparation (5 June 1962).

TECHNICAL CHARACTERISTICS:

OUTPUT VOLTAGE: 175 to 275 v dc; 30 to 100 ma.
OUTPUT VOLTAGE ACCURACY: Porm 1/2 of 1% at 115 v line voltage.
INPUT POWER REQUIREMENTS
INPUT VOLTAGE: 115 v porm 10%, 50 to 60 cyc, single ph.

AN/PGM-1 TELEGRAPH TERMINAL TEST SET

INPUT CURRENT: 0.9 amps.
INPUT WATTS: 104 W with 115 v ac input; 230 v dc, 100 ma output.
INPUT WATTS: 68.5 W with 115 v ac input; 230 v dc, 30 ma output.

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Telegraph Terminal Test Set AN/PGM-1 includes:		6.75 x 9 x 10.75	28
1	Cable Assy, Power		5/16 dia x 70-3/16	
1	Test Lead		70-1/2 lg	
1	Test Lead		69 lg	
1	Fuse, 2 Amp (spare)			
2	Technical Manual		0.25 x 8.5 x 11	

REFERENCE DATA AND LITERATURE:

NAVSHIPS 91945: Technical Manual for Telegraph Terminal Test Set AN/PGM-1 and AN/PGM-1A.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (1) 0B2 (1) 5U4G (1) 6SL7GT (2) 6Y6G

CRYSTALS: None used.

SEMI-CONDUCTORS: None used.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1		

PROCUREMENT DATA

PROCURING SERVICE: USN
DESIGN COG: USN, BuShips
SPEC &/OR DWG: MIL-T-21428(SHIPS)

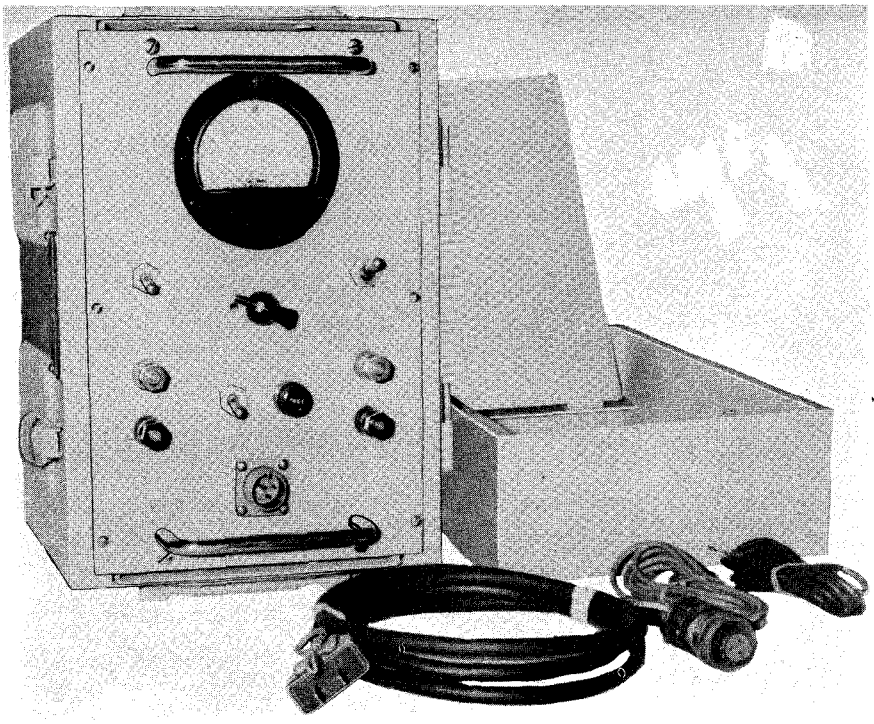
CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Teletype Corp. Type no. EMTS-200	Chicago, Ill.	NObsr-57610, 25 June 1952	$298.65
		NObsr-64282, 30 June 1954	$309.65
Kinn Electronics Corp.	Baltimore, Md.	NObsr-75910	$263.00

8 February 1963 | TELEGRAPH TERMINAL TEST SET AN/PGM-1A
Cog Service: USN FSN: | Functional Class: 12.6

USA	USN	USAF

TYPE CLASS: Used by

MANUFACTURER'S NAME/CODE NUMBER: Decitron Electronics Co., (06053).



Telegraph Terminal Test Set AN/PGM-1A

FUNCTIONAL DESCRIPTION:

Telegraph Terminal Test Set AN/PGM-1A is an electronic type power supply which operates from an ac input of 115 v porm 10%, 50 to 60 cycles, to furnish a dc output (30 to 100 ma) which is continuously variable over a range of 175 to 275 volts. A meter, 0 to 300 volts dc, is located on the panel of the test set to indicate the output voltage or to measure an external dc voltage.

No field changes in effect at time of preparation (5 June 1962).

TECHNICAL CHARACTERISTICS:

OUTPUT VOLTAGE: 175 to 275 v dc; 30 to 100 ma.
OUTPUT VOLTAGE ACCURACY: Porm 1/2 of 1% at 115 v line voltage.
INPUT POWER REQUIREMENTS
INPUT VOLTAGE: 115 v porm 10%, 50 to 60 cyc, single ph.

AN/PGM-1A TELEGRAPH TERMINAL TEST SET

INPUT CURRENT: 0.9 amps.
INPUT WATTS: 104 W with 115 v ac input; 230 v dc, 100 ma output.
INPUT WATTS: 68.5 W with 115 v ac input; 2300 dc, 30 ma output.

RELATION TO OTHER EQUIPMENT:

This equipment is functionally and electronically interchangeable with Telegraph Test Set AN/PGM-1, but repair parts differ.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Telegraph Terminal Test Set AN/PGM-1A Includes:		8.062 x 11.375 x 11.875	28
2	Technical Manual NAVSHIPS 91945			
1	Fuse 2 Amp			
1	Cable Assembly, Power		5/16 dia x 70-3/16	
1	Test Lead		70-1/2 lg	
1	Test Lead		69 lg	

REFERENCE DATA AND LITERATURE:

NAVSHIPS 91945: Technical Manual for Telegraph Terminal Test Set AN/PGM-1 and AN/PGM-1A.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (1) 0B2WA (1) 5U4GB (1) 6SL7WGT (2) 6Y6G

CRYSTALS: None used.

SEMI-CONDUCTORS: None used.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	1.22	32

PROCUREMENT DATA

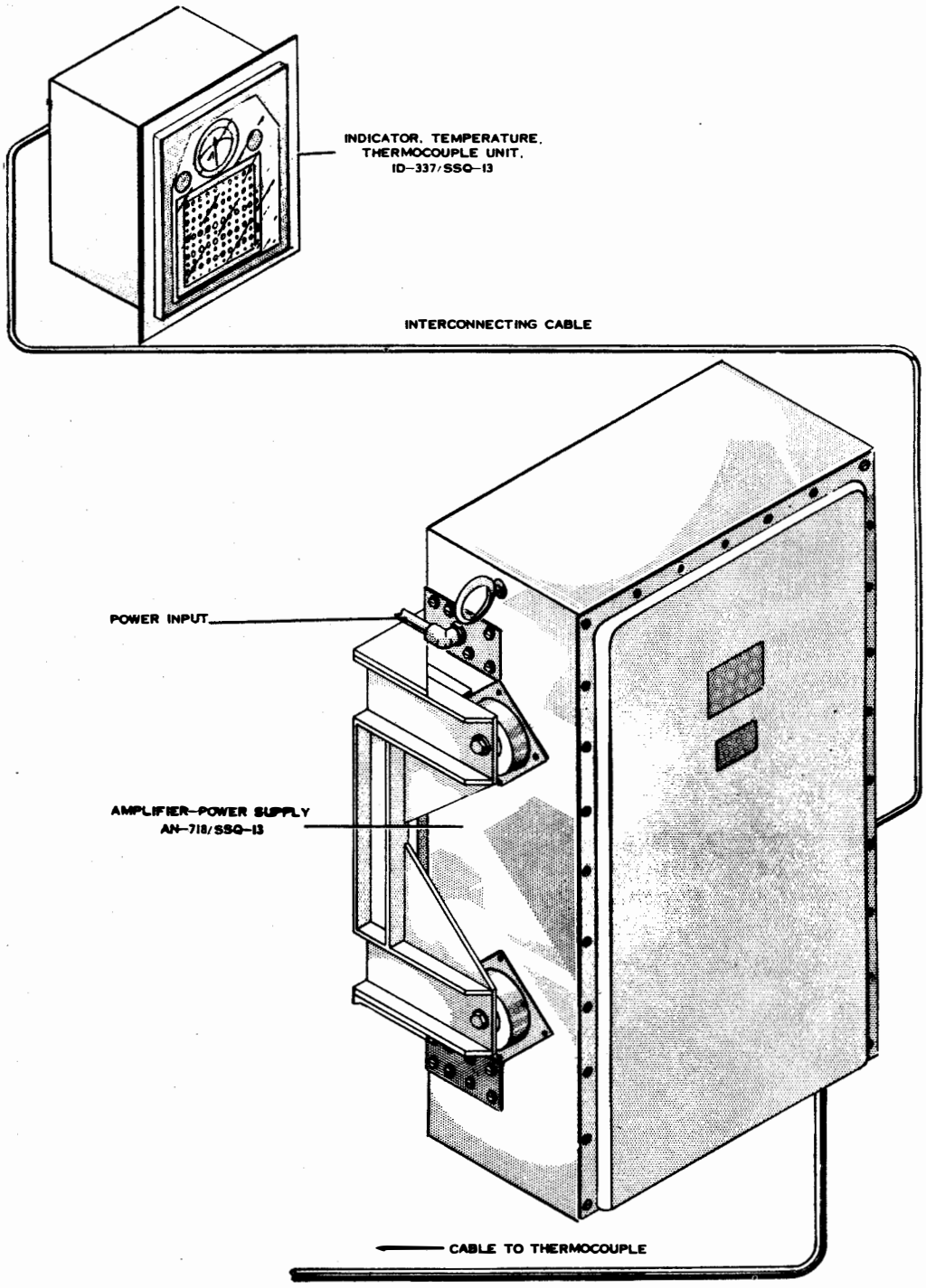
PROCURING SERVICE: USN
DESIGN COG: USN, BuShips
SPEC &/OR DWG: MIL-T-21428(SHIPS)

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Decitron Electronics Co. Dwg no. 173-103	Brooklyn, N.Y.	NObsr-75739, 1 October 1960	$325.00

December 1956

TEMPERATURE MONITOR SET

AN/SSQ-13



Temperature Monitor Set AN/SSQ-13

AN/SSQ-13 TEMPERATURE MONITOR SET

December 1956

FUNCTIONAL DESCRIPTION

The AN/SSQ-13 is to monitor or scan periodically the output of a number of thermocouples mounted in critical locations in shipboard propulsion machinery, and to actuate an alarm tamp on bell when any thermocouple exceeds a safe temperature. A single, continuously-indicating, measuring circuit is also provided for optional use on any desired thermocouple, without effect on the scanning of the remaining thermocouples.

No field changes in effect at time of preparation (2 July 1956).

RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied: (1) Portable Precision Potentiometer, (1) Voltmeter, (1) Multi-range Voltmeter, (1) Precision Resistance Box 602-N, (1) Set Miscellaneous Tools,(as required) Thermocouple Cable PBIW, 15Cj, (1) Interconnecting Cable TTHFWA-30, 15Clj, (1) Interconnecting Cable MSCA-14, 15Clj, (1) Alarm Bell Cable DSGA-3, 15Cj, (1) Power Cable.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

NO. OF THERMOCOUPLES MONITORED: 48.
TYPE THERMOCOUPLES: Copper-constantan, iron-constantan.
TEMPERATURE MEASUREMENT RANGE: +100 deg to 400 deg F.
COLD-JUNCTION CORRECTION: +50 deg to 150 deg F.
ACCURACY
- 100 DEG F: Error less than ±4 deg F.
- 250 DEG F: Error less than ±7 deg F.
- 400 DEG F: Error less than ±10 deg F.

SCANNING RATE: 5 sec.

OUTPUT
- MONITORING SYSTEM: Alarm light, alarm light, and over-temperature indicating lights.
- TEMPERATURE MEASURING SYSTEM: Continuous temperature indicacion of any selected thermocouple.

NO. OVER-TEMPERATURE LIGHTS PERMISSIBLE: 5.
SUPPLY VOLTAGE: 105 to 125 v.
SUPPLY FREQUENCY: 55 to 65 cps, single ph.
POWER CONSUMPTION: 500 W.
HEAT DISSIPATION: 500 W.

MANUFACTURER'S OR CONTRACTOR'S DATA

Televiso Corporation, Chicago, Ill.
Contract NObsr 52429.
Approximate Cost: $17,750.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

(48) 5823	(1) 6AQ5W	(2) 5726
(5) 5670	(2) 5879	(1) 5751
(1) 2D21	(2) 5R4GY	(2) 6AS7
(2) 5654	(1) 6X4	(1) OA2
Total Tubes: (69)		(1) 5651

REFERENCE DATA AND LITERATURE

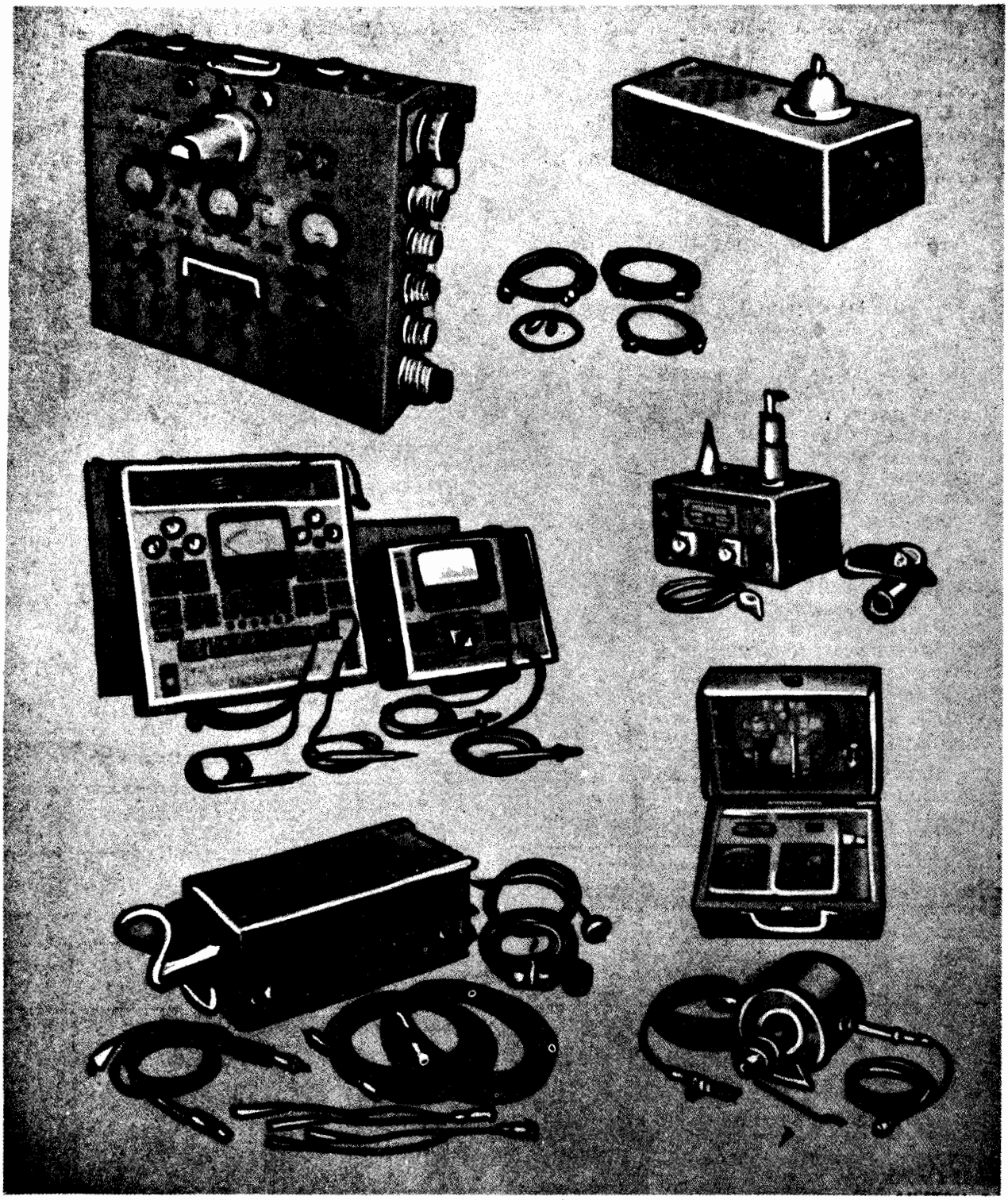
NAVSHIPS 92059: Technical Manual for Temperature Monitor Set AN/SSQ-13.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Amplifier-Power Supply AM-718/SSQ-13	19 X 27-1/2 X 37	375
1	Indicator, Temperature, Thermocouple ID-337/SSQ-13	7.5 X 9 X 11	30
1	Calibration Chart		
2	Technical Manuals		
1	Spare Parts Box	17-1/2 X 20.5 X 32	100

RADAR TEST SET AN/TPM-3



Radar Test Set AN/TPM-3

Test-Miscellaneous Test

June 1957

AN/TPM-3

RADAR TEST SET

FUNCTIONAL DESCRIPTION

The AN/TPM-3 is an assembly of test equipments consisting of a dummy load, echo box, oscilloscope, signal generators, analyzer, voltage divider, multimeter, tube tester, a rectifier test set and a wave meter. It is used for organization maintenance of radar set AN/TPL-1.

No field changes in effect at time of preparation (28 September 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE
SIGNAL GENERATOR: 5 to 175 mc.
VIDEO INPUT: 30 to 1,000,000 cps.
OSCILLOSCOPE SIGNAL INPUT: 0.1 to 100 v, peak to peak.
SIGNAL OUTPUT VOLTAGE: 1 uv to 0.1 v.
SWEEP SPEED
TRIGGERED SWEEP: 5, 50, 250 usec.
SAW TOOTH: 10 to 50,000 cps continuously variable.
POWER DISSIPATION: 100 W.
CURRENT MEASURING RANGE:
0 to 10 amp AC
0 to 1.5 amp DC.
RESISTANCE MEASURING RANGE: 0 to 10 meg.
MUTUAL CONDUCTANCE MEASURING RANGE: 0 to 15000 microhms.
VOLTAGE DIVIDER RATIOS: 10 to 1 and 100 to 1.

MANUFACTURER'S OR CONTRACTOR'S DATA

Sperry Gyroscope Company, Inc, Great Neck, New York.
Contract Sig Corp 1510-MPD-44.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 0C3
(1) 3JP1
(1) 5R4GY
(1) 5Y3GT
(2) 6AG7
(2) 6C4
(2) 6SN7WGT
(2) 6X5GT
(1) 7C5
(8) 7F8
(1) 7L7
(1) 7X4
(1) VR-150-30
(1) 83
(3) 5654
(1) 5726
(1) 9002

Total Tubes: (30)

(2) 1N21B

Total Crystals: (2)

REFERENCE DATA AND LITERATURE

TM11-487H: Dept of Army Technical Manual-Directory of Signal Corps Equipments - Test Equipment.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	TASSA
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
	Radar Test Set - AN/TPM-3	45		960

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Antenna Assy - AT-67/AP	3-3/4 x 4-3/4	0.5
1	Crystal Adapter UG-119/UP	11/16 x 2-1/8	
1	Dummy Load - TS-279/UPM	4 x 5-1/2 x 12-3/4	
1	Echo Box - TS-270( )/UP	8 x 12-1/4 x 12-5/8	25
1	Oscilloscope - TS-239 ( )/UP	14 x 16 x 21-3/4	60
1	Signal Generator - TS-343/U	7 x 10 x 13	25
1	Test Set - TS-216/TPL-1	6 x 20 x 20	55
1	Test Unit - I-176 ( )	5-1/2 x 8-1/2 x 11-1/2	9
1	Voltage Divider TS-265/UP	3 x 6 x 10	
1	Wavemeter Test Set - TS-117/GP	5-1/2 x 6-1/4 x 7-1/8	7
1	Tube Tester - I-177-( )	5-3/4 x 8-1/2 x 15-1/2	15-3/4
1	Rectifier Test Set - TS-268( )/U	3 X 6 X 7	4

October 1957

Test-Miscellaneous Test

TEST EQUIPMENT, GUIDANCE SECTION AN/TPM-9

FUNCTIONAL DESCRIPTION

The AN/TPM-9 provides facilities to check the operation of the missile guidance section and its component parts in the assembly area.

No field changes in effect at time of preparation (20 May 1957).

RELATION TO OTHER EQUIPMENT

Part of NIKE I MISSILE ORD-6 Test Equipment.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

MOUNTING: Major components of this unit are mounted on wheels.

MANUFACTURER'S OR CONTRACTOR'S DATA

Bell Telephone Labs. Inc., Spec No. GS-16775.

Contract W-30-069-ORD-1295 (NIKII).

TUBE AND/OR CRYSTAL COMPLEMENT

Tubes and Crystals: Not Available.

REFERENCE DATA AND LITERATURE

Nomenclature Card for Test Equipment, Guidance Section AN/TPM-9.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	Army Ordnance
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	

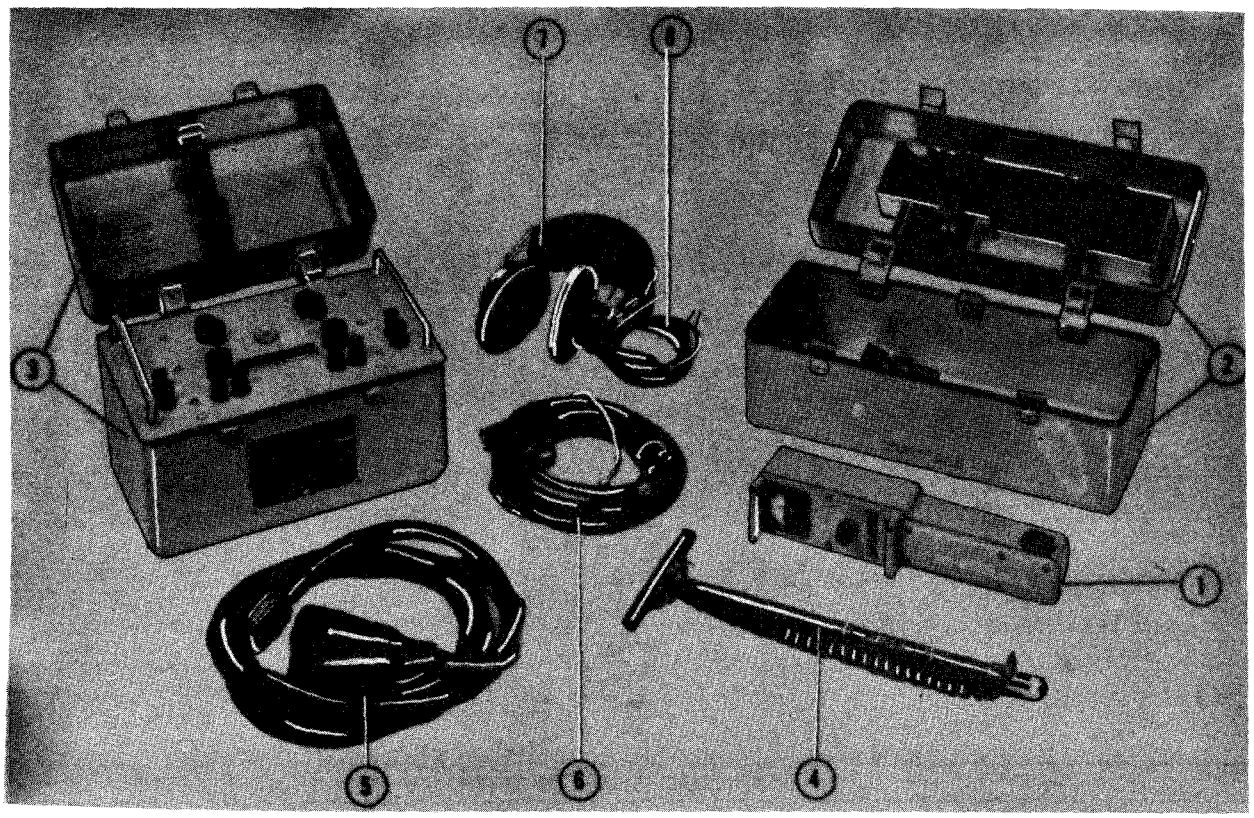
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Test Set Group, Guidance Section		
1	Test Set Group, Beacon and Sod		

April 1959

Test-Miscellaneous Test

CABLE TEST-DETECTING SET AN/TSM-11



Cable Test-Detecting Set AN/TSM-11

FUNCTIONAL DESCRIPTION

Cable Test-Detecting Set AN/TSM-11 is a portable unit for locating and following buried or submerged cables, and for location of faults therein. It is intended primarily for use in the maintenance of airfield and seadrome lighting cables.

No field changes in effect at time of preparation (1 April 1959).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

POWER REQUIREMENTS: 22.5 v DC (BA-232/U).

MANUFACTURER'S OR CONTRACTOR'S DATA

Texas Instruments Inc., Dallas, Texas.
Contract NOas-54-801.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes or Crystals used.

REFERENCE DATA AND LITERATURE

NAVAER 08-20-501: Technical Manual for Cable Test-Detecting Set AN/TSM-11.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUAER
PROCUREMENT COGNIZANCE MIL-T-18934A
STOCK NO.
R.D.B. IDENT. NO. 12.12.4

AN/TSM-11 CABLE TEST-DETECTING SET

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Cable Test-Detecting Set AN/TSM-11 Including:		
1	Amplifier-Indicator AM-1207/TSM-11		2
1	Battery, Dry BA-232/U		
1	Amplifier-Indicator Case CY-1779/TSM-11		
1	Signal Generator SG-124/TSM-11	7-53/64 X 8-5/8 X 11-1/8	12.14
1	Magnetic Field Detecting Element DT-156/TSM-11		
1	Test Lead CX-3222/U	96 lg	
1	Test Lead CX-3223/U	100 lg	
1	Headset, W/cushions, earphone		
1	Cord Assy CX-3/AR	72 lg	

October 1957

Test-Miscellaneous Test

TEST SET, CRYSTAL UNIT, QUARTZ AN/TSM-14

FUNCTIONAL DESCRIPTION

The AN/TSM-14 measures resistance of crystal units, sets up proper circuit conditions so that accurate frequency determinations can be made by use of auxiliary equipment. This equipment directly indicates voltage across, current through and power dissipated in the crystal unit under test. It contains fixed load capacitors constructed to an accuracy of ±0.2 uuf.

No field changes in effect at time of preparation (9 May 1957).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 10 kc to 1100 kc.
RESISTANCE RANGE: 0 to 500,000 ohms.
POWER SOURCE REQUIRED: 115 or 230 v, 50 to 1000 cps, single ph.

MANUFACTURER'S OR CONTRACTOR'S DATA

Radio Frequency Laboratories, Boonton, New Jersey.

TUBE AND/OR CRYSTAL COMPLEMENT

Tubes and Crystals: Not Available.

REFERENCE DATA AND LITERATURE

Nomenclature Card for Test Set, Crystal Unit, Quartz AN/TSM-14 dated 18 October 1956.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Basic Test Set		
1	Box of calibrating resistors and adapters		
1	Cord CG-409/U		

October 1957

Test-Miscellaneous Test

QUARTZ CRYSTAL UNIT TEST SET AN/TSM-15

FUNCTIONAL DESCRIPTION

The AN/TSM-15 is designed to test crystal units of all types within the frequency range of 75 mc to 200 mc. The instrument measures resistance of crystal units, sets up proper circuit conditions so that accurate frequency determinations can be made by use of auxiliary equipment. It features provision for direct indication of voltage across crystal under test, for cancellation of crystal shunt capacitance and has a built-in ohmmeter.

No field changes in effect at time of preparation (15 May 1957).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 75 to 200 mc.
RESISTANCE RANGE: 10 to 100 ohms.
POWER SOURCE REQUIRED: 115 v, 50 to 400 cps single ph.

MANUFACTURER'S OR CONTRACTOR'S DATA

Radio Frequency Lab., Boonton, N.J.

TUBE AND/OR CRYSTAL COMPLEMENT

Tubes and Crystals: Not Available.

REFERENCE DATA AND LITERATURE

Nomenclature Card for Test Set, Crystal Unit, Quartz AN/TSM-15 dated 8 November 1956.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.
R.D.B. IDENT. NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Quartz Crystal Unit Test Set AN/TSM-15	7 x 10 x 19	
1	Box of Cancellation Coils and Calibrating Resistors		
1	Cord CG-409/U		

October 1957

Test-Miscellaneous Test

VIBRATION MEASURING SET AN/TSM-8

FUNCTIONAL DESCRIPTION

The AN/TSM-8 is designed to measure the velocity level of structure-noise. It operates over a frequency range of 10 to 40,000 cycles per second within 2 db over the frequency range. The equipment is contained in two cases and provides indication by means of an indicating meter and headphones.

No field changes in effect at time of preparation (9 April 1957).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 10 to 40,000 cps.
RESPONSE: Within 2 db over frequency range.
CALIBRATION: +30 to +145 db above 10 to 6 cm per second wavelength.
ACCURACY: ±1%.
VOLTAGE RANGE: 3.55 uv to 1.995 v.
NUMBER OF INPUTS: 4, 3 velocity pickup (with amplifier), 1 external calibrated.
IMPEDANCE: 300 ohms.
NUMBER OF OUTPUTS: 5; 1 meter, 2 headphones, 1 Analyzer, and 1 Amplifier.
POWER SOURCE REQUIRED: 115 v, 60 cps, single ph, 80 w.

TUBE AND/OR CRYSTAL COMPLEMENT

Tubes and Crystals: Not Available.

REFERENCE DATA AND LITERATURE

Nomenclature Card for Vibration Measuring Set AN/TSM-8 dated 15 May 1952.

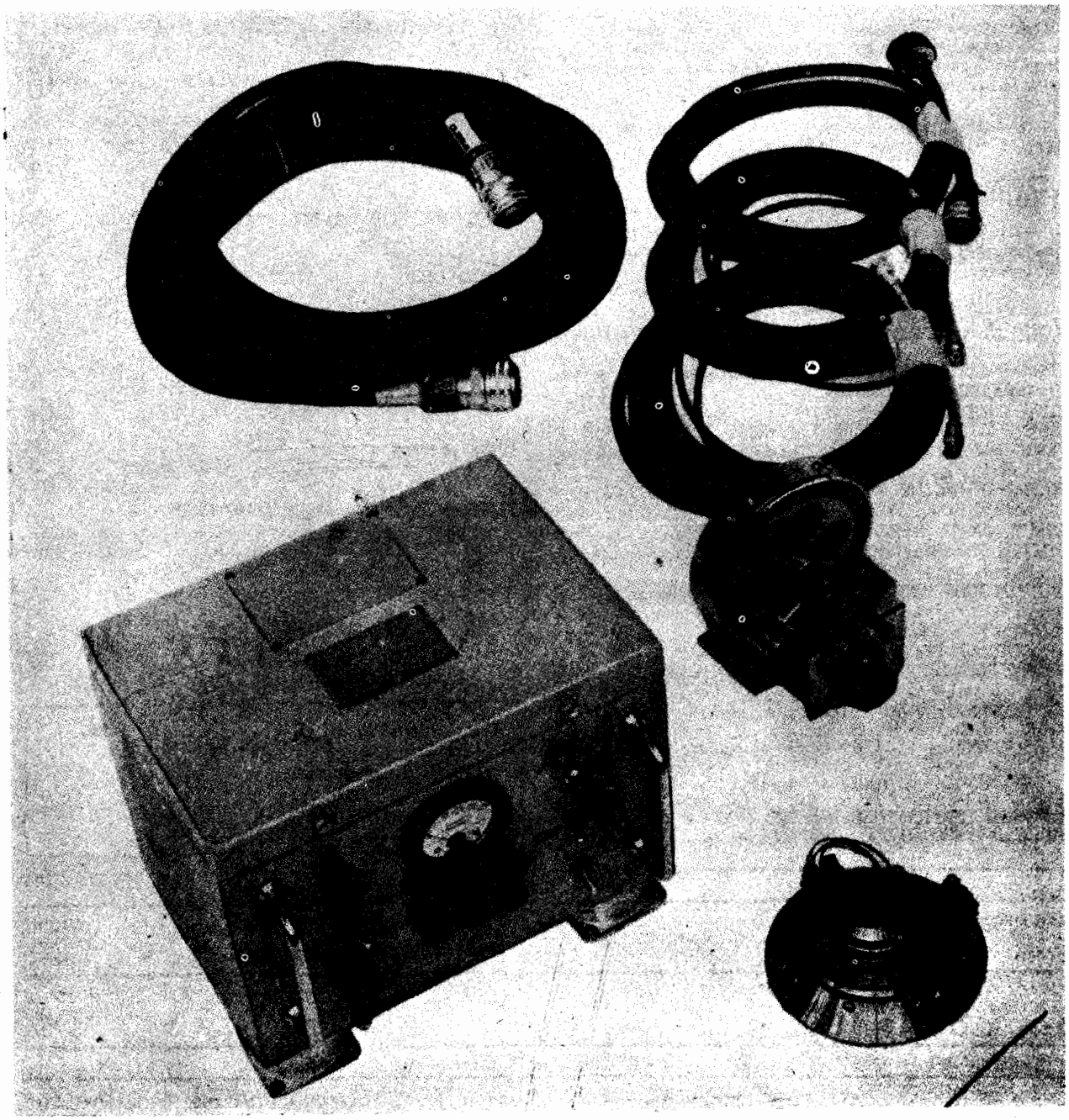
TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.
R.D.B. IDENT. NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Sound Level Meter		
1	Preamplifier		
3	Velocity Pickups		
1	Case	9-5/8 x 15 x 24-15/16	
1	Case	7 x 9 x 16-1/8	

September 1956

TEMPERATURE MEASURING SET AN/TSQ-4



Temperature Measuring Set AN/TSQ-4

FUNCTIONAL DESCRIPTION

The AN/TSQ-4 is a four-channel radio frequency non-contacting detector system with a fifth standardizing channel for the telemetering of temperature data from the rotors of aircraft turbosuperchargers being operated as high temperature experimental turbines. The r-f exited commutator system detects the temperature of any one of four thermoresistors mounted in the turbine blading. The electronic system receives the thermally modulated signals from the commutator and computes and indicates turbine

AN/TSQ-4 TEMPERATURE MEASURING SET

blading temperatures directly in degrees F on the electrical outputmeter. The fifth channel contains a fixed precision resistor for instrument standardization.

No field changes in effect at time of preparation (28 June 1956).

RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied: (1) Calibrating Fixture, (1) Precision Recording Thermocouple, (1) Electric Furnace.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TEMPERATURE INTERROGATION OSCILLATOR FREQUENCY: 160 kc.
SYNC OSCILLATOR FREQUENCY: 320 kc.
TEMPERATURE MEASUREMENT RANGE: 400 to 1500°F.
TEMPERATURE SENSING ELEMENT: 1 mil rhodium thermo resistor.
NUMBER OF POINTS OF MEASUREMENT: 4 channels, additional channel no. 5 for calibration.
INPUT SHAFT SPEED: 25000 rpm.
SIGNAL TRANSFER MECHANISM: Inductive commutator.
OUTPUT INDICATION: Direct reading in degrees F.
ACCURACY: 1%.
SYNC PULSE REPETITION RATE
EXTERNAL: 1 pulse per revolution (416/sec).
INTERNAL: 60 pulses per sec.
SYNC PULSE DURATION
EXTERNAL: 1/6 of a revolution (1/2500 of a sec.)
INTERNAL: 1/120 of a sec.
POWER SUPPLY: 115 v, 50 to 60 cps, 85 W.
AMBIENT TEMPERATURE LIMITS: 25 to 65° C.
RELATIVE HUMIDITY: In excess of 95%.

MANUFACTURER'S OR CONTRACTOR'S DATA

Minnesota Electronics Corp., St. Paul, Minnesota
Contract NObsr-52569, dated 9 June 1951.
Approximate Cost: $650.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 12AX7
(2) 5670
(1) 5654
(1) 5726
(1) 12AU7
(1) 5Y3GT
(1) 6X4W
(2) QA2

Total Tubes: (10)

(2) 1N69

Total Crystals: (2)

REFERENCE DATA AND LITERATURE

NAVSHIPS 91853(A). Technical Manual for Temperature Measuring Set AN/TSQ-4.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.
R.D.B. IDENT. NO.

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (Inches)	WEIGHT PACKED (lbs.)
1	Temperature Measuring Set AN/TSQ-4	4	12 x 24 x 24	59

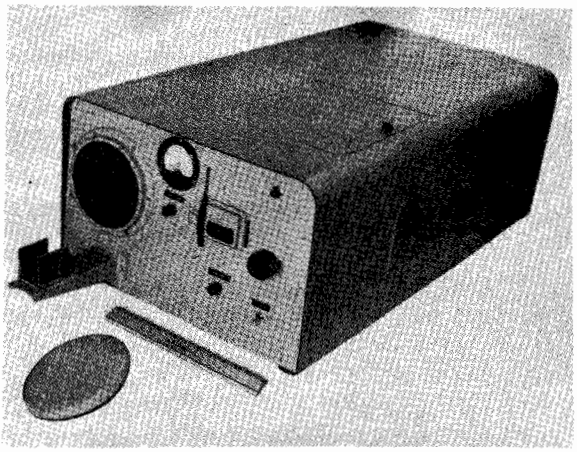
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Computer-Power Supply CP-147/TSQ-4	9.5 x 10.5 x 11	18
1	Commutator-Detector SA-297/TSQ-4	6 x 6 x 8	7
2	Cable Ass'y R-F CG-409/U	50 ft. (lg)	
1	Cable Ass'y Power, Elect. CX-2082/U	50 ft. (lg)	
1	Cable Ass'y Power, Elect. CX-2081/U	10 ft. (lg)	
2	Technical Manuals NAVSHIPS 91853(A)		
1	Equipment Spares Box		

February 1960

Test-Miscellaneous Test

INFRARED TEST SET AN/UAM-2



Infrared Test Set AN/UAM-2

FUNCTIONAL DESCRIPTION

Infrared Test Set AN/UAM-2 is designed to provide a means for determining the threshold sensitivity and resolution of various types of infrared viewers (image forming receivers), with particular regard to the AN/SAR-4, AN/SAR-5 and AN/SAR-6 series. It is also designed to test the sensitivity of other types of infrared detectors, such as lead sulphide cells. Threshold sensitivity is a measure of the faintest signal which can be detected by the operator under normal operating conditions. Resolution is a function of the degree of detail which is producible on the viewing screen.

No field changes in effect at time of preparation (12 August 1959).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

POWER REQUIREMENTS: 115 v ±10%, 60 cy ±5%, 1 ph, 35 W ±10%.
SENSITIVITY CALIBRATIONS: 0.01 to 1 nautical mile candles.
RESOLUTION CALIBRATIONS: 0.5 to 25 minutes.
OPTICAL FREQUENCY: 0.5 to 1.2 microns.
AMBIENT TEMPERATURE: 0 to 50° C.
RELATIVE HUMIDITY: Up to 98%.

MANUFACTURER'S OR CONTRACTOR'S DATA

Production Research Corp., Thornwood, New York.
Contract NObsr-71754.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes or Crystals used.

REFERENCE DATA AND LITERATURE

Technical Manual for INFRARED TEST SET AN/UAM-2.

TYPE CLASSIFICATION (NAVY)
DESIGN COGNIZANCE USN, BUSHIPS
PROCUREMENT COGNIZANCE SPEC
STOCK NO.
R.D.B. IDENT. NO.

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Infrared Test Set AN/UAM-2	19-1/4	23 X 30 X 48	132

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Infrared Test Set AN/UAM-2	14 X 28 X 40	80
2	Technical Manual		
4	Lamps, Calibrated		
1	Infrared Viewing Set, Calibrated in Case AN/SAR-4	4-7/8 X 13-3/4 X 18-7/8	29.5469

4 March 1963 — TEST SET, RADAR AN/UPM-111

Cog Service: USN FSN: F6625-769-1223 — Functional Class: 12

USA USN USAF

TYPE CLASS: Used by

MANUFACTURER'S NAME/CODE NUMBER: Admiral Corporation, (70117).

(No Illustration Available)

FUNCTIONAL DESCRIPTION:

The AN/UPM-111 is a portable, general purpose radar test set that is a combined portable oscilloscope and reply code video pulse generator. It contains an SIF pulsed code generator and calibrated oscilloscope. It is used for video SIF pulsed code tests.

No field changes in effect at time of preparation (6 February 1963).

TECHNICAL CHARACTERISTICS:

OPERATING POWER RQMT: 117 v ac, 60 cps, single ph.

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Set, Radar AN/UPM-111 includes:			
1	Test Set, Radar TS-1253/UP		9-3/4 x 16 x 22-1/4	
1	Case, Radar Test Set CY-2763/UPM-111		13-3/8 x 24-5/8 x 25-1/4	
1	Test Lead MX-2681/UP		60 lg	
1	Cable Assy Power Electrical CX-4885/U		60 lg	
2	Cable Assy RF CG-530B/U			
1	Cable Assy, Special Purpose Electrical CX-4963/UPM		36 lg	
2	Adapter, Connector UG-636A/U			
2	Adapter, Connector UG-273/U			
2	Adapter, Connector UG-274/U			
1	Visor, Cathode-Ray Tube MX-2953/UPM		2-1/2 x 6-1/8 x 8-3/4	
1	Dummy Load Electrical DA-232/U			
1	Cable Assy, Special Purpose Electrical CX-4964/UPM		30 lg	

REFERENCE DATA AND LITERATURE:

NAVSHIPS 93520A: Technical Manual for Radar Test Set AN/UPM-99 and AN/UPM-111.
NAVSHIPS 93520-21: Operating Instruction Chart for Radar Test Set AN/UPM-99 and AN/UPM-111.
NAVSHIPS 93520-32: Performance Standard Sheet for Radar Test Set AN/UPM-99 and AN/UPM-111.
NAVSHIPS 93520-42: Maintenance Standard Book for Radar Test Set AN/UPM-99 and AN/UPM-111.
NAVSHIPS 93592-21: Operating Instruction Chart for Radar Test Set AN/UPM-99 and AN/UPM-111.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Data not available.

CRYSTALS: Data not available.

SEMI-CONDUCTORS: Data not available.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	7.5	193

PROCUREMENT DATA

PROCURING SERVICE: USN
DESIGN COG: USN, BuShips
SPEC &/OR DWG: SHIPS-S-3119

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Admiral Corporation Pt/Dwg no. 597J123-1	Chicago, Illinois	NObsr-71516, 23 August 1956	$2,474.00

April 1958

Test-Miscellaneous Test

ELECTRICAL CABLE TEST SET AN/UPM-16

FUNCTIONAL DESCRIPTION

The AN/UPM-16 is used to measure corona starting and extinction voltages on pulse cable assemblies up to a maximum length of 100 ft. The testing voltage is continuously adjustable from 0 to 20 kv at a maximum current of 37 ma. Corona is indicated on a CRT. Adapter connectors are used to permit the mating of the different type pulse cable assemblies to the output high voltage connectors.

No field changes in effect at time of preparation (12 June 1958).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

OPERATING POWER: 115 v, 50 to 60 cps, single ph, 10 amp.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tube or Crystal data available.

REFERENCE DATA AND LITERATURE

Nomenclature Card for AN/UPM-16.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	

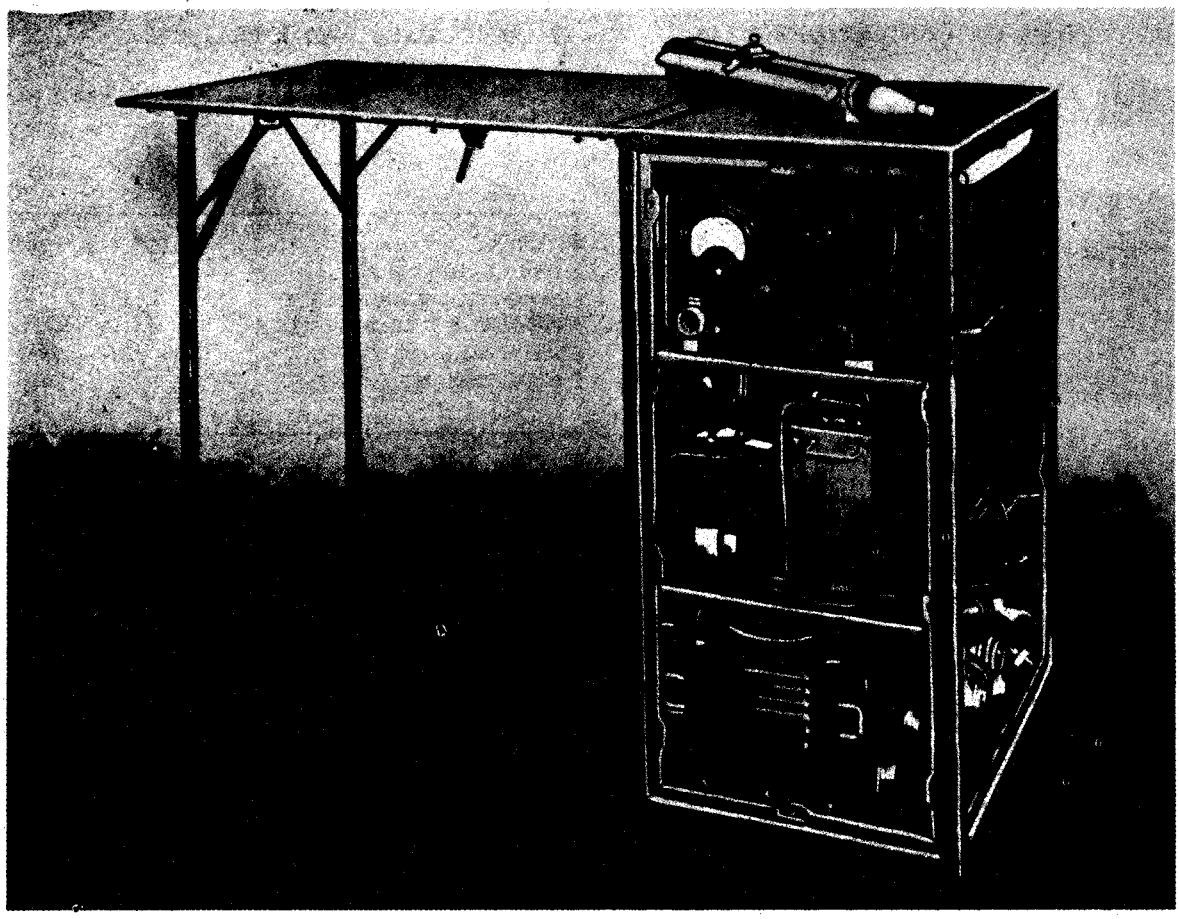
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Cable Corona Tester TS-526/UPM-16		
1	Power Transformer TF-134/UPM-16		
1	Power Cable Assy CX-1517/U		
1	Adapter Connector UG-607/U		
1	Adapter Connector UG-608/U		
1	Adapter Connector UG-609/U		
1	Adapter Connector UG-610/U		
1	Adapter Connector UG-611/U		
1	Case CY-878/UPM-16		

December 1956

RADAR TEST SET

AN/UPM-3



Radar Test Set AN/UPM-3

FUNCTIONAL DESCRIPTION

The AN/UPM-3 is for use in the depot testing and maintenance of "L" band radars such as the Mark XX and Mark XX Mod 1. It provides a light test bench and a number of test equipment units required for making tests specified in the maintenance instructions for these radio sets.

While provided for the above purpose, some of the test equipment units such as the oscilloscope, range calibrator, etc, are suitable for general use in testing radar equipment and may be used for other radar testing work where applicable.

No field changes in effect at time of preparation (29 June 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

SIGNAL GENERATOR INPUT: 110 to 120 v, 50 to 1200 cps, 75 W.

OSCILLOSCOPE

PULSE AND SQUARE WAVE DURATION: 1/4 usec to 30,000 usec.

IMPEDANCE

LOW: 62 ohms.

HIGH: 430,000 ohms paralleled by 30 uuf.

IMPEDANCE WITH PROBE: 4 meg paralleled by 12 uuf.

PRESENTATION: 2 in.

POWER INPUT: 110 to 120 v, 50 to 1200 cps, 90 W.

DUMMY LOAD TERMINATION: 50 ohms.

WAVE AND POWER METER

FREQUENCY RANGE: 500 to 1500 mc.

INPUT POWER RANGE: 0.5 to 12 mw.

IMPEDANCE: 50 ohms.

POWER ACCURACY: ±1.0 db.

FREQUENCY ACCURACY: ±0.5 mc.

PAD: 10 db ±0.5 db.

AN/UPM-3 RADAR TEST SET

December 1956

MANUFACTURER'S OR CONTRACTOR'S DATA

Western Electric Co., New York, N.Y.
Contract NOrd-3456.

REFERENCE DATA AND LITERATURE

NAVSHIPS 95021: Technical Manual for Radar Test Set AN/UPM-3.

TUBE AND/OR CRYSTAL COMPLEMENT

(6) 6SN7GT
(2) 6AG7
(3) 6X5GT
(1) 5Y3GT
(1) GL446A/446A
(1) VR150/30
(1) VR105/30
(4) 6AK5
(2) 6SL7GT
(1) 6AC7
(1) 2AP1
Total Tubes: (23)

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUORD
PROCUREMENT COGNIZANCE
STOCK NO.
R.D.B. IDENT. NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Signal Generator TS-128/UP	5-1/2 X 11-1/2 X 24	30.5
1	Test Unit TS-104/TPM-1	9-1/4 X 9-1/2 X 11	20.5
1	Dummy Antenna TS-105/TPM-1	3 X 4-1/2 X 14-1/2	8
1	Line Monitor TS-106/TPM-1	10 X 10 X 11	46.5
1	Voltage Divider TS-98/AP	3-1/2 X 4 X 10	3
1	Wave and Power Meter Set TS-107/TPM-1	7-1/4 X 9-1/2 X 14-3/4	18
1	Dummy Load TS-90/AP	6 X 6-1/2 X 20	9
1	Calibrator TS-5/AP	9-1/4 X 12 X 13	28
1	Oscilloscope TS-34/AP	9-3/4 X 10 X 29	46
1	Case and Bench	18 X 26 X 36	85
1	Test Dipole TS-129/UP	1 X 4-1/2 X 5-5/8	0.5
1	Standing Wave Detector TS-130/UP	3-3/4 X 3-3/4 X 29-1/4	13.5
1	Set of Miscellaneous Items		
1	Set of Connecting Cables		

August 1957

Test-Miscellaneous Test

ANTENNA TEST SET AN/UPM-52

FUNCTIONAL DESCRIPTION

The AN/URM-52 is a radar signal test assembly for use on X-band radar antennas. Its intended purpose is to provide a means for boresighting radar antennas, measurements of radar beam polarization and measurements of radar beam modulation patterns. Essential for its operation is a 60 foot portable mast which has mounted upon it two optical targets, an X-band antenna, two waveguide runs with their associated hybrid couplers, directional couplers, magic T, precision variable attenuator 0 to 40 db, and two crystal detectors employing type 1N23B crystals. The equipment includes an RF Test Set which is a video amplifier with self-contained power supply which has for its inputs the outputs of the two crystal detectors on the mast and for its outputs a potential proportional to the sine of the angle by which the polarization vector departs from a vertical plane, and a potential indicating the degree of modulation resulting from the position of the radar beam.

No field changes in effect at time of preparation (14 March 1957).

RELATION TO OTHER EQUIPMENT

Used w/the AN/MSG-3.

Equipment Required But Not Supplied: Oscilloscope TS-34A/AP.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: X-band.
ATTENUATION: 0 to 40 db (precision attenuator on antenna).
OUTPUT SIGNALS: sine of angle and degree of modulation potentials.
INDICATION: cathode ray oscilloscope.
POWER SOURCE REQUIRED: 110 or 208 v, 400 cps, 3 ph.

MANUFACTURER'S OR CONTRACTOR'S DATA

Western Electric, New York, N.Y.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

Nomenclature Card for Test Set, Antenna, AN/UPM-52 dated 5 August 1953.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUORD
PROCUREMENT COGNIZANCE MIL-T-945A
STOCK NO.
R.D.B. IDENT. NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	RF Test Set		
1	60 ft Portable Mast		
1	X-Band Antenna		
1	Precision Variable Attenuator 0 to 40 db		
1	Riblett Coupler 3 db		
2	Directional Couplers		
1	RF Attenuator PAO		
1	Magic T		
2	Crystal Holders		
2	60 ft runs of 3 centimeter waveguide		
2	Optical Targets		
2	10 ft coaxial cables		
1	200 ft coaxial cables		

October 1957

Test-Miscellaneous Test

RADAR TEST SET AN/UPM-85

FUNCTIONAL DESCRIPTION

The AN/UPM-85 is a complete portable test set used in conjunction with an oscilloscope to measure video pulses between 200 and 20,000 volts in high impedance circuits at various airborne radar set.

No field changes in effect at time of preparation (7 June 1957).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF SIGNALS MEASURED: Video pulses.
SIGNAL VOLTAGE RANGE: 200 to 20,000 v.
INDICATION: Oscilloscope.

TUBE AND/OR CRYSTAL COMPLEMENT

Tubes and Crystals: Not Available.

REFERENCE DATA AND LITERATURE

Nomenclature Card for Test Set, Radar AN/UPM-85 dated 23 November 1956.

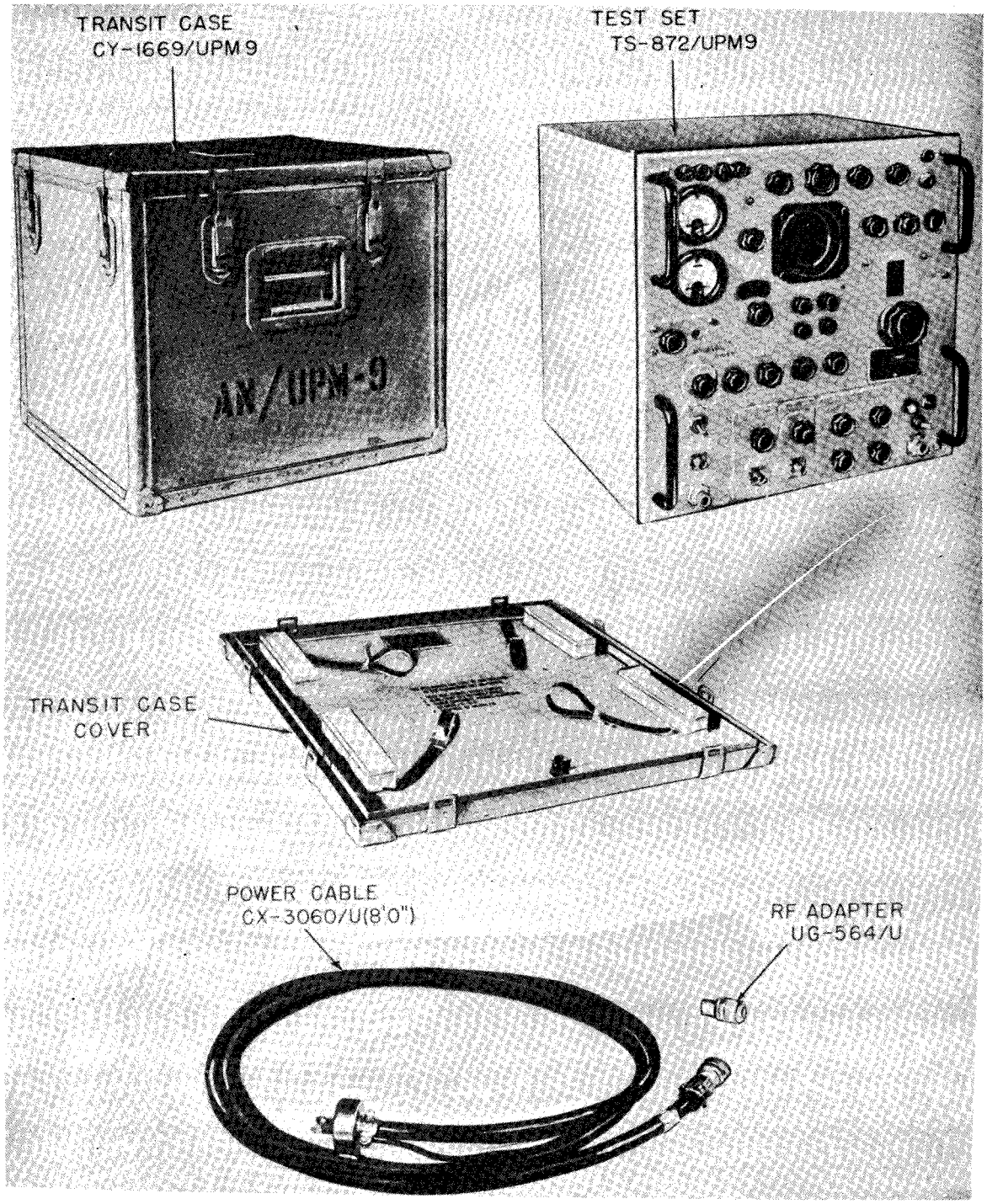
TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.
R.D.B. IDENT. NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Test Set Carrying Case CY-2122/UPM-85		
1	Variable Attenuator TS-89C/AP		
1	Lead Test CX-2490/U		
1	Adapter UG-273/U		
1	Cord CG-409E/U		
1	Cable Assembly Case CY-2122/UPM-85		

RADAR TEST SET

AN/UPM-9



Radar Test Set AN/UPM-9

Test-Miscellaneous Test

February 1960

AN/UPM-9 RADAR TEST SET

FUNCTIONAL DESCRIPTION

The AN/UPM-9 is a portable test set designed for testing radar systems operating in the frequency range of 5100 to 5900 megacycles (mc). The general applications of the test set include the following:

(1) Measurement of radar transmitter power and frequency.

(2) Measurement of radar receiver sensitivity, recovery time, and local-oscillator frequency.

(3) Tuning of radar local-oscillators.

(4) Performance testing and/or tuning of duplexers, AFC systems, routing joints, etc.

(5) Visual examinating of the spectra of magnetrons, local oscillators, test set, and other equipment in its frequency range.

(6) Investigation of magnetron pulling.

(7) Observation of video signals on synchroscope.

No field changes in effect at time of preparation (22 June 1959).

EQUIPMENT REQUIRED BUT NOT SUPPLIED

(1) R.F. Cable RG-9A/U w/N Connectors at each end, (1) Video Cable RG-58/U w/UG-88/U Connectors at each end (double shielded), (1) Sync Input Cable RG-55/U w/UG-88/U Connectors at each end, (1) VTVM ME-6A/U or Ballantine 300A, (1) Signal Generator AN/URM-2B or TS-497/URR, (1) Pulse Generator AN/UPM-55 or SG-30/UP, (1) Oscilloscope Textronix Model 513D, (1) Marker Generator Textronix Model 180-S1, (1) Tube Checker TV-3B/U or Hickok 547, (1) Electronic Counter Hewlett-Packard Model 522B, (1) Crystal Checker TS-268/UP or AIL 390, (1) Multimeter TS-352A/U or Simpson 260.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

POWER MONITOR
- TYPES OF INPUT: CW or pulse.
- ACCURACY: ±2 db from dial.
- PEAK POWER INPUT: 1 kw max.
- AVERAGE POWER INPUT: +5 to +30 dbm.
- FREQUENCY RANGE: 5100 to 5900 mc.

FREQUENCY METER
- RELATIVE ACCURACY: ±1.0 mc over any 60 mc interval.
- ABSOLUTE ACCURACY: ±2 mc from −20° C to +40° C.
- FREQUENCY RANGE: 5100 to 5900 mc.

SPECTRUM ANALYZER
- INPUT PULSE REPETITION RATE: 200 to 4000 pps.
- INPUT PULSE WIDTH: 0.25 to 0.75 microseconds gated; 0.25 to 10 microseconds normal.
- IF BANDWIDTH: 50 kc or less.
- IF GAIN CONTROL: 25 db, continuously variable.
- RF SENSITIVITY: At least −65 dbm for a 1 inch deflection on KRT.
- RF ATTENUATOR INPUT RANGE: 50 db, calibrated w/in 2 db.
- SWEEP SPEEDS: 2 to 20 cps, continuously variable.
- TUNING RANGE: 5100 to 5900 mc.

SYNCHROSCOPE
- INPUT IMPEDANCE: 1 megohm shunted by 50 uuf.
- MAXIMUM INPUT SIGNAL: 600 v peak.
- VIDEO AMPLIFIER BANDWIDTH: 1 kc to 35 mc for 3 db down.
- DEFLECTION SENSITIVITY: 1 volt per inch.
- SWEEP SPEEDS: 5, 40, 150, 1000 or 3000 microseconds full sweep duration.
- SWEEP DELAY: 2.0 to 1000 microsecond w/ respect to external synchronizing trigger.

SIGNAL GENERATOR
- DELAY RANGE: 2.0 to 1000 microseconds after triggering.
- FREQUENCY MODULATION
  - FREQUENCY DEVIATION OF SWEEP: 0 to 30 mc continuously variable.
  - FREQUENCY EXCURSION RATE: 0 to 6 mc continuously variable.
- OUTPUT IMPEDANCE: 50 ohms.
- CW FREQUENCY RANGE: 5100 to 5900 mc.
- POWER OUTPUT
  - RANGE (CALIBRATED): −40 to −90 dbm.
  - ACCURACY: ±2 db.

OPERATING POWER RQMT: 103.5 to 126.5 v, 50 to 60 cps; 380 to 1000 cps, 300 watts.

MANUFACTURER'S OR CONTRACTOR'S DATA

Polytechnic Research And Development Co., Inc., Brooklyn, New York.
Contract NOas-54-116.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 6AH6 (7) 12AT7WA

RADAR TEST SET AN/UPM-9

(5) 5687WA
(1) 884
(1) 6AG7
(5) 6AU6WA
(1) QK412
(1) 6080
(1) 5R4WGB
(1) V20HP
(1) 3JP1
(1) 5670
(2) 5763
(1) 5751
(2) 6X4W
(2) 5651
(2) 1Z2

Total Tubes: (34)

(11) 1N69
(1) 1N56A
(1) 1N23B
(2) 1N222
(1) 23/U
(1) 1N21B

Total Crystals: (17)

REFERENCE DATA AND LITERATURE

NAVAER 16-30UPM-501: Technical Manual for Radar Test Set AN/UPM-9-501.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUAER
PROCUREMENT COGNIZANCE MIL-R-8560 (AER)
STOCK NO.
R.D.B. IDENT. NO.

EQUIPMENT SUPPLIED DATA

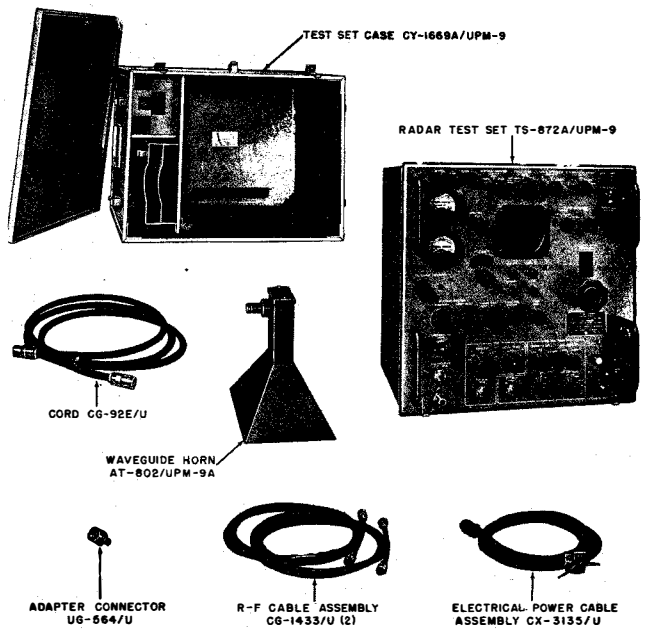
QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (Inches)	WEIGHT (lbs.)
1	Test Set Radar TS-872/UPM-9	16-5/16 X 17 X 17	76
1	Case Test Set CY-1669/UPM-9	19 X 19-3/4 X 21	27
1	Cable Ass'y Electrical Power CX-3060/U (8' 0")	96 lg	
1	R.F. Adapter UG-564/U		
4	Hex Wrench		
2	Technical Manual NAVAER 16-30UPM-9-501		

31 May 1962 TEST SET, RADAR AN/UPM-9A

Cog Service:	FSN:	Functional Class:
	USA USN USAF	

TYPE CLASS:

MANUFACTURER'S NAME/CODE NUMBER: Polytechnic Research & Development Co., Inc.



Test Set, Radar AN/UPM-9A

FUNCTIONAL DESCRIPTION:

The AN/UPM-9A is a portable equipment designed for testing radar systems operating in the frequency range of 5100 to 5900 megacycle(s). The general applications of the test set include the following: (a) Measurement of radar transmitter power and frequency; (b) Measurement of radar receiver sensitivity, recovery time, and local-oscillator frequency; (c) Tuning of radar local oscillators; (d) Performance testing and/or tuning of duplexers, AFC systems, rotating joints, etc.; (e) Visual examination of spectra of magnetrons, local oscillators, test sets, and other equipment in its frequency range; (f) Investigation of magnetron pulling; (g) Observation of video signals on synchroscope.

No field changes in effect at time of preparation (27 April 1961).

TECHNICAL CHARACTERISTICS:

POWER MONITOR

FREQUENCY RANGE: 5100 to 5900 mc.
AVERAGE POWER RANGE: P5 to 60 db below one mw.
MAXIMUM PULSE POWER: 1000 W.

FREQUENCY METER
FREQUENCY RANGE: 5100 to 5900 mc.

SYNCHROSCOPE
SIZE OF SCREEN: 3 inch.
SWEEP SPEEDS: 2, 10, 30 and 60 microseconds per 3 inches.
SWEEP DELAY: 0.25 to 100 microseconds.
VERTICAL DEFLECTION SENSITIVITY: 2 volts per inch.
VERTICAL FREQUENCY RESPONSE: 1 kc to 8 mc.
VERTICAL TRANSIENT RESPONSE: 5% drop for 200 cycle square wave input; 0.05 microsecond rise and 0.1 microsecond decay time for input pulses with 0.01 microsecond rise and decay time.

SPECTRUM ANALYZER
SIZE OF SCREEN: 3 inch.
INPUT SIGNAL FREQUENCY RANGE: 5100 to 5900 mc.
INPUT SIGNAL AVERAGE POWER: 1 watt.
INPUT SIGNAL CHARACTERISTICS: CW.
SINGLE PULSE: 0.25 to 10 microseconds wide, 200 to 4000 pulses per second multiple pulse groups of three, each 0.25 to 0.75 microseconds wide, separation 1 microsecond, maximum separation 40 microseconds, 900 porm 5% pulses per second sensitivity. M65 to M75 db below one milliwatt to produce 1 inch vertical deflection.

SIGNAL GENERATOR
FREQUENCY RANGE: 5100 to 5900 mc.
POWER LEVEL RANGE: M40 to M90 db below 1 mw.
MODULATION
FREQUENCY MODULATION EXCURSION RATE: Up to 6 mc per microsecond.
INTERNAL PULSE MODULATION: 0.3 to 2.0 microseconds wide with 0.05 microseconds rise time and 0.1 microsecond decay time, 400 to 4000 pulses per second external pulses modulation 0.25 to 125 microseconds wide, 200 to 4000 pulses per second.

OPERATING POWER RQMT: 103.5 to 126.5 v ac, 50 to 60 and 380 to 1000 cps, single ph.

RELATION TO OTHER EQUIPMENT:

The AN/UPM-9A is identical to the AN/UPM-9 except that it uses TS-872A/UPM-9 instead of TS-872/UPM-9, and this unit has airborne shock and vibration mounts and additional accessories.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) R.F. Cable type RG-9A/U w/two male type N connectors; (1) Video Cable type RG-58/U w/two UG-88/U connectors; (1) Sync Input Cable type RG-55/U (double shield) cable w/two UG-88/U connectors; (1) Modulation Cable type RG-55/U cable w/two UG-88/U connectors.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
	Test Set, Radar AN/UPM-9A consists of:			
1	Test Set, Radar TS-872A/UPM-9		16-5/16 x 17 x 17	76
1	Case, Test Set CY-1669A/UPM-9		19 x 19-3/4 x 21	27
1	Cable Ass'y, Power, Electrical CX-3135/U		96 lg	
1	Adapter, Converter UG-564/U			
1	Cord CG-92E/U		96 lg	
2	Cable Ass'y R.F. CG-1433/U		96 lg	
1	Horn Waveguide AT-802/UPM-9A		4-7/8 x 6-15/32 x 7-3/8	

REFERENCE DATA AND LITERATURE:

NAVAER 16-30UPM9-501, -502: Technical Manual for Test Sets, Radar AN/UPM-9 and AN/UPM-9A.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (1) QK412 (2) 1Z2 (7) 12AT7WB (1) 3JP2 (1) 5R4WGB (2) 5651WA (1) 5670 (5) 5687WA (1) 5751 (2) 5763 (1) 5814A (1) 6AG7Y (1) 6AH6 (5) 6AU6WA (2) 6X4WA (1) 6080WA (1) 884

CRYSTALS: None used.

SEMI-CONDUCTORS: (1) 1N21C (3) 1N222 (1) 1N23C (1) 1N277 (10) 1N69A

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)

PROCUREMENT DATA

PROCURING SERVICE: DESIGN COG: BuWeps
SPEC &/OR DWG: MIL-T-8560(AER)

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Polytechnic Research & Developement Co., Inc. Dwg no. D24001	Brooklyn, New York	N-383-45239A	

Cog Service:	FSN:	Functional Class:
	USA USN USAF	

TYPE CLASS:

MANUFACTURER'S NAME/CODE NUMBER: Polytechnic Research & Development Co., Inc.

(No Illustration Available)

FUNCTIONAL DESCRIPTION:

The Test Set, Radar AN/UPM-9B is a multi-purpose device used to test and maintain radar equipment operating in the range of 5100 to 5900 megacycles (MC). Type of tests: (a) measurement of average power of cw and pulse radio frequency signals; (b) measurement of frequency of cw and pulse radio frequency signals; (c) visual display of video pulses and detected radio frequency (signals) pulse envelope; (d) visual display of the power spectrum of cw and pulse radio frequency signals; (e) measurements of characteristics of radio frequency circuits, components and receivers.

No field changes in effect at time of preparation (26 April 1961).

TECHNICAL CHARACTERISTICS:

POWER MONITOR
- FREQUENCY RANGE: 5100 to 5900 mc.
- AVERAGE POWER RANGE: P5 to 60 db below one mw.
- MAXIMUM PULSE POWER: 1000 W.

FREQUENCY METER
- FREQUENCY RANGE: 5100 to 5900 mc.

SYNCHROSCOPE
- SIZE OF SCREEN: 3 inch.
- SWEEP SPEEDS: 2, 10, 30 and 60 microseconds per 3 inches.
- SWEEP DELAY: 0.25 to 100 microseconds.
- VERTICAL DEFLECTION SENSITIVITY: 2 volts per inch.
- VERTICAL FREQUENCY RESPONSE: 1 kc to 8 mc.
- VERTICAL TRANSIENT RESPONSE: 5% drop for 200 cycle square wave input; 0.05 microsecond rise and 0.1 microsecond decay time for input pulses with 0.01 microsecond rise and decay time.

SPECTRUM ANALYZER
- SIZE OF SCREEN: 3 inch.
- INPUT SIGNAL FREQUENCY RANGE: 5100 to 5900 mc.
- INPUT SIGNAL AVERAGE POWER: 1 watt.
- INPUT SIGNAL CHARACTERISTICS: CW.
  - SINGLE PULSE: 0.25 to 10 microseconds wide, 200 to 4000 pulses per second multiple pulse groups of three, each 0.25 to 0.75 microsecond wide, separation 1 microsecond, maximum separation 40 microseconds, 900 porm 5% pulses per second sensitivity M65 to M75 db below one milliwatt to produce 1 inch vertical deflection.

SIGNAL GENERATOR
- FREQUENCY RANGE: 5100 to 5900 mc.
- POWER LEVEL RANGE: M40 to M90 db below 1 mw.

AN/UPM-9B TEST SET, RADAR

MODULATION

FREQUENCY MODULATION EXCURSION RATE: Up to 6 mc per microsecond.

INTERNAL PULSE MODULATION: 0.3 to 2.0 microseconds wide with 0.05 microsecond rise time and 0.1 microsecond decay time, 400 to 4000 pulses per second external pulses modulation 0.25 to 125 microseconds wide, 200 to 4000 pulses per second.

OPERATING POWER RQMT: 103.5 to 126.5 v ac, 50 to 60 and 380 to 1000 cps, single ph.

RELATION TO OTHER EQUIPMENT:

The AN/UPM-98 is interchangeable with AN/UPM-9, and 9A except that it uses TS-8728/UPM-9 instead of TS-872/UPM-9 and TS-872A/UPM-9.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) R.F. Cable type RG-9A/U w/two male type N connectors; (1) Video Cable type RG-58/U w/two UG-88/U connectors; (1) Sync Input Cable RG-55/U (double shield) w/two UG-88/U connectors; (1) Modulation Cable RG-55/U w/two UG-88/U connectors.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Set, Radar AN/UPM-98 consists of:			
1	Test Set, Radar TS-8728/UPM-9		16-5/16 x 17 x 17	76
1	Case, Test Set CY-1669A/UPM-9		19 x 19-3/4 x 21	27
1	Cable Ass'y, Power, Electrical CX-3135/U		96 lg	
1	Adapter, Converter UG-564/U			
1	Cord CG-92E/U		96 lg	
1	Cable Ass'y, R.F. CG-1433/U		96 lg	
1	Horn, Waveguide AT-802/UPM-9A		4-7/8 x 6-15/32 x 7-3/8	

REFERENCE DATA AND LITERATURE:

Nomenclature Card for Test Set, Radar AN/UPM-98.

NAVAER 16-30UPM-9-501 and 16-30UPM-9A-501: Technical Manual for Test Sets, Radar AN/UPM-9 & AN/UPM-9A.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (1) QK412 (2) 1Z2 (7) 12AT7WB (1) 3JP2 (1) 5R4WGB (2) 5651WA (1) 5670 (5) 5687WA (1) 5751 (2) 5763 (1) 5814A (1) 6AG7Y (1) 6AH6 (5) 6AU6WA (2) 6X4WA (1) 6080WA (1) 884

CRYSTALS: None used.

