

NAVSHIPS 94200.4-2 Directory of Electronics Test
Equipment

Section 4.12 Miscellaneous Test Equipment

12 October 1964

Cog Service: USN FSN:

TEST BENCH HARNESS INFRARED, TYPE AN/AAM-4

Functional Class:

USA

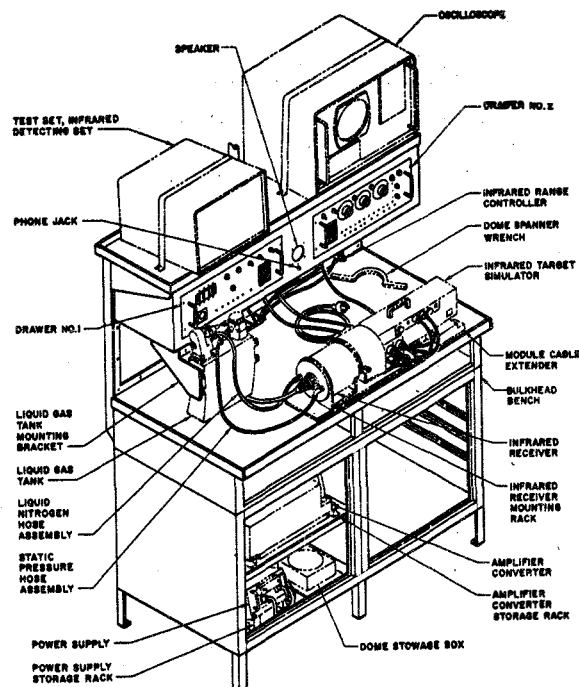
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Hughes Aircraft Company, (82577).



TEST BENCH HARNESS INFRARED, TYPE AN/AAM-4

FUNCTIONAL DESCRIPTION:

The Test Bench Harness Infrared, Type AN/AAM-4 provides manually sequenced test signals and power to the units of the Infrared Detecting Set Type AN/AAS-15. The test bench harness has provisions for mounting and interconnecting the infrared detecting set units and auxiliary test equipment.

No field changes in effect at time of preparation (15 September 1964).

RELATION TO OTHER EQUIPMENT:

The Test Bench Harness Infrared, Type AN/AAM-4 is used with the Infrared Detecting Set, Type AN/AAS-15.

AN/AAM-4 TEST BENCH HARNESS INFRARED TYPE

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Radar Set AN/APQ-83 or; (1) Radar Set AN/APQ-94; (1) Radar Test Harness AN/APM-145.

TECHNICAL CHARACTERISTICS:

POWER REQUIREMENTS: 115 v ac, 400 cyc, 3 ph at 300 va per ph; 28 v dc, 8.5 amp.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Bench Harness Infrared Type AN/AAM-4		36 x 48 x 61	

REFERENCE DATA AND LITERATURE:

NAVWEPS 16-30AAM4-1: Handbook for Operation and Service with Illustrated Parts Breakdown
Infrared Test Bench Harness Type No. AN/AAM-4.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Not required.

CRYSTALS: Not required.

SEMI-CONDUCTORS: (10) USN1N485B

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
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PROCUREMENT DATA

PROCURING SERVICE: USN

DESIGN COG: USN, BuWeps

SPEC &/OR DWG: MIL-T-23593(WEPS)

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Hughes Aircraft Company	Culver City, California	NOw 62-0152	

12 October 1964
Cog Service: USN FSN:

SIMULATOR, INFRARED TARGET AN/AAM-5
Functional Class:

USA

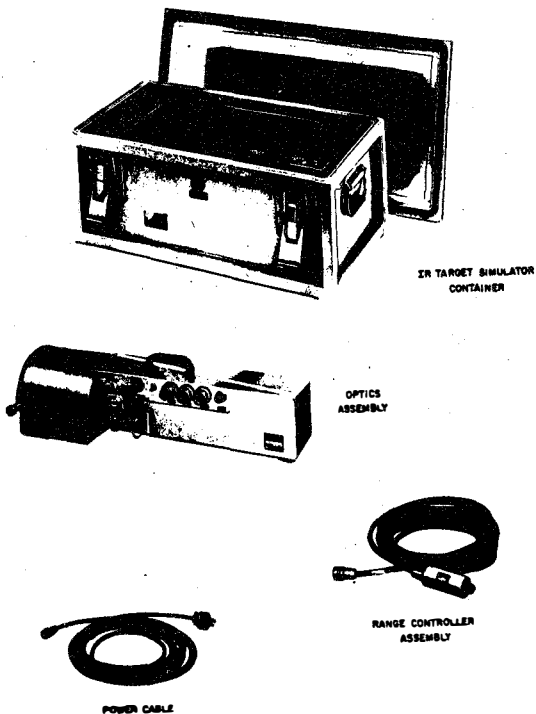
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Hughes Aircraft Company, (82577).



SIMULATOR, INFRARED TARGET AN/AAM-5

FUNCTIONAL DESCRIPTION:

Simulator, Infrared Target AN/AAM-5 is a lightweight, portable instrument that provides collimated infrared energy at five different levels. These levels are calculated to represent power levels equivalent to the levels received from a target at five discrete distances.

It provides a calibrated infrared source for use in the checkout and fault isolation of the Detecting Set, Infrared AN/AAS-15, and allows the Test Set Infrared to provide intelligence for the evaluation of the search and tracking capabilities.

No field changes in effect at time of preparation (15 September 1964).

RELATION TO OTHER EQUIPMENT:

The Simulator, Infrared Target Type AN/AAM-5 is used with the Infrared Detecting Set, Type AN/AAS-15.

AN/AAM-5 SIMULATOR, INFRARED TARGET

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Infrared Test Set, Type AN/AAM-6.

TECHNICAL CHARACTERISTICS:

TEMPERATURE LIMITATIONS: - 40° to 55° C (- 40° to 131° F).

POWER REQUIREMENTS: 115 v ac, 400 cyc, single ph.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Simulator, Infrared Target AN/AAM-5 includes:			
1	IR Target Simulator Container		13-1/4 x 15-3/4 x 29-1/2	38.8
1	Optics Assembly		6-7/8 x 9-7/16 x 22-11/16	8.3
1	Range Controller Assembly		1-1/2 x 5-1/2	2.2
1	Power Cable		20 ft	1.3

REFERENCE DATA AND LITERATURE:

NAVWEPS 16-30AAM5-1: Handbook for Operation and Service and Overhaul Instructions with
illustrated Parts Breakdown IR Target Simulator Type No. AN/AAM-5.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Not required.

CRYSTALS: Not required.

SEMI-CONDUCTORS: (1) 1N277JAN (6) 1N457JAN (1) 1N645 (1) 1N1126A (1) 1N2988B
(1) 2N492USAF (3) 4JX4C641 (1) W-89

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
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PROCUREMENT DATA

PROCURING SERVICE: USN

DESIGN COG: USN, BuWeps

SPEC &/OR DWG: MIL-T-23593(WEPS)

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Hughes Aircraft Company	Culver City, California	NOW 62-0152	

4.12 AN/AAM-5: 2

257

13 October 1964
Cog Service: USN

FSN:

TEST SET, INFRARED AN/AAM-6
Functional Class:

USA

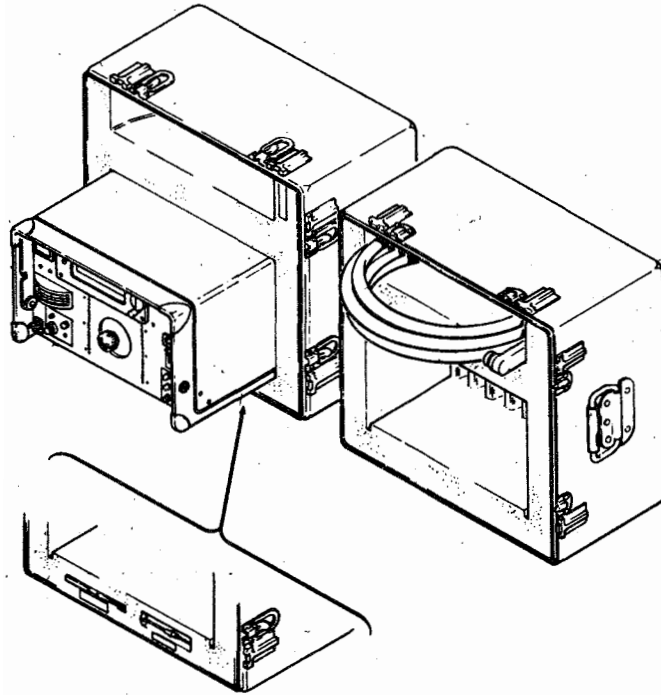
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USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Hughes Aircraft Co., (82577).



TEST SET, INFRARED AN/AAM-6

FUNCTIONAL DESCRIPTION:

Test Set, Infrared AN/AAM-6 applies selected signals to the infrared detection set, type AN/AAS-15 under test and then compares and monitors selected infrared detection set output signals by means of its integral vacuum tube voltmeter and/or an external oscilloscope.

No field changes in effect at time of preparation (15 September 1964).

RELATION TO OTHER EQUIPMENT:

Test Set Infrared Type AN/AAM-6 is used with the Infrared Detecting Set, Type AN/AAS-15.

AN/AAM-6 TEST SET, INFRARED

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Oscilloscope Type AN/USM-50; (1) Vacuum Tube Voltmeter Type TS-5058/U; (1) Multimeter Type AN/PSM-6; (1) IR Target Simulator No. 486901-100 (Hughes).

TECHNICAL CHARACTERISTICS:

POWER REQUIREMENTS: 115 v ac, 400 cyc, single ph, 80 va; 28 v dc.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Set, Infrared AN/AAM-6 includes:		10 x 15 x 18-3/8	
1	Transit Case Assembly No. 464039-1			
1	Insertion Tool M15513-20			
1	Extraction Tool M11515-20			
1	Special Purpose Cable Assembly No. 439874			
1	Special Purpose Cable Assembly No. 439875			

REFERENCE DATA AND LITERATURE:

NAVWEPS 16-30AAM6-1: Handbook for Operation and Service and Overhaul Instructions with Illustrated Parts Breakdown Infrared Test Set Type No. AN/AAM-6.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (2) 6AU6WB (1) 5687WA (1) 5814WA

CRYSTALS: Not required.

SEMI-CONDUCTORS: (3) 1N483B (5) 1N645 (10) 1N9358 (5) 1N941B (4) 1N1731 (2) 2N328
(2) 925258-1 (2) 925294-1 (5) 928119-1 (6) 2N335 (2) 2N1613

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
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PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG: MIL-T-23593(Weps)

DESIGN COG: USN, BuWeps

4.12 AN/AAM-6: 2

259

TEST SET, INFRARED AN/AAM-6

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Hughes Aircraft Co.	Culver City, Calif.	NOW 62-0152	

260

12 October 1964

Cog Service: USN

FSN:

TEST SET, CONVERTER AN/APM-142

Functional Class:

USA

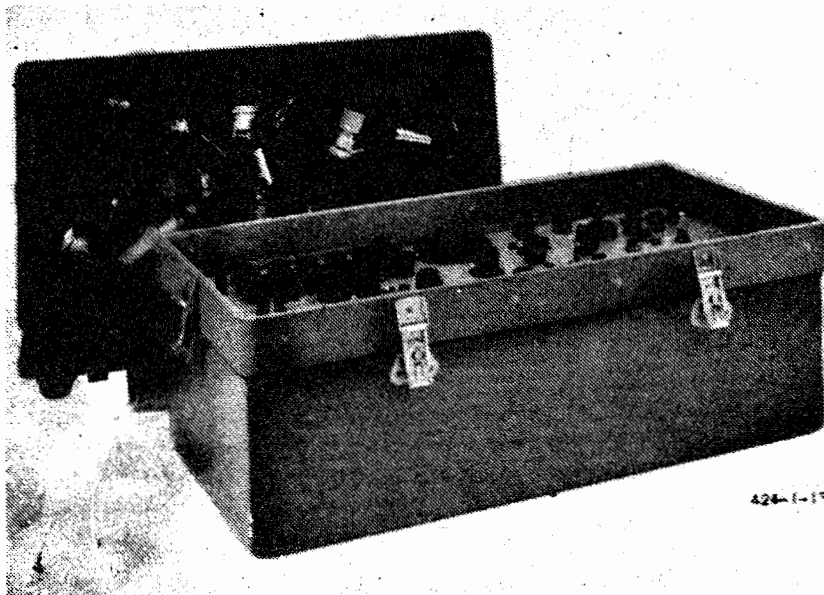
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Ryan Aeronautical Company, (07765).



TEST SET, CONVERTER AN/APM-142

FUNCTIONAL DESCRIPTION:

Test Set, Converter AN/APM-142 provides the means for performing both static and dynamic test on the Signal Data Converter and the amplifier assembly. The features of the dynamic test section facilitate the complete alignment of the unit and the location of malfunctioning subassemblies.

No field changes in effect at time of preparation (17 September 1964).

RELATION TO OTHER EQUIPMENT:

Radar Navigation Set AN/APN-122(V).

AN/APM-142 TEST SET, CONVERTER

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Radar Test Harness AN/APM-135.

TECHNICAL CHARACTERISTICS:

POWER REQUIREMENTS: 115 v ac, 400 cyc single ph, 53 va, 28 v dc, 0.2 amp.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Set, Converter AN/APM-142 includes:		10-5/8 x 10-5/8 x 20-5/16	29
1	Calibrator, Monitor TS-1367/APM-142			
9	Cable Assemblies W1; W2; W3; W4; W5; W6; W7; W8 and W10			
1	Case, Test Set CY-2834/APM			

REFERENCE DATA AND LITERATURE:

NAVWEPS 16-30APM142-1: Handbook for Operation and Service Instruction with Illustrated Parts Breakdown Test Set, Converter AN/APM-142.