SEMI-CONDUCTORS: (1) 1N21C (3) 1N222 (1) 1N23C (1) 1N277 (10) 1N69A

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)

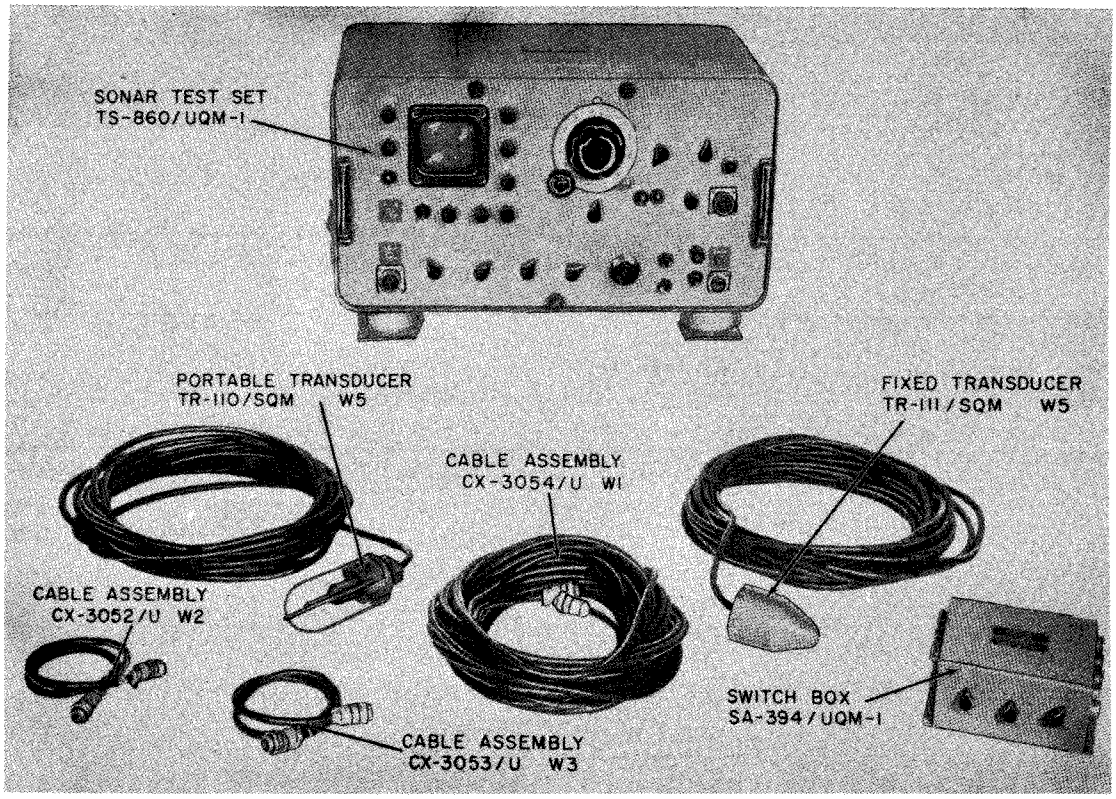
PROCUREMENT DATA

PROCURING SERVICE: DESIGN COG: BuWeps
SPEC &/OR DWG:

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Polytechnic Research & Development Co., Inc.	Brooklyn, New York	NOm-70599	

April 1958

SONAR TEST SET AN/UQM-1



Sonar Test Set AN/UQM-1

FUNCTIONAL DESCRIPTION

The AN/UQM-1 is a portable equipment used to test and align sonar systems. When used with Sonar Transducers TR-110/SQM and/or TR-111/SQM, it provides a calibrated source of sound energy in water, a calibrated receiver of sound energy in water and calibrated sonar range delay periods. The TS-860/UQM-1 may also be used seperately as an oscilloscope or as an audio oscillator.

No field changes in effect at time of preparation (6 March 1958).

RELATION TO OTHER EQUIPMENT

Transducers TR-110/SQM and TR-111/SQM are supplied with the AN/UQM-1 but are not a part of it.

Equipment Required but not Supplied: (1) Lead, Sounding, (2) Lines, Secure, (1) Cable, Power (3) Cables, Transducer, (5) Cables, Receiver Input, (1) Cable, Trigger Input (1) Cable, Synchronizing Signal.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 2.5 kc to 25 kc and 25 kc to 250 kc.
FREQUENCY ACCURACY: Within 1% of dial selection.
ATTENUATOR ACCURACY: Within 5% of selected value.
SOUND ENERGY LEVEL: 40 db above 1 microbar at 1 yd.
MAX CURRENT: 80 ma (adjustable).
OUTPUT IMPEDANCE: 50 ohms to 200 ohms resistive.
OSCILLOSCOPE
  SWEEP FREQUENCY RANGE: 1 cps to 50 kc.
  HORZ SENSITIVITY: 10 mv rms/in.
  VERT RESPONSE: Essentially flat ±3 db from 30 cps to 300 kc.
RANGE: 160, 400, 800, 1600 and 4000 yds.
TRANSDUCER
  BEAM: Omnidirectional (horizontally); 15

Test-Miscellaneous Test

AN/UQM-1 SONAR TEST SET

April 1958

deg wide at 3 db down points (vertical).
INDICATION: 3 in. CRT.
POWER SUPPLY REQUIREMENTS: -1500 v DC for operation of CRT, 300 v DC regulated and 375 v DC unregulated.
POWER SOURCE REQUIRED: 115 v, 60 cps, single ph, 300 W.

MANUFACTURER'S OR CONTRACTOR'S DATA

Advance Industries, Inc, Cambridge, Mass.
Contract: NObsr-63324, dated 31 March 1953.
Contract: NObsr-64095, dated 23 Dec 1953.
Part No. 165-000, Drawing No. A165-000.
Approximate Cost: $3000.00 with equipment spares, incl TR-110/SQM and TR-111/SQM.

TUBE AND/OR CRYSTAL COMPLEMENT

(9) 12AT7WA
(1) 2X2A
(1) 5693
(1) 6AK6
(1) 3RP1
(1) 5787WA
(2) 6AU6WA
(2) 5726/6AL5W
(1) 6AS7G
(1) 5R4WGB
(6) 5814A
(2) 6005/6AQ5W
Total Tubes: (28)
(5) 1N300
Total Crystals: (5)

REFERENCE DATA AND LITERATURE

NAVSHIPS 92979(A): Technical Manual for Sonar Test Set AN/UQM-1.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE MIL-T-17246A(SHIPS)
STOCK NO.
R.D.B. IDENT. NO.

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Sonar Test Set TS-860/UQM-1 Switch Box SA-394/UQM-1 Portable Transducer TR-110/SQM w/attached cable Fixed Transducer TR-111/SQM w/attached cable Cable Assembly CX-3052/U Cable Assembly CX-3053/U Cable Assembly CX-3054/U Technical Manuals	7.5	17 X 25-1/2 X 30-1/2	165
1	Spare Parts	1.2	8-1/4 X 11-3/4 X 17-1/4	19-1/2

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Sonar Test Set TS-860/UQM-1	12-1/2 X 13 X 25-7/8	71
1	Switch Box SA-394/UQM-1	4 X 8-3/4 X 9	5
1	Portable Transducer TR-110/SQM w/attached cable	7 X 3 od (less cable)	13 w/cable
1	FIXED TRANSDUCER TR-111/SQM w/attached cable	4 od (less cable) X 4-3/4	12 w/cable
1	Cable Assembly CX-3052/U	36	1
1	Cable Assembly CX-3053/U	36	1
1	Cable Assembly CX-3054/U	900	10
2	Technical Manual NAVSHIPS 92979(A)		3

15 February 1963 — TEST HARNESS, TRANSMITTING SET AN/URM-111

Cog Service: USN FSN: — Functional Class: 12

USA USN USAF

TYPE CLASS: Used by

MANUFACTURER'S NAME/CODE NUMBER: Babcock Electronics Corp., (82050).

(No Illustration Available)

FUNCTIONAL DESCRIPTION:

The AN/URM-111 is designed to simulate actual operating conditions and provides for removal of subassemblies for testing while in operation. This set includes all necessary controls and cables (with mating plugs or connectors) for bench checking and servicing units of the transmitter powered from Transmitting Set AN/URW-14.

No field changes in effect at time of preparation (29 December 1960).

TECHNICAL CHARACTERISTICS:

TYPE OF INSTALLATION: Portable.
TYPE OF TESTS: Alignment of RF circuits; simulates actual operating conditions; permits extracted subassembly test.
OPERATING POWER RQMT: 115 v ac, 60 cps, single ph.

RELATION TO OTHER EQUIPMENT:

The AN/URM-111 is designed as part of the Missile Target Aircraft Control System.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Harness, Transmitter Set AN/URM-111 includes:			60
1	Control, Transmitter C-2800/URM-111		5-1/4 x 9 x 11-1/8	6
1	Cooler, Air, Electronic Equipment HD-364/URM-111		8-1/4 x 9-3/8 x 10-1/2	10.5
1	Case, Test Set CY-2581/URM-111		14-5/8 x 19-3/8 x 21-5/8	
19	Cable, Special Purpose			

REFERENCE DATA AND LITERATURE:

NAVWEPS 16-30URM111-1: Handbook of Operation and Service Instructions with Illustrated Parts Breakdown for Test Harness, Transmitter Set AN/URM-111.

AN/URM-111 TEST HARNESS, TRANSMITTING SET

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Data not available.

CRYSTALS: Data not available.

SEMI-CONDUCTORS: Data not available.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	5.4	80

PROCUREMENT DATA

PROCURING SERVICE: USN
DESIGN COG: USN, BuWeps
SPEC &/OR DWG: MIL-T-21554(AER)

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Babcock Electronics Corp.	Costa Mesa, Calif.	NOas 59-8018r	

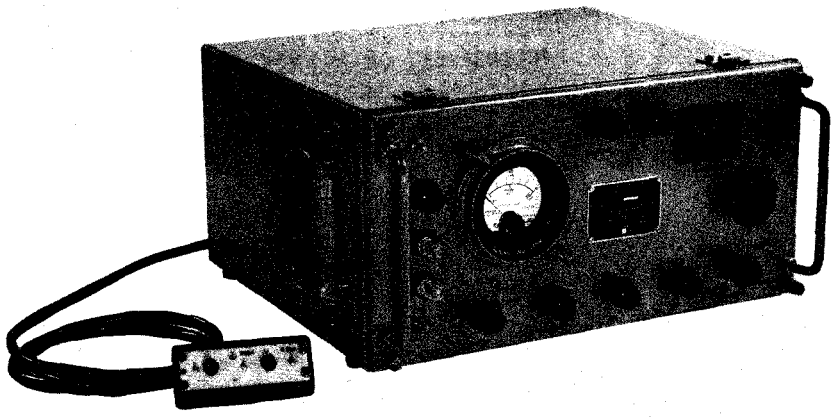
28 February 1963 — CALIBRATOR SET, RADIO AN/URM-114

Cog Service: USN FSN: — Functional Class: 12.12.2

USA	USN	USAF

TYPE CLASS: Std

MANUFACTURER'S NAME/CODE NUMBER: Sylvania Electronics System, a Unit of General Telephone and Electronics, (00011).



Calibrator Set, Radio AN/URM-114

FUNCTIONAL DESCRIPTION:

Calibrator Set, Radio is a portable or rack mounted unit which is used to accurately tune a base tuned antenna to any desired frequency from 2 to 32 mc or to accurately tune the the antenna system and final amplifier of a TBK, TBL, or TBM transmitter to any desired frequency from 2 to 18.1 mc by means of noise technique. The calibrator set provides an off-the-air or silent tuning method of adjustments which results in improved security and a decrease in interference on a channel when traffic is being handled.

No field changes in effect at time of preparation (8 June 1962).

TECHNICAL CHARACTERISTICS:

CALIBRATOR SET

FREQUENCY RANGE: 2 to 32 mc.

EMISSION: Random noise.

RECEPTION: CW or random noise.
TYPE OF INPUTS
INPUT AT J56: 105, 115 or 125 v, 60 cyc, single ph.
INPUT AT J55: Provides means for feeding on external signal to the input of the receiver; 52 ohms input impedance.
INPUT AT J54: Provides means for feeding the noise output from the tuning probe unit to the input of the radio receiver portion of this equipment.
TYPE OF OUTPUTS
OUTPUT CHARACTERISTICS AT J51 (ANTENNA): 52 ohms.
OUTPUT AT J53 (PROBE PWR): Provides means for supplying all operating power to the tuning probe.
OUTPUT AT J52 (PROBE IN): Provides means for feeding the noise generator output to the tuning probe.
OUTPUT CHARACTERISTICS AT J1 (PHONES): Provides means for connecting the headset to the audio output of the receiver; 600 ohms impedance.
POWER SUPPLY: 105, 115, or 125 v, 60 cyc, single ph, 1 amp, 125 W.

RECEIVER
RECEPTION: CW or random noise.
FREQUENCY RANGE: 2 to 32 mc.
TUNING BANDS: 2 to 4 mc; 4 to 8 mc, 8 to 16 mc, 16 to 32 mc.
IF SELECTIVITY: 5 kc at 6 db; 24 kc at 60 db.
IF FREQUENCY: 1675 kc.
PRODUCT DETECTOR OSCILLATOR: Crystal controlled, 1675 kc porm 0.005%.
SENSITIVITY: 1 uv for 20 db signal to noise ratio.
INPUT IMPEDANCE: 52 ohms nominal.
POWER OUTPUT: 20 mw for headset operation, equivalent resistive load 600 ohms; 590 uw for tuning indicator meter, 5000 ohms equivalent resistive load.

NOISE GENERATOR
TYPE FREQUENCY GENERATOR: Silicon junction diode.
TYPE OF EMISSION: Random noise, spectrum coverage 2 to 32 mc.
OUTPUT IMPEDANCE: 52 ohms.
POWER OUTPUT VERSUS FREQUENCY: The noise power output decreases at a rate of 10 porm 3 db per octave from 2 to 32 mc.

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Coaxial Cable RG-8/U; (1) Audio Oscillator TS-382/U; (1) RF Signal Generator Set N/URM-25; (1) Electronic Voltmeter AN/USM-116; (1) Electronic Counter CAQI-524D; (1) Frequency Converter CAQI-525A; (1) Frequency Standard AN/URQ-9; (1) Tube Socket Adapter 49992; (1) Receptacle Connector, RF UG-573A/U.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Radio Calibrator Set AN/URM-114		9.44 x 18.88 x 18.90	82.5

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
	includes:			
1	Radio Calibrator TS-1467/URM-114		9.44 x 18.88 x 18.90	70
1	Radio Frequency Tuning Probe MX-3344/URM-114		2 x 2.5 x 4.25	1.5
1	Power Cable			
2	Rack Mounting Bracket			5
2	Technical Manual NAVSHIPS 93800(A)			6

REFERENCE DATA AND LITERATURE:

NAVSHIPS 93800(A): Technical Manual for Radio Calibrator Set AN/URM-114.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (1) 0A2WA (2) 5651WA (6) 5654/6AK5W (2) 5670 (1) 5725/6AS6W (2) 5749/6BA6W (1) 5750/6BE6W (2) 5842 (1) 6627/0B2WA (1) 6688USN

CRYSTALS: (1) CR-18/U

SEMI-CONDUCTORS: (1) 1N458 (1) 1N538 (4) 1N540 (2) 1N547 (4) 1N751A (4) 1N752A (2) 1N2986B (1) 1N2988B (1) 2N424 (1) 2N1050 (1) 2N1602

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	11.8	169

PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG: MIL-C-22330(SHIPS), Amend 3

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Sylvania Electronics System, a Unit of General Telephone and Electronics	Buffalo, N.Y.	NObsr-77518	

8 February 1963 | MICROPHONE SIMULATOR SET AN/URM-14

Cog Service: USAF FSN: | Functional Class: 12

USA	USN	USAF

TYPE CLASS: Std

MANUFACTURER'S NAME/CODE NUMBER: Bendix Radio Div., Bendix Aviation Corp., (06845).

(No Illustration Available)

FUNCTIONAL DESCRIPTION:

Microphone Simulator Set AN/URM-14 simulates the electrical characteristics of carbon microphones and generates an audio frequency voltage. A scaled 100 ua meter displays the amplitude of generated voltage. The set is used to insert a controlled audio frequency signal into microphone input jacks of radio equipment.

No field changes in effect at time of preparation (11 June 1962).

TECHNICAL CHARACTERISTICS:

AUDIO FREQUENCY OUTPUT: 100 to 10,000 cps.
AMPLITUDE: 3 v max.
IMPEDANCE: 0.5, 1 or 5,000 ohms.

RELATION TO OTHER EQUIPMENT:

This equipment is used with, but not part of Radio Set AN/ARC-33.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Microphone Simulator Set AN/URM-14 includes:			
1	Microphone Simulator SM-30/URM-14		4-1/2 x 7 x 7-1/8	4.5
1	Cable Assy, Special Purpose CX-1299/U			
1	Cable Assy, Special Purpose CX-1296/U			

REFERENCE DATA AND LITERATURE:

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: None used.

CRYSTALS: None used.

SEMI-CONDUCTORS: None used.

AN/URM-14 MICROPHONE SIMULATOR SET

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)

PROCUREMENT DATA

PROCURING SERVICE: USAF
DESIGN COG: USAF
SPEC &/OR DWG: MIL-M-4673

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Bendix Radio Div., Bendix Aviation Corp.	Towson, Md.	AF33(038)-5652	

RECEPTION: CW or random noise.
TYPE OF INPUTS
INPUT AT J56: 105, 115 or 125 v, 60 cyc, single ph.
INPUT AT J55: Provides means for feeding on external signal to the input of the receiver; 52 ohms input impedance.
INPUT AT J54: Provides means for feeding the noise output from the tuning probe unit to the input of the radio receiver portion of this equipment.
TYPE OF OUTPUTS
OUTPUT CHARACTERISTICS AT J51 (ANTENNA): 52 ohms.
OUTPUT AT J53 (PROBE PWR): Provides means for supplying all operating power to the tuning probe.
OUTPUT AT J52 (PROBE IN): Provides means for feeding the noise generator output to the tuning probe.
OUTPUT CHARACTERISTICS AT J1 (PHONES): Provides means for connecting the headset to the audio output of the receiver; 600 ohms impedance.
POWER SUPPLY: 105, 115, or 125 v, 60 cyc, single ph, 1 amp, 125 W.

RECEIVER
RECEPTION: CW or random noise.
FREQUENCY RANGE: 2 to 32 mc.
TUNING BANDS: 2 to 4 mc; 4 to 8 mc, 8 to 16 mc, 16 to 32 mc.
IF SELECTIVITY: 5 kc at 6 db; 24 kc at 60 db.
IF FREQUENCY: 1675 kc.
PRODUCT DETECTOR OSCILLATOR: Crystal controlled, 1675 kc porm 0.005%.
SENSITIVITY: 1 uv for 20 db signal to noise ratio.
INPUT IMPEDANCE: 52 ohms nominal.
POWER OUTPUT: 20 mw for headset operation, equivalent resistive load 600 ohms; 590 uw for tuning indicator meter, 5000 ohms equivalent resistive load.

NOISE GENERATOR
TYPE FREQUENCY GENERATOR: Silicon junction diode.
TYPE OF EMISSION: Random noise, spectrum coverage 2 to 32 mc.
OUTPUT IMPEDANCE: 52 ohms.
POWER OUTPUT VERSUS FREQUENCY: The noise power output decreases at a rate of 10 porm 3 db per octave from 2 to 32 mc.

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Coaxial Cable RG-8/U; (1) Audio Oscillator TS-382/U; (1) RF Signal Generator Set N/URM-25; (1) Electronic Voltmeter AN/USM-116; (1) Electronic Counter CAQI-524D; (1) Frequency Converter CAQI-525A; (1) Frequency Standard AN/URQ-9; (1) Tube Socket Adapter 49992; (1) Receptacle Connector, RF UG-573A/U.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Radio Calibrator Set AN/URM-114		9.44 x 18.88 x 18.90	82.5

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
	includes:			
1	Radio Calibrator TS-1467/URM-114		9.44 x 18.88 x 18.90	70
1	Radio Frequency Tuning Probe MX-3344/URM-114		2 x 2.5 x 4.25	1.5
1	Power Cable			
2	Rack Mounting Bracket			5
2	Technical Manual NAVSHIPS 93800(A)			6

REFERENCE DATA AND LITERATURE:

NAVSHIPS 93800(A): Technical Manual for Radio Calibrator Set AN/URM-114.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (1) OA2WA (2) 5651WA (6) 5654/6AK5W (2) 5670 (1) 5725/6AS6W (2) 5749/6BA6W (1) 5750/6BE6W (2) 5842 (1) 6627/0B2WA (1) 6688USN

CRYSTALS: (1) CR-18/U

SEMI-CONDUCTORS: (1) 1N458 (1) 1N538 (4) 1N540 (2) 1N547 (4) 1N751A (4) 1N752A (2) 1N29868 (1) 1N2988B (1) 2N424 (1) 2N1050 (1) 2N1602

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	11.8	169

PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG: MIL-C-22330(SHIPS), Amend 3

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Sylvania Electronics System, a Unit of General Telephone and Electronics	Buffalo, N.Y.	NObsr-77518	

8 February 1963 — MICROPHONE SIMULATOR SET AN/URM-14

Cog Service: USAF FSN: — Functional Class: 12

USA	USN	USAF

TYPE CLASS: Std

MANUFACTURER'S NAME/CODE NUMBER: Bendix Radio Div., Bendix Aviation Corp., (06845).

(No Illustration Available)

FUNCTIONAL DESCRIPTION:

Microphone Simulator Set AN/URM-14 simulates the electrical characteristics of carbon microphones and generates an audio frequency voltage. A scaled 100 ua meter displays the amplitude of generated voltage. The set is used to insert a controlled audio frequency signal into microphone input jacks of radio equipment.

No field changes in effect at time of preparation (11 June 1962).

TECHNICAL CHARACTERISTICS:

AUDIO FREQUENCY OUTPUT: 100 to 10,000 cps.
AMPLITUDE: 3 v max.
IMPEDANCE: 0.5, 1 or 5,000 ohms.

RELATION TO OTHER EQUIPMENT:

This equipment is used with, but not part of Radio Set AN/ARC-33.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Microphone Simulator Set AN/URM-14 includes:			
1	Microphone Simulator SM-30/URM-14		4-1/2 x 7 x 7-1/8	4.5
1	Cable Assy, Special Purpose CX-1299/U			
1	Cable Assy, Special Purpose CX-1296/U			

REFERENCE DATA AND LITERATURE:

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: None used.

CRYSTALS: None used.

SEMI-CONDUCTORS: None used.

AN/URM-14 MICROPHONE SIMULATOR SET

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)

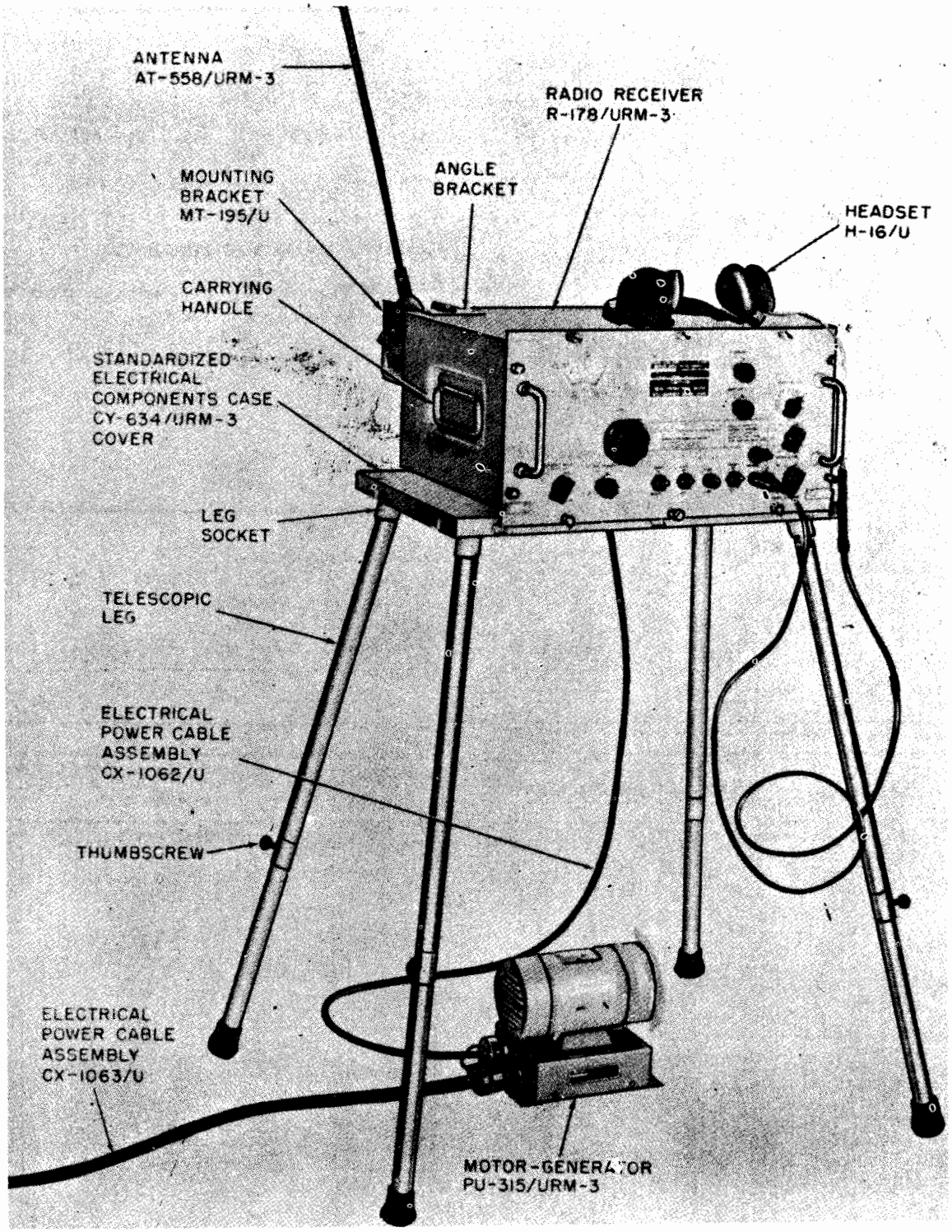
PROCUREMENT DATA

PROCURING SERVICE: USAF
SPEC &/OR DWG: MIL-M-4673

DESIGN COG: USAF

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Bendix Radio Div., Bendix Aviation Corp.	Towson, Md.	AF33(038)-5652	

RADIO INTERFERENCE MEASURING SET AN/URM-3



Radio Interference Measuring Set AN/URM-3

Test-Miscellaneous Test

June 1957

AN/URM-3 RADIO INTERFERENCE MEASURING SET

FUNCTIONAL DESCRIPTION

The AN/URM-3 is used to determine the effectiveness of radio-frequency interference suppression systems used on gasoline engines, engine-driven generators, and miscellaneous engine-driven electrical machinery located in transportation and combat vehicles. It is also used to test other electrical and electronic equipments requiring RF suppression treatment, and with the accessories provided, it can be used to measure RF interference voltages present across cable terminals.

No field changes in effect at time of preparation (7 November 1956).

RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied: (1) Test Equipment as required, tools as required.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 0.15 to 0.4 mc and 1.6 to 42 mc.
TYPE RECEIVER: Superheterodyne.
TYPE SIGNAL RECEIVED: AM.
INTERMEDIATE FREQUENCY: 455 kc.
NOISE GENERATOR DATA
TYPE: Impulse.
REPETITION RATE: 10 to 900 cps.
USEFUL FREQUENCY SPECTRUM: 0.15 to 40 mc.
POWER REQUIREMENTS: 117 v, 50 to 60 cps, 1 amp or 24 v DC, 10 amps.

TUBE AND/OR CRYSTAL COMPLEMENT

(2) 6626/OA2WA	(3) 6627/OB2WA
(1) OA3	(1) 6AV6
(1) 6C4WA	(1) 6J6
(1) 5696	(1) 5726/6AL5W
(5) 5749/6BA6W	(1) 6005/6AQ5W

Total Tubes: (17)

REFERENCE DATA AND LITERATURE

TM11-5084: Technical Manual for Radio Interference Set AN/URM-3.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	TASSA
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	

SHIPPING DATA

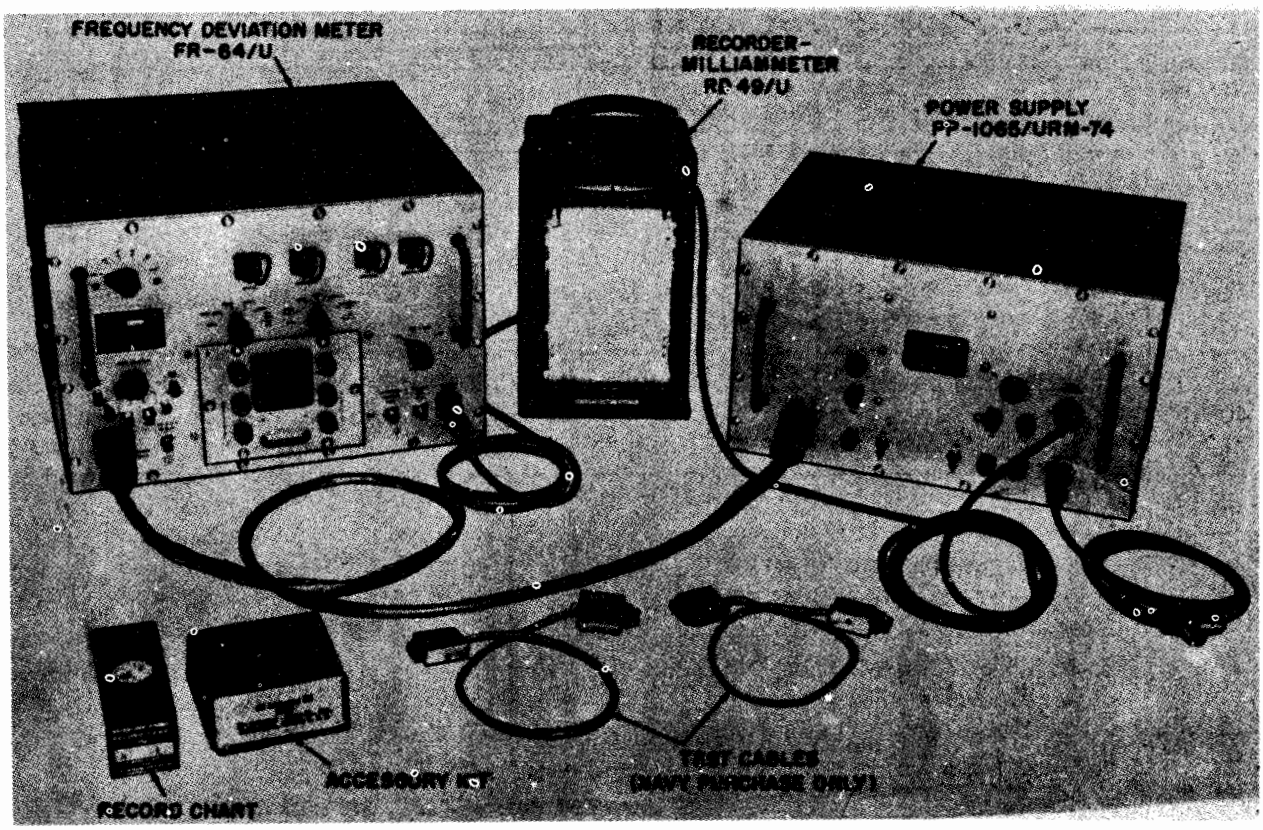
NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Receiver Case CY-1729/URM-3, Radio Receiver R-178/URM-3 and (2) Technical Manual	4.5	15-3/4 X 18-13/16 X 26-1/4	70
1	Standardized Electrical Components Case CY-634/URM-3 (1) Motor-Generator PU-315/URM-3 (1) Probe MX-838/URM-3 (1) Probe MX-839/URM-3 (1) Coupler CU-149/URM-3 (1) Coupler CU-150/URM-3 (1) Coupler CU-151/URM-3 (1) Coupler CU-152A/URM-3 (1) Coupler CU-153/URM-3 (1) Antenna AT-558/URM-3 (1) Mounting Bracket MT-195/U (1) Headset H-16/U (1) Cord CD-307 (1) Cord CG-409E/U (15 ft 0 in.) (1) Cord CG-409E/U (0 ft 6 in.) (1) Electrical Power Cable Assy CX-1062/U (1) Electrical Power Cable Assy CX-1063/U (4) Telescopic Leg Assembly (1) Set of Running Spares	4.5	15-3/4 X 18-13/16 X 26-1/4	50

RADIO INTERFERENCE MEASURING SET AN/URM-3

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiver R-178/URM-3	9-7/16 X 14-3/16 X 18-3/4	40
1	Motor Generator PU-315/URM-3	4-7/8 X 6-5/16 X 8	11.4
1	Probe MX-838/URM-3	1 X 3-1/2 X 10	0.8
1	Probe MX-839/URM-3	1 X 1 X 7-23/32	0.3
1	Coupler CU-149/URM-3	1-1/8 X 1-7/32 X 4-1/16	0.4
1	Coupler CU-150/URM-3	1-1/8 X 1-7/32 X 4-1/16	0.4
1	Coupler CU-151/URM-3	1-1/8 X 1-7/32 X 3-3/4	0.4
1	Coupler CU-152A/URM-3	1-1/8 X 1-7/32 X 1-7/8	0.2
1	Coupler CU-153/URM-3	1-1/8 X 1-7/32 X 3-3/32	0.4
1	Antenna AT-558/URM-3	102 lg	0.8
1	Mounting Bracket MT-195/U	3-1/4 X 6-1/16 X 7-7/8	1.5
1	Headset H-16/U	1 X 4 X 7	0.6
1	Cord CD-307	65 lg	0.3
1	Cord CG-409E/U	180 lg	0.4
1	Cord CG-409E/U	6 lg	0.1
1	Electrical Power Cable Assembly CX-1062/U	72 lg	0.5
1	Electrical Power Cable Assembly CX-1063/U	96 lg	1.8
1	Receiver Case CY-1729/URM-3	12-3/4 X 16-13/16 X 23-1/4	2.2
1	Standardized Electrical Components Case CY-634/URM-3	12-3/4 X 16-13/16 X 23-1/4	40
4	Telescopic Legs	1-1/8 X 1-9/16 X 34	0.9
2	Technical Manual	3/4 X 8-1/2 X 11	0.8
1	Set of Running Spares		2.1

FREQUENCY DEVIATION METER AN/URM-74



Frequency Deviation Meter AN/URM-74

FUNCTIONAL DESCRIPTION

The AN/URM-74 is a test instrument designed for use with precision frequency signal sources. It measures and records the actual difference in frequency between a pair, or among a group of signal sources which nominally generate a 100 kc signal. Frequency differences ranging from 0.0001 cps to 10 cps can be measured in a few seconds. As many as six precision instruments can simultaneously be connected to the Frequency Deviation Meter, any of which may then be selected for comparsion with a seventh precision instrument, designed here in as the Reference Standard Frequency.

No field changes in effect at time of preparation (27 Sept 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 100 kc ±10 cps.
INPUT SIGNALS REQUIRED: 100 kc Reference Signal, 100 kc signal for Comparison Tests.
OPERATING POWER: 115 v. 60 cps, single ph. 2.6 amp, 295 volt amperes.

MANUFACTURER'S OR CONTRACTOR'S DATA

Approximate Cost: $5200.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 2BP1	(1) 5751
(2) 5R4WGB	(4) 5814
(17) 6AW6WA	(2) 6080WA
(1) 5651	(1) NE51

Total Tubes: (39)

REFERENCE DATA AND LITERATURE

NAVSHIPS 92617: Technical Manual for FREQUENCY DEVIATION METER AN/URM-74.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	

AN/URM-74 FREQUENCY DEVIATION METER

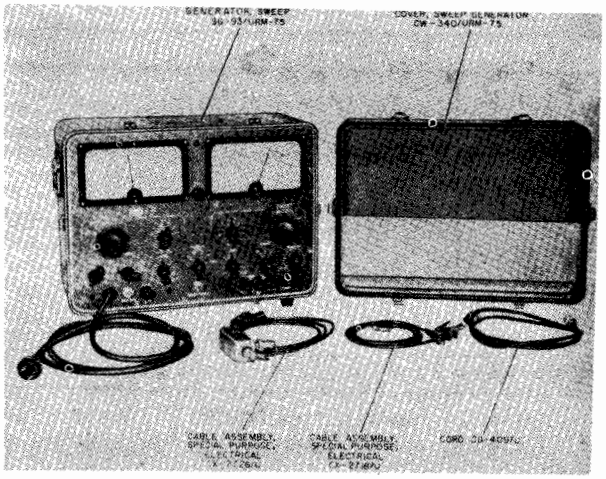
SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Frequency Deviation Meter FR-64/U	9.7	22 x 26-1/2 x 29	147
1	Power Supply PP-1065/URM-74	6.3	17 x 26 x 27	144
1	Recorder with Accessory Kit and Cables RD-49/U	4.6	15 x 18 x 29	75

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Frequency Deviation Meter FR-64/U	12-5/8 x 19-5/8 x 20-1/8	61
1	Power Supply PP-1065/URM-74	10-7/8 x 15-1/8 x 19-5/8	72
1	Recorder-Milliameter RD-49/U	8-1/2 x 9 x 15	26
1	Cable, Power		
1	Cable, Interunit		
1	Cable, Recorder Signal		
2	Test Cable		
2	Technical Manual NAVSHIPS 92617		

SWEEP GENERATOR AN/URM-75



Generator, Sweep, AN/URM-75

FUNCTIONAL DESCRIPTION

The AN/URM-75 is a versatile, precision, test instrument capable of providing many services. It is specifically designed to provide the signals necessary for aligning and check Radio Receiving Set AN/ARR-26, but it may be used to perform similar services for other receivers which have bandpass characteristics that lie within its frequency range. The generator supplies signals for observing frequency response, relative-gain, and bandpass characteristics of radio-frequency (RF), intermediate-frequency (IF), and video stages; for aligning radio-frequency (RF) and intermediate-frequency (IF) circuits; for checking and adjusting discriminators; and for determining relative receiver sensitivity. Familiarity with the equipment will doubtless suggest to the operator additional purposes for which the generator can be used.

No field changes in effect at time of preparation (22 July 1958).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

SWEEP RANGE
- BAND A: 5 to 50 mc (beat frequency output).
- BAND B: 50 to 220 mc (fundamental output).

SWEEP DEVIATION: Up to 12 mc, variable by use of sweep width control.
SWEEP RATE: 60 cps, fixed.
MARKER RANGE
- BAND A: 4 to 8 mc.
- BAND B: 8 to 16 mc.
- BAND C: 15 to 32 mc.
- BAND D: 30 to 60 mc.
- BAND E: 52 to 105 mc.
- BAND F: 96 to 220 mc.

NOTE: If desired, the marker signal may be modulated with a 600 cycle audio signal.

BIAS: 0 to -12 v DC, available at "BIAS" jack, variable by use of "BIAS" control.
POWER CONSUMPTION: 50 W.
OPERATING POWER REQUIREMENTS: 110, 120 v AC, 60 cps.

MANUFACTURER'S OR CONTRACTOR'S DATA

Philco Corp., Philadelphia, Pa.
Contract NOas-52-854-1.

TUBE AND/OR CRYSTAL COMPLEMENT

(5) 6BQ7	(1) 6BJ6
(1) 12AU7	(1) 7Z4

Total Tubes: (8)

No Crystals used.

REFERENCE DATA AND LITERATURE

NAVAER 16-30URM75-501: Technical Manual for AN/URM-75 Sweep Generator.

TYPE CLASSIFICATION

DESIGN COGNIZANCE BUAER

PROCUREMENT COGNIZANCE

STOCK NO.

R.D.B. IDENT. NO.

Test-Miscellaneous Test

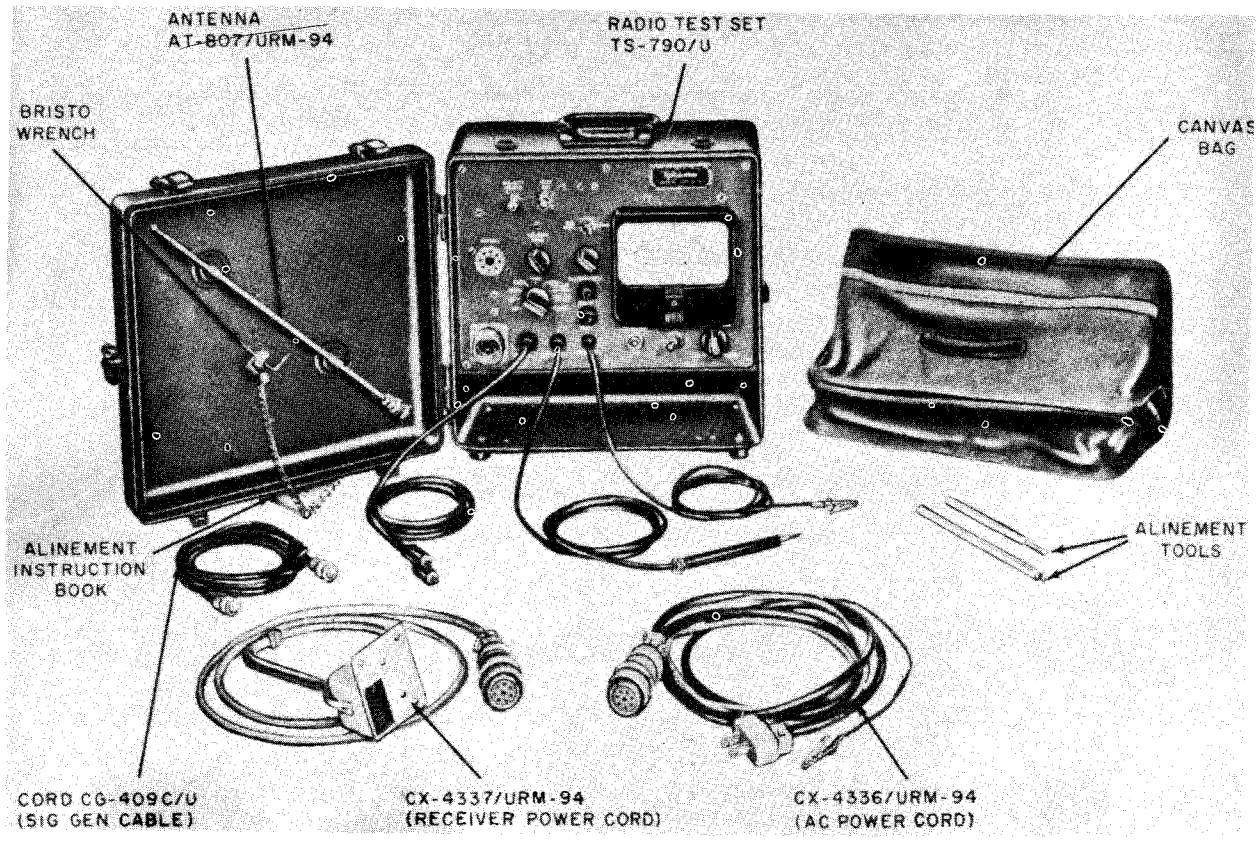
April 1959

AN/URM-75 SWEEP GENERATOR

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Sweep Generator AN/URM-75 Including: (1) Cord CG-409/U (4' 1") (1) Cable Assembly, Special Purpose, Electrical CX-2718/U (4' 3") (1) Cable Assembly, Special Purpose, Electrical CX-2726/U (4' 4") (1) Cover Sweep Generator CW-340/URM-75	10 X 10 X 15	30.0 Approx

RADIO TEST SET AN/URM-94



Radio Test Set AN/URM-94

FUNCTIONAL DESCRIPTION

The AN/URM-94 consists of Radio Test Set TS-970/U and associated antenna, cables and tools. It is a portable test instrument that functions as a signal generator, vacuum-tube, voltmeter, ammeter, field strength meter, crystal activity checker, or an audio-level indicator. The radio frequency (RF) voltages developed by the signal generator section are unmodulated continuous wave. The voltammeter section is capable of direct current (DC) voltage and current measurements. The AN/URM can be used for testing the nontactical radio sets.

No field changes in effect at time of preparation (21 July 1958).

EQUIPMENT REQUIRED BUT NOT SUPPLIED

The AN/URM-94 is used with but not part of the AN/FRC-15(), AN/FRC-27(), AN/TRC-22(), AN/TRC-28(), AN/TRC-34(), AN/VRC-6().

ELECTRICAL AND MECHANICAL CHARACTERISTICS

SIGNAL GENERATOR OUTPUT
- RADIO FREQUENCY: Unmodulated.
- OUTPUT VOLTAGE: 100 uv.
- IMPEDANCE: 50 ohms.

DIRECT CURRENT VOLTAGE RANGE: 0-3-10-30-100-300-1000 v.

CURRENT RANGE: 0 to 500 ma.

VOLTMETER INPUT IMPEDANCE: 11 megohms.

RADIO FREQUENCY RANGE
- LOW BAND: 25 to 50 mc.
- HIGH BAND: 152 to 174 mc.

POWER CONSUMPTION: 15 W.

OPERATING POWER REQUIREMENTS: 115 v, 50 to 65 cps.

Test-Miscellaneous Test

April 1959

AN/URM-94 RADIO TEST SET

MANUFACTURER'S OR CONTRACTOR'S DATA

Motorola Inc., Chicago, Illinois.
Contract 50633-PHILA-57-56.

REFERENCE DATA AND LITERATURE

TM11-214-15: Technical Manual for the AN/URM-94 Radio Test Set.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 12AU7 (1) 6AK6
Total Tubes: (2)

(1) 1N1084
Total Crystals: (1)

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	

EQUIPMENT SUPPLIED DATA

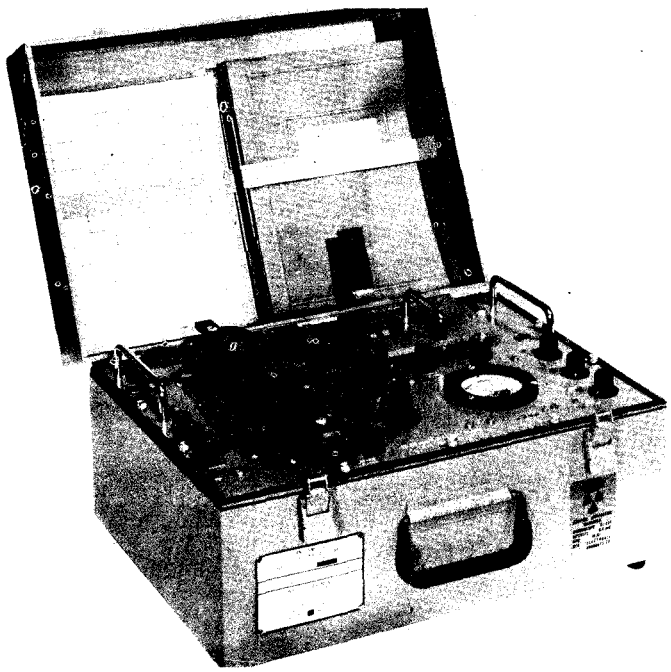
QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Test Set TS-970/U	6-5/8 X 12 X 12-3/8	12
1	Antenna AT-807/URM-94		
1	Branched Electrical Special Purpose Cable A'ssy CX-4336/URM-94	61-1/2 lg	0.6
1	Electrical Special Purpose Cable A'ssy CX-4337/URM-94	61-1/2 lg	0.7
1	Cord CG-409C/U	51 lg	0.2
1	Set of 2 alinement tools		
1	Canvas bag	7-1/4 X 13 X 13-1/8	1.0
1	Alinement Instruction Booklet	1/8 X 6-1/8 X 7	
2	Technical Manual TM-11-214-15	3/8 X 8-1/2 X 11	0.2
1	Set of Equipment Spares		

Cog Service: USN FSN: F6625-888-3315 Functional Class: 12.

USA	USN	USAF

TYPE CLASS: Std

MANUFACTURER'S NAME/CODE NUMBER: Electronic Products Co., (89459).



Radiac-Tube Test Set AN/USM-113

FUNCTIONAL DESCRIPTION:

Radiac-Tube Test Set AN/USM-113 is a portable, line operated unit which measures good and bad characteristics of electron tubes unique to radiac equipment.

No field changes in effect at time of preparation (10 August 1962).

TECHNICAL CHARACTERISTICS:

POWER REQUIREMENTS: 100 W, 115 v porm 10%, 50 to 450 cyc, single ph.

TUBE HOLDER: Is assembled with all the electron tube sockets and clamping provisions for positioning the tubes under test.

TUBE TYPES TESTED: 5962(BS-101), 5979(BS-1), 5980(BS-2), 7615/EP-680, 7616/EP-72M, 7617/EP-92A, TGC-1, 7840.

RADIATION SOURCE: Cesium-137, 1.6 millicurie.

AN/USM-113 RADIAC-TUBE TEST SET

RADIATION FIELD INTENSITIES
ON ANY EXTERIOR SURFACE OF THE TEST SET: Less than 2 MR/HR.
FOR SURFACES AROUND THE SHIELDED PORTIONS OF THE RADIOACTIVE HOLDER: Less than 10 MR/HR.

RELATION TO OTHER EQUIPMENT:

This equipment replaces Test Set, Electron Tube AN/USM-23.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Set, Radiac Tube AN/USM-113 includes:		9-1/2 x 13 x 18	50
1	Test Set, Radiac Tube TS-1713/USM-113			
2	Technical Manual NAVSHIPS 94371		1/4 x 8-1/2 x 11	0.62
1	Operator's Instruction Chart		1/16 x 8-1/2 x 12	0.31
1	Tube Holder			
1	Screw Driver		1/8 dia x 5	0.12
1	Radiation Source Cs-137, 1.6 millicurie MPI			

REFERENCE DATA AND LITERATURE:

NAVSHIPS 94371: Technical Manual for Radiac-Tube Test Set AN/USM-113.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (3) 5751 (1) EP30RS (1) 6AW8A (1) 6080WB (1) 5651WA (1) 0A2WA (2) 5886 (1) 7615/EP-680 (1) 6AU6WB (4) 12AT7WA (1) 6C4WA (2) 5814A (1) NE-86

CRYSTALS: None used.

SEMI-CONDUCTORS: (6) 1N2361 (16) 1N645 (4) 1N277 (2) 1N647 (11) 1N643 (4) 1N459 (2) 2N398

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	2	55

PROCUREMENT DATA

PROCURING SERVICE: USN
DESIGN COG: USN, BuShips
SPEC &/OR DWG: MIL-T-22875(SHIPS)

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Electronic Products Co. Model no. 510A	Mount Vernon, N. Y.	NObsr-85583	$3,108.63

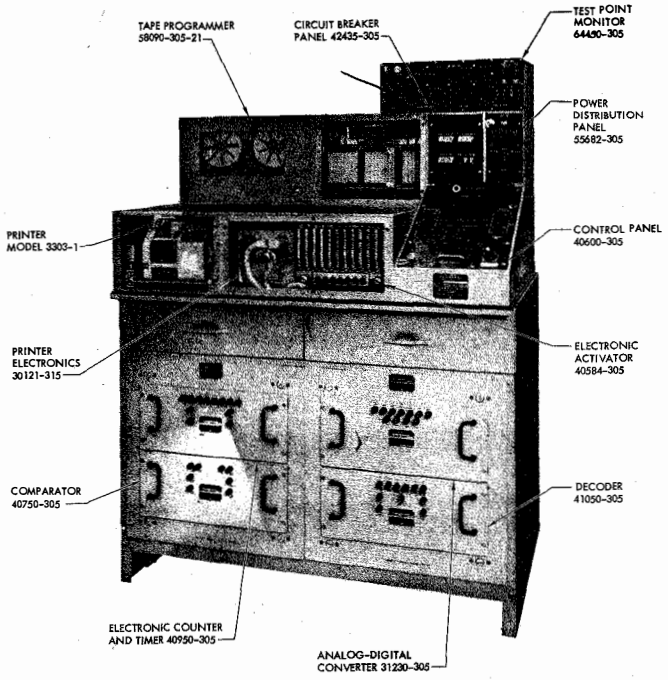
20 June 1962 — TEST BENCH, PROGRAMMING SET AN/USM-126(XN-1)

Cog Service: USN FSN: — Functional Class: 12.12.6

USA USN USAF

TYPE CLASS: Used by

MANUFACTURER'S NAME/CODE NUMBER: Autonetics Div., North American Aviation Inc., (94756).



Test Bench, Programming Set AN/USM-126(XN-1)

FUNCTIONAL DESCRIPTION:

Test Bench, Programming Set AN/USM-126(XN-1) is a major component of the Electronic Equipment Test Bench Set AN/USM-124(XN-1). The programming test bench serves as the shop test center to perform the programming of tests and to perform the basic measurements.

No field changes in effect at time of preparation (6 April 1962).

TECHNICAL CHARACTERISTICS:

POWER REQUIREMENTS: 617 W, 115/200 v, 400 cyc, 3 ph, 4-wire and 358 W, 28 v dc.

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

AN/USM-126(XN-1) TEST BENCH, PROGRAMMING SET

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Bench, Programming Set AN/USM-126(XN-1)			
1	Timing Circuits-Comparator Test Rack Unit 1			
1	Control Panel Unit 2			
1	Comparator Unit 3			
1	Electronic Counter and Timer Unit 4			
1	Analog-To-Digital Converter Unit 5			
1	Decoder Unit 6			
1	Control and Program Console Unit 7			
1	Test Bench Selector Unit 8			
1	Self-Test Amplifier Unit 9			
1	Electronic Activator Unit 10			
1	Printer Electronics Assy Unit 11			
1	Printer Assy Unit 12			
1	Tape Programmer Unit 13			
1	Signal Relay Assy Unit 14			
1	Decoder-Analog-To-Digital Converter Test Rack Unit 17			
1	Power Monitor Relay Assy Unit 18			
1	Test Point Monitor Unit 19			

REFERENCE DATA AND LITERATURE:

NAVWEPS 16-50BAA-2-1: Handbook of Operation and Service Instructions for Programming Set Test Bench AN/USM-126(XN-1).
NAVWEPS 16-50BAA-4-1: Illustrated Parts Breakdown for Programming Set Test Bench AN/USM-126(XN-1).

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: None used.

CRYSTALS: (1) CR-36/U

SEMI-CONDUCTORS: Data not available.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1		

4.12 AN/USM-126(XN-1): 2

PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG:

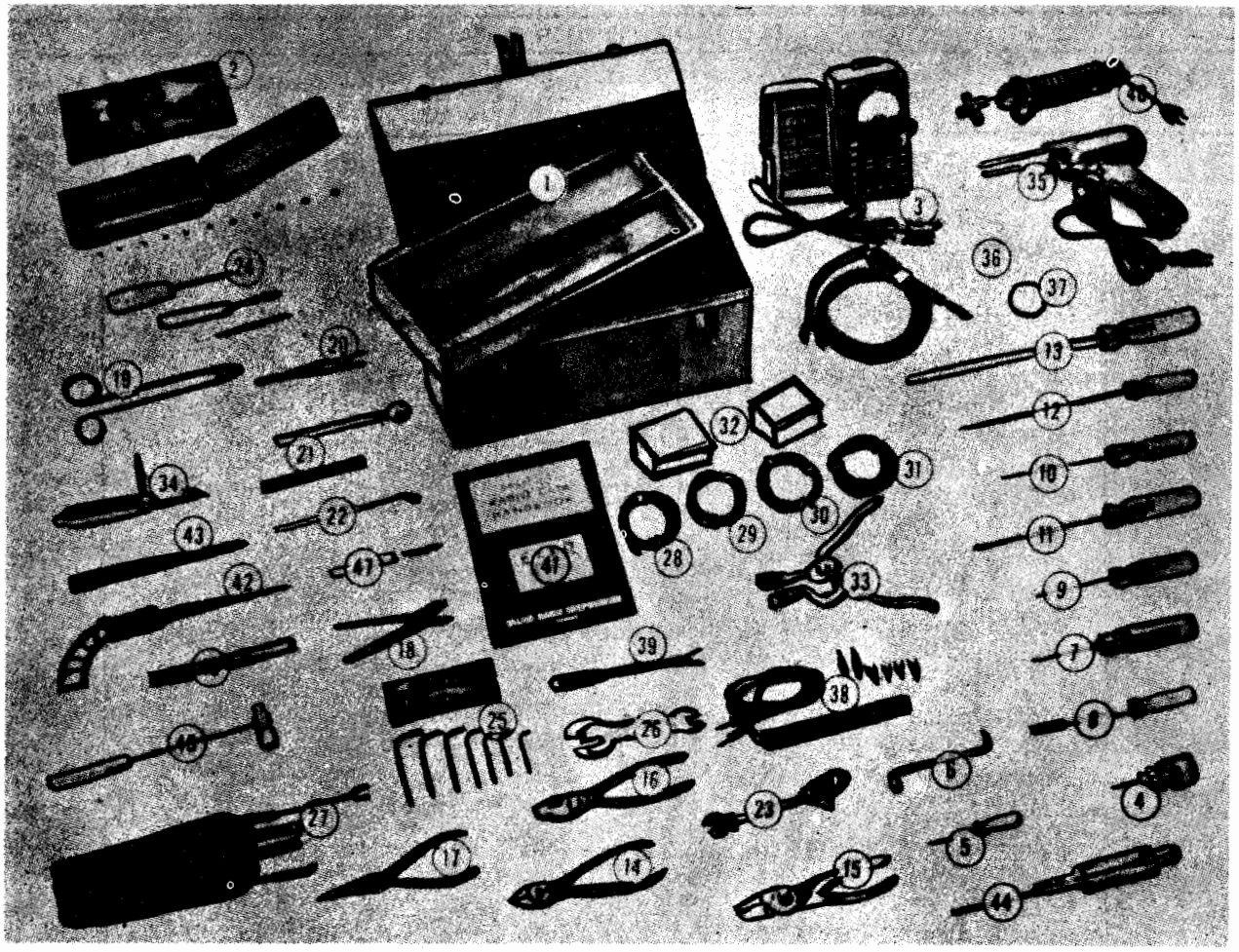
DESIGN COG: USN, BuWeps

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Autonetics Div., North American Aviation Inc.	Downey, California	NOas-56-978-d	

June 1957

Test-Miscellaneous Test

TEST-TOOL SET AN/USM-15



Test-Tool Set AN/USM-15

FUNCTIONAL DESCRIPTION

The AN/USM-15 is a general purpose electronic repair kit consisting of various tools, hook-up wire, test lamp, multimeter and other accessories necessary for minor electronic repair work. All components are contained in a steel carrying case.

No field changes in effect at time of preparation (19 October 1956).

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

Technical Manual for U.S. Marine Corps Electronics Catalog.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.
R.D.B. IDENT. NO.

AN/USM-15 TEST-TOOL SET

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE		OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Test-Tool Set AN/USM-15 consists of:			
1	Bag, Plastic	(2)	1 X 8 X 8	
1	Book, Reference Allied Radio Date	(41)		
1	Cable Assy, Power	(40)	120 lg	
1	Case, Steel	(1)	6-1/2 X 8 X 14	
2	Case, Rigid Plastic	(32)	7/16 X 2-3/4 X 3-3/8	
1	Drill, Hand	(44)	9-1/8 lg	
1	Hammer, Ball Pein	(45)	8-3/8 lg	
1	Soldering Iron, Gun Type	(35)	2-1/4 X 6-1/2 X 9-3/4	
1	Knife TL-29	(34)	3-1/2 lg	
1	Test Lead Set	(38)	48 lg	
1	Test Light	(39)	7-1/2 lg	
1	Multimeter TS-297/U includes	(3)	3-1/8 X 3-1/2 X 6	
1	Battery, Dry BA-42			
1	Test Lead CX-1332/U		6-1/2 lg	
1	Test Lead Set CX-1331/U		53-1/2 lg	
2	Technical Manuals TM-11-5500			
1	Mirror, Dental Type	(22)		
1	Mirror, Illuminated Inspection consists of:	(21)	13-3/16 lg	
1	Dry Battery BA-58			
2	Lamp, Incandescent			
1	Hand Oiler	(47)	5-3/4 lg	
1	Pliers, Diagonals	(14)	6 lg	
1	Pliers, Long Nose	(17)	7 lg	
1	Pliers, Side Cutters	(16)	6-1/2 lg	
1	Pliers, Thin Nose, with Cutters	(15)	6 lg	
1	Fuse Puller	(18)	13/32 X 25/32 X 4-31/32	
1	Tube Puller TL-201	(19)	8 lg	
1	Rule 1/64 in. and 1/32 in. graduation	(46)	6 lg X 3/4 w	
1	Saw, keyhole consists of:	(42)	10-1/8 lg	
1	Saw Blade	(43)	7-5/8 lg	
1	Screwdriver	(4)	3-1/16 lg	
1	Screwdriver	(7)	7 lg	
1	Screwdriver, Slot Drive	(5)	4 lg	
1	Screwdriver, Slot Drive	(9)	7-5/8 lg	
1	Screwdriver, Slot Drive	(10)	9-5/8 lg	
1	Screwdriver, Slot Drive	(12)	11 lg	
1	Screwdriver, Slot Drive	(13)	13-1/2 lg	
1	Screwdriver, Slotted Drive	(8)	7-1/4 lg	
1	Screwdriver, Slot Drive, Offset	(6)	4-1/4 lg	
1	Screwdriver, Phillips Drive	(11)	10 lg	
1	Socket Set, Wrench	(24)		
1	Solder, 40/60 Tin-Lead	(37)	55 lg	
1	Wire Stripper	(33)	6-1/2 lg	

TEST-TOOL SET AN/USM-15

EQUIPMENT SUPPLIED DATA

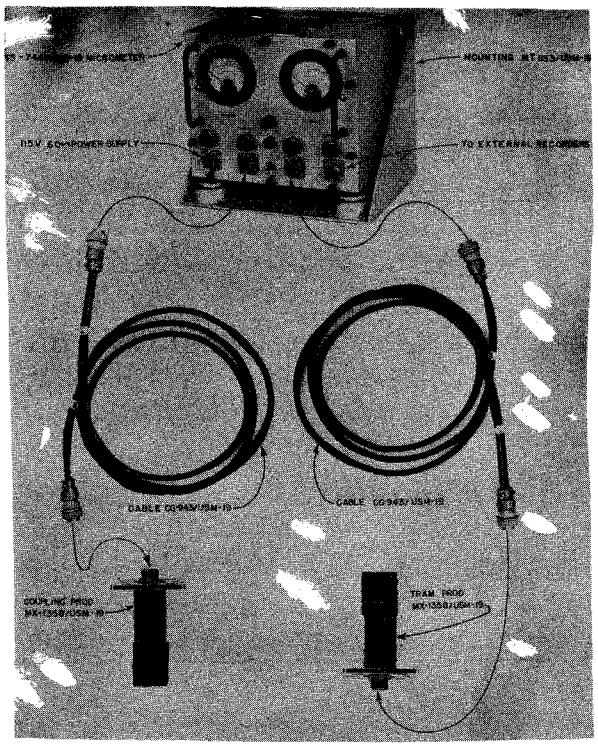
QUANTITY PER EQUIPT	NAME AND NOMENCLATURE		OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
2	Tip, Soldering Iron	(36)	3-3/32 lg	
1	Tool Kit consists of:	(27)		
17	Tool, Alignment, Screwdriver and 1/4 in. Hex Wrench		6 lg	
1	Tool, Alignment, Screwdriver and Alligator Wrench		6 lg	
1	Tool, Alignment, Screwdriver and 1/4 in. Hex Side Wrench		6 lg	
1	Tool, Alignment, Screwdriver Tip each End		7 lg	
1	Tweezer	(20)	6-1/8 lg	
25	Wire, Electrical, Red	(28)		
25	Wire, Electrical, Black	(29)		
25	Wire, Electrical, Blue	(30)		
25	Wire, Electrical, Green	(31)		
1	Wrench, Double Ended Adjustable	(23)	6 lg	
1	Wrench, Set, 4 Double Open End	(26)		
1	Wrench, Set, consists of:	(25)		
1	Allen Set Screw 1/16 in.		1-3/4 lg X 1/2 w	
1	Allen Set Screw 5/64 in.		1-7/8 lg X 39/64 w	
1	Allen Set Screw 3/32 in.		2-13/16 lg	
1	Allen Set Screw 1/8 in.		2-23/32 lg	
1	Allen Set Screw 5/32 in.		2-1/2 lg X 1-5/8 w	
1	Allen Set Screw 3/16 in.		2-3/4 lg X 15/16 w	
1	Allen Set Screw 7/32 in.		3-1/8 lg	

4 June 1962 | 6625-245-0768 | ELECTRONIC MICROMETER SET AN/USM-19

Cog Service: USN | FSN: 6625-643-2024 W/S | Functional Class: 12

USA	USN	USAF
TYPE CLASS: Used By	Used By	

MANUFACTURER'S NAME/CODE NUMBER: National Electrical Machine Shops Inc., (42542).



Electronic Micrometer Set AN/USM-19

FUNCTIONAL DESCRIPTION:

The Electronic Micrometer Set AN/USM-19 is a dual channel instrument for continuously indicating clearance between the rotor and the stator blades of a steam turbine, while the turbine is in operation. Such measurements are made both as a basis for corrective design and for establishing operating limitations on turbines. This equipment does not require mechanical contact with the moving parts to which clearance is being measured.

No field changes in effect at time of preparation (9 November 1961).

TECHNICAL CHARACTERISTICS:

OPERATING FREQUENCY: 480 kc.
METERS CALIBRATION: M0.100 in. to P0.300 in.
RANGE: 0.00 to 0.400 in.

AN/USM-19 ELECTRONIC MICROMETER SET

ACCURACY: Porm 0.01 in. PO.03 of clearance reading.
POWER SOURCE REQUIRED: 115 v, 60 cyc, single ph.
MOUNTING DATA: Shelf-mounted.

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Frequency Meter FR-47/U or Equivalent.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Electronic Micrometer TS-744/USM-19		8.44 x 8.62 x 10.00	12.88
1	Mounting MT-1133/USM-19		9.94 x 10.25 x 11.38	5.46
2	Test Prod MX-1358/USM-19		3.50 x 3.75 x 5.97	1.44
2	R.F. Cable Assembly CG-943/USM-19			0.84
1	Recorder Connector P-105 AN3100A-14S-9P			
1	Power Connector P-106 AN3100A-14S-9P			
1	Spare Parts Box (Parts Peculiar Only)			
2	Technical Manuals			

REFERENCE DATA AND LITERATURE:

NAVSHIPS 91732: Technical Manual for Electronic Micrometer Set AN/USM-19.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (1) 0A2 (1) 6AQ5W (1) 6X4W (1) 12AT7 (1) 5726

CRYSTALS: None used.

SEMI-CONDUCTORS: None used.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1		
1		
1		

PROCUREMENT DATA

PROCURING SERVICE: USN
DESIGN COG: USN, BuShips
SPEC &/OR DWG: MIL-E-15867(SHIPS)

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
National Electrical Machine Shops Incorporated Dwg no. B-30-154	Silver Spring, Maryland	NObsr-52284, 20 February 1951	

18 May 1962 — GENERATOR TEST SET AN/USM-2

Cog Service: USMC FSN: — Functional Class: 12

USA USN USAF

TYPE CLASS:

MANUFACTURER'S NAME/CODE NUMBER: Weidenhoff Corp., (64359).

(No Illustration Available)

FUNCTIONAL DESCRIPTION:

Generator Test Set AN/USM-2 is designed for bench testing of generators and starters under load at speeds in excess of actual operation.

No field changes in effect at time of preparation (5 February 1962).

TECHNICAL CHARACTERISTICS:

VOLTMETER SCALE: 0 to 20, 50 v dc.
AMMETER SCALE: 2-0-10 amp, 10-0-50 amp, 40-0-200 amp, 200-0-1,000 amp.
TACHOMETER SCALE: 0 to 8,000 rpm.
POWER REQUIREMENTS: 115 v, 60 cyc, single ph.

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Generator Test Set AN/USM-2		30 x 50 x 62	

REFERENCE DATA AND LITERATURE: None.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Data not available.

CRYSTALS: Data not available.

SEMI-CONDUCTORS: Data not available.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)

AN/USM-2 GENERATOR TEST SET

PROCUREMENT DATA

PROCURING SERVICE: USMC
DESIGN COG: USMC
SPEC &/OR DWG:

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Weidenhoff Corp.	Algona, Iowa		

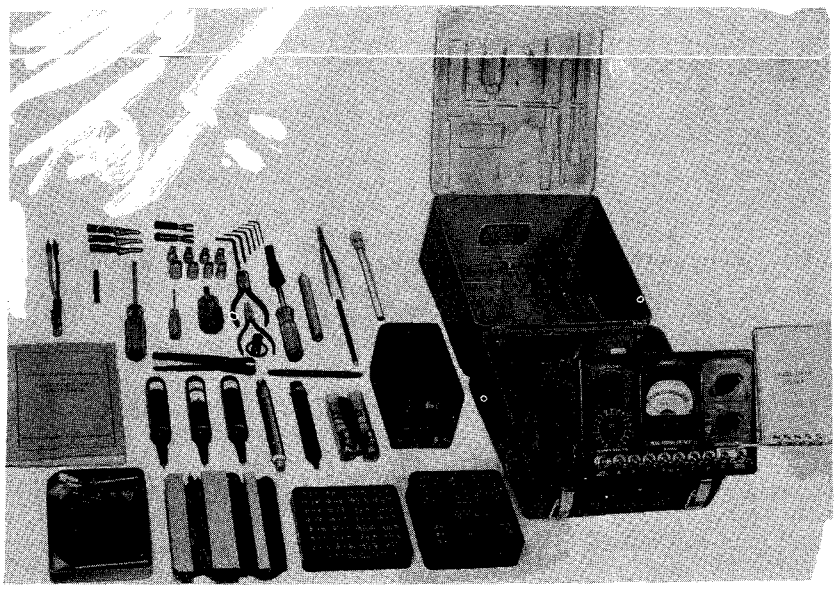
28 May 1962 | 6625-302-9551 | TEST-TOOL SET AN/USM-3

Cog Service: USN FSN: 6625-316-8477 W/S | Functional Class: 12.12

USA	USN	USAF

TYPE CLASS: Std

MANUFACTURER'S NAME/CODE NUMBER: Radio Frequency Laboratories Inc., (49673).



Test-Tool Set AN/USM-3

FUNCTIONAL DESCRIPTION:

Test-Tool Set AN/USM-3 is designed for use as a test and repair set for emergency repair on electronic and electrical equipment. It is intended only for getting equipment back into operation in a situation where more accurate test equipment is either unavailable or where all necessary precision test equipment is damaged or cannot be carried.

No field changes in effect at time of preparation (8 March 1962).

TECHNICAL CHARACTERISTICS:

TUBE TESTER TV-4/U

POWER REQUIREMENTS: 105 to 125 v, 50 to 1,600 cyc.

POWER CONSUMPTION: 25 W at 115 v, 60 cyc.

MEASUREMENTS

TESTS ALL TUBES: For filament continuity, emission, shorted and open elements.

CAPACITIES: 0.001 to 100 uf.

SIGNAL TRACER TS-673/U
- POWER REQUIREMENTS: 7 W, 105 to 125 v, 50 to 1,600 cyc.
- AF RANGE: 47 to 15,000 cps.
- RF RANGE: Audio modulated signals 15 kc to 400 mc.
- AUDIO SENSITIVITY: 0.002 v in earphone; 0.004 v for 1/2 scale.
- RF SENSITIVITY: 0.005 v of 50% modulated rf audible in earphone; 0.05 v of 50% modulated rf for 1/2 scale.

INTERFERENCE GENERATOR SG-23/U
- POWER REQUIREMENTS: 1.5 v dc, 0.2 amp.
- FREQUENCY: Audio approx. 2,000 cyc; harmonics to approx. 400 mc.

VOLTAGE INDICATOR-PROBE ID-265/U
- MEASUREMENTS: 0 to 440 v ac or dc, dc polarity.
- FREQUENCY RANGE AC: 10 to 10,000 cyc.
- IMPEDANCE: 500,000 ohms.

RF INDICATOR-PROBE ID-263/U
- USEFUL FREQUENCY RANGE: 100 kc to 400 mc.
- SENSITIVITY: 25% full scale for 1 v rf direct connected.
- SENSITIVITY W/EXTENSION ROD IN RF FIELD: 5 v/meter for 25% full scale.
- MAXIMUM RF SIGNAL: 10 v across crystal diode.

RESISTANCE INDICATOR-PROBE ID-264/U
- POWER REQUIREMENTS: 1.5 v dc.
- MEASUREMENTS: 0 to 10,000 ohms.

DECADE RESISTOR TS-672/U
- POWER RATING: 2 W per resistor; 10 W for unit.
- TOLERANCE: Porm 5%.
- RANGE: 1 ohm to 12 meg in 1 ohm steps.

DECADE CAPACITOR TS-671/U
- RANGE: 0.0001 to 48 uf.
- TOLERANCE (PAPER): Porm 10%.
- VOLTAGE RATING (PAPER): 500 v dc.
- TOLERANCE (ELECTROLYTIC): M0% P75%.
- VOLTAGE RATING (ELECTROLYTIC): 450 v dc.

TEST PROD MX-934/U
- MAXIMUM RF SIGNAL: 20 v.
- VOLTAGE RATING: 300 v dc.

TEST PROD MX-933/U
- MAXIMUM AF SIGNAL: 100 v.
- VOLTAGE RATING: 400 v dc.
- INPUT RESISTANCE: 1 meg.
- INPUT CAPACITANCE: 0.0001 uf.

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(4) Batteries BA-58.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test-Tool Set AN/USM-3 includes:			23
1	Case CY-703/U		7 x 9-3/4 x 10-1/2	5.0
1	Tool Holder CY-704/U		3/4 x 9-1/4 x 9-1/4	
1	Tube Tester TV-4/U		5-1/2 x 5-1/2 x 8-1/4	9.0
1	Signal Tracer TS-673/U		3 x 3-1/2 x 5-3/4	2.0
1	Interference Generator SG-23/U		3/4 dia x 5-3/4	
1	Voltage Indicator-Probe ID-265/U		1 dia x 6	
1	RF Indicator-Probe ID-263/U		1 dia x 6	
1	Resistance Indicator-Probe ID-264/U		1 dia x 6	
1	Decade Resistor TS-672/U		3/4 x 4-3/8 x 4-3/4	
1	Decade Capacitor TS-671/U		1-1/4 x 4-3/8 x 4-3/4	
1	Test Prod MX-933/U			
1	Test Prod MX-934/U			
1	RF Cable Ass'y CG-570/U		36 lg	
1	Telephone Receiver 491898			
1	Headband 491901		2-5/16 dia x 11/16	
1	Power Cable Ass'y 62472			
2	Lead, Electrical (Rod) 491899			
2	Lead, Electrical (Black) 491899-A			
4	Adapter Connector 491897			
12	Lead, Electrical 491895			
1	Extension Rod		1/4 dia x 5-5/16	
1	Cord and Test Lead Holder			
1	Battery and Bulb Case (w/2 bulbs, 10 ft hook-up wire)			
1	Accessory Case			
1	Technician's Handbook			
1	Tube Data Index			
3	Alligator Clips			
2	Spade Lugs			
1	Screwdriver (4 in.)			
1	Screwdriver (2 in.)			
1	Combination Screwdriver			
1	Hex Head Wrench Set (0.050, 1/16, 5/64, 3/32, 1/8, 5/32)			
1	Socket Wrench Set			
1	Socket Wrench Handle			
1	Long Nose Pliers			
1	Side Cutting Pliers			
1	Fuse Puller			

AN/USM-3 TEST-TOOL SET

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Insulated Tweezers			
1	Pilot Light Extractor			
1	Alignment Tool			
1	Soldering Iron Handle			
1	Soldering Iron Tip (Chisel)			
1	Soldering Iron Tip (Round)			
1	Soldering Iron Tip Holder			
1	Neon Test Light			
1	Flashlight			
1	Flashlight Extension			
1	Mirror			
1	Technical Manual NAVSHIPS 91146			

REFERENCE DATA AND LITERATURE:

NAVSHIPS 91146: Technical Manual for Test-Tool Set AN/USM-3.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (1) 3A4 (1) 6AL5 (2) 12AX7

CRYSTALS: None used.

SEMI-CONDUCTORS: None used.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	5.9	53

PROCUREMENT DATA

PROCURING SERVICE: USN DESIGN COG: USN, BuShips
SPEC &/OR DWG: MIL-T-15559(SHIPS)

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Radio Frequency Laboratories Inc.	Boonton, New Jersey	NObsr-42100, 17 February 1948	

SECT 5 OF 5 NAVSHIPS 94200.4

DIRECTORY OF ELECTRONICS TEST EQUIPMENT

(CONTINUED)

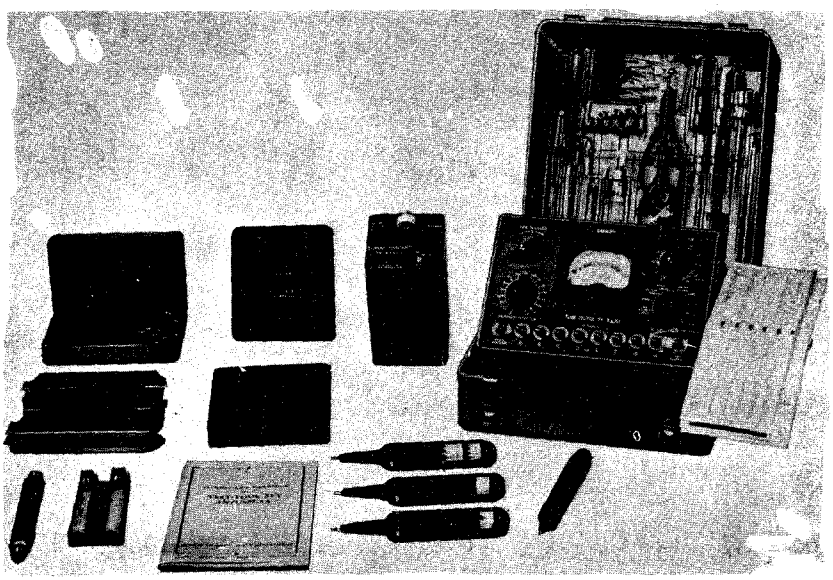
PREPARED BY
U.S. NAVY
ELECTRONICS SUPPLY OFFICE
GREAT LAKES, ILLINOIS

Cog Service: USN FSN: 6625-643-8563 Functional Class: 12.12

USA	USN	USAF

TYPE CLASS: Std

MANUFACTURER'S NAME/CODE NUMBER: Radio Frequency Laboratories Inc., (49673).



Test-Tool Set AN/USM-3A

FUNCTIONAL DESCRIPTION:

Test-Tool Set AN/USM-3A is designed for use as a test and repair set for emergency repair on electronic and electrical equipment. It is intended only for getting equipment back into operation in a situation where more accurate test equipment is either unavailable or where all necessary precision test equipment is damaged or cannot be carried.

No field changes in effect at time of preparation (8 March 1962).

TECHNICAL CHARACTERISTICS:

TUBE TESTER TV-4A/U
- POWER REQUIREMENTS: 105 to 125 v, 50 to 1,600 cyc.
- POWER CONSUMPTION: 25 W at 115 v, 60 cyc.
- MEASUREMENTS
  - TESTS ALL TUBES: For filament continuity, emission, shorted and open elements.
  - CAPACITIES: 0.001 to 100 uf.

AN/USM-3A TEST-TOOL SET

SIGNAL TRACER TS-673/U
- POWER REQUIREMENTS: 7 W, 105 to 125 v, 50 to 1,600 cyc.
- AF RANGE: 47 to 15,000 cps.
- RF RANGE: Audio modulated signals 15 kc to 400 mc.
- AUDIO SENSITIVITY: 0.002 v audible in earphone; 0.004 v for 1/2 scale.
- RF SENSITIVITY: 0.005 v of 50% modulated RF audible in earphone; 0.05 v of 50% modulated RF for 1/2 scale.

INTERFERENCE GENERATOR SG-23/U
- POWER REQUIREMENTS: 1.5 v dc, 0.09 amps.
- FREQUENCY: Audio approx. 1,000 cyc; harmonics to approx. 400 mc.

VOLTAGE INDICATOR ID-265/U
- MEASUREMENTS: 0 to 440 v dc or ac, dc polarity.
- FREQUENCY RANGE AC: 10 to 10,000 cyc.
- IMPEDANCE: 510,000 ohms.

RF INDICATOR-PROBE ID-263/U
- USEFUL FREQUENCY RANGE: 100 kc to 400 mc.
- SENSITIVITY: 25% full scale for 1 v RF direct connected.
- SENSITIVITY W/EXTENSION ROD IN RF FIELD: 5 v/meter for 25% full scale.
- MAXIMUM RF SIGNAL: 10 v across crystal diode.

RESISTANCE INDICATOR-PROBE ID-264/U
- POWER REQUIREMENTS: 1.5 v dc.
- MEASUREMENTS: 0 to 10,000 ohms.

DECADE RESISTOR TS-672A/U
- POWER RATING: 2 W per resistor, 10 W for unit.
- TOLERANCE: Porm 10%.
- RANGE: 1 ohm to 12 meg in 1 ohm steps.

DECADE CAPACITOR TS-671/U
- RANGE: 0.0001 to 48 uf.
- TOLERANCE (PAPER): Porm 10%.
- VOLTAGE RATING (PAPER): 500 v dc.
- TOLERANCE (ELECTROLYTIC): M0% P75%.
- VOLTAGE RATING (ELECTROLYTIC): 450 v dc.

TEST PROD MX-934/U
- MAXIMUM RF SIGNAL: 20 v.
- VOLTAGE RATING: 400 v dc.

TEST PROD MX-933/U
- MAXIMUM AF SIGNAL: 100 v.
- VOLTAGE RATING: 400 v dc.
- INPUT RESISTANCE: 1 meg.
- INPUT CAPACITANCE: 0.0001 uf.

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(4) Batteries BA-58.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test-Tool Set AN/USM-3A includes:			23
1	Case CY-703A/U		7 x 9-3/4 x 10-1/2	5.0
1	Tool Holder CY-704/U		3/4 x 9-1/4 x 9-1/4	

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Tube Tester TV-4A/U		5-1/2 x 5-1/2 x 8-1/4	9.0
1	Signal Tracer TS-673/U		3 x 3-1/2 x 5-3/4	2.0
1	Interference Generator SG-23/U		3/4 dia x 5-3/4	
1	Voltage Indicator-Probe ID-265/U		1 dia x 6	
1	RF Indicator-Probe ID-263/U		1 dia x 6	
1	Resistance Indicator-Probe ID-264/U		1 dia x 6	
1	Decade Resistor TS-672A/U		3/4 x 4-3/8 x 4-3/4	
1	Decade Capacitor TS-671/U		1-1/4 x 4-3/8 x 4-3/4	
1	Test Prod MX-933/U			
1	Test Prod MX-934/U			
1	RF Cable Ass'y CG-570/U		36 lg	
1	Telephone Receiver 491898			
1	Headband 491908			
1	Power Cable Ass'y 62472			
2	Lead, Electrical (Red) 491899			
2	Lead, Electrical (Black) 491899-A			
4	Adapter Connector 491897			
12	Lead, Electrical 491B95			
1	Extension Rod			
1	Cord and Test Lead Holder			
1	Battery and Bulb Case (w/2 bulbs, 10 ft Hook-up Wire)			
1	Accessory Case			
1	Technician's Handbook			
1	Tube Data Index			
3	Alligator Clips			
2	Spade Lugs			
1	Screwdriver (4 in.)			
1	Screwdriver (2 in.)			
1	Combination Screwdriver			
1	Hex Head Wrench Set (0.050, 1/16, 5/64, 3/32, 1/8, 5/32)			
1	Socket Wrench Set			
1	Socket Wrench Handle			
1	Long Nose Pliers			
1	Side Cutting Pliers			
1	Fuse Puller			
1	Insulated Tweezers			
1	Pilot Light Extractor			
1	Alignment Tool			
1	Soldering Iron Handle			
1	Soldering Iron Tip (Chisel) 20 W			
1	Soldering Iron Tip (Round) 37.5 W			
1	Soldering Iron Tip Holder			
1	Neon Test Light			
1	Flashlight			
1	Flashlight Extension			
1	Mirror			
1	Technical Manual NAVSHIPS 91688			

AN/USM-3A TEST-TOOL SET

REFERENCE DATA AND LITERATURE:

NAVSHIPS 91688: Technical Manual for Test-Tool Set AN/USM-3A and AN/USM-3B.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (1) 3A4 (1) 6AL5 (2) 12AX7

CRYSTALS: None used.

SEMI-CONDUCTORS: None used.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	5.9	53

PROCUREMENT DATA

PROCURING SERVICE: USN
DESIGN COG: USN, BuShips
SPEC &/OR DWG: MIL-T-15559A(SHIPS)

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Radio Frequency Laboratories Inc.	Boonton, N. J.	NObsr-52269, 23 May 1951	

25 May 1962 TEST-TOOL SET AN/USM-3B

Cog Service: USN FSN: Functional Class: 12.12

USA USN USAF

TYPE CLASS: Std

MANUFACTURER'S NAME/CODE NUMBER: Network Controls Co., (02256).

(No Illustration Available)

FUNCTIONAL DESCRIPTION:

Test-Tool Set AN/USM-3B is designed for use as a test and repair set for emergency repair on electronic and electrical equipment. It is intended only for getting equipment back into operation in a situation where more accurate test equipment is either unavailable or where all necessary precision test equipment is damaged or cannot be carried.

No field changes in effect at time of preparation (8 March 1962).

TECHNICAL CHARACTERISTICS:

TUBE TESTER TV-4A/U
- POWER REQUIREMENTS: 105 to 125 v, 50 to 1,600 cyc.
- POWER CONSUMPTION: 25 W at 115 v, 60 cyc.
- MEASUREMENTS
  - TESTS ALL TUBES: For filament continuity, emission, shorted and open elements.
  - CAPACITIES: 0.001 to 100 uf.

SIGNAL TRACER TS-673/U
- POWER REQUIREMENTS: 7 W, 105 to 125 v, 50 to 1,600 cyc.
- AF RANGE: 47 to 15,000 cps.
- RF RANGE: Audio modulated signals 15 kc to 400 mc.
- AUDIO SENSITIVITY: 0.002 v audible in earphone; 0.004 v for 1/2 scale.
- RF SENSITIVITY: 0.005 v of 50% modulated rf audible in earphone; 0.05 v of 50% modulated rf for 1/2 scale.

INTERFERENCE GENERATOR SG-23/U
- POWER REQUIREMENTS: 1.5 v dc, 0.09 amps.
- FREQUENCY: Audio approx 1,000 cyc; harmonic.

MULTIMETER-TEST PROD ID-604/U
- RANGES
  - RF: 100 kc to 400 mc; approx full scale deflection at 4 v rms of 1-1/2 mc applied to tip.
  - VOLTS: 0 to 440 v, ac-dc.
  - DC POLARITY IMPEDANCE: Over 500,000 ohms.
  - OHMS: 0 to 100,000 ohms.
- ACCURACY: P0% M20% (volts ac), porm 15% (volts dc), porm 20% (ohms).
- POWER REQUIREMENTS: 1.5 v dc.

DECADE RESISTOR TS-672A/U
- POWER RATING: 2 W per resistor, 10 W for unit.
- TOLERANCE: Porm 10%.
- RANGE: 1 ohm to 12 meg in 1 ohm steps.

DECADE CAPACITOR TS-671/U

RANGE: 0.0001 to 48 uf.
TOLERANCE (PAPER): Porm 10%.
VOLTAGE RATING (PAPER): 500 v dc.
TOLERANCE (ELECTROLYTIC): M0% P75%.
VOLTAGE RATING (ELECTROLYTIC): 450 v dc.

TEST PROD MX-934/U
MAXIMUM RF SIGNAL: 20 v.
VOLTAGE RATING: 400 v dc.

TEST PROD MX-933/U
MAXIMUM AF SIGNAL: 100 v.
VOLTAGE RATING: 400 v dc.
INPUT RESISTANCE: 1 meg.
INPUT CAPACITANCE: 0.0001 uf.

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(4) Batteries BA-58.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test-Tool Set AN/USM-3B includes:			23
1	Case CY-703A/U		7 x 9-3/4 x 10-1/2	5.0
1	Tool Holder CY-704/U		3/4 x 9-1/4 x 9-1/4	
1	Tube Tester TV-4A/U		5-1/2 x 5-1/2 x 8-1/4	9.0
1	Signal Tracer TS-673/U		3 x 3-1/2 x 5-3/4	2.0
1	Interference Generator SG-23/U		3/4 dia x 5-3/4	
1	Multimeter-Test Prod		1-7/16 x 1-3/4 x 5-29/32	0.56
1	Test Prod MX-933/U			
1	Test Prod MX-934/U			
1	RF Cable Assy CG-570/U		36 lg	
1	Headset			
1	Power Cable Assy 62472			
2	Lead, Electrical (Red) 491899			
2	Lead, Electrical (Black) 491899-A			
4	Adapter Connector 491897			
12	Lead, Electrical 491895			
1	Extension Rod			
1	Cord and Test Lead Holder			
1	Battery and Bulb Case (w/2 Bulbs, 10 ft Hook-Up Wire)			
1	Accessory Case			
1	Technician's Handbook			

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Tube Data Index			
3	Alligator Clips			
2	Spade Lugs			
1	Screwdriver (4 in.)			
1	Screwdriver (2 in.)			
1	Combination Screwdriver			
1	Hex Head Wrench Set (0.050, 1/16, 5/64, 3/32, 1/8, 5/32)			
1	Socket Wrench Set			
1	Socket Wrench Handle			
1	Long Nose Pliers			
1	Side Cutting Pliers			
1	Fuse Puller			
1	Insulated Tweezers			
1	Pilot Light Extractor			
1	Alignment Tool			
1	Soldering Iron Handle			
1	Soldering Iron Tip (Chisel) 20 W			
1	Soldering Iron Tip (Round) 37.5 W			
1	Soldering Iron Tip Holder			
1	Neon Test Light			
1	Flashlight			
1	Flashlight Extension			
1	Mirror			
1	Technical Manual NAVSHIPS 91688			

REFERENCE DATA AND LITERATURE:

NAVSHIPS 91688: Technical Manual for Test-Tool Set AN/USM-3A and AN/USM-3B.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (1) 3A4 (1) 6AL5 (2) 12AX7

CRYSTALS: None used.

SEMI-CONDUCTORS: None used.

AN/USM-3B TEST-TOOL SET

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	5.9	53

PROCUREMENT DATA

PROCURING SERVICE: USN
DESIGN COG: USN, BuShips
SPEC &/OR DWG: MIL-T-15559B(SHIPS)

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Network Controls Co.	Bloomfield, N. J.	NObsr-64817, 16 June 1955	$473.00

Test-Miscellaneous Test

March 1957

COMPUTER TEST SET AN/USM-39

FUNCTIONAL DESCRIPTION

The AN/USM-39 is a test set for testing and maintenance of Computer Set, Latitude and Longitude AN/ASN-6, AN/ASN-7 and any servo amplifiers, servos or synchros.

No field changes in effect at time of preparation (23 October 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

AIRSPEED: 70 to 1050 knots.
GROUND SPEED: 70 to 1050 knots.
HEADING: 0 to 360 deg.
DRIFT ANGLE: 50 deg left to 50 deg right.
OPERATING POWER: 105 to 130 v, 380 to 420 cps, and 28 v DC.

MANUFACTURER'S OR CONTRACTOR'S DATA

Ford Instrument Co, Long Island City, N.Y.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

Nomenclature Card for Computer Test Set AN/USM-39.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	USAF
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)

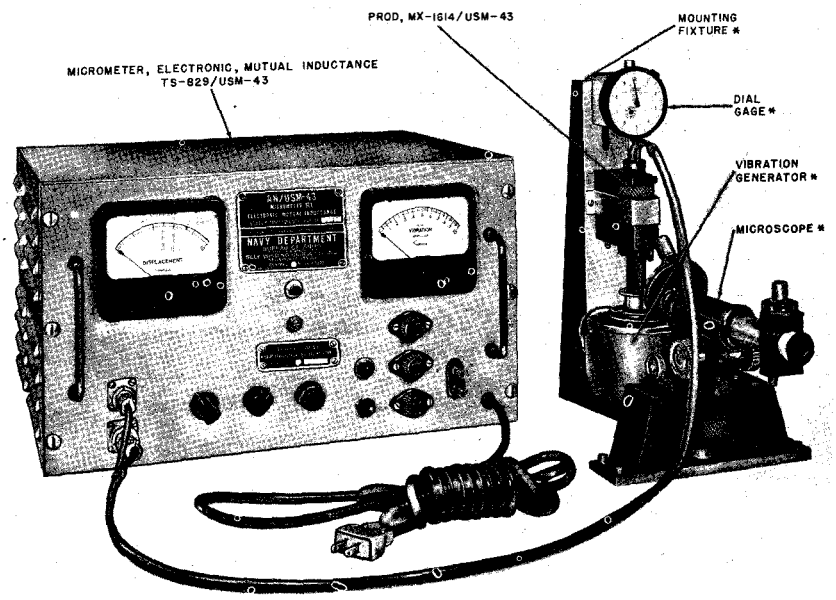
25 February 1963 | MICROMETER SET, ELECTRONIC, MUTUAL INDUCTANCE AN/USM-43

Cog Service: USN FSN: | Functional Class: 12.11.3

USA	USN	USAF

TYPE CLASS: Used by

MANUFACTURER'S NAME/CODE NUMBER: Self-Winding Clock Co., Inc., (01837).



Micrometer Set, Electronic, Mutual Inductance AN/USM-43

FUNCTIONAL DESCRIPTION:

Micrometer Set, Electronic, Mutual Inductance AN/USM-43 is a laboratory instrument designed to measure and calibrate vibration pick-ups by providing a direct meter indication of the single peak amplitude of vibration of a surface upon which the pick-ups to be calibrated are mounted. Basically the Micrometer Set senses and indicates the peak vibration amplitude of a vibration generator used for the calibration of accelerometers. The instrument gives direct readings on a meter of the peak amplitude of steady vibrations and an output is also provided to permit the observation of the vibration wave-form on an oscilloscope.

No field changes in effect at time of preparation (10 August 1962).

TECHNICAL CHARACTERISTICS:

POWER REQUIREMENTS: 150 W, 105 to 125 v ac, 50 to 65 cyc, single ph.
VIBRATION AMPLITUDE RANGES: Full scale 0.01, 0.1, 1.0, 10 mils peak (single amplitude).

AN/USM-43 MICROMETER SET, ELECTRONIC, MUTUAL INDUCTANCE

NOMINAL ACCURACY: Error less than porm 5% of full scale on each range.
VIBRATION FREQUENCY BANDWIDTH AT 1/2 DB (5%) POINTS: 50 to 10,000 cps on 0.01 mil range; 10 to 20,000 cps on other ranges.
MINIMUM DIAMETER OF VIBRATING SURFACE: 7/8 in.
TYPE OF VIBRATING SURFACE REQUIRED: Non-magnetic metallic surface such as copper, aluminum, or brass with a resistivity not exceeding 8×10^{-6} ohm-centimeters and a thickness of not less than 0.01 in.
OUTPUTS: Direct meter indication of peak amplitude of vibration; electrical reproduction of the vibration wave-form at terminals to which an oscilloscope can be attached.

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Mounting Fixture; (1) Vibration Generator; (1) Oscilloscope OS-8/U, OBL, or OBT series; (1) Wavemeter; (1) Dial Gage; (1) EPUT Meter.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Micrometer Set, Electronic, Mutual Inductance AN/USM-43 includes:			
1	Micrometer, Electronic, Mutual Inductance TS-829/USM-43		10-1/2 x 15-1/8 x 18-5/8	56
1	Prod MX-1614/USM-43		1-5/8 x 3-1/16 x 5	2
2	Technical Manual			

REFERENCE DATA AND LITERATURE:

NAVSHIPS 92248: Technical Manual for Micrometer Set, Electronic, Mutual Inductance AN/USM-43.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (1) 5881 (1) 5V4G (3) 6AL5W (1) 6AS7G (2) 6AU6WA (1) 6X4WA (1) 6C4WA (1) 12AT7WA (2) 5654 (1) 5814A (3) 6062 (2) 0B2WA

CRYSTALS: None used.

SEMI-CONDUCTORS: (1) 1N34A

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	87.6	180

PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG: SHIPS-M-1076

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Self-Winding Clock Co., Inc. Dwg no. 108-D-023	Newark, N. J.	NObsr-63370, 24 March 1953	$1,050.00

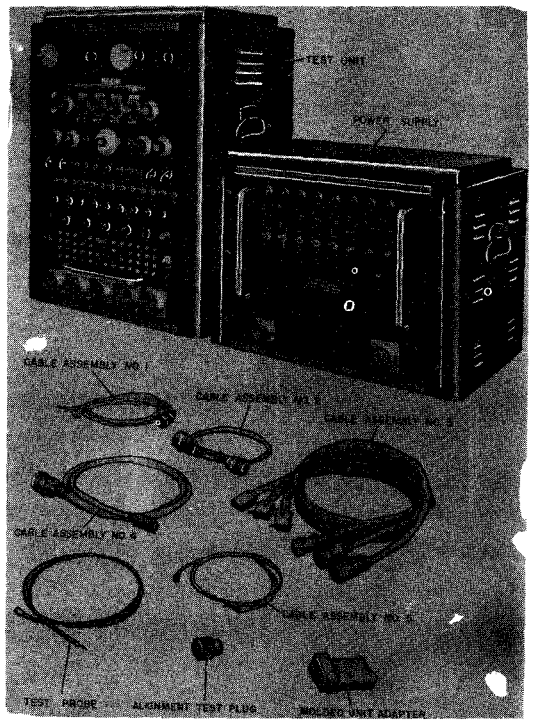
29 May 1962 — TEST SET, COMPUTER AN/USM-70

Cog Service: USN FSN: — Functional Class: 12.12.3

USA	USN	USAF

TYPE CLASS: Used by

MANUFACTURER'S NAME/CODE NUMBER: Westinghouse Electric Corp., (89661).



Test Set, Computer AN/USM-70

FUNCTIONAL DESCRIPTION:

Test Set, Computer AN/USM-70 is a special bench-mounted test apparatus designed to test and align the Armament Control Director Aero 5B, a component of Armament Control System Aero 13F. It is used for the verification of proper circuit operation and computational accuracy of the Aero 5B through the use of test problems.

No field changes in effect at time of preparation (27 March 1962).

TECHNICAL CHARACTERISTICS:

INPUT POWER REQUIREMENTS

115 V (LINE-TO-NEUTRAL), 400 CYCLE, 3 PHASE, Y-CONNECTED SYSTEM, NEUTRAL GROUNDED

VOLTAGE: 110 to 120 v.

FREQUENCY: 380 to 420 cyc.

CURRENT: 2 amp (Phase A); 3 amp (Phase B); 7 amp (Phase C).

28 V DC
VOLTAGE: 24 to 29 v.
CURRENT: 4 amp.
POWER SUPPLY
REGULATED DC VOLTAGE: P150 v, 0.3 amp; P250 v, 0.5 amp; M250 v, 0.2 amp; porm 1%.
UNREGULATED DC VOLTAGE: P350 v porm 10%, 0.15 amp.
TEST SET, COMPUTER TS-1196/USM-70 REGULATED DC SUPPLIES
100 V REFERENCE SUPPLY
OUTPUT: 100 v, nominal at 10 ma.
REGULATION: Porm 50 mv over line voltage variation.
NOISE LEVEL: 40 mv, peak-to-peak.
POLARITY: Floating output, either side can be grounded by appropriate switching.
40 V REGULATED SUPPLIES
OUTPUT: P40 v and M40 v with respect to neutral (ground).
REGULATION: Porm 1%.

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Set, Computer AN/USM-70 includes:			
1	Test Set, Computer TS-1196/USM-70		15-1/4 x 21-3/4 x 28	115
1	Power Supply PP-2098/USM-70		15-1/4 x 15-3/4 x 21-3/4	80
1	Cable Assy No. 1 (Power)		144 lg	
1	Cable Assy NO. 2 (Test Unit to Power Supply)		36 lg	
1	Cable Assy No. 3 (Director)		96 lg	
1	Cable Assy No. 4 (Director)		96 lg	
1	Cable Assy No. 5 (Oscilloscope)		48 lg	
1	Test Probe		72 lg	
1	Alignment Test Plug			
2	Molded Unit Adapter			
1	Case, Test Set CY-2464/USM-70		19-13/16 x 25-9/16 x 33-1/16	
1	Case, Power Supply CY-2465/USM-70		19-13/16 x 25-9/16 x 36-23/32	

REFERENCE DATA AND LITERATURE:

NAVAER 16-30USM70-501: Handbook of Operation, Service and Overhaul Instructions with Illustrated Part Breakdown for Computer Test Set AN/USM-70.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (2) 0A2WA (4) 3D22A (3) 5651WA (2) 5687WA (3) 5751WA (1) 5787WA
(1) 5814WA (1) 6AU6WA (2) 6X4WA (5) 6336 (4) 12AT7WA

CRYSTALS: None used.

SEMI-CONDUCTORS: None required.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT(LBS)

PROCUREMENT DATA

PROCURING SERVICE: USN DESIGN COG: USN, BuWeps
SPEC &/OR DWG:

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Westinghouse Electric Corp.	Baltimore, Md.	NOas 57-887-r	

4 June 1962 — TEST SET, ELECTRICAL CONTINUITY AN/USM-76( )

Cog Service: FSN: Functional Class:

USA USN USAF

TYPE CLASS:

MANUFACTURER'S NAME/CODE NUMBER: Glenn L. Martin Company.

(No Illustration Available)

FUNCTIONAL DESCRIPTION:

The Test Set, Electrical Continuity AN/USM-76( ) is a portable equipment used to check the electrical circuitry of the parent aircraft associated with the Bullpup Missile, the launcher circuit, and the power output of the transmitter AN/ARW-71. Testing is accomplished by utilizing a transmitter control box and without removing the transmitter from the aircraft.

No field changes in effect at time of preparation (8 June 1961).

TECHNICAL CHARACTERISTICS:

METHOD OF MOUNTING: Portable or bench mounted.
OPERATING POWER RQMT: 117 v ac, 60 cps, single ph.

RELATION TO OTHER EQUIPMENT:

The AN/USM-76( ) is designed to be used with, but not part of, XASM-N-7 Bullpup Missile.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
	Test Set, Electrical Continuity AN/USM-76( ) consists of:			
1	Umbilical Tester Dwg no. 293-9295910			
1	Cable Assy Dwg no. 293-9295915			
1	Auxiliary Control Cable Dwg no. 293-9295630			
1	Multimeter AN/PSM-4		4.78 x 6 x 7.38	5.313
1	Power Bridge P.E. D650B (GFE)			

AN/USM-76( ) TEST SET, ELECTRICAL CONTINUITY

REFERENCE DATA AND LITERATURE:

Nomenclature Card for Test Set, Electrical Continuity AN/USM-76( ).

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Data not available.

CRYSTALS: Data not available.

SEMI-CONDUCTORS: Data not available.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)

PROCUREMENT DATA

PROCURING SERVICE: DESIGN COG: Navy BuShips
SPEC &/OR DWG: Commercial Spec GLM #842

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Glenn L. Martin Company Dwg no. 293-9295950 Spec no. GLM #842	Baltimore, Maryland	NOas-53-846	

4 April 1962 | TEST SET, COMPUTER AN/USM-78( )

Cog Service: | FSN: | Functional Class:

USA | USN | USAF

TYPE CLASS:

MANUFACTURER'S NAME/CODE NUMBER: Westinghouse Electric Corp., Air Arm Division.

(No Illustration Available)

FUNCTIONAL DESCRIPTION:

The Test Set, Computer AN/USM-78( ) is a special bench-mounted test apparatus designed for the alignment and automatic testing for computational accuracy of Armament Control Director AERO 5B. The primary function of the test set is the verification of proper circuit operation and computational accuracy of the AERO 5B through the use of test problems.

The individual capabilities of the test set are as follows: (1) Simulates and supplies all of the necessary input signals to perform a composite test of the director; (2) Provides for accurate alignment and balancing of director circuits; (3) Furnishes regulated and unregulated power for director and test operation; (4) Contains provisions for performing individual operational checks on certain critical circuits; (5) Aids in trouble analysis of the director.

No field changes in effect at time of preparation (7 June 1957).

TECHNICAL CHARACTERISTICS:

TYPE OF MOUNTING: Bench or rack mounted.
OPERATING DATA
- ANTENNA POSITION, AZIMUTH: P180 to M180 degrees.
- ANTENNA POSITION, ELEVATION: P180 to M180 degrees.
- ANTENNA ANGULAR RATE, AZIMUTH: P24 to M24 degrees/sec.
- ANTENNA ANGULAR RATE, ELEVATION: P24 to M24 degrees/sec.
- RANGE: 0 to 8000 yds.
- RANGE-RATE: P1330 to M1330 yds/sec.
- ANGLE OF ATTACK: P15 to M15 degrees.
- ANGLE OF SKID: P15 to M15 degrees.
- ROLL: P90 to M90 degrees.
- CLIMB: P90 to M90 degrees.
- DENSITY: 0.2 to 1.0.
- SPEED: 150 to 750 knots.

OPERATING POWER RQMT: 115 v ac, 380 to 420 cps, 3 ph; 28 v dc.

RELATION TO OTHER EQUIPMENT:

The AN/USM-78( ) is similar to the AN/USM-70 except it employs a composite unit that permits automatic testing. It is electrically, but not mechanically, interchangeable with AN/USM-70.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

AN/USM-78( ) TEST SET, COMPUTER

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Set, Computer AN/USM-78 consists of:			
1	Power Supply Cabinet w/Aluminum Carrying Case Unit 1		15-5/8 x 15-5/8 x 22	
1	Alignment Cabinet Unit 2		15 x 27 x 35	
1	Composite Cabinet Unit 3		15 x 21 x 28	
9	Cable Ass'ys			

REFERENCE DATA AND LITERATURE:

Nomenclature Card for Test Set, Computer AN/USM-78( ).

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (2) 0A2WA (1) W40A (4) 12AT7WB (4) 3D22A (3) 5651WA (2) 5687WA (3) 5751
(1) 5787WA (1) 5814A (1) 6AU6WA (2) 6X4WA (5) 6J6

CRYSTALS: None used.

SEMI-CONDUCTORS: (8) 1N255

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)

PROCUREMENT DATA

PROCURING SERVICE: DESIGN COG: USN, BuShips
SPEC &/OR DWG: MIL-T-945A

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Westinghouse Electric Corp., Air Arm Div. Dwg no. 2JA7105	Baltimore, Md.	NOas 56-368	

15 May 1962 TEST SET, RELAY AN/USM-84

Cog Service: USN FSN: 6625-722-6946 Functional Class: 12.12.7

USA USN USAF

TYPE CLASS: Used by

MANUFACTURER'S NAME/CODE NUMBER: Automatic Electric Sales Corp., (04773).

Test Set, Relay AN/USM-84

FUNCTIONAL DESCRIPTION:

Test Set, Relay AN/USM-84 is a portable unit which tests the operation of relays in step-by-step dial central office equipment by directing known values of current to each relay under test through key-controlled resistances. The test set is equipped and wired to test relays and other apparatus without removing them from their mountings.

No field changes in effect at time of preparation (27 March 1962).

TECHNICAL CHARACTERISTICS:

POWER REQUIREMENTS: 24 or 48 v dc.
MILLIAMMETER RANGE: 0 to 30, 150, 750 mu.
ACCURACY: Porm 1% of full scale deflection.

AN/USM-84 TEST SET, RELAY

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Battery.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Set, Relay AN/USM-84 includes:			
1	Relay Test Set TS-1147/USM-84		7-9/16 x 11-5/16 x 12-1/2	
1	Test Cord w/Relay Clip		100 lg	
1	Test Cord w/Alligator Clip		97-3/4 lg	

REFERENCE DATA AND LITERATURE:

NAVSHIPS 93114: Technical Manual for Relay Test Set AN/USM-84.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: None used.

CRYSTALS: None used.

SEMI-CONDUCTORS: None used.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1		

PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG:

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Automatic Electric Sales Corp. Pt/Dwg no. H-88733-2	Northlake, Illinois	NObsr-71837	$653.00

28 February 1963
Cog Service: USN FSN:

TEST SET, ELECTRICAL CABLE AN/USM-88
Functional Class: 12.11.2

USA USN USAF

TYPE CLASS: Used by

MANUFACTURER'S NAME/CODE NUMBER: Dit-MCO, Inc., Electronics Division.

(No Illustration Available)

FUNCTIONAL DESCRIPTION:

The AN/USM-88 is designed as a universal automatic electrical circuit analyzer which tests wiring for continuity shorts and insulation resistance on control panels, assemblies, harnesses, and cables. It includes provisions for automatically energizing external relays and testing of resistive devices such as resistors, switches, potentiometers, and lamps.

No field changes in effect at time of preparation (7 February 1963).

TECHNICAL CHARACTERISTICS:

TYPE OF TEST: Continuity tests on electrical wiring, cables and systems; insulation resistance tests on electrical wiring; short tests on electrical wiring, cables and systems; low voltage continuity tests (simultaneous with low voltage short test).
TYPE OF OPERATION: Fully automatic.
TYPE OF DETECTION: Fault detection.
TYPE OF LOCATION: Fault location.
TYPE OF IDENTIFICATION: Fault identification.
OPERATING POWER RQMT: 100 to 125 v ac, 55 to 65 cps, single ph.

RELATION TO OTHER EQUIPMENT:

The AN/USM-88 is part of Cable Test Set T-307. The AN/USM-88 is designed to be used with but not part of Depth Bomb MK101 Mod 0, Bomb MK105.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Set, Electrical Cable AN/USM-88		24 x 24 x 26	

REFERENCE DATA AND LITERATURE:

AN/USM-88 TEST SET, ELECTRICAL CABLE

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Data not available.

CRYSTALS: Data not available.

SEMI-CONDUCTORS: Data not available.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)

PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG: NAVORD 7707

DESIGN COG: USN, BuWeps

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Dit-MCO, Inc., Electronics Division, Model no. 144	Kansas City, Mo.	Nord-17543, 8 January 1957	
Mechanical Division of General Mills Inc.	Minneapolis, Minn.	Nord-17507, 13 December 1956	
General Mills Inc.	Minneapolis, Minn.	Nord-18122, 5 March 1958	
Mechanical Division of General Mills Inc.	Minneapolis, Minn.	Nord-18155, 20 March 1959	

January 1961

Test-Miscellaneous Test

TEST SET, TRANSISTOR AN/USM-93

FUNCTIONAL DESCRIPTION

The AN/USM-93 is designed to measure transistor Beta and ICO.

No field changes in effect at time of preparation (20 April 1960).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF MEASUREMENT: Beta and ICO.

MEASUREMENT RANGES

BETA: 10 and 100.

ICO: 0-50 microamps.

OPERATING POWER SOURCE: 12 v internal battery.

MANUFACTURER'S OR CONTRACTOR'S DATA

Philco Corp., Gov't and Ind. Div., Philadelphia, Pennsylvania.
Dwg No. 461-4042.

Contract NObsr-75329.

TUBE AND/OR CRYSTAL COMPLEMENT

Electron Tube and/or Crystal Data not available.

REFERENCE DATA AND LITERATURE

Nomenclature Card AN/USM-93 for Test Set, Transistor.

TYPE CLASSIFICATION (NAVY)
DESIGN COGNIZANCE NAVY, BUSHIPS
PROCUREMENT COGNIZANCE SHIPS-T-3070
STOCK NO.
R.D.B. IDENT. NO. 10.1.5

EQUIPMENT SUPPLIED DATA

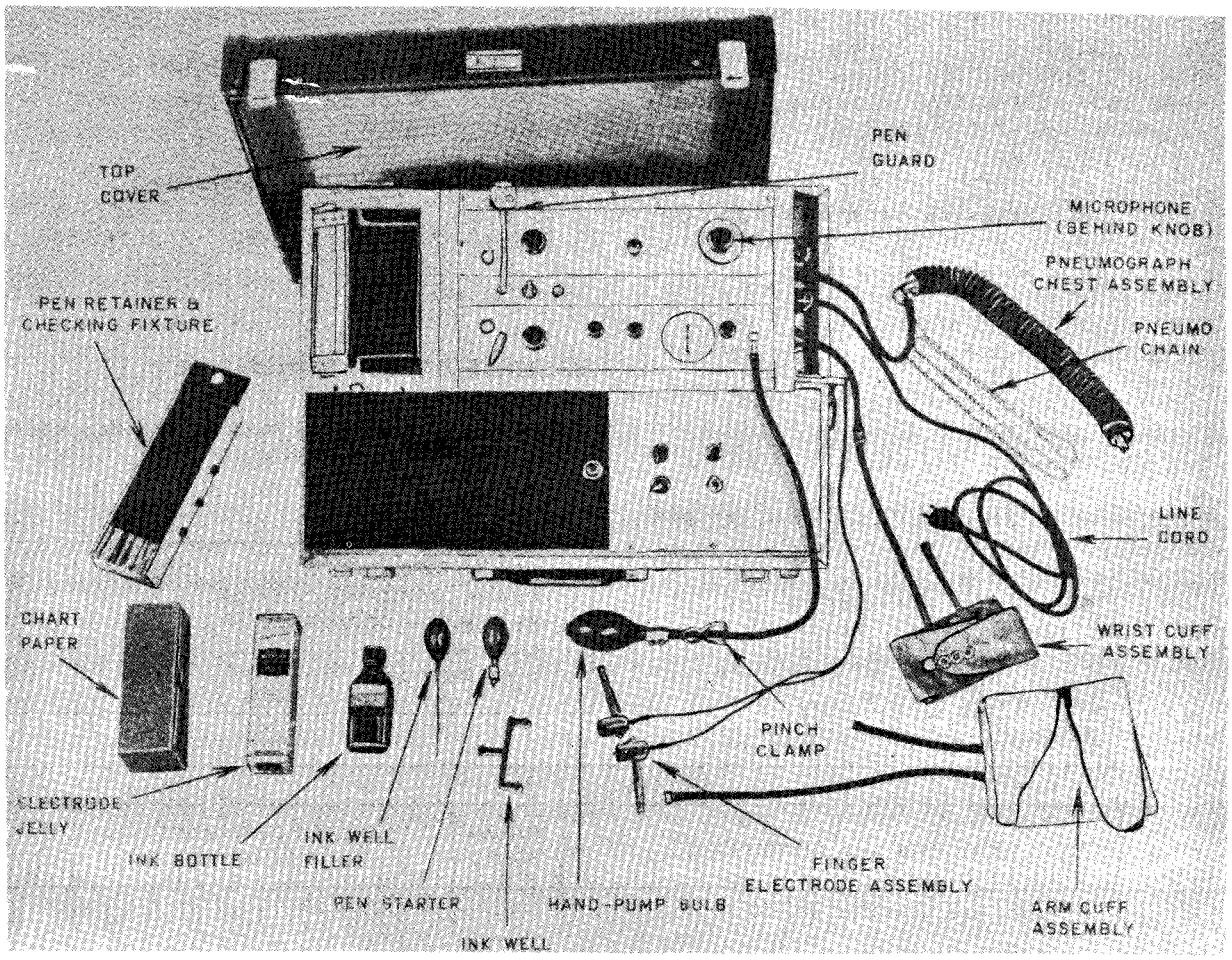
QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Test Set Transistor AN/USM-93 Including:	6-1/2 X 6-7/8 X 8-1/2	
1	Test, Set Transistor TS-1100/U		
1	Cover, Test Set CW-497/USM-93		

January 1958

Test-Miscellaneous Test

RECORDING LIE DETECTOR

AN/USS-2C



Lie Detector AN/USS-2C

FUNCTIONAL DESCRIPTION

The AN/USS-2C is a transportable test unit that indicates a subjects inner reactions to questioning.

The equipment detects changes in relative blood pressure (cardio section), respiration cycles (pneumo section), and skin resistance (gsr section) when these reactions occur under questioning. The indicated changes are shown by recorded traces. Provisions are also made in the lie detector for furnishing an audio frequency signal to auxiliary of equipment.

No field changes in effect at time of preparation (11 June 1957).

RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied: A bottle of denatured alcohol and a quantity of surgical cotton is required when the gsr section is to be used.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

CARDIOGRAPH SECTION

MAX PRESSURE: 150 mm hg.

SENSITIVITY: Approx 3/4 in. displacement.

MAX FREQUENCY RESPONSE: Approx 5 cps.

PERMISSIBLE AIR LEAKAGE: 1/4 in. at pen point.

Test-Miscellaneous Test

January 1958

AN/USS-2C RECORDING LIE DETECTOR

GSR SECTION
- AMPLIFICATION FACTOR: 5600.
- RESPONSE TIME FACTOR: 5 sec.
- RESISTANCE COVERAGE: 1000 to 250,000 ohms.
- OUTPUT IMPEDANCE: 1000 ohms.
- SENSITIVITY CONTROL OF PEN RESPONSE: 1 in. pen excursion with a change from 100,000 to 99,000 ohms between electrodes at high sensitivity.
- POWER OUTPUT: 2 W.
- ZERO REFERENCE CURRENT: 14 ma.
- FREQUENCY RESPONSE: 0 to 10 cps for normal operating range.
- INPUT VOLTAGE: 115 v, 60 cps.

PNEUMOGRAPH SECTION
- MAX SENSITIVITY: 1/4 in.
- MAX FREQUENCY RESPONSE: 5 cps.
- PERMISSABLE AIR LEAKAGE: 1 in. at pen point.

CHART DRIVE MECHANISM
- PAPER SPEED: 6 in. per minute.
- VOLTAGE: 115 v, 60 cps, single ph.
- DRIVE MOTOR SPEED: 5 rpm, 3 W.
- PAPER WIDTH: 6 in.
- PAPER LENGTH: 100 ft per roll.

MICROPHONE
- IMPEDANCE: 5 meg.
- FREQUENCY RANGE: 50 to 10,000 cps.
- OUTPUT: 51 db below 1 v per u bar.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 12AX7 (1) 5692 (1) 5651

Total Tubes: (3)

REFERENCE DATA AND LITERATURE

TM11-5538A, Technical Manual for Recording Lie Detector AN/USS-2C.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	TASSA
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Recording Lie Detector AN/USS-2C	6.2	16 X 23 X 29	96

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
2	Gsr pen, 7-inch		
3	Cardio or pneumo pen, 5-inch		
1	Pen Starter		
1	Hand-pump bulb assembly		
1	Arm Cuff assembly		
2	Wrist Cuff assembly		
1	Pneumograph Chest Assembly		
2	Finger electrode assembly		
1	Tube of electrode jelly		
2	Inkwells		
1	2-ounce bottle of ink		
6	Rolls of Chart paper		
1	Pen retainer and checking fixture		

September 1956

TEST SET, GUN FIRING PULSE AN/UWM-1

FUNCTIONAL DESCRIPTION

The AN/UWM-1 is a test instrument designed to measure the amplitude of firing voltage existing on the firing pin of 20 mm guns.

It consist of a stainless steel tube terminated into a small black box containing a synchronous motor.

Voltage measurements are made by inserting this tube into the gun barrel, causing an insulated contact, located at the end of the tube, to make contact with the firing pin and thereby deliver the firing pin voltage to the little black box. In this box the firing voltage is cycled through a 2500 ohm impedance load at gun firing rate. A neon lamp, in a voltage divider circuit, with a calibrated potentiometer is used to evaluate the firing voltage.

No field changes in effect at time of preparation (25 July 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

POWER SOURCE REQUIRED

ALTERNATING CURRENT: 115.5 to 116.5 v
380 to 420 cps, single phase.
DIRECT CURRENT: 0 to 320 v.

MANUFACTURER'S OR CONTRACTOR'S DATA

General Electric Co. Schenectady, N.Y.
Part No. 146D241G1

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes

REFERENCE DATA AND LITERATURE

Nomenclature Card for AN/UWM-1

TYPE CLASSIFICATION
DESIGN COGNIZANCE
PROCUREMENT COGNIZANCE
STOCK NO.
R.D.B. IDENT. NO.

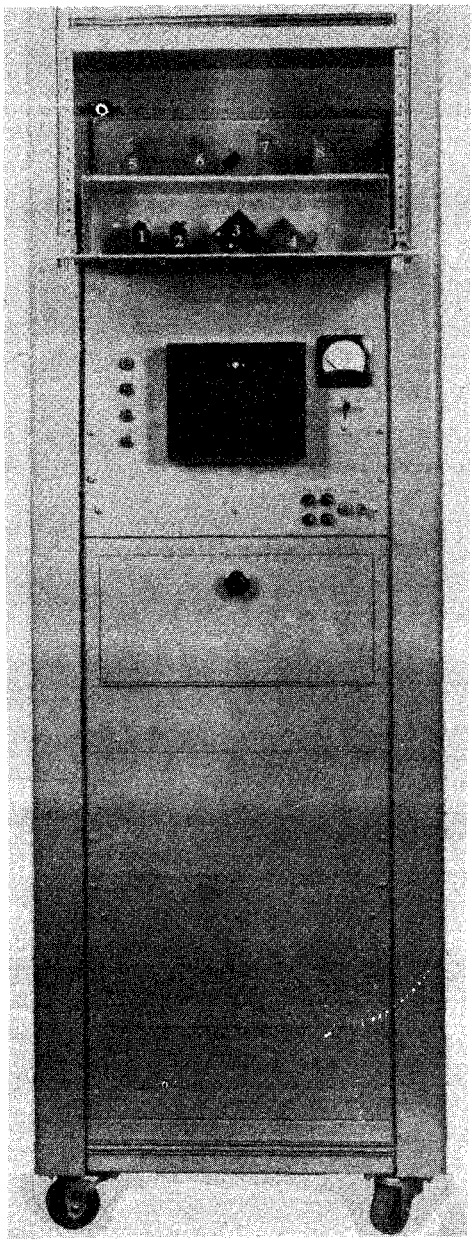
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Test Set, Gun Firing Pulse AN/UWM-1	3-3/4 x 5-1/2 x 10-1/2	

Test-Miscellaneous Test

TUBE TESTER

ATR



Tube Tester ATR

FUNCTIONAL DESCRIPTION

The ATR Tube Tester is designed to determine the suitability of ATR and Pre-TR tubes for use in radar equipment. The Tester checks the condition of the gas fill in the above mentioned tubes by detecting the light emitted when the gas is ionized by microwave energy.

No field changes in effect at time of preparation (4 August 1958)

ELECTRICAL AND MECHANICAL CHARACTERISTICS

OPERATING POWER RQMT: 95 to 125 v, 60 cps, 500 W.

MANUFACTURER'S OR CONTRACTOR'S DATA

Mason Laboratories, Stamford, Connecticut.
Contract N126s-47525.

TUBE AND/OR CRYSTAL COMPLEMENT

(3) 3B24W	(1) 6SN7GT	(1) 4C35
(1) 3B26	(1) 5789	(1) 931A

Total Tubes: (8)

No Crystals Used.

REFERENCE DATA AND LITERATURE

Technical Manual for ATR Tube Tester.

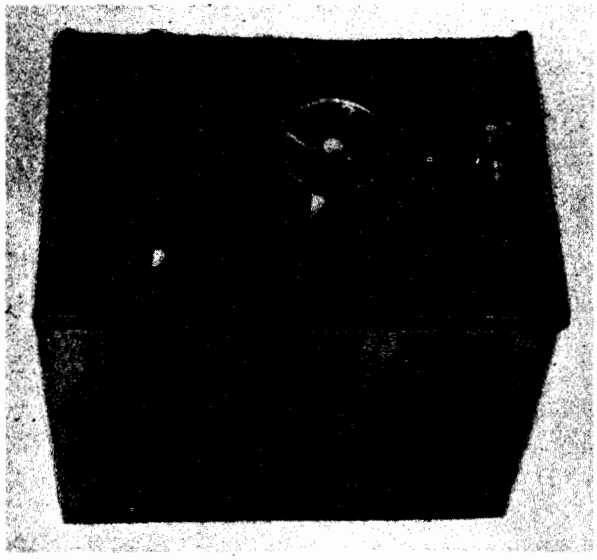
TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Tube Tester ATR	18 X 22 X 67.5	

CONTROL BOX C-154/TPS-1B

Control Box C-154/TPS-1B Connecting Cables



Control Box C-154/TPS-1B

FUNCTIONAL DESCRIPTION

The C-154/TPS-1B permits depot testing of the indicator, modulator, receiver and r-f units of radar equipment with a minimum of associated units required. It is primarily designed for use in testing the AN/TPS-1B radar system.

No field changes in effect at time of preparation (5 April 1957).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

OPERATING POWER: 115 v, 400 cps, and 27 v DC.

TUBE AND/OR CRYSTAL COMPLEMENT

(2) 5U4G	(1) 6SL7GT	(1) 807
(3) 6L6G	(2) OD3/VR-150	(1) 6X5GT/G

Total Tubes: (10)

REFERENCE DATA AND LITERATURE

NAVSHIPS 900,459-1B: Technical Manual for Control Box C-154/TPS-1B.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Control Box C-154/TPS-1B	20-1/16 x 25-1/2 x 25-11/16	96
1	Conductor Cable	600 lg.	
1	Conductor Cable (red-red), 10 conductor	72 lg.	
1	Conductor Cable (blue-blue), 8 conductor	72 lg.	
1	Conductor Cable, 27 conductor	72 lg.	
1	Conductor Cable, 4 conductor	72 lg.	
1	Coaxial Cable (green-green)	72 lg.	
1	Coaxial Cable (red-red)	72 lg.	
1	Power Cable	120 lg.	

24 May 1962 | FREQUENCY MODULATION MONITOR CAJA-MD-33

Cog Service: | FSN: 6625-643-1040 | Functional Class:

USA | USN | USAF

TYPE CLASS:

MANUFACTURER'S NAME/CODE NUMBER: Browning Laboratories Inc.

Frequency Modulation Monitor CAJA-MD-33

FUNCTIONAL DESCRIPTION:

Frequency Modulation Monitor CAJA-MD-33 is used to measure the frequency swing due to modulation of frequency modulated transmitters operating in the region between 25 and 174 mc. The equipment is basically a superheterodyne frequency modulation receiver having a calibrated discriminator which feeds into a linear metering circuit. Frequency swings arising from sustained tone modulation up to porm 20 kc are read directly on a panel meter. A flasher circuit is incorporated to indicate peak modulation in excess of a preset level when voice modulation is employed. Two preset flasher levels (up to 20 kc) are selectable by switch at rear of chassis.

No field changes in effect at time of preparation (24 May 1961).

TECHNICAL CHARACTERISTICS:

POWER REQUIREMENTS: 105 to 125 v, 50 to 60 cyc, single ph, 95 W.

CAJA-MD-33 FREQUENCY MODULATION MONITOR

FREQUENCY RANGE: Tuning is continuously variable between 25 and 75 mc and between 75 and 174 mc.

SENSITIVITY: Approx. 1 mv up to 140 mc and approx. 2 mv from 140 to 174 mc. Signals may be read at lower levels than those required for measurement.

INDICATIONS: Four-inch panel meter indicates frequency swing directly up to 20 kc max. Peak flasher, also on panel, indicates modulation in excess of preset level by shortest voice peaks. Two preset flasher limits selectable by switch at rear of chassis.

OUTPUT: Provision is made for aural monitoring at panel phone jack or audio output terminals at rear of chassis.

MEASUREMENT RANGE: Frequency swings up to 20 kc may be measured.

ACCURACY: Frequency swing indications are accurate to within 1,000 cyc.

PANEL CONTROLS

MAIN TUNING: Tunes input from 25 to 75 or 75 to 174 mc, as selected.

RF GAIN: Adjusts receiver gain to reference level of limiter voltage required for accurate measurement.

AUDIO OUTPUT LEVEL: Adjusts signal level to aural monitoring device used.

INTERFERENCE REJECTION: Tunes antenna circuit trap through 88 to 108 mc; fm band to remove any interference encountered from this source.

BAND SELECTOR: Selects 25 to 75 or 75 to 175 mc tuning bands.

METER SELECTOR: Changes meter connections so that meter may be used as coarse tuning indicator, fine tuning indicator, or frequency swing indicator.

POWER: Turns unit on and off.

ANTENNA REQUIREMENTS: Simple wire is sufficient where high signal strength is available. For weaker signals a half wave dipole is recommended with 72 ohm coaxial down-lead.

CONSTRUCTION: The equipment is housed in a steel cabinet. Two handles, one at each end of the cabinet, facilitate carrying. It is intended for bench operation but the unit has standard 8-3/4 in. rack panel for relay rack mounting when removed from cabinet.

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

An antenna is required; otherwise the equipment is self-sufficient for the intended purpose.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Frequency Modulation Monitor CAJA-MD-33		9 x 12 x 20-1/2	40

REFERENCE DATA AND LITERATURE:

NAVSHIPS 91932: Instruction Manual for Frequency Modulation Monitor Model MD-33.

NAVSHIPS 93750: Technical Manual for Frequency Modulation Monitor Model MD-33.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (1) 5Y3GT (1) 6AL5 (5) 6AU6 (1) 6BC5 (3) 6SN7 (2) 12AT7 (1) 12AU7
(1) VR-150/0D3

CRYSTALS: None used.

SEMI-CONDUCTORS: (1) 1N54

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	3.5	55

PROCUREMENT DATA

PROCURING SERVICE: DESIGN COG: Commercial
SPEC &/OR DWG:

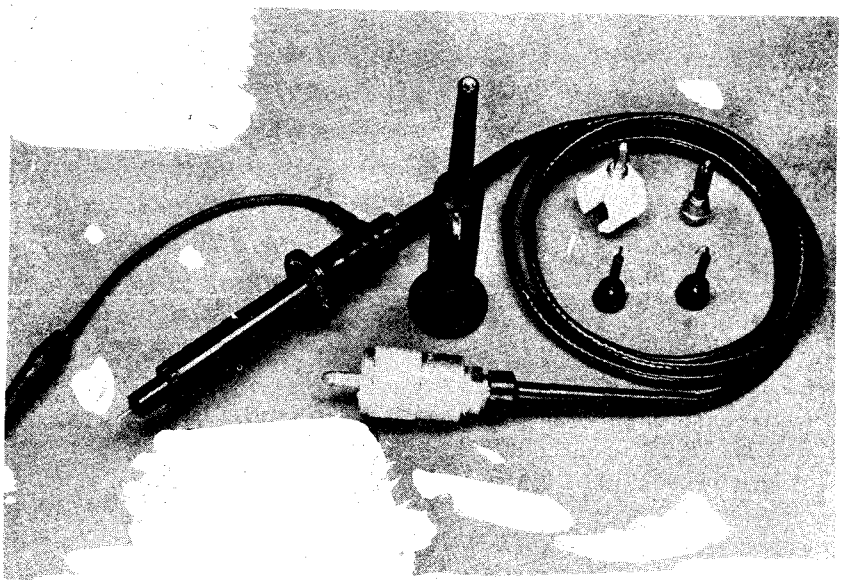
CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Browning Laboratories Inc. Model no. MD-33	Winchester, Mass.	NObsr-63206, 27 February 1953	$335.00
		NObsr-75828, 12 May 1959	$450.00

29 May 1962 PROBE CBTV-P-6000

Cog Service:	FSN:	Functional Class:
	USA USN USAF	

TYPE CLASS:

MANUFACTURER'S NAME/CODE NUMBER: Tektronix.



Probe CBTV-P-6000

FUNCTIONAL DESCRIPTION:

Probe CBTV-P-6000 preserves the transient response of fast-rise, wide-band-pass instruments. It is free of overshoot and ringing, and it has uniform frequency response. Compensation is accomplished by the rotation of a tubular capacitor.

No field changes in effect at time of preparation (23 June 1961).

TECHNICAL CHARACTERISTICS:

STANDARD CABLE LENGTH: 42 inches.
INSERTION LOSS: 3 db at 20 mc for cables up to 12 ft.
ATTENUATION RATIO: 10:1.
INPUT IMPEDANCE: 10 megohm resistive.
POWER FACTOR: 11.5 pf minimum capacitance when connected to instruments with 20 pf input capacitance, and 14.5 pf max when connected to instruments with input capacitance up to 50 pf, and 1.2 db loss at 30 mc, 1200 v max voltage rating.

CBTV-P-6000 PROBE

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Probe CBTV-P-6000 consists of:		7/16 dia x 42	
1	Tip, Straight (long)			
1	Tip, Straight (short)			
1	Tip, Hooked			
1	Tip, Pincher			
1	Tip, Banana			
1	12-Inch Ground Lead			
1	5-Inch Ground Lead			
1	Probe Holder			

REFERENCE DATA AND LITERATURE:

CBTV-P-6000: Tektronix Technical Manual for Probe Type P-6000 (UHF).
NAVSHIPS 93400: Preliminary Data Form for Probe CBTV-P-6000.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Data not available.

CRYSTALS: Data not available.

SEMI-CONDUCTORS: Data not available.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)

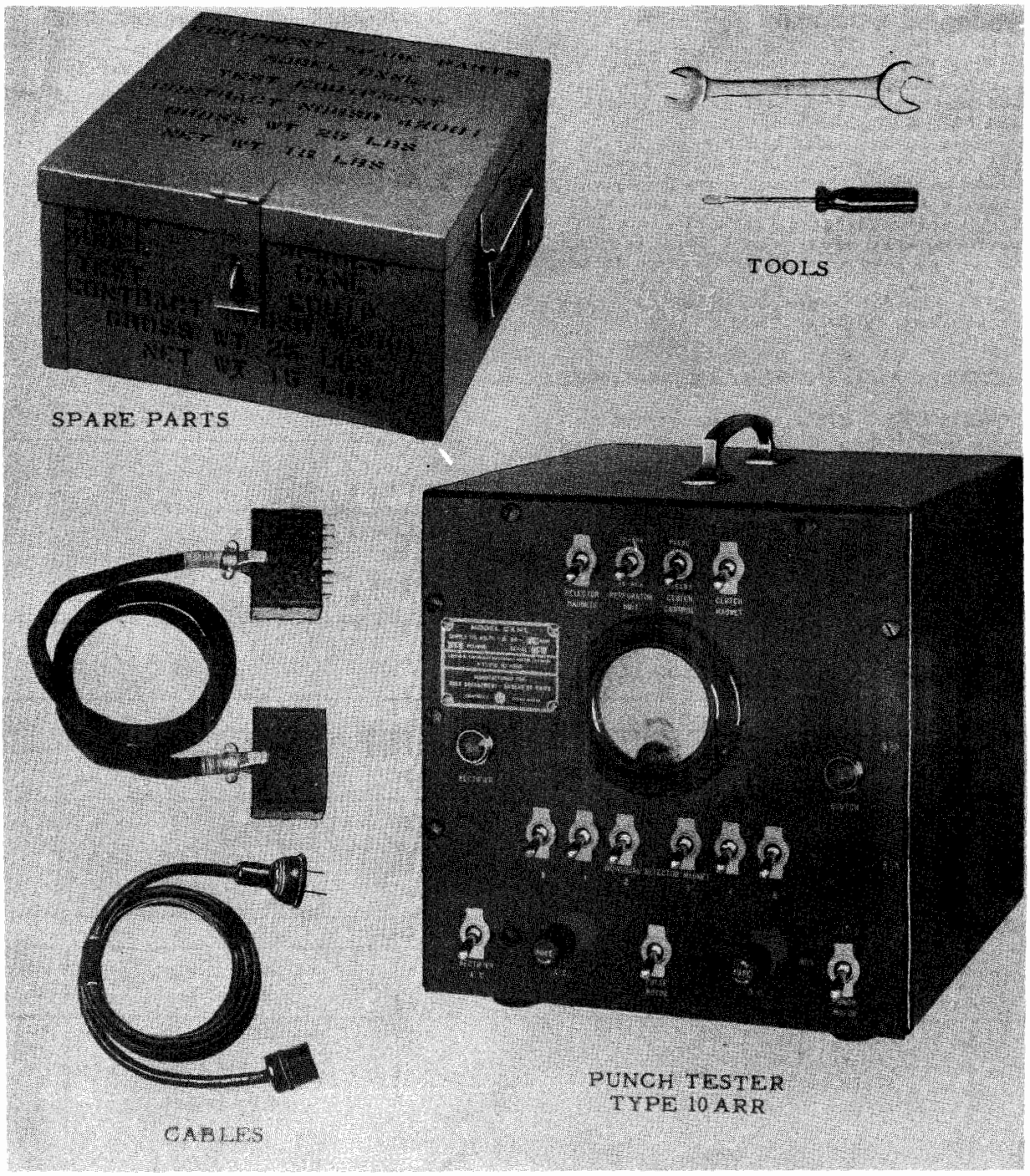
PROCUREMENT DATA

PROCURING SERVICE: DESIGN COG: USN, BuShips
SPEC &/OR DWG:

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Tektronix Model P-6000 (UHF)	New York, N. Y.		$19.50

September 1956

PUNCH TEST EQUIPMENT



Punch Test Equipment CXNL

CXNL PUNCH TEST EQUIPMENT

September 1956

FUNCTIONAL DESCRIPTION

The Model CXNL is used for testing the punch equipment in either the Navy type 10 AHK Tape Perforator Unit of the Models CXLR and CXCZ equipments or the type 10ACA Tape Perforator Unit modified for use in the CXLR and CXCZ equipments. It provides a convenient means by which the punches in the type 10AHK and the type 10ACA Tape Perforator Units can be properly adjusted, both electrically and mechanically under conditions similar to those obtained when the punches are in normal operation.

No field changes in effect at time of preparation (7 June 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

POWER SOURCE: 115 v, 60 cps, single ph.
RECTIFICATION
TYPE: Full wave selenium bridge rectifier.
INPUT VOLTAGE: Approx 71 v.
OUTPUT VOLTAGE: Approx 90 v.
METER: 0 to 3 amp DC.
SIGNAL DATA
TYPE: Pulsed.
FREQUENCY: 1 to 8 cps variable by selection of proper cam; 12 and 19 pulses per sec Auto-Feed or Feed-Out frequency.

MANUFACTURER'S OR CONTRACTOR'S DATA

Engineering Research Associates, Inc.
St. Paul, Minn.
Contract NObsr 42001, dated 15 Jan 1949.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

Technical Manual for Navy Model CXNL Punch Test Equipment.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Punch Tester-10ARR	4.5	19 X 19 X 22-1/2	83
1	Spare Parts for-CXNL	3.0	13 X 19 X 22	52

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Punch Tester-10ARR	10 X 10 X 10	40
1	Instruction Book		
1	Spare Parts and Accessories	6 X 12 X 12	25

April 1958

CABLE TEST, SET FF-60 RADAR ENGINEERS

FUNCTIONAL DESCRIPTION

The FF-60 is used to show the condition of a cable or line, locate defects without cutting into the cable, determine proper or improper termination at the far end, show impedance matching from one transmission line or cable into a second line or cable, estimate relative attenuation if the far end can be left open. Cables and lines of lengths between 10 and 200 feet can be inspected or, by testing from both ends a 400 foot length can be checked. Delay lines and networks can be checked for delay time and impedance in the same manner as a cable.

No field changes in effect at time of preparation (10 March 1958).

RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied: For impedance measurement the following is required (1) Calibrated non-inductive variable resistor 0 to 100 ohms or (1 ea) 47 ohms, 68 ohms and 100 ohms, 5% 1/2 watt resistors.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

CABLE AND LINE LENGTH LIMITS
SINGLE END TEST: 10 to 200 ft.
DOUBLE END TEST: 400 ft max.
MARKER POSITIONS: Every 25 ft for polyethylene cables only. Other types of cable require marker adjustments.
POWER SOURCE REQUIRED: 115 v, 60 cps, single ph, 60 W.

MANUFACTURER'S OR CONTRACTOR'S DATA

Radar Engineers, Seattle, Wash.
Contract: NObsr-64600.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 12AU7
(2) 5696
(1) 12BH7
(1) 6X5GT
(1) 1V2
(1) 3RP1
Total Tubes: (7)
No Crystals used.

REFERENCE DATA AND LITERATURE

NAVSHIPS 92483, Technical Manual for Cable Test Set FF-60.

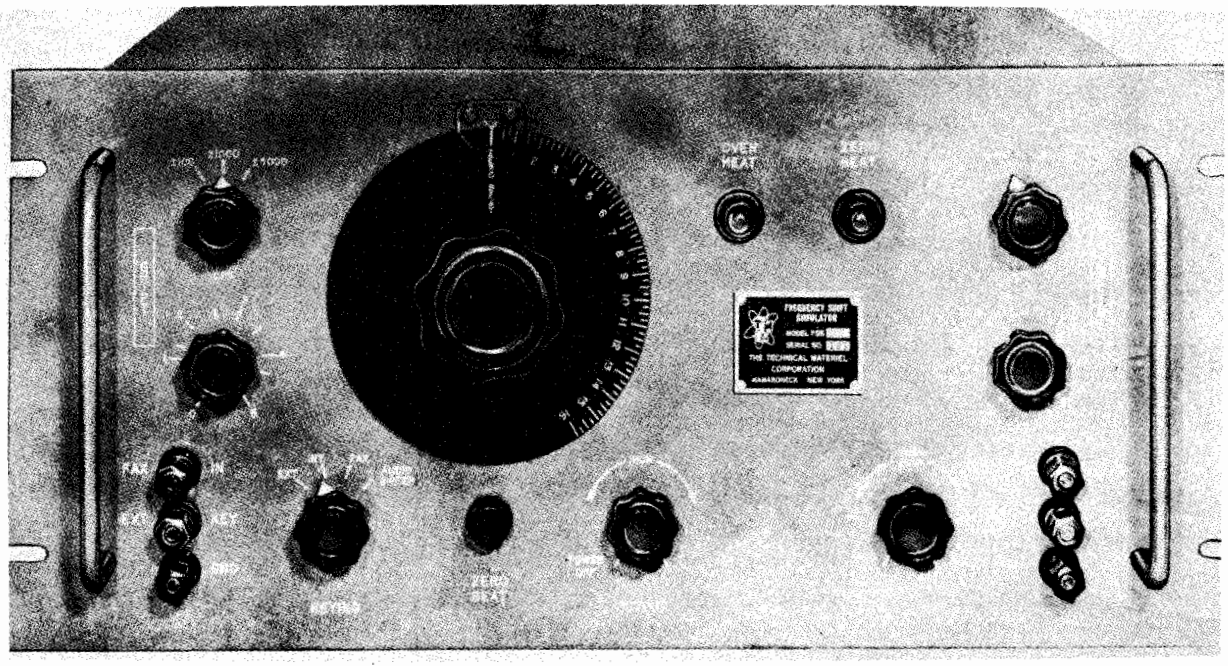
TYPE CLASSIFICATION
DESIGN COGNIZANCE COMMERCIAL
PROCUREMENT COGNIZANCE
STOCK NO.
R.D.B. IDENT. NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Cable Test Set FF-60 incl (1) Light Shield	8 X 11 X 13	20

FREQUENCY SHIFT SIMULATOR

FSS



Frequency Shift Simulator Model FSS

FUNCTIONAL DESCRIPTION

The Technical Material Corp. Model FSS provides a primary source of controllable frequency shift signals for testing and adjusting communications equipment. It produces a stable audio signal, with a varying degree of shift which can be set over a wide range by means of directly calibrated signals. A self contained pulse generator provides square wave keying up to 600 dot cycles with adjustable Mark and Space distortion. An internal Sweep Generator simulates facsimile signals and produces a linear sweep for visually checking audio amplifiers, discriminators and filters. A mixer system permits checking of external frequency shift devices. Provision is made for external Mark/Space keying or linear inputs.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY DATA
  CENTER RANGE: 400 cps to 16 kc.
  SHIFT RANGE: ±10 cps to ±5 kc in 3 ranges
PULSE GENERATOR (INTERNAL)
  KEYING SPEED: 6 cps to 600 cps square wave in 2 ranges.
  BIAS CONTROL: Continually adj to ±50%.
OSCILLATOR/MIXER (INTERNAL)
  INPUTS
    EXTERNAL KEY: ±6 v to ±50 v one side grd.
    FACSIMILE: ±6 v max.
  OUTPUT IMPEDANCE
    AUDIO: 600 ohm unbalanced.
    SWEEP: High Z.
  OUTPUT LEVEL: 0 v to ±5 db.
POWER REQUIREMENTS: 110 or 220 v, 50 to 60 cps, 80 W.
MODES OF KEYING
  INTERNAL AND EXTERNAL: Mark/Space, Linear (Facsimile).

MANUFACTURER'S OR CONTRACTOR'S DATA

The Technical Material Corp., Mamaroneck, New York.
Contract NObsr 64610
Approximate Cost: $1272.50.

TUBE COMPLEMENT

(2) 6J6	(1) 2D21	(1) OB2
(1) 12AX6	(2) OA2	(1) 6BE6
(1) 5Y3	(1) 6AL5	(1) 6X4
(4) 12AU7	(1) 6U8	

Total Tubes: (16)

(1) CR-18/U1000P
Total Crystals: (1)

FREQUENCY SHIFT SIMULATOR

REFERENCE DATA AND LITERATURE

NAVSHIPS 92620: Technical Manual for Frequency Shift Simulator Model FSS.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	

SHIPPING DATA

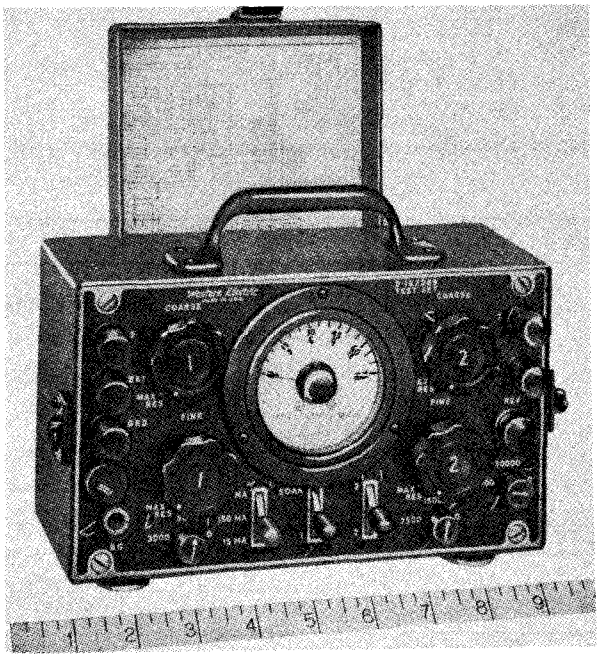
NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (cu Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Frequency Shift Simulator Model FSS			96

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Frequency Shift Simulator Model FSS	9 X 14 X 19	30.5
2	Technical Manual NAVSHIPS 92620	3/16 X 8-3/4 X 11	0.6

Test-Miscellaneous Test

TEST SET I-181,I-181-B



Test Set I-181, I-181-B

FUNCTIONAL DESCRIPTION

The I-181 and I-181-B is a current flow type relay adjusting set for measuring and controlling the amount of current flow through the windings of a relay, drop or similar electromagnetic apparatus that is being tested. It may also be used as a DC milliammeter, and is particularly adaptable for use with smaller installations of communications equipment because of its size and simplicity of operation.

No field changes in effect at time of preparation (8 October 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

MILLIAMMETER RANGES: 0 to 15 ma, 0 to 75 ma, 0 to 150 ma.
RESISTANCE VALUES: 5000 or 500 and 10,000 ohms.

MANUFACTURER'S OR CONTRACTOR'S DATA

Approximate Cost: $110.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

TM11-2036: Test Set I-181.
TM11-487H: Test Equipment.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	TASSA
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	

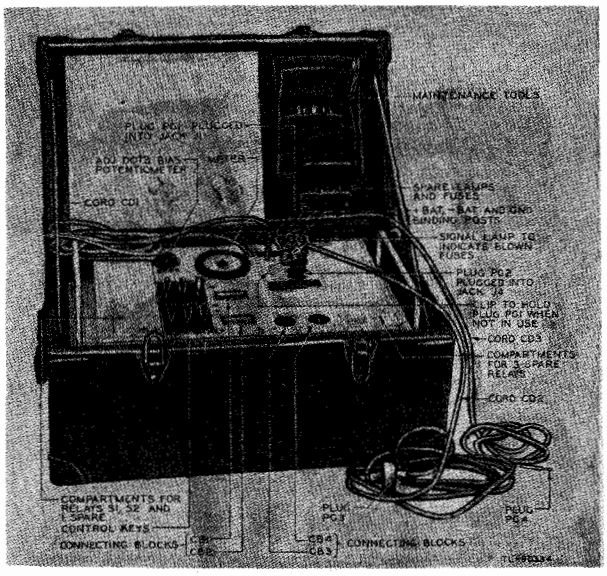
SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Test Set I-181 or I-181-B	1.0		25.0

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Test Set I-181 or I-181-B	5-1/8 X 5-1/8 X 8-3/4	9

TEST SET I-193-A, -C



Test Set I-193-A

FUNCTIONAL DESCRIPTION

The I-193-A or I-193-C is a portable unit used in testing and adjusting polarized relays applied in telegraph equipment. The set may also be used for testing external telegraph circuits.

No field changes in effect at time of preparation (20 March 1958).

RELATION TO OTHER EQUIPMENT

The I-193-A is mechanically and electrically interchangeable with Test Set I-193/B.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

POWER SOURCE REQUIRED: 115 to 130 v DC, 10 W.
FREQUENCY OUTPUT: 10 to 20 cycle.
CURRENT RANGE: 0 to 100 ma DC.

MANUFACTURER'S OR CONTRACTOR'S DATA

I-193-A
Western Electric Co, NY, N.Y.
I-193/C
Utility Electronics Corp, Newark, N.J.
Order No. 18684-Phila-49.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes or Crystals Used.

REFERENCE DATA AND LITERATURE

TM11-2513: Technical Manual for Test Set I-193-A.
TM11-487H-1, NAVSHIPS 93003: Electronic Test Equipment.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	TASSA
PROCUREMENT COGNIZANCE	MIL-T-3097
STOCK NO.	
R.D.B. IDENT. NO.	