NAVWEPS 16-30APM-135-1: Handbook for Operation and Service Instruction Radar Test Harness AN/APM-135.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (1) 6111

CRYSTALS: Not required.

SEMI-CONDUCTORS: (6) 1N457 (1) 1N645 (1) 1N78A (11) 2N117

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
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PROCUREMENT DATA

PROCURING SERVICE: USN

DESIGN COG: USN, BuWeps

SPEC &/OR DWG:

4.12 AN/APM-142: 2

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TEST SET, CONVERTER AN/APM-142

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Ryan Aeronautical Co.	San Diego, California	NOas 59-0198	

263

15 October 1964
Cog Service: USN FSN:

TEST HARNESS RADAR AN/APM-146
Functional Class:

USA

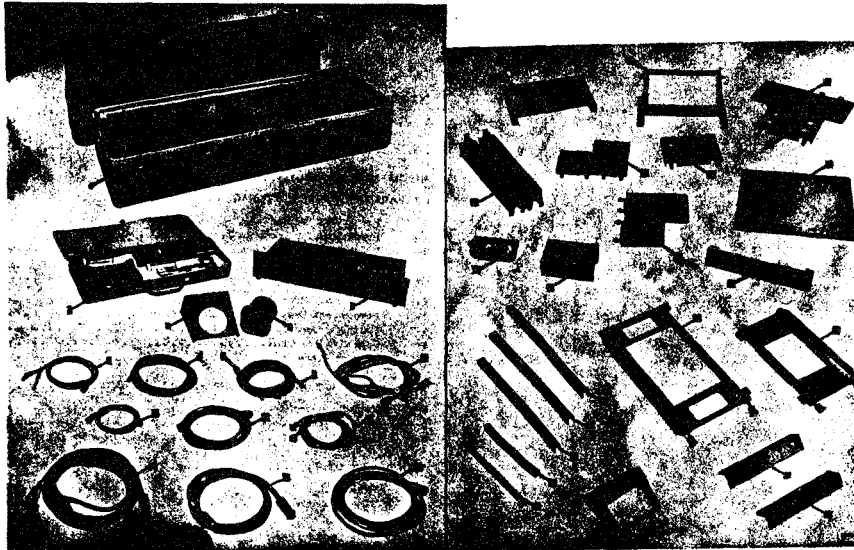
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USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Ryan Aeronautical Company, (07765).



- | | | | |
|--|------------------------------|---|---|
| 1. Frame Assembly, Mounted, RCVP-TBAND | 8. Base Assembly | 17. Plate Assembly, Mounting | 24. Support Assembly, Control-Indicator |
| 2. Test Kit TE-112/APM-146 | 9. Cable Assembly W1 | 18. Back Assembly, Signal Data Converter Test Set | 25. Mounting, Signal Data Converter |
| 3. Bracket Assembly, Mounting, Indicator | 10. Cable Assembly W2 | 19. Shelf Assembly, Mounting, Cooler and Dummy Load | 26. Mounting, Power Supply |
| 4. Subcarrier, Direction-Velocity ID-861/APM-130 | 11. Cable Assembly W3 | 20. Support Mounting, Radio Test Set | 27. Channel, Mounting |
| 5. Indicator, Control | 12. Cable Assembly W4 | 21. Support Assembly, Cooler Test Set | 28. Channel, Mounting |
| 6. Cable Assembly W5 | 13. Cable Assembly W5 and W6 | 22. Support Assembly, Side, Radio Test Set | 29. Channel, Mounting |
| 7. Base Assembly | 14. Cable Assembly W6 | 23. Support Assembly, Side, Radio Test Set | 30. Cover, Terminal Board |
| 8. Cable Assembly W7 | 15. Cable Assembly W7 | 24. Shelf Assembly, Mounting, Signal Data Converter | 31. Terminal Board |
| | 16. Cable Assembly W8 | 25. Base, Electrical Equipment Bank | 32. Structure Assembly, Mounting |
| | | 26. Bracket Assembly, Mounting, Converter | 33. Direction-Velocity Indicator |
| | | 27. Bracket Assembly, Optical Test Set | 34. Angle Support, Side |
| | | | 35. Angle Support, Side |

TEST HARNESS RADAR AN/APM-146

FUNCTIONAL DESCRIPTION:

Test Harness Radar AN/APM-146 provides control and indicator circuits which govern the application of primary power, controls operation and provides circuit protection for the primary power source and the components during operation.

No field changes in effect at time of preparation (17 September 1964).

RELATION TO OTHER EQUIPMENT:

Components that can be serviced by the Test Harness Radar AN/APM-146 are as follows: Radar Receiver-Transmitter RT-590/APN-130; Radar Receiver Transmitter RT-591/APN-130; Electron Tube Liquid Cooler HD-334/APN-122 or HD-334B/APN-122(V); Power supply PP-2712/APN-130; Signal Data Converter CV-1390/APN-130A(V); Control-Indicator C-3371/APN-130; and Direction-Velocity Indicator ID-861/APN-130.

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AN/APM-146 TEST HARNESS RADAR

EQUIPMENT REQUIRED BUT NOT SUPPLIED:**TECHNICAL CHARACTERISTICS:**

POWER REQUIREMENTS: 115 v ac, 400 cyc, 3 ph.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Harness Radar			
	AN/APM-146 includes:			
1	Control Indicator			
	C-3666/APM-146			
1	Direction-Velocity Indicator			
	ID-861/APM-130			
1	Mount, Fixture, Receiver-			
	Transmitter MPT-2511/APM-146			
1	Tool Kit TK-119/APM-146			
2	Hose Assembly AN6270-4-216			
1	Cable Assembly 10W1			
1	Cable Assembly 10W2			
1	Cable Assembly 10W3			
1	Cable Assembly 10W4			
1	Cable Assembly 10W5			
1	Cable Assembly 10W6			
1	Cable Assembly 10W7			
1	Cable Assembly 10W8			
1	Cable Assembly 10W9			
1	Cable Assembly 10W10			

REFERENCE DATA AND LITERATURE:

NAVWEPS 16-30APM146-1: Handbook for Operation and Service Instructions with Illustrated Parts Breakdown Test Harness Radar AN/APM-146.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Not required.

CRYSTALS: Not required.

SEMI-CONDUCTORS: Not required.

4.12 AN/APM-146: 2

265

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
Ryan Aeronautical Co.	San Diego, California	NOW 60-0203 NOW 62-0985	

996

13 October 1964

TEST SET, RADAR AN/APM-147

Cog Service: USN

FSN:

Functional Class:

USA

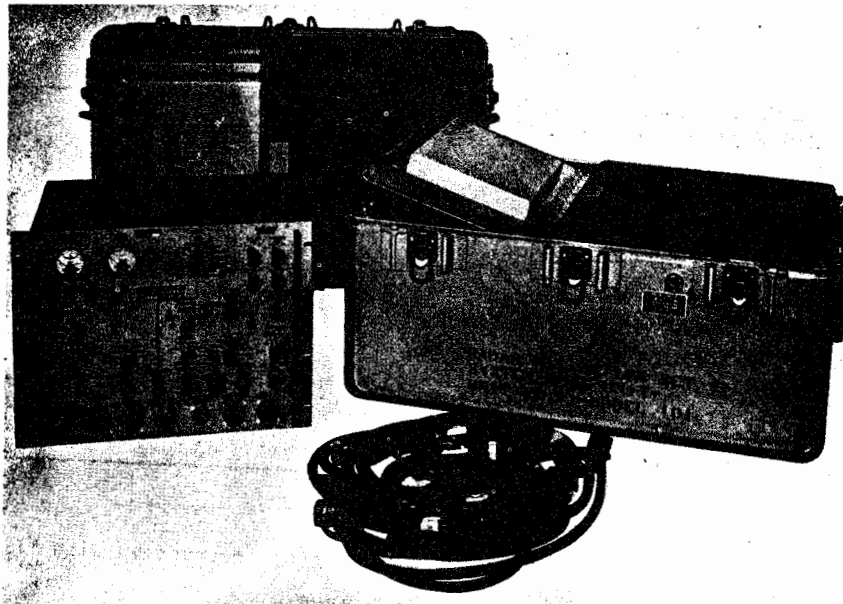
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Ryan Aeronautical Co., (07765).



TEST SET, RADAR AN/APM-147

FUNCTIONAL DESCRIPTION:

Test Set, Radar AN/APM-147 is designed to evaluate the performance of Radar Navigation Set AN/APN-130(v) and AN/APN-130A(v) and to provide a means of testing, servicing and aligning components and subassemblies of the Radar Navigation Set.

No field changes in effect at time of preparation (17 September 1964).

RELATION TO OTHER EQUIPMENT:

Components that can be serviced by the Test Set, Radar AN/APN-130(v) are as follows: Receiver-Transmitter Radar, RT-590/APN-130 or Receiver Transmitter Radar, RT-591/APN-130; Converter, Signal Data, CV-1390/APN-130(v); Power Supply, PP-2712A/APN-130; Indicator, Direction-Velocity, ID-861/APN-130.

AN/APM-147 TEST SET, RADAR

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

TECHNICAL CHARACTERISTICS:

POWER REQUIREMENTS: 115 v ac, 400 cyc, single ph, 1 amp.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Set, Radar AN/APM-147 includes:		13-1/2 x 14 x 19	27
1	Radar Test Set TS-1518/APM-147			
1	Test Set Case CY-3141/APM-147		17-29/32 x 22-13/16 x 34	58
1	Cable Assembly 11W1			
1	Cable Assembly 11W2			
1	Cable Assembly 11W3			
1	Cable Assembly 11W4			
1	Cable Assembly 11W5			
1	Cable Assembly 11W6			

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REFERENCE DATA AND LITERATURE:

NAVWEPS 16-30APM147-1: Handbook for Operation and Service Instruction with Illustrated Parts Breakdown Test Set, Radar AN/APM-147.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Not required.

CRYSTALS: Not required.

SEMI-CONDUCTORS: (4) 1N538 (2) 1N3020B (2) 1N3024B (1) D4179 (1) 1N457 (1) 1N645
(3) 2N333

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
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4.12 AN/APM-147: 2

PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG:

DESIGN COG: USN, BuWeps

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Ryan Aeronautical Co.	San Diego, Calif.	Now 60-0203	

269

14 October 1964

Cog Service: USN FSN:

TEST SET DOPPLER RADAR AN/APM-148
Functional Class:

USA

USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Ryan Aeronautical Co., (07765).



TEST SET DOPPLER RADAR AN/APM-148

FUNCTIONAL DESCRIPTION:

Test Set, Doppler Radar AN/APM-148 is designed to perform system performance tests on Radar Navigation Set AN/APN-13A(V) installed in the SH-3A aircraft. The Test Set is used to test a complete Radar Navigation Set in a test bench area. In addition the Doppler Radar Test Set is used to perform tests and checks of the Navigational and Automatic Stabilization system in the aircraft that receive and utilize data from the Radar Navigation Set.

No field changes in effect at time of preparation (18 September 1964).

RELATION TO OTHER EQUIPMENT:

Equipment AN/APM-148 is used with Radar Navigation Set AN/APN-130A(V).

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

AN/APM-148 TEST SET DOPPLER RADAR

TECHNICAL CHARACTERISTICS:

POWER REQUIREMENTS: 115 v ac, 50 to 70 or 380 to 420 cyc, single ph, from an external power source and 115 v ac, 400 cyc, excitation voltage from the Radar Navigation Set.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Set, Doppler Radar AN/APM-148 includes:			
1	Doppler Signal Simulator SM-229/APM-148		25 x 33 x 59	250
1	Control-Indicator C-3667/APM-148		11 x 13 x 20	40
1	Platform Hand Truck No. 400377G1			
1	Cable Assembly W1			
1	Cable Assembly W2			
1	Cable Assembly W3			
1	Cable Assembly W4			
1	Cable Assembly W5			

REFERENCE DATA AND LITERATURE:

NAVWEPS 16-30APM148-1: Handbook of Operation and Service Instructions with Illustrated Parts Breakdown Test Set Doppler Radar AN/APM-148.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Not required.

CRYSTALS: Not required.

SEMI-CONDUCTORS: (15) 1N457 (1) 1N645 (4) 1N647 (1) 1N937A (4) 1N1202 (1) 1N1204
(1) 1N459 (1) 1N1827 (5) 2N333 (2) 2N338 (1) 2N1050 (2) 2N1893
(1) 2N2193A (2) 50M12ZB1 (2) 50M13Z5

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
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PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG:

DESIGN COG: USN, BuWeps

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Ryan Aeronautical Co.	San Diego, Calif.	N0w 60-0203 N0w 62-0985	

272

9 October 1964
Cog Service: USN FSN:

TEST SET, POWER SUPPLY AN/APM-149
Functional Class:

USA

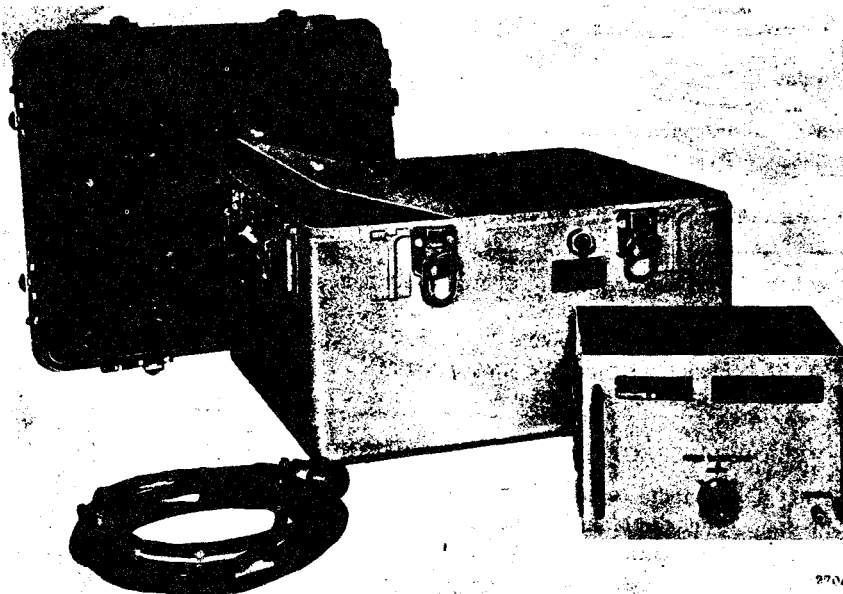
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Ryan Aeronautical Company, (07765).



TEST SET, POWER SUPPLY AN/APM-149

FUNCTIONAL DESCRIPTION:

Test Set, Power Supply AN/APM-149 provides an electrical dummy load for testing Power Supply PP-2712A/APN-130 or other components at the test bench while allowing the Klystron, used in the Radar Navigational Set AN/APN-130(A) (V), to remain inoperative.

No field changes in effect at time of preparation (23 September 1964).

RELATION TO OTHER EQUIPMENT:

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Power Supply PP-2712A/APN-130; (1) Radar Navigation Set AN/APN-130A(V); (1) Radar Test Harness AN/APM-146; (1) Control Indicator C3666/APM-146.

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AN/APM-149 TEST SET, POWER SUPPLY

TECHNICAL CHARACTERISTICS:

POWER REQUIREMENTS: Approximately 129 watts of power are consumed by the Dummy Load when connected to Power Supply PP-2712A/APN-130.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Set, Power Supply AN/APM-149 includes:		13-1/2 x 20 x 22-45/64	31
1	Dummy Load Electrical DA-266/APM-149		7-1/2 x 10 x 10-1/2	6.5
1	Cable Assembly 12 W1			
1	Case, Test Set CY-3142/APM-149			

REFERENCE DATA AND LITERATURE:

NAVWEPS 16-30APM-149-1: Handbook of Operation and Service Instructions with Illustrated Parts Breakdown Test Set Power Supply AN/APM-149.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Not required.

CRYSTALS: Not required.

SEMI-CONDUCTORS: Not required.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
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PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG:

DESIGN COG: USN, BuWeps

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Ryan Aeronautical Company	San Diego, California	NOW 62-0985 NOW 60-0203	

14 October 1964
Cog Service: USN

FSN:

TEST SET, CRYSTAL AN/APM-151
Functional Class:

USA

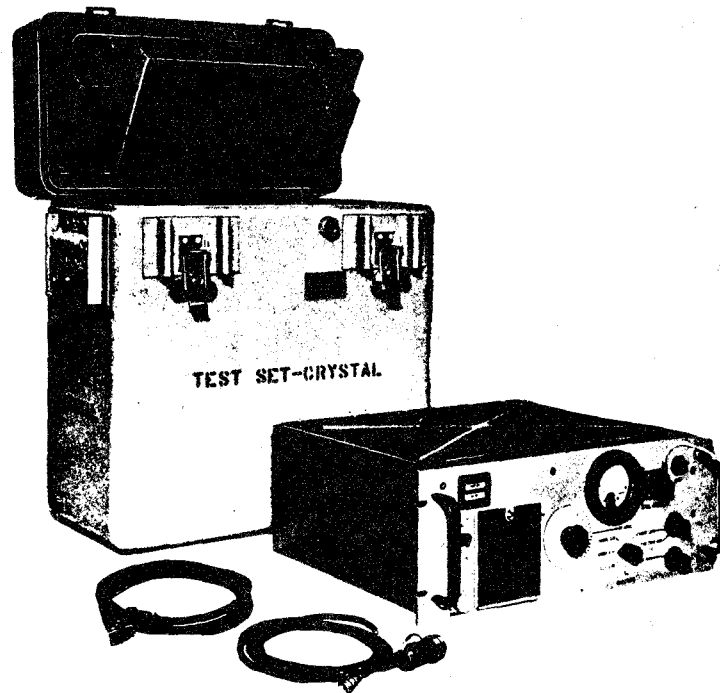
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Ryan Aeronautical Company, (07765).



TEST SET, CRYSTAL AN/APM-151

FUNCTIONAL DESCRIPTION:

Test Set, Crystal AN/APM-151 is designed for testing the operational suitability of radio frequency crystal detectors which operate at 13,300 mc (13.3 k mc) and will fit crystal holders supplied with the test set.

The Test Set consists of Crystal Test Set TS-1520/APM-151, Test Set Case C73144/APM-151 and three cable assemblies. Mounted on the test set front panel, or behind the instruction door assembly, are all controls, indicator lamps, connectors, and a meter essential for operation. The test set is designed to test only one crystal at a time, and at only one frequency.

No field changes in effect at time of preparation (25 September 1964).

RELATION TO OTHER EQUIPMENT:

Equipment used with AN/APN-130(V).

AN/APM-151 TEST SET, CRYSTAL

EQUIPMENT REQUIRED BUT NOT SUPPLIED:**TECHNICAL CHARACTERISTICS:**

POWER REQUIREMENTS: 115 v ac, 60 or 400 cyc, single ph.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Set, Crystal AN/APM-151 includes:			
1	Test Set, Crystal TS-1520/APM-151		7 x 17 x 19	58
1	Case, Test Set CY-3144-APM-151		14 x 25 x 25	40
1	Cable Assembly W1 CY-3135A/U			
1	Cable Assembly W2 CS-4938/U			
1	Cable Assembly W3 No. 200304-G2			
1	Holder Crystal No. 114A0050-1			
1	Holder Crystal No. 300625			

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REFERENCE DATA AND LITERATURE:

NAVWEPS 16-30APM-151-1: Handbook for Operation and Service Instructions with Illustrated Parts Breakdown Test Set, Crystal AN/APM-151.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (1) 5751 (2) 6216 (1) VA92C

CRYSTALS: Not required.

SEMI-CONDUCTORS: (1) 1N270 (1) 1N3029B (2) 1N429 (1) 1N3031B (2) 1N457 (3) 2N333
(1) 1N519A (1) 2N389 (8) 1N538 (2) 2N656 (1) 1N758A (1) 2N697
(2) 1N970B (2) 2N1613 (4) 1N1202 (6) 2N1893 (8) 1N1731 (1) 1N1817A
(1) 1N1823A (1) 1N1826A (1) 1N2622B

28 October 1964

TEST SET, DOPPLER RADAR AN/APM-154

Cog Service: USN FSN:

Functional Class:

USA

USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Ryan Aeronautical Company, (07765).

(No Illustration Available)

FUNCTIONAL DESCRIPTION:

Test Set, Doppler Radar AN/APM-154 is designed to perform system performance tests on Radar Navigation Set AN/APN-130A(V) installed in the UH-2A aircraft. The test set is used to test a complete Radar Navigational Set in a test bench area. In addition the Doppler Radar Test Set is used to perform tests and checks of the Navigational and Automatic Stabilization system in the aircraft that receive and utilize data from the Radar Navigation Set.

No field changes in effect at time of preparation (18 September 1964).

RELATION TO OTHER EQUIPMENT:

Equip AN/APM-154 is used with Radar Navigation Set AN/APN-130A(V).

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

TECHNICAL CHARACTERISTICS:

POWER REQUIREMENTS: 115 v ac, 50 to 70 or 380 to 420 cyc, single ph from an external power source and 115 v ac, 400 cyc, excitation voltage from the Radar Navigation Set.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Set, Doppler Radar AN/APM-154 includes:			
1	Doppler Signal Simulator SM-231/APM-154		29 x 33 x 59	250
1	Control-Indicator C-3667/APM-148		11 x 13 x 20	40
1	Platform Hand Truck No. 400377-G1			
1	Cable Assembly W1			
1	Cable Assembly W2			
1	Cable Assembly W3			
1	Cable Assembly W4			
1	Cable Assembly W5			

4.12 AN/APM-154: 1

278

AN/APM-154 TEST SET, DOPPLER RADAR

REFERENCE DATA AND LITERATURE:

NAVWEPS 16-30 APM-154-1: Handbook for Operation and Service Instructions with Illustrated Parts Breakdown Test Set Doppler Radar AN/APM-154.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Not required.

CRYSTALS: Not required.

SEMI-CONDUCTORS: (15) 1N457 (1) 1N459 (1) 1N645 (4) 1N647 (1) 1N937A (4) 1N1202
(1) 1N1204 (1) 1N1827 (5) 2N333 (2) 2N338 (1) 2N1050 (2) 2N1893
(1) 2N2193A (2) 50M12ZB1 (2) 50M13Z5

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
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PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG:

DESIGN COG: USN, BuWeps

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Ryan Aeronautical Company	San Diego, California	NOW 60-0203 NOW 62-0985	

9 October 1964
Cog Service: USN

FSM:

TEST SET, SIGNAL DATA CONVERTER AN/APM-191
Functional Class:

USA

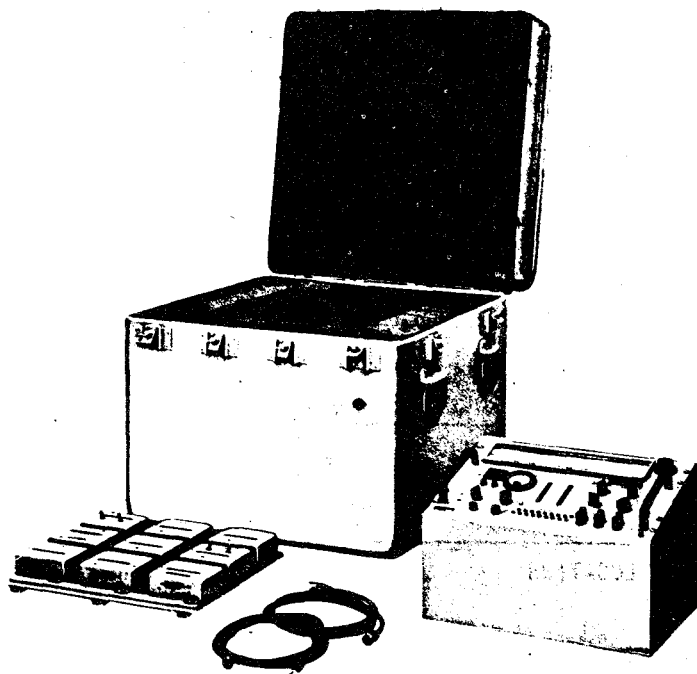
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Ryan Aeronautical Company, (07765).



TEST SET, SIGNAL DATA CONVERTER AN/APM-191

FUNCTIONAL DESCRIPTION:

Test Set, Signal Data Converter AN/APM-191 is designed to test and align the modules of the Signal Data Converter by furnishing simulated input and output loads, signals and operating voltages to the module. A program insert for each module, as well as a continuity program insert for use with any module, is provided. The three cable assemblies provide electrical connections between the Test Set and external power. Contained within the Test Set and program inserts are switching circuits and wiring, which provide paths for test signals and voltages from the Test Set to the module under test. Circuits are also provided for routing test signals and voltages to test points on the Test Set front panel. A pulse generator, two phase shifting networks, two power supplies and metering circuits in the Test Set provide signals, voltages and metering circuits that are necessary to test and align the modules. A roll chart is incorporated in the front panel of the Test Set and contains test and alignment instructions for each individual module.

AN/APM-191 TEST SET, SIGNAL DATA CONVERTER

The Test Set Signal Data Converter AN/APM-191 is designed to test, service and align the modules of Signal Data Converter CV-1390/APN-130(V).

No field changes in effect at time of preparation (24 September 1964).

RELATION TO OTHER EQUIPMENT:

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

TECHNICAL CHARACTERISTICS:

POWER REQUIREMENTS: 115 v ac, 50 to 450 cyc, single ph.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Set, Signal Data Converter AN/APM-191 includes:		1-39/64 x 12-1/4 x 19	33
1	Test Set, Signal Data Converter TS-1884/APM-191			
1	Case, Test Set CY-3814/APM-191		27-1/2 x 29-3/16 x 29-13/16	75
1	Program Insert, Continuity No. 300230-G7			
1	Program Insert, Doppler Signal Converter No. 300913-G2			
1	Program Insert, Modulator No. 300922-G1			
1	Program Insert, Automatic Gain Control No. 300906-G1			
1	Program Insert, Electronic Filter No. 300230-G5			
1	Program Insert, Doppler Sensor No. 300909-G1			
1	Program Insert, Velocity Computer No. 300913-G1			
1	Program Insert, Direction- Velocity Indicator No. 300230-G4			
1	Program Insert, Modulator Excitation No. 300230-G2			
1	Cable Assembly W1 CX-3135A/U			
1	Cable Assembly W2 CX-4938/U			
1	Cable Assembly W3 No. 400550			

4.12 AN/APM-191: 2

281

REFERENCE DATA AND LITERATURE:

NAVWEPS 16-30APM191-1: Handbook for Operation and Service Instruction with Illustrated Parts Breakdown Test Set, Signal Data Converter AN/APM-191.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Not required.

CRYSTALS: Not required.