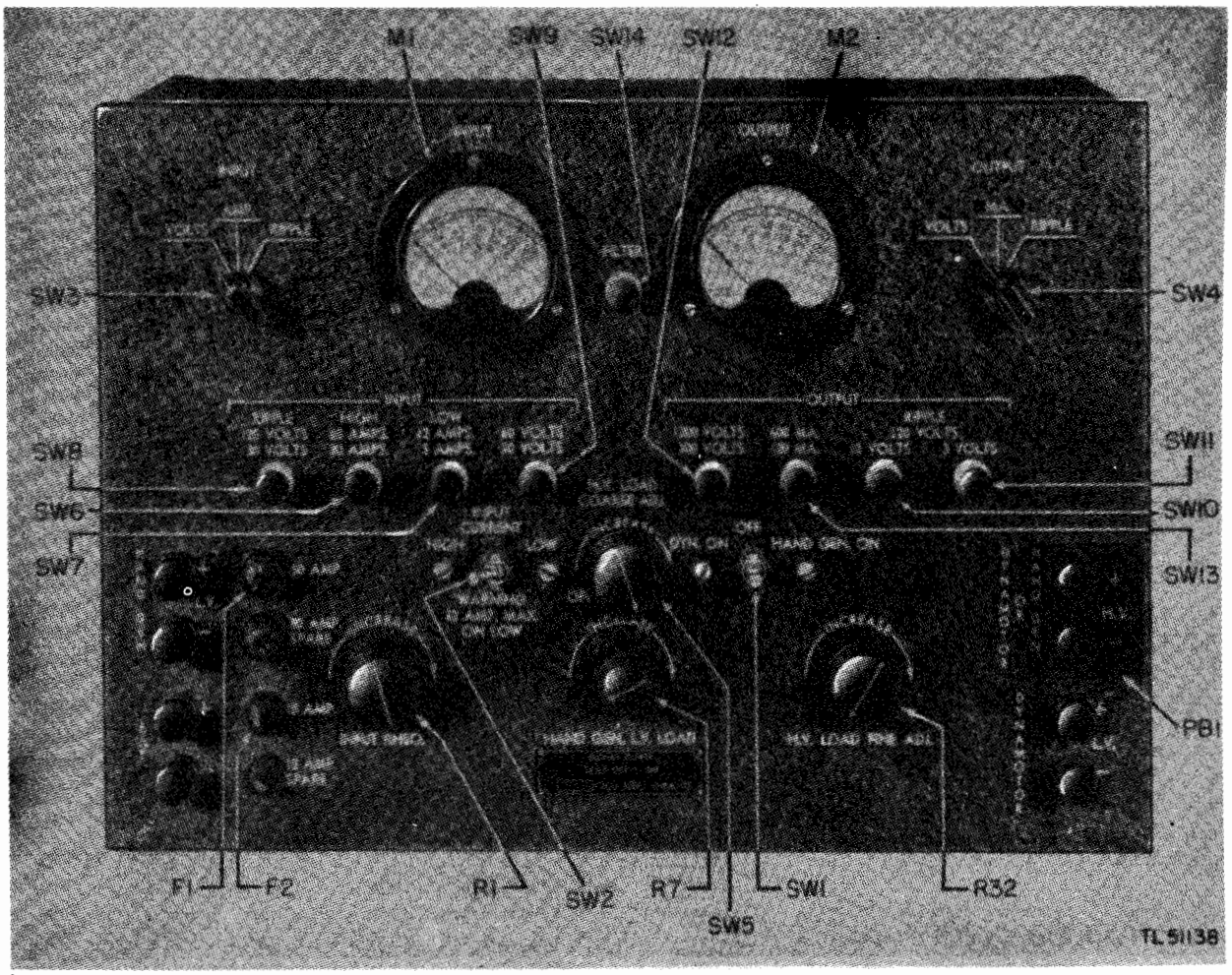
SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Test Set I-193-A	2-1/4		
1	Test Set I-193-C	4.2	15 X 16 X 30	135

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Test Set I-193-A or I-193-C	11-3/8 X 12-3/4 X 23	63

TEST SET I-199



Test Set I-199

FUNCTIONAL DESCRIPTION

The I-199 is a two-meter instrument for testing dynamotors and hand generators. It provides direct reading for input and output voltage, current and ripple measurements.

No field changes in effect at time of preparation (27 November 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

INPUT RANGE
- DC VOLTS: 0 to 30, 0 to 60.
- AC VOLTS: 0 to 30, 0 to 120.
- DC AMPERE: 0 to 3, 12, 30 and 60.

OUTPUT RANGE
- DC VOLTS: 0 to 3, 12, 120, 300 and 1200.
- AC VOLTS: 0 to 3, 12, 120, 300 and 1200.
- DC MILLIAMPERE: 0 to 120, 0 to 600.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

TM11-2604: Technical Manual for Test Set I-199.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	TASSA
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	

Test Miscellaneous Test
I-199

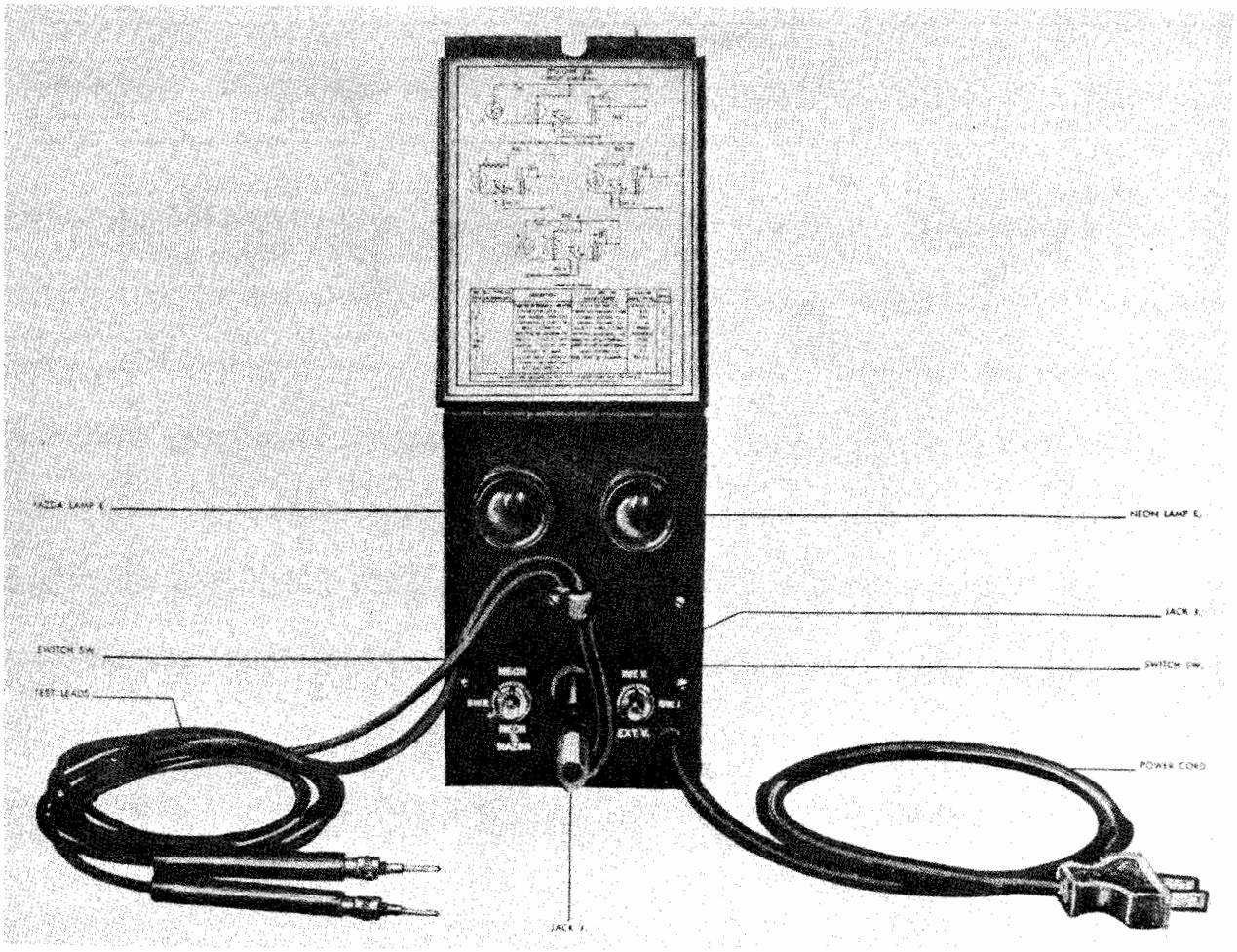
TEST SET

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Test Set I-199	10 x 12 x 18	35
1	Cord CD-999	76 lg	
1	Cord CD-954	36 lg	
1	Cord CD-955	36 lg	
1	Technical Manual		

TEST UNIT

I-236



Test Unit I-236

FUNCTIONAL DESCRIPTION

Test Unit I-236 is a portable, self-contained test instrument designed primarily for use in testing teletypewriter equipment. The instrument is used to check continuity of circuits, to differentiate between AC and DC voltages, to check fuses. Tests are made by observing the reaction of either or both of two lamps when the test unit is connected to a circuit, fuse or capacitor under test.

No field changes in effect at time of preparation (22 July 1957).

RELATION TO OTHER EQUIPMENT

This unit replaces the multimeter formerly supplied as a component of Tool Equipment TE-50-A.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FUSE TEST CURRENT-CARRYING CAPACITY: 2 ma and higher.

NEON LAMP STARTING VOLTAGE: 55 v AC, 90 v DC.

POWER SOURCE REQUIRED: 115 v to 130 v AC or DC.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

Test-Miscellaneous Test

January 1958

I-236 TEST UNIT

REFERENCE DATA AND LITERATURE

TM11-2056, Technical Manual for Test Unit I-236.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	TASSA
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	12.6

SHIPPING DATA

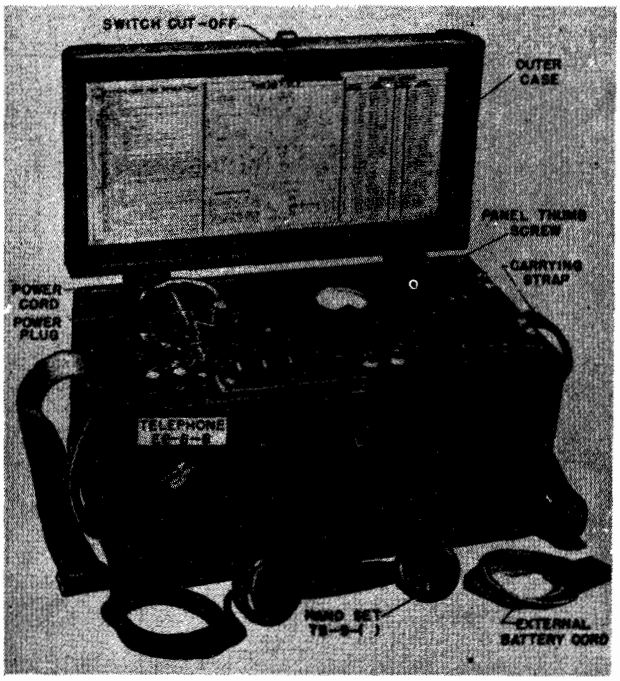
NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Test Unit I-236			

EQUIPMENT SUPPLIED DATA

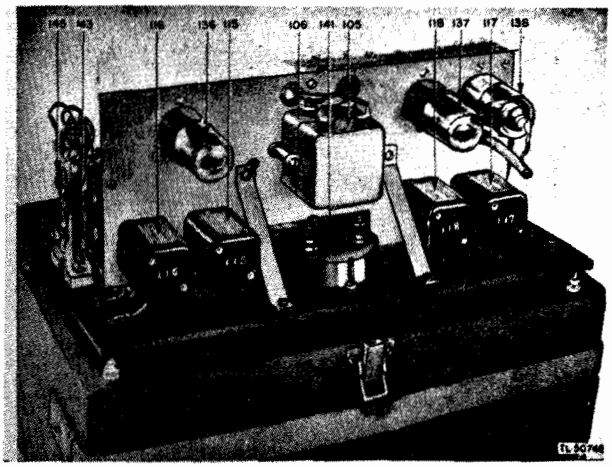
QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Test Unit I-236	3-3/4 X 3-3/4 X 5-1/2	2
2	Test Leads w/pin tip plugs and test prods	4 ft	

TEST SETS

I-61-A,B,C



Test Set I-61-B and I-61-C



Test Set I-61-A

FUNCTIONAL DESCRIPTION

The I-61-A, I-61-B, and I-61-C are portable, dry battery operated transmission measuring sets used primarily to measure losses or gains incircuits or apparatus.

No field changes in effect at time of preparation (11 December 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

OSCILLATOR FREQUENCY
I-61-A: 1000 cycles.
I-61-B and C: 500, 1000 and 2500 cycles.
OUTPUT: −40, −20 or 9 dbm into 600 ohm load.
OUTPUT METER RANGE: −50 and +15 dbm in frequency range 100 to 10,000 cycles.
OPERATING POWER: 5 BA-30 and 3 BA-56 batteries.

TUBE AND/OR CRYSTAL COMPLEMENT

I-61-B and C	I-61-A
(2) 1G4GT/G	(2) 3Q5-GT
(1) 1LN5	(1) 1N5-GT
(1) 3Q5GT	
Total Tubes: (4)	Total Tubes: (3)

REFERENCE DATA AND LITERATURE

TM-11-346: Technical Manual for Test Sets I-61-A, I-61-B, I-61-C.

TYPE CLASSIFICATION
DESIGN COGNIZANCE TASSA
PROCUREMENT COGNIZANCE
STOCK NO.
R.D.B. IDENT. NO.

EQUIPMENT SUPPLIED DATA

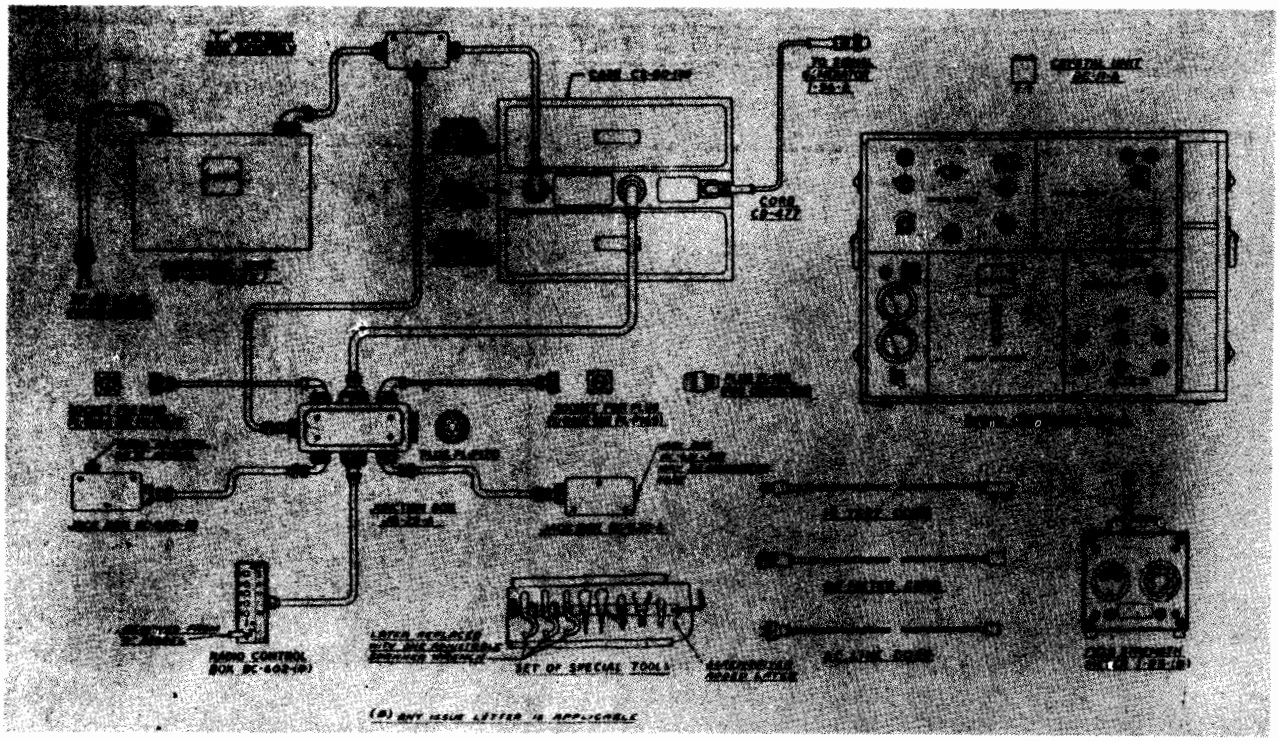
QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
	I-61-A		
1	Test Set I-61-A consists of:	8-1/4 X 10-7/8 X 15-1/4	21
5	Battery BA-30		

I-61-A,B,C TEST SETS

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
3	Battery BA-56		
1	Series Battery Connector		
2	Technical Manual TM11-346 I-61-B and I-61-C		
1	Test Set I-61-B or I-61-C consists of:	10-1/8 X 11 X 18-1/4	47
2	Battery BA-30		
3	Battery BA-35		
2	Battery BA-36		
1	Adapter and Leads		
1	Telephone EE-8-B		
2	Technical Manual TM11-346		

TEST EQUIPMENT IE-12-A



Test Equipment IE-12-A

FUNCTIONAL DESCRIPTION

The IE-12-A is designed to be used in testing, tuning, and servicing Radio Sets, and when completely assembled, the test equipment set-up simulates the actual installation of these radio seta in the aircraft.

No field changes in effect at time of preparation (28 September 1956).

RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied: (8) Battery BA-2, (5) Battery BA-23.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 100 to 156 mc.
TYPE CONTROL: Crystal.
OPERATING POWER: 110 to 115 v, 50 to 60 cpa, or batteries.

MANUFACTURER'S OR CONTRACTOR'S DATA

Approximate Cost: $500.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 155	(1) OD3W
(1) 5Y3WGTB	(1) 6G6G
(2) 6SS7	(3) 12A6
(1) 12AH7GT	(1) 12C8
(1) 12J5GT	(3) 12SG7Y
(2) 832	(3) 9002
(7) 9003	

Total Tubes: (27)

REFERENCE DATA AND LITERATURE

AN16-401E12-3: Technical Manual for Test Equipment IE-12-A.

TYPE CLASSIFICATION
DESIGN COGNIZANCE TASSA
PROCUREMENT COGNIZANCE
STOCK NO.
R.D.B. IDENT. NO.

TEST EQUIPMENT

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Signal Generator I-96-A consists of:	9-1/2 X 19 X 26-1/2	82
1	IF Test Cord	60 lg	
1	Cord, AC Line	120 lg	
1	Cord, DC Meter	60 lg	
1	Field Strength Meter I-95-A, B, AM or BM		10.66
1	Case CS-80-A or C containing:	10-11/16 X 12-9/16 X 16-5/32	49
1	Rack FT-224-A		
1	Radio Transmitter BC-625 A or AM		
1	Radio Receiver BC-624 AM or C		
1	Dynamotor Unit PE-94-A, B, C or CM	6-15/64 X 8-27/32 X 12-25/32	37
1	Mounting (used with PE-94C or CM) FT-498	1/2 X 8-1/4 X 12-25/32	0.94
1	Radio Control Box BC-602-A, B or D	2-1/2 X 5-9/16 X 5-7/8	2.40
1	Junction Box JB-29-A	2-7/16 X 4-1/8 X 8-15/32	2.18
1	Jack Box BC-629-A or B	1-61/64 X 2-29/64 X 4-27/64	0.60
1	Jack Box BC-630-A	1-61/64 X 2-29/64 X 6-27/64	0.60
1	Jack Box BC-631-A or B	1-61/64 X 2-29/64 X 4-1/16	0.52
2	Set Crystal DC-11-A		
1	Cord, Junction Box	1/4 dia X 60 lg	0.47
1	Cord, Junction Box	1/4 dia X 60 lg	0.46
1	Cord, Junction Box	3/8 dia X 60 lg	0.66
1	Cord, Junction Box	3/8 dia X 60 lg	0.87
1	Cord, Junction Box	1/2 dia X 60 lg	1.39
1	Cord, Dynamotor	1/2 dia X 60 lg	1.15
1	Cord CD-477	60 lg	1.18
1	"T" Junction Box Assembly		3.8
1	Set Special Tools		0.85
1	Socket for Plug PL-Q-164 or PL-P164	51/64 X 1-9/16 X 1-9/16	0.80
1	Socket for Plug PL-Q-165 or PL-P165	51/64 X 1-9/16 X 1-9/16	0.80
1	Plug PL-108		
1	Plug PL-P170	1-59/64 X 2-1/2 lg	0.38
1	Package Screws		

March 1957

SONOBUOY TEST SET JM-4 TEST SET FOR

FUNCTIONAL DESCRIPTION

The JM-4, Test Set for is used for checking and setting the frequency of the sono-radio buoy for maximum efficiency at the desired frequency, and checks battery current and voltage.

No field changes in effect at time of preparation (12 October 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

WAVEMETER
- FREQUENCY RANGE: 70 to 90 mc.
- ACCURACY: ±5%.
- METER RANGE: 0 to 200 ua.

TEST ADAPTER
- VOLTAGE RANGE: 0 to 7.5, 300 v.
- CURRENT RANGE: 0 to 0.075, 1.5 amp.
- OPERATING POWER: 1.5 v,DC.

MANUFACTURER'S OR CONTRACTOR'S DATA

Approximate Cost: $90.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

Technical Manual for Sono-Radio Buoy Transmitting Equipment JM-4.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	

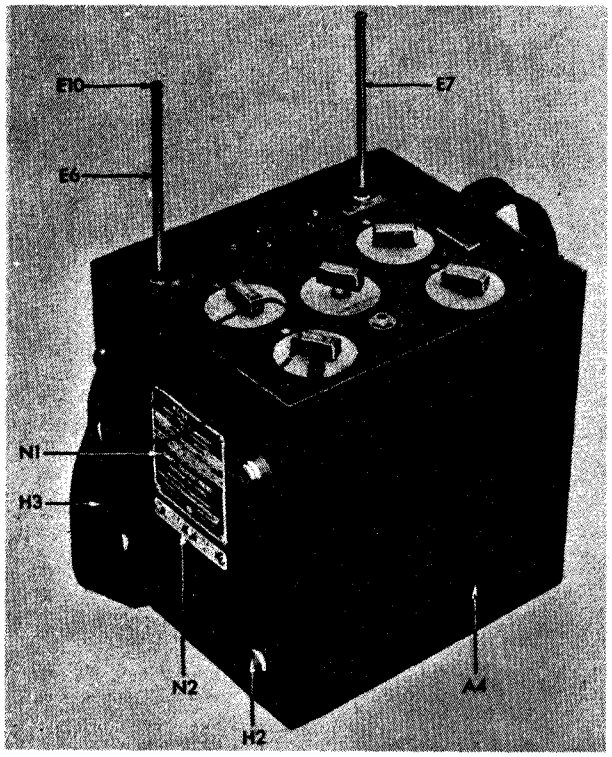
SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Wavemeter NT-60043, Test Adapter NT-10143, and Tire Pump 81-T	1.8	10 X 11 X 28	33

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Wavemeter NT-60043		
1	Test Adapter NT-10143		
1	Tire Pump 81-T		

IFF TEST EQUIPMENT LT



IFF Test Equipment LT

FUNCTIONAL DESCRIPTION

The Model LT is a portable, self-contained unit for use aboard ship or at Naval stations. It is intended for flight-deck checks of operation of Model ABA and ABA-1, receivers and transmitters. It is not temperature compensated and hence is not applicable as a frequency sub-standard. The Model Lt may be also used in conjunction with Model LU test equipment and will give positive indication of the correct functioning of the Model ABA or ABA-1 system when properly used.

No field changes in effect at time of preparation (22 October 1956).

RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied: (1) 600 ohm headphones.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE
RECEIVER: 483.5 to 503.5 mc.
TRANSMITTER: 460 to 480 mc.
POWER REQUIREMENTS: (4) 1-1/2 v and (1) 90 v internal batteries.

MANUFACTURER'S OR CONTRACTOR'S DATA

Finch Telecommunications, Inc., Passaic, New Jersey
Contract NXs 221.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 957 (1) 955 (2) 1N5GT
Total Tubes: (4)

REFERENCE DATA AND LITERATURE

RNG 178: Technical Manual for IFF Test Equipment Navy Model LT.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	

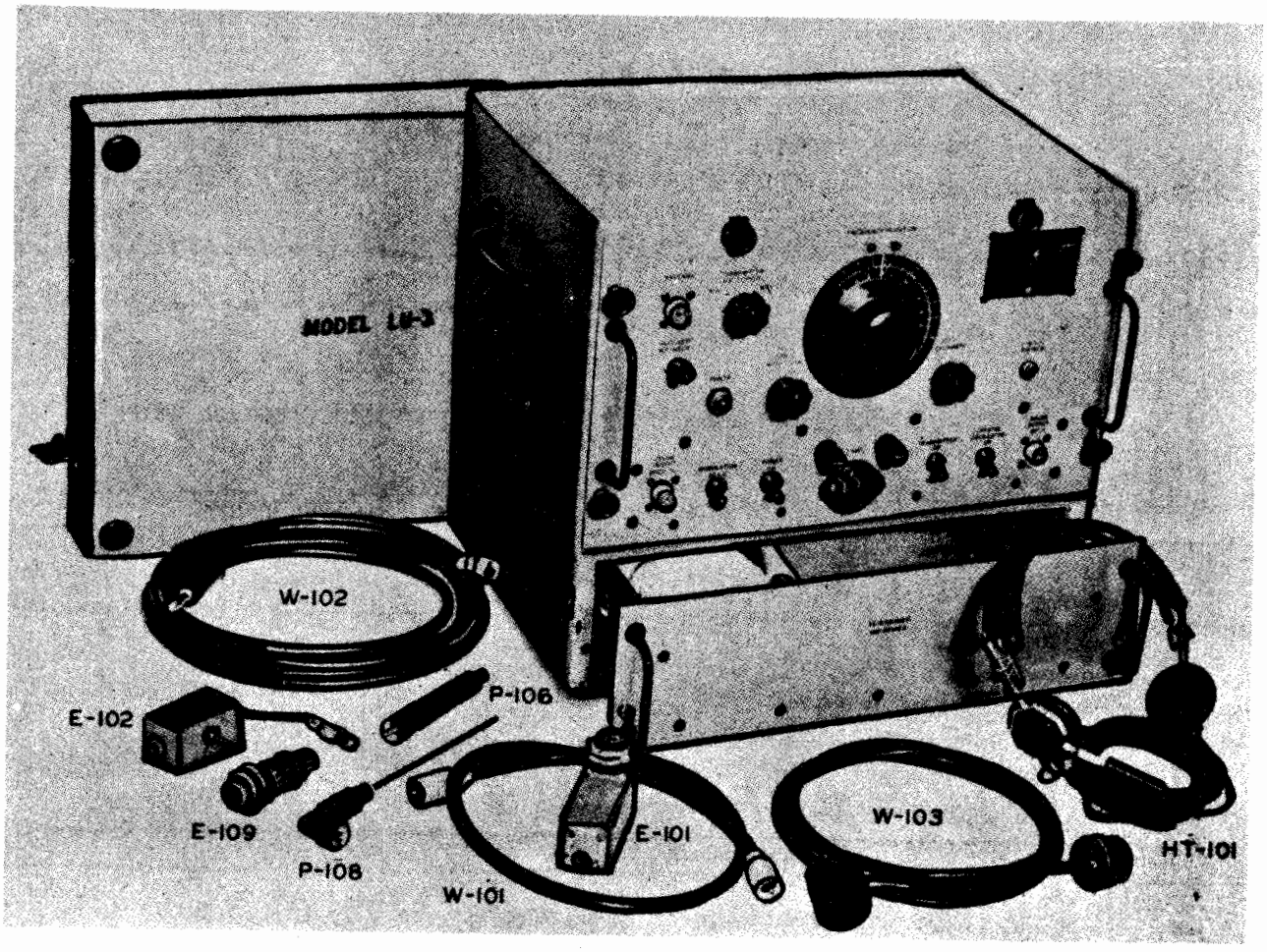
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	IFF Test Equipment Model LT including:	8 x 10-1/4 x 11	28.5
1	Set of batteries		
	Technical Manual ENG 178		
1	Spare Parts Case	4 x 5 x 8	2.5

Test–Miscellaneous Test

RADAR TEST EQUIPMENT

LU-3(60 ACT)



Radar Test Equipment LU-3(60 ACT)

FUNCTIONAL DESCRIPTION

The LU-3 (60 ACT) is designed to provide a rapid and accurate method of checking or aligning the high-frequency circuits of certain types of radar and radar-beacon transmitters and receivers.

No field changes in effect at time of preparation (28 August 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 465 mc to 475 mc and 488.5 to 498.5 mc.
TYPE EMISSION: RF carrier with sine-wave or pulse modulation.
SINE-WAVE MODULATION
  TYPE: Amplitude.
  FREQUENCY: 30 ±1 kc per sec.
  CAPABILITY: 90%.
PULSE MODULATION
  FREQUENCY: 1000 cps, ±25%.
  LENGTH (At Half Amplitude): 10 usec ±25%.
  CAPABILITY: 100%.
PULSE SIGNAL
  FREQUENCY: 1000 cps, ±25%.
  FROM 6000-ohm Receptacle.
    LOAD RESISTANCE: 6000 ohms, 50,000 ohms.
    VOLTAGE, DC: 42 v, 65 v.
  FROM 50 OHM RECEPTACLE
    LOAD RESISTANCE: 50 ohms, 1000 ohms,
    VOLTAGE, DC: 10 v, 17 v.
NOMINAL CARRIER OUTPUT
  ANTENNA: 10 mw.
  OUTPUT CABLE, 50 OHM: 10 uv.
OPERATING POWER: 80 or 117 v, 50 to 800 cps, single phase.
POWER FACTOR: 80%.

MANUFACTURER'S OR CONTRACTOR'S DATA

Airadio Incorporated, Stamford, Conn.

Test-Miscellaneous Test

LU-3(60 ACT) RADAR TEST EQUIPMENT

Contract NXsr 51537, dated 8 March 1944.

REFERENCE DATA AND LITERATURE

NAVSHIPS 91429: Technical Manual for Radar Test Equipment Navy Model LU-3.

TUBE AND/OR CRYSTAL COMPLEMENT

(4) 6SN7W (2) 956 (2) 955
(1) 6SQ7GT/G (1) 6X5GT/G
Total Tubes: (10).

(1) 40141 (4700 kc)
Total Crystals: (1).

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Radar Test Equipment LU-3 - including accessories in cabinet drawer	4.22	15-3/4 X 19-1/4 X 24	174.0
1	Set of equipment spare parts	4.22	15-3/4 X 19-1/4 X 24	48.5

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radar Test Equipment LU-3 with tubes and a set of accessories in cabinet drawer consisting of:	12-3/8 X 14 X 19	45
1	Antenna NT-66138		
1	Power Cord	72 lg	
1	RF Output Cable	36 lg	
1	Video Cable	120 lg	
1	Phone pin/jack adapter NT-49699		
1	Phone jack/49195 adapter		
1	Extension Test Attenuator		
1	Tuning Lamp Adapter		
1	Pair Headphones		
2	Fuse Holders		
2	Fuses		
1	Technical Manual		
1	Set Equipment Spare Parts in Metal Box	9-5/8 X 19-1/4 X 13-1/8 X 19-1/8	38

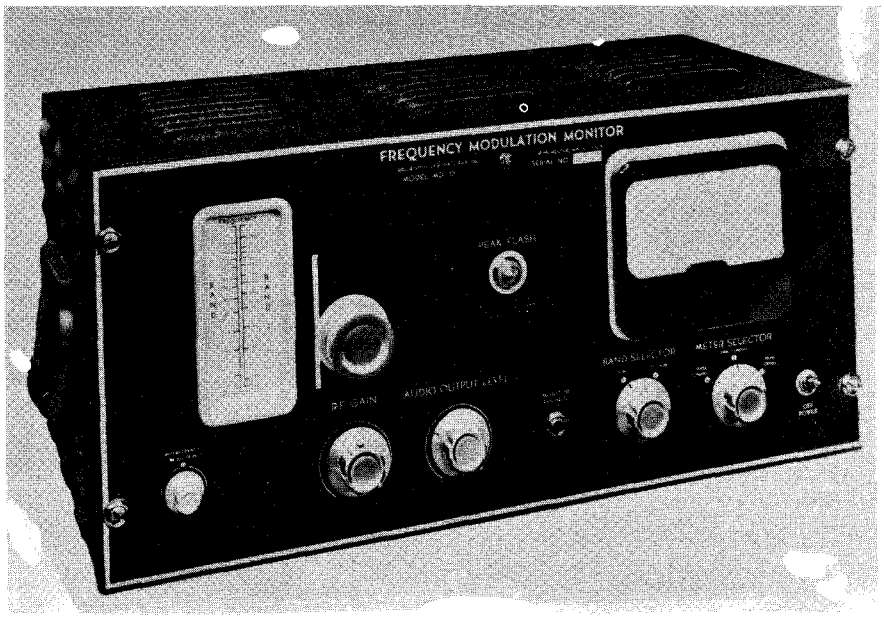
4 June 1962 MODULATION METER ME-127/U

Cog Service: FSN: 6625-557-5682 Functional Class:

USA USN USAF

TYPE CLASS:

MANUFACTURER'S NAME/CODE NUMBER: Browning Laboratories inc.



Modulation Meter ME-127/U

FUNCTIONAL DESCRIPTION:

Modulation Meter ME-127/U is used to measure the frequency swing due to modulation of frequency modulated transmitters operating in the region between 25 and 174 mc. The equipment is basically a superheterodyne frequency modulation receiver having a calibrated discriminator which feeds into a linear metering circuit. Frequency swings arising from sustained tone modulation up to porm 20 kc are read directly on a panel meter. A flasher circuit is incorporated to indicate peak modulation in excess of a preset level when voice modulation is employed. Two preset flasher levels (up to 20 kc) are selectable by switch at rear of chassis.

No field changes in effect at time of preparation (24 May 1961).

TECHNICAL CHARACTERISTICS:

POWER REQUIREMENTS: 105 to 125 v, 50 to 60 cyc, single ph, 95 W.
FREQUENCY RANGE: Tuning is continuously variable between 25 and 75 mc and between 75 and 174 mc.
SENSITIVITY: Approx 1 mv up to 140 mc and approx 2 mv from 140 to 174 mc. Signals may be

read at lower levels than those required for measurement.

INDICATIONS: Four-inch panel meter indicates frequency swing directly up to 20 kc max. Peak flasher, also on panel, indicates modulation in excess of preset level by shortest voice peaks. Two preset flasher limits selectable by switch at rear of chassis.

OUTPUT: Provision is made for aural monitoring at panel phone jack or audio output terminals at rear of chassis.

MEASUREMENT RANGE: Frequency swings up to 20 kc may be measured.

ACCURACY: Frequency swing indications are accurate to within 1,000 cyc.

PANEL CONTROLS

MAIN TUNING: Tunes input from 25 to 75 or 75 to 174 mc, as selected.

RF GAIN: Adjusts receiver gain to reference level of limiter voltage required for accurate measurement.

AUDIO OUTPUT LEVEL: Adjusts signal level to aural monitoring device used.

INTERFERENCE REJECTION: Tunes antenna circuit trap through 88 to 108 mc FM band to remove any interference encountered from this source.

BAND SELECTOR: Selects 25 to 75 or 75 to 175 mc tuning bands.

METER SELECTOR: Changes meter connections so that meter may be used as course tuning indicator, or frequency swing indicator.

POWER: Turns unit on and off.

ANTENNA REQUIREMENTS: Simple wire is sufficient where high signal strength is available. For weaker signals a half wave dipole is recommended with 72 ohm coaxial down-lead.

CONSTRUCTION: The equipment is housed in a steel cabinet. Two handles, one at each end of the cabinet, facilitate carrying. It is intended for bench operation but the unit has standard 8-3/4 in. rack panel for relay rack mounting when removed from cabinet.

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

An antenna is required; otherwise the equipment is self-sufficient for the intended purpose.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Modulation Meter ME-127/U		9 x 12 x 20-1/2	40

REFERENCE DATA AND LITERATURE:

NAVSHIPS 93424: Instruction Manual for Meter, Modulation ME-127/U.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (1) 5X3GT (1) 6AL5 (5) 6AU6 (1) 6BC5 (3) 6SN7 (2) 12AT7 (1) 12AU7 (1) VR-150/0D3

CRYSTALS: None used.

SEMI-CONDUCTORS: (1) 1N54

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	3.5	55

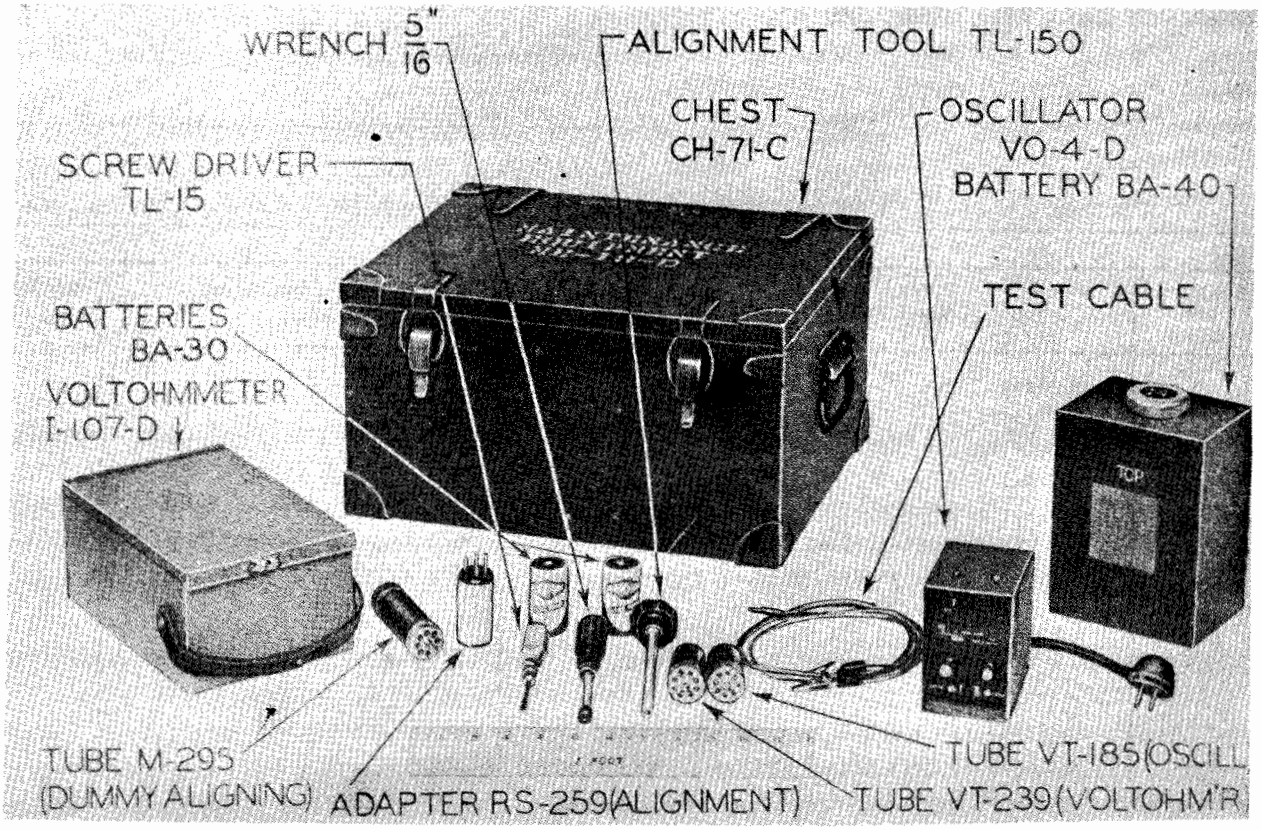
PROCUREMENT DATA

PROCURING SERVICE:
SPEC &/OR DWG:

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Browning Laboratories Inc. Model no. MD-33	Winchester, Massachusetts	NObsr-71681, 20 February 1957	$400.00

MAINTENANCE EQUIPMENT ME-13-A,-B,-C,-D



Maintenance Equipment ME-13-A

FUNCTIONAL DESCRIPTION

The ME-13-A,-B-C and-D are each designed for the purpose of aligning and maintaining radio sets SCR-509, SCR-510, SCR-609 and SCR-610 series. These instruments are battery operated and the proper batteries are contained, along with the rest of the components in chest CH-71-A,-B,-C,-D. These instruments are similar except for minor circuit changes in the Voltmeter and the inclusion of Alignment Tool TL-207 in some of the models.

No field changes in effect at time of preparation (24 April 1957).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

OSCILLATOR FREQUENCY RANGE: 2.88 to 4.3 mc.

VOLTMETER RANGES

DC VOLTS: 0 to 3, 0 to 10, 0 to 30, 0 to 100 and 0 to 300 v.

RESISTANCE: 0 to 1000, 0 to 10,000 ohms, 0 to 1 and 0 to 10 meg.

POWER SOURCE REQUIRED: Batteries BA-30 and BA-40.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 1LE3 (1) 3D6/1299

Total Tubes: (2)

(2) FT-243

Total Crystals: (2)

Test-Miscellaneous Test

January 1958

ME-13-A,-B,-C,-D MAINTENANCE EQUIPMENT

REFERENCE DATA AND LITERATURE

TM11-306C1, Technical Manual for Maintenance Equipments ME-13-A,-B,-C and D.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	TASSA
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	

EQUIPMENT SUPPLIED DATA

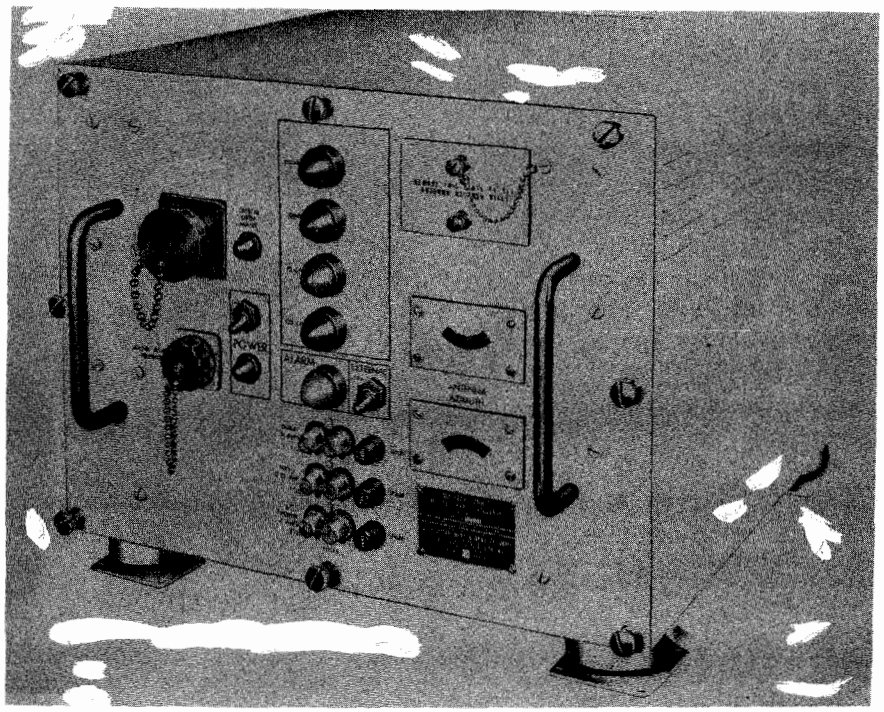
QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Maintenance Equipment ME-13-A,-B,-C, or -D C/O	8-1/16 X 12-1/8 X 15-7/16	34
	(1) Adapter RS-259		
	(1) Alignment Tool TL-150 or TL-207		
	(4) Battery BA-30	1-1/4 dia X 2-1/2	0.2
	(1) Battery BA-40	4-1/16 X 5-3/16 X 7-1/2	6.9
	(1) Chest CH-71-A,-B,-C or -D	8-3/8 X 13-1/4 X 16-1/2	35.25
	(1) Oscillator VO-4-A,-B,-C,-D and -E	2-7/8 X 3-3/4 X 4-3/16	1.7
	(1) Screwdriver TL-15		
	(2) Technical Manuals TM11-306C1		
	(1) Test Cable		
	(1) Tube M-295		
	(1) Voltohmmeter I-107-A,B,C,D,E,F, or G	4-1/4 X 6 X 9-5/8	7.75
	(1) Wrench, 5/16 inch		

13 April 1962	6625-585-9798	MONITOR, RADIO FREQUENCY MX-1627/URN-3
Cog Service:	FSN: 6625-519-0982 W/S	Functional Class:

USA USN USAF

TYPE CLASS:

MANUFACTURER'S NAME/CODE NUMBER: Olympic Radio & Television.



Monitor, Radio Frequency MX-1627/URN-3

FUNCTIONAL DESCRIPTION:

The Monitor, Radio Frequency MX-1627/URN-3 is a receiver-transmitter employed in either ship or shore installations to check the performance of Radio Set AN/URN-3. The monitor interrogates Radio Set AN/URN-3 with a pulsed signal simulating that of airborne Radio Set AN/ARN-21 and receives the reply of Radio Set AN/URN-3. The monitor provides a visual (and has provisions for an external) alarm signal when Radio Set AN/URN-3 deviates from its proper performance. The following functions of Radio Set AN/URN-3 are monitored by the radio frequency monitor: (1) Receiver sensitivity; (2) Receiver code; (3) Receiver frequency; (4) Transmitter peak power; (5) Transmitter average power; (6) Transmitter code; (7) Transmitter frequency; (8) Transponder time delay; (9) Transponder identity code; (10) Coarse bearing accuracy (15 cycle); (11) Fine bearing accuracy (135 cycle); (12) Transponder heading correction; (13) Transponder antenna motor synchronism; (14) Transponder percentage replies.

Data on this sheet reflects the following field changes: #1, #2, #3, #4, and #5.

MX-1627/URN-3 MONITOR, RADIO FREQUENCY

TECHNICAL CHARACTERISTICS:

FREQUENCY RANGE
- ANTENNA: 960 to 1215 mc.
- TRANSMITTER: 1025 to 1150 mc.
- RECEIVER: 962 to 1024 mc & 1151 to 1213 mc.

RECEIVER CHARACTERISTICS
- TYPE: Double conversion superheterodyne.
- TYPE OF FREQUENCY CONTROL: Crystal controlled oscillator.
- INTERMEDIATE FREQUENCIES: 63 mc and 7.4 mc.
- BANDWIDTH: 0.6 mc.
- INPUT IMPEDANCE: 50 ohms.

TRANSMITTER CHARACTERISTICS
- POWER OUTPUT
  - INPUT TO ATTENUATOR: P13 dbm peak.
  - VARIABLE ATTENUATOR RANGE: 30 db.
- TYPE OF FREQUENCY CONTROL: Crystal controlled oscillator.
- PULSE-PAIR SPACING: 12 usec.
- PULSE-PAIR REPETITION RATE: 30 pulse-pairs per second.
- OUTPUT IMPEDANCE: 50 ohms.
- FREQUENCY ACCURACY: 0.003 percent.

ANTENNA CHARACTERISTICS
- IMPEDANCE: 50 ohms.
- FREQUENCY RANGE: 960 to 1215 mc.
- STANDING WAVE RATIO: No greater than 2:1.

TYPE OF TRANSMITTER CRYSTALS: CR-32/U.
TEMPERATURE RANGE: M54 deg C (M65 deg F) to P65 deg C (P149 deg F).
HUMIDITY: Up to 95%.
OPERATING POWER RQMT: 117 v ac, 60 cps, single ph.

RELATION TO OTHER EQUIPMENT:

The MX-1627/URN-3 is designed as part of Radio Set AN/URN-3.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Radio Set AN/UTN-3; (1) Switch-Test Adapter SA-420/URN-3.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Monitor, Radio Frequency MX-1627/URN-3 consists of:		15-1/2 x 19-1/2 x 24-5/8	135
1	Antenna AT-592/URN-3		4-1/2 x 12-1/2 x 12-1/2	2-1/2
2	Technical Manual NAVSHIPS 92975(A)		1/2 x 8-1/2 x 11	1

REFERENCE DATA AND LITERATURE:

NAVSHIPS 92975(A): Technical Manual for Radio Frequency Monitor MX-1627/URN-3.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (1) 0B2WA (1) 2C39A (1) 5R4WGB (2) 6AU6WA (1) 6J4WA (1) 6X4W (7) 12AT7WA
(5) 5654/6AK5W (3) 5670 (1) 5686 (6) 5725/6AS6W (3) 5726/6AL5W (7) 5751
(5) 5814A (1) 6080WA

CRYSTALS: (1) CR-32/U (1) CR-23/U

SEMI-CONDUCTORS: (1) 1N21B (1) 1N25 (5) 1N458 (4) 1N69 (1) 1N1886

SHIPPING DATA

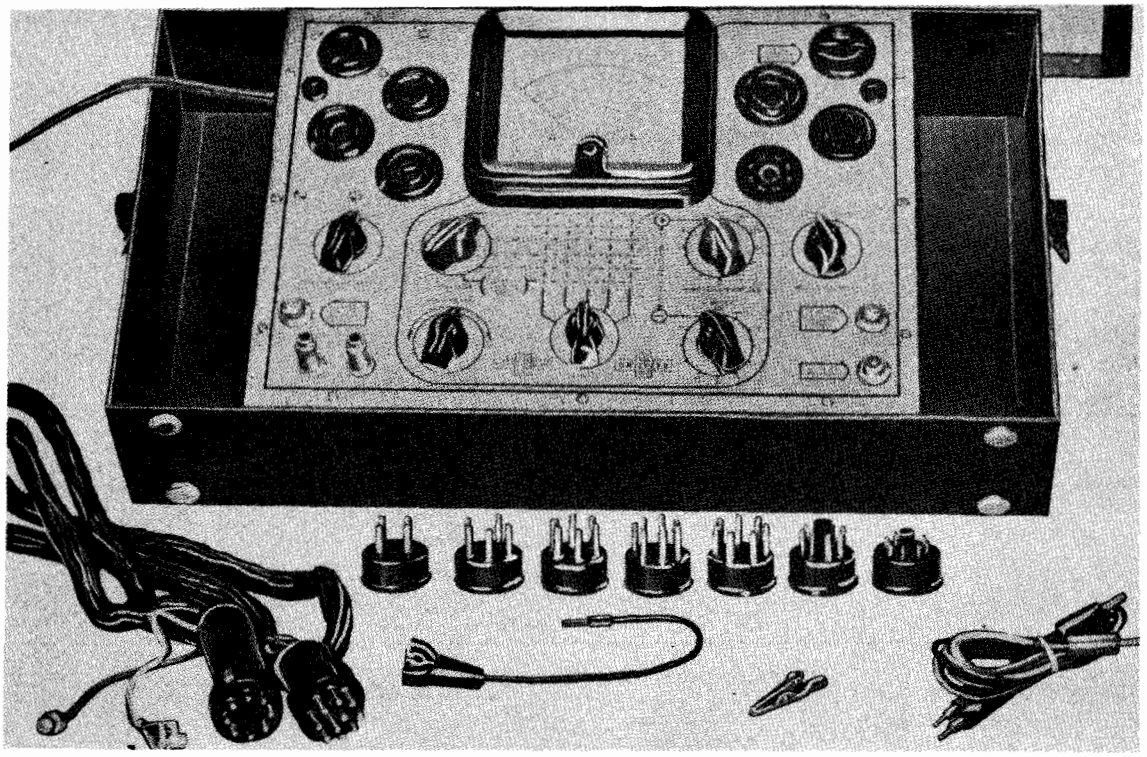
PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	14.75	170
1		

PROCUREMENT DATA

PROCURING SERVICE: DESIGN COG: USN, BuShips
SPEC &/OR DWG: MIL-M-18338

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Olympic Radio & Television Pt/dwg no. AS15341.	Long Island City, N.Y.	NObsr-64743, 31 May 1955	$1,527.39
		NObsr-75245, 6 May 1958	$1,698.00

RADIO RECEIVER ANALYZER OAE



Radio Receiver Analyzing Equipment OAE

FUNCTIONAL DESCRIPTION

The OAE is used in receiver maintenance by socket analysis, and point-to-point checking. It is equipped with various tube socket adaptors and test leads and has a multiscale indicating meter for voltage, power level, resistance, and capacity measurements.

No field changes in effect at time of preparation (8 April 1958).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

RANGES
- VOLTS AC: 0 to 8, 32, 160, 800, 1600 v.
- VOLTS DC: 0 to 5, 20, 100, 500, 1000 v.
- CURRENT DC: 0 to 0.5, 10, 100, 500 ma.
- RESISTANCE: 0 to 4000, 400,000 ohms and 0 to 40 meg.
- CAPACITANCE: 0.0005 to 0.1, and 0.05 to 10 uuf.
- INDUCTANCE: 1 to 14,000 henries (using capacity setting and chart).
- OUTPUT POWER: -15 to 13 db with extensions 0, +12, +26, +40, +46 db.

POWER REQUIREMENTS: 100 to 130 v, 50 to 60 cps, 11 W; 4.5 v battery (2 lower resistance ranges only).

MANUFACTURER'S OR CONTRACTOR'S DATA

Clough-Brengle Co, Chicago, Ill.
Contract NXs-12017, dated 26 August 1949.
Approximate Cost: $100.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 6X5GT
Total Tubes: (1)
No Crystals used.

REFERENCE DATA AND LITERATURE

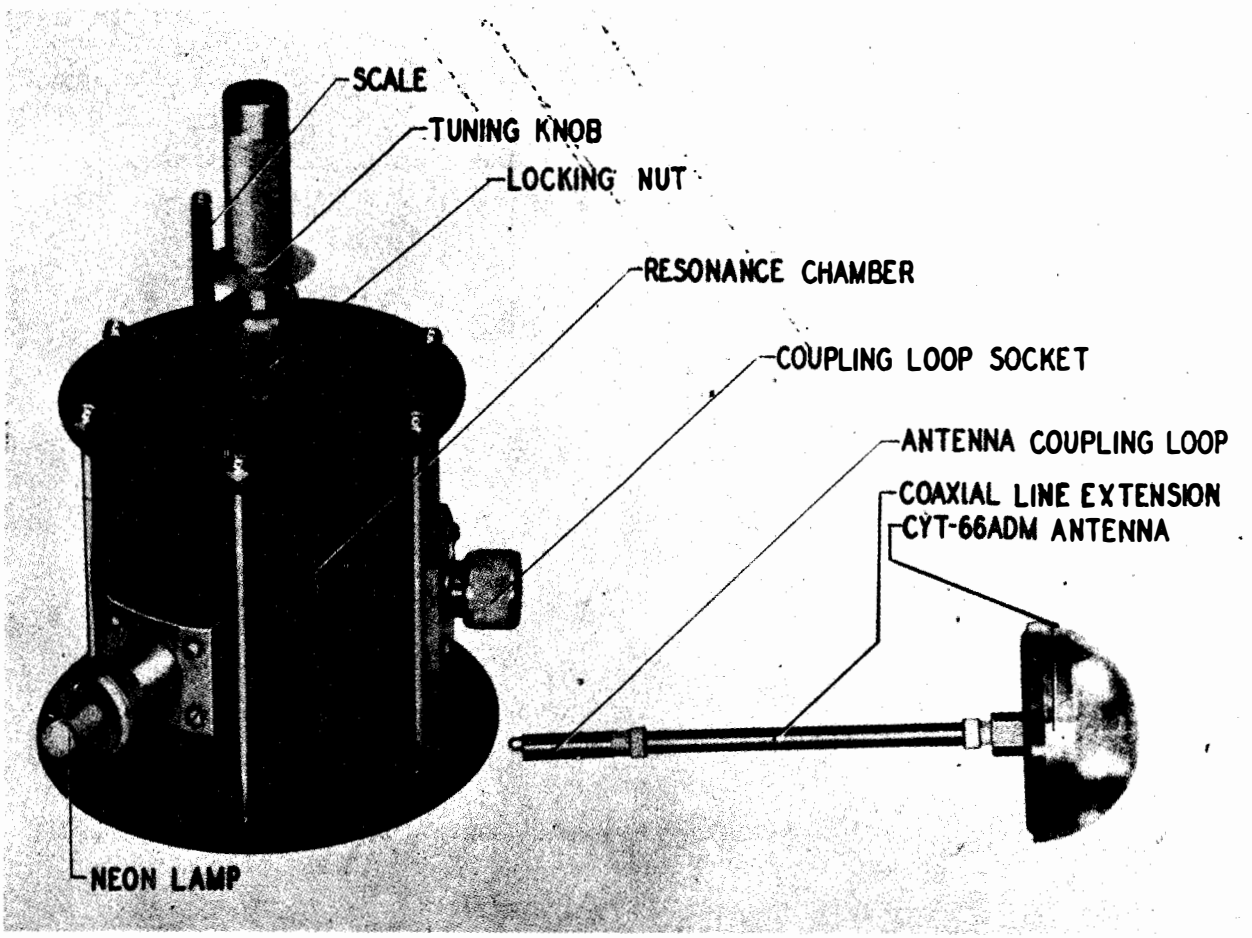
NAVSHIPS 95157: Technical Manual for Model OAE Radio Receiver Analyzing Equipment.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	

OAE RADIO RECEIVER ANALYZER

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiver Analyzer NT-60045	4-5/8 x 9 x 17	18
1	Test Lead with Prods and Clips		
1	Analyzer Cable with Ground Clip		
1	Set of Cable Adapters		
4	Ready Reference Basing Charts		
1	Grid Test Lead with Pin		
1	Battery (4.5 v) Burgress 2370		



Test Equipment

FUNCTIONAL DESCRIPTION

The OAJ-1 is designed to be used at aircraft bases to check the transmission and reception of the reflected pulse signal. It may also be used to aid in tuning the radar equipment, to check the frequency of the transmitter, to determine the pulse duration, to check the magnetron spectrum and to set the local oscillator (Klystron) frequency. It is intended for radar equipment operating at 10 centimeters.

No field changes in effect at time of preparation (30 July 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

INTENDED OPERATING RANGE: 10 centimeters.
OSCILLATING TIME: 31 usec min.
ANTENNA DATA: A half wave dipole enclosed in a transparent plastic cover.

MANUFACTURER'S OR CONTRACTOR'S DATA

Philco Corp., Philadelphia, Penn.
Contract: NXsr-3932, dated 21 May 1943

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

NAV-08-5R-1: Technical Manual for Test Equipment Navy Model OAJ-1.

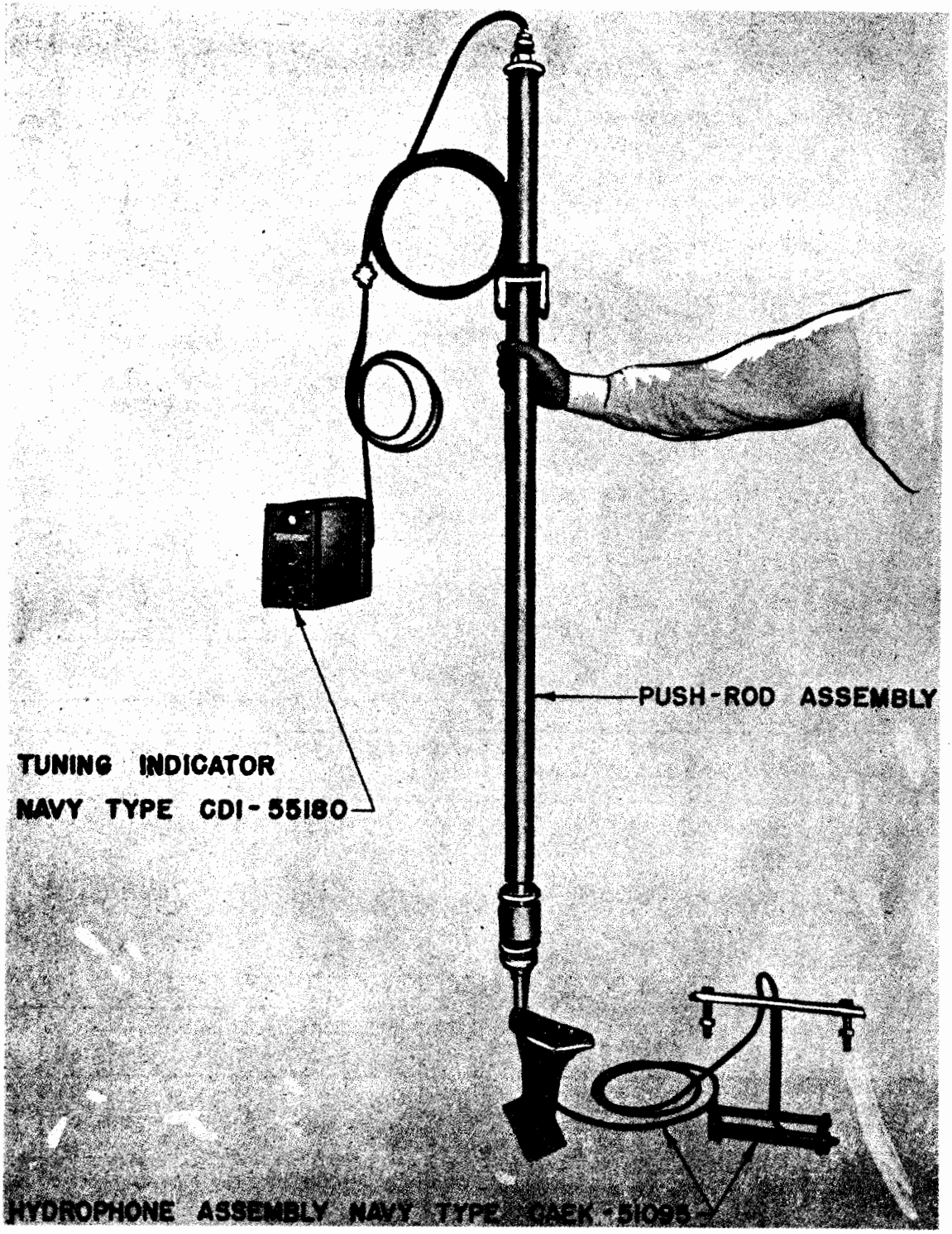
TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	

OAJ-1 TEST EQUIPMENT

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Resonance Chamber NT-14AAM	7-3/16 X 8-7/8 X 11-5/8	10.03
1	Antenna Assembly NT-66ADM	2-3/4 X 3-3/8 X 3-3/8	0.19
1	Coupling Loop	3/8 X 13/16 X 2-3/8	0.03
1	Extension Tube	1/2 X 1/2 X 5-1/2	0.06
1	Neon Lamp	11/16 X 3/4 X 2-3/4	0.06
1	Carrying Case NT-10ACF	12-1/8 X 12-5/16 X 14-5/16	11.81

SONAR TEST SET OBY



Sonar Test Set OBY

Test Miscellaneous Test

March 1957

OBY

SONAR TEST SET

FUNCTIONAL DESCRIPTION

The OBY comprises a monitoring unit for use in checking tune-train characteristics of certain echo-ranging equipments employing retractable domes.

No field changes in effect at time of preparation (27 September 1956).

RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied: (as required) watertight receptical, (as required) Cable MCOS-2, (as required) Terminal Tube (11, Size B, (as required) Branch Box ES, (as required) Terminal Tube L 11, Size E, (as required) Cable DHFA-4, (1) Terminal Tube L11, Size A.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY: 7 to 70 kc.
SIGNAL INPUT IMPEDANCE OF TUNING INDICATOR: 10,000 ohms.
OPERATING POWER: 115 v, 60 cps, single ph, 20 W.

MANUFACTURER'S OR CONTRACTOR'S DATA

David Bogen Co Inc, NY, NY.
Contract NXsr 86315, dated 9 January 1945.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 12J5GT (1) 12SQ7
(1) 1629 (1) 12H6
Total Tubes: (4).

REFERENCE DATA AND LITERATURE

NAVSHIPS 900,724: Technical Manual for Hydrophone Assembly NT 51095 and tuning Indicator NT 55180.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Hydrophone Assy NT-51095			
1	Tuning Indicator NT-55180	2.39	13-1/4 X 14 X 22	62
1	Push-Red Assy	1.29	5-1/2 X 5-1/2 X 73-1/2	48
1	Spare Parts Box	1.38	9-3/4 X 14 X 17-1/2	25

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Hydrophone Assy NT-51095		
1	Tuning Indicator NT-55180	11 X 12-12 X 19	32
1	Push-Rod Assy	4 X 4 X 70-1/2	30
1	Spare Parts Box	7-1/2 X 8-1/2 X 14-1/2	14

September 1956

PORTABLE VACUUM TUBE TESTING EQUIP. OBZ

FUNCTIONAL DESCRIPTION

The OBZ consists of two instruments, one a volt-ohm-milliameter and the other a vacuum tube and battery tester.

No field changes in effect at time of preparation (21 June 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

MULTIMETER RANGES

DC VOLTS: 0 to 1000 at 20000 ohms per v.

AC VOLTS: 0 to 1000 at 1000 ohms per v.

DC MICROAMPERES: 0 to 100 ua.

DC MILLIAMPERES: 0 to 250 ma.

DC AMPERES: 0 to 10 amp.

RESISTANCE: 0 to 30 mc.

TUBE AND BATTERY TESTER MEASUREMENTS: Tests 1.5, 6,45 and 90 v batt, and Tests tubes by cathode emission.

POWER REQUIREMENTS: 105/130 v, 50 to 60 cps, single ph.

MANUFACTURER'S OR CONTRACTOR'S DATA

Weston Electrical Instrument Corp., Newark, New Jersey.
Approximate Cost: $80.00.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 71A/5Y3G

Total Tubes: (1)

REFERENCE DATA AND LITERATURE

Technical Manual for Weston Model 772. Type 6

Technical Manual for Weston Model 777.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	

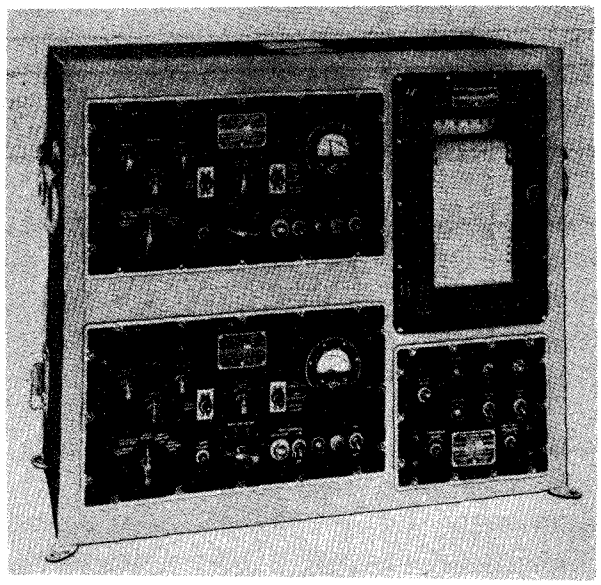
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (Inches)	WEIGHT (lbs.)
1	Portable Vacuum Tube Testing Equipment Model OBZ consisting of:	14-1/4 x 15-5/8 x 17-1/4	17
1	Volt-Ohm-Milliameter NT-60090		
1	Vacuum Tube Analyzer NT-60097		

April 1959

Test-Miscellaneous Test

RECORDING MICROVOLTMETER OCF



Model OCF Recording Microvoltmeter

FUNCTIONAL DESCRIPTION

The OCF consists basically of two (2) identical amplifier channels connected to a single recording mechanism. An electronic device connected across the outputs of the amplifier channels provides an audible indication when the equipment reaches a predetermined level of operation. All major units of the equipment are assembled in one cabinet.

No field changes in effect at time of preparation (5 August 1958).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

OPERATING POWER RQMT: 115 vDC, 60 cps, 1ph, 90 W.

MANUFACTURER'S OR CONTRACTOR'S DATA

Radio Frequency Laboratories Inc., Boonton, N.J.
Contract NXsr-81388, dated 10 October 1945.

TUBE AND/OR CRYSTAL COMPLEMENT

(3) 6SL7GT	(1) 2050
(2) 6X5G1GT	(2) 6SN7GT

Total Tubes: (8)

No Crystals used.

REFERENCE DATA AND LITERATURE

NAVSHIPS 900,204: Technical Manual for the OCF Recording Microvoltmeter.

TYPE CLASSIFICATION

DESIGN COGNIZANCE BUSHIPS

PROCUREMENT COGNIZANCE

STOCK NO.

R.D.B. IDENT. NO.

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Recording Microvoltmeter OCF Including: (1) Cabinet Navy Type CAOR-10549 (2) D.C. Amplifier Navy Type CAOR-5026 (1) Type Recorded Navy Type CEV-55191 (1) Alarm Unit Navy Type CAOR-29724 (1) Converter Test Jig Navy Type CAOR-10433	19	22 X 34 X 45	340
1	Set of Equipment Spares	10	23 X 23 X 33	190

Test-Miscellaneous Test

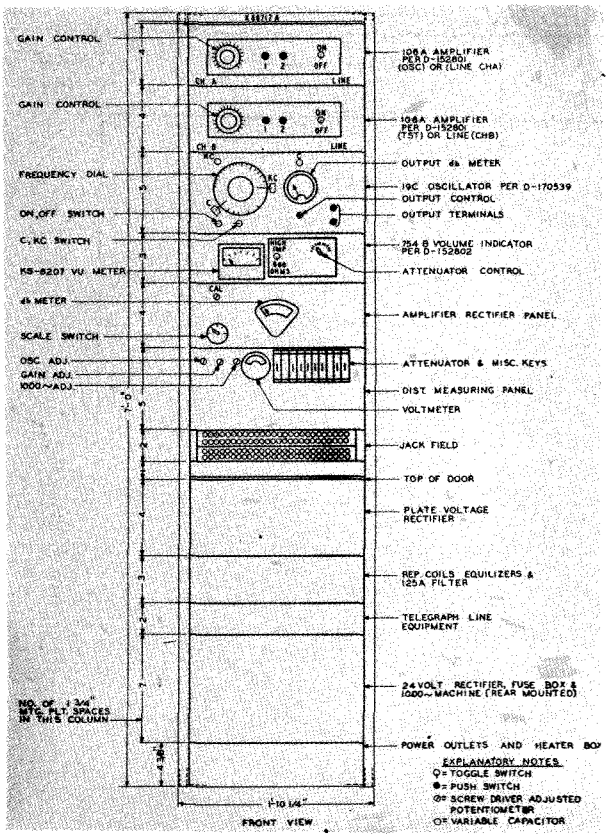
April 1959

OCF RECORDING MICROVOLTMETER

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Recording Microvoltmeter OCF Including: (1) Cabinet Navy Type CAOR-10549 (2) D.C. Amplifier Navy Type CAOR-5026R (1) Tape Recorder Navy Type CER-55191 (1) Alarm Unit Navy Type CAOR-29724 (1) Converter Test Jig Navy Type CAOR-10433	17 X 28 X 35	213
1	Set of Equipment Spares	15 X 15 X 25	115

DISTORTION MEASURING EQUIPMENT OCS



Distortion Measuring Equipment OCS

FUNCTIONAL DESCRIPTION

The Navy Model OCS Distortion Equipment for use with Model UP Radio Equipment, is designed chiefly for the measurement of distortion, frequency response and noise on single or double side band radio transmitters. A volume indicator is used in measuring speech or test tone volumes at various points in the voice frequency circuits. Line equipment consisting of amplifiers, repeating coils and equalizers is provided for use on the lines from the control office. Telegraph tone is furnished for keying the transmitter for system line up.

No field changes in effect at time of preparation (6 August 1958).

RELATION TO OTHER EQUIPMENT

To be used with Model UP-Radio Equipment.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

OPERATING POWER RQMT: 105 to 125 v AC, 50 to 60 cps, 25 W.

MANUFACTURER'S OR CONTRACTOR'S DATA

Western Electric Co., New York, N.Y.

TUBE AND/OR CRYSTAL COMPLEMENT

(2) 6L5G
(1) 50L6GT
(2) Weco 310A
(2) Weco 336A
(1) Weco 274A
(1) 12AS7
(1) 35Z5GF
(1) Weco 311A
(2) Weco 310B
(1) Weco 300B
(1) Weco 313CC

Total Tubes: (15)

No Crystals used.

REFERENCE DATA AND LITERATURE

Technical Manual X-66972 for Navy Model OCS Distortion Measuring Equipment.

TYPE CLASSIFICATION

DESIGN COGNIZANCE BUSHIPS

PROCUREMENT COGNIZANCE

STOCK NO.

R.D.B. IDENT. NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Distortion Measuring Equipment OCS including: (2) 106A Amplifier Part No. D-152801 (1) Output DB Meter (1) 19 C Oscillator Part No. D-170539	17 x 22-1/4 x 84	

OCS DISTORTION MEASURING EQUIPMENT

EQUIPMENT SUPPLIED DATA			
QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
	(1) 754 B Volume Control Part No. D-152802 (1) Attenuator Control (1) Amplifier Rectifier Panel (1) Attenuator & Miscellaneous Keys (1) Dist Measuring Panel (1) Voltmeter (1) Jack Fied (1) Plate Voltage Rectifier (1) Rep Coils Equalizer & 125 amp Filter (1) Telegraph Line Equipment (1) 24 v Rectifier Fuse Box 1000 cycle machine (1) Power Outlets and Heater Box		

December 1956

PORTABLE TESTING EQUIPMENT

OL

FUNCTIONAL DESCRIPTION

The OL is used for measuring sound intensities, in the frequency range 15 to 40 kc per sec., and to provide the Navy with means for determining the acoustic performance characteristics of generators and receivers of super-audible underwater sound.

No field changes in effect at time of preparation (2 August 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

PREAMPLIFIER

OUTPUT: 54.5 mw.

FREQUENCY: ±0.25 db from 10 to 40 kc.

INPUT: 135 v DC, 6.3 v AC, 60 cps, 0.9 amp.

OUTPUT IMPEDANCE: 500 ohms.

POWER SUPPLY AND VACUUM TUBE VOLTMETER

INPUT: 115 v, 60 cps.

OUTPUT: 135 v DC, 6.3 v AC, cps, 0.9 amps.

MANUFACTURER'S OR CONTRACTOR'S DATA

U.S. Naval Research Laboratory, Anacostia, D. C.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) OD3W	(1) 6C5
(1) 6H6	(1) 6J7
(2) 6SJ7	(2) 6X5WGT

Total Tubes: (8)

REFERENCE DATA AND LITERATURE

Technical Manual for Portable Testing equipment OL.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Sound Pick-UP Assembly RA-51024		
1	Quartz Crystal pick-UP RA-51023		
1	Preamplifier RA-50072		
1	Support Pipe and Cables RA-10059		
1	Bow Fitting RA-10057		
1	Bull Nose Clamp RA-10058		
1	Power Supply and Vacuum Tube Voltmeter RA-60012		
1	Spare Parts		

April 1959

Test-Miscellaneous Test

RECORDER, CODE, TAPE RO-18/U

FUNCTIONAL DESCRIPTION

The RO-18/U Code Tape Recorder is for use with the CMP-18 International Morse to Teletype Converter. The recorder makes an ink recording of International Morse Code which is fed into the CMP-18 Converter.

No field changes in effect at time of preparation (9 June 1958).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

RECORDER MEDIUM: Records on heat sensitive type tape.
TYPE OF RECORDING: Heat.
NUMBER OF WORDS PER MINUTE: 5 to 300 words.
POWER REQUIREMENTS: 110 v, 60 cps, 1 ph.

MANUFACTURER'S OR CONTRACTOR'S DATA

Whiteford Laboratory Lynn, Mass.

Contract NObsr-64153

TUBE AND/OR CRYSTAL COMPLEMENT

Electron Tubes andCrystal data not available.

REFERENCE DATA AND LITERATURE

Nomenclature Card for Recorder, Code, Tape RO-18/U.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.
R.D.B. IDENT. NO.

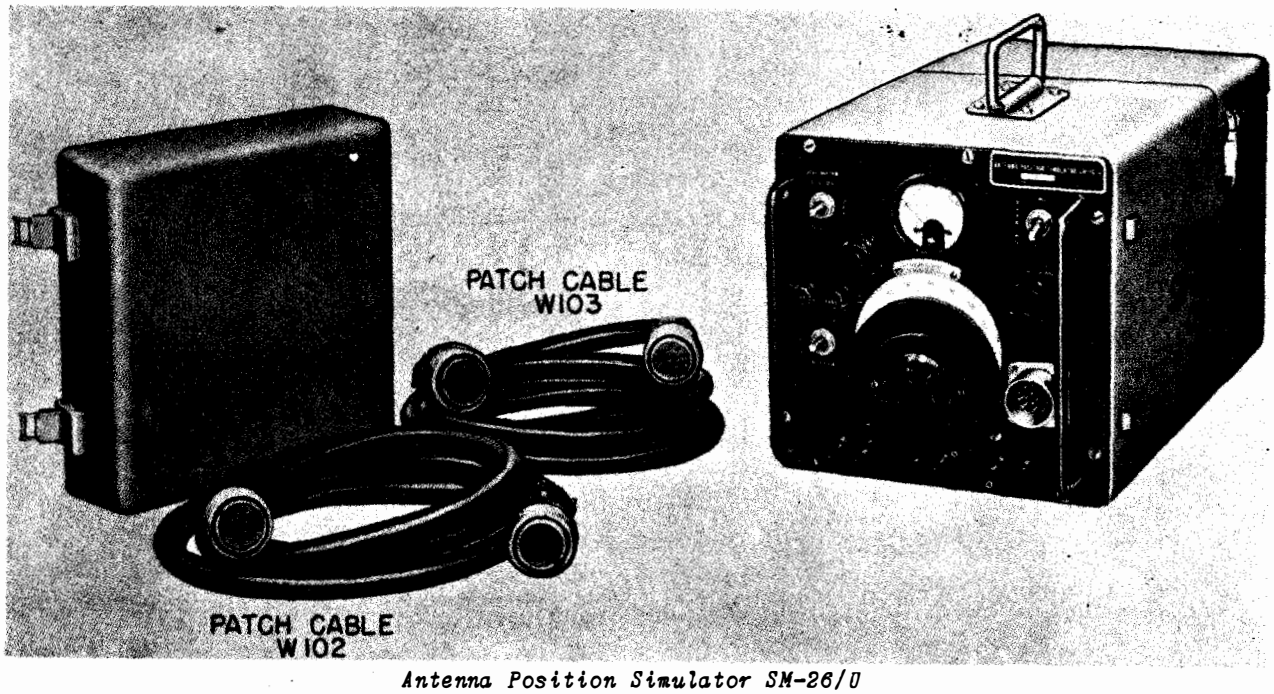
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Code Tape Recorder, RO-18/U	5-1/8 x 5-1/4 x 6-5/8	10

March 1957

Test Miscellaneous Test

ANTENNA POSITION SIMULATOR SM-26/U



Antenna Position Simulator SM-26/U

FUNCTIONAL DESCRIPTION

The SM-26/U is used to adjust and check the system of the Radio Direction Finder AN/CRD-6.