SEMI-CONDUCTORS: (2) 1N457 (1) 2N1050A (8) 1N538 (4) 2N1893 (4) 1N645 (1) 1N938B
 (1) 1N2992B (1) 10M10ZRB1 (1) 10M13ZB1 (1) 10M14ZB1 (1) 10M15ZB1
 (1) 2N332 (2) 2N333 (2) 2N335 (1) 2N495

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
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PROCUREMENT DATA

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

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Ryan Aeronautical Company	San Diego, California	NOW 60-0203 NOW 62-0985	

282

9 November 1964
Cog Service: USN FSN:

ELECTRONIC SWITCH TEST SET AN/APM-193
Functional Class:

USA

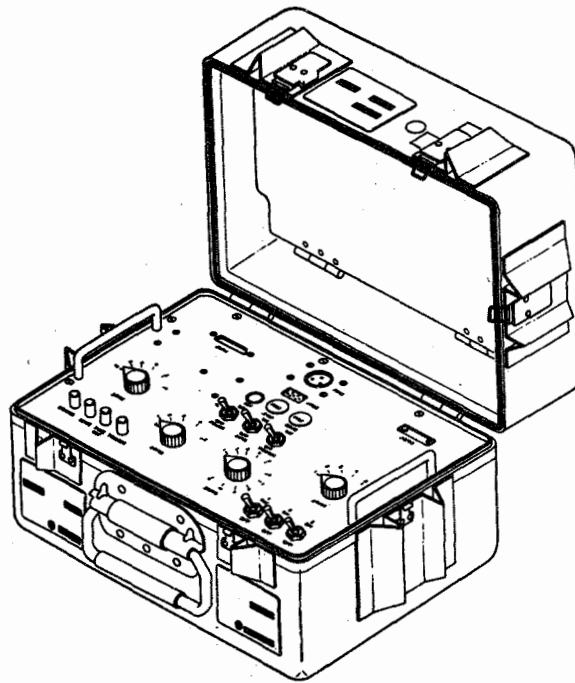
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Magnovox Co., (37695).



ELECTRONIC SWITCH TEST SET AN/APM-193

FUNCTIONAL DESCRIPTION:

Electronic Switch Test Set AN/APM-193 is used for the testing and maintenance of electronic switch used in Radar Sets AN/APQ-83 and AN/APQ-94.

No field changes in effect at time of preparation (6 November 1964).

RELATION TO OTHER EQUIPMENT:

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

AN/APM-193 ELECTRONIC SWITCH TEST SET

TECHNICAL CHARACTERISTICS:

POWER REQUIREMENTS: 27 ± 2 v dc with max power output of 10 W.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Electronic Switch Test Set AN/APM-193 includes:		10-3/8 x 13 x 13-1/2	15
1	Test Set Subassembly TS-1892/APM-193			
4	Special Purpose Electrical Cable Assembly			
1	Operation and Calibration Instruction Handbook			

REFERENCE DATA AND LITERATURE:

NAVWEPS 16-30APM193-1: Handbook of Operation and Service Instructions with Illustrated Parts Breakdown for Test Set, Electronic Switch AN/APM-193.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Not required.

CRYSTALS: Not required.

SEMI-CONDUCTORS: (2) 2N297M

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
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PROCUREMENT DATA

PROCURING SERVICE: USN

DESIGN COG: USN, BuWeps

SPEC &/OR DWG:

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Magnovox Co.	Fort Wayne, Ind.	N0w61-1039	

4.12 AN/APM-193: 2

284

9 October 1964

Cog Service: USN FSN:

TEST HARNESS, RADIO SET GROUP AN/ARM-50

Functional Class:

USA

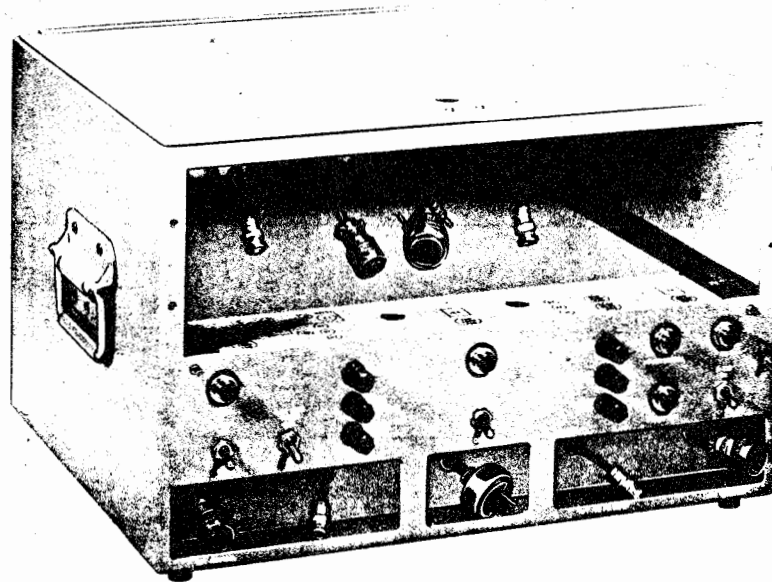
USN

USAF

TYPE CLASS:

Used by

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



TEST HARNESS, RADIO SET GROUP AN/ARM-50

FUNCTIONAL DESCRIPTION:

Test Harness Radio Set AN/ARM-50 provides an expedient method of applying power, signal, and control functions to components of Radio Set OA-2324/SSW-1. Facilities also are provided for monitoring the outputs of the components.

Radio Set Test Harness AN/ARM-50 provides a means of testing and trouble shooting Radio Set OA-2324/SSW-1. The AN/ARM-50 provides a means of testing and trouble shooting Radio Set OA-2324/SSW-1. The AN/ARM-50 provides control and access for injection and extraction of signal inputs that are used during dynamic tests of the major components of Radio Set OA-2324/SSW-1.

No field changes in effect at time of preparation (23 September 1964).

AN/ARM-50 TEST HARNESS, RADIO SET GROUP

RELATION TO OTHER EQUIPMENT:

Equipment is used with Radio Set OA-2324/SSW-1 and Converter-Oscillator CV-800/SSW-1.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Power Supply, Alternating Current 115 v ac, 60 cyc; (1) Radio Set OA-2324/SSW-1.

TECHNICAL CHARACTERISTICS:

POWER REQUIREMENTS: 115 v ac, 60 cyc. With the CV-800/SSW-1 installed, the power required is 112 W.

DATA OUTPUT CHARACTERISTICS

WITH THE LOW PASS FILTER SWITCH PLACED IN THE IN POSITION ATTENUATION: Is 3 db down at 10 kc.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Harness, Radio Set Group AN/ARM-50		12-5/16 x 17.5 x 20-1/4	17.5

REFERENCE DATA AND LITERATURE:

NAVWEPS 16-30 ARM-50-1: Handbook for Radio Set, Test Harness AN/ARM-50.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Not required.

CRYSTALS: Not required.

SEMI-CONDUCTORS: Not required.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
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PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG:

DESIGN COG: USN, BuWeps

TEST HARNESS, RADIO SET GROUP AN/ARM-50

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Collins Radio Company	Cedar Rapids, Iowa	NOas 57-720	

287

9 October 1964

TEST SET, RADIO AN/ARM-62

Cog Service: USN FSN:

Functional Class:

USA

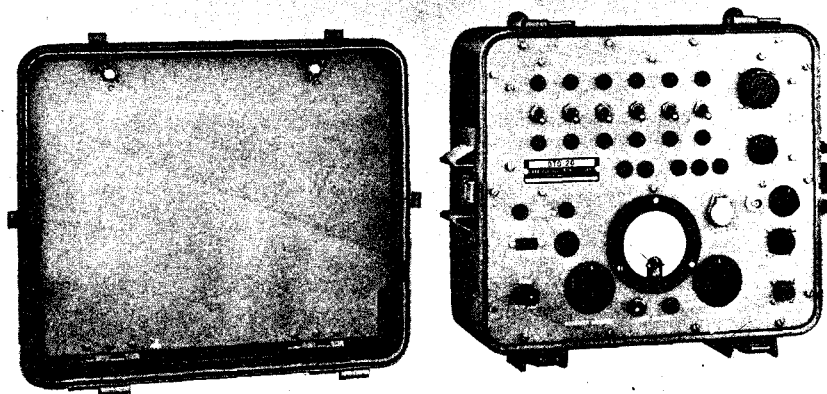
USN

USAF

TYPE CLASS:

Used by

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



TEST SET, RADIO AN/ARM-62

FUNCTIONAL DESCRIPTION:

Test Set Radio AN/ARM-62 consists basically of three functional circuits: (1) audio output signal circuits; (2) metering circuits, and (3) various test circuits. The Test Set is capable of providing a variety of audio signals to modulate the RF output signal of Signal Generator AN/ARM-61 and provides facilities for testing all replaceable subassemblies and relays of Radio Receiving Set AN/ARW-67.

No field changes in effect at time of preparation (23 September 1964).

RELATION TO OTHER EQUIPMENT:

Test Set Radio AN/ARM-62 is used with Signal Generator AN/ARM-61 to perform bench checkout of Radio Receiving Set AN/ARW-67A.

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AN/ARM-62 TEST SET, RADIO

EQUIPMENT REQUIRED BUT NOT SUPPLIED:**TECHNICAL CHARACTERISTICS:****INPUT**

VOLTAGE: 115 v ac.
POWER: 110 va max.
FREQUENCY: 400 cyc, single ph.

OUTPUT

AUDIO FREQUENCY ANY COMBINATION OF THE FOLLOWING:

A/N AUDIO CODE CHANNEL NO.	FREQUENCY IN KILOCYCLES
1	7.500
2	8.460
3	9.540
4	10.760
5	12.140
6	13.700

AUDIO AMPLITUDE: 0 to 1.5 v rms.

POWER SUPPLY (B +): 120 ± 7.2 v dc, 25 to 100 ma.

POWER SUPPLY (FILAMENT): 6.3 ± 0.63 v rms, 4 amp max.

TEMPERATURE RANGE

OPERATING: 0° C (+ 32° F) to 55° C (+ 131° F).

NONOPERATING: Sea level (30.0 in. hg) to 50,000 ft (20.6 in. hg).

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Set Radio AN/ARM-62 includes:		11 x 11-7/16 x 13-1/16	25
1	Power Cable W-1 of AN/ARM-62			
1	Radio Frequency Cable W-2 of AN/ARM-62			
1	Radio Frequency Cable W-3 of AN/ARM-62			
1	Special Purpose Cable W-4 of AN/ARM-62			
1	Special Purpose Cable W-5 of AN/ARM-62			
1	Special Purpose Cable W-6 of AN/ARM-62			
2	Test Lead No. 112162-2			
3	Test Lead No. 112162-1			

4.12 AN/ARM-62: 2

REFERENCE DATA AND LITERATURE:

NAVWEPS 16-30ARM62-1: Handbook for Operation and Service with Illustrated Parts Breakdown
Radio Test Set AN/ARM-62.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Not required.

CRYSTALS: Not required.

SEMI-CONDUCTORS: (1) 1N645 (1) 1N2841B (1) 1N3038B

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
Babcock Electronics Corp.	Costa Mesa, California	NOw(a) 61-0422-1	

290

9 October 1964

RECEIVER TEST SET AN/ARM-77

Cog Service: USN FSN:

Functional Class:

USA

USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Gyrodyne Company of America, (10618).



RECEIVER TEST SET AN/ARM-77

FUNCTIONAL DESCRIPTION:

Receiver Test Set AN/ARM-77 is special support equipment for the Radio Receiver R-1164/ARW-78 which is a component part of the DASH Weapon System Model QH-50C Drone. The Test Set is used to determine measurements of specific key voltages and currents in the radio receiver thus providing information for troubleshooting and alignment.

No field changes in effect at time of preparation (28 September 1964).

RELATION TO OTHER EQUIPMENT:

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

AN/ARM-77 RECEIVER TEST SET

TECHNICAL CHARACTERISTICS:

POWER REQUIREMENTS: + 28 v dc, 1 amp.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Set Receiver AN/ARM-77 includes:		8-1/2 x 11-9/16 x 13-7/8	18
1	Power Cable Assembly W1			
1	Extension Cable Assembly W2			
1	Coaxial Cable W3			
1	Coaxial Cable W4			
1	Coaxial Cable W5			

REFERENCE DATA AND LITERATURE:

NAVWEPS 16-45-91: Handbook for Operation and Service Instructions with Illustrated Parts Breakdown Test Set, Receiver AN/ARM-77.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Not required.

CRYSTALS: Not required.

SEMI-CONDUCTORS: Not required.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	3.1	25

PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG:

DESIGN COG: USN, BuWeps

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
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Gyrodyne Company of America St. James, Long Island, N. Y. NOW 60-0154
No. TR 64

4.12 AN/ARM-77: 2

292

13 December 1965

TEST SET BOMB DIRECTING SET AN/ASM-15(XN-2)

Cog Service: USN FSN:

Functional Class:

USA

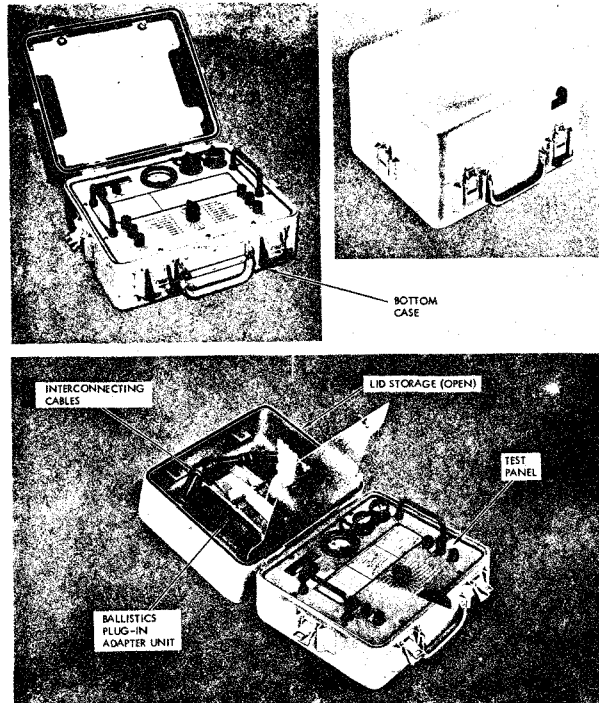
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Columbus Division North American Aviation, Inc., (89372).



TEST SET BOMB DIRECTING SET AN/ASM-15(XN-2)

FUNCTIONAL DESCRIPTION:

Test Set Bomb Directing Set AN/ASM-15(XN-2) used with the test ballistics plug-in adapter unit provided a qualitative radar subsystem check for range, azimuth, and elevation. A simulated bomb run is performed with the test set to give an end-to-end confidence check of the air-borne system. The test set provides controlled voltages to the air-borne system and displays "go" or "no-go" indications on the test set front panel meter. Preflight testing using the test set must be combined with the air-borne system operational checks to complete preflight testing of the Bomb Directing Set AN/ASB-12(XN-2).

No field changes in effect at time of preparation (7 October 1965).

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

4.12 AN/ASM-15(XN-2): 1

TEST SET BOMB DIRECTING SET AN/ASM-15(XN-2)

TECHNICAL CHARACTERISTICS:

POWER REQUIREMENTS: 115 (± 6) v rms, phase "A" 400 (± 8) cps, 0.75 amp, less than 3% harmonic distortion; 6 v ($\pm 3\%$) rms, 0° and 180°, 400 (± 8) cps, 0.75 amp, less than 3% harmonic distortion; + 150 v dc ($\pm 1^\circ$) 5 ma, less than 20 mv ripple; 28 (+ 1/- 3) v dc, 1.5 amp, dc peak ripple not to exceed 2.1 v.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Set, Bomb Directing Set AN/ASM-15(XN-2)		9 x 11-7/16 x 13-3/4	

REFERENCE DATA AND LITERATURE:

NAVWEPS 16-30ASM15-1: Handbook of Operation and Service Instructions with Illustrated Parts Breakdown for Test Set, Bomb Directing AN/ASM-15(XN-2).

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Not required.

CRYSTALS: Not required.

SEMI-CONDUCTORS: (11) 1N645 (1) SG-22 (3) 1N253 (1) 1N645

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
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PROCUREMENT DATA

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

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Columbus Division, North American Aviation, Inc.	Columbus, Ohio	NOa(s) 56-978	

29A

13 December 1965

Cog Service: USN FSN:

TEST SET, GUIDED MISSILE LAUNCHER AN/ASM-20

Functional Class:

USA

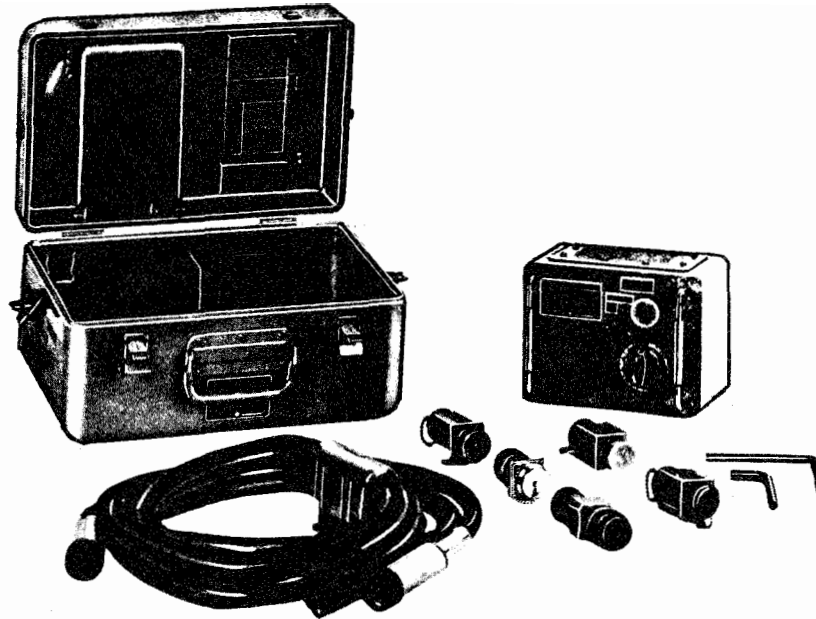
USN

USAF

TYPE CLASS:

Used by

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



TEST SET, GUIDED MISSILE LAUNCHER AN/ASM-20

FUNCTIONAL DESCRIPTION:

Test Set, Guided Missile Launcher AN/ASM-20 provides a GO-NO-GO determination that the power supplied from the launcher to sidewinder missile, both standby and firing, is within voltage tolerance, that in both aircraft and launcher the missile firing sequence is correct, that the launcher firing circuits are safe, and that the launcher and/or aircraft missile signal circuit is functioning properly. In addition, the test set may be used to indicate that the aircraft-launcher circuits are operational and that the aircraft jettison circuit functions satisfactorily. A gas pressure tester is included to indicate that the gas system of the AIM-9D (IR) Missile is properly pressurized. The Test Set does not check a missile. It checks launchers (Aero 3A or equivalent and the LAU-7/A) that fire sidewinder missiles. There are three types of sidewinder missiles: the AIM-9B (1 and 1A), the AIM-9D (IR), and the AIM-9C (SR). Each missile has specific input requirements and the test set is used to see that the launcher provides the right inputs for the type of missile being used. Such a procedure is called a LAUNCH TEST. There may be times when it is desired to check aircraft-supplied inputs to a launcher. When the test set is used for this purpose the procedure is described as an AIRCRAFT TEST.

TEST SET, GUIDED MISSILE LAUNCHER AN/ASM-20

for this purpose the procedure is described as an AIRCRAFT TEST.

No field changes in effect at time of preparation (30 September 1965).

RELATION TO OTHER EQUIPMENT:

AN/ASM-20 Serial No. 1 through 95 manufactured under Contracts N123(60530)-21715A and N123(60530)-26868A, have been modified to add test circuits to test positions 43 and 44 on the Selector Switch. The modification also requires a wiring change in two of the adapters.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Adapter Connector Pt. No. 10001-1517359; (1) Headphone Set; (1) Auxiliary Power Unit (Compatible with aircraft circuits and aircraft/launcher circuits being tested).

TECHNICAL CHARACTERISTICS:

SELECTOR SWITCH: A concentric two-section switch that has a capability of 48 test positions (44 test positions and OFF are used).

MISSILE ID SWITCH: Used to energize ID (Identification) relays in the missile launcher system.

METER: The indicating device to determine GO or NO-GO by comparison of the color area under the pointer with respect to the color area of the selected position on the switch dial plate.

PILOT LIGHT: It is wired into the circuit to be energized on all test positions, except OFF, 23, and 42. If it is not indicating during all testing then testing should be stopped as the test set will probable give incorrect readings.

ADAPTER CONNECTORS

U-213/U: Used when testing the Aero 3A Launcher or equivalent; when testing the LAU-7/A Launcher when firing the AIM-9B Missile (used with pt no. 10001-1517359 which is not supplied).

U-214/U: Used when testing aircraft circuits at the pylon connector when the aircraft wiring is designed to supply power to an Aero 3A Launcher.

U-215/U: Used when testing aircraft circuits at the pylon connector when the aircraft wiring is designed to supply power to the LAU-7/A Launcher firing the AIM-9B, AIM-9C, and AIM-9D Missiles.

U-216/U: Used when testing the LAU-7/A Launcher firing the AIM-9C or AIM-9D Missiles.

GAGE, PRESSURE, DIAL INDICATING: Used to perform a static pressure check of the gas system in the missile launcher for the AIM-9D(IR) Missile. The pressure tester has colored areas indicating pressure ranges.

The electrical interlock in the pressure tester connector completes the gas solenoid so that when energized permits a gas flow for the purpose of measurement.

WRENCHES: One 5/16 in. and one 3/8 in. hexagonal wrench are supplied. The wrenches are used to raise the detent in the missile launcher rail in order to insert the lug handle of the cable assembly into the launcher rail. The 3/8 in. wrench is also used for opening the nose cover of the Aero 3A Launcher. The 5/16 in. wrench is also used as a safety pin during checkout of the LAU-7/A Launcher.

POWER REQUIREMENTS: Operates with the power available from aircraft to launcher or to pylon connector.

TEST SET, GUIDED MISSILE LAUNCHER AN/ASM-20

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Set, Guided Missile Launch- er AN/ASM-20 includes:			30
1	Test Set, Guided Missile Launcher TS-1436/ASM-20			
1	Cable Assembly, Special Pur- pose, Electrical CX-6321/ASM-20			
1	Adapter, Connector U-213/U			
1	Adapter, Connector U-214/U			
1	Adapter, Connector U-215/U			
1	Adapter, Connector U-216/U			
1	Gage, Pressure, Dial Indi- cating MX-3298/ASM-20			
2	Wrench, Hexagonal			
1	Set of Instruction Cards (3)			
2	Operating and Maintenance Instructions NAVWEPS 16-30ASM20-1			
1	Case, Test Set CY-2943/ASM-20			

REFERENCE DATA AND LITERATURE:

NAVWEPS 16-30ASM20-1: Handbook Operation and Service Instructions with Illustrated Parts
Breakdown Test Set Guided Missile Launcher AN/ASM-20.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Not required.

CRYSTALS: Not required.

SEMI-CONDUCTORS: (1) 1N277 (8) 1N538 (1) 1N752A (1) 1N914 (6) 1N3190 (2) 2N665
(2) 63A6A9-1

SHIPPING DATA

PKGS VOLUME (CU FT) WEIGHT (LBS)

PROCUREMENT DATA

PROCURING SERVICE USN
SPEC &/OR DWG: MIL-T-21200

DESIGN COG: USN, BuWeps

4.12 AN/ASM-20: 3

297

TEST, SET, GUIDED MISSILE LAUNCHER AN/ASM-20

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Naval Avionics Facility	Indianapolis, Indiana	N123(60530)21715A N123(60530)26868A	

298

27 May 1965

TEST SET, RADIO AN/ASM-23(XN-1)

Cog Service: USN FSN:

Functional Class:

USA

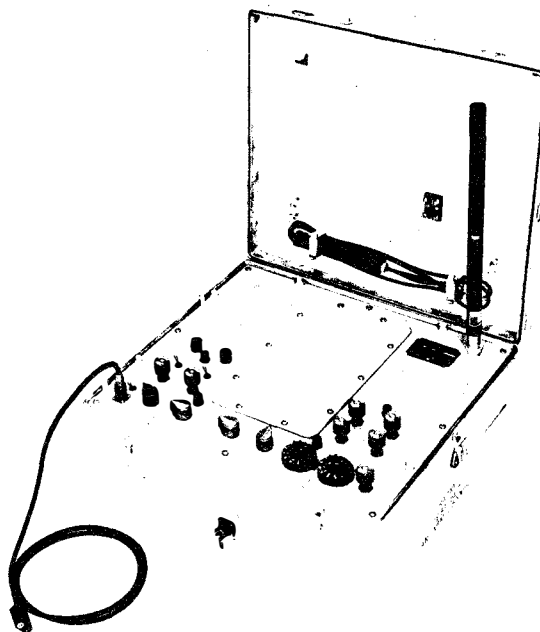
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Packard Bell Electronics Corporation, (45413).



TEST SET, RADIO AN/ASM-23(XN-1)

FUNCTIONAL DESCRIPTION:

Test Set, Radio AN/ASM-23(XN-1) performs preflight system performance testing of an integrated electronic central, including communication, navigations, and identification equipment. The test functions are performed via radio link with the airborne equipment operating normally and installed in an aircraft.

No field changes in effect at time of preparation (25 September 1964).

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Headset and Microphone H-46A/UR; (1) AC Cable MS-2549; (1) Battery Gulton 11V04D.

4.12 AN/ASM-23(XN-1): 1

TECHNICAL CHARACTERISTICS:

POWER REQUIREMENTS (BATTERY CHARGER)

VOLTAGE: 115 ± 5 v ac.
CURRENT: .0.25 amp.
FREQUENCY: 60 to 400 cyc.

OPERATING LIMITATIONS

MAXIMUM CONTINUOUS OPERATING TIME: 3.25 hrs.
AMBIENT TEMPERATURE: + 55° to - 40° C (131° to - 40° F).
MINIMUM WARM-UP TIME: 30 sec.

BATTERY

HEIGHT: 3-3/4 in.
WIDTH: 5-1/16 in.
DEPTH: 7-25/32 in.
NUMBER OF COILS: 22, 11 in ea bank.
CLASS: Nickel-cadmium.
MANUFACTURER AND TYPE: Gulton 11V04D.
AMPERE HOUR RATING: 4.
BATTERY VOLTAGE NOMINAL: 13.2 ea bank.
RECHARGE BATTERY AT: 24 v.
MAXIMUM CONTINUOUS OPERATING TIME: 3.75 hrs at 1.0 amp discharge rate.

UHF ANTENNA

TYPE: End-fed coaxial dipole.
LENGTH: 16 in.
NUMBER OF SECTIONS: 1.

L-BAND ANTENNA: Flush fitting, slotted line type.

PILOT LAMPS

TYPE: MS25237-327.
VOLTAGE: 28.