No field changes in effect at time of preparation (10 September 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

MOTOR
TYPE: Hysteresis synchronous, ac capactior motor.
RATING: 1/50 hp, continuous duty.
POWER: 115, 50 to 60 cps, 0.4 amp.
SPEED: 1800 to 1500 rpm.
CAPACITOR: 3 uf.
TEMPERATURE RISE: 40 deg C or 72 deg F.

REFERENCE GENERATOR
TYPE: Permanent magnet A-C generator.
PHASE: 2 CYCLES: 30/25
POLES: 2 RPM: 1800/1500
VOLTS OUTPUT PER 100 RPM: 1.25.

SIGNAL GENERATOR
TYPE: Permanent magnet A-C generator.
PHASES: 1 CYCLES: 30/25
POLES: 2 RPM: 1800/1500
VOLTS OUTPUT PER 100 RPM: 0.52.

MANUFACTURER'S OR CONTRACTOR'S DATA

Electric Indicator Co Inc, Springdale, Conn
Contract AF33(038)26107.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

T.O. 16-35 SM26-2 Technical Manual for Antenna Position Simulator SM-26/U.

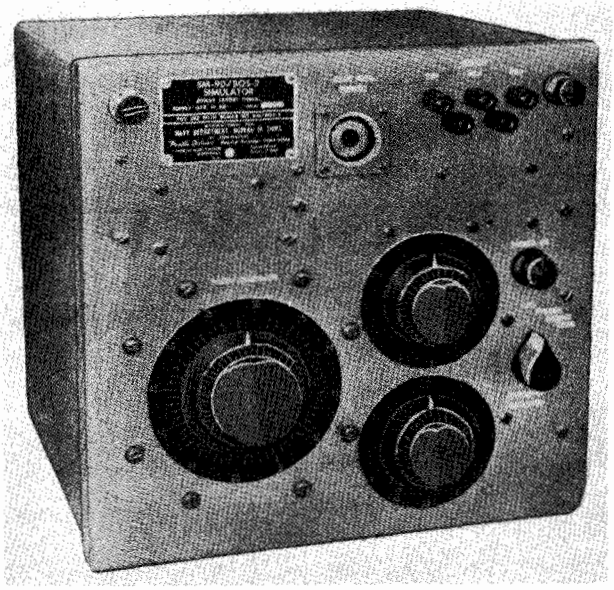
TYPE CLASSIFICATION	
DESIGN COGNIZANCE	USAF
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Antenna Position Simulator SM-26/U	9 X 9 X 19-1/2	
1	Patch Cable CX-2093/U		
1	Patch Cable CX-2904/U		

Test-Miscellaneous Test

SONAR TARGET SIGNAL SIMULATOR SM-90/BQS-2



Sonar Target Signal Simulator SM-90/BQS-2

FUNCTIONAL DESCRIPTION

The SM-90/BQS-2 is designed to be used with and to permit rapid overall testing of the AN/BQS-2 by operating personnel. It will test for proper operation of the sixty beam forming circuits, correct operation and alignment of individual channels, and will supply electrical power to any transducer stave during Auto-Ping operation. It can be used as a convenient signal source during corrective maintenance. It also provides a triggered sweep used to operate an OS-8A/U oscilloscope, which enables the oscilloscope to be used in observing the time relationships of various signals. A positive or negative pulse may be used to trigger the sweep.

No field changes in effect at time of preparation (30 July 1957).

RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied: (2) Cable TTRSA-16, (1) Cable DSGA-3.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

OPERATING FREQUENCY: 31.5 kc.
ATTENUATION: 70 db in 20 steps of 1 db per step and 20 steps of 2.5 db per step.
AMBIENT TEMPERATURE: 0 to 50 deg C operating.
HEAT DISSIPATION: 70 W.
POWER REQUIREMENTS: 115 v ±10%, 50 cps ±5%, single ph, 0.7 amps.

MANUFACTURER'S OR CONTRACTOR'S DATA

Bendix Aviation Corp, Pacific Div, North Hollywood, Calif.
Contract NObsr-71080, dated 28 October 1955.
Approximate Cost: $1250.00 with equipment spares

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 0A2WA (1) 5Y3GTA (2) 6AU6WA
(1) 6E5 (2) 5814A (1) 6005

Total Tubes: (8)

(2) 1N69

Total Crystals: (2)

REFERENCE DATA AND LITERATURE

NAVSHIPS 92858: Technical Manual for Sonar Target Signal Simulator SM-90/BQS-2.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	SHIPS-S-2070
STOCK NO.	
R.D.B. IDENT. NO.	

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Sonar Target Signal Simulator SM-90/BQS-2	12 X 12 X 13-1/2	45
5	Component Board	1/16 X 1 X 16-9/16	
1	Set of Ground Wires and Stave Return Wires		
2	Technical Manual NAVSHIPS 92858		

ANTENNA SERVICING KIT FOR SU, SU-1 RADAR EQUIPMENT

SU (TEST KIT), SU-1 (TEST KIT)

FUNCTIONAL DESCRIPTION

The SU (Test Kit) and SU-1 (Test Kit) consists of items needed to supply power to a model SU or SU-1 Radar antenna that has been removed from a ship for repairs. It is the purpose of this kit to supply only the major items required, the balance of the material to be supplied according to individual circumstances.

No field changes in effect at time of preparation (16 January 1958).

RELATION TO OTHER EQUIPMENT

This kit pertains to test, adjustment and repairs of Antenna Assy 66AGY and 66AGY-1 supplied with Radar Equipment SU and SU-1.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

ANTENNA MOTOR-GENERATOR UNIT

AC MOTOR

TYPE: Capacitor, squirrel cage, induction.

INPUT: 115 v, 60 cps, single ph, 3500 rpm, 6 amp, 0.5 hp.

DC GENERATOR: 24 v, 120 W, 3500 rpm.

INDUCTION GENERATOR: 115 v, 240 cps, 3 ph, 0.4 amp, 80% pf.

MANUFACTURER'S OR CONTRACTOR'S DATA

Submarine Signal Co, Boston, Mass.
Contract: NXsr-97677.

TUBE AND/OR CRYSTAL COMPLEMENT

(2) 6SN7GT (2) 3C23

Total Tubes: (4)

No Crystals.

REFERENCE DATA AND LITERATURE

NAVSHIPS 900,814: Technical Manual for Antenna Servicing Kit for SU, SU-1.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	
PROCUREMENT COGNIZANCE	
STOCK NO.	

EQUIPMENT SUPPLIED DATA

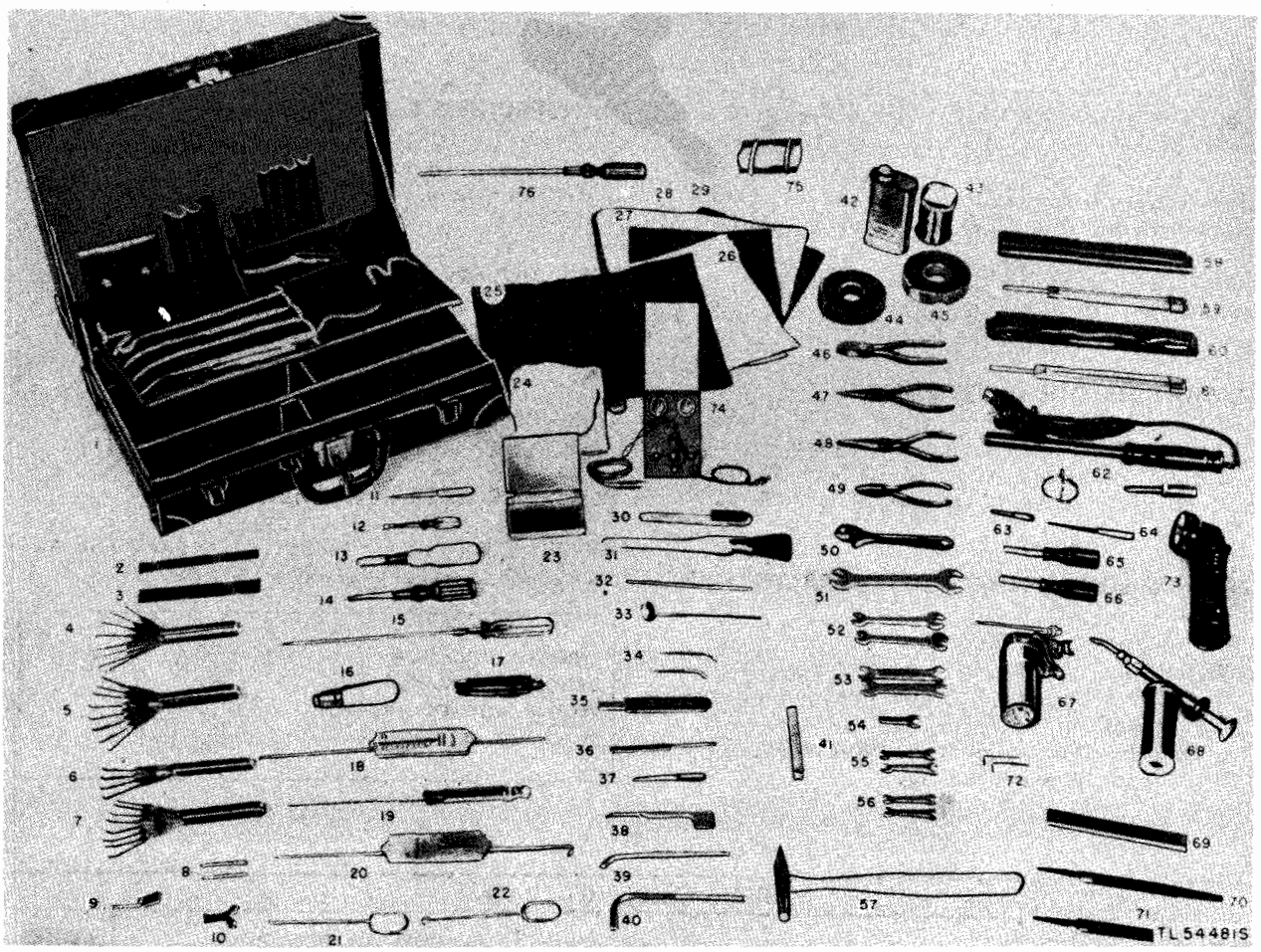
QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Antenna Motor-Generator NT-211168		
1	Control Rectifier NT-20272		
1	Position Indicator (M-501)		
1	Tuning Switch SPDT (S-509)		
1	Toggle Switch DPDT (S-515)		
1	Transformer (T-509)		
1	Resistor, 2 meg, Type BT-2 (R-724)		
4	Fuse Clips		
2	Fuse, 30 amps, 250 v		
1	Neon Light (I-514, I-515)		
1	Error Light Assy consists of:		
1	Jewell		
1	Tube Shield		
1	Nut		
1	Bracket		
2	Screws		
26	Nuts, No 4-40		
26	Lockwashers No. 4		

April 1958

Test-Miscellaneous Test

TOOL EQUIPMENT

TE-50, TE-50-A, TE-50-B



Tools and Materials Contained in Tool Equipment TE-50

FUNCTIONAL DESCRIPTION

The TE-50, TE-50-A and TE-50-B is a tool kit used in the maintenance and repair of teletypewriter equipment. It consists of adjusting tools, tuning forks, special teletype tools and general use tools, all tools are contained in a fibre carrying case.

Data on this sheet reflects the following field changes: FC 1 (TE-50-A).

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes or Crystals used.

REFERENCE DATA AND LITERATURE

TM11-2203: Technical Manual for Teletypewriter Sets AN/TGC-1, AN/TGC-1A.

SM11-4-5180-S05: Army Supply Manual for Tool Equipment TE-50-B.

U.S. Marine Corps Electronics Catalog.

TYPE CLASSIFICATION
DESIGN COGNIZANCE
PROCUREMENT COGNIZANCE
STOCK NO.
R.D.B. IDENT. NO.

TE-50, TE-50-A, TE-50-B TOOL EQUIPMENT

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT			NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
TE-					
50	50-A	50-B			
1	1	1	Cloth, Abrasive (27)	9 w X 11 lg	
1	1	1	Paper, Abrasive No. 000 (28)	9 w X 11 lg	
1	1	1	Adjuster, Spring (38)	1/4 X 0.070 X 4	
1	1	1	Stone, Sharpening, silicon carbide, fine (41)	1/2 X 1/2 X 4	
1	1	1	Stone, Sharpening, silicon carbide, fine and medium (35)	7/64 X 17/32 X 4	
		1	Alignment Tool, steel, Sig dwg SC-B-98221	0.581 X 1.074 X 1-13/32	
1	1		Bag, Tool (25)		
1	1	1	Brush, Typewriter (30)		
1	1		Brush, Paint (31)		
1	1	1	Burnisher, Contact, Hand (37)		
1	1	1	Case, Tool Box w/cover (23)	1/2 X 2-3/4 X 4	
1	1		Case, Tool Equipment CS-78 (1)		
		1	Case, Tool Equipment CY-1176/PG		
2	1		Case, Tuning Fork (58)		
1	2	1	Cloth, Cotton, Cheesecloth (24)	36 w	
		1	Case, Tuning Fork	1/2 X 1-1/2 X 13-3/8	
	1	1	Carbon, Tetrachloride (42)		
1	1		File Hand, Flat, Second Cut (71)	6 lg	
1	1		File, Contact point, flat, regular cut (36)	5/16 X 3/64 X 3	
1	1		File Hand, Half round, smooth (70)	6 lg	
		1	Flashlight MX-991/U consist of:	1-7/8 dia X 8-3/8	
		2	Battery BA-30	1-4/16 dia X 2-3/8	
		1	Lens, Supplementary, diffusion type	1.740 dia X 0.062	
1	1		Flashlight TL-122 consists of: (73)		
2	2		Battery BA-30	1-4/16 dia X 2-3/8	
2	2		Lamp, Incandescent		
1	1	1	Fork, Tuning 87.6 vps (61)		
1	1	1	Fork, Tuning 96.19 vps (59)		
1	1	1	Gauge, Steel Tape, 6 holes 0.070 in. dia. (3)	0.035 X 1 X 6	
1	1	1	Gauge Thickness 0.005 in. (9)		
1	1		Gauge, Gap, Setting, feeler wire consists of: (6)		
1	1	1	Gauge, Thickness; rd, 0.065 in.		
1	1	1	Gauge, Thickness; rd, 0.070 in.		
1	1	1	Gauge, Thickness; rd, 0.075 in.		
1	1	1	Gauge, Thickness; rd, 0.080 in.		
1	1	1	Holder, Gauge		
1	1	1	Gauge, Gap Setting, feeler wire consists of: (4)		
1	1	1	Gauge, Thickness, rd, 0.030 in.		
1	1	1	Gauge, Thickness, rd, 0.035 in.		
1	1	1	Gauge, Thickness, rd, 0.040 in.		
1	1	1	Gauge, Thickness, rd, 0.042 in.		
1	1	1	Gauge, Thickness, rd, 0.045 in.		
1	1	1	Gauge, Thickness, rd, 0.050 in.		
1	1	1	Gauge, Thickness, rd, 0.055 in.		
1	1	1	Gauge, Thickness, rd, 0.060 in.		
1	1	1	Holder, Gauge		

TOOL EQUIPMENT TE-50, TE-50-A, TE-50-B

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT			NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
TE-					
50	50-A	50-B			
1	1	1	Gauge, Thickness, 8 blades consist of: (5)		
1	1	1	Gauge, Thickness, rd, 0.006 in.		
1	1	1	Gauge, Thickness, rd, 0.008 in.		
1	1	1	Gauge, Thickness, rd, 0.010 in.		
1	1	1	Gauge, Thickness, rd, 0.012 in.		
1	1	1	Gauge, Thickness, rd, 0.015 in.		
1	1	1	Gauge, Thickness, rd, 0.018 in.		
1	1	1	Gauge, Thickness, rd, 0.020 in.		
1	1	1	Gauge, Thickness, rd, 0.025 in.		
1	1	1	Holder, Gauge		
1	1	1	Gauge, Thickness consists of: (7)		
1	1	1	Gauge, Thickness, flat, 0.002 in.		
1	1	1	Gauge, Thickness, flat, 0.002 in. brass		
1	1	1	Gauge, Thickness, flat, 0.003 in.		
1	1	1	Gauge, Thickness, flat, 0.004 in.		
1	1	1	Gauge, Thickness, flat, 0.005 in.		
1	1	1	Gauge, Thickness, flat, 0.006 in.		
1	1	1	Gauge, Thickness, flat, 0.007 in.		
1	1	1	Gauge, Thickness, flat, 0.010 in.		
1	1	1	Holder, Gauge		
1	1	1	Hammer, Hand, riveting type, 4 oz. (57)		
1	1	1	Handle, File TL-14 (16)		
1	1	1	Knife Pocket TL-29 (17)		
1	1	1	Gun, Grease (68)		
1	1	1	Magnet, Permanent M-129 (69)		
	1	1	Multimeter TS-297/U consists of:		
	1	1	Battery BA-42		
	2	2	Clip		
	1	1	Test Lead CX-1331/U		
	1	1	Lead, Test WS-16/U		
	1	1	Lead, Test WS-17/U		
	2	2	Technical Manual		
1			Test Unit I-236 (74)	3-1/4 X 3-3/4 X 5-1/2	
1	1	1	Mirror, Mouth Examining WECO type 376A (33)	25/32 X 1-1/8 X 6-3/4	
1	1	1	Oiler, Hand, 6 oz cap (67)		
	1	1	Oiler, Hand 1/2 oz cap		
1	1		Paper, Tissue (26)		
1	1	2	Pin, Straight, zinc pl steel, chromate finish (8)	0.153 od X 2	
1	1	1	Pliers, Diagonal Cutting TL-103 (49)	5 lg	
1	1	1	Pliers, Duckbill TL-369/U (48)	6 lg	
1			Pliers, Linemans type TL-13 (46)	6 lg	
	1	1	Pliers, Linemans type TL-13-A	6 lg	
1	1		Pliers, Long Chain Nose TL-126 (47)	6-1/2 lg	
	1		Rule, Carpenters, folding, 2 ft size		
1	1	1	Rule, Steel, Machinist's (2)	3/4 X 3/64 X 6	
1	1	1	Scale, Dial, Indicating, 0-12 lbs in 1/4 lb div. (20)		
1	1	1	Scale, Dial, Indicating, 0-8 oz in 1/2 oz		

TE-50, TE-50-A, TE-50-B TOOL EQUIPMENT

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT			NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
TE-					
50	50-A	50-B			
			div. (18)		
1	1		Scale, Dial, Indicating, 0-2 lbs in 1/2 oz Div (19)		
		1	Scale, Dial, Indicating, 0-100 grams		
1	1		Screwdriver, 2-1/2 in blade, 1/8 in bit, hex handle)(64)	4-1/2 lg	
1	1		Screwdriver, Straight steel blade, 2-1/2 in. lg (11)	4-1/2 lg	
1	1		Screwdriver, 1-1/2 in. blade, 5/32 in. tip (13)	5-1/2 lg	
	1		Screwdriver, TL-2		
1	1	1	Screwdriver, Flat Tip TL-21 (14)	6-1/2 lg	
1	1		Screwdriver TL-44 8 in. blade (76)		
1	1		Screwdriver, 2 in. blade, plastic handle (12)	4-1/2 lg	
1	1	1	Screwdriver, Flat Tip, 10 in. lg blade, 5/32 in. w tip (15)		
1	1		Soldering Iron, Electric TL-117 (62)		
1	1		Tip, Electric Soldering Iron		
		1	Soldering Iron, Electric TL-634/U		
		1	Tip, Electric Soldering Iron		
		1	Solder, Lead Alloy, Fed Spec QQ-S-5716		
1	1		Solder, Lead Alloy M-31 (43)		
		1	Orange wood, Stick	1/4 dia X 6-7/8	
1	1		Stick, Orange WECO KS-6320 (32)	7/32 dia X 6-7/8	
1	1	1	Insulation Tape, Electrical TL-83 (44)		
1	1		Insulation Tape, Electrical TL-192 (45)		
1	1		Tool, Clamp, finger bending (40)		
1	1	1	Tape, Textile, relay cleaning (75)	3/4 w	
1	1	1	Tool Alignment, spring hook push (22)	1/8 X 1 X 6	
1	1	1	Tool Alignment, spring hook pull (21)	1/8 X 1 X 6	
1	1	1	Alignment Tool Electronic Equipment, finger bending (39)	1-13/16 X 6 X 90 deg bend	
1	1		Tool Alignment, steel, lend bend 90 deg (10)	37/64 X 1-5/64 X 1-13/32	
1	1	1	Wrench, Socket, one 3/16 in. hex (63)	2.954 lg	
1	1	1	Wrench, Open End, Fixed, 3/16 and 1/4 in. openings (56)		
1	1		Wrench, steel, for cupstan heads, 1/16 in. and 3/32 in. (34)	3-1/8 lg	
1	1	1	Wrench, Open End, Fixed, 3/8 in. opening (54)		
1	1		Wrench, double open end, 3/4 and 1/2 in. (51)	1/4 X 1-7/16 X 7	
1	1	1	Wrench, Socket, Spinner type, 1/4 in. hex (65)	4-3/4 lg	
1	1		Wrench, double open end, 3/8 in. and 9/16 in. (53)		
1	1		Wrench, double open end, 1/4 in. and 5/16 in. (55)	1/8 X 1-1/4 X 2-23/32	
1	1		Wrench, open, 3/8 in. and 7/16 in. (52)		
1	1		Wrench, Socket, 5/16 in. (66)		
1	1	1	Wrench, Open End, Adjustable TL-111 (50)		
	1	1	Wrench, Open End, Fixed TL-477/U		

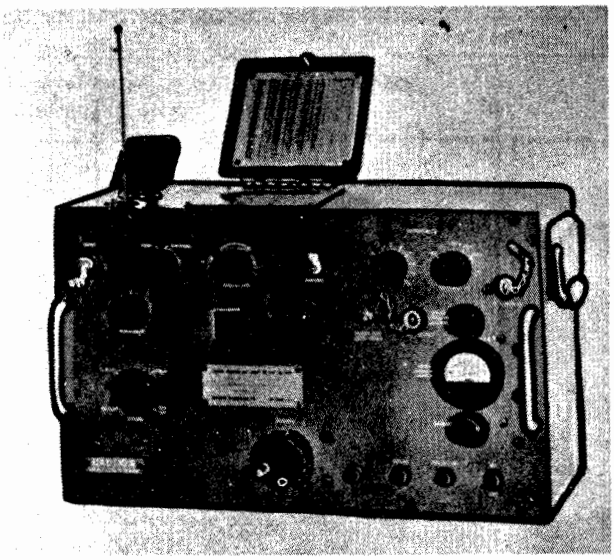
TOOL EQUIPMENT

TE-50, TE-50-A, TE-50-B

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT			NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
TE-					
50	50-A	50-B			
1	1		Wrench, set screw, "L" shape, for Bristo #5 screw (72)		
	1		Wrench, double end hook spanner		
		1	Screwdriver, Flat Tip, plastic handle 3 in. lg blade X 9/64 in. w tip		
		1	Handwheel, zinc pl steel, Sig dwg SC-B-98265	2.125 dia X 2.125	
		1	Tool Alignment, nickel pl steel, Sig dwg SC-B-98273	1/4 od X 6-1/2	
		1	Bag, Tool, duck type, 7 pockets, Sig dwg SC-D-77020	3/8 X 7-3/4 X 12	
		1	Puller Mechanical; wheel, 2 jaw inside		
		1	Gauge, Thickness 0.004 and 0.008 non thick		
		1	Maintenance Fixture	3/8 X 13/32 X 1-3/8	
		1	Tool Alignment, Sp cl, 1/4 in. dia X 2-5/8 in. lg	1 dia X 5-5/16	
		1	Tool, Locking Bail, finger holding tool		
		1	Insulation Tape, Electrical TL-636/U	3/4 w	
		1	Paper, Cleaning, 1/2 in. X 2-1/2 in. WECO No. KS-7187		
			Tuning Fork, 180 cps, Sig dwg SC-DL-70237	5/16 X 29/32 X 8-3/4	
1	1	1	Scale, Dial Indicating, hanging type 0-32 oz in 1/2 oz Div.		
		1	Scale, Dial Indicating		
		1	Tweezers, Craftman's, Dixon Part No. 87-3	5-3/16 lg	
		1	Wrench Set, Socket Head Screw, hex type consist of:		
		1	Leather Case	2 w X 3-3/4 lg	
		1	Wrench, hex type, 1/8 in.		
		1	Wrench, hex type, 0.050 in.		
		1	Wrench, TL-576/U		
		1	Wrench, hex type, 5/64 in.		
		1	Wrench, hex type, 3/32 in.		
		1	Wrench, hex type, 3/16		
		1	Wrench, hex type, 7/32		
		1	Wrench, hex type 1/4 in.		
		1	Screwdriver, Flat Tip, plastic handle, 1/2 in. w, 2-1/2 in. lg tip	3/8 dia X 4-1/2	

TEST SET TGI-3CA



Test Set TGI-3CA

FUNCTIONAL DESCRIPTION

The TGI-3CA prov des a method of checking the frequency of radio transmitters, tuning and aligning receivers and measuring the sensitivity of superheterodyne receivers. It is a combination signal generator, heterodyne type frequency meters and receiver sensitivity measuring device. It consists of a 5 megacycle crystal controlled oscillator used as a frequency standard calibrator, a variable three range oscillator, an untuned detector with two stages of audio amplification, a noise diode, one output cable, one power cord, a sliding rod quarter wave antenna, a rough pi-type attenuator, and a power supply.

No field changes in effect at time of preparation (28 September 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY: 8 to 15 mc, 20 to 40 mc, 135 to 230 mc.
CALIBRATING OSCILLATOR: A fundamental of 5 mc.
ATTENUATOR DATA
- TYPE: Constant impedance, pi-structure type.
- INPUT IMPEDANCE: 100 ohms (on all positions).
- OUTPUT IMPEDANCE: 5 ohms (position 9, 10, 11); 50 ohms (position 8)/100 ohms (position 7).
- TOTAL ATTENUATION: 100000 to 1(continuously variable).
- MICROVOLT OUTPUT: 1 to 100000 uv (variable).

POWER REQUIREMENTS: 117.5 v, 60 cps, single phase, 55 W.
ANTENNA: One quarter wave sliding rod type.

MANUFACTURER'S OR CONTRACTOR'S DATA

Chicago Apparatus Company, Chicago, Illinois
Contract DIC154932.
Dale Pollack, New London, Connecticut.
Contract NObsr 43235, dated 29 March 1949.
Approximate Cost: $270.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 6J5
(2) 6SJ7
(1) 5Y3GT/G
(1) 9002
(1) 9006
(1) 6X5GT/G
(1) 15-E

Total Tubes: (8)

(1) 5MC

Total Crystals: (1)

REFERENCE DATA AND LITERATURE

NAVSHIPS 900,606 (CO-NAVAER 16-55-508): Technical Manual for Test Set TGI-3CA.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUAER
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	

TGI-3CA TEST SET

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Test Set TGI-3CA including:	7-1/2 x 12 x 19-1/2	64
1	Output Cable	5 ft lg	
1	Power Cable	8 ft lg	
1	Instruction Book NAVSHIPS 900606		
1	Antenna		
2	Calibration Charts		

September 1956

SONAR TRANSDUCER TR-128/WQM

FUNCTIONAL DESCRIPTION

The TR-128/WQM is used for checking the performance of Sonar sets.

No field changes in effect at time of preparation (30 July 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 20 to 160 kc.
POWER INPUT: 5 W.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes

REFERENCE DATA AND LITERATURE

Nomenclature Card for Sonar Transducer TR-128/WQM.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	

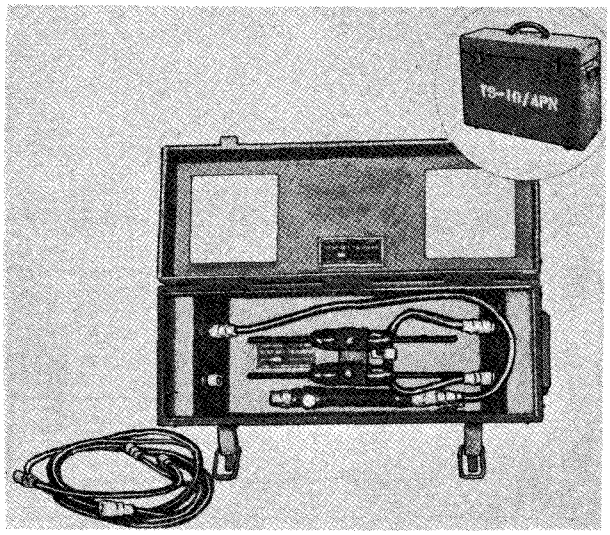
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Sonar Transducer TR-128/WQM	2 dia X 4	

Test Miscellaneous Test

TEST SERIES

TS-10/APN, 10A/APN, 10B/APN



Test Sets TS-10/APN, TS-10A/APN, TS-10B/APN

TS-10/APN was formerly designated I-184-A. The TS-10/APN and TS-10A/APN are replaced by Test Sets TS/10B/ABN, and TS-10C/APN.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 410 to 470 mc.
DELAY PERIOD: Corresponding to altitudes of 65, 297, and 350 ft.
ACCURACY
DELAY LINE: ±1 db.
ATTENUATOR: ±1 db.
ATTENUATOR RANGE: 30 to 100 db.
INPUT IMPEDANCE: 50 ohms.

MANUFACTURER'S OR CONTRACTOR'S DATA

Approximate Cost: $320.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

FUNCTIONAL DESCRIPTION

The TS-10/APN, TS-10A/APN, and TS-10B/APN are portable self contained units designed for testing radio altimeter equipments, serving as range calibrators. They can be used in tuning and to a limited extent, in determining the loop sensitivity of several equipments within the frequency range. They may be used to test Aircraft Radio Altimeter Equipment AYD-3 and Radio Sets AN/ARN-1, AN/APN-1, and SCR-718. When used with Impedance Adapter CU-20/APN tests can also be made on Aircraft Radio Altimeter Equipments AYB-1, AYD and AYD-2.

No field changes in effect at time of preparation (22 August 1956).

REFERENCE DATA AND LITERATURE

AN16-35TS10-3: Technical Manual for Test Set TS-10/APN, TS-10A/APN, TS-10B/APN, and TS-10C/APN.
NAVSHIPS 900,155-VOL II: Electronic Test Equipment Handbook.

RELATION TO OTHER EQUIPMENT

The TS-10/APN, TS-10A/APN, TS-10B/APN are all similar electrically and functionally, differing slightly, in components used. The

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	USAF
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT			NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
TS-					
10/APN	10A/APN	10B/APN			
1			Test Set TS-10/APN	7-1/2 X 16-1/2 X 19-3/4	42
	1		Test Set TS-10A/APN	7-1/2 X 16-1/2 X 19-3/4	42
		1	Test Set TS-10B/APN	7-1/2 X 16-1/2 X 19-3/4	42

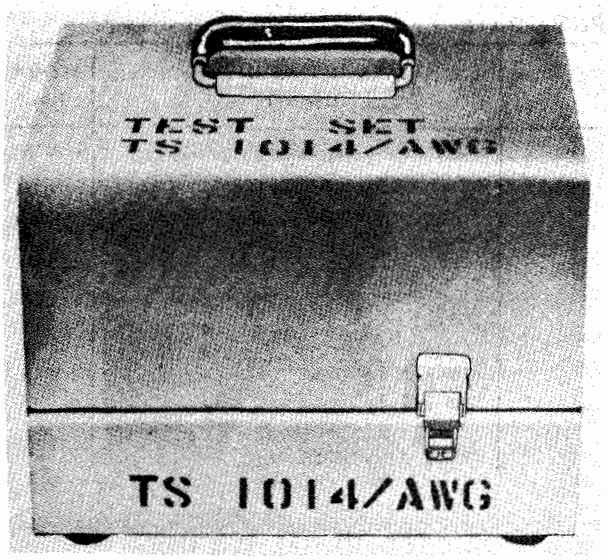
TS-10/APN, 10A/APN, 10B/APN TEST SERIES

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT (TS-)			NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
10/APN	10A/APN	10B/APN			
1	1	1	Delay Unit		
1	1	1	Attenuator Assembly		
1	1	3	Cord Assembly CD-800	99 lg	
2	2		Cord Assembly CG-108/APN		
1	1		Cord Assembly CD-300	15-3/4 lg	
2	2		Indicator	10-1/2 lg	
		2	Indicator ID-98/APN		
2	2	2	Lamp, Mazda No. 359	7/16 dia. X 15/16	

FIRE CONTROL SYSTEM TEST SET

TS-1014/AWG



Fire Control System Test Set TS-1014/AWG

FUNCTIONAL DESCRIPTION

The TS-1014/AWG is a bench-type test set used to replace an aircraft's wiring system. Using this test set and the preflight test set MK 290 Mod 0 the technician can perform a system bench check on the Armament Control System Aero 27 and the Fire Control System's AN/AWG-3 and AN/AWG-4 by performing the following tests:

a. Monitor the 14 test points of the Computer MK 101 Mod 0.

b. Check the operation of the alert relay.

c. Check the currents and sight pictures for the six problems as presented by the Preflight Test Set MK 290 Mod 0.

No field changes in effect at time of preparation (9 September 1957).

RELATION TO OTHER EQUIPMENT

Used in conjunction w/Preflight Test Set MK 290 Mod 0 in checking the Armament Control System Aero 27 and Fire Control Systems AN/AWG-3 and AN/AWG-4.

Equipment Required but not Supplied: (1) Multimeter TS-352B/U, (1) Computer MK 101 Mod 0, (1) Preflight Test Set MK 290 Mod 0, (1) Control Box MK 44 Mod 0, (1) Sight Unit MK 11 Mod 1,2,3 or 4, Associated System's Radar Set or some other means of providing range voltage.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

AVAILABLE COMPUTER TEST POINTS: 14.
POWER SOURCE REQUIRED: 115 v, 400 cps, single ph, 350 W.
MOUNTING: Portable.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

NAVAER 11-70HDA-504, Technical Manual for Fire Control System Test Set TS-1014/AWG.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUAER
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	

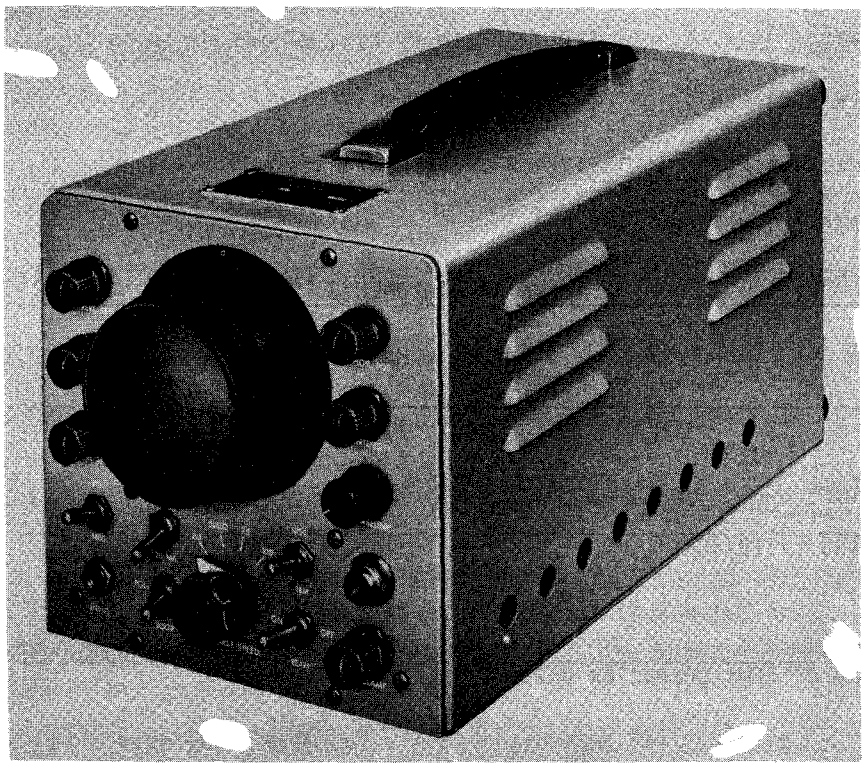
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Power Cable		
1	Test MK 290 Cable		
1	Computer Test Cable		
1	No. 1 Computer Cable		
1	No. 2 Computer Cable		
1	Control Box Cable		
1	Sight Unit Cable		
1	Instruction Book		
1	Test Set Cover		
1	Test Panel		

USA	USN	USAF

TYPE CLASS: Std

MANUFACTURER'S NAME/CODE NUMBER: Stelma Inc., (96238).



Teletypewriter Test Set TS-1060A/GG

FUNCTIONAL DESCRIPTION:

Teletypewriter Test Set TS-1060A/GG is a self-contained portable unit that measures the bias and distortion of start-stop and synchronous telegraph signals. Various types of distortion peculiar to teletypewriter equipment can be measured without interrupting service.

No field changes in effect at time of preparation (22 January 1963).

TECHNICAL CHARACTERISTICS:

INPUT SPEEDS
7.42 UNIT CODE: 60, 75, 100 wpm.
10.42 UNIT CODE: Baud speeds equivalent to 60, 75, and 100 wpm.
5.0 UNIT CODE: 66 wpm (approx).
INPUT SIGNAL CURRENT: 60 ma or 20 ma, neutral; 30 ma, polar.

TS-1060A/GG TELETYPEWRITER TEST SET

INPUT IMPEDANCE
60 MA NEUTRAL: 100 ohms.
20 MA NEUTRAL: 300 ohms.
30 MA POLAR: 300 ohms.
RANGE OF MEASUREMENT: 0% to 50% marking or spacing bias and distortion.
ACCURACY: Porm 2% bias.
INDICATION: Rectangular pattern on 3-inch cathode ray screen with calibrated scale against screen.
POWER REQUIREMENTS: 45 W, 115 or 230 v, 50 to 60 cyc, single ph.

RELATION TO OTHER EQUIPMENT:

This equipment is similar to TS-1060/GG, except for maintenance parts.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Teletypewriter Test Set TS-1060A/GG		8 x 8 x 13-3/4	16

REFERENCE DATA AND LITERATURE:

NAVSHIPS 93609: Technical Manual for Test Set, Teletypewriter TS-1060A/GG.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (1) 0A2 (1) 0B2 (1) 3RP1 (1) 5651 (3) 5963 (1) 6AL5 (1) 6X4W (3) 12AT7

CRYSTALS: None used.

SEMI-CONDUCTORS: None used.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	2.1	47

PROCUREMENT DATA

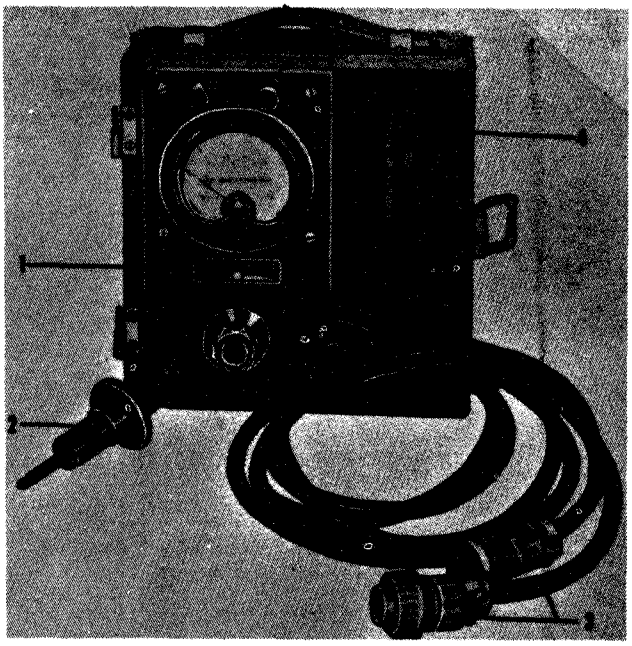
PROCURING SERVICE: USN
DESIGN COG: USA, Sig C
SPEC &/OR DWG:

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Stelma Inc.	Stamford, Conn.	NObsr-81423	$469.80

June 1957

Test-Miscellaneous Test

MILLIAMMETER BOX TS-11/AP



Milliammeter Box TS-11/AP

FUNCTIONAL DESCRIPTION

The TS-11/AP is a portable self-contained DC milliammeter used for measuring oscillator, rectifier and crystal currents in various radar systems.

Current values are indicated directly on the meter scale.

No field changes in effect at time of preparation (24 Sept 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

DC RANGE: 0 to 1 ma, 0 to 25 ma.
ACCURACY
IMA scale: 3% of full scale reading.
25MA scale: 5% of full scale reading.
INPUT IMPEDANCE: 50 ohms.

MANUFACTURER'S OR CONTRACTOR'S DATA

Presto Recording Corp, N.Y., N.Y.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

NAVAER 08-5S-78: Technical Manual for AIRBORNE ELECTRICAL AND ELECTRONIC EQUIPMENT.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUAER
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Test Set TS-11/AP	0.39	6 x 10 x 11	

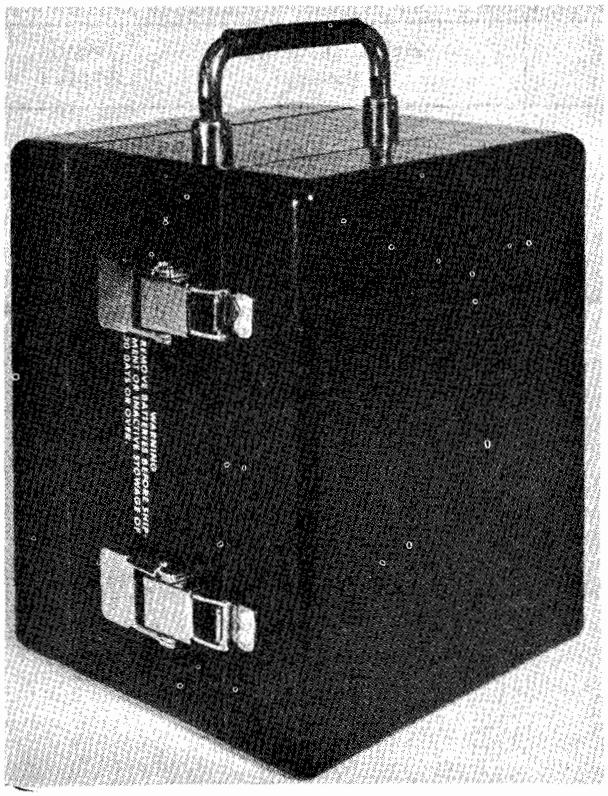
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Test Set TS-11/AP	3-1/2 x 8 x 8	10
1	Set Operating Instructions		
1	Adapter		
2	Cables		
1	Carrying Case	48 lg	

February 1960

Test-Miscellaneous Test

TRANSISTOR TEST SET TS-1100/U



Test Set, Transistor TS-1100/U, Front Panel

Test Set, Transistor TS-1100/U

TEMPERATURE RANGE: 0° C to +50° C.
POWER SUPPLY: Two batteries.

FUNCTIONAL DESCRIPTION

Transistor Test Set TS-1100/U is designed to measure the beta of a transistor with the transistor connected in a circuit, and to measure Beta and Ico parameters with the transistor removed from the circuit.

No field changes in effect at time of preparation (14 September 1959).

RELATION TO OTHER EQUIPMENT

This equipment formerly known as AN/USM-93.

EQUIPMENT REQUIRED BUT NOT SUPPLIED

(2) Batteries.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

RANGE OF BETA: 10 B '00 in a single band.
LEAKAGE CURRENT MEASUREMENTS: 0 ICO 50 u amp.
ACCURACY: ±20%.

MANUFACTURER'S OR CONTRACTOR'S DATA

Philco Corp., Philadelphia, Pennsylvania.
Contract NObsr-75329.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tube or Crystal Data Available.

REFERENCE DATA AND LITERATURE

Technical Manual for TEST SET, TRANSISTOR TS-1100/U.

TYPE CLASSIFICATION	(NAVY)
DESIGN COGNIZANCE	USN, BUSHIPS
PROCUREMENT COGNIZANCE	SPEC: SHIPS-T-3070
STOCK NO.	
R.D.B. IDENT. NO.	

Test-Miscellaneous Test

February 1960

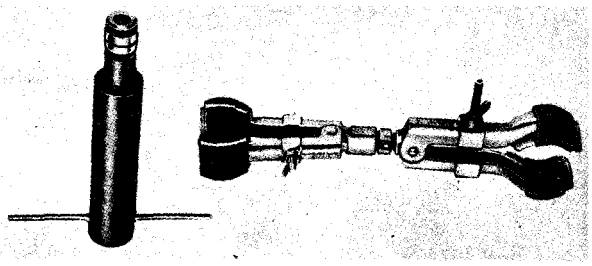
TS-1100/U TRANSISTOR TEST SET

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Transistor Test Set TS-1100/U		

March 1957

TEST ANTENNA TS-129/UP



Test Antenna TS-129/UP

FUNCTIONAL DESCRIPTION

The TS-129/UP is a half-wave dipole antenna used as a pickup antenna in testing "L" band radars such as MARK XX. The dipole is mounted on a metal coaxial structure. One of the dipole arms makes connection with the inner conductor and the other arm is connected to the outer conductor. The base of dipole is a microwave jack for making connection to the antenna. A clamp is furnished with the dipole and serves to hold the antenna in a fixed location while tests are being made.

It is used with RF Signal Generator LAE-1 to pick up and radiate RF energy for system tests on radar sets.

No field changes in effect at time of preparation (8 August 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

ANTENNA TYPE: Half-wave dipole.
FREQUENCY: 1000 to 1500 mc.

MANUFACTURER'S OR CONTRACTOR'S DATA

Western Electric Company, New York, N.Y.
Dwg. No. BO-405407.
Contract NOrd-3456.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

TM11-487H Dept of Army Technical Manual-Directory of Signal Corps Equipments - Test Equipment.

NAVSHIPS-95021 Temporary Technical Manual for Radar Test Set AN/UPM-3.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUORD
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Test Antenna - TS-129/UP	0.05		1.5

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Test Antenna - TS-129/UP	1-1/2 X 4-1/2 X 8-1/2	1
1	Adjustable, double-ended clamp	8 lg	0.375

31 May 1962 — TRANSISTOR TEST SET TS-1294/U

Cog Service: — FSN: — Functional Class:

USA — USN — USAF

TYPE CLASS:

MANUFACTURER'S NAME/CODE NUMBER: Daystrom Instrument Div., Daystrom Inc.

(No Illustration Available)

FUNCTIONAL DESCRIPTION:

Transistor Test Set TS-1294/U checks parameters of transistors (forward and reverse currents) directly from an internal power supply. The set tests semi-conductors requiring up to 0.5 amperes at 100 v. The test set is waterproof and portable.

No field changes in effect at time of preparation (25 May 1961).

TECHNICAL CHARACTERISTICS:

POWER REQUIREMENTS: 115 v, 50 to 60 cyc, single ph.

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Transistor Test Set TS-1294/U			

REFERENCE DATA AND LITERATURE:

NAVSHIPS 93400: Preliminary Data Sheet for Test Set, Transistor TS-1294/U.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Data not available.

CRYSTALS: Data not available.

SEMI-CONDUCTORS: Data not available.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)

PROCUREMENT DATA

PROCURING SERVICE: — DESIGN COG: USMC

SPEC &/OR DWG:

TS-1294/U TRANSISTOR TEST SET

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Daystrom Instrument Div., Daystrom Inc. Model no. 507B	Archbald, Penn.	NOm-70510	

21 March 1963 TEST SET, RADIO TS-1310/TRC-27

Cog Service: USMC FSN: Functional Class: 12

USA USN USAF

TYPE CLASS: Used by

MANUFACTURER'S NAME/CODE NUMBER: Raytheon Mfg Co., (49956).

Test Set, Radio TS-1310/TRC-27

FUNCTIONAL DESCRIPTION:

Test Set, Radio TS-1310/TRC-27 is designed to assist the technician in checking the performance of an AN/TRC-27 Radio Set. The Test Set incorporates special facilities required by the AN/TRC-27 that are not available in other field test equipment. The Test Set is contained in a small, watertight carrying case. It contains a basic unit and a number of accessories.

No field changes in effect at time of preparation (17 January 1963).

TECHNICAL CHARACTERISTICS:

FREQUENCY RANGE: 4400 to 5000 mc.

WAVEMETER

CALIBRATION ACCURACY: 0.05% max.

SELECTIVITY: Porm 1 mc max.

RESETTABILITY: Porm 1 mc max.
POWER MONITOR
POWER RANGE: 0 to 3 W peak.
ACCURACY: Porm 3 db.
80 DB ATTENUATORS
ATTENUATION: 80 porm 2 db.
CALIBRATION ACCURACY AT 47 MC: Porm 1 db.
VSWR: 1.3 to 1 max.
RECEIVER ALIGNMENT ADAPTER
INPUT JACK: Type BNC female.
INPUT IMPEDANCE: 50 ohms nominal.
OUTPUT JACK: Microdot female.
OUTPUT IMPEDANCE: 300 or 25 ohms.
OPERATING FREQUENCY: 60 mc nominal.
CRYSTAL SIMULATOR
INPUT JACK: Type BNC female.
INPUT IMPEDANCE: 50 ohms nominal.
OUTPUT CONNECTOR: Dummy Crystal (1N21 crystal body).
OUTPUT IMPEDANCE: 300 ohms nominal.
OPERATING FREQUENCY: 60 mc nominal.
MODEM ADAPTER
MALE END: Plug into Modem socket of TD-101/TRC-27 multiplexer.
FEMALE END: Accepts a TRC-27 Modem unit.
OPERATING TEMPERATURE: 0 deg C to P50 deg C (32 deg F to 122 deg F).
OPERATING HUMIDITY: Up to 95 RH.
STORAGE TEMPERATURE: M65 deg C to P 75 deg C (M85 deg F to 167 deg F).
STORAGE HUMIDITY: Up to 100 RH.
POWER SUPPLY: None.

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Sweep Signal Generator TS-452C/U or Boonton 240A; (1) Oscilloscope AN/USM-24C or Tektronix 535; (1) Microwave Power Meter Hewlett-Packard 430C w/477A; (1) Microwave Coaxial Attenuator Weinschel 210-20; (1) SHF Signal Generator Hewlett-Packard 6188; (2) Telephone Sets TA-43/PT or EE-8; (1) Connector, UHF NT-49199; (1) Adapter, Coaxial UG-349A/U; (1) Adapter, Coaxial UG-914/U; (1) Adapter, Coaxial UG-578/U; (1) Adapter, Coaxial UG-298/U; (1) Adapter, Coaxial UG-201A/U; (1) Multimeter Simpson 260.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Set, Radio TS-1310/TRC-27		10-1/4 x 10-3/8 x 15	17
	includes:			
2	80 db Attenuator			

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Receiver-Alignment Adapter			
1	Crystal Simulator			
1	Modem Adapter			
1	Connecting Cable			
1	Spare Crystal MA-424			
2	Technical Manual NAVSHIPS 00000			

REFERENCE DATA AND LITERATURE:

NAVSHIPS 00000: Technical Manual for Radio Test Set TS-1310/TRC-27.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: None used.

CRYSTALS: None used.

SEMI-CONDUCTORS: (1) MA-424

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)

PROCUREMENT DATA

PROCURING SERVICE: USMC
DESIGN COG: USN, BuShips
SPEC &/OR DWG: MIL-T-2139BA(SHIPS)

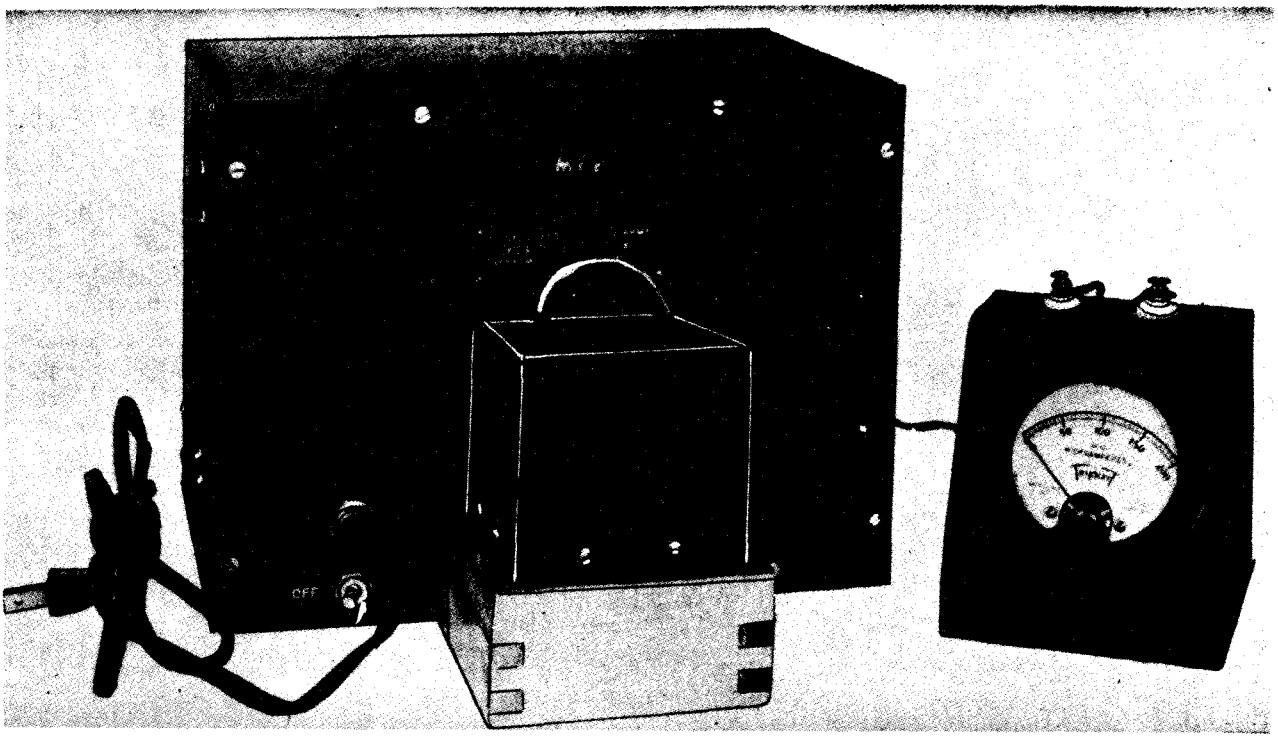
CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Raytheon Mfg Co. Type no. 10001	Waltham, Mass.	NObsr-75818, 30 April 1959	$3,736.88

June 1957

Test-Miscellaneous Test

CRYSTAL TEST SET

TS-137/FSM-1



Crystal Test Set TS-137/FSM-1

FUNCTIONAL DESCRIPTION

The TS-137/FSM-1 is a precision oscillator designed to simulate the crystal calibrator circuit of Radio Set SCR-284-A. It is used in operation with associated equipment to check the crystals used in Radio Receiver and Transmitter BC-654-A of Radio Set SCR-284-A.

No field changes in effect at time of preparation (3 December 1956).

RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied: (1) Test Block MX-122/FSM-1, (1) Test Meter TS-167/FSM-1.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY: 200 kc.
FREQUENCY ACCURACY: ±20 cycles.
ACTIVITY RANGE: 0 to 20 ua.
ACTIVITY ACCURACY: ±5%.

POWER INPUT: 105 to 130 v, 50 to 60 cps, 50 W.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 6C5
(1) 5Y3GT/G
(1) OC3/VR105

Total Tubes: (3)

REFERENCE DATA AND LITERATURE

TM11-2677: Technical Manual for Crystal Test Set TS-137/FSM-1.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	TASSA
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	

Test-Miscellaneous Test

June 1957

TS-137/FSM-1 CRYSTAL TEST SET

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Crystal Test Set TS-137/FSM-1	1.2	9 X 14 X 16	18.5

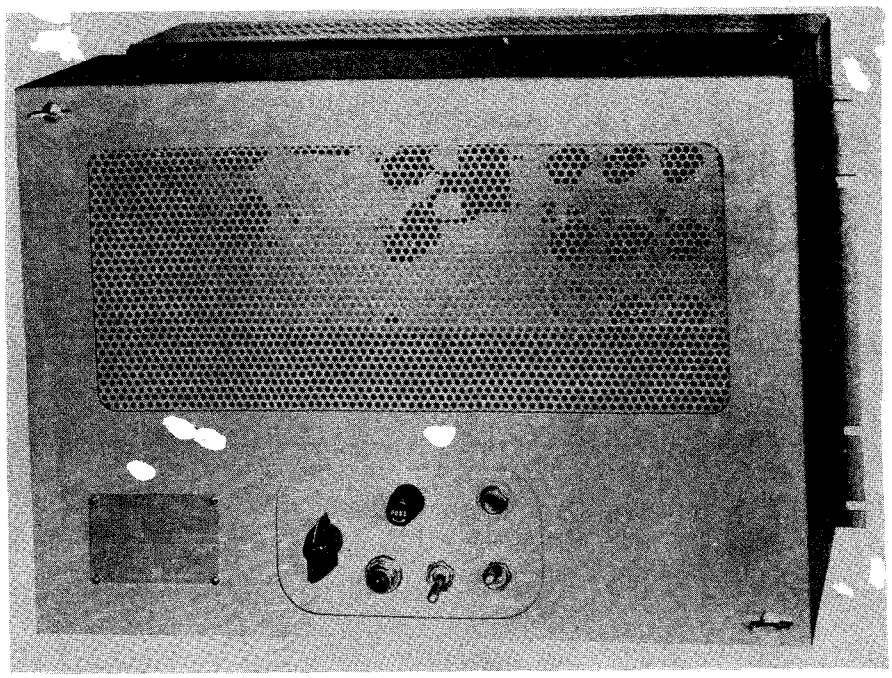
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Crystal Test Set TS-137/FSM-1	7-3/4 X 7-13/16 X 11-1/8	13-1/2
1	Set Running Spares		
2	Technical Manual TM11-2677	1/4 X 5-1/2 X 8-1/2	0.25

USA USN USAF

TYPE CLASS: Used by

MANUFACTURER'S NAME/CODE NUMBER: Stelma Inc., (96238).



Telegraph Test Set TS-1373/FG

FUNCTIONAL DESCRIPTION:

Telegraph Test Set TS-1373/FG electronically generates undistorted 7.42 baudot code telegraph characters (in an 88-character test message) at 60, 75, or 100 words per minute, for use in performance checks and maintenance of wire and radio-teletype circuits and equipments.

The 88-character test message (standard "fox" sentence preceded by three call letters and followed by numerals) is stored in a plug-in relay unit.

Terminals are provided to allow the use of remote control to start and stop the message.

No field changes in effect at time of preparation (21 July 1961).

TECHNICAL CHARACTERISTICS:

TEST MESSAGE GENERATED: <≡▼NPG>THE>QUICK>BROWN>FOX>JUMPED>OVER>THE>LAZY>DOG▲!▼S>BACK▲>
1234567890<<<<<<<<<<<<<<<<(max of 88 characters).

OUTPUT CIRCUIT: Neutral, keying relay (battery supplied from external source).

TS-1373/FG TELEGRAPH TEST SET

OPERATING SPEEDS: 60, 75, 100 wpm; 7.42 unit intervals per character.
OUTPUT DISTORTION: Less than 2% marking or spacing bias distortion.
OPERATOR LOCATION: Local or remote (terminals are provided for remote switch connection).
POWER REQUIREMENTS: Approx 125 W, 115 v porm 10%, 50 to 60 cyc, single ph.

RELATION TO OTHER EQUIPMENT:

This equipment is the same as Telegraph Test Set TS-1374/FG and TS-1375/FG, except that the test messages differ.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Telegraph Test Set TS-1373/FG		9 x 12 x 19	17

REFERENCE DATA AND LITERATURE:

NAVSHIPS 94049: Technical Manual for Telegraph Test Set TS-1373/FG.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (1) 0B2 (15) 5696 (1) 5881 (8) 5963 (1) 5V4GA (1) 6AU6

CRYSTALS: None used.

SEMI-CONDUCTORS: (69) 11SD1034 (3) 11S101037

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)

PROCUREMENT DATA

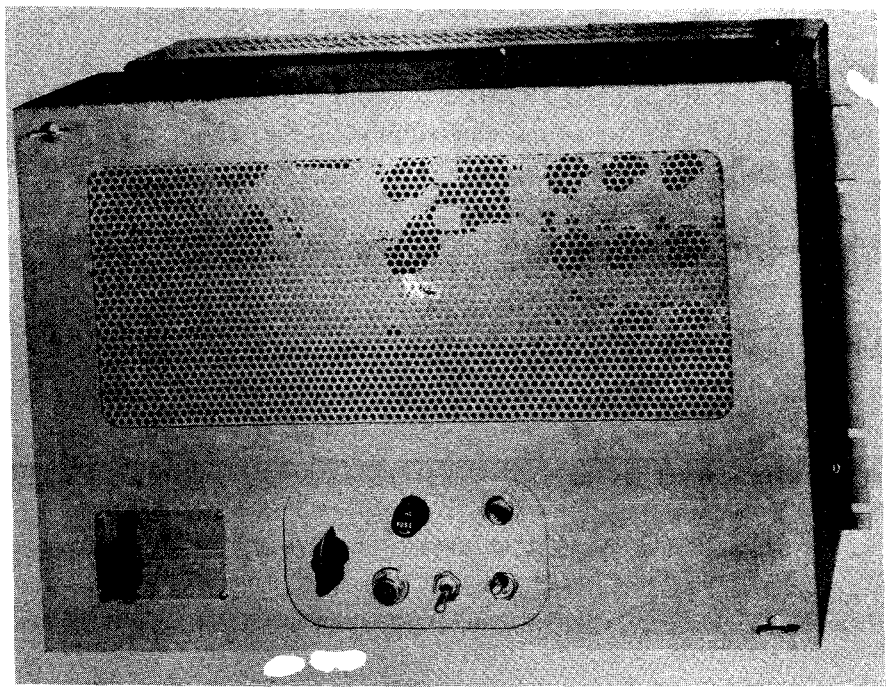
PROCURING SERVICE: USN
SPEC &/OR DWG:
DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Stelma Inc. Model no. EDU-100 (NPG sends)	Stamford, Connecticut	NObsr-81076, 3 February 1960	$2,403.68

USA USN USAF

TYPE CLASS: Used by

MANUFACTURER'S NAME/CODE NUMBER: Stelma Inc., (96238).



Telegraph Test Set TS-1374/FG

FUNCTIONAL DESCRIPTION:

Telegraph Test Set TS-1374/FG electronically generates undistorted 7.42 baudot code telegraph characters (in an 88-character test message) at 60, 75, or 100 words per minute, for use in performance checks and maintenance of wire and radio-teletype circuits and equipments.

The 88-character test message (standard "fox" sentence preceded by three call letters and followed by numerals) is stored in a plug-in-relay unit.

Terminals are provided to allow the use of remote control to start and stop the message.

No field changes in effect at time of preparation (21 July 1961).

TECHNICAL CHARACTERISTICS:

TEST MESSAGE GENERATED: <≡↓NPM>THE>QUICK>BROWN>FOX>JUMPED>OVER>THE>LAZY>DOG↑'↓S>BACK↑>
1234567890<<<<<<<<<<<<<<<< (max. of 88 characters).

OUTPUT CIRCUIT: Neutral, keying relay (battery supplied from external source).

TS-1374/FG TELEGRAPH TEST SET

OPERATING SPEEDS: 60, 75, 100 wpm; 7.42 unit intervals per character.
OUTPUT DISTORTION: Less than 2% marking or spacing bias distortion.
OPERATOR LOCATION: Local or remote (terminals are provided for remote switch connection).
POWER REQUIREMENTS: Approx. 125 W, 115 v porm 10%, 50 to 60 cyc, single ph.

RELATION TO OTHER EQUIPMENT:

This equipment is the same as Telegraph Test Set TS-1373/FG and TS-1375/FG, except that the test messages differ.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Telegraph Test Set TS-1374/FG		9 x 12 x 19	17

REFERENCE DATA AND LITERATURE:

NAVSHIPS 94051: Technical Manual for Telegraph Test Set TS-1374/FG.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (1) 0B2 (15) 5696 (1) 5881 (8) 5963 (1) 5V4GA (1) 6AU6

CRYSTALS: None used.

SEMI-CONDUCTORS: (69) 11SD1034 (3) 11S101037

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)

PROCUREMENT DATA

PROCURING SERVICE: USN DESIGN COG: USN, BuShips
SPEC &/OR DWG:

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Stelma Inc. Model no. EDU-100 (NPM sends)	Stamford, Connecticut	NObsr-81076, 3 February 1960	$2,408.18

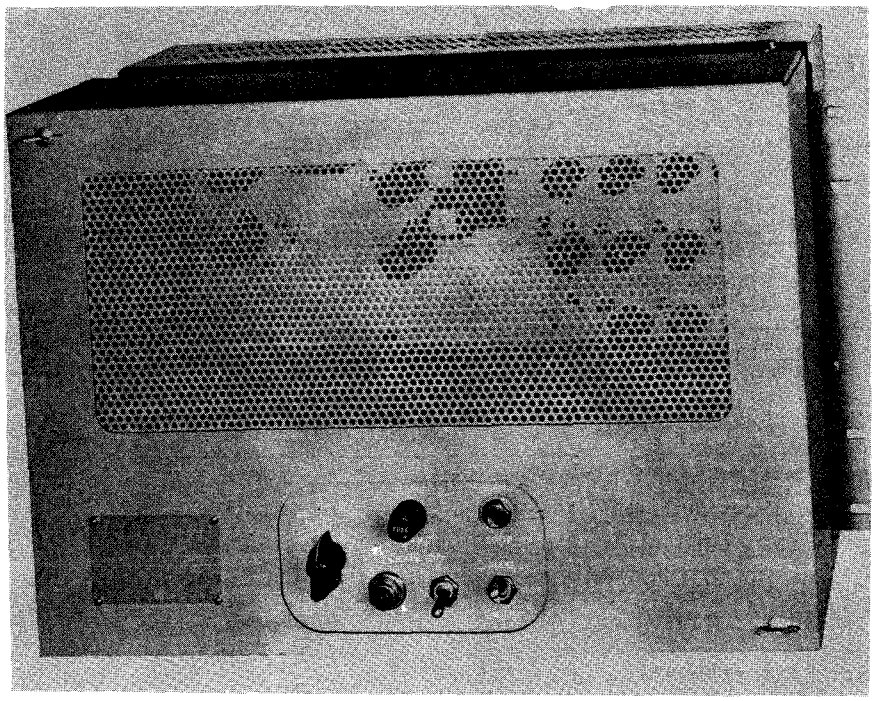
7 June 1962 TELEGRAPH TEST SET TS-1375/FG

Cog Service: USN FSN: Functional Class: 12.6

USA USN USAF

TYPE CLASS: Used by

MANUFACTURER'S NAME/CODE NUMBER: Stelma Incorporated, (96238).



Telegraph Test Set TS-1375/FG

FUNCTIONAL DESCRIPTION:

Telegraph Test Set TS-1375/FG electronically generates undistorted 7.42 baudot code telegraph characters (in an-88 character test message) at 60, 75, or 100 words per minute, for use in performance checks and maintenance of wire and radio-teletype circuits and equipments.

The 88-character test message (standard "fox" sentence preceded by three call letters and followed by numerals) is stored in a plug-in relay unit.

Terminals are provided to allow the use of remote control to start and stop the message.

No field changes in effect at time of preparation (21 July 1961).

TECHNICAL CHARACTERISTICS:

TEST MESSAGE GENERATED: <≡ ▼NSS>THE>QUICK>BROWN>FOX>JUMPED>OVER>THE>LAZY>DOG▲'▼S>BACK▲>
1234567890<<<<<<<<<<<<<<<< (Max. of 88 characters).

TS-1375/FG TELEGRAPH TEST SET

OUTPUT CIRCUIT: Neutral, keying relay (battery supplied from external source).
OPERATING SPEEDS: 60, 75, 100 wpm; 7.42 unit intervals per character.
OUTPUT DISTORTION: Less than 2% marking or spacing bias distortion.
OPERATOR LOCATION: Local or remote (terminals are provided for remote switch connection).
POWER REQUIREMENTS: Approx. 125 W, 115 v porm 10%, 50 to 60 cyc, single ph.

RELATION TO OTHER EQUIPMENT:

This equipment is the same as Telegraph Test Set TS-1373/FG and TS-1374/FG, except that the test messages differ.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Telegraph Test Set TS-1375/FG		9 x 12 x 19	17

REFERENCE DATA AND LITERATURE:

NAVSHIPS 94053: Technical Manual for Telegraph Test Set TS-1375/FG.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (1) 0B2 (15) 5696 (1) 5881 (8) 5963 (1) 5V4GA (1) 6AU6

CRYSTALS: None used.

SEMI-CONDUCTORS: (69) 11SD1034 (3) 11S101037

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)

PROCUREMENT DATA

PROCURING SERVICE: USN DESIGN COG: USN, BuShips
SPEC &/OR DWG:

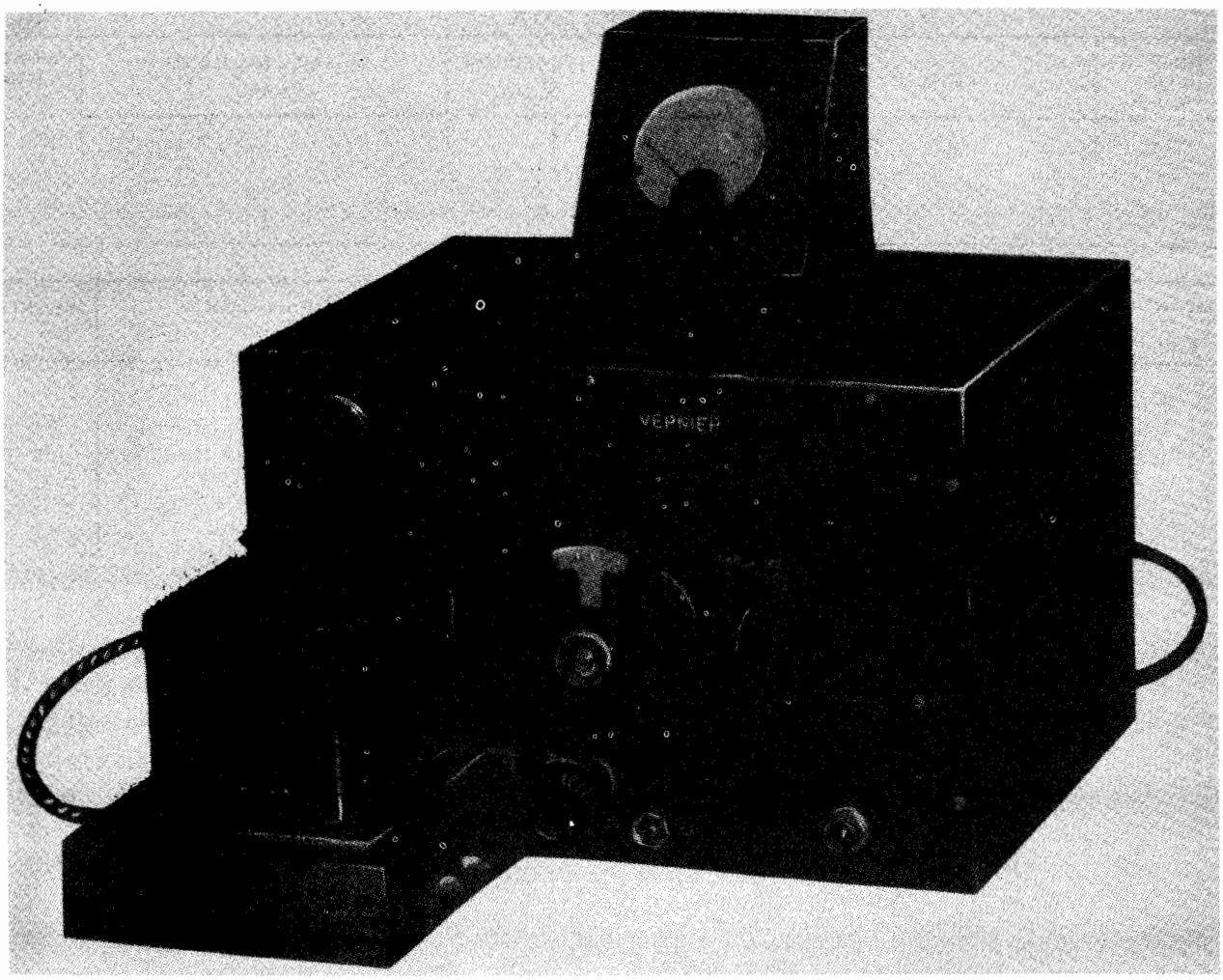
CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Stelma Incorporated Model no. EDU-100 (NSS sends)	Stamford, Connecticut	NObsr-81076, 3 February 1960	$2,403.68

August 1957

Test-Miscellaneous Test

CRYSTAL TEST SET

TS-151/FSM-1



Crystal Test Set TS-151/FSM-1

FUNCTIONAL DESCRIPTION

The TS-151/FSM-1 is designed to simulate the operating conditions of the crystal calibrator circuit of Radio Transmitters BC-457-A,B,C; BC-458-A,B,C, and BC-495-A so that crystals may be inspected to determine their suitability for use in these radio transmitters.

No field changes in effect at time of preparation (28 November 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 4.0 to 9.1 mc, 3 bands.
FREQUENCY ACCURACY: ±0.001%.
ACTIVITY RANGE: 0 to 200 ua.
ACTIVITY ACCURACY: ±5%.
POWER INPUT: 110 v, 60 cps, single ph.
POWER CONSUMPTION: 50 u.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 6E5 (1) 76 (1) 5Y3GT/G
(1) OB3/VR-90 (1) OC3/VR-105
Total Tubes: (5)

REFERENCE DATA AND LITERATURE

TM11-2663: Technical Manual for Crystal Test Set TS-151/FSM-1.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	TASSA
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	

Test-Miscellaneous Test

TS-151/FSM-1 CRYSTAL TEST SET

August 1957

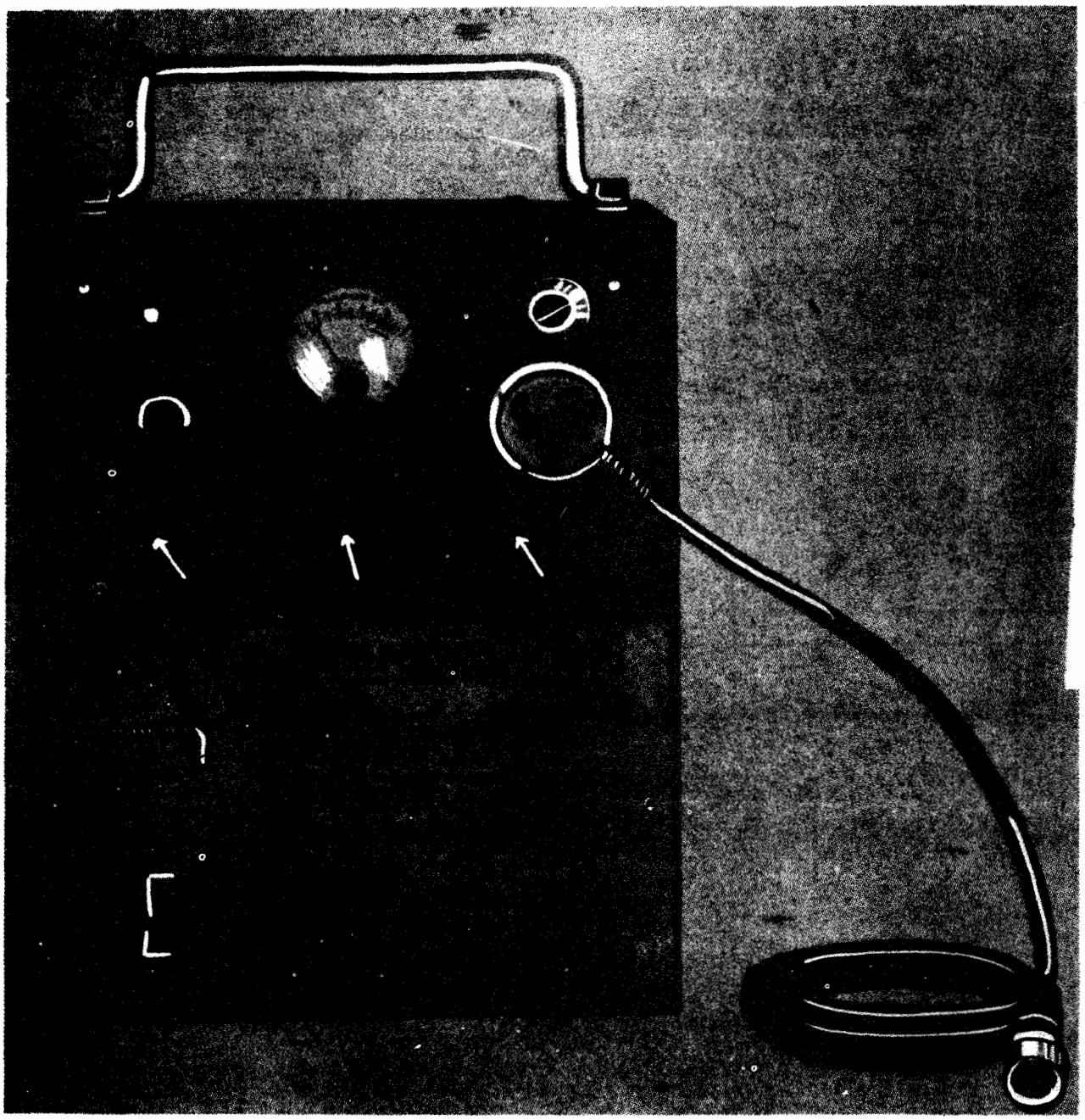
SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Crystal Test Set TS-151/FSM-1			50

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Crystal Test Set TS-151/FSM-1	8 X 9-1/2 X 12-3/8	19
1	Test Meter TS-167/FSM-1	4 X 4 X 4-1/2	1-9/16
1	Test Block MX-127/FSM-1	4-1/2 X 5-1/4 X 5-1/2	0.75
1	Test Block Oven MX-113/FSM-1	4-3/8 X 4-1/2 X 4-7/8	1.75
1	Set Running Spares		
2	Technical Manual	1/2 X 5-1/2 X 8-1/2	0.25

TEST OSCILLATOR TS-170/ARN-5



Test Oscillator TS-170/ARN-5

Test-Miscellaneous Test

TS-170/ARN-5 TEST OSCILLATOR

FUNCTIONAL DESCRIPTION

The TS-170/ARN-5 is an oscillator used to test the over-all functioning of glide path receivers such as Radio Receivers R-47/ARN-5, R-57/ARN-5 and R-89/ARN-5A. The test oscillator provides an unmodulated, 90 or 150 cycle modulated signal of the proper frequency to the glide path receiver. An antenna is provided for a radiated signal, or direct coupling may be affected by means of a supplied cable, plug and gradulated attenuator.

No field changes in effect at time of preparation (30 November 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

CRYSTAL CONTROLLED FREQUENCIES: 333.8, or 335.0 mc.
INTERNAL MODULATION: 90 or 150 cps tone.
OPERATING TEMPERATURE: -10 to +60 deg C
HUMIDITY RANGE: Up to 95% relative.
OPERATING POWER: 1.5 v DC and 90 v DC.

TUBE AND/OR CRYSTAL COMPLEMENT

(4) 3Q4 (1) 959
Total Tubes: (5)

(1) 6159.25KC (1) 6181.48KC
(1) 6203.70KC
Total Crystals: (3)

REFERENCE DATA AND LITERATURE

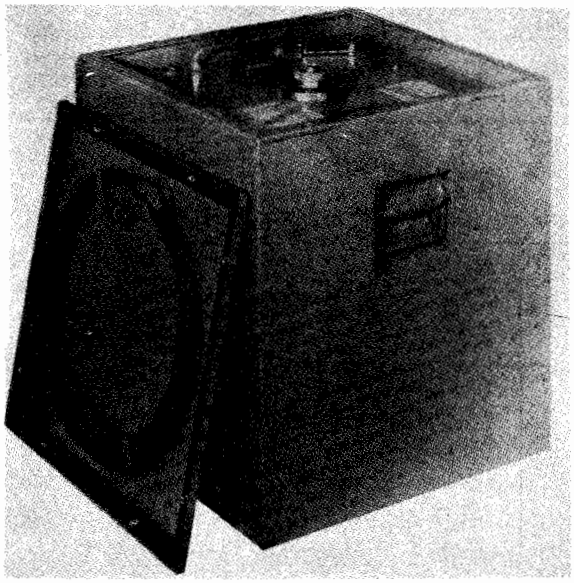
AN 16/35TS170-2: Technical Manual for Test Oscillator TS-170/ARN-5.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	USAF
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Test Oscillator TS-170/ARN-5	9 X 9 X 11	
1	Cable		
1	Plug		
1	Attenuator		

TEST SET TS-172A/UP



Test Set TS-172A/UP

FUNCTIONAL DESCRIPTION

The TS-172A/UP is a portable echo box test set designed to permit convenient field testing of the performance of radars operating in the frequency range 1215 to 1370 mc. When properly used, this echo box is helpful in recognizing and localizing troubles. It should be used daily to measure the "ringtime" of the radar, and if this measured value differs from that predicted for the particular radar under test by more than 5 db, the radar should be repaired.

No field changes in effect at time of preparation (22 May 1956).

RELATION TO OTHER EQUIPMENT

The TS-172A/UP is an improved version of the TS-172/UP and can be used as a replacement for the TS-172/UP. It is simpler to use, the ringtime is equivalent, and the mounting is identical. The TS-172A/UP differs from the TS-172/UP in the following respects:

(1) The unit is more rugged, (2) A frequency scale has been provided, (3) The input loop adjustment has been eliminated, (4) The "Output" and "Meter" jacks, together with the short patch cord connecting them, have been removed from the front panel, (5) The 0-20 microampere meter has been replaced with a more rugged 0-100 microampere meter, (6) Undesirable modes of resonance leading to spurious meter response have been suppressed, (7) The crystal has been removed from the front panel permitting a shorter R. F. connection to the crystal. (8) The units are individually calibrated in ringing ability at the factory so that absolute measurements may be made, and (9) A short set of instructions is provided on the front panel.

Equipment Required but not Supplied: A directional coupler located in the transmission line to the radar antenna is required. A pickup dipole may be used as a substitute.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 1215 to 1370 mc.
FREQUENCY CONTROL: Hand tuned.
CONNECTING CABLE: Ten foot RG-21/U cable, 50 ohm nominal impedance.
TYPICAL RINGTIME: Ten to fourteen miles.

MANUFACTURER'S OR CONTRACTOR'S DATA

Johnson Service Company, Milwaukee, Wis.
Contract NObsr-63469, dated 25 June 1953.
Approximate cost: $492.00.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 1N21B

Total Crystals: (1)

REFERENCE DATA AND LITERATURE

NAVSHIPS 92360: Technical Manual for Test Set TS-172A/UP.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE SPEC-SHIPS-T-1140
STOCK NO.

SHIPPING DATA

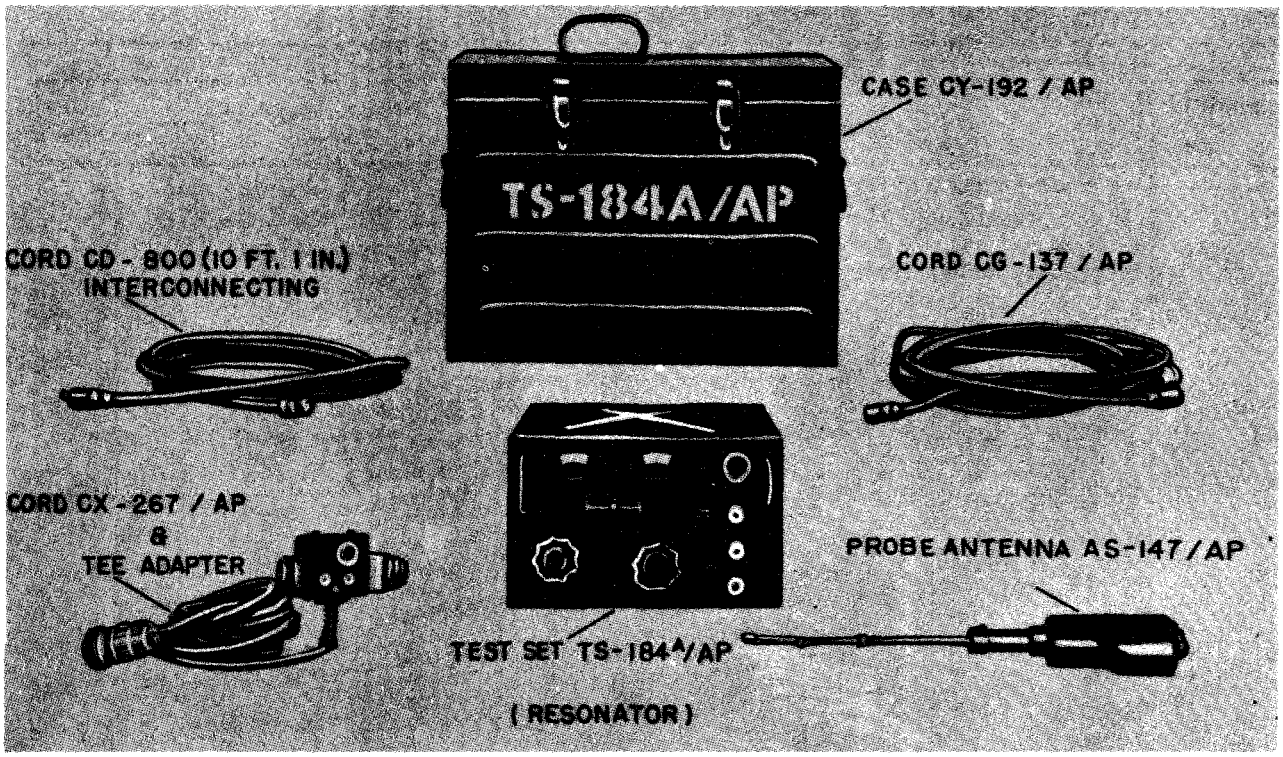
NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Test Set TS-172A/UP	6.7	21 X 22-1/2 X 24-1/4	125

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Test Set TS-172A/UP	14-7/8 X 14-7/8 X 18-3/4	42.500
1	Carrying Case	17-3/8 X 17-3/8 X 19-3/4	22
1	Cable	13/16 dia X 120	1
1	Allen Wrench No. 6	11/16 X 1-27/32	
1	T-Handle Socket Wrench	2-1/2 X 3-7/8 dia.	.500
2	Instruction Book NAVSHIPS 92360		

Test-Miscellaneous Test

TEST SET
TS-184/AP,184A/AP



Test Set TS-184/AP

FUNCTIONAL DESCRIPTION

The TS-184/AP or TS-184A/AP is a portable equipment designed to facilitate squadron or line testing of Radio Set AN/APS-13 when installed in an aircraft. It may also be used in conjunction with other equipment for depot maintenance or repair.

The equipment does not require the use of an external power source other than the supply to Radio Set AN/APS-13.

No field changes in effect at time of preparation (6 November 1956).

RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied: (1) Headset HS-33, (1) Voltmeter IS-189.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 400 to 430 mc.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 6J6
Total Tubes: (1)

REFERENCE DATA AND LITERATURE

AN 16-35TS184-3: Technical Manual for Test Set TS-184/AP and TS-184A/AP.

TYPE CLASSIFICATION
DESIGN COGNIZANCE USAF
PROCUREMENT COGNIZANCE
STOCK NO.
R.D.B. IDENT. NO.

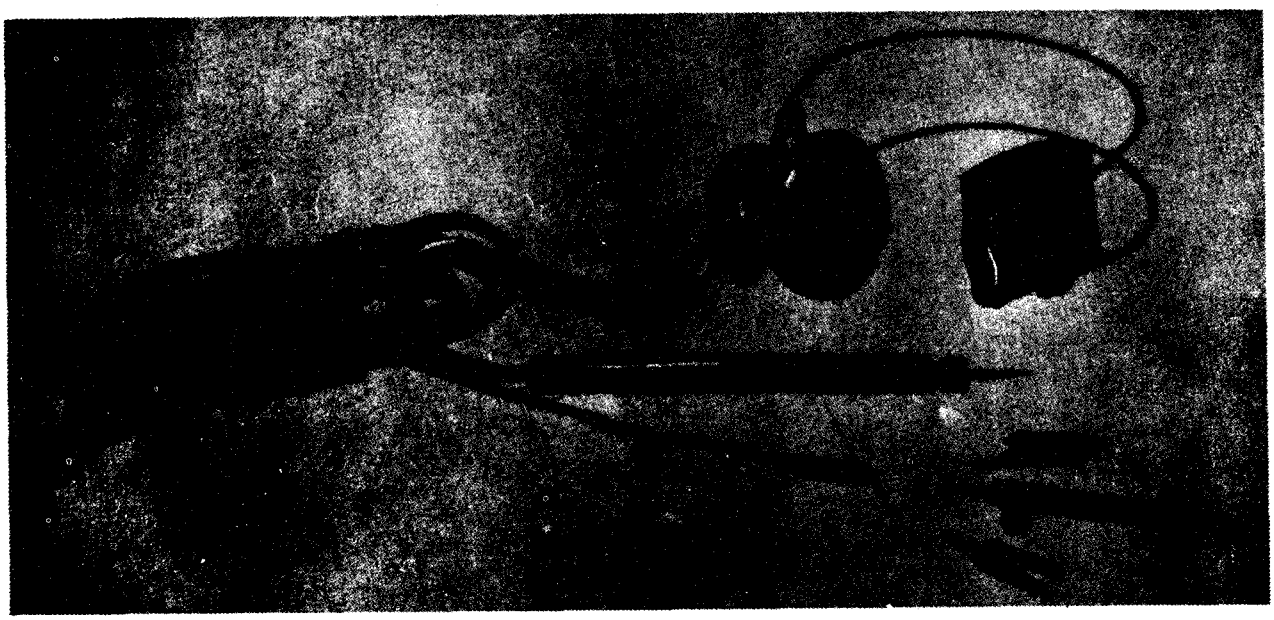
TS-184/AP,184A/AP TEST SET

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Test Set TS-184/AP consists of:	6-7/8 X 10 X 11-3/4	
1	Cord CX-267/AP	120 lg	
1	Probe Antenna AS-147/AP	1-1/2 X 2-5/8 X 8-1/2	
1	Cord CG-137/AP	420 lg	
1	Cord CD-800	121 lg	
1	Case CX-192/AP	8 X 13 X 18-7/8	
	TS-184A/AP		
1	Test Set TS-184A/AP consists of:	5-1/2 X 6 X 10-9/16	
1	Cord CX-223/AP	120 lg	
1	Probe Antenna Assy AS-123/AP	3/16 dia X 7	
1	Cord CG-104/AP	420 lg	
1	Cord CD-800	120 lg	
1	Case CY-152/AP	6-1/2 X 13 X 18-3/8	

Test-Miscellaneous Test

TEST SET TS-190/U



Test Set TS-190/U

FUNCTIONAL DESCRIPTION

The TS-190/U consists of a high-resistance test receiver with one lead terminating in a test prod and the other lead terminating in a small female connector into which fits a connecting clip, a test prod, or another connecting tool. It is used to detect the presence of battery or ground at a point within a telephone or telegraph circuit or to detect differences in voltage between points within the circuit. It also may be used for monitoring or for making continuity tests on working circuits without interfering with service.

No field changes in effect at time of preparation (4 February 1957).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

RECEIVER RESISTANCE: 1000 or 50,000 ohms.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

TM11-487H: Technical Manual for Test Equipment.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	TASSA
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	

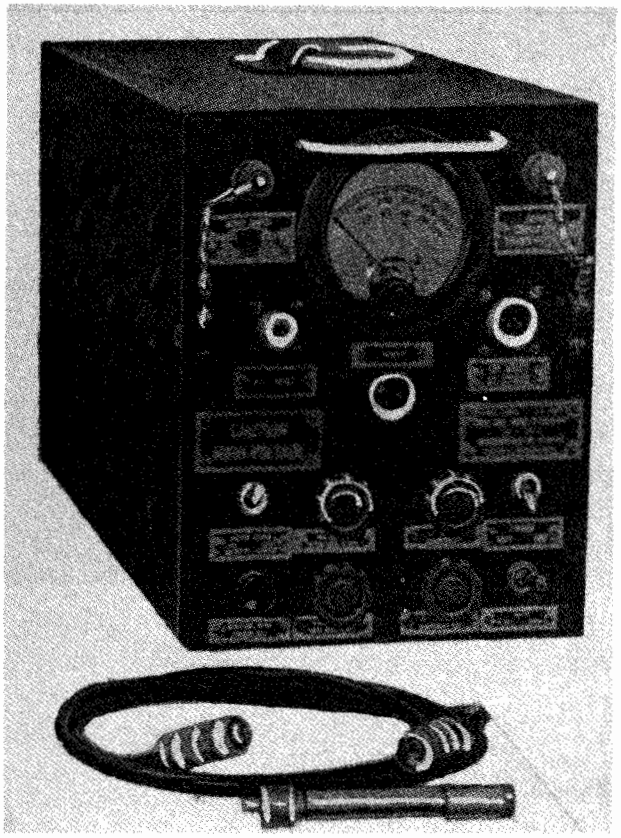
SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Test Sets TS-190/U	0.08		2.12

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Test Set TS-190/U	4 x 5 x 6	3

RADIO FREQUENCY BRIDGE TS-196/CPM-4



Radio Frequency Bridge TS-196/CPM-4

FUNCTIONAL DESCRIPTION

The TS-196/CPM-4 is used to provide direct-reading low r-f power measurements at frequencies of 3000 mc. Attenuator TPS-51PB/20 included with the unit, is used to extend the range to obtain direct-reading of medium power units. A Thermistor Probe TS-194/CPM-4 is used with the RF Bridge to monitor the output of high-power r-f transmitting systems.

No field changes in effect at time of preparation (3 December 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 2400 to 3335 mc.
SENSITIVITY: 50 uw full scale, with built-in attenuator and gain control, the range is extendable to 2 W full scale.
ATTENUATION: 20 db.
OPERATING POWER: 120 v, 60 cps, 40 W. If thermostatically controlled chamber is operating, 140 W are required.

TUBE AND/OR CRYSTAL COMPLEMENT

(3) 6SN7-GT (1) 6X5-GT (1) VR90-30
(3) 6SH7 (1) 6V6-GT
Total Tubes: (9)

REFERENCE DATA AND LITERATURE

TM-11-1200: Technical Manual for Radar Test Equipment.

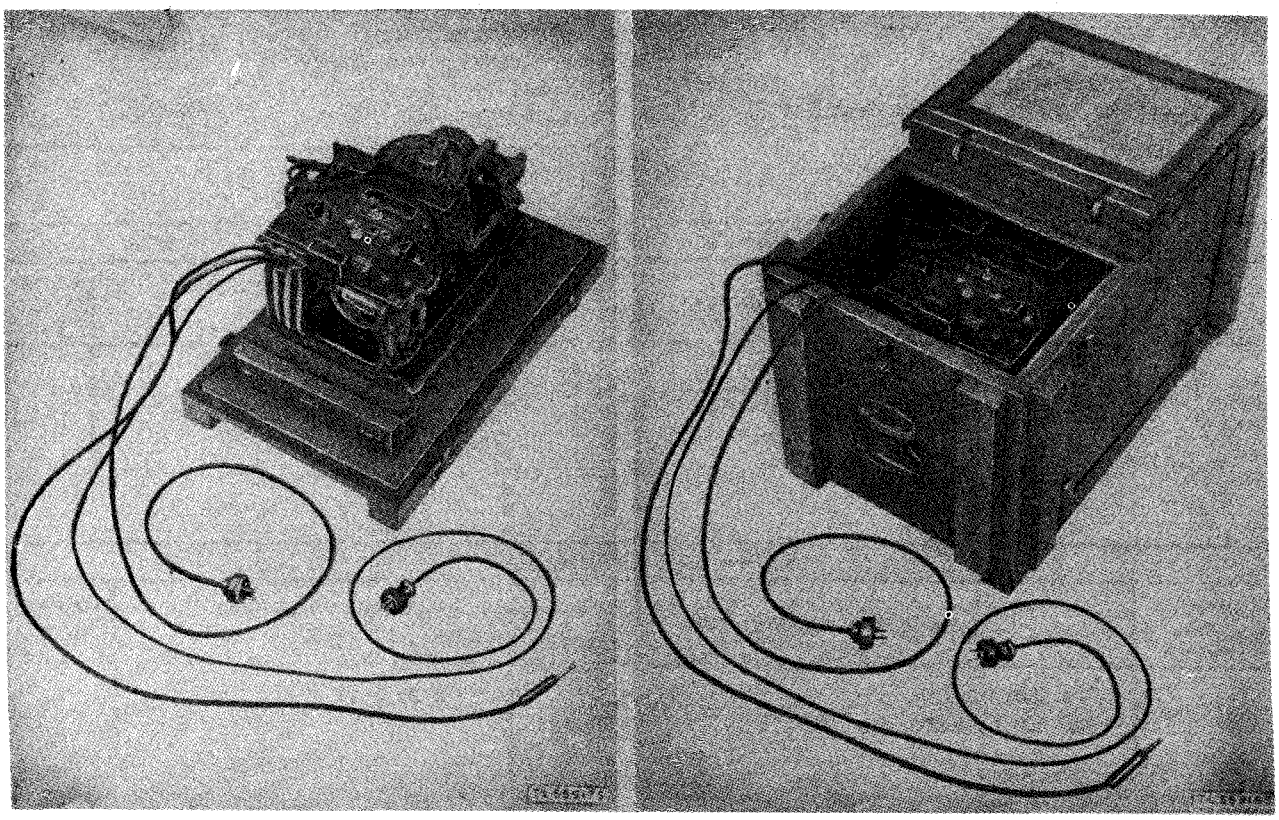
TYPE CLASSIFICATION
DESIGN COGNIZANCE USAF
PROCUREMENT COGNIZANCE
STOCK NO.
R.D.B. IDENT. NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Frequency Bridge TS-196/CPM-4	8 x 9-1/4 x 20-3/4	84
1	Attenuator TPS-51PB/20		

September 1956

TEST SET TS-2/TG



Test Set TS-2/TG

FUNCTIONAL DESCRIPTION

The TS-2/TG is a portable teletypewriter signal distortion test set designed to transmit normal or distorted signals for testing teletypewriter circuits and equipment. The distorted signals provided by the test set may be marking or spacing end distortion or marking or spacing bias. The Test Set is equipped with a governed motor so that the normal speed of 368.2 operations per minute (opm) may be adjusted to 404 opm for operation with British Equipment. It is also arranged to transmit continuously any one of four test signals.

No field changes in effect at time of preparation (19 June 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

POWER REQUIREMENTS: 115 v, 50 to 60 cps AC.

DISTORTION: 0 to 50 percent.

TEST SIGNALS

QUANTITY: 4

TYPE: R, Y, Space, or Standard Test message.

OPERATIONS PER MINUTE (opm).

AMERICAN: 368.2 opm with a 7.42 unit code length.

BRITISH: 404 opm with a 7.50 unit code length.

MANUFACTURER'S OR CONTRACTOR'S DATA

Teletype Corp., Chicago, Illinois

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

TS-2/TG TEST SET

September 1956

REFERENCE DATA AND LITERATURE

TM-11-2208: Technical Manual for Teletypewriter Signal Distortion Test Set TS-2/TG.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	OCSIGO
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Test Set TS-2/TG Including Spare Parts.	3		160

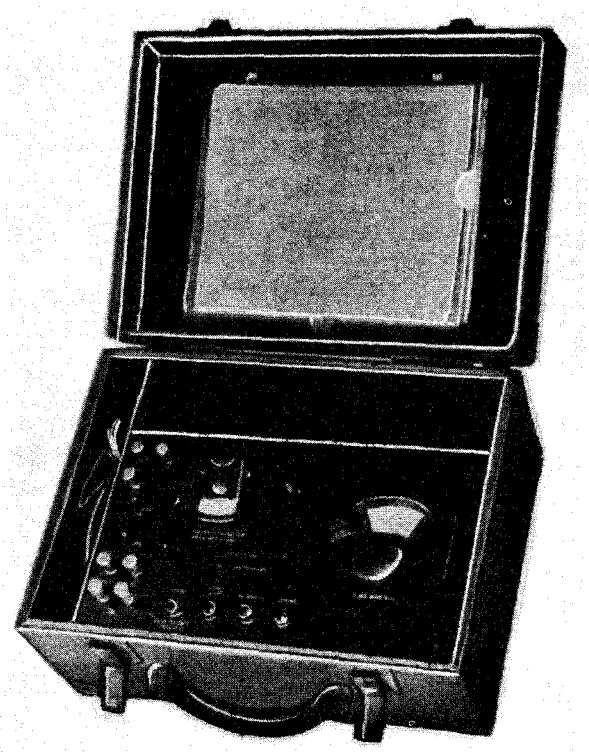
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Test Set TS-2/TG	14 x 17 x 23	70
1	Set of Spare Parts		

April 1959

Test-Miscellaneous Test

TEST SET TS-27/TSM



Test Set TS-27/TSM

FUNCTIONAL DESCRIPTION

Test Set TS-27/TSM is a portable equipment used in measuring conductor and insulation resistance and in locating grounds, crosses, and shorts of wire communication lines. It is also employed in measuring capacitance and in locating opens in wire lines.

No field changes in effect at time of preparation (25 March 1959).

EQUIPMENT REQUIRED BUT NOT SUPPLIED

Batteries: (1) BA-15-A or BA-30, (1) BA-31, (1) BA-59.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

POWER REQUIREMENTS: 1.5 v, 4.5 v, 90 v DC.
FREQUENCY: 20 cy ±3 cy.
CAPACITANCE RANGE: 0.075 to 3 uf ±5%.
RESISTANCE RANGE: 0 to 5,000 ohms ±2%, 0 to 500,000 ohms ±2%, 0 to 50 meg ±5%.

MANUFACTURER'S OR CONTRACTOR'S DATA

Bell Telephone Laboratories.
Type D-166237.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 1LN5 (1) 3Q5GT

Total Tubes: (2)

No Crystals used.

REFERENCE DATA AND LITERATURE

Nomenclature Card for Test Set TS-27/TSM.
TM11-336: Telephone Central Office Set TC-12.

TYPE CLASSIFICATION
DESIGN COGNIZANCE TASSA
PROCUREMENT COGNIZANCE Spec MIL-T-2487
STOCK NO.
R.D.B. IDENT. NO. 12.6

EQUIPMENT SUPPLIED DATA

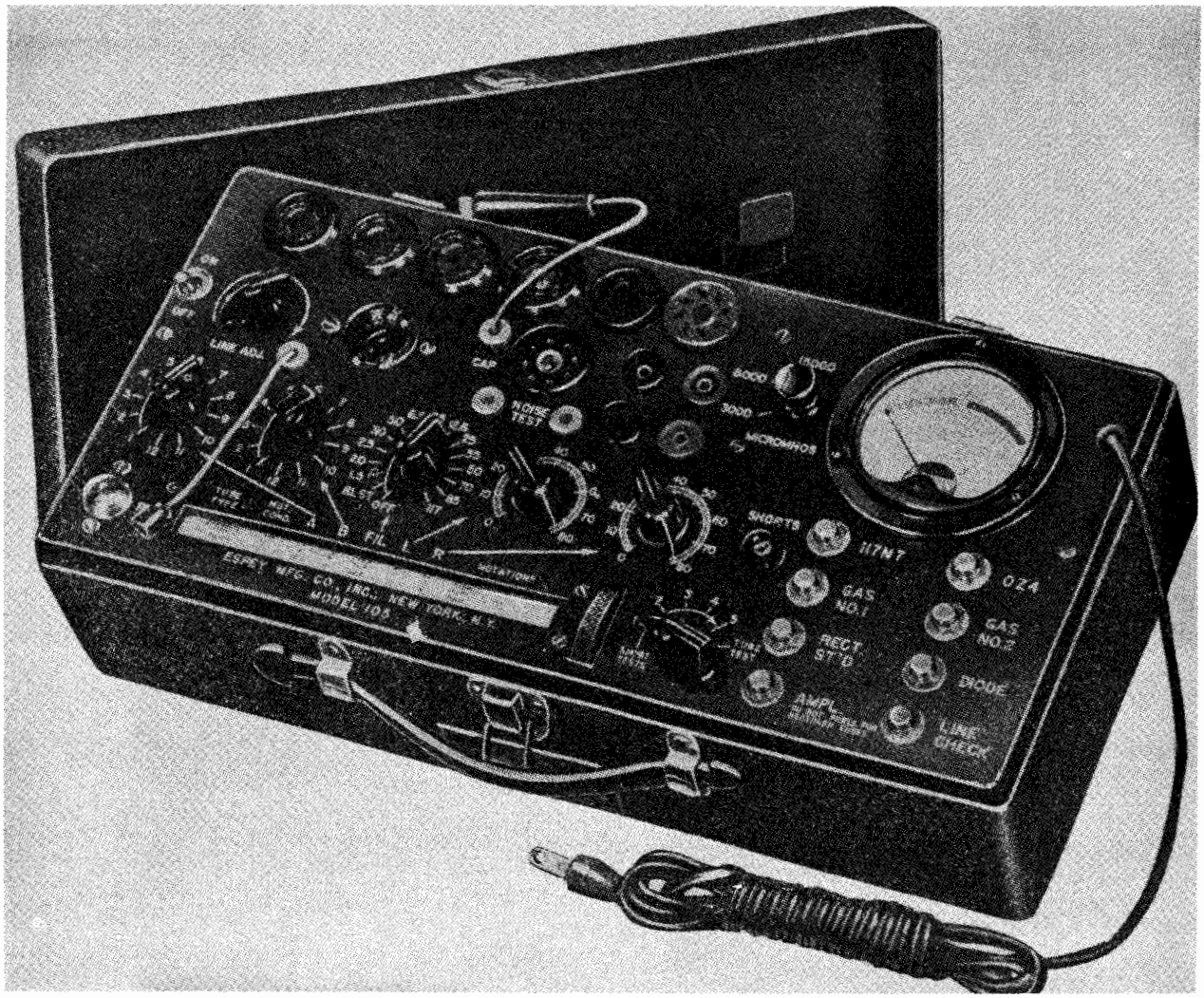
QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Test Set TS-27/TSM Including:	8-1/2 X 12-1/8 X 15-1/2	
2	Technical Manual, TM11-2057		
1	Capacitance-Resistance Bridge ZM-7/TSM		
1	Patch Cord	48 lg	0.25
3	Test Lead Set	60 lg	0.63
2	Test Lead Set	60 lg	

August 1957

Test-Miscellaneous Test

TUBE TESTER

TS-298/U



Tube Tester TS-298/U

FUNCTIONAL DESCRIPTION

The TS-298/U has been designed for the purpose of testing standard receiving tubes and some small transmitting tubes. Radio Tubes with characteristics usually regarded as standard may also be tested if the variations found are taken into consideration.

No field changes in effect at time of preparation (28 November 1956).

RELATION TO OTHER EQUIPMENT

Same as Espey Model 105.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

OPERATING POWER: 95 to 130 v, 60 cps, single ph.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 5Y3GT (1) 83
Total Tubes: 2

REFERENCE DATA AND LITERATURE

TM11-2516: Technical Manual for Tube Tester TS-298/U.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	TASSA
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	

Test-Miscellaneous Test

August 1957

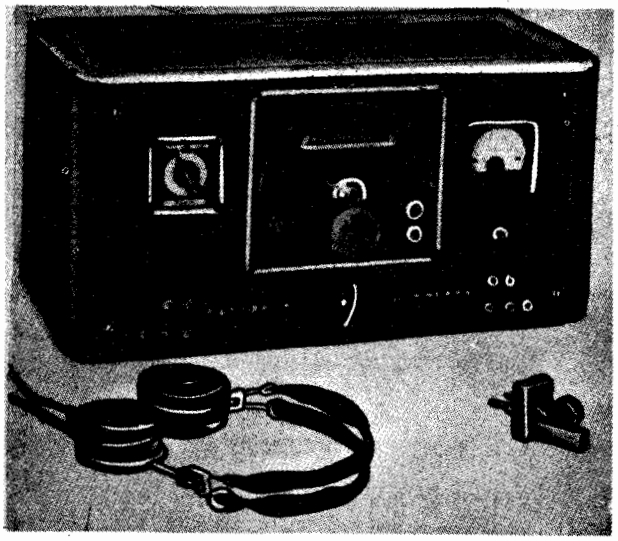
TS-298/U TUBE TESTER

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Tube Tester TS-298/U	5-3/4 x 7-1/2 x 15-1/2	15

Test-Miscellaneous Set

CRYSTAL TEST SET TS-314/FSM-1



Crystal Test Set

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 0 to 10 mc.
BAND DATA
BAND 1: 0 to 1 mc.
BAND 2: 0 to 2 mc.
BAND 3: 0 to 10 mc.
POWER SOURCE: 115 v, 60 cps, single phase.

MANUFACTURER'S OR CONTRACTOR'S DATA

Ray Jefferson Company

TUBE AND/OR CRYSTAL COMPLEMENT

(2) 6H6
(2) 6N7
(4) 6SJ7
(2) 6SQ7
(2) 25Z6GT
(2) 874
(4) 884
(2) OA3/VR-75
(2) 6E6
(2) 25L6GT
(4) 117Z6GT

Total Tubes: (28)

FUNCTIONAL DESCRIPTION

The TS-314/FSM-1 consists of an oscillator section and a frequency meter section. Each is in a separate chassis but mounted in the same grey wrinkle finished cabinet. The test set is designed to measure the activity and frequency of quartz crystals against a master crystal. It uses a Pierce circuit and tests the activity of the crystal by measuring the grid current in the oscillator circuit of the crystal and comparing it with the grid current of a crystal known to meet the activity requirements of the radio set in which the crystal is to be used.

No field changes in effect at time of preparation (19 October 1956).

REFERENCE DATA AND LITERATURE

TM11-2606: Technical Manual for Test Set AN/FSM-3.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	TASSA
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	

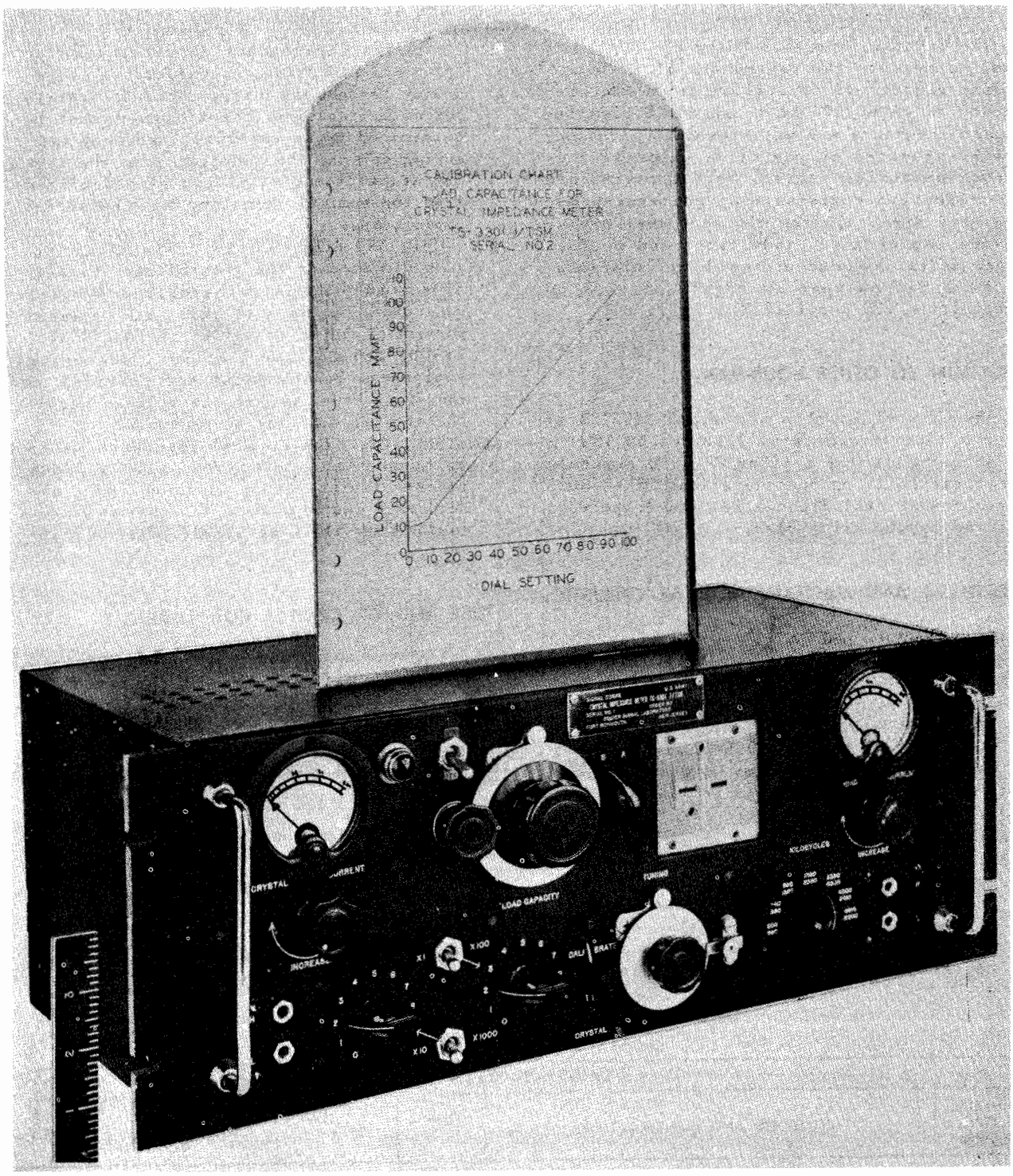
SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Crystal Test Set TS-314/FSM-1		13 x 13 x 22	64

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Crystal Test Set TS-314/FSM-1		
1	Crystal Test Holder		
1	Headset		

CRYSTAL IMPEDANCE METER TS-330/TSM



Crystal Impedance Meter TS-330/TSM

TS-330/TSM CRYSTAL IMPEDANCE METER

FUNCTIONAL DESCRIPTION

The Crystal Impedance Meter TS-330/TSM is used to measure the parameters of the equivalent circuit of crystal units in the frequency range of 500 kc to 12 mc. Series resonant frequency and anti-resonant frequency may be measured by use of an external frequency measuring device. Series resistance and effective resistance at anit-resonance are read directly from the equipment dials. Series capacitance, inductance and performance index may be determined by calculations.

No field changes in effect at time of preparation (30 April 1958).

RELATION TO OTHER EQUIPMENT

The Crystal Impedance Meter TS-330/TSM is part of Standard Crystal Test Set AN/TSM-3. It is suitable for testing CR-18/U crystals and those built on Specifications MIL-C-3098 whose fundamental frequencies can be between 500 and 15,000 kilocycles.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

POWER SUPPLY: 110 to 115 v ac, 50 to 1720 cps, 35 W.

FREQUENCY RANGE: 500 kc to 12 mc in 7 ranges.

SERIES RESISTANCE AND EFFECTIVE RESISTANCE AT ANTI-RESONANCE RANGE: 0 to 99 ohms in 1 ohm steps; 0 to 990 ohms in 10 ohm steps; 0 to 9990 ohms in 100 ohm steps.

LOAD CAPACITANCE RANGE: 10 to 105 uuf.

CRYSTAL PIN SPACING: 0.5 to 1.25 in.

SPECIAL HOLDERS: FT-249.

PRESENTATION AND CONTROLS: The load capacitance is determined from the dial reading and a calibration chart. Crystal current and grid current are indicated on calibrated meters. Series resistance and effective resistance at anti-resonance are read directly from equipment dials and multipliers.

Series capacitance is determined by calculation, noting the difference in frequency between the antiresonant and series resonant frequency; the frequency must be determined by an external frequency measuring device. The inductance in the series arm of the crystal can be calculated from the nominal frequency and the series capacitance.

FITTINGS AND ACCESSORIES: The RF output jack, located on the rear of the chassis, is a small UHF Type (NT-49194) coaxial connector. By means of this jack, a small portion of the RF output of the oscillator may be fed to some frequency measuring equipment. Banana jacks are provided on the front panel so that the voltage across the crystal unit may be measured.

CONSTRUCTION: The Crystal Impedance Meter is housed in a metal case with a black crackle finish. It is designed for standard rack installation. The unit is placed inside Carrying Case CY-23/TSM-1 for shipment.

TUBE AND/OR CRYSTAL COMPLEMENT

(2) OC3W (1) 5Y3WGTB (1) 6V6GTY

Total Tubes: (4)

No Crystals Used.

REFERENCE DATA AND LITERATURE

TM11-5051, TO16-35TS-330-5: Technical Manual for Crystal Impedance Meter TS-330/TSM.

TYPE CLASSIFICATION
DESIGN COGNIZANCE TASSA
PROCUREMENT COGNIZANCE Spec. 71-3376(SIG)
STOCK NO.
R.D.B. IDENT. NO. 12.12.8

SHIPPING DATA

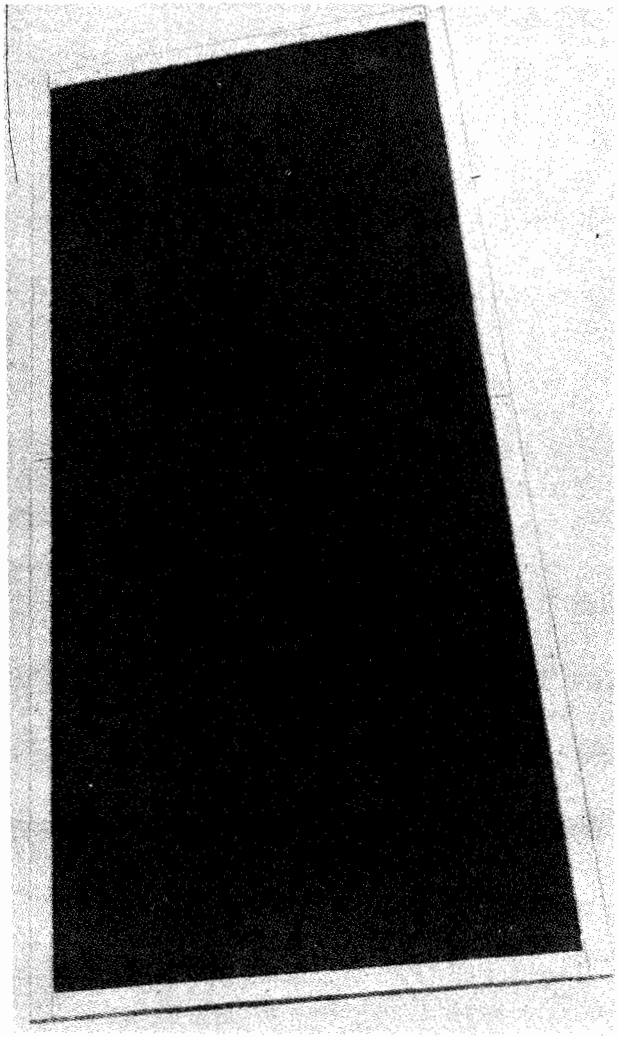
NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Crystal Impedance Meter TS-330/TSM w/Accessories, Export Packed	5.7	17 X 20 X 29	60

CRYSTAL IMPEDANCE METER

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Crystal Impedance Meter TS-330/TSM	7 X 10-1/8 X 19	25
1	RF Pickup Cord		
1	Carrying Case CY-23/TSM-1		
2	Technical Manuals		

TEST LOAD TS-346/UP



Test Load TS-346/UP

FUNCTIONAL DESCRIPTION

The TS-346/UP is used to absorb radio frequency energy from high power radar transmitters in the frequency range of 2700 to 2900 mc. It permits the testing of airborne radars under full power conditions, in confined spaces, such as below decks on shipboard, or in a hanger. The test load absorbs about 99% of the RF output and thus prevents high-level RF energy from being reflected back into its own antenna on into other radars causing damage to receiver circuits or duplexers.

No field changes in effect at time of preparation (9 July 1957).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 2700 to 2900 mc.
CHARACTERISTIC IMPEDANCE: 377 ohms.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

CO-NAVAER 16-5S-505; Technical Manual for Test Load TS-346/UP.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUAER
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	

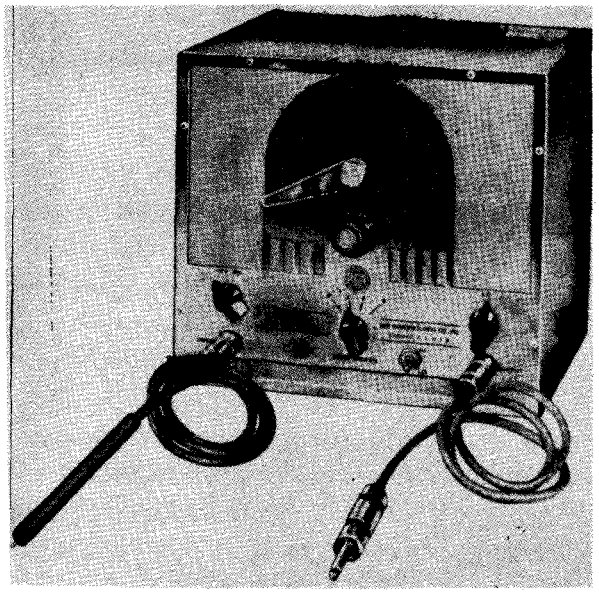
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Test Load TS-346/UP	3 x 48 x 120	100

August 1957

Test-Miscellaneous Test

CONVERTER TS-350/U



Converter TS-350/U

RELATION TO OTHER EQUIPMENT

Same as RCA Model 164.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 1.6 to 80 mc, 4 bands.
INTERMEDIATE FREQUENCY: 1500 kc.
OPERATING POWER: 110 v, 50 to 60 cps, single ph, 50 W.

MANUFACTURER'S OR CONTRACTOR'S DATA

RCA Mfg Co Inc, Camden, N.J.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 6AC7WA
(1) 6SA7
(1) 6X5WGT
(1) 6SJ7

Total Tubes (4)

FUNCTIONAL DESCRIPTION

The TS-350/U is a ultra high frequency converter used to increase the range of Test Set TS-303A/G from 1.6 to 80 mc. Together, Test Set TS-303A/G and Converter TS-350/U form a superheterodyne, with the converter acting as an RF amplifier, oscillator and 1st detector, while the test set acts as an IF amplifier and 2nd detector.

No field changes in effect at time of preparation (20 December 1956).

REFERENCE DATA AND LITERATURE

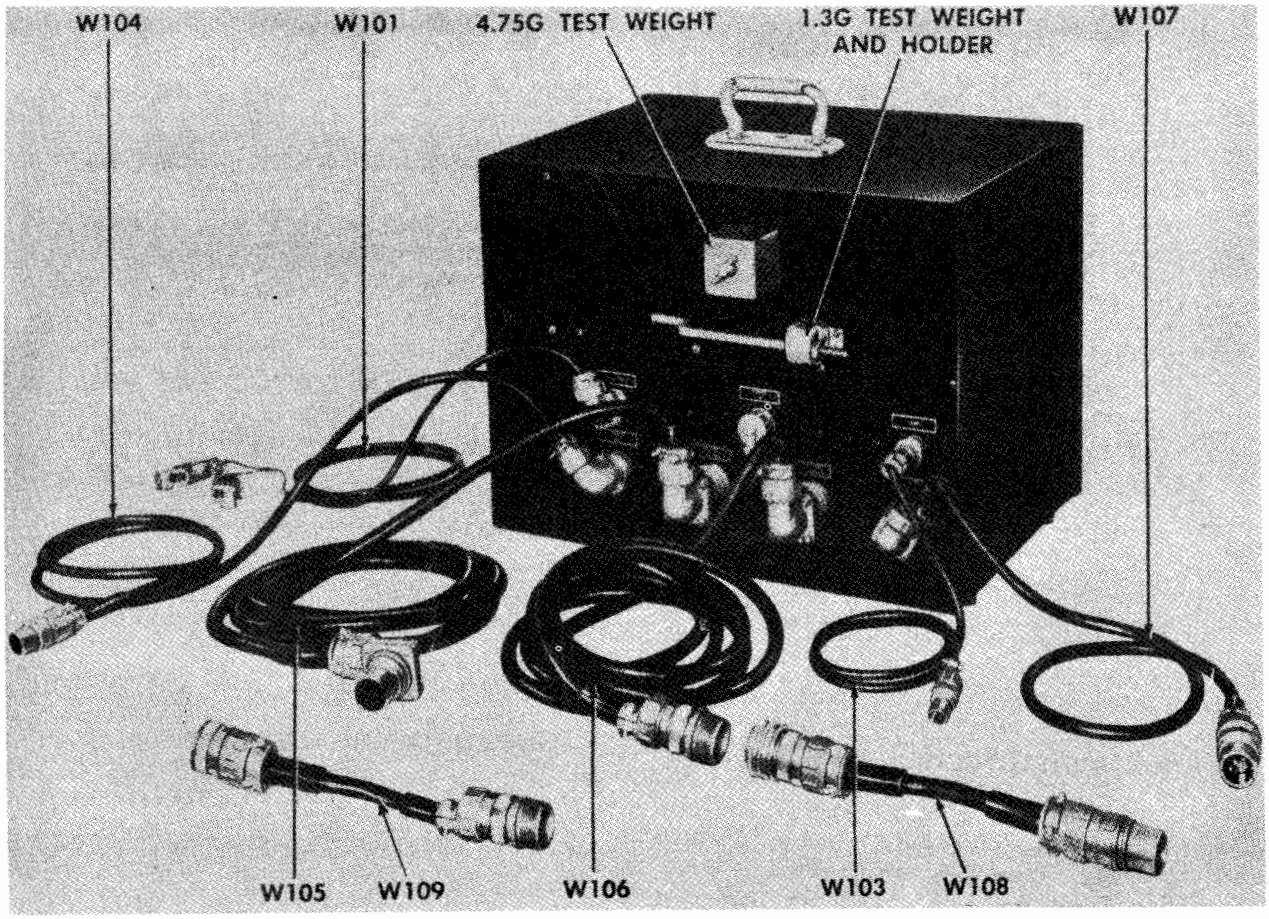
Technical Manual for U.S. Marine Corps Electronics Catalog.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	TASSA
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Converter TS-350/U consists of:	8-1/4 x 9 x 10	17
2	Technical Manuals		
1	Test Cord, Coupling Type	38 lg	
1	Test Cord Prober type	38 lg	

TEST UNIT TS-362/ASG-10



Test Unit TS-362/ASG-10

FUNCTIONAL DESCRIPTION

The TS-362/ASG-10 is designed for testing Bomb Directors Mk 1 Mod 1, AN/ASG-10 and Mk 1 Mod 2, AN/ASG-10A. The Test Unit is designed to give a convenient means of checking the following functions and adjustments of Bomb Director Mk 1 Mod 1, AN/ASG-10.

(1) Bias adjustment of the computer
(2) Calibration of the M.P.I. control in the pilot's control box.
(3) Calibration of the STICK LENGTH OFFSET control in the pilot's control box.
(4) Perform time checks using the M.P.I. and STICK LENGTH controls in the test unit to simulate those in the pilot's control box.
(5) Functioning of the .33 megohm series dive angle corrector resistance in the computer.
(6) Gyro caging and uncaging.
(7) Functioning of the solenoid in the gyro.
(8) Functioning of the indicator lamp circuits.
(9) Functioning of the bomb release circuits.
(10) Calibration of the computer at 1.3g and 4.75g simulated acceleration.
(11) Functioning of the altimeter trigger circuit in the computer.

Test-Miscellaneous Test

August 1957

TS-362/ASG-10 TEST UNIT

The following functions and adjustments may be performed on Bomb Director Mk 1 Mod 2, AN/ASG-10A.

(1) Bias adjustment of computer.
(2) Calibration of the BOMB M.P.I. control in the computer.
(3) Calibration of the STICK LENGTH OFF-SET control in the pilot's control box.
(4) Perform time checks using the STICK LENGTH control in the test unit to simulate those in the pilot's control box.
(5) Calibration of the ROCKET CALIBRATION-COARSE control in the computer.
(6) Calibration of the ROCKET CALIBRATION-FINE control in the computer.
(7) Calibration of the TEMPERATURE AND LANYARD control in the computer.
(8) Functioning of the .33 megohm series dive angle corrector resistance in the computer.
(9) Gyro caging and uncaging.
(10) Functioning of the solenoid in the gyro.
(11) Functioning of the indicator lamp circuits.
(12) Functioning of the bomb release circuits.
(13) Calibration of the computer at 1.3g and 4.75g simulated acceleration.
(14) Functioning of the altimeter trigger circuit in the computer.

The TS-362/ASG-10 is used to determine suitability of the 2050 thyratron for use in the bomb director by measuring the grid control voltage at which the tube fires, the leakage resistance between grid and cathode and determining that the de-ionization time of the 2050 is less than the transfer time of the relay contact in the computer. The test unit may also be used as a megohm-meter to measure resistances up to 1000 megohms.

No field changes in effect at time of preparation (7 January 1957).

RELATION TO OTHER EQUIPMENT

Also designated as the Mk 17 Mod 0.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

POWER SOURCE REQUIRED: 24 to 29 v DC.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 6SNGW (1) OD3/VR-150 (1) 6X5GT

Total Tubes: (3)

REFERENCE DATA AND LITERATURE

CO-AN16-35TS362-3, Technical Manual for TEST UNIT TS-362/ASG-10.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUAER
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Test Unit TS-362/ASG-10 incl	12 X 14 X 17	34
	1 Power Supply Cable	60 lg	1/2
	1 Indicator Lamp Cable	36 lg	1/4

TEST UNIT

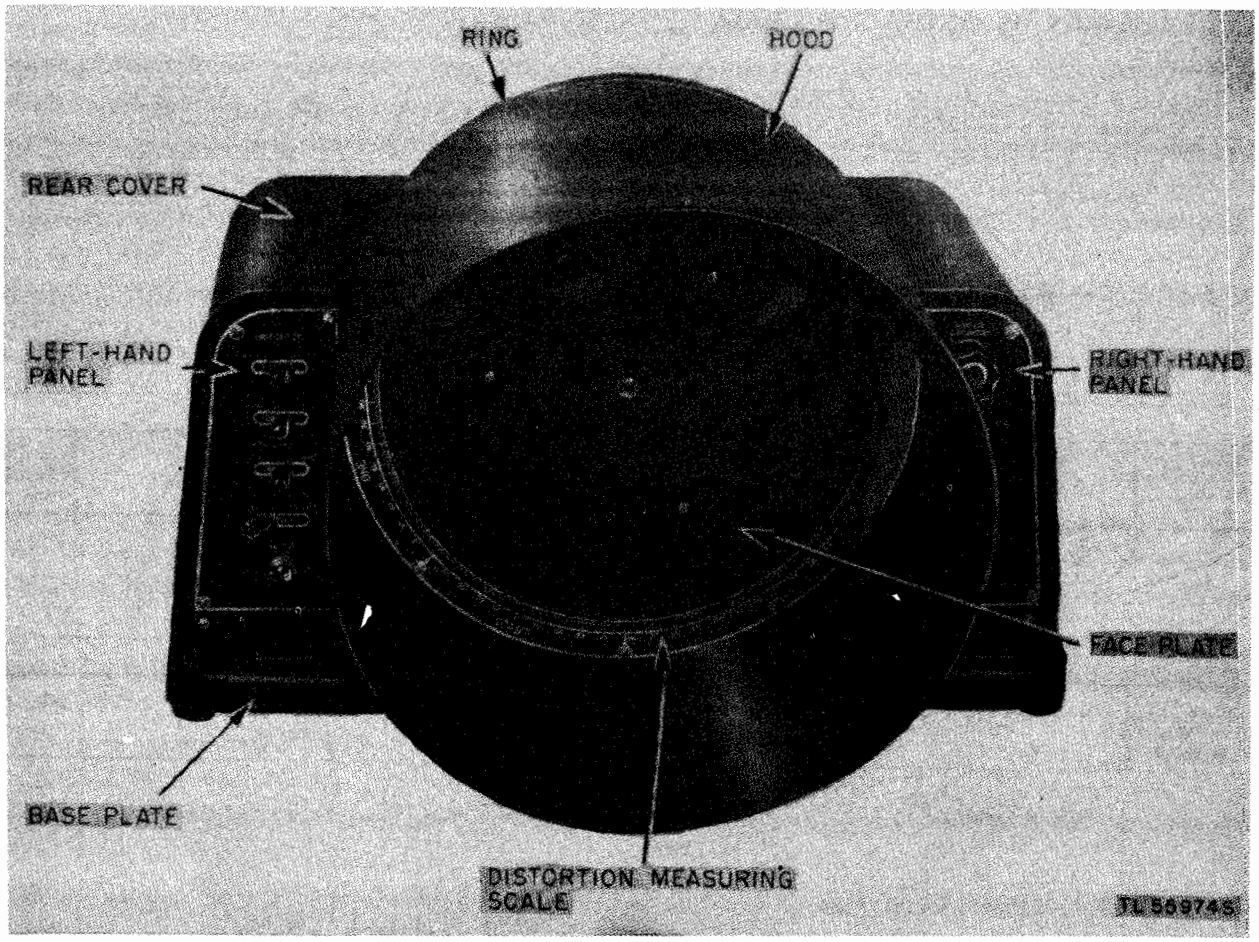
TS-362/ASG-10

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
	1 Power Out Cable	60 lg	1/2
	1 Pilot Control Box Cable	120 lg	2
	1 Computer Cable	120 lg	2
	1 Gyro Cable	36 lg	1/2
	1 Adapter Cable	12 lg	1/2
	1 Adapter Cable	12 lg	1/2
	1 Set of Test Leads	27 lg	1/8
	1 1.3g Test Weight		
	1 4.75g Test Weight		2-1/2
	1 Spare Vibrator		1-1/4

DISTORTION TEST SET

TS-383/GG



Distortion Test Set TS-383/GG

FUNCTIONAL DESCRIPTION

The TS-383/GG is a motor driven teletypewriter signal distortion test set to be used for any of the following purposes:

(1) To transmit signals for testing Teletype start-stop printing telegraph circuits and checking the effeciency of Teletype start-stop selectors.

(2) To measure accurately the impulse lengths of 7.42 unit code signals originating from an external transmitting unit.

(3) To check the operation of relays or start-stop regenerative repeaters in a local circuit.

No field changes in effect at time of preparation (7 May 1958).

RELATION TO OTHER EQUIPMENT

The TS-383/GG is Teletype No. DXD200AA/DTS.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TEST SIGNALS: Test Message, R, Y, T, O, M, V, LETTER, BLANK or code length marking impulses.
CONTROLLED DISTORTION: Up to approx 100%.
MOTOR TYPE: AC governed.
OPERATING SPEED: 368.1 opm.
POWER REQUIREMENTS: 115 v, 50 to 60 cps, single ph.
CODE LENGTH: 7.42 unit.

Test-Miscellaneous Test

TS-383/GG DISTORTION TEST SET

MANUFACTURER'S OR CONTRACTOR'S DATA

Teletype Corp., Chicago, Illinois.
Contract NObsr-42423.
Approximate Cost: $975.00 with equipment spares.

REFERENCE DATA AND LITERATURE

TM11-2217: War Department Technical Manual for Distortion Test Set TS-383/GG.

TYPE CLASSIFICATION
DESIGN COGNIZANCE TASSA
PROCUREMENT COGNIZANCE
STOCK NO.
R.D.B. IDENT. NO.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes or Crystals Used.

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Distortion Test Set	12.5		225

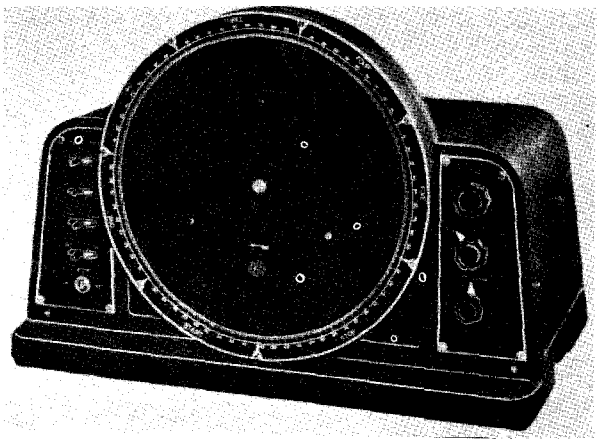
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Distortion Test Set TS-383/GG including: (1) Hood No. 96458 (1) Motor No. MU26 (1) Set of Gears No. 96572 (2) Teletype Instruction Manual No. 23	13-1/2 X 14 X 19 12 in dia	125

April 1959

Test-Miscellaneous Test

DISTORTION TEST SET TS-383A/GG



Distortion Test Set TS-383A/GG

FUNCTIONAL DESCRIPTION

Distortion Test Set TS-383A/GG is a portable, motor-driven unit used in testing teletypewriter start-stop printing telegraph circuits and start-stop selectors. A stroboscope indicates signal length and the amount of distortion.

No field changes in effect at time of preparation (17 April 1959).

RELATION TO OTHER EQUIPMENT

This equipment is indentical with Distortion Test Set, Teletype Corp. model DXD4DTS.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

POWER REQUIREMENTS: 110 to 115 v, 50 to 60 cy, 1 ph.

TYPE OF EMISSION: Distorted and undistorted signals.

UNDISTORTED SIGNALS: Std test, letters, blanks.

DISTORTED SIGNALS: Marking or spacing.

OPERATING SPEED: 368 opns/min.

MANUFACTURER'S OR CONTRACTOR'S DATA

Teletype Corp, Chicago, Illinois.
Contract NObsr-42423.
Order No. 9175-PHILA-48.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes or Crystals used.

REFERENCE DATA AND LITERATURE

NAVSHIPS 91161: Technical Manual for Distortion Test Set TS-383A/GG.

TM11-2217: Technical Manual for Distortion Test Set TS-383A/GG.

TYPE CLASSIFICATION
DESIGN COGNIZANCE TASSA
PROCUREMENT COGNIZANCE
STOCK NO.
R.D.B. IDENT. NO.

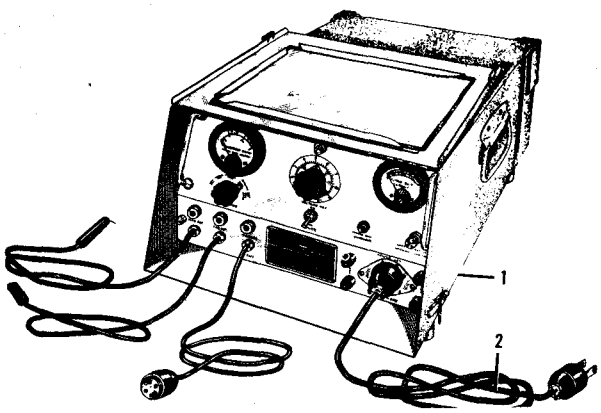
SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Distortion Test Set TS-383A/GG	11.5		225

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Distortion Test Set TS-383A/GG Including:	13-1/2 X 14 X 19	125
2	Technical Manual		

TEST SET TS-387/U



Test Set TS-387/U

FUNCTIONAL DESCRIPTION

The TS-387/U is designed to check headsets, microphones and flying suit heater units. Primarily for preflight use in ready room. It provides an audio means of testing headsets by listening to an audio oscillator. It provides an output meter for checking microphones. An ammeter is provided for checking the current drain of flying suit heater units.

No field changes in effect at time of preparation (29 June 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

OUTPUT: 0.3 mw and 110 mw 1000 ±20% cps.
OUTPUT IMPEDANCE: 600 ohms.
AMMETER RANGE: 0 to 3, 9.
VOLTMETER ACCURACY: ±5% full scale.
POWER REQUIREMENTS: 115 v ±10%, 50 to 1600 cps.

TUBE AND/OR CRYSTAL COMPLEMENT

(2) 6SJ7 (1) 6V6GT
(1) 6N7GT (1) 6X5GT
Total Tubes: (5)

REFERENCE DATA AND LITERATURE

NAVAER 08-5S-78: Technical Manual for Airborne Electrical and Electronic Equipment.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.
R.D.B. IDENT. NO.

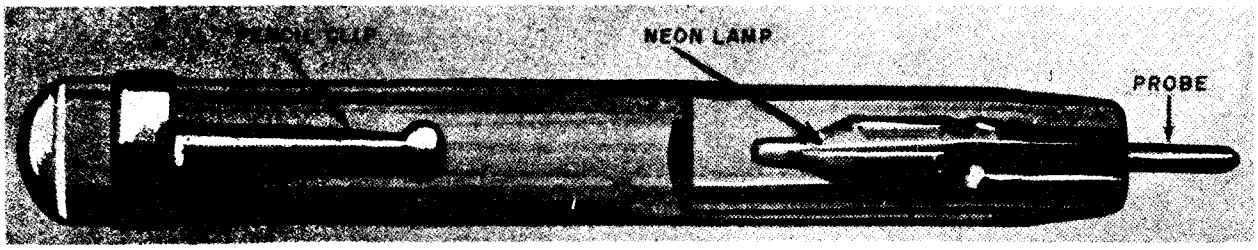
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Test Set TS-387/U	10-1/8 X 13-5/8 X 18	55
1	Power Cord	120 lg	
2	Allen Wrenches No. 8 and No. 10		
2	Spare Fuses 28040-3	1-1/4 dia.	
1	Instruction Sheet		

March 1957

Test-Miscellaneous Test

RADIO FREQUENCY INDICATOR TS-446/U



Radio Frequency Indicator TS-446/U

FUNCTIONAL DESCRIPTION

The TS-446/U is a pencil type radio frequency indicator used to test for rf energy in the components of the radar set. The barrel contains a 105 to 125 v, 1/25 watt neon lamp which is connected to a probe extending from one end of the indicator. A pencil clip on the opposite end permits the indicator to be clipped to a shirt or coat pocket for carrying. When the probe contacts a circuit carrying RF energy the lamp glows.

No field changes in effect at time of preparation (8 October 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

LAMP DATA: 105 to 125 v, 1/25 W, slide base mounted.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

TM11-1259: Technical Manual for Radar Set AN/MPM-24.

TYPE CLASSIFICATION
DESIGN COGNIZANCE TASSA
PROCUREMENT COGNIZANCE
STOCK NO.
R.D.B. IDENT. NO.

EQUIPMENT SUPPLIED DATA

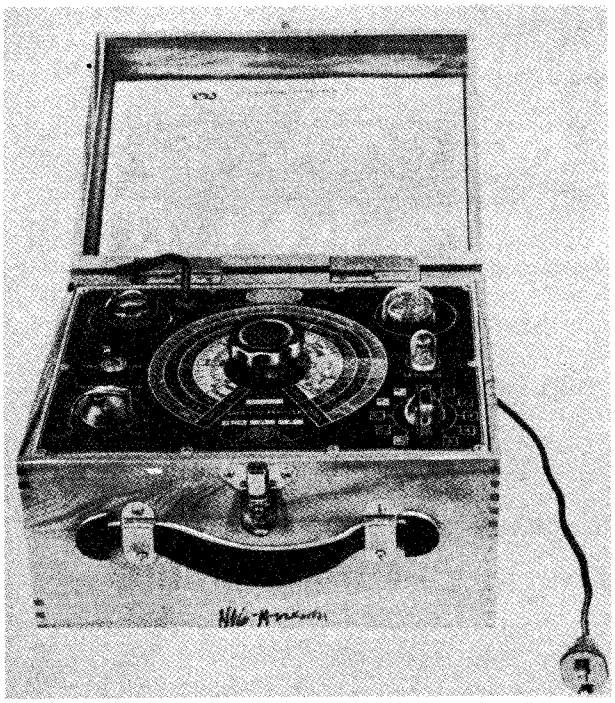
QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Frequency Indicator TS-446/U	4-5/8 X 1/2 in. dia	

August 1957

Test-Miscellaneous Test

MULTIMETER

TS-506A/U



Multimeter TS-506A/U

FUNCTIONAL DESCRIPTION

The TS-506A/U is a portable test instrument. It is used to determine the important electrical characteristics of all types of electrolytic, paper, mica, trimmer, and air capacitors. Capacitors may be tested for leakage, opens, shorts, and intermittent operation. The capacitance and the power factor of these capacitors may be measured.

No field changes in effect at time of preparation (4 February 1957).

RELATION TO OTHER EQUIPMENT

Same as Solar Model CC-1-60.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

RANGES: 10 uuf to 800 uf.
50 ohms to 2 meg.
OPERATING POWER: 110 v, 50 to 60 cps, single ph.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

TM11-487H: Technical Manual for test equipment.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	TASSA
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	

SHIPPING DATA

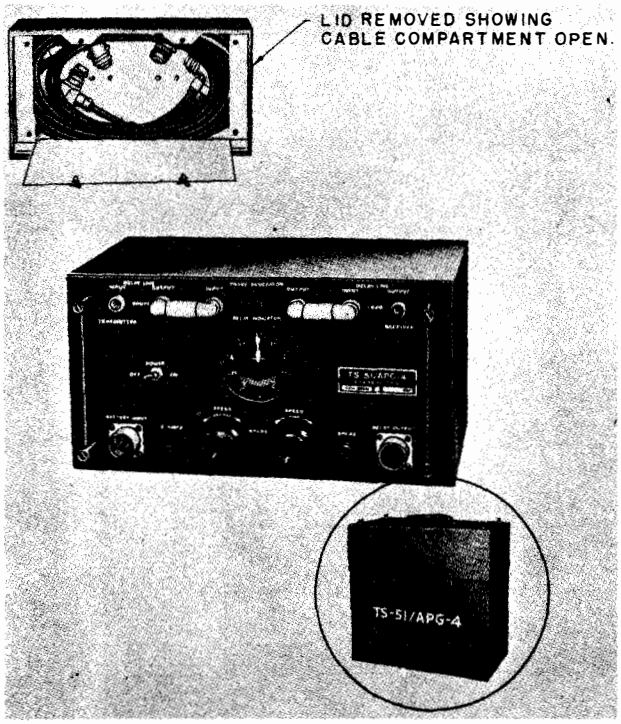
NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Multimeter TS-506A/U	0.42		14

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Multimeter TS-506A/U	6-5/8 x 8-1/4 x 9-3/4	8

TEST SET

TS-51/APG-4



Test Set TS-51/APG-4

FUNCTIONAL DESCRIPTION

The TS-51/APG-4 is designed to provide a means of adjusting and calibrating Radio Set AN/APG-4 or Radio Set AN/APG-4X bomb release equipment before such equipments are placed in service and during test and maintenance operations.

No field changes in effect at time of preparation (22 August 1956).

RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied: (1) CR Oscilloscope, (1) RF Attenuator and Cable, (1) Power Supply Input Cable.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

OPERATING POWER: 13 or 26 v DC.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

Technical Manual for Test Set TS-51/APG-4.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUAER
PROCUREMENT COGNIZANCE
STOCK NO.
R.D.B. IDENT. NO.

EQUIPMENT SUPPLIED DATA

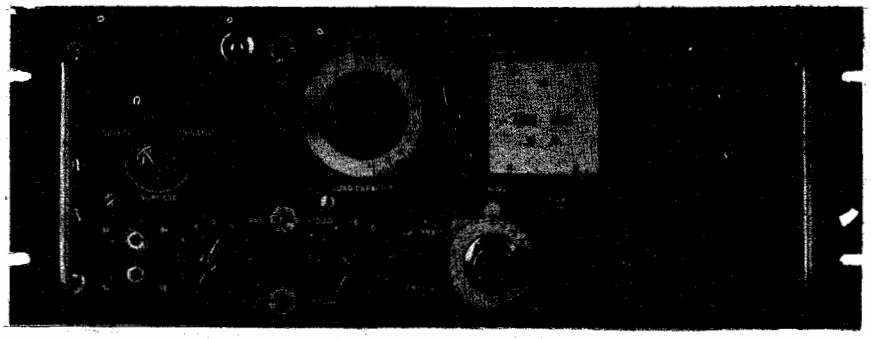
QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Phase Generator (Modulator) and Two Delay Networks in Case TS-51/APG-4 consisting of:	8-1/4 X 15-1/4 X 15-1/2	34-1/2
	Transmitter Antenna Cable with Connectors	.415 dia. X 76 lg	1
	Receiver Antenna Cable with Connectors	.415 dia. X 76 lg	1
	Battery Input Cable with Connectors	.5 dia X 76 lg	1-3/4
	Relay Output Cable with Connectors	.5 dia X 76 lg	1-3/4

30 April 1962 6625-643-8565 CRYSTAL IMPEDANCE METER TS-537/TSM
Cog Service: USA FSN: 6625-669-5163 W/S Functional Class: 12.12.8

USA	USN	USAF

TYPE CLASS: Std

MANUFACTURER'S NAME/CODE NUMBER: Radio Frequency Laboratories Inc., (49673).



Crystal Impedance Meter TS-537/TSM

FUNCTIONAL DESCRIPTION:

Crystal Impedance Meter TS-537/TSM is designed specifically to test quartz crystal units in the frequency range of 75 to 1,100 kc.

Testing is accomplished by measuring directly the effective series-resonant and antiresonant resistances of crystal units.

With the use of an external frequency measuring device, and a low frequency capacity measuring unit, the equivalent electrical parameters of crystal units can be measured.

Once the series-resonant and antiresonant frequencies, and the static capacitance are known the equivalent series capacitance and inductance as well as the performance index can be computed.

No field changes in effect at time of preparation (28 February 1962).