TUNING BAND AND FREQUENCY RANGES

NAV (TACAN) TRANSMITTER: UHF962 to 1213 mc.
IFF TRANSMITTER: UHF 1007.5 to 1032.5 mc.
IFF RECEIVER: UHF 1087.5 to 1112.5 mc.
COMMUNICATION TRANSMITTER: VHF 225 to 399.9 mc.
COMMUNICATION RECEIVER: VHF 225 to 399.9 mc.
SYNTHESIZER: VHF 112.5 to 200 mc.
GUARD TRANSMITTER: VHF 238 to 248 mc.
BEACON TRANSMITTER: VHF 100 to 150 mc.
BEACON RECEIVER: VHF 100 to 150 mc.

NUMBER OF PRESET FREQUENCIES: 9 (one ea of preceding freq).

FREQUENCY STABILITY

IFF/NAV RF MODULE
COMMUNICATION TRANSMITTER: ± 0.005%.
GUARD TRANSMITTER: ± 0.005%.
BEACON TRANSMITTER: ± 0.005%.

OUTPUT CHARACTERISTICS

IFF/NAV RF MODULE: Pulse modulation (amplitude).
COMMUNICATION TRANSMITTER: Voice or tone mcw (amplitude).
GUARD TRANSMITTER: Tone mcw (amplitude).
BEACON TRANSMITTER: Tone mcw (amplitude).

300

TEST SET, RADIO AN/ASM-23(XN-1)

SENSITIVITY

IFF/SIF RECEIVER: 35.5 mv (- 16 dbm).
NAV RECEIVER: 160 mv (- 3 dbm).
COMMUNICATION RECEIVER: 10.0 mv min; set at 22 mv.
BEACON RECEIVER: 50 mv min; set at 200 mv.

SELECTIVITY

IFF FREQUENCY CHECK: Not less than 2.0 nor more than 4.0 mc wide at zero crossover points of discriminator.
IFF/NAV RECEIVER (L-BAND FILTER): 930 to 1250 mc at 3 db down; 870 to 1300 mc wide at 30 db down.
COMMUNICATION RECEIVER: 100 kc wide at 3 db down and 200 kc wide at 30 db down.
BEACON RECEIVER: 40 kc wide at 3 db down and 60 kc wide at 30 db down.

RF POWER OUTPUT

NAV TRANSMITTER: 0.025 mw or - 16.0 dbm.
IFF/SIF TRANSMITTER: 0.79 mw or - 1.0 dbm.
COMMUNICATIONS TRANSMITTER: 0.05 mw or - 13.0 dbm.
GUARD TRANSMITTER: 0.05 mw or - 13.0 dbm.
BEACON TRANSMITTER: 0.05 mw or - 13.0 dbm.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Set, Radio AN/ASM-23(XN-1) includes:		9-13/32 x 18-1/2 x 20-45/64	56
1	Adf probe no. 112239			
1	UHF Antenna no. 111719			
1	Fuse, 1 amp no. MS90082-1			
1	Fuse, 3 amp no. MS90082-3			
1	Headset Adapter Cable no. 112514			
1	Headset and Microphone H-46A/UR			
1	AC Cable MS-2549			
1	Battery Gulton 11V04D			

REFERENCE DATA AND LITERATURE:

NAVWEPS 16-30ASM-23-1: Handbook Operation and Service Instructions with Illustrated Parts Breakdown Test Set AN/ASM-23(XN-1).

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (3) 5840 (2) 5876 (3) 5904 (4) 5906 (3) 5977

CRYSTALS: Not required.

SEMI-CONDUCTORS: (58) 2N697 (2) 2N699 (1) 2N1068 (4) 2N1458 (13) 2N335 (15) 3N35
(5) FT706

4.12 AN/ASM-23(XN-1): 3

9 October 1964
Cog Service: USN

FSN:

SIMULATOR NAVIGATIONAL COMPUTER INPUT AN/ASM-36

Functional Class:

USA

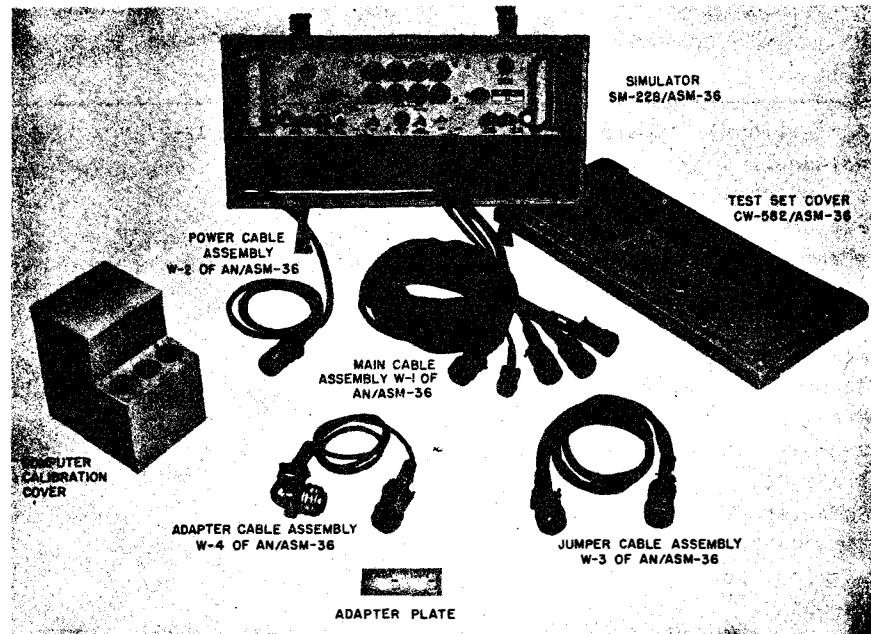
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Loral Electronics Corporation, (81413).



SIMULATOR NAVIGATIONAL COMPUTER INPUT AN/ASM-36

FUNCTIONAL DESCRIPTION:

Simulator Navigational Computer Input AN/ASM-36 is a portable equipment which provides simulated input signals for use in test and calibration of Navigational Computer Group AN/ASM-36 on a test bench or preflight setup.

No field changes in effect at time of preparation (22 September 1964).

RELATION TO OTHER EQUIPMENT:

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

Indicator Test Set AN/APM-74 includes: (1) Indicator Simulator ID-392/APM-74; (1) Interconnecting Box J-577/APM-74; (1) Cable Assembly CX-3871/U; (1) Cable Assembly CX-3875/U;

AN/ASM-36 SIMULATOR NAVIGATIONAL COMPUTER INPUT

(1) Cable Assembly CX-3880/APM-74; (1) Cable Assembly CX-3881/APM-74; (1) Cable Assembly CX-3882/APM-74.

TECHNICAL CHARACTERISTICS:

POWER REQUIREMENTS: 115 v ac, 400 cyc, 2 va, 28 v dc, 2 W.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Simulator Navigational Computer Input includes:		8-1/2 x 12-9/32 x 21-5/8	36
1	Simulator SM-228/ASM-36			
1	Cover Test Set CW-582/ASM-36			
1	Cable Assembly, Main W-1 of AN/ASM-36			
1	Cable Assembly, Power W-2 of AN/ASM-36			
1	Cable Assembly, Jumper W-3 of AN/ASM-36			
1	Cable Assembly, Adapter W-4 of AN/ASM-36			
1	Cover, Computer Calibration No. 145330-000			
1	Plate, Adapter, No. 145349-000			
1	Handbook Operation and Service Instruction with Illustrated Parts Break- down			

REFERENCE DATA AND LITERATURE:

NAVWEPS 16-30ASM36-1: Handbook for Operation and Service Instructions with Illustrated Parts Breakdown Navigational Computer Input Simulator AN/ASM-36.

TUBE, CRYSTALS AND/OR SEMI-CONDUCTOR DATA:

TUBES: Not required.

CRYSTALS: Not required.

SEMI-CONDUCTORS: Not required.

4.12 AN/ASM-36: 2

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
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PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG:

DESIGN COG: USN, BuWeps

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Loral Electronics Corp.	New York, N. Y.	NOw 61-0179f	

305

9 October 1964

TEST SET, COMPUTER CONTROL AN/ASM-39

Cog Service: USN FSN:

Functional Class:

USA

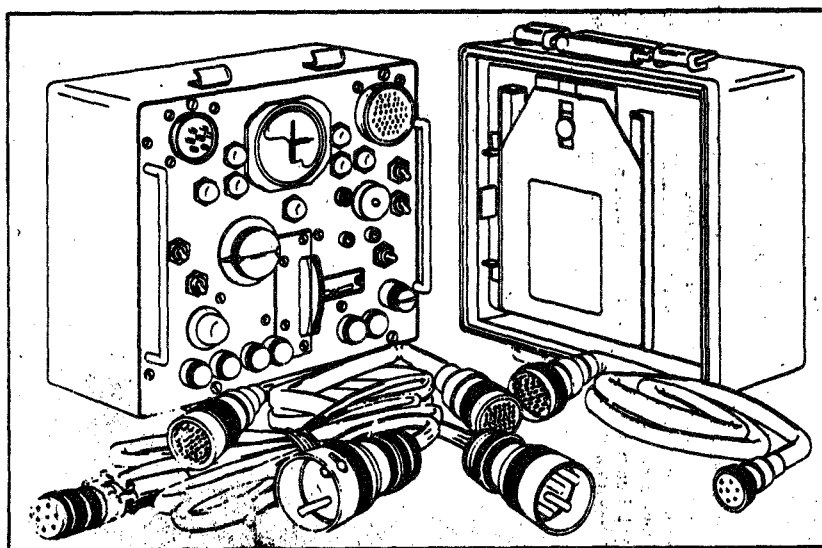
USN

USAF

TYPE CLASS:

Used by

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



TEST SET, COMPUTER CONTROL AN/ASM-39

FUNCTIONAL DESCRIPTION:

Test Set, Computer Control AN/ASM-39 is to test the operational readiness of certain control units used in various bomb director sets. The controls that are completely or partially checked by the test set and the systems that they function in are as follows: Control, Loft-Monitor-Tone C-3646/ASB-1A; Control, Monitor-Tone C-3645/ASB-7; Control, Gyroscope C-3816/ASB; Bomb Director Set AN/ASB-1A; Bomb Directing Set AN/ASB-7; and Bomb Director Set AN/ASB-1B.

The test set performs the following functions when used to test the control units: (a) Provides necessary operating power for the control unit; (b) Simulates normal aircraft input signals to the control unit; (c) Monitors the outputs from the control unit and provides visual indications of these outputs.

No field changes in effect at time of preparation (16 September 1964).

AN/ASM-39 TEST SET, COMPUTER CONTROL

RELATION TO OTHER EQUIPMENT:

Equipment AN/ASM-39 is used with Test Set AN/ASB-1A and AN/ASB-7.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Headphones: 600 ohms; (1) Vacuum Tube Voltmeter: $\pm 5\%$; (1) Dc Voltmeter: $\pm 5\%$, preferably multimeter TS-352.

TECHNICAL CHARACTERISTICS:

POWER REQUIREMENTS: 115 v ac, 400 cyc, single ph 2 amp; 28 v dc, 10 amp.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Set, Computer Control AN/ASM-39 includes:		11 x 11 x 12	27.5
1	Panel Assembly Front			
1	Motor and Synchro Assembly			
1	Chassis Assembly			

REFERENCE DATA AND LITERATURE:

NAVWEPS 11-70FBG-2: Handbook for Operation and Maintenance Instructions with Illustrated Parts Breakdown Test Set, Computer Control AN/ASM-39.
NAVWEPS 11-70FAG-510: Handbook for Description, Theory, and Maintenance, Synchro Alignment Set TS-714/U.
NAVWEPS 11-70FEK-1: Handbook for Operation and Maintenance Control, Monitor-Tone C-3645/ASB-7.
NAVWEPS 11-70FDA: Handbook for Operation and Service Instructions, Control, Gyroscope C-3816/ASB.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (1) 5Y3WGTB

CRYSTALS: Not required.

SEMI-CONDUCTORS: Not required.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
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4.12 AN/ASM-39: 2

307

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	Indianapolis, Indiana		

308

ELECTRONIC EQUIPMENT - PRELIMINARY DATA

NAVSHIPS 4457 (Rev. 9-62) (CONT'D)

DESIGNATION	ITEM NAME
AN/ASM-44	Gyroscope Test Set

FUNCTIONAL DESCRIPTION: SKETCH. MFG. DIMENSIONS. ETC.

The AN/ASM-44 is used for alignment and performance testing of Gyroscopes CN-502/ASB-7 and CN-100/ASB-1. The set is a modification of Gyroscope Test Set TS-790/ASB-1 differing from it by providing capabilities for testing additional gyroscope circuits and furnishing the balanced, 3-phase, rotor power supply at 115v and 80v, 400 cps required for testing the CN-502/ASB-7 gyroscope. An adapter cable permits testing the CN-100/ASB-1 gyroscope for which Test Set TS-790/ASB-1 was designed. The unit is electrically, mechanically, and functionally interchangeable overall, including approximately 90 percent of the maintenance parts, with TS-790/ASB-1. It is used with, but not part of, AN/ASB-1 and AN/ASB-7.

No unit cost (BuWeps)

Source of Information: Request for Nomenclature

310

CLASSIFICATION

UNCLASSIFIED

Re1 4/1/64

CHANGE 58/72 - BuWeps

210

10 December 1965
Cog Service: USN FSN:

TEST SET COMPUTER AN/ASM-45
Functional Class:

USA

USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: United Aircraft Corp., (61858).