TS-537/TSM CRYSTAL IMPEDANCE METER

TECHNICAL CHARACTERISTICS:

POWER REQUIREMENTS: 115 v, 50 to 1720 cyc, single ph.
FREQUENCY RANGE: 75 to 1,100 kc in 6 bands.
CAPACITANCE RANGE: 12 to 110 uuf.
RESISTANCE RANGE: 0 to 900; 9,900; 99,000 ohms.

RELATION TO OTHER EQUIPMENT:

This equipment is usually supplied jointly with Crystal Impedance Meter TS-330/TSM (500 kc to 12 mc) to form the overall Crystal Test Set AN/TSM-3 of which they are parts. Two cases CY-23/TSM are also supplied with Crystal Test Set AN/TSM-3, one of which is intended to carry Crystal Impedance Meter TS-537/TSM.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Crystal Impedance Meter TS-537/TSM includes:		7 x 10-1/2 x 19	
1	Cable Ass'y, Power CX-112/U		72 lg	
1	Cable Ass'y, RF		48 lg	

REFERENCE DATA AND LITERATURE:

TM11-5052: Technical Manual for Crystal Impedance Meter TS-537/TSM and TS-537A/TSM.
TO 16-35TS537-5: Technical Manual for Crystal Impedance Meter TS-537/TSM and TS-537A/TSM.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (2) 0C3W (1) 5Y3GT (1) 6V6GTY

CRYSTALS: None used.

SEMI-CONDUCTORS: None used.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	5.7	60

PROCUREMENT DATA

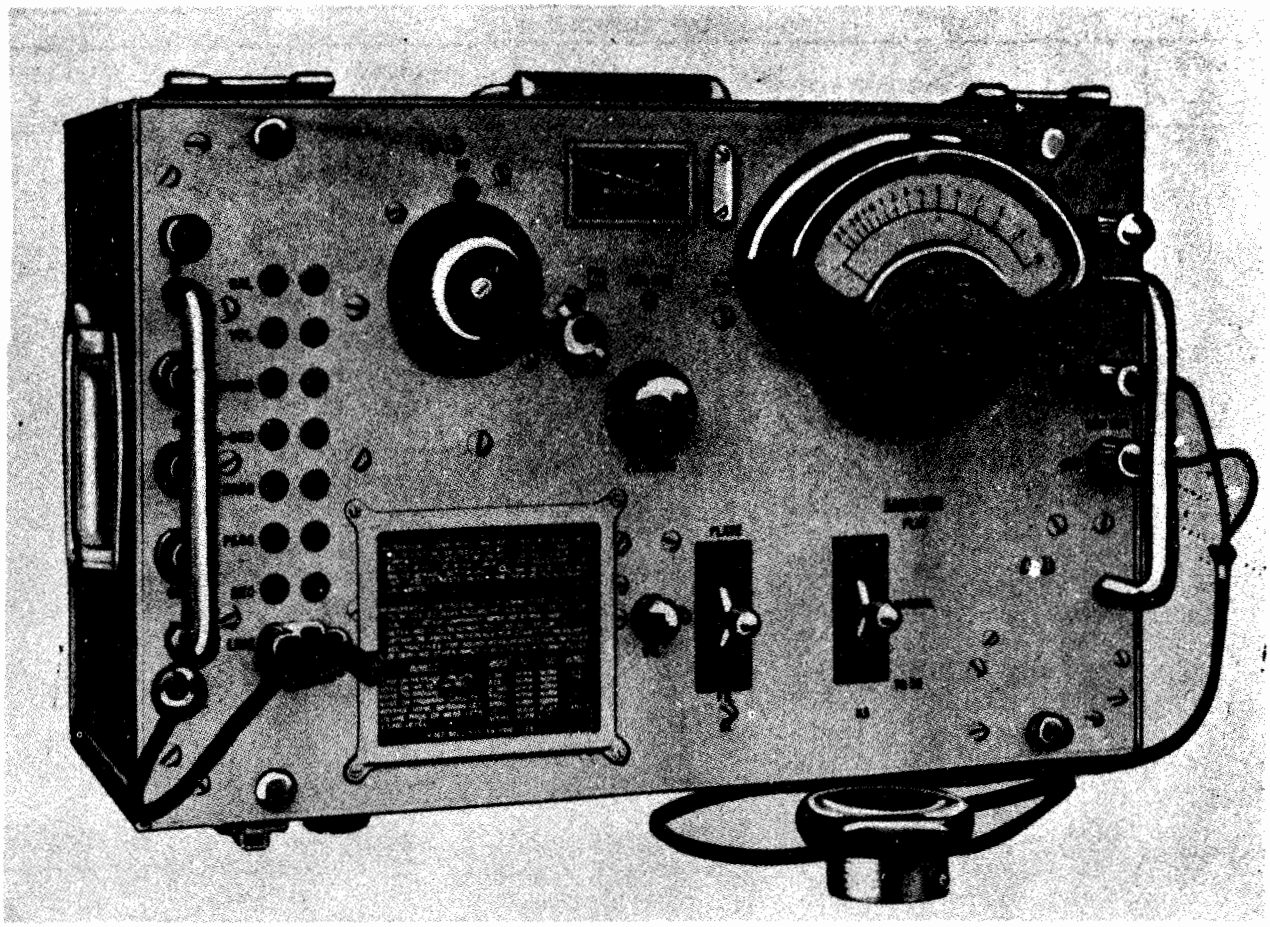
PROCURING SERVICE: USA
SPEC &/OR DWG: MIL-T-12628(Sig C)
DESIGN COG: USA, Sig C

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Radio Frequency Laboratories Inc.	Boonton, N. J.	11698-Phila-50 3423-Phila-52 6883-Phila-51	

June 1957

Test-Miscellaneous Test

TRANSMISSION MEASURING SET TS-559/FT



Transmission Measuring Set TS-559/FT

FUNCTIONAL DESCRIPTION

The TS-559/FT is a portable telephone test set. It is used to measure noise levels on telephone lines and equipment. The noise level is indicated visually by the deflection of a meter needle.

No field changes in effect at time of preparation (8 October 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

RANGE: 10 to 85 db above reference noise.
OPERATING POWER: 2 batteries BA-23, 6 batteries BA-2

MANUFACTURER'S OR CONTRACTOR'S DATA

Western Electric Co, NY, NY.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

TM11-487H: Technical Manual for Test Equipment.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	TASSA
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	

Test–Miscellaneous Test

June 1957

TS-559/FT TRANSMISSION MEASURING SET

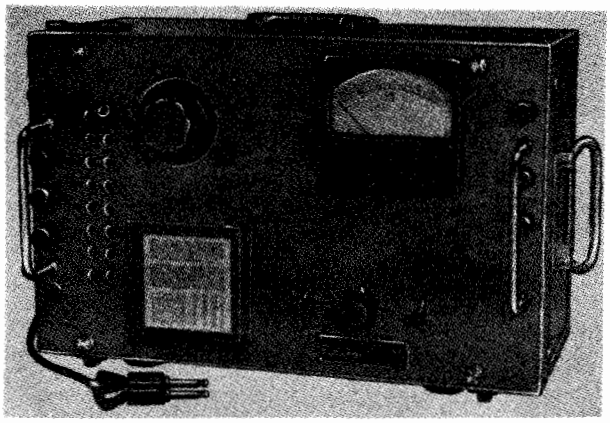
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Transmission Measuring Set TS–559/FT	10–1/8 X 11–1/2 X 18–1/8	50

January 1958

Test-Miscellaneous Test

TRANSMISSION MEASURING SET TS-559A/FT, 559B/FT



Transmission Measuring Set TS-559A/FT, 559B/FT

FUNCTIONAL DESCRIPTION

The TS-559A/FT and TS-559B/FT are portable, battery-operated test sets designed to measure noise on telephone circuits, and can also be used for transmission measurements as a flat amplifier and as an oscillator. They are used in conjunction with Transmission Measuring Set TS-568/FT to provide a visual indicating arrangement for measurements of telephone-circuit harmonic components.

No field changes in effect at time of preparation (29 July 1957).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

NOISE RANGE: 10 to 85 db below reference level.

METER DATA

RANGE: -7 to +10 db.

SENSITIVITY: 300 ua full scale deflection.

POWER REQUIREMENTS: (2) 1.5 v and (6) 22.5 v batteries.

MANUFACTURER'S OR CONTRACTOR'S DATA

The Daven Company, Newark, N. J.

TUBE AND/OR CRYSTAL COMPLEMENT

(3) 1U4

Total Tubes: (3)

(2) 1N34A

Total Crystals: (2)

REFERENCE DATA AND LITERATURE

TM11-2094: Technical Manual for Transmission Measuring Sets TS-559A/FT and TS-559B/FT.

TYPE CLASSIFICATION
DESIGN COGNIZANCE TASSA
PROCUREMENT COGNIZANCE
STOCK NO.
R.D.B. IDENT. NO. 12.6

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Transmission Measuring Set TS-559A/FT or TS-559B/FT	2.9	14 x 15-1/2 x 23	58

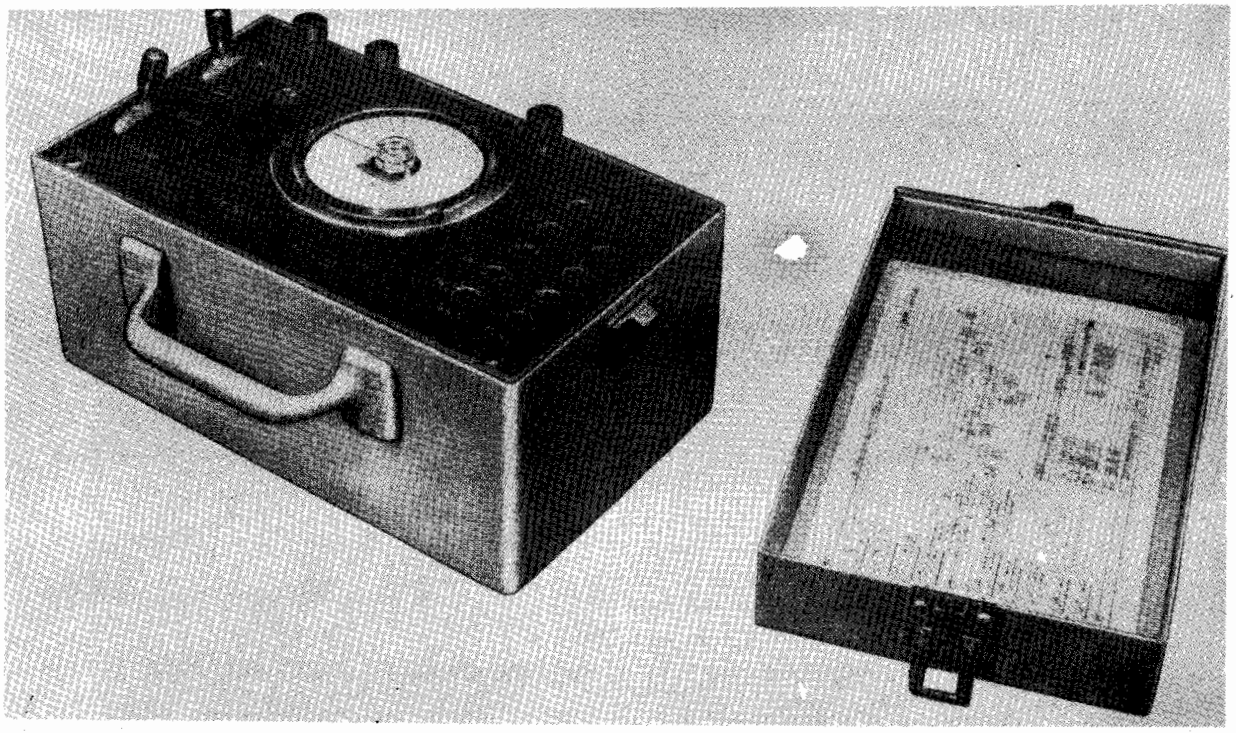
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Transmission Measuring Set TS-559A/FT or TS-559B/FT	10 x 11-1/2 x 18	56

January 1958

Test-Miscellaneous Test

TRANSMISSION MEASURING SET TS-561/FT



Transmission Measuring Set TS-561/FT

FUNCTIONAL DESCRIPTION

The TS-561/FT is a telephone test set used to measure transmission levels on telephone circuits. It has ten jacks for connecting to Western Electric Company plugs number 109, 110, and 241. It is portable, complete with carrying case and handle and requires no power supply.

No field changes in effect at time of preparation (24 July 1957).

RELATION TO OTHER EQUIPMENT

The TS-561/FT is the same as Western Electric Company Type 12A.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

RANGE: 0 to 20 db below 1 mw over frequency range of 350 to 10000 cps.

MANUFACTURER'S OR CONTRACTOR'S DATA

Western Electric Company, New York, N. Y.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

TM11-487H: Directory of Signal Corps Equipments, Test Equipment.

Nomenclature Card for Transmission Measuring Set TS-561/FT.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	TASSA
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	12.6

Test-Miscellaneous Test

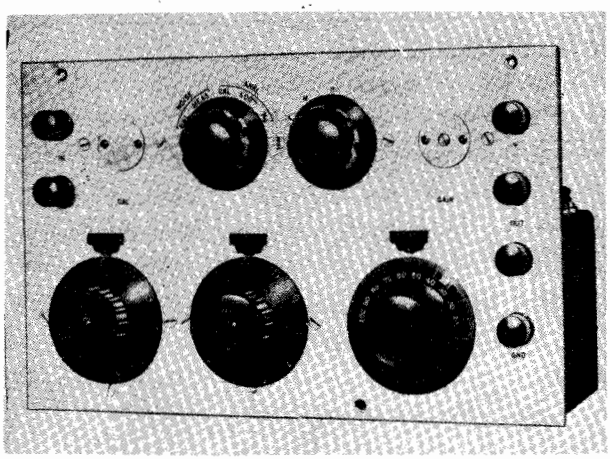
January 1958

TS-561/FT TRANSMISSION MEASURING SET

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Transmission Measuring Set TS-561/FT	5 X 5 X 8-1/2	7

TRANSMISSION MEASURING SET TS-568/FT



Transmission Measuring Set TS-568/FT

FUNCTIONAL DESCRIPTION

The TS-568/FT is a telephone test set that is used with Test Set TS-599/FT or other amplifier-indicator having similar input impedance or gain characteristics. The combination is used for frequency and amplitude analyses of noise currents and voltages induced on telephone circuits, and for measurements of harmonic currents and voltages on power circuits.

It requires a current coupler and voltage coupler if it is desired to make harmonic analyses of power circuit currents and voltages.

No field changes in effect at time of preparation (24 July 1957).

RELATION TO OTHER EQUIPMENT

The TS-568/FT is the same as Western Electric Company Type 10A.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 180 to 4000 cps.
SELECTIVITY
  LOW RANGE
    60 CPS AWAY: -24 db response.
    120 CPS AWAY: -30 db response.
  MEDIUM RANGE
    60 CPS AWAY: -20 db response.
    120 CPS AWAY: -25 db response.
  HIGH RANGE
    60 CPS AWAY: -16 db response.
    120 CPS AWAY: -21 db response.
INPUT IMPEDANCE: 600 ohms.
UNBALANCE ERRORS: 0.03 ua per v to ground at 3000 cps max for metallic current measurement.
LINEARITY: Approx 0.2 db at 540 cps max error on low range.

MANUFACTURER'S OR CONTRACTOR'S DATA

Western Electric Company, New York, N.Y.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

TM11-487H: Directory of Signal Corps Equipments, Test Equipment.
Nomenclature Card for Transmission Measuring Set TS-568/FT.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	TASSA
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	12.6

SHIPPING DATA

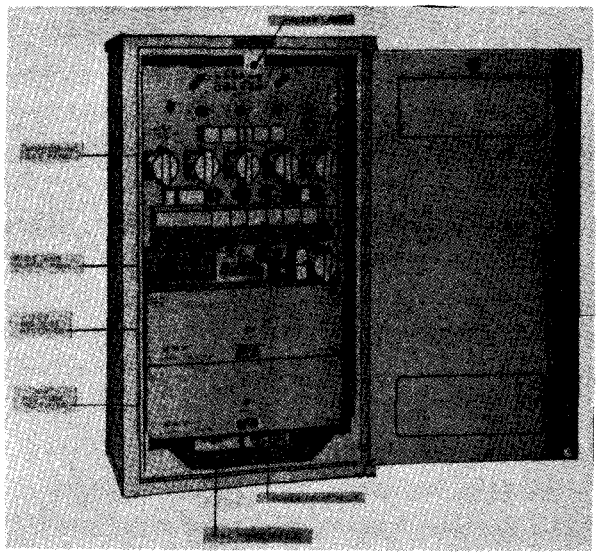
NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Transmission Measuring Set TS-568/FT	2.7	14-1/4 X 14-1/4 X 23	60

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Transmission Measuring Set TS-568/FT	8 X 9 X 14	25

Test-Miscellaneous

TELEGRAPH MONITOR TS-577/FG



Telegraph Monitor TS-577/FG

FUNCTIONAL DESCRIPTION

Telegraph Monitor TS-577/FG is a stationary automatic telegraph service monitoring equipment used in audible and visual measurements of signal distortions. Application is in depot testing.

No field changes in effect at time of preparation (8 April 1959).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

POWER REQUIREMENTS: 300 W, 115 or 230 v, 50 to 60 cy, 1 ph.
INTERFERENCE FILTER RESPONSE: 0.3 to 15 mc.
RESPONSE RANGE:
NEUTRAL SIGNALS: 60 ma.
POLAR SIGNALS: ±30 ma.
TRANSMISSION SPEED: 60 wpm, 75 wpm, 100 wpm, 120 wpm.

MANUFACTURER'S OR CONTRACTOR'S DATA

Western Electric Co., New York, New York.

TUBE AND/OR CRYSTAL COMPLEMENT

(2) 394A (3) 2050

Total Tubes: (5)

No Crystals used.

REFERENCE DATA AND LITERATURE

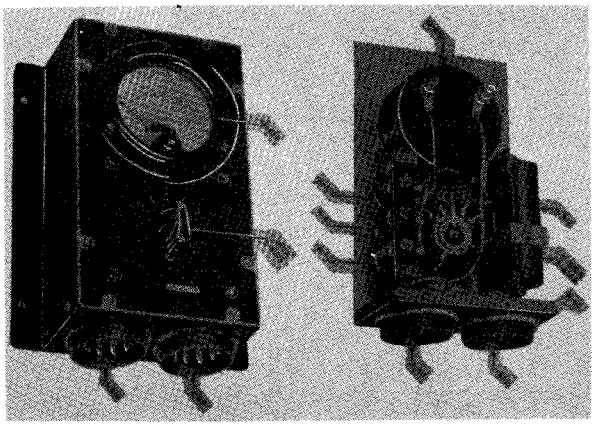
NAVSHIPS 95469, TM11-2053: Technical Manual for Automatic Telegraph-Service Monitoring Set.

TYPE CLASSIFICATION
DESIGN COGNIZANCE TASSA
PROCUREMENT COGNIZANCE MIL-T-3290
STOCK NO.
R.D.B. IDENT. NO. 12.6

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Telegraph Monitor TS-577/FG	17 X 22-1/4 X 42	300

TEST UNIT TS-58/GRM-1



Test Unit TS-58/GRM-1

FUNCTIONAL DESCRIPTION

The TS-58/GRM-1 Test Unit is designed to be used in connection with the testing of both the Medium Frequency (MF)-High Frequency (HF) and the Very High Frequency (VHF) transmitters.

No field changes in effect at time of preparation (1 April 1959).

RELATION TO OTHER EQUIPMENT

The TS-58/GRM-1 is designed to be used with but not part on the AN/ARC-5.

The TS-58/GRM-1 is designed as part of the AN/GRM-1.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

OPERATING POWER RQMT: 115 v, 60 cps, single ph.

MANUFACTURER'S OR CONTRACTOR'S DATA

Western Electric Co., Inc., New York, N.Y.

No Electron Tubes or Crystals used.

REFERENCE DATA AND LITERATURE

AN 08-10-195: Technical Manual for Model AN/ARC-5 Aircraft Radio Equipment Volume 2 VHF components.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUAER
PROCUREMENT COGNIZANCE
STOCK NO.
R.D.B. IDENT. NO.

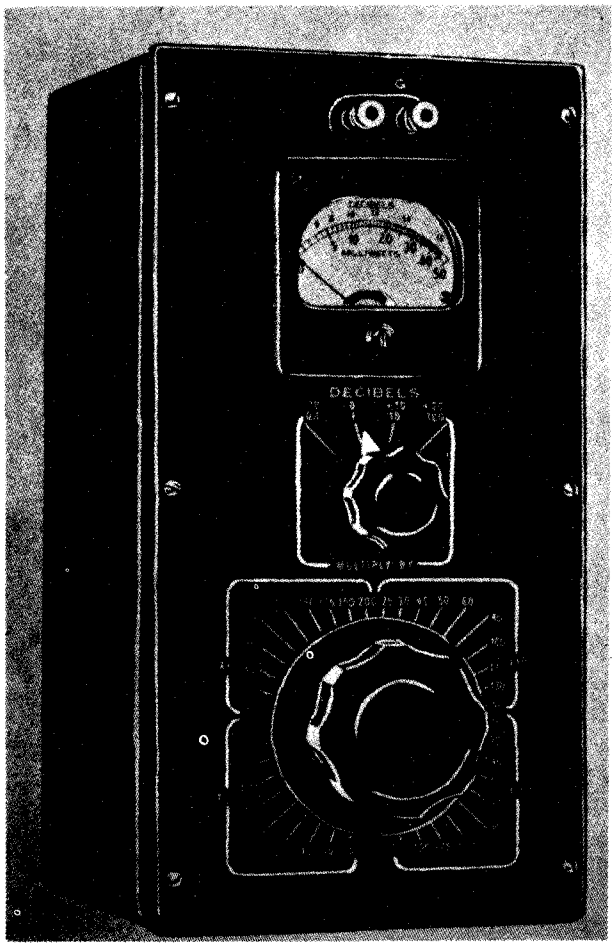
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Test Unit TS-58/GRM-1		

June 1957

Test-Miscellaneous Test

OUTPUT METER TS-585/U



OUTPUT METER TS-585/U

FUNCTIONAL DESCRIPTION

The TS-585/U is a direct-reading, audio-frequency power meter. It is used to measure the power output and the effect of load impedance on the power delivered by amplifiers, filters, oscillators and similar equipment. Standard radio receiver tests such as noise pick-up level, bandwidth, selectivity, fidelity, and sensitivity may be made by using the scale of the instrument.

No field changes in effect at time of preparation (24 September 1956).

RELATION TO OTHER EQUIPMENT

Same as General Radio Model 583A.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

RANGES
20 to 10,000 cps.
0.1 to 5000 mw.
0.10 to +37 dbm.
INPUT IMPEDANCE: 0.2 to 20,000 ohms.
ACCURACY: 5%.

MANUFACTURER'S OR CONTRACTOR'S DATA

General Radio Co, Chicago, Ill.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

TM11 487H: Technical Manual for Test equipment.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	TASSA
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Output Meter TS-585/U	1.6		30.5

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Output Meter TS-585/U	6 x 7 x 12	9

October 1957

Test-Miscellaneous Test

AUDIO OSCILLATOR

TS-589/U

Audio Oscillator TS-589/U

FUNCTIONAL DESCRIPTION

The TS-589/U is a battery operated electromechanical oscillator in which the frequency is determined by a tuning fork. It is used as a modulating source for standard-signal generators and as a test tone generator for communications equipment.

No field changes in effect at time of preparation (5 February 1957).

RELATION TO OTHER EQUIPMENT

Similar to General Radio Model 813-A.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY: 1000 cps.
ACCURACY: ±0.1%.
POWER OUTPUT: 20 to 30 mw with a 6 v drive.
10 to 15 mw with a 4.5 v drive.
IMPEDANCE OUTPUT: 50, 500 and 5,000 ohms.
POWER: Battery operated

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes or Crystals.

REFERENCE DATA AND LITERATURE

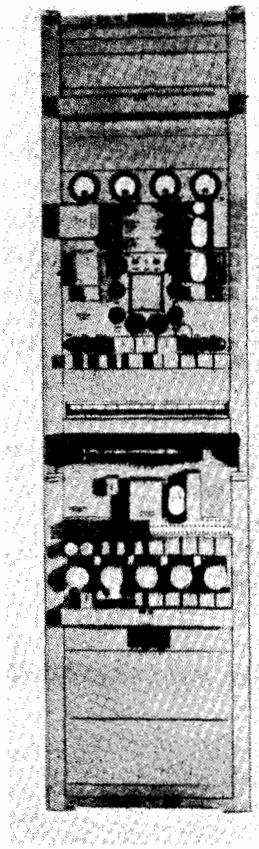
TM11-487H: Technical Manual for test equipment.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	TASSA
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Audio Oscillator TS-589/U	6 x 5 x 9	8.25

TELETYPEWRITER TEST SET TS-611/FG



Teletypewriter Test Set TS-611/FG

FUNCTIONAL DESCRIPTION

Teletypewriter Test Set TS-611/FG is a fixed-plant instrument used in measuring the quality of teletypewriter signals on a working circuit.

No field changes in effect at time of preparation (22 October 1959).

RELATION TO OTHER EQUIPMENT

This equipment is identical with Western Electric Co. Model No. 118C2.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

POWER REQUIREMENTS: 105 to 125 v, 50 to 60 cy, 1 ph, 2 amp.

RANGE: 5 or 6 digit tty signals of 60, 75, or 100 speed; used with 0.020 or 0.0675 amp netural circuits, 0.035 amp polar circuits or 48 v inverse neutral circuits.

MANUFACTURER'S OR CONTRACTOR'S DATA

Western Electric Co., NY, NY.
Model 118C2.
Contract NObsr-43375, dated 2 June 1949.
Contract NObsr-63141.

TUBE AND/OR CRYSTAL COMPLEMENT

(3) OC3	(1) OD3	(1) 2A5
(2) 338A	(3) 56	(1) 6F8G
(1) 6H6GT	(2) 6Y6G	(1) 80
(1) 83		

Total Tubes: (16)

No Crystals used.

REFERENCE DATA AND LITERATURE

NAVSHIPS 91237: Technical Manual for TELETYPEWRITER TEST SET TS-611/FG.

TYPE CLASSIFICATION	(NAVY)
DESIGN COGNIZANCE	USA, SIG C
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	12.6

SHIPPING DATA

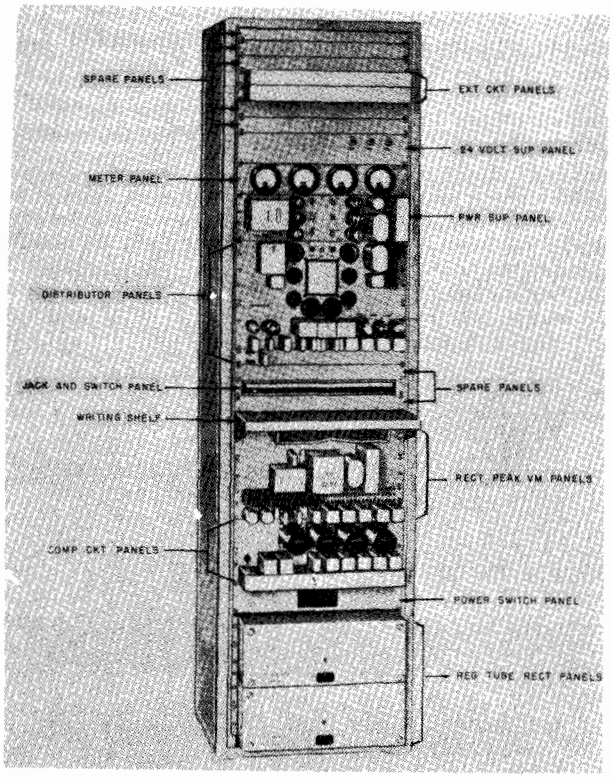
NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Teletypewriter Test Set TS-611/FG			

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Teletypewriter Test Set TS-611/FG	17 X 21-1/2 X 84	

Test-Miscellaneous Test

TELETYPEWRITER TEST SET TS-611A/FG



Teletypewriter Test Set TS-611A/FG

FUNCTIONAL DESCRIPTION

Teletypewriter Test Set TS-611A/FG is a fixed-plant instrument used in measuring the quality of teletypewriter signals on a working circuit.

No field changes in effect at time of preparation (22 October 1959).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

POWER REQUIREMENTS: 105 to 125 v, 50 to 60 cy, 1 ph, 2 amp.

RANGE: 5 or 6 digit tty signals of 60, 75 or 100 speed; used with 0.020 or 9.9675 amp neutral circuits, 0.035 amp polar circuits or 48 v inverse neutral circuits.

TUBE AND/OR CRYSTAL COMPLEMENT

(2) OC3	(1) 2A5	(1) OD3
(2) 338A	(1) 5T4	(3) 56
(1) 6F8G	(1) 6H6GT	(1) 80
(2) 6Y6G		

Total Tubes: (15)

No Crystals used.

REFERENCE DATA AND LITERATURE

TM11-2224: Technical Manual for TELETYPEWRITER TEST SET TS-611A/FG.

TYPE CLASSIFICATION	(NAVY) STD
DESIGN COGNIZANCE	USA, SIG C
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	12.6

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Teletypewriter Test Set TS-611A/FG	55.1	29 X 31 X 106	755

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Teletypewriter Test Set TS-611A/FG	17 X 21-1/2 X 84	625

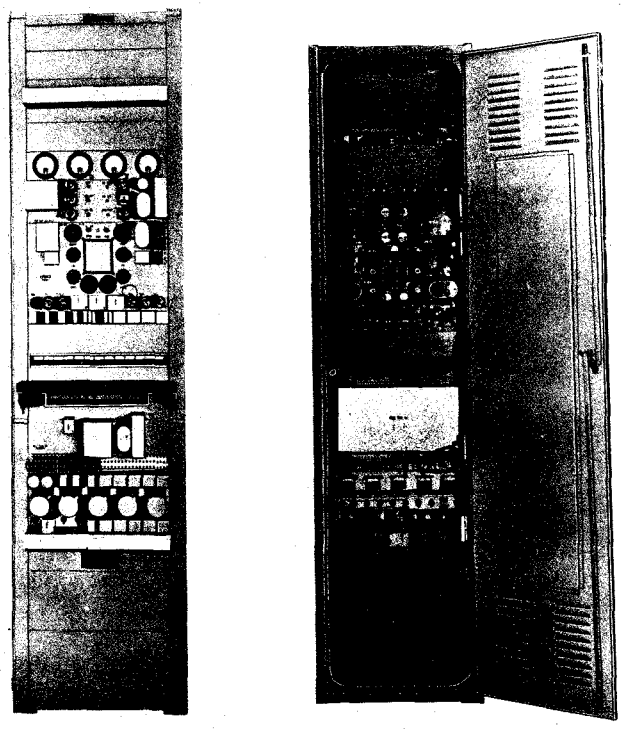
5 April 1962 TELETYPEWRITER TEST SET TS-611B/FG

Cog Service: FSN: 6625-707-7919 Functional Class:

USA USN USAF

TYPE CLASS:

MANUFACTURER'S NAME/CODE NUMBER: Western Electric Co.



Teletypewriter Test Set TS-611B/FG

FUNCTIONAL DESCRIPTION:

Teletypewriter Test Set TS-611B/FG is a fixed-plant instrument used in measuring the quality of teletypewriter signals on a working circuit.

No field changes in effect at time of preparation (8 January 1962).

TECHNICAL CHARACTERISTICS:

POWER REQUIREMENTS: 105 to 125 v, 50 to 60 cyc, 1 ph, 2 amp.

RANGE: 5 or 6 digit tty signals of 60, 75, or 100 speed; used with 0.020 or 0.0675 amp neutral circuits, 0.035 amp polar circuits or 48 v inverse neutral circuits.

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

TS-611B/FG TELETYPEWRITER TEST SET

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Teletypewriter Test Set TS-611B/FG		17 x 21-1/2 x 84	

REFERENCE DATA AND LITERATURE:

NAVSHIPS 93317: Technical Manual for Telegraph Transmission Measuring Set (J70069) TS-611B/FG, 118C3.

TUBE, CRYSTAL AND SEMI-CONDUCTOR DATA:

TUBES: (2) 0C3 (1) 0D3 (1) 2A5 (2) 338A (1) 5T4 (1) 6F8G (1) 6H6G (2) 6Y6G (3) 56 (1) 80

CRYSTALS: None used.

SEMI-CONDUCTORS: None used.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1		

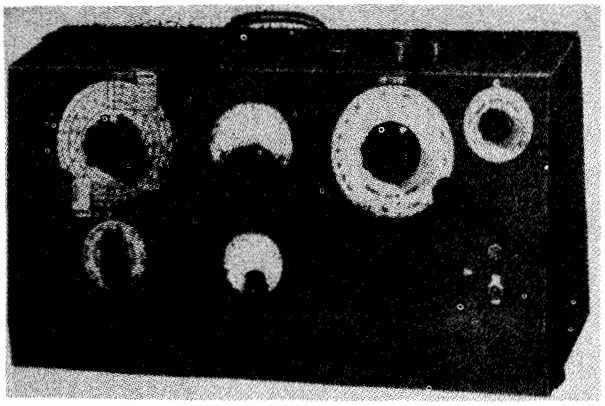
PROCUREMENT DATA

PROCURING SERVICE: DESIGN COG: USN, BuShips
SPEC &/OR DWG:

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Western Electric Co. Model no. 118C3	New York, N. Y.	NObsr-71361	$1,493.92
		NObsr-75830	$2,551.05

Q - METER

TS-617/U



Q-Meter TS-617/U

FUNCTIONAL DESCRIPTION

The TS-617/U consists of an RF oscillator and a measuring circuit. It is used for measuring Q of coils and capacitors.

No field changes in effect at time of preparation (20 December 1956).

RELATION TO OTHER EQUIPMENT

Same as Boonton Radio type 160-A

ELECTRICAL AND MECHANICAL CHARACTERISTICS

RANGES: 0 to 625, Q.
1 to 50 kc, with external oscillator.
50 to 75 KC, self contained.
30 to 450 uuf.

ACCURACY: ±5%.

OPERATING POWER: 105 to 120 v or 210 to 240 v, 50 to 60 cps, single ph.

MANUFACTURER'S OR CONTRACTOR'S DATA

Boonton Radio Corp, Boonton, N.J.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 2A6 (1) 5Y3WGTB (1) 45

Total Tubes: (3)

REFERENCE DATA AND LITERATURE

TM-487H: Technical Manual for Test-Equipment.

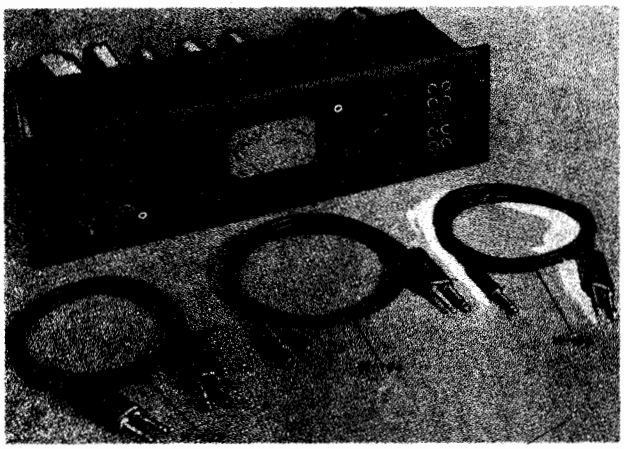
TYPE CLASSIFICATION	
DESIGN COGNIZANCE	TASSA
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Q-Meter TS-617/U	8-1/2 x 12-1/2 x 20	40

March 1957

AUDIO LEVEL TEST PANEL TS-629/U,A/U,B/U



Audio Level Test Panel TS-629/U

FUNCTIONAL DESCRIPTION

The TS-629/U, TS-629A/U or TS-629B/U is designed to accurately measure audio levels in broadcasting, sound recording, telephone transmission, and allied fields where precise monitoring over the audio range is required.

No field changes in effect at time of preparation (26 September 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

RANGES
TERMINATING SCALE: −40 dbm to +20 dbm.
BRIDGING SCALE: −20 dbm to +20 dbm.
METER SCALE: −20 dbm to +3 dbm.
REFERENCE LEVEL: OVU (1mw into 600 ohms).
FREQUENCY RANGE: 200 to 10,000 cps for ±0.1 db accuracy.
INPUT IMPEDANCE
BRIDGING CONNECTION: 600 ohms.
TERMINATING CONNECTION: 12500 ohms.
FREQUENCY RESPONSE: Flat from 200 to 9000 cps, ±5 db from 30 to 15,000 cps.
POWER INPUT: 105 to 120 v, 50 to 60 cps, single ph.

MANUFACTURER'S OR CONTRACTOR'S DATA

Daven Co., Newark, N.J.
Contract (TS-629/U) NObsr 30166, dated 26 June 1946.
Contract (TS-629B/U NObsr 63297.
Approximate Cost: $300.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) OD3 (1) 6AG7Y (1) 6X5WGT
Total Tubes: (3)

REFERENCE DATA AND LITERATURE

NAVSHIPS 91072: Technical Manual for Audio Level Test Panel TS-629/U.
Nomenclature Card for Audio Level Test Panel TS-629B/U.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	

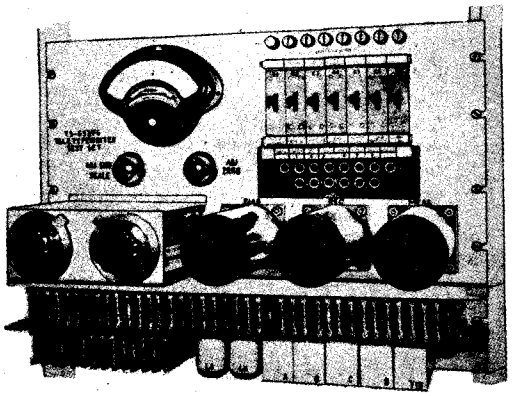
SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Audio Level Test Panel TS-629/U TS-629A/U or TS-629B/U	2.5	12 X 12 X 22-1/2	36

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Audio Level Test Panel TS-629/U, TS-629A/U or TS-629B/U	5-1/4 X 11 X 19	20
1	Cable Assy CX-2549/U		
1	Cable Assy CX-2550/U		
1	Cable Assy CX-2551/U		
1	Cord CD-370		
1	Set Equipment Spares	4 X 15 X 21	12

TELETYPEWRITER TEST SET TS-657/FG



Teletypewriter Test Set TS-657/FG

FUNCTIONAL DESCRIPTION

The TS-657/FG provides a source of biased teletypewriter test signals for use in testing teletypewriter circuits, including regenerative repeaters and teletypewriters. It also provides a means for measuring the bias at the receiving end of a telegraph circuit when reversals are transmitted into the circuit at the sending end.

No field changes in effect at time of preparation (13 August 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

INPUT: 115v DC.

MANUFACTURER'S OR CONTRACTOR'S DATA

Western Electric Co. New York, N.Y.
Contract-NObsr-43222, dated 8 April 1949.
Contract-NObsr-57189, dated 2 Feb 1952.
Approximate Cost: $490.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

NAVSHIPS-91210: Technical Manual for Teletypewriter Test Set TS-657/FG.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Teletypewriter Test Set TS-657/FG consisting of:	11-3/4 X 15 X 19	35
1	Panel	3 X 15 X 19	
1	Panel	8-3/4 X 15 X 19	

TELETYPEWRITER TEST SET TS-658/UG,TS-659/UG

Teletypewriter Test Set TS-658/UG

FUNCTIONAL DESCRIPTION

The TS-658/U, TS-659/UG are portable motor driven units arranged to transmit signals for testing teletype circuits and checking the efficiency of start-stop selectors on teletype apparatus. These signals may be a repetition of teletype signal combinations or telegraph reversals. The transmitted signals may be normal (undistorted), or they may be controlled to have 20% bias or end distortion, either marking or spacing.

No field changes in effect at time of preparation (19 Sept 1956).

RELATION TO OTHER EQUIPMENT

The TS-658/UG is similar to the TS-659/UG except it contains no filters for the distributor brushes or power leads, has the motor switch in the power cord instead of on the unit, and uses synchronous type motors instead of series governed type.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

DISTRIBUTOR: Complete electrical connections between the control switches and the signal line in the correct sequence and at the required speed. This is accomplished by three brushes which are mounted on a brush arm attached to the distributor shaft. The brushes are drawn over three concentric segmented rings. The outer ring and the middle ring each have seven segments which are used in connection with the transmission of the test characters. The segments of these two rings are offset 20% of a unit impulse with respect to each other in order to transmit 20% bias or end distortion. The inner ring has eight segments of equal length for transmission of telegraph reversals.

CONTROL SWITCHES: 9 control switches mounted on a panel extending across the width of the test set.

TYPE OF SIGNALS:

- Reversal
- Normal Undistorted Signals
- Marking Bias
- Spacing Bias
- Marking End Distortion
- Spacing End Distortion
- Short Circuit Line

MOTOR DATA

TS-658/UG (SYNCHRONOUS)

- TYPE EH: 368 opm, 50 cps; 115 v. (or)
- TYPE EG: 460 opm, 50 cps, 115 v. (or)
- TYPE DT: 368 opm, 60 cps, 115 v. (or)
- TYPE DS: 460 opm, 60 cps, 115 v. (or)
- TYPE HN: 600 opm, 60 cps, 115 v.

TS-659/UG (SERIES GOVERNED)

- TYPE HE: 368, 460 or 600 opm, 25 to 65 cps, 115 v.

MANUFACTURER'S OR CONTRACTOR'S DATA

Teletype Corporation, Chicago, Ill.

TS-658/UG

Contract NObsr-71285

Contract NObsr-64724, dated 27 Apr 1955.

Contract NObsr-42431, dated 25 June 1948.

Contract NObsr-57118, dated 24 Apr 1952.

TS-659/U

Contract NObsr-71301, dated 11 May 1956.

TS-658/UG,TS-659/UG TELETYPEWRITER TEST SET

Contract NObsr-64754, dated 2 June 1955.
Contract NObsr-42388, dated 25 June 1948.
Contract NObsr-52244, dated 23 Jan 1951.
Contract NObsr-57204, dated 13 Feb 1952.
Approximate Cost: $250.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

NAVSHIPS 91242: Technical Manual for Teletypewriter Test Set TS-658/UG.
NAVSHIPS 91162: Technical Manual for Teletypewriter Test Set TS-659/UG.
Teletype Corporation Instruction Manual No. 52 issue 2.

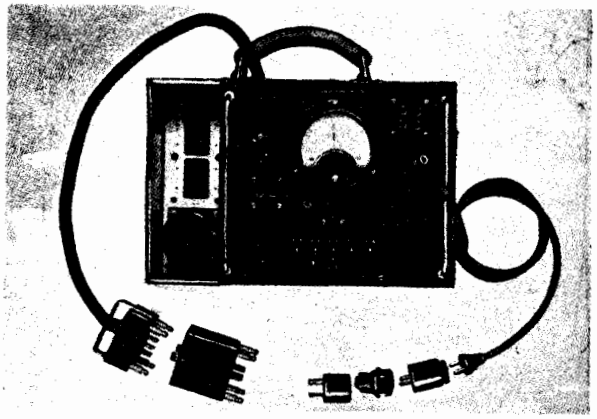
TYPE CLASSIFICATION
DESIGN COGNIZANCE COMMERCIAL
PROCUREMENT COGNIZANCE
STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Teletypewriter Test Set TS-658/UG	8 X 8 X 8	12
1	Teletypewriter Test Set TS-659/UG	8 X 8 X 8	13

TELETYPEWRITER TEST SET

TS-660/UG



Teletypewriter Test Set TS-660/UG

FUNCTIONAL DESCRIPTION

The TS-660/UG is a portable type test set primarily designed for clearing transmission troubles at outlying telegraph subscriber stations, but may also be used in central offices for testing toll telegraph circuits and circuits extending to outlying points where more suitable measuring equipment is not available.

It is designed for use with selected signals, and therefore must be used on circuits that are not in service. It provides for accurate measurement of systematic and fortuitous distortion of recurring signals, and may also be used for measuring voltage or current in external circuits.

No field changes in effect at time of preparation (31 August 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

POWER REQUIREMENTS: 115 v AC or DC nom.

MANUFACTURER'S OR CONTRACTOR'S DATA

Western Electric Company, New York, N.Y.
Contract NObsr 42420, dated 30 June 1948.
Approximate Cost: $600.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 25Z6GT

Total Tubes: (1)

REFERENCE DATA AND LITERATURE

NAVSHIPS 91157: Technical Manual for Western Electric 161A1 Telegraph Station Test Set, Specification J-70043.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.
R.D.B. IDENT. NO.

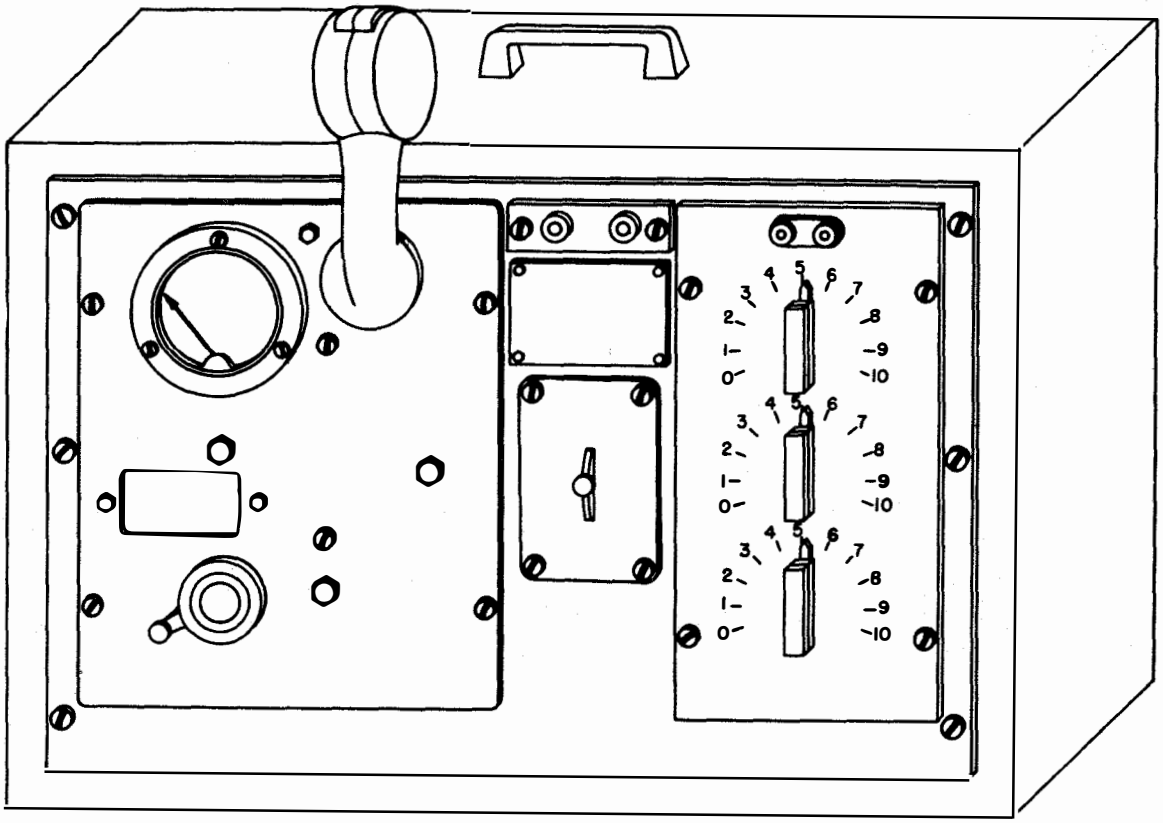
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Teletypewriter Test Set TS-660/UG including Relay, Power Plug Adapters and Connector Cords	9-1/8 X 9-1/2 X 14-1/2	28
1	Set Equipment Spare Parts		
2	Technical Manual		

March 1957

Test—Miscellaneous Test

RADIO TEST SET TS-674/FRT-4



Radio Test Set TS-674/FRT-4

FUNCTIONAL DESCRIPTION

The TS-674/FRT-4 is used for the substitution method of checking the transmission line termination.

No field changes in effect at time of preparation (23 October 1956).

RELATION TO OTHER EQUIPMENT

Similar to OAF-1.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

WAVEMETER
RANGE: 16 kc to 50 mc.
DECADE RESISTOR
RANGE: 0 to 1110 ohms in 1 ohm steps.

MANUFACTURER'S OR CONTRACTOR'S DATA

General Electric Company, Syracuse, New York.
Contract NObsr 39343, dated 30 June 1947.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

NAVSHIPS 91169: Technical Manual for Radio Transmitting Set AN/FRT-4.
Nomenclature Card for Radio Test Set TS-674/FRT-4.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	

Test-Miscellaneous Test

TS-674/FRT-4 RADIO TEST SET

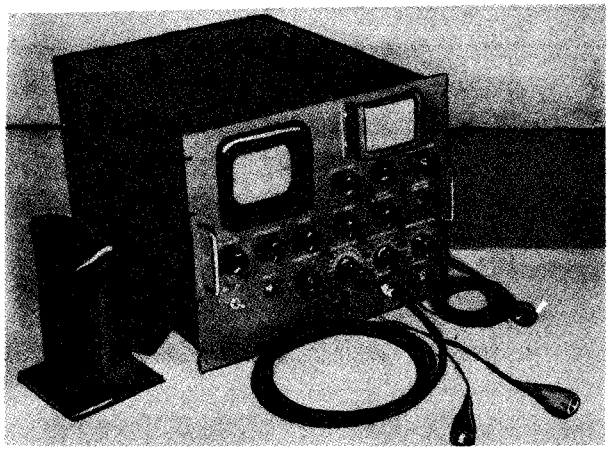
March 1957

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Test Set TS-674/FRT-4	17 X 18-1/2 X 21	20

December 1956

TRANSMISSION LINE FAULT LOCATOR TS-676/U



Transmission Line Fault Locator, TS-676/U

FUNCTIONAL DESCRIPTION

The TS-676/U is an electronic instrument designed for locating faults in transmission lines. It is capable of locating open circuits, short circuits, and partial short circuits in cables up to 10,000 feet in length. When connected to a cable, the operator can see the entire cable displayed on a cathode ray tube, and determine at which point a fault exists and take an accurate range in feet to the fault.

No field changes in effect at time of preparation (5 July 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

POWER OUTPUT (PEAK): 5000 W.
PULSE RATE
  1000000 FT RANGE: 500 pps.
  5000 FT RANGE: 5000 pps.
OUTPUT IMPEDANCE: 50 to 550 ohms.
HEAT DISSIPATION: 275 W.
INDICATION: 5 in. CR tube.
OSCILLATOR FREQUENCY
  SHORT RANGE: 356 to 858 kc.
  LONG RANGE: 33 to 71 kc.
PROPAGATION VELOCITY: 186,000 to 55,800 miles per second.
OUTPUT PULSE
  PEAK VOLTAGE: 500 V.
PULSE WIDTH: 0.1 usec.
POWER REQUIREMENTS: 104 to 126 v, 50 to 1600 cps, single ph, 0.9 pf at 2.65 amps.

MANUFACTURER'S OR CONTRACTOR'S DATA

Tobe Deutschmann Corp, Norwood Mass.
Contract NObsr-43068, dated 2 Nov. 1948.
Approximate Cost: $4000.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

(2) 2X2A	(6) 6J6
(1) 3C45	(3) 6SN7GT
(1) 5JP1A	(2) 6X4
(2) 5U4G	(1) OA2
(3) 6AG5	(1) OB2
(9) 6AQ5	

Total Tubes: (31)

REFERENCE DATA AND LITERATURE

NAVSHIPS 91532: Technical Manual for Transmission Line Fault Locator TS-676/U.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.
R.D.B. IDENT. NO.

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Transmission Line Fault Detector TS-676/U consisting of:	6.6	21-1/4 x 24-3/4 x 32-3/4	165
	Spare Parts Box Cathode Ray Tube Hood Cable, Input Cable, Output Adapter, Output	0.5	6-1/8 x 10-1/2 x 13-1/2	35

TS-676/U TRANSMISSION LINE FAULT LOCATOR

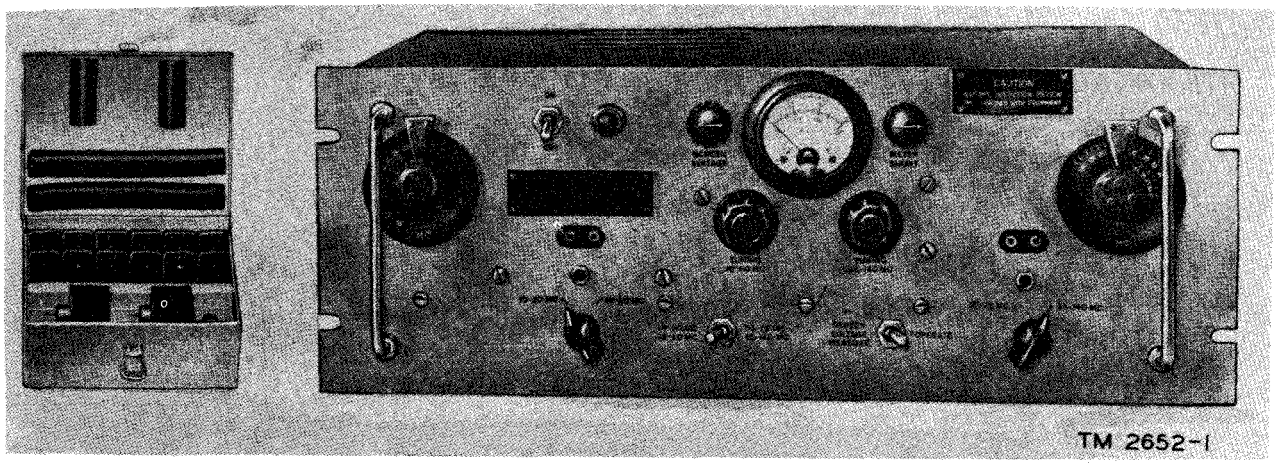
December 1956

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Transmission Line Fault Locator TS-676/U	15-5/8 x 19 x 22-1/2	75
1	Cathode Ray Tube Hood		7/8
1	Input Cable		3/4
2	Output Cable		2
2	Output Adapter		2
1	Spare Parts Box	6-1/8 x 10-1/2 x 13-1/2	35

Test-Miscellaneous Test

CRYSTAL IMPEDANCE METER TS-683/TSM



Crystal Impedance Meter TS-683/TSM

FUNCTIONAL DESCRIPTION

This equipment is designed to measure the equivalent electrical parameters of quartz crystals of the type used for communication purposes. Provision is made to measure directly the effective series resonant and anti-resonant resistances of quartz crystals at frequencies between 10 and 140 mc.

No field changes in effect at time of preparation (2 May 1958).

RELATION TO OTHER EQUIPMENT

A radio receiver or frequency meter must be used with this equipment.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 10 to 140 mc in 4 bands.
EQUIVALENT SERIES RESISTANCE RANGE: 10 to 150 ohms.
POWER SOURCE REQUIRED: 115 or 230 v, 50 to 1000 cps, 30 W.
MOUNTING DATA: Designed for rack mounting.

MANUFACTURER'S OR CONTRACTOR'S DATA

Radio Frequency Laboratories, Inc.
Order 14211-PHILA-51, dated 10 December 1951.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) OA2WA (1) 5Y3WGTB (2) 5654/6AK5W
Total Tubes: (4)

(2) 1N69
Total Crystals: (2)

REFERENCE DATA AND LITERATURE

Technical Manual for Crystal Impedance Meter TS-683/TSM.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	TASSA
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	12.12.8

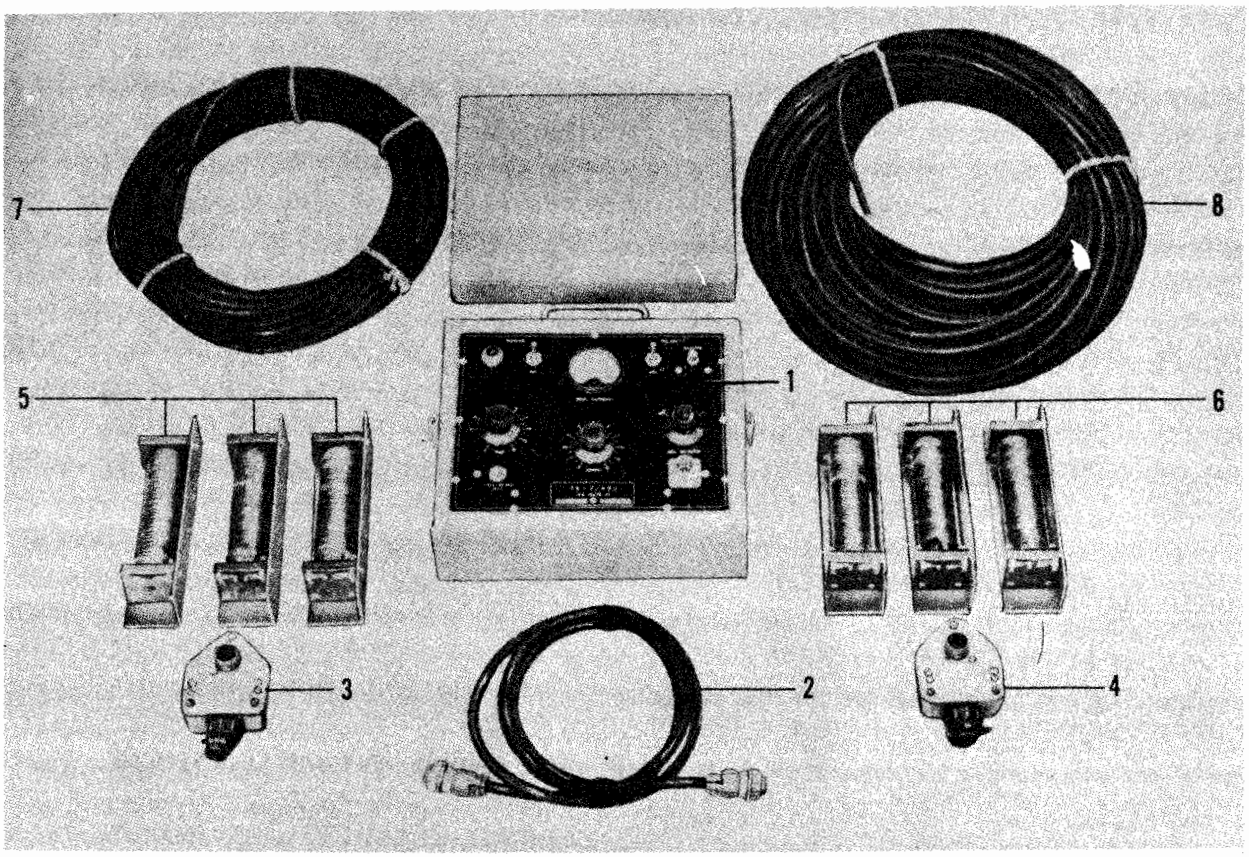
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Crystal Impedance Meter TS-683/TSM including:	7 X 10-1/2 X 19"	19
	(1) RF Output Cable W-2	60 lg	.62
	(12) Calibrating Resistors	5/16 X 3/4 X 1	.19
	(1) Adaptor AR-1	1-1/2 X 1-5/8 X 2	.19
	(1) Adaptor VR-2	1-1/2 X 1-3/4 X 2-1/4	.02
	(1) Box for Resistors and Adaptors		

January 1958

Test-Miscellaneous Test

MAGNETIC COMPENSATOR TS-7/ASQ



Magnetic Compensator TS-7/ASQ

FUNCTIONAL DESCRIPTION

The TS-7/ASQ is designed for the purpose of affecting compensation of the permanent magnetic fields present in the ferromagnetic members of an aircraft in connection with the operation of Detecting Equipments AN/ASQ-1 and AN/ASQ-2. It determines the number and strength of compensating magnets necessary for proper installation of MAD gear and accomplishes the compensation by controlling the strength and direction of the magnetic field of each of these permanent magnets.

No field changes in effect at time of preparation (9 July 1957).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

METER RANGE: 0 to 3 amps DC.
POWER REQUIREMENTS: 24 v DC, 70 W.

MANUFACTURER'S OR CONTRACTOR'S DATA

Geophysical Service Inc., Dallas, Texas.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

NAVAER 08-5S-78: Manual of Test Equipment for Airborne Electrical and Electronic Equipment.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUAER
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	

Test-Miscellaneous Test

January 1958

TS-7/ASQ MAGNETIC COMPENSATOR

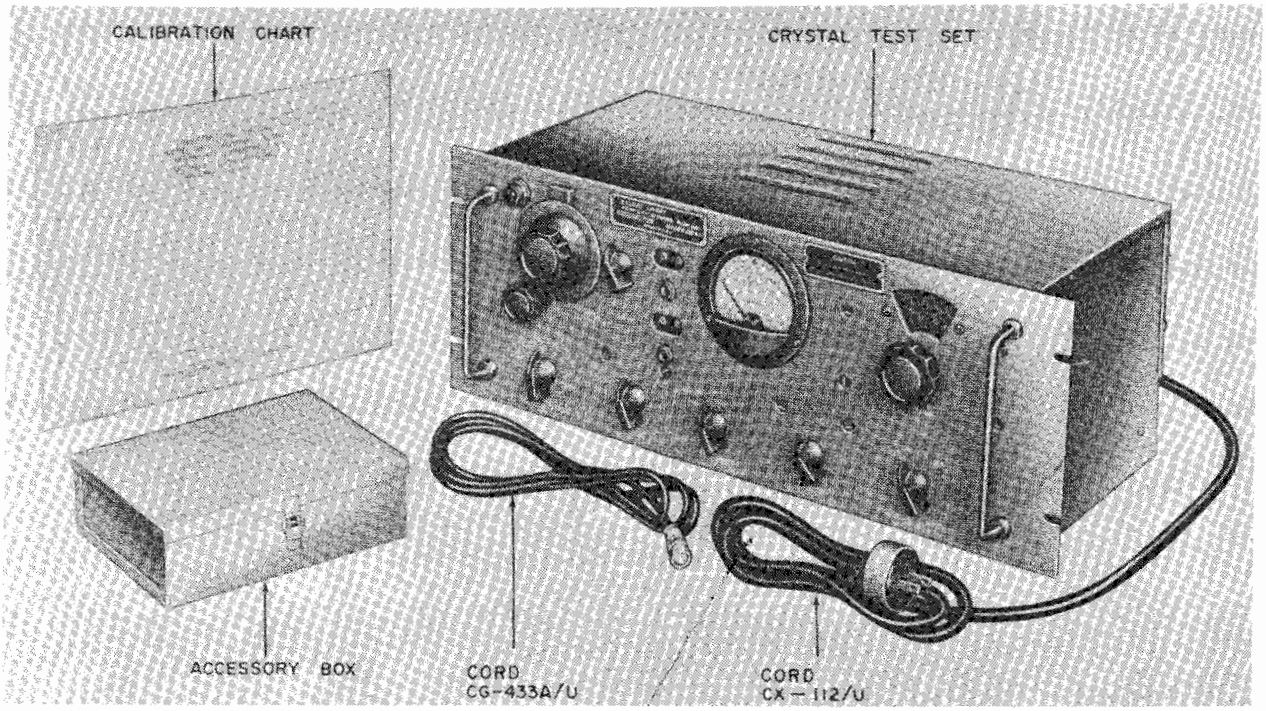
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Control Unit TS-7/ASQ	4-7/8 X 9-3/8 X 11-3/8	8.5
2	Junction Box Assembly	1-1/2 X 3 X 3-5/16	0.3
6	Compensator CN-14/ASQ	2 X 2 X 8	4.5
1	Cable, 2 Conductor	600 lg	2.5
1	Cable, 4 Conductor	1800 lg	12
1	Set of Equipment Spares		1.8

January 1958

Test-Miscellaneous Test

QUARTZ CRYSTAL UNIT TEST SET TS-710/TSM



Quartz Crystal Unit Test Set TS-710/TSM

FUNCTIONAL DESCRIPTION

The TS-710/TSM is used to measure the series resonant and antiresonant resistance of quartz crystals in the frequency range of 10 to 1100 kilocycles for conformance with applicable crystal specifications.

No field changes in effect at time of preparation (8 July 1957).

REFERENCE DATA AND LITERATURE

Equipment Required but not Supplied: (1) Frequency Measuring Group, OA-484/FSM-3, (1) Frequency Calibrator FR-70/U, (1) 0 to 500 uamp meter, (1) Plug PJ-055 and 2-wire connecting cord.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGES: 10 to 25 kc, 25 to 70 kc, 70 to 200 kc, 200 to 450 kc, 450 to 1100 kc.

CALIBRATION RESISTORS: 3000, 4000, 5000, 6000, 7000, 8000, 10000, 20000, 50000, 75000, 100000, 125000, 150000, 200000 ohms.

CALIBRATION POTENTIOMETERS: 0 to 5000, 0 50000, 0 to 500000 ohms.

LOAD CAPACITY: 10 to 105 uuf.

DC MICROAMMETER: Four scales: One ohmmeter scale, range 0 to infinity; three DC voltage scales; 0 to 5, 0 to 10 and 0 to 25 v.

POWER SOURCE REQUIRED: 115 v or 230 v, 50 to 1000 cps, single ph.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 5Y3W	(1) 12AX7
(1) 6AQ5W	(1) OA2
(1) 6BA6W	(1) OB2

Total Tubes: (6)

REFERENCE DATA AND LITERATURE

TM11-5106, TO 33D7-7-4-11; Technical Manual for Quartz Crystal Unit Test Set TS-710/TSM.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	TASSA
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	

Test-Miscellaneous Test

January 1958

TS-710/TSM QUARTZ CRYSTAL UNIT TEST SET

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Quartz Crystal Unit Test Set TS-710/TSM (Export Carton)	3.9	15-1/2 X 17 X 25-1/2	52
	or			
1	Quartz Crystal Unit Test Set TS-710/TSM (Domestic Carton)	2.6	14 X 14 X 22-1/2	47

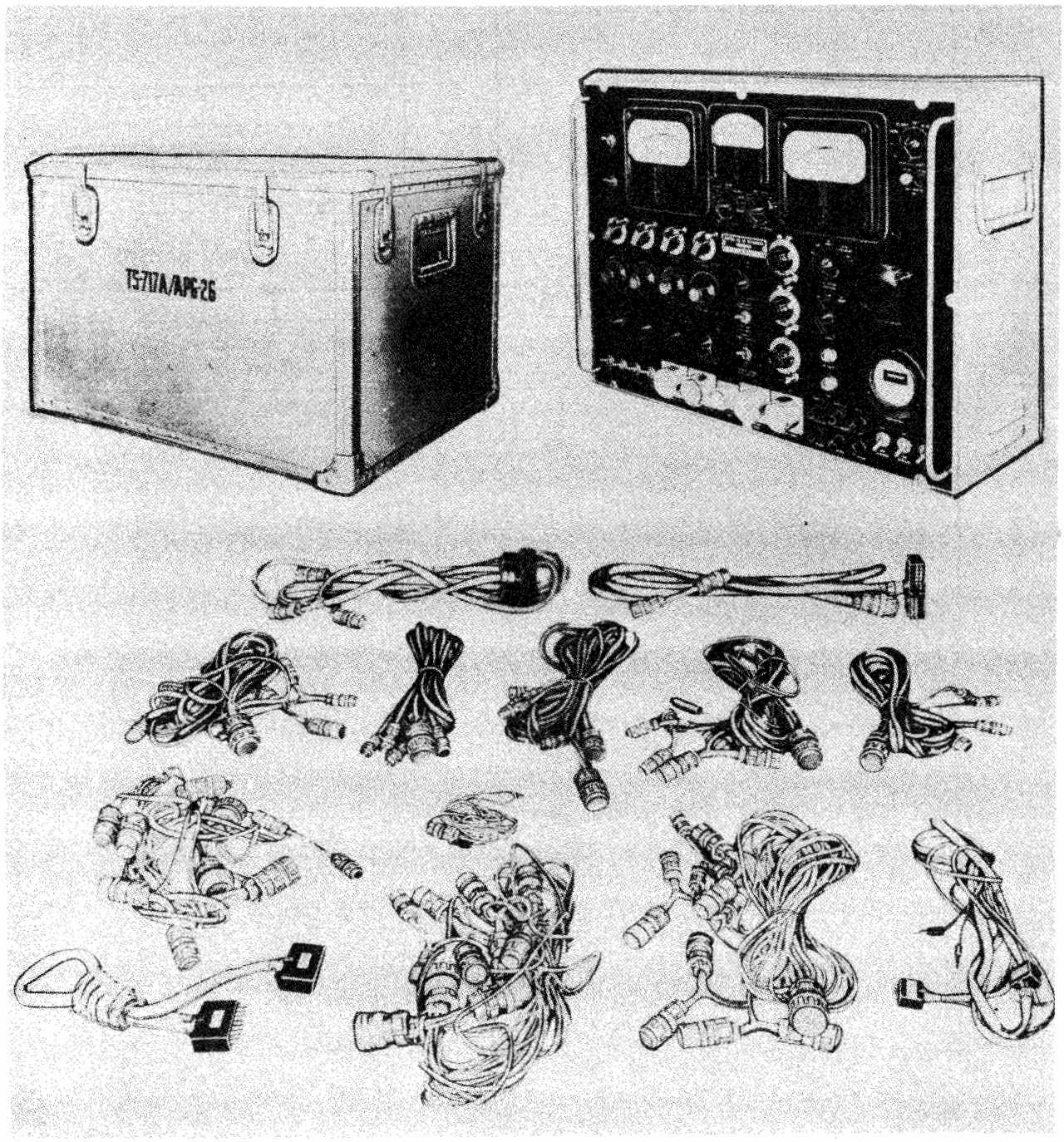
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Crystal Test Set	7 X 10-1/2 X 19	32
1	Accessory Box containing (14) calibration resistors (3) calibration potentiometers (2) Crystal Adapters	2-1/8 X 5-3/4 X 6-3/4	2
1	Cord CG-433A/U	60 lg	
1	Cord CX-112/U	72 lg	
1	Calibration Chart	8 X 11	
1	Ret of Running Spares		

Test-Miscellaneous Test

COMPUTER TEST SET

TS-717A/APG-26



Computer Test Set TS-717A/APG-26

Test-Miscellaneous Test

August 1957

TS-717A/APG-26 COMPUTER TEST SET

FUNCTIONAL DESCRIPTION

The TS-717A/APG-26 is designed for the test and alignment of various ballistics computers without dependence on the remainder of the system in which it is employed.

No field changes in effect at time of preparation (28 November 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

SIMULATED TRUE AIR SPEED: 150 to 600 mph or 150 to 600 knots.
SIMULATED DENSITY RATIO: 0.2, 0.4, 0.6 or 1.0.
SIMULATED RANGE: 0 to 2000 yds.
OPERATING POWER: 115 v, 400 cps, single ph.

MANUFACTURER'S OR CONTRACTOR'S DATA

Westinghouse Electric Corp, Baltimore, Md.

TUBE AND/OR CRYSTAL COMPLEMENT

(5) 6X4
(1) 12AU7
(5) OA2
(2) OB2
(1) 6AQ5
(2) 6AK6
(5) 5651
(3) 6AU6
(2) 12AX7
(4) 25F6WGT

Total Tubes: (30)

REFERENCE DATA AND LITERATURE

AN16-35TS717-11: Technical Manual for Computer Test Set TS-717A/APG-26.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUAER
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Computer Test Set TS-717A/APG-26	10-1/2 x 19-5/8 x 26	83
1	Test Set Case CX-1166/APG-26	19-7/8 x 22-7/8 x 28-5/8	67
2	Cable Assy, Range Test	126 lg	
2	Cable Assy, Flight-Data Test	102 lg	
3	Cable Assy, Power Test	102 lg	
1	Cable Assy, Flight-Data Test	126 lg	
1	Cable Assy, Frequency-Sensitive Network Test	84 lg	
1	Cable Assy, Power-Supply Panel Test	120 lg	
1	Servo Assy, Servo-Amplifier Test	84 lg	
2	Cable Assy, Omega Test	102 lg	

October 1957

Test-Miscellaneous Test

SPECTRUM ANALYZER TS-723A/U

TM 5097-1

Spectrum Analyzer TS-723A/U

FUNCTIONAL DESCRIPTION

The TS-723A/U is used to measure harmonic distortion and noise level in AF amplifiers. Measurements of distortion are made in percentage or in decibels, and measurements of noise are made in effective or rms values or in db values referred to 1 mw across 600 ohms (dbm). It can also be used as an AC vacuum tube voltmeter to measure AC signals as low as 0.003 v.

No field changes in effect at time of preparation (3 April 1957).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

DISTORTION MEASUREMENT RANGE: 20 cps to 20 kc.

ACCURACY: ±2%.

SECOND HARMONIC ATTENUATION: less than 17% (-1.5 db) in the range from 20 to 5,000 cps, less than 32% (-3 db) in the range from 5 to 20 kc.

SENSITIVITY: levels of 0.1%.

NOISE AMPLIFIER GAIN: 40 db gain ±1 db from 20 cps to 15 kc.

SET-LEVEL AMPLIFIER GAIN: 20 db gain ±1 db from 20 cps to 20 kc; ±2.5 db from 10 cps to 100 kc.

AMPLIFIER INPUT IMPEDANCE: 200,000 ohms, 40 uuf shunt.

INPUT LEVEL FOR DISTORTION: RMS 1 v, min

METER RANGE

VOLTS: 0.3, 0.1, 0.3, 10, 30, 100, 300 rms.

DB: -30, -20, -10, 0, +20, +30, +40, +50.

VTVM SECTION RANGE: 10 cps to 100 kc.

VTVM FREQUENCY RESPONSE: flat ±3% of 1000 cps on all ranges.

Test-Miscellaneous Test

October 1957

TS-723A/U SPECTRUM ANALYZER

NOISE MEASUREMENT: 300 mv.
INPUT POWER SUPPLY: 115 v, 50 to 1000 cps, 90 w.

REFERENCE DATA AND LITERATURE

TM11-5097: Technical Manual for SPECTRUM ANALYZER TS-723A/U.

TUBE AND/OR CRYSTAL COMPLEMENT

(4) 6SJ7
(2) 6J5
(1) 5Y3GT
(2) 6AC7
(1) 6Y6G
(2) 6AC7
(1) 6H6
Total Tubes: (13)

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	TASSA
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Spectrum Analyzer TS-723A/U	9.87	21-1/4 x 24-7/8 x 32-1/4	100

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Spectrum Analyzer TS-723A/U		
1	Set Running Spares		
2	Technical Manual		

7 June 1962 | TEST SET, RADIO TS-750/URM

Cog Service: USN **FSN:** | **Functional Class:** 12.12.6

USA | USN | USAF

TYPE CLASS: S/Std

MANUFACTURER'S NAME/CODE NUMBER: Feiler Engineering Company, (94235).

(No Illustration Available)

FUNCTIONAL DESCRIPTION:

Test Set, Radio TS-750/URM is a high-impedance radio-service instrument used in checking frequency amplitude and quality of audio, if, rf, and uhf signals.

No field changes in effect at time of preparation (13 March 1962).

TECHNICAL CHARACTERISTICS:

POWER REQUIREMENTS: 115v, 50 to 60 cyc, single ph.
RADIO FREQUENCY RANGE: 100 kc to 425 mc.
SUPERSONIC RANGE: 20 to 100 kc.
AUDIO FREQUENCY RANGE: 100 cyc to 20 kc.
IMPEDANCE: 50 ohms (UHF); 100,000 ohms (AF, IF, low freq RF).
ATTENUATION: 10 or 1,000.

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Set, Radio TS-750/URM		6 x 8-1/2 x 11-1/2	

REFERENCE DATA AND LITERATURE: None.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (1) 6AU6 (1) 6BA6 (1) 6K6GT (1) 6X5GT

CRYSTALS: None used.

SEMI-CONDUCTORS: (1) 1N34

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)

TS-750/URM TEST SET, RADIO

PROCUREMENT DATA

PROCURING SERVICE: USN
DESIGN COG: USN, BuWeps
SPEC &/OR DWG:

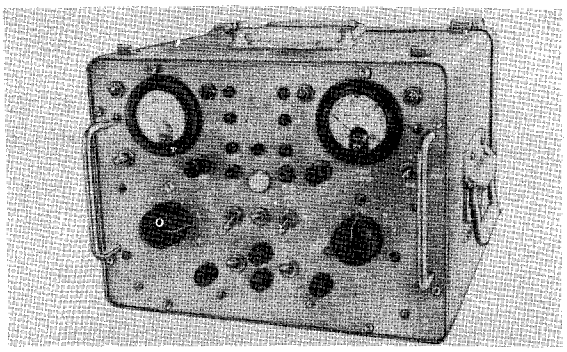
CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
I iler Engineering Company Model no. TS-3AN	Chicago, Illinois	NOas-51-1222F	$124.00

January 1958

Test-Miscellaneous Test

TUNER TEST SET

TS-803/URT



Tuner Test Set TS-803/URT

FUNCTIONAL DESCRIPTION

The TS-803/URT is designed to locate trouble with antenna tuning equipment and to operate the RF tuner during a mechanical overhaul. It contains circuits for driving the fan and servo motors, for position indication, and for observation of limit switch operation. Two circuits are provided for simultaneous operation of the "Tune" and "Couple" motors of the RF tuner.

It is housed in a water-tight case equipped with a handle. Provisions are available to make it possible to check the operation of the RF tuner from the Antenna Control Group location.

No field changes in effect at time of preparation (19 July 1957).

RELATION TO OTHER EQUIPMENT

The TS-803/URT is part of Radio Transmitting Sets AN/URT-2, 3, 4.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

POWER REQUIREMENTS: 110 v, 50 to 60 cps, single ph, 1.5 amps.

MANUFACTURER'S OR CONTRACTOR'S DATA

Federal Telephone and Radio Corp, Clifton, N. J.
NObsr-43409, dated 17 June 1949.
NObsr-52021, dated 1 September 1950.
NObsr-63444, dated 30 June 1953.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) OA3
Total Tubes: (1)

REFERENCE DATA AND LITERATURE

NAVSHIPS 91833(A): Technical Manual for Radio Transmitting Sets AN/URT-2, AN/URT-3 and AN/URT-4.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.
R.D.B. IDENT. NO.

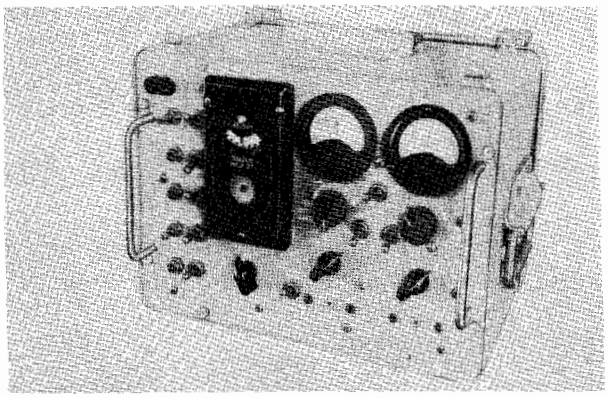
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Tuner Test Set TS-803/URT	10-3/8 X 13-7/16 X 13-9/16	

Test-Miscellaneous Test

ANTENNA CONTROL GROUP TEST SET

TS-804/URT



Antenna Control Group Test Set TS-804/URT (ACG Test Set)

FUNCTIONAL DESCRIPTION

The TS-804/URT is designed to permit full or partial isolation of the antenna control group from the rest of the AN/URT-2, 3, or 4 equipment and to determine its performance in a quantitive manner. It contains circuits which simulate a portion of the transmitter bay control circuits, the RF tuner "sensing" and SWR monitoring circuits, and the RF tuner drive and control circuits.

It is housed in a water-tight case equipped with a handle. No external power supply is required.

No field changes in effect at time of preparation (22 July 1957).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

POWER REQUIREMENTS: (2) 1.5 v dry-cell batteries.

MANUFACTURER'S OR CONTRACTOR'S DATA

Federal Telephone and Radio Corp, Clifton, N.J.
NObsr-43409, dated 17 June 1949.
NObsr-52021, dated 1 September 1950.
NObsr-63444, dated 30 June 1953.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

NAVSHIPS 91833(A): Technical Manual for Radio Transmitting Sets AN/URT-2, AN/URT-3 and AN/URT-4.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Antenna Control Group Test Set TS-804/URT	10-3/8 x 10-7/8 x 13-9/16	

29 May 1962 — CRYSTAL TEST SET TS-830/U

Cog Service: USCG FSN: — Functional Class: 12.12.8

USA USN USAF

TYPE CLASS:

MANUFACTURER'S NAME/CODE NUMBER: General Electric Co., (24446).

(No Illustration Available)

FUNCTIONAL DESCRIPTION:

Crystal Test Set TS-830/U is a portable test instrument used in checking the condition of germanium diodes.

No field changes in effect at time of preparation (13 March 1962).

TECHNICAL CHARACTERISTICS:

POWER REQUIREMENTS: 10 W, 105 to 125 v, 50 to 60 cyc, single ph.
FORWARD RANGE
CURRENT RANGE: 0.3, 1.2, 6, 12 ma full scale.
VOLTAGE RANGE: 0.3, 1.2 v full scale.
REVERSE RANGE
CURRENT RANGE: 60, 120, 300, 1200 ma.
VOLTAGE RANGE: 3, 12, 120 v.

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Crystal Test Set TS-830/U		6 x 10 x 11	8
	includes:			
2	Technical Manual			

REFERENCE DATA AND LITERATURE: None.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: None used.

CRYSTALS: None used.

SEMI-CONDUCTORS: None used.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	2.3	28

TS-830/U CRYSTAL TEST SET

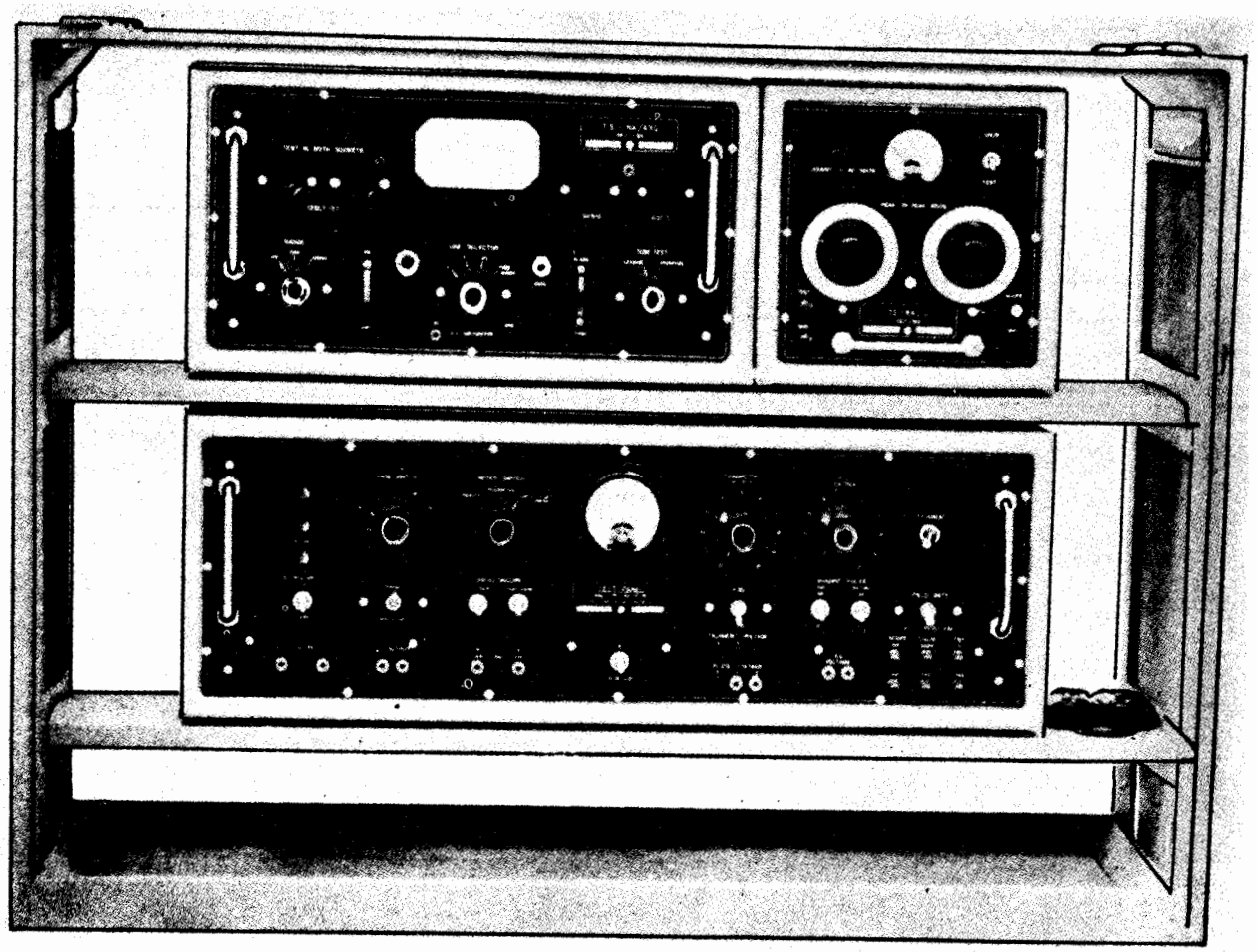
PROCUREMENT DATA

PROCURING SERVICE: USCG
SPEC &/or DWG:

DESIGN COG: USCG

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
General Electric Co. Type no. ST-12A	Schenectady, N. Y.		
Federal Telephone and Radio Co.	Clifton, N. J.	Tcg-38743(CG-21, 314A), 29 December 1951	

TUBE TESTER



Tube Tester TS-9A/ASQ

FUNCTIONAL DESCRIPTION

The TS-9A/ASQ is designed for use with Detecting Equipments AN/ASQ-1 and AN/ASQ-2 series, and MK 4 B2 equipment. The Vacuum Tube Voltmeter, which is part of the tube tester, may be used for external measurements.

In testing Mk 4 B2 equipment the TS-9A/ASQ is used with Oscilloscope Calibrator TS-8/U or TS-8A/U and Mk 4 B2 Test Panel.

No field changes in effect at time of preparation (21 August 1956).

RELATION TO OTHER EQUIPMENT

The TS-9A/ASQ and TS-9/ASQ are similar; however, the TS-9/ASQ is designed specifically for testing Mk B2 equipment.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE: Emission.
RANGES: 6.3 v, 12.6 v.
FACILITIES: Checks 6 x 5G, 6Q7G, and 12SL7GT tubes only.
OPERATING POWER: 110 v, 60 cps, 75 W.

MANUFACTURER'S OR CONTRACTOR'S DATA

Geophysical Service Inc, Dallas, Texas.
Contract NOas-361.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 6J5	(2) 6V6-GT
(2) 6X5-GT	(1) 6H-16

Total Tubes: (6)

TS-9A/ASQ TUBE TESTER

REFERENCE DATA AND LITERATURE

AN-08-35TS9-2: Technical Manual for Tube Tester TS-9A/ASQ.
NAVSHIPS 900,155 Vol II: Electronic Test Equipment Handbook.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUAER
PROCUREMENT COGNIZANCE
STOCK NO.
R.D.B. IDENT. NO.

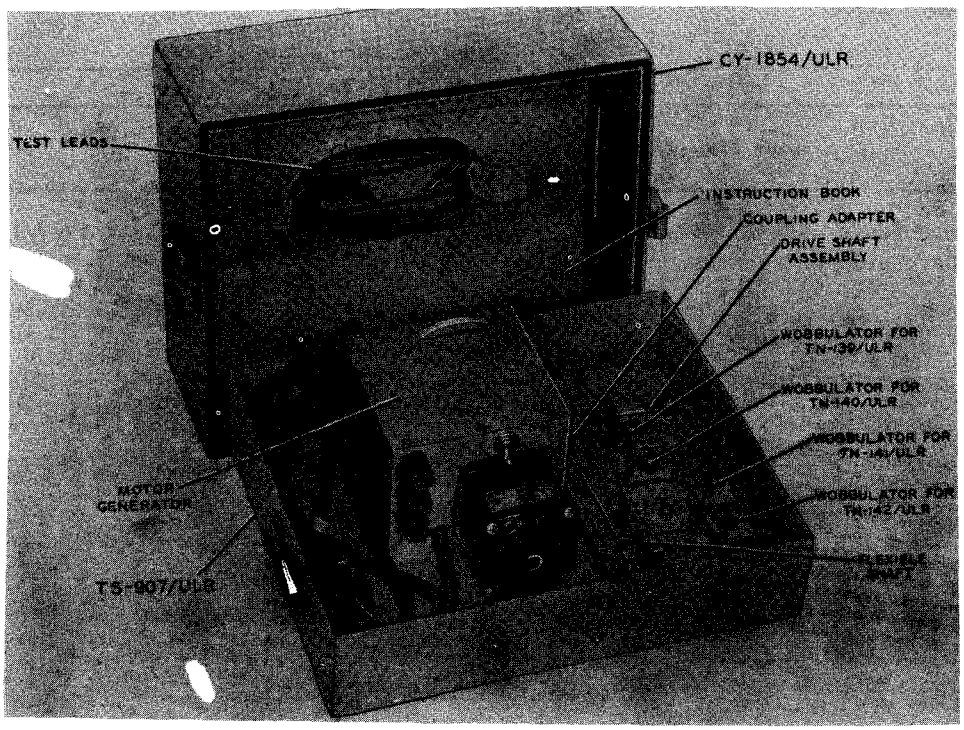
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Tube Tester TS-9A/ASQ	6-13/16 X 9-13/16 X 17-7/16	15.3
1	Set Equipment Spares		2.1

USA USN USAF

TYPE CLASS: Used by

MANUFACTURER'S NAME/CODE NUMBER: Collins Radio Co., (13499).



Radio Test Set TS-907/ULR

FUNCTIONAL DESCRIPTION:

Radio Test Set TS-907/ULR is designed to align the preselector in six types of rf tuners of Countermeasures Receiving Sets AN/BLR-1 or AN/SLR-2. Specifically, these tuners are RF Tuners TN-137/ULR, TN-138/ULR, TN-139/ULR, TN-140/ULR, TN-141/ULR, and TN-142/ULR.

No field changes in effect at time of preparation (26 August 1962).

TECHNICAL CHARACTERISTICS:

GENERATOR OUTPUT FREQUENCY: 4.7 cps.
MOTOR SHAFT ROTATION SPEED: 280 rpm.
MOTOR SHAFT TORQUE: 2.8 in oz.
GENERATOR UNLOADED OUTPUT VOLTAGE: 6.0 v.
POWER REQUIREMENTS: 115 v porm 10%, 60 cyc porm 5%, single ph.

TS-907/ULR RADIO TEST SET

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Oscilloscope; (1) Signal Generator AN/URM-26; (1) Signal Generator AN/URM-49; (1) Signal Generator AN/URM-64; (1) Signal Generator AN/URM-61; (1) Signal Generator AN/URM-52; (1) Signal Generator AN/URM-44; (1) Multimeter AN/PSM-4; (1) Resistor (1000 ohms); (1) Headset, Cord, Plug; (1) Roll Hook-up wire no. 18.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Radio Test Set TS-907/ULR		4-3/4 x 9-3/8 x 12-1/4	10
1	Test Set Case CY-1854/ULR		5-1/2 x 9-11/16 x 13-1/4	4
2	Technical Manual NAVSHIPS 92580			
2	Test Leads			
1	Flexible Shaft			
1	Drive Shaft Assy (for RF Tuners TN-139/ULR, TN-140/ULR)			
	Coupling Adapter (for RF Tuners TN-137/ULR, TN-138/ULR)			
	Eccentric Fixture (Wobbulator) for TN-139/ULR			
	Eccentric Fixture (Wobbulator) for TN-140/ULR			
	Eccentric Fixture (Wobbulator) for TN-141/ULR			
	Eccentric Fixture (Wobbulator) for TN-142/ULR			

REFERENCE DATA AND LITERATURE:

NAVSHIPS 92580: Technical Manual for Radio Test Set TS-907/ULR and Test Set Case CY-1854/ULR.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: None used.

CRYSTALS: None used.

SEMI-CONDUCTORS: None used.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	1	18

PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG:

DESIGN COG: USN, BuShips

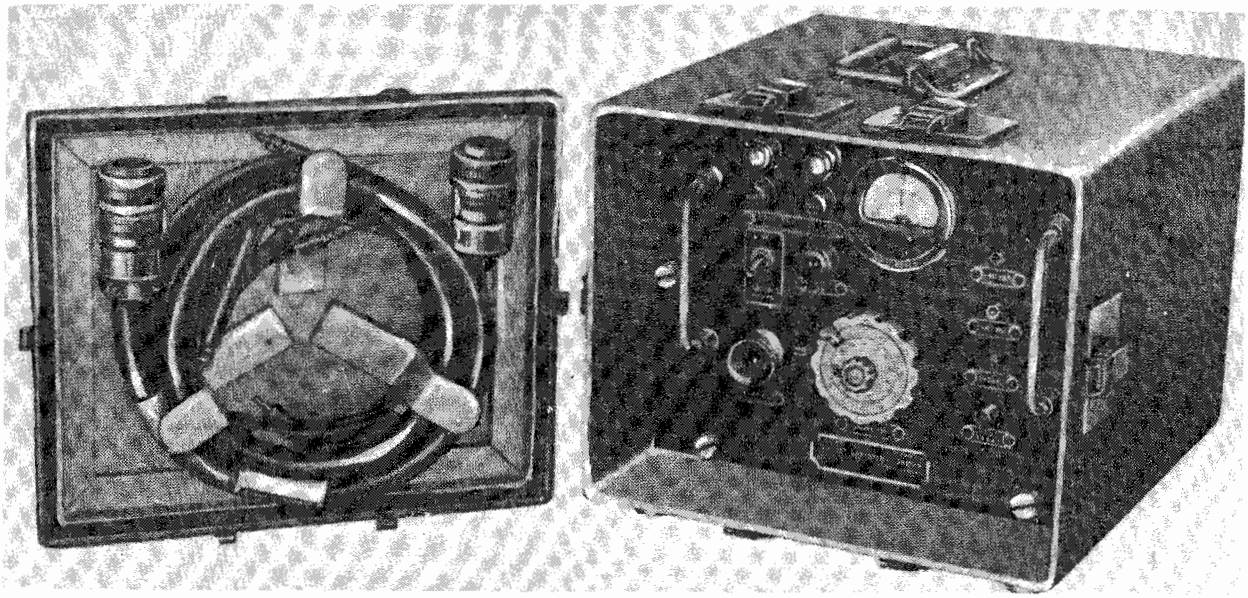
CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Collins Radio Co.	Cedar Rapids, Iowa	NObsr-64625	$366.40

January 1958

Test-Miscellaneous Test

COMPUTER TEST SET

TS-909/PPM



Computer Test Set TS-909/PPM

FUNCTIONAL DESCRIPTION

The TS-909/PPM is a null-indicating device used for aligning and adjusting the 400-cycle computers of radar sets. The computer is aligned and adjusted by comparing the computer analog voltages to standard reference voltages applied through the test set.

No field changes in effect at time of preparation (11 September 1957).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

REFERENCE VOLTAGE RANGE: 200 v max.
INPUT IMPEDANCE
REFERENCE TERMINALS: 0 to 10000 ohms.
SIGNAL INPUT TERMINALS: 1 meg min.
SENSITIVITY: Better than 5 mv at input.
POWER REQUIREMENTS: 110 to 125 v, 400 cps, single ph, 200 v DC ±10%, 10 ma.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 5751

Total Tubes: (1)
(4) 1N63
Total Crystals: (4)

REFERENCE DATA AND LITERATURE

TM11-1223: Technical Manual for Computer Test Set TS-909/PPM.

TYPE CLASSIFICATION
DESIGN COGNIZANCE TASSA
PROCUREMENT COGNIZANCE
STOCK NO.
R.D.B. IDENT. NO. 12.12.3

COMPUTER TEST SET

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Computer Test Set TS-909/PPM	4.4	16-1/2 X 19-1/2 X 23-3/4	55

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Computer Test Set TS-909/PPM including:	10-5/8 X 12-9/16 X 13-5/8	27.5
	(1) Cable Assembly, Power CX-3382/U	60 lg	2.0
	(1) Cable RG-59A/U	60 lg	0.2
	(1) Set of Test Leads	60 lg	0.4
	(1) Test Lead, Alligator Clip	60 lg	0.2
1	Set of Running Spares		1.0
2	Technical Manual TM11-1223	1/4 X 7-7/8 X 10-1/4	0.2

January 1961

Test-Miscellaneous

TEST SET, RELAY TS-912/U

FUNCTIONAL DESCRIPTION

Test Set, Relay TS-912/U is designed for testing IBM wire contact relays. It checks make-and-break condition of all contacts on a wire relay and also checks pick-up and drop-out action. The equipment will accommodate the std 4, 6, and 12 position, 1 or 2 coil relay also 3 coil 4 position including the latch type.

No field changes in effect at time of preparation (26 April 1960).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

POWER REQUIREMENTS: 40 to 46 v DC.

MANUFACTURER'S OR CONTRACTOR'S DATA

International Business Machine Corp., New York, New York.

Part No. 453199
Contract NObsr-63254, dated 24 February 1953.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tube or Crystal data available.

REFERENCE DATA AND LITERATURE

Nomenclature Card for TEST SET RELAY TS-912/U.

TYPE CLASSIFICATION (NAVY)
DESIGN COGNIZANCE USN, BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.
R.D.B. IDENT. NO. 12.12.7

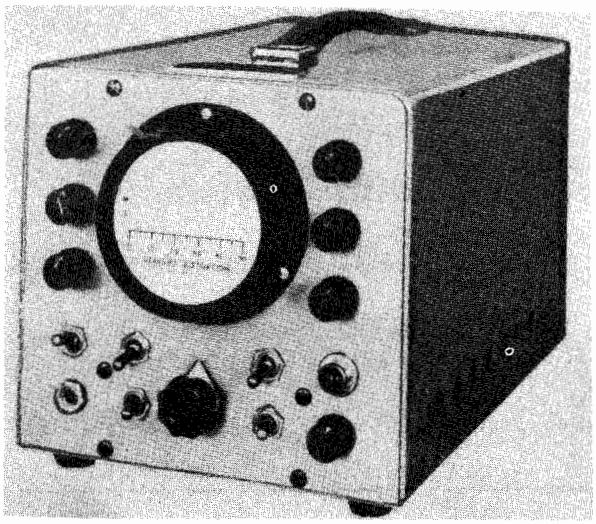
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Test Set, Relay TS-912/U		

January 1958

Test-Miscellaneous Test

TELETYPEWRITER TEST SET TS-917/GG



Teletypewriter Test Set TS-917/GG

FUNCTIONAL DESCRIPTION

The TS-917/GG is a self-contained portable telegraph distortion analyzer designed to measure the bias and distortion of a start stop telegraph signals. Indications of distortion are in the form of vertical pips displayed in a rectangular pattern on the face of a cathode-ray tube. The various components of distortion making up the total distortion are clearly indicated. The percent distortion is read directly on a calibrated scale mounted in front of a standard three inch cathode-ray tube.

Measurements can be made while regular traffic is being transmitted or received without interrupting service.

The equipment is patched in series into a DC loop circuit. It can be carried conveniently into the field and readily plugged into working circuits at various repeater or terminal points in order to check the distortion characteristics of circuits and equipment.

As adjustments are made on terminal equipment to correct for distortion, the TS-917/GG immediately and automatically indicates the new signal characteristics.

No field changes in effect at time of preparation (15 August 1957).

RELATION TO OTHER EQUIPMENT

Similar to Model TDA-2 (Stelma Inc) except for changes in component parts. Similar to Stelma Inc Models TDA-2N, TDA-2E, and TDA-2W except for operating speeds.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

RANGE OF MEASUREMENT: 0 to 50% marking or spacing bias and distortion.
ACCURACY: ±2% bias.
INDICATION: rectangular pattern on three inch oscilloscope. Pips indicate type of distortion and amount is read on calibrated scale.
INPUT CURRENT: 60 ma or 20 ma neutral, 30 ma polar.
INPUT IMPEDANCE: 100 ohms for 60 ma neutral, 300 ohms for 20 ma neutral, 300 ohms for 30 ma polar.
INPUT CIRCUIT: isolated from case of unit.
INPUT SPEED: 60, 75, 100 words per minute, also teletypesetter speeds.
SPEED ADJUSTMENT: Will accommodate for approx. ±5% speed variations.
POWER SOURCE REQUIRED: 115 or 230 v, 50 to 60 cps, 45 W.

MANUFACTURER'S OR CONTRACTOR'S DATA

Stelma Inc, Stamford, Connecticut.
Contract NObsr-71625 dated 11 December 1956.
Contract NObsr-64593 dated 17 December 1954.
Approximate Cost: $450.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

(3) 12AT7	(1) OBZ
(1) 6AL5	(3) 5963
(1) 6X4W	(1) OA2
(1) 5651	(1) 3RP1

Total Tubes: (12)

REFERENCE DATA AND LITERATURE

NAVSHIPS 93008, Technical Manual for Teletypewriter Test Set TS-917/GG.
NAVSHIPS 92500, Technical Manual for Telegraph Distortion Analyzer, Model TDA-2.

TYPE CLASSIFICATION
DESIGN COGNIZANCE COMMERCIAL
PROCUREMENT COGNIZANCE
STOCK NO.
R.D.B. IDENT. NO.

Test-Miscessaneous Test

TS-917/GG TELETYPEWRITER TEST SET

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Teletypewriter Test Set TS-917/GG			

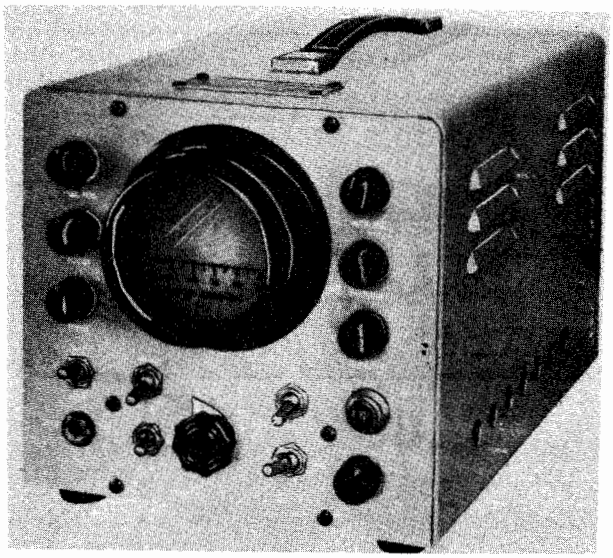
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Teletypewriter Test Set TS-917/GG	8 X 8 X 13-3/4	17

April 1959

Test-Miscellaneous Test

TEST SET TELETYPEWRITER TS-917A/GG



Teletypewriter Test Set TS-917A/GG

FUNCTIONAL DESCRIPTION

The TS-917A/GG is a self contained portable unit designed to measure the bias and distortion of start-stop telegraph signals. Indications of distortion are in the form of vertical pips displayed in a rectangular pattern on the face of a cathode-ray tube. Measurements can be made while regular traffic is being transmitted or received without interrupting service. It provides for accurately measuring distortion of telegraph signals operating at speeds of 60, 75, and 100 WPM on 20 or 60 ma neutral circuits or on 30 ma polar circuits. The range of distortion measurement is from 0% to 50% with an accuracy normally under ±2% bias.

No field changes in effect at time of preparation (9 June 1959).

RELATION TO OTHER EQUIPMENT

The TS-917A/GG is functionally similar to, and interchangeable w/TS-917A/GG; minor changes have been made to maintenance parts.

The TS-917A/GG is the same as Stelma, Inc., commercial Model TDA-2.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

RANGE OF MEASUREMENT: 0 to 50% marking or spacing bias and distortion.
ACCURACY: ±2% bias.
INDICATION: Rectangular pattern on 3 inch oscilloscope. Pips indicate type of distortion and amount is read on calibrated scale.
INPUT CURRENT: 60 ma or 20 ma neutral, 30 ma polar.
INPUT IMPEDANCE: 100 ohms for 60 ma neutral; 300 ohms for 20 ma neutral; 300 ohms for 30 ma polar.
INPUT SPEED: 60, 75, 100 wpm, also teletypewriter speeds.
OPERATING POWER RQMT: 115/230 v AC, 50 to 60 cps, single ph, 45 W.

MANUFACTURER'S OR CONTRACTOR'S DATA

Stelma Inc., Stanford, Connecticut.
Model TDA-2.
Contract NObsr-75614, dated 1 December 1958.
Approximate Cost: $10,149.26 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

(3) 12AT7	(1) 6AL5
(1) 6X4W	(1) 5651
(1) OB2	(3) 5963
(1) OA2	(1) 3RP1

Total Tubes: (12)

No Crystals used.

REFERENCE DATA AND LITERATURE

NAVSHIPS 93008: Technical Manual for Teletypewriter Test Set TS-917/GG.
Nomenclature Card TS-917A/GG for Teletypewriter Test Set.

TYPE CLASSIFICATION
DESIGN COGNIZANCE TASSA
PROCUREMENT COGNIZANCE
STOCK NO.
R.D.B. IDENT. NO.

Test-Miscellaneous Test

April 1959

TS-917A/GG TEST SET TELETYPEWRITER

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Test Set Teletypewriter TS-917A/GG	7-1/2 X 8 X 12-1/2	17

December 1956

TEST SET, SONAR

TS-975/WQM-3

FUNCTIONAL DESCRIPTION

The TS-975/WQM-3 will provide signal of known amplitude and frequency for checking receiving circuitry of sonar sets and will receive signals from sonar sets and display them on an oscilloscope to check sonar sets transmitting circuitry.

No field changes in effect at time of preparation (8 August 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE TEST: Receiving sensitivity, threshold, transmitting intensity, noise level.

OSCILLATOR

FREQUENCY: 1 to 160 kc.

POWER: So provide a source, level of 45 db 1 micro bar 45 db parallel per bar attenuator 0 to 80 db.

OSCILLOSCOPE

SWEEP: 1/3 cps to 50 kc.

SENSITIVITY: 20 ma/inch peak to peak.

SCOPE AMPLIFIER: 30 cps to 500 kc.

ATTENUATOR: 0 to 80 db.

OPERATING POWER: 115 v, 60 cps, single ph.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

Nomenclature Card for TEST SET, SONAR TS--975/WQM-3.

TYPE CLASSIFICATION
DESIGN COGNIZANCE
PROCUREMENT COGNIZANCE
STOCK NO.
R.D.B. IDENT. NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Test Set, Sonar TS-975/WQM-3		

September 1956

TEST SET, ELECTRON TUBE TV-11/FSQ

FUNCTIONAL DESCRIPTION

The TV-11/FSQ is a semi-automatic tube tester that performs DC static tests of all AN/FSQ-7 tube types (except display 8 CR. tubes) and pulse tests the 2420 tube type.

No field changes in effect at time of preparation (31 July 1956).

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

Nomenclature Card for Test Set, Electron Tube TV-11/FSQ.

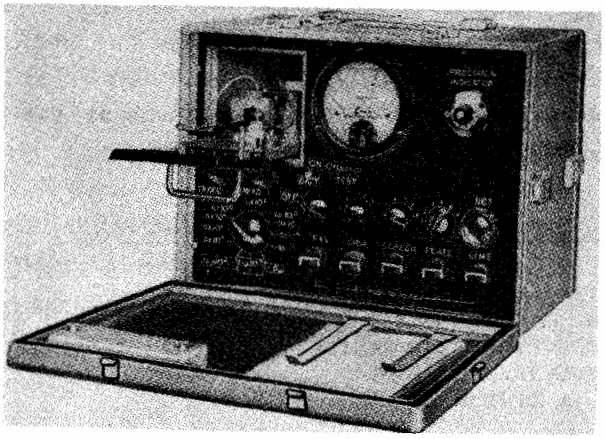
TYPE CLASSIFICATION
DESIGN COGNIZANCE
PROCUREMENT COGNIZANCE
STOCK NO.
R.D.B. IDENT. NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Test Set, Electron Tube TV-11/FSQ	24 X 30 X 54	300

December 1956

TEST SET, ELECTRON TUBE TV-6/U



Electron Tube Set TV-6/U

FUNCTIONAL DESCRIPTION

The TV-6/U has been designed for use in maintenance of radiac equipment. It consists of two precision instruments in one: a subminiature electrometer tube tester and a high-megohm resistance bridge. Measurements of electrometer tube grid-current, plate-current, transconductance and leakage resistance can be made easily and with high accuracy. Variable voltage, plate, screen, grid, and filament supplies permit tube testing at various operating points and give flexibility for testing future tube designs.

The resistance range of this instrument is very wide. It is possible to measure all types of resistors with values between 10 and one billion megohms.

Data on this sheet reflects the following field changes, FC-1 (18 October 1954).

RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied: (12) Batteries BA-30, (7) Batteries BA-34.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

INDICATING METER: 0 to 20 ma.
PRECISION INDICATOR: 0 to 100,000 ohms.
PRECISION INDICATOR LINEARITY: ±0.1%.
BATTERY COMPLEMENT: (12) 1.5 v; (7) 7.5 v.

MANUFACTURER'S OR CONTRACTOR'S DATA

Bendix Aviation Corp., Cincinnati, Ohio.
Contract Order No 3577 Phila 52, dated 26 April 1953.
Contract MIPR 800-29236, dated 5 Dec. 1951.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 5886
Total Tubes: (1)

REFERENCE DATA AND LITERATURE

TM11 5087 Change 1: Technical Manual for Electron Tube Test Set TV-6/U.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	TASSA
PROCUREMENT COGNIZANCE	
STOCK NO.	

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Test Set, Electron Tube TV-6/U	2.6	15 x 15 x 20	45

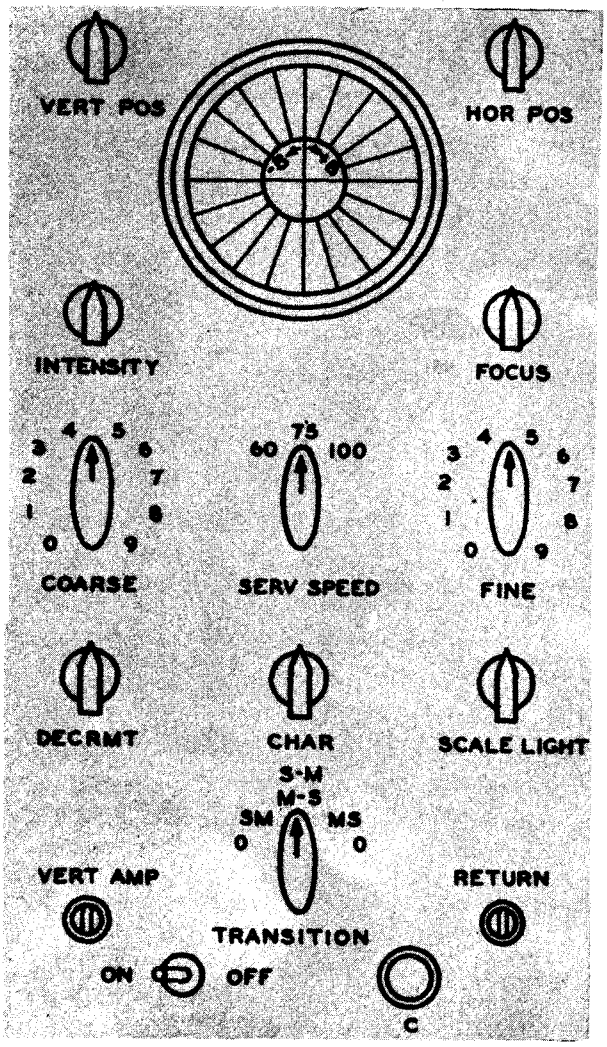
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Test Set, Electron Tube TV-6/U	9-1/8 x 11-5/8 x 15-7/8	34 (w/o Batteries)
2	Technical Manual--TM-5087		
1	Tube Data Chart		

March 1957

TELEGRAPH TRANSMISSION MEASURING SET

X-75041



Telegraph Transmission Measuring Set

FUNCTIONAL DESCRIPTION

The X-75041 is a portable testing device which may be patched into a telegraph loop or local circuit to measure the distortion of teletypewriter signals.

No field changes in effect at time of preparation (12 October 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

RANGE
NEUTRAL: 20 or 60 mil.
POLAR: ±30 to 35 mil.
TRANSMISSION SPEED MEASURED: 60, 75 or 100 wpm.
LENGTH PERFECT PULSE: 60 degrees.
OPERATING POWER: 100 to 125 v, 60 cps, single ph, 100 W.

MANUFACTURER'S OR CONTRACTOR'S DATA

Western Electric Co, Inc, N.Y., N.Y.
Approximate Cost: $300.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 1V	(3) OC3/VR-105
(1) 3AP1/906-PI	(1) 83V
(1) 6H6	(1) 6N7
(1) 6SN7W	(1) 6AG7
(1) OA4-G	

Total Tubes: (12).

REFERENCE DATA AND LITERATURE

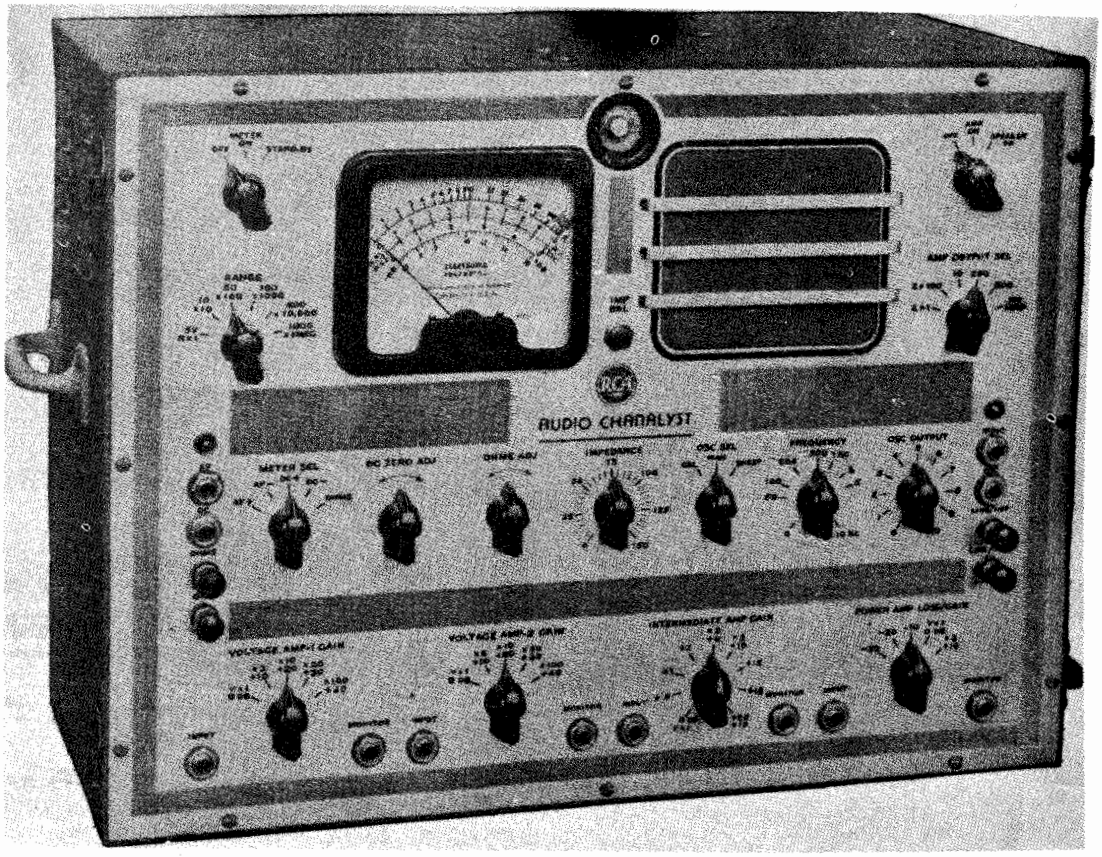
X-66938: Technical Manual for Telegraph Transmission Measuring Set X-75041.

TYPE CLASSIFICATION
DESIGN COGNIZANCE Commercial
PROCUREMENT COGNIZANCE
STOCK NO.
R.D.B. IDENT. NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Transmission Measuring Set X-75041	8-3/4 X 14-3/4 X 16	47

AUDIO CHANALYST 170-A



Audio Chanalyst 170-A

FUNCTIONAL DESCRIPTION

The type 170-A (RCA) is a portable and complete sound system testing laboratory. It can be set up in any convenient location to diagnose trouble in audio amplifier loud speaker systems and pick-up devices. The instrument also serves as an impedance measuring device, a distortion indicating device, a loud speaker for audible testing and, by means of a monitoring electronic indicator, as a trouble shooting device. A Matching Transformer Accessory (not supplied with the instrument) permits 250 ohm input operating to any stage of the amplifier and 250 ohms output for the Oscillator Channel.

No field changes in effect at time of preparation (6 June 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

POWER SOURCE: 110 to 120 v, 50 to 60 cps. single ph, 117 v, 60 cps nominal.

POWER CONSUMPTION

TOTAL: 76 W.

VOLTMETER CHANNEL ONLY: 16 W.

DC VOLTMETER

RANGE: 0 to 5, 10, 50, 100, 500, 1000 v,

INPUT RESISTANCE: 10 meg constant for all ranges; 1 meg in probe.

MAX SENSITIVITY: 2 meg per v on 5 v range.

CIRCUIT: Differential vacuum tube bridge.

AF (AC) VOLTMETER

RANGE: 0 to 5, 10, 50, 100, 500, 1000 v.

INPUT IMPEDANCE: Approx. 150 uuf across 2 meg w/diode shunt connected.

FREQUENCY RESPONSE: Flat 30 to 20,000 cps on first 4 ranges.

CIRCUIT: Self balancing diode.

ELECTRONIC OHMMETER

RANGE: From 0.1 ohm to 1000 meg in 6 ranges.

METER

SENSITIVITY: 200 ua DC.

ACCURACY: ±2% of full scale.

OSCILLATOR CHANNEL

FREQUENCY RANGE: 20 cps to 10 kc continuously variable.

170-A AUDIO CHANALYST

OUTPUT
DIRECT: 0 to 1 v.
W/AMPLIFIER: 1 W.
OUTPUT IMPEDANCE
DIRECT: High.
W/AMPLIFIER: 10, 250, 500, high.
HUM LEVEL: Down 40 db.
CALIBRATION: Zero beat on electronic indicator.
SWEEP RANGE: 0 to 3000 cps.
SWEEP PERIOD: Approx. 12 sec.
CIRCUIT: Best frequency oscillator w/ manual or automatic sweep.

AMPLIFIER CHANNEL
OVER-ALL POWER GAIN: 110 db w/600 ohm input and output.
UNDISTORTED OUTPUT: 1 W.
FREQUENCY RANGE
AT FINAL MONITOR ±2 DB: 200 to 15000 cps.
AT OUTPUT LOAD RESISTOR ±2 DB: 200 to 6000 cps.
HUM LEVEL: Down 25 db.
OUTPUT IMPEDANCE: 10, 250, 500, high.

IMPEDANCE TESTER
RANGE: (ZX1) 0 to 150 ohms, (ZX100) 0 to 15000 ohms.
ACCURACY: ±20% or better at 1000 cps.
CIRCUIT: Calibrated resistor substitution.

POLARIZING VOLTAGE
VOLTAGE: 90 v, for photocell operation.
CONNECTION: Binding jacks at rear of case.

ELECTRONIC INDICATOR
RANGE: 1 to 1000 v AC or DC.
FREQUENCY RESPONSE: 0 to 20 kc.
INPUT RESISTANCE: 10 meg.
CIRCUIT: Electron eye suppression.

MANUFACTURER'S OR CONTRACTOR'S DATA

Radio Corp. of America, RCA Victor Div.
Camden, N.J.

TUBE AND/OR CRYSTAL COMPLEMENT

(4) 6SJ7	(1) 6SN7
(1) 6SA7	(1) 6J5(GT)
(1) 6V6(GT)	(1) 6E5
(2) 6K6(GT/G)	(1) 6H6(GT)
(1) 5Y3(GT/G)	(1) 6X5(GT/G)
(1) 2050	(1) OA2

Total Tubes: (16)

REFERENCE DATA AND LITERATURE

I.B. 4170A-1: Instruction Book by Radio Corp. of America for Type No. 170-A Audio Analyst.

TYPE CLASSIFICATION
DESIGN COGNIZANCE COMMERCIAL
PROCUREMENT COGNIZANCE
STOCK NO.
R.D.B. IDENT. NO.

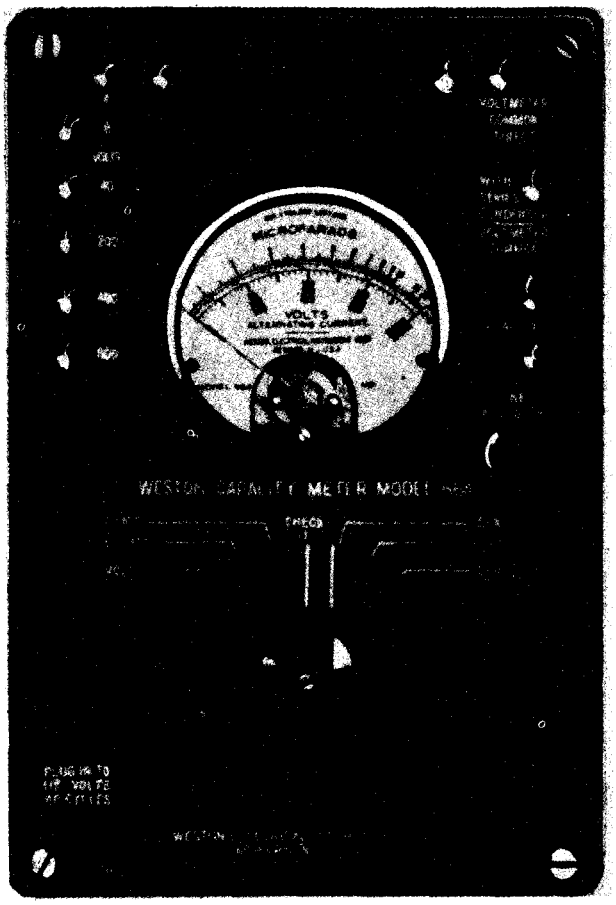
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Audio Chanalyst-Type 170-A	10-3/8 X 14 X 21	47 lb

Test-Miscellaneous Test

March 1957

VOLT/CAPACITY METER 22194



Volt/Capacity Meter

FUNCTIONAL DESCRIPTION

The NT 22194 is a multipurpose AC meter suitable for the measurement of voltage and capacity. The instrument consist fundamentally of an AC copper oxide rectifiers type micro-ammeter, reading full scale on 250 micro-amperes, which in combination with suitable multipliers and an accurately adjustable source of AC potential is utilized for reading either voltage or capacity.

No field changes in effect at time of preparation (2 September 1956).

RELATION TO OTHER EQUIPMENT

The NT 22194 is used in conjunction with NT 22193 and NT 60001 to form a Navy Model OE Series Radio Receiver Analyzing Equipment.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

VOLTAGE RANGE: 4, 8, 40, 200, 400, 800 v AC.

SENSITIVITY: 1000 ohms per volt. (All ranges).

CAPACITY RANGES

MINIMUM	MAXIMUM
0.0001 uf	0.02 uf
0.001 uf	0.2 uf
0.01 uf	2.0 uf
0.1 uf	20.0 uf
1.0 uf	200.0 uf

POWER REQUIREMENTS: 105 to 125 v, 60 cps, single ph 10 W.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

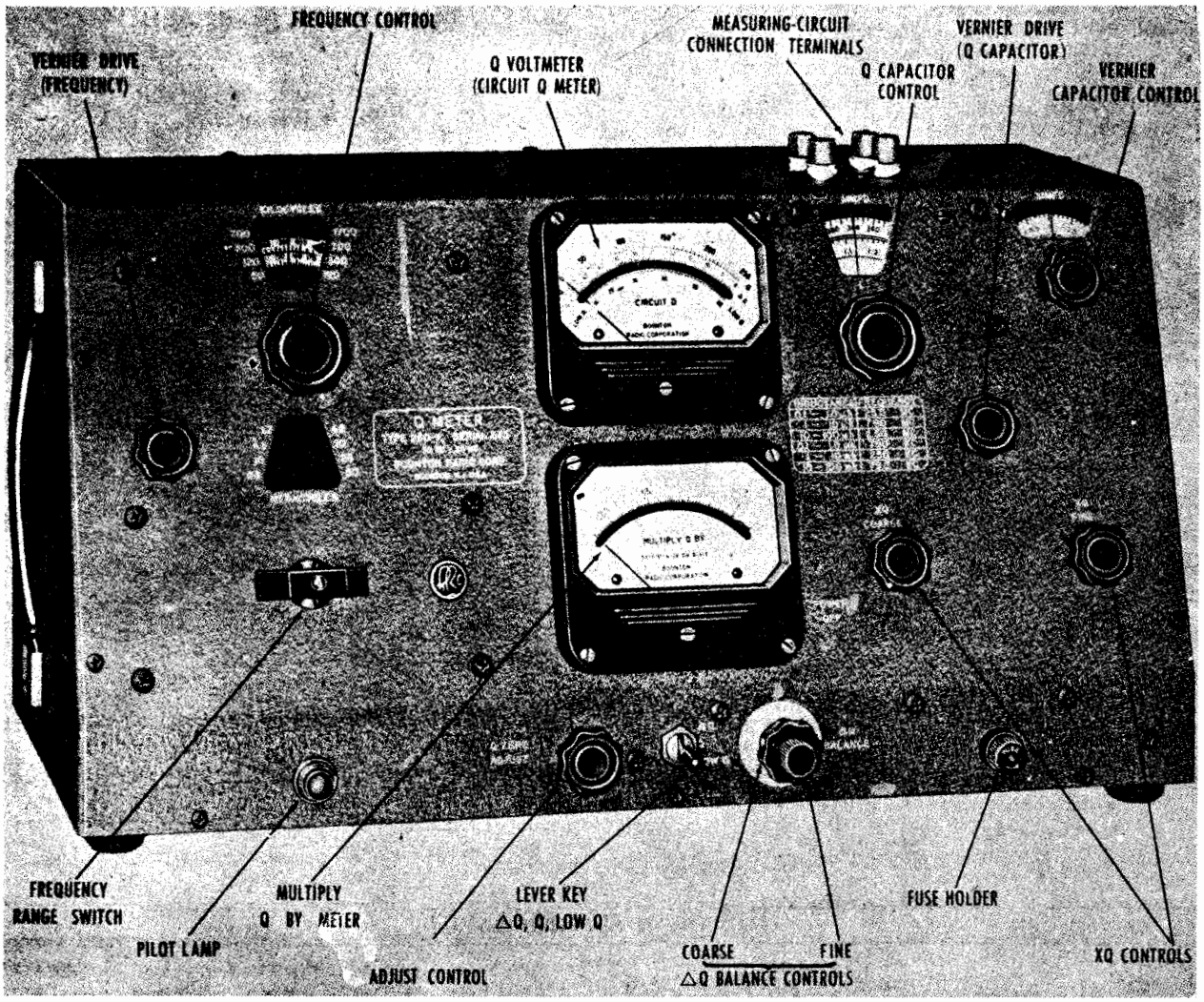
Technical Manual for Weston Model-644 AC Volt/Capacity Meter.

Technical Manual for Model OE - Radio Receiver Analyzing Equipment.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	Commercial
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	AC Volt/Capacity Meter - 22194	3-3/16 X 5-1/2 X 8-1/4	4



Q Meter 260-A

FUNCTIONAL DESCRIPTION

The Type 260-A (Boonton Radio) measures the Q of inductors directly from 10 to 625 over a frequency range of 50 kc to 50 mc. Values of inductance from 0.09 microhenries to 30 millihenries can also be measured directly with this equipment. Front panel dials which indicate the frequency of the applied voltage and the capacitance of the measuring circuit permit the calculation of inductance outside this range as well as values of Q, X, R and L or C of other components.

No field changes in effect at time of preparation (2 October 1956).

RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied: Type 103-A serves as a work coil and also allows periodic checks of instrument operation. Type 513-A is used for testing the Q calibration of the instrument. These items are available for use with the Type 260-A if required.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 50 kc to 50 mc continuously variable in 8 self contained ranges.
FREQUENCY ACCURACY: ±1% approx.

Test-Miscellaneous Test

260-A Q METER

March 1957

RANGE OF CIRCUIT Q MEASUREMENT: Q measurement can be made from 10 to 625; A Q scale is from 0 to 50.

ACCURACY OF Q MEASUREMENT: Circuit Q of 250 read directly on indicating meter is accurate to ±5% from 50 kc to 30 mc; accuracy decreases to ±10% at 50 mc.

CAPACITANCE OF INTERNAL CALIBRATED CAPACITOR: 30 to 460 uuf (direct reading) calibrated in 1.0 uuf increments from 30 to 100 uuf; 510 uuf increments from 100 to 460 uuf.

ACCURACY: Approx 1% or 1.0 uuf which ever is greater; range of Vernier capacitance dial is −3.0 to +3.0 uuf (direct reading) calibrated in 0.1 uuf increments. (±0.1 uuf overall accuracy).

EFFECTIVE INDUCTANCE MEASUREMENT: 0.9 uf to 130 mh (direct reading) at six specific frequencies. The accuracy is approx ±3.0% for resonating capacitance = to or greater than ±0.9 uuf.

POWER REQUIREMENTS: 90 to 130 v, 60 cps (only), single phase, 65 W.

MANUFACTURER'S OR CONTRACTOR'S DATA

Boonton Radio Corp., Boonton, N.J.
Contract NObsr 71323, dated 21 April 1956.
Approximate Cost: $770.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 535-A
(1) 5763
(1) 6X4
(1) OB2
(1) OA2

Total Tubes: (5).

REFERENCE DATA AND LITERATURE

NAVSHIPS 92852: Technical Manual for Q meter Boonton Type 260-A.

TYPE CLASSIFICATION
DESIGN COGNIZANCE COMMERCIAL
PROCUREMENT COGNIZANCE
STOCK NO.
R.D.B. IDENT. NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Q Meter Type 260-A	8-1/2 X 12-1/2 X 20	40

Test-Miscellaneous Test

ENVELOPE DELAY METER 450-A

FUNCTIONAL DESCRIPTION

The type 450-A (Action Laboratories, Inc.) was developed to measure the envelope delay and amplitude characteristics of circuits used for transmission of pulse signals or other data in the frequency range from 200 to 12,000 cps.

The measuring set consists of two basic units, one consisting of a sweep oscillator and power supply for both units and the other of a transmitter and receiver. The set is arranged for oscilloscope display of both delay-frequency and transmission-frequency information and when so used an oscilloscope of the direct current type must be provided.

The delay measuring set compares the time relationship of transmitted and received signals sent over the line under test.

No field changes in effect at time of preparation (10 June 1957).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 200 to 12,000 cps.
TYPE OF OSCILLATOR: Tuning fork.
NATURAL FREQUENCY OF TUNING FORK: 200 cps.
SWEEP OSCILLATOR: Beat frequency type.
TYPE OF SWEEP: Mechanical.
FREQUENCY METER RANGES: 0 to 3000, 0 to 6000 and 0 to 12,000 cps.
SWEEP SPEEDS: 4, 2, 1 and 1/2 sweeps per sec.
POWER SOURCE REQUIRED: 117 v, 60 cps, single ph.

MANUFACTURER'S OR CONTRACTOR'S DATA

Action Laboratories, Inc., Acton, Mass.

TUBE AND/OR CRYSTAL COMPLEMENT

(2) 5Z4
(15) 6201
(1) OB2
(1) OA2
(1) 5726
Total Tubes: (33)

(1) 6080
(1) 5651
(8) 5814-A
(2) 5749
(1) 6136

(15) 1N54A
(5) 1N93
Total Crystals: (26)

(6) 601C

REFERENCE DATA AND LITERATURE

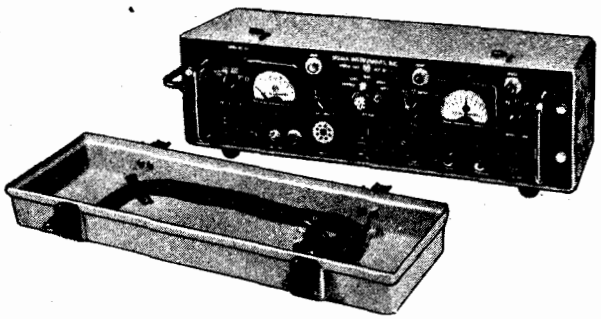
NAVSHIPS 92838, Technical Manual for Type 450-A Envelope Delay Meter.

TYPE CLASSIFICATION
DESIGN COGNIZANCE COMMERCIAL
PROCUREMENT COGNIZANCE
STOCK NO.
R.D.B. IDENT. NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Power Supply		
1	Sweep Oscillator		
1	Fork Unit		
1	Transmitter		
1	Delay Indicator		
1	Limiter		
1	Receiver		

TEST SET RELAY 4506



Relay Test Set Model 4506

FUNCTIONAL DESCRIPTION

The Model 4506 is designed for checking and adjusting the operation of high speed polar relays of the type commonly used in pulse equipment, such as computers and teletypewriters.

The Model 4506 is intended for:

(a) routine inspection of relays in regular service as a means of preventive maintenance;

(b) for adjustment of relays which feature replaceable parts or adjustability;

(c) for incoming inspection of relays.

No field changes in effect at time of preparation (22 April 1960).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF TESTS: Accurate measurement of trip, or operate, currents by means of a manually operated control; Rapid automatic indication of trip currents, permitting the operator to make adjustments; Measurement of contact bias under variable operating conditions by means of a circuit which may be easily checked; Measurement of break of the contacts under various operating conditions of means of a circuit which may also be checked. Hipot of 500 volts RMS AC applied between the coils and frame of the relay.

OPERATING DATA

MILLIAMMETER

RANGE: 5-0-5 ma dc.
BIAS: 0 to 25%.
BREAK TIME: 0 to 25% of Line Frequency.
HIGH POTENTIAL: 500 v 60 cps.
CURRENT: Limited to 1 ma.

OPERATING POWER RQMT: 110 to 124 v, 50 to 70 cps, single ph.

MANUFACTURER'S OR CONTRACTOR'S DATA

Sigma Instruments Inc., Braintree 85, Mass.
Model No. 4506.
Contract NObsr-75843.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 6X4 (1) OA3/VR75

Total Tubes: (2)
No Crystals used.

REFERENCE DATA AND LITERATURE

Sigma Instruments Inc., Catalog #1946-F for Test Set Relay Model No. 4506.

TYPE CLASSIFICATION (NAVY)
DESIGN COGNIZANCE COMMERCIAL
PROCUREMENT COGNIZANCE 12.12.7
STOCK NO.
R.D.B. IDENT. NO.

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Test Set Relay Model 4506		5-7/8 x 8 x 19-1/2	20

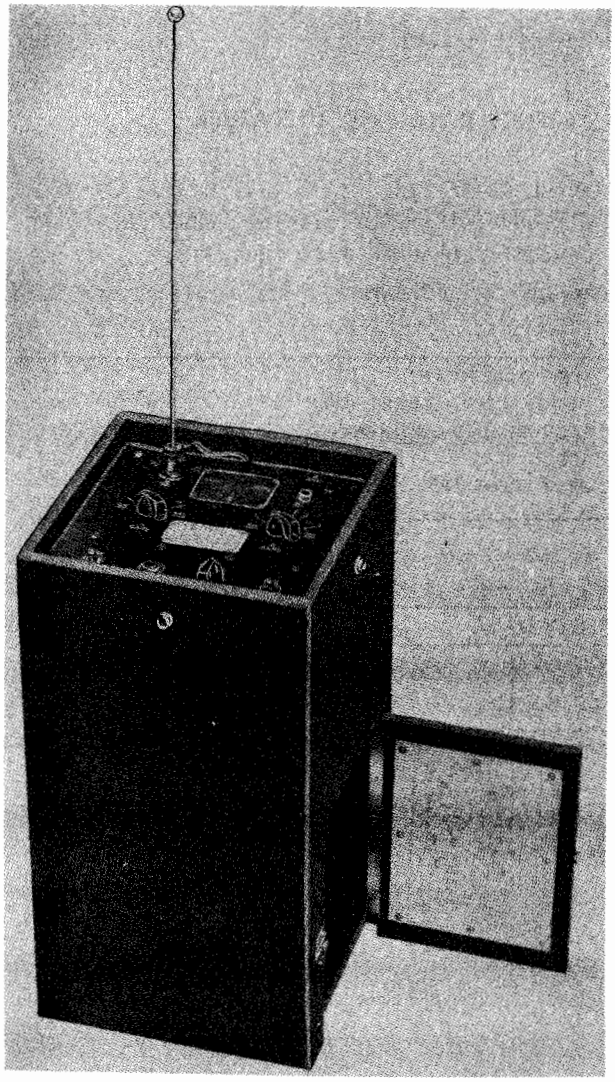
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Test Set Relay Model No. 4506	5-1/4 x 8 x 19	15

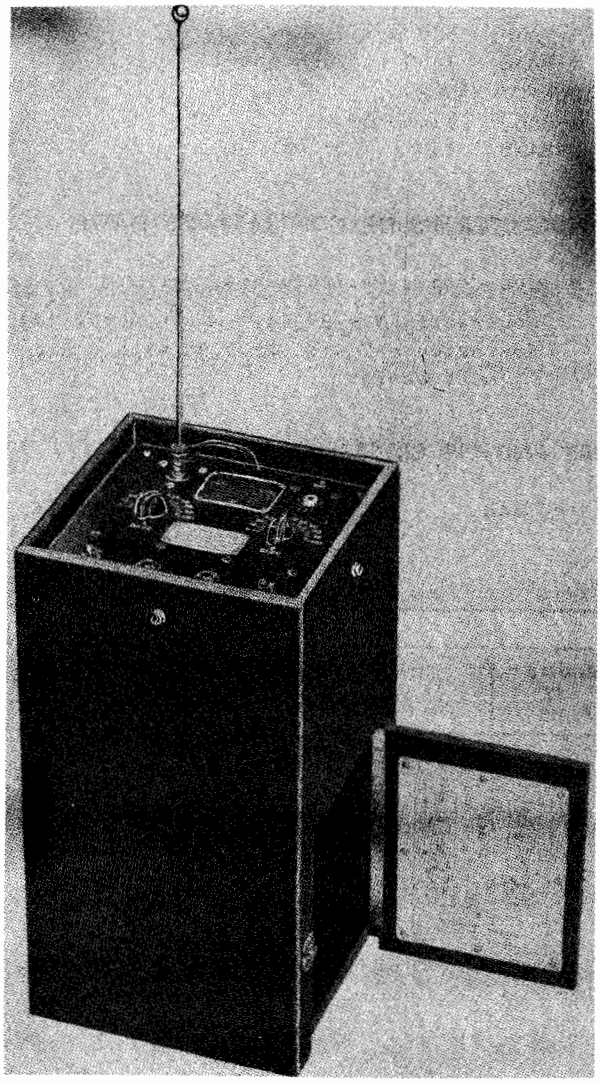
December 1956

TEST TRANSMITTER
TEST RECEIVER

60AAC
60AAB



Test Transmitter CPR-60AAC



Test Receiver CPR-60AAB

FUNCTIONAL DESCRIPTION

The NT-60 AAC provides a pulse of the proper characteristic required to trigger the transmitter circuits in the basic equipment. The 60 AAB provides a means of receiving the transmitted pulse signals from the basic equipment, which has been triggered by the NT-60AAC Test Transmitter, thus giving a check on the proper functioning of the basic equipment. Ordinarily the Test Transmitter and the Test Receiver are used together when testing the operation of the basic equipment. The Test Transmitter is designed to generate radio frequency pulse over two bands.

No field changes in effect at time of preparation (28 June 1956).

RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied: (2) A Batteries 1.5 v; (6) B Batteries (45 v).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

POWER SOURCE: 1.5 v A-battery; 45 v B-battery.

PULSE RATE

60AAC
60AAB

TEST TRANSMITTER
TEST RECEIVER

December 1956

A-BAND: 600 pps.
B-BAND: 1000 to 2000 pps.

FREQUENCY RANGE
A-BAND: 37 to 59 mc.
B-BAND: 150 to 235 mc.

MANUFACTURER'S OR CONTRACTOR'S DATA

Philco Corp., Philadelphia, Pa.

Contract: Nos 99911, dated 6 April 1942.
Approximate Cost: $200.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

(2) HY114B (2) 957 (2) ID8-GT

Total Tubes: (6)

REFERENCE DATA AND LITERATURE

NAVAER 08-5S-118: Technical Manual of Maintenance Instructions for Model CPR-60AAB, Model CPR-60AAC Test Equipment.

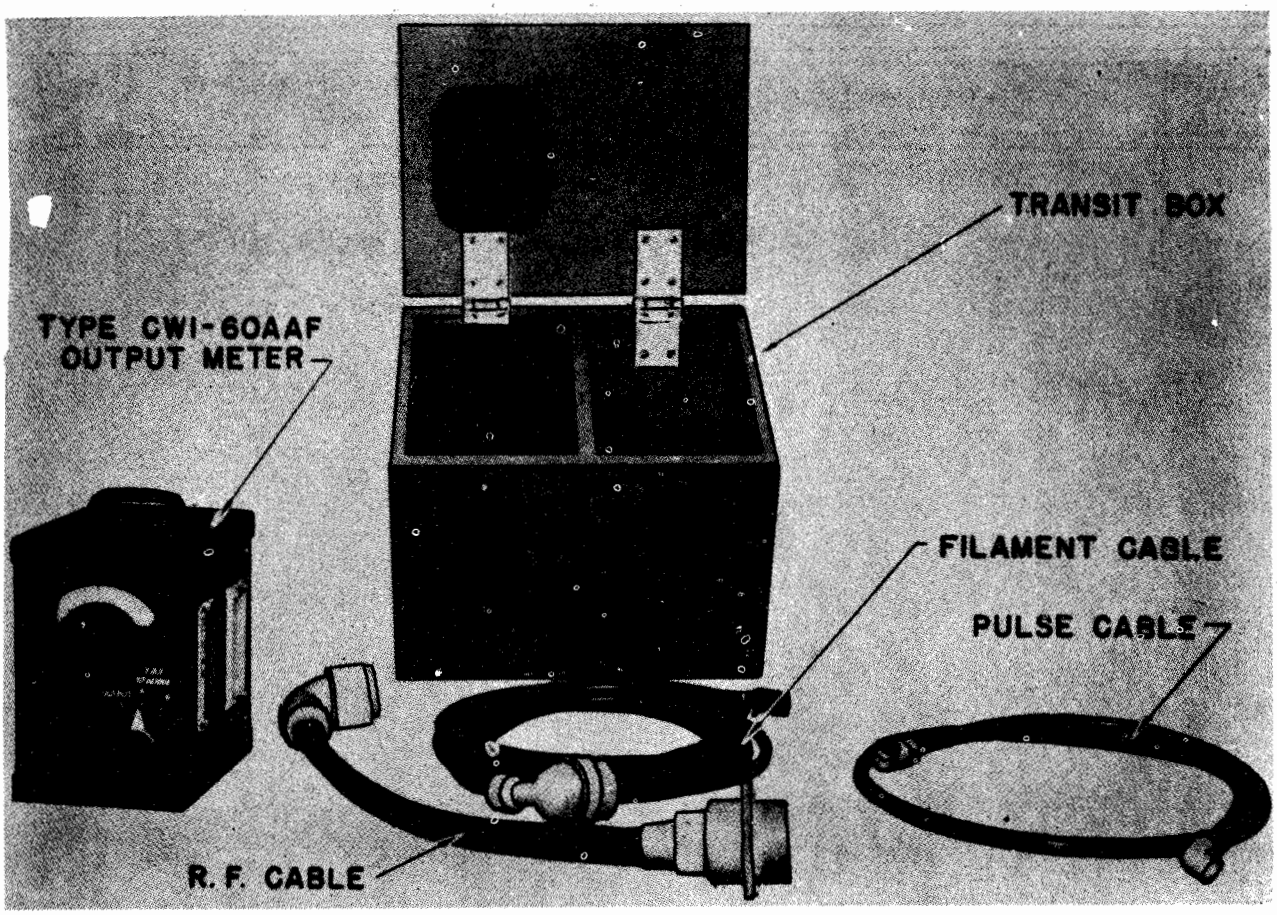
TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Test Transmitter NT-60AAC	8-1/4 X 8-1/2 X 17	10.5
1	Test Receiver NT-60AAB	8-1/4 X 8-1/2 X 17	10.25
2	Rod Antenna		

OUTPUT METER

60AAF



Output Meter 60AAF

FUNCTIONAL DESCRIPTION

The 60AAF is used to check two separate and distinct operations of the ASE Radar Transmitter. First, as a power output indicator and second, as a pulse recurrence rate meter.

No field changes in effect at time of preparation (7 November 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

OPERATING POWER: 6.3 v AC or DC.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) VR-92
Total Tubes: (1).

REFERENCE DATA AND LITERATURE

CO-AN08-45-1: Technical Manual for Output Meter CWI-60AAF.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	

60AAF OUTPUT METER

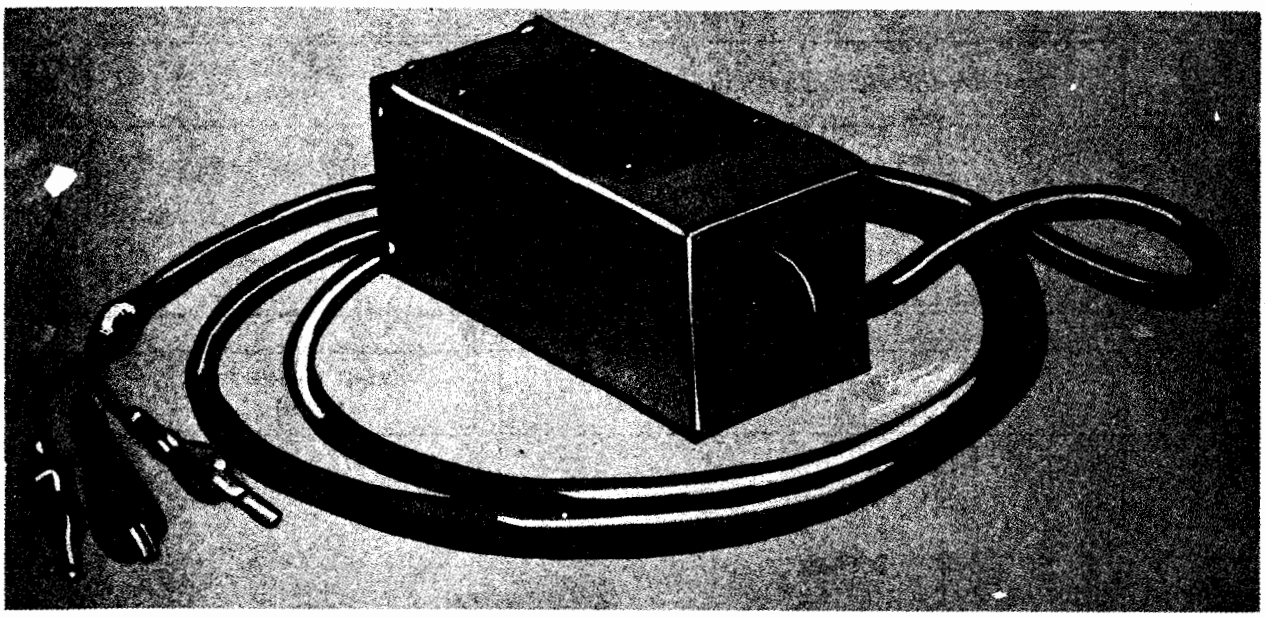
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Output Meter 60AAF	4-3/8 X 6-1/2 X 7-1/4	3.5
1	RF Cable	20 lg	
1	Pulse Cable	50 lg	
1	Filament Cable	180 lg	
1	Transmit Box	8-1/2 X 9-1/4 X 10	5

March 1957

PHASE SENSITIVITY TESTER

60161



Phase Sensitivity Tester NT-60161

FUNCTIONAL DESCRIPTION

The 60161 is used in conjunction with one of the portable sonar monitors and provides a means for checking Bearing Deviation Indicators for phase sensitivity. It is designed for use with the Navy Models OAX, OAX-1, OCP and XOCP monitors to provide a unit which can be used to make almost any test or adjustment of the BDI except oscillator tracking and filter alignments.

The Phase Sensitivity Tester simulates operating conditions by providing two signals to the BDI input so that when the BDI input selector switch (TEST switch) is on "OPERATE", the unit may be made to introduce signals in-phase or out-of-phase, just as if targets were returning an echo from a center bearing or from left to right.

The signal output of these monitors are too great to be used directly for testing the operation of a BDI unit. For this reason 72 db attenuation has been built into the Phase Sensitivity Tester, which reduces the signal sufficiently for satisfactory operation.

No field changes in effect at time of preparation (28 August 1956).

MANUFACTURER'S OR CONTRACTOR'S DATA

U.S. Navy Underwater Sound Laboratory, Fort Trumball, New London, Conn. Project Order No. 510/46.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

NAVSHIPS 900,874: Technical Manual for Phase Sensitivity Tester Navy Type 60161.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	

60161 PHASE SENSITIVITY TESTER

March 1957

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1 1	Phase Sensitivity Tester NT-60161 including Set of Equipment Spares		6 X 6 X 12	4

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1 1	Phase Sensitivity Tester NT-60161 Set of Equipment Spares	2-3/8 X 2-1/2 X 5-1/4	2

September 1956

IMPULSE GENERATOR

FUNCTIONAL DESCRIPTION

The Stoddart Model 91220-1 provides pulse signals of very short duration and of constant amplitude. The short pulse duration provides a broadband radio frequency output that is essentially constant per unit bandwidth from 10 kc to 1000 mc. It also can be used as a secondary standard of broadcast radio interference, and calibrate or determine the performance of RI-FI equipment, radio communication receivers and amplifiers in its frequency range.

No field changes in effect at time of preparation (2 July 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 10 kc to 1000 mc, output constant within ±0.5 db (useful output to 10,000 mc).

PULSE DURATION: 0.0005 usec.

REPETITION RATE: 50 or 60 pps (determined by power line frequency).

OUTPUT IMPEDANCE: 50 ohms.

OUTPUT LEVEL (RMS SPECTRAL INTENSITY): 101 db above 1 uv/mc bandwidth, adjustable from 10 to 101 in 0.25 db steps.

PULSE POLARITY: Positive or negative pulses.

POWER REQUIREMENTS: 115 v, 60 cps, 30 W single phase, (Will operate satisfactorily on 50 cps but the repetition rate becomes 50 pps).

MANUFACTURER'S OR CONTRACTOR'S DATA

Stoddart Aircraft Radio Co., Inc., Hollywood, California.

Contract NObsr 71111, dated 22 November 1955.

Approximate Cost: $350.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

(4) OA2

Total Tubes: (4)

REFERENCE DATA AND LITERATURE

NAVSHIPS 92776: Manuscript of Technical Manual for Impulse Generator 91220-1.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE Commercial
STOCK NO.
R.D.B. IDENT. NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Impulse Generator Model 91220-1	7-3/8 X 9-1/4 X 10	9.5