TEST SET COMPUTER AN/ASM-45

FUNCTIONAL DESCRIPTION:

Test Set Computer AN/ASM-45 is a portable instrument used to test the Computer Subsystem of Bomb Directing Set AN/ASB-7 as a group.

No field changes in effect at time of preparation (1 October 1965).

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Radio Transformer TS-89B/AD; (1) Phase Sensitive Voltmeter ME-30 A/U; (1) Goniometer, Electro-Mech 15CX42; (1) Vacuum Tube Voltmeter TS-505 D/U; (1) Multimeter AN/PSM-4A; (1) Manostat, Wallace-Tierman Mod FA-149-3-18; (1) Vacuum Pump VPT10F; (1) Test Set Converter Reader TS-1468/ASB-7; (4) System Cable.

TEST SET COMPUTER AN/ASM-45

TECHNICAL CHARACTERISTICS:

POWER REQUIREMENTS: 115 v, 400 cyc, three ph, ac 8 amp per phase max; 28 v dc, 10 amp max operating power from external sources.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Set Computer AN/ASM-45 includes:			
1	Test Set Subassembly Comput- er MX-3580/ASM-45			
1	Test Set Subassembly MX-3581/ASM-45			
1	Chassis Assy			
1	Amplifier Assy			
1	Amplifier Assy			
1	Transit Case MX-3580/ASM-45			
1	Transit Case MX-3581/ASM-45			
1	Pilot Hose			
1	Static Hose			
6	Cables			

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REFERENCE DATA AND LITERATURE:

NAVWEPS 11-70 FEB-5: Handbook of Operation and Service Instructions with Illustrated Parts Breakdown for Test Set, Computer AN/ASM-45.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (3) 5670 (1) 5727 (1) 6X4W

CRYSTALS: Not required.

SEMI-CONDUCTORS: Not required.

SHIPPING DATA

PKGS VOLUME (CU FT) WEIGHT (LBS)

PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG:

DESIGN COG: USN, BuWeps

4.12 AN/ASM-45: 2

TEST SET COMPUTER AN/ASM-45

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
United Aircraft Corp.	Norwalk, Connecticut	N163-7884	

313

9 October 1964

Cog Service: USN FSN:

TEST SET, AUTOMATIC PILOT AN/ASM-49

Functional Class:

USA

USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: McDonnell Aircraft Corporation, (76301).



TEST SET, AUTOMATIC PILOT AN/ASM-49

FUNCTIONAL DESCRIPTION:

Test Set, Automatic Pilot AN/ASM-49 provides dynamic response tests of Flight Control Group AN/ASA-32 (autopilot) without the removal of any components from the airplane. The unit tests the system for the following dynamic responses: (1) Proper response time; (2) Backlash in over-all system rigging and (3) System gain. It is also capable of making a pneumatic step function check of the Mach and Altitude hold signals supplied by the airplane's Air Data Computer System. This is accomplished by using the test set, in conjunction with a suitable pilot-static source, to apply a pneumatic step function while monitoring the resulting stabilator reaction. If a pneumatic step function check is not desired, an electrical test may be used. The test set will perform a complete dynamic test of the pitch, roll and yaw channels of the Flight Control Group by simulating the electrical signals from the respective sensors including those of the Mach and Altitude hold functions.

The test set is a portable unit housed in a suitcase type case. The hinged cover provides storage for the synchro assemblies, clamp assemblies and cable assemblies. An instruction plate is attached to the front of the cover divider and a wiring diagram plate is attached

AN/ASM-49 TEST SET, AUTOMATIC PILOT

to the back. Power to the test set is derived through the cable assembly from the Flight Control Group.

No field changes in effect at time of preparation (7 October 1964).

RELATION TO OTHER EQUIPMENT:

Equipment used w/Pneumatic Pressure Test Set AN/PSM-15.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:**TECHNICAL CHARACTERISTICS:**

VOLTAGE REQUIREMENTS: 115 to 200 v ac, 400 cps, three ph 28 v dc; The dynamic test set receives its pwr requirements from the airplane through the cable assemblies.

OPERATING CURRENT

OPERATING CURRENTS ARE AS FOLLOWS: ØA - 0.050 amp max; ØB - 1.00 amp max; ØC - 0.050 amp max; D-C - 1.00 amp max.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Set Automatic Pilot		15-1/2 x 17 x 22-1/2	77
	AN/ASM-49 includes:			
1	Cable Assembly	MDE321465-301		
1	Panel Assembly	MDE321130-301		
2	Synchro Assembly	MDE321218-3-4		
2	Left and Right Clamp Assy	MDE321138-1-2		
2	Aileron Clamp Assembly	MDE321139-1-2		
2	Left and Right Aileron Pick-off Assembly (left and right)	MDE321117-1-2		
1	Cable Assembly W1	MDE321399-3		
1	Cable Assembly W2	MDE321400-301		
1	Cable Assembly W3	MDE321401-301		
1	Cable Assembly W4	MDE322023-301		
2	Pneumatic Hose Assembly	AN6270-3-72		
2	Pneumatic Hose Assembly	AN6270-4-72		

REFERENCE DATA AND LITERATURE:

NAVWEPS 17-15KK-3: Handbook for Operation and Service Instructions with Illustrated Parts Breakdown Automatic Pilot Test Set AN/ASM-49.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Not required.

CRYSTALS: Not required.

SEMI-CONDUCTORS: (620) 1N461 (1) 10M14Z10 (1) 1.5M18Z10 (2) 1N1591 (4) 1N538
 (6) 1N540 (8) 2N43A (26) 2N167 (57) 2N329A (53) 2N404 (7) 2N492
 (2) 2N1312 (1) 2N151?

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
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PROCUREMENT DATA

PROCURING SERVICE: USN DESIGN COG: USN, BuWeps
 SPEC &/OR DWG: MIL-T-21200

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
McDonnell Aircraft Corp.	St. Louis, Missouri	N0as 57-186-i N0as 60-0134-r N0as 61-0004-r	

316

8 December 1965
Cog Service: USN FSN:

TEST HARNESS, INTEGRATED ELECTRONIC CENTRAL AN/ASM-81
Functional Class:

USA

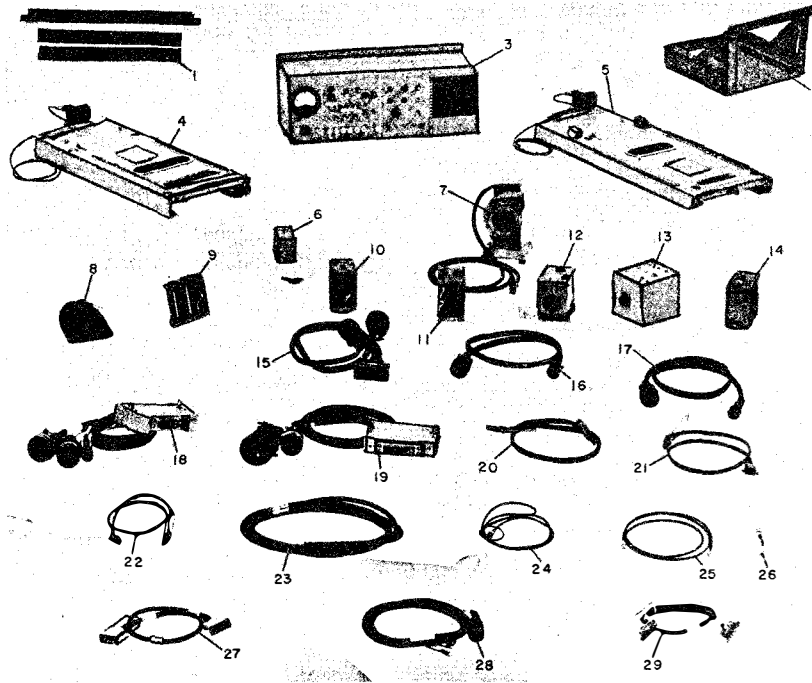
USN

USAF

TYPE CLASS:

Used by

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



TEST HARNESS, INTEGRATED ELECTRONIC CENTRAL AN/ASM-81

FUNCTIONAL DESCRIPTION:

Test Harness, Integrated Electronic Central AN/ASM-81 contains a distribution box, portable blower, switch box, mountings, maintenance fixtures, and cable assemblies for interconnecting the components of the AN/ASM-81 and the units under test.

The AN/ASM-81 is used for testing and trouble shooting Radio Receiver-Transmitters RT-546/ASQ-19, RT-546A/ASQ-19 and Intercommunication Stations LS-459/AIC and LS-460/AIC.

The AN/ASM-81 is for specific use with, but is not part of, Integrated Electronic Central AN/ASQ-19.

No field changes in effect at time of preparation (1 October 1965).

RELATION TO OTHER EQUIPMENT:

The AN/ASM-81 is similar to the AN/ASM-81A except that the AN/ASM-81A has additional components, which is used to check out additional Radio Receiver-Transmitters.

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TEST HARNESS, INTEGRATED ELECTRONIC CENTRAL AN/ASM-81

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Radio Set Control C-1607/ARC-52; (1) Headset H-1/AR or equivalent; (1) Microphone RS-380 or equivalent; (1) Test Bench (48 in. or two 24 in.).

TECHNICAL CHARACTERISTICS:

DISTRIBUTION BOX-POWER SUPPLY: Contains controls, switches, fuses, indicator lamps, a voltmeter, and test jacks for controlling and monitoring the units being tested.

SWITCH BOX: Has a 3 position toggle switch with positions on, off, and momentary on.

ELECTRONIC EQUIPMENT AIR COOLER: A portable blower which circulates cooling air over modules while they are being tested without their normal cooling air supply.

MOUNTING: A mechanical assembly which supports the RT-546/ASQ-19 while it is being tested and repaired. It can be tilted 90° about the horizontal axis, allowing access to all necessary parts.

MAINTENANCE FIXTURES: Used to extend the oscillator module, spectrum module, amplifier-pre-amplifier module, power amplifier module or the 20 to 30 mc IF amplifier module above the other modules for servicing.

ELECTRONIC EQUIPMENT MAINTENANCE KIT: Contains the tools which may be needed to repair and trouble-shoot the RT-546/ASQ-19, RT-546A/ASQ-19, RT-542/ASQ, and RT-559/ASQ-58.

BENCH SHELF RISER BRACKETS: Used to raise the shelf of a 24 in. test bench a few inches higher than normal. This is to prevent the J-2018/ASM-81 from interfering with the movement of the unit under test when secured in its mounting.

POWER REQUIREMENTS: 115 v, 60 cps, 1 ph, 50 va; 115 v, 400 cps, 3 ph, 345 va; + 27.5 v dc, 10 amp.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Harness, Integrated Electronic Central AN/ASM-81 includes:			
1	Bench Shelf Riser Bracket		1 x 2 x 23-3/4	0.5
1	Mounting MT-2788/ASM-81		9-3/8 x 12-3/4 x 13-7/8	14.2
1	Distribution Box-Power Supply J-2018/ASM-81		9-7/8 x 12-7/8 x 22	30.0
1	Switch Box SA-851/ASM-81		2-1/4 x 3-1/4 x 4	1.3
1	Electronic Equipment Air Cooler HD-544/ASM		5 x 6-1/8 x 7-1/8	5.0
1	Electronic Equipment Maintenance Kit MK-653/ASM-81			1.0
1	Oscillator Maintenance Fixture MT-2058/ARM-38		1-3/8 x 4-3/16 x 5	1.4
1	Amplifier Maintenance Fixture MT-2060/ARM-38		2-3/4 x 3-15/16 x 5	1.4
1	Amplifier-Generator Maintenance Fixture MT-2059/ARM-38		2-15/16 x 4-3/32 x 5	1.7
1	Amplifier Maintenance Fixture MT-2061/ARM-38		3-17/32 x 4-3/16 x 5	2.2

4.12 AN/ASM-81: 2

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TEST HARNESS, INTEGRATED ELECTRONIC CENTRAL AN/ASM-81

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Amplifier Maintenance Fix- ture MT-2062/ARM-38		2-1/2 x 4 x 5	1.7
11	Cable Assembly			

REFERENCE DATA AND LITERATURE:

NAVWEPS 16-30ASM81-1: Handbook Operation and Service Instructions with Illustrated Parts Breakdown for Integrated Electronic Central Test Harness AN/ASM-81 and AN/ASM-81A.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Not required.

CRYSTALS: Not required.

SEMI-CONDUCTORS: (1) 1N538 (6) 1N540 (6) 1N547 (1) 1N753 (1) S9G

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
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PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG: MIL-H-15362

DESIGN COG: USN, BuWeps

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Collins Radio Co.	Cedar Rapids, Iowa	N0w 60-0100 N0as 59-0278 N0w 61-0034	

319

9 December 1965

TEST HARNESS, INTEGRATED ELECTRONIC CENTRAL AN/ASM-81A

Cog Service: USN FSN:

Functional Class:

USA

USN

USAF

TYPE CLASS:

Used by

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



TEST HARNESS, INTEGRATED ELECTRONIC CENTRAL AN/ASM-81A

FUNCTIONAL DESCRIPTION:

Test Harness, Integrated Electronic Central AN/ASM-81A contains distribution boxes, a portable blower, switch box, mountings, maintenance fixtures, and cable assemblies for interconnecting the components of the AN/ASM-81 and the units under test.

The AN/ASM-81A is used for testing and troubleshooting Radio Receiver-Transmitters RT-546/ASQ-19, RT-546A/ASQ-19, RT-542/ASQ, and RT-559/ASQ-58 and Intercommunication Stations LS-459/AIC and LS-460/AIC.

No field changes in effect at time of preparation (4 October 1965).

RELATION TO OTHER EQUIPMENT:

The AN/ASM-81A is similar to the AN/ASM-81 except that the AN/ASM-81A has additional components, which is used to check out additional Radio Receiver-Transmitters.

TEST HARNESS, INTEGRATED ELECTRONIC CENTRAL AN/ASM-81A

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Radio Set Control C-1607/ARC-52; (1) Headset H-1/AR or equivalent; (1) Microphone RS-38D or equivalent; (1) Test Bench (48 in. or two 24 in).

TECHNICAL CHARACTERISTICS:

DISTRIBUTION BOX-POWER SUPPLY: Contains controls, switches, fuses, indicator lamps, a volt-meter and test jacks for controlling and monitoring the units being tested.

DISTRIBUTION BOX: Contains a resistor, test jacks, and point-to-point wiring to assist Distribution Box-Power Supply in monitoring and testing the RT-559/ASQ-58.

SWITCH BOX: Has a 3 position toggle switch with positions on, off, and momentary on.

ELECTRONIC EQUIPMENT AIR COOLER: A portable blower which circulates cooling air over modules while they are being tested without their normal cooling air supply.

MOUNTINGS: A mechanical assembly which supports the Radio Receiver-Transmitter while it is being tested and repaired. It can be tilted 90° about the horizontal axis allowing access to all necessary parts. Three different mountings are supplied to accommodate the different Radio Receiver-Transmitters that can be tested.

MAINTENANCE FIXTURES: Used to extend the oscillator module, spectrum module, amplifier-pre-amplifier module, power amplifier module or the 20 to 30 mc IF amplifier module above the other modules for servicing.

ELECTRONIC EQUIPMENT MAINTENANCE KIT: Contains the tools which may be needed to repair and trouble-shoot the RT-546/ASQ-19, RT-546A/ASQ-19, RT-542/ASQ-19, and RT-559/ASQ-58.

BENCH SHELF RISER BRACKETS: Used to raise the shelf of a 24 in. test bench a few inches higher than normal. This is to prevent the J-2018/ASM-81 from interfering with the movement of the unit under test when secured in its mounting.

POWER REQUIREMENTS: 115 v, 60 cps, 1 ph 50 va; 115 v, 400 cps, 3 ph, 345 va; + 27.5 v dc, 10 amp.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Harness, Integrated Electronic Central AN/ASM-81A includes:			
1	Bench Shelf Riser Bracket		1 x 2 x 23-3/4	0.5
1	Mounting MT-2788/ASM-81		9-3/8 x 12-3/4 x 13-7/8	14.2
1	Distribution Box-Power Supply J-2018/ASM-81		9-7/8 x 12-7/8 x 22	30.0
1	Mounting MT-3252/ASM-81A		4 x 10-3/8 x 27-3/4	17.0
1	Mounting MT-3252/ASM-81A		4 x 11-1/8 x 28-1/4	15.0
1	Switch Box SA-851/ASM-81		2-1/4 x 3-1/4 x 4	1.3
1	Electronic Equipment Air Cooler HD-544/ASM		5 x 6-1/8 x 7-1/8	5.0
1	Electronic Equipment Maintenance Kit MK-653/ASM-81			1.0
1	Oscillator Maintenance Fixture MT-2058/ARM-38		1-3/8 x 4-3/16 x 5	1.4

4.12 AN/ASM-81A: 2

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TEST HARNESS, INTEGRATED ELECTRONIC CENTRAL AN/ASM-81A

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Amplifier Maintenance Fixture MT-2060/ARM-38		2-3/4 x 3-15/16 x 5	1.4
1	Amplifier-Generator Maintenance Fixture MT-2059/ARM-38		2-15/16 x 4-3/32 x 5	1.7
1	Amplifier Maintenance Fixture MT-2061/ARM-38		3-17/32 x 4-3/16 x 5	2.2
1	Distribution Box J-2254/ASM-81A		4-1/2 x 4-5/8 x 5-1/8	2.0
1	Amplifier Maintenance Fixture MT-2062/ARM-38		2-1/2 x 4 x 5	1.7
15	Cable Assembly			

REFERENCE DATA AND LITERATURE:

NAVWEPS 16-30ASM-81-1: Handbook Operation and Service Instructions with Illustrated Parts Breakdown for Integrated Electronic Central Test Harness AN/ASM-81 and AN/ASM-81A.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Not required.

CRYSTALS: Not required.

SEMI-CONDUCTORS: (1) 1N538 (6) 1N540 (6) 1N547 (1) 1N753 (1) S9G

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
Collins Radio Co.	Cedar Rapids, Iowa	NOW 61-0034	

322

CLASSIFICATION of equip. UNCLASSIFIED	ITEM NAME Air Data Computer Test Set
SPECIFICATION BuWeps (FWGS-63)	CONTRACT NUMBER AND DATE NOas 59-0245, 60-0134, and 61-0004
CONTRACTOR'S NAME AND ADDRESS McDonnell Aircraft Corporation Box 516 St. Louis 56, Missouri	

DESIGNATION AN/ASM-82
DATE of assignment 10 Jan 1962
QUANTITY ON ORDER -
SERVICE APPROVAL LETTER - SERIAL AND DATE -

ELECTRICAL CHARACTERISTICS

POWER INPUT V _____ CYCLE _____ PHASE _____ AMPS _____ WATTS		V _____ CYCLE _____ PHASE _____ AMPS _____ WATTS	
OUTPUT SIGNAL CHARACTERISTICS (REP. RATE, I.F., ETC.)	WAVE GUIDE OR CABLE LIMITATIONS	INPUT SIGNAL CHARACTERISTICS	POWER OUTPUT
OPERATING FREQ. AND FREQ. RANGE	EMISSION OR RECEPTION (TYPE)	FREQ. CONTROL (TYPE)	NO. OF CHANNELS
ANTENNA OR TRANSDUCER (TYPE)	IMPEDANCE (OHMS)	FEED TYPE	BEAM PATTERN ° HORIZ. ° VERT.

REFERENCE DATA AND LITERATURE

DRAWING	DWG. NUMBER	DIST. DATE	PUBLICATION	PUB. NUMBER
-			TECHNICAL MANUAL	-
			OPERATING INSTRUCTION CHART	
			PERFORMANCE STANDARD SHEET	
			MAINTENANCE STANDARD BOOK	

MAJOR UNITS

QTY	NOMENCLATURE AND NAME	OVERALL DIMENSIONS (IN)			H.D. (UNITS)	WEIGHT (LBS)
		HEIGHT	WIDTH	DEPTH		
	Air Data Computer Test Set AN/ASM-82 (Mfr's Part No. 32607-301) consists of:					
1	Pneumatic Manifold HD-532/ASM-82					
1	Air Data Computer Tool Kit TK-136/ASM-82					
1	Air Data Computer Tool Kit TK-137/ASM-82					
1	Pneumatic Regulator CN-826/ASM-82					
1	Decade Resistor MX-3991/U					
1	Decade Resistor MX-3992/U					
1	Decade Resistor MX-3993/U					
1	Branched Electrical Special Purpose Cable Assembly CX-7707/ASM-82					
1	True Air Speed Tester TS-1725/ASM-82					
2	Module Holder MT-2702/ASM-82					
1	Gram Gage TL-686/ASM-82					
1	Computer Holder MT-2701/ASM-82					
1	Electronic Timer TD-54/U					
1	Computer Test Set AN/ASM-83					

IF ADDITIONAL EQUIPMENTS OR UNITS ARE REQUIRED, ATTACH ADDITIONAL SHEETS AND SPECIFY SOURCE
 CHANGE 72 - BuWeps (RAAV-441)

UNCLASSIFIED

323

UNCLASSIFIED

NAVSHIPS 93400

ELECTRONIC EQUIPMENT - PRELIMINARY DATA

NAVSHIPS 4457 (Rev. 9-62) (CONT'D)

DESIGNATION

ITEM NAME

AN/ASM-82

Air Data Computer Test Set

FUNCTIONAL DESCRIPTION: SKETCH. MFG. DIMENSIONS, ETC.

The AN/ASM-82 is an assembly of special support equipment items used to perform Class C and D level maintenance on central air data computers (CADC) (Air Research Mfg. Co. P/N's 42400-8, -28 and -13) during bench maintenance operations.

The unit is used with, but is not a part of, BuShips work bench No. 810-1385840 (or equal)

The set provides for complete maintenance, testing, isolation of malfunctions, simulation of inputs, monitoring of functions and parameters, accuracy checks, and calibration and adjustment of: AiResearch Part No. 42400-8, -28 and -13 CADC, and the following CADC modules: static pressure compensator (SPC), barometric altitude controller (BAC), pressure ratio transducer (PRT), amplifiers, main gear box, sector resistor box, total temperature (T_t), and true airspeed (TAS) servo.

It used AiResearch TAS Indicator P/N's 24482 and 24482-1.

No unit cost available

Source of information: Request for Nomenclature

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CLASSIFICATION

UNCLASSIFIED

Rei

CHANGE 63/72 - BuWeps (RAAV-441)

228

10 December 1965
Cog Service: USN FSN:

TEST HARNESS INTEGRATED ELECTRONIC CENTRAL AN/ASM-84
Functional Class:

USA

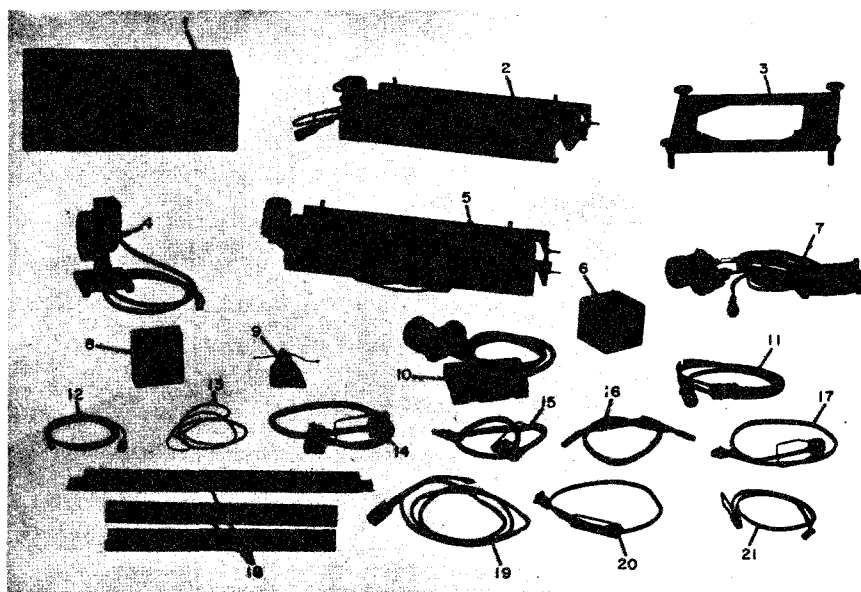
USN

USAF

TYPE CLASS:

Used by

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



TEST HARNESS INTEGRATED ELECTRONIC CENTRAL AN/ASM-84

FUNCTIONAL DESCRIPTION:

Test Harness Integrated Electronic Central AN/ASM-84 is used for testing and trouble shooting Amplifier-Power Supply-Receiver AM-2349/ASQ-19, Antenna AS-1059/ASQ-19 and Antenna AS-909/ARA-48.

No field changes in effect at time of preparation (4 October 1965).

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Headset H-1/AR; (1) DC Power Supply; (1) AC Power Supply (1 ph); (1) AC Power Supply (3 ph, 4 wire); (1) Test Bench.

TEST HARNESS INTEGRATED ELECTRONIC CENTRAL AN/ASM-84

TECHNICAL CHARACTERISTICS:

POWER REQUIREMENTS:	VOLTAGE	CURRENT OR POWER
	+ 27.5 (25-29) v dc	3 amp
	115 v ac, ± 10% 50 to 70 cps, single ph	50 v amp
	115 v ac, ± 5%, 380 to 420 cps, 3 ph, neutral ground	345 v amp

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Harness Integrated Electronic Central AN/ASM-84 includes:			
1	Distribution Box J-2020/ASM-84		9-7/8 x 12-7/8 x 22	30
1	Mounting MT-2711/ASM-84		4-1/4 x 18-1/8 x 18-1/8	10
1	Electronic Equipment Air Cooler HD-544/ASM		5 x 6-1/8 x 7-1/8	5
1	Mounting MT-2710/ASM		4 x 9-7/8 x 29-1/2	15
1	Module Maintenance Fixture MT-2712/ASM-84		2-1/8 x 4-1/2 x 5-5/16	1.4
1	Electronic Equipment Tool Kit TK-138/ASM-84			0.5
1	Bench Shelf Riser Bracket		1 x 2 x 23-3/4	0.5
11	Cable Assy			62.5

REFERENCE DATA AND LITERATURE:

NAVWEPS 16-30ASM84-1: Handbook of Operation and Service Instructions with Illustrated Parts Breakdown for Integrated Electronic Central Test Harness for AN/ASM-84 and AN/ASM-84A.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Not required.

CRYSTALS: Not required.

SEMI-CONDUCTORS: (1) 1N753A (1) 1N538

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
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4.12 AN/ASM-84: 2

326

TEST HARNESS INTEGRATED ELECTRONIC CENTRAL AN/ASM-84

PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG:

DESIGN COG: USN, BuWeps

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Collins Radio Company	Cedar Rapids, Iowa	NOW 60-0100 NOW 61-0034 NOas 59-0278	

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10 December 1965

TEST HARNESS INTEGRATED ELECTRONIC CENTRAL AN/ASM-84A

Cog Service: USN FSN:

Functional Class:

USA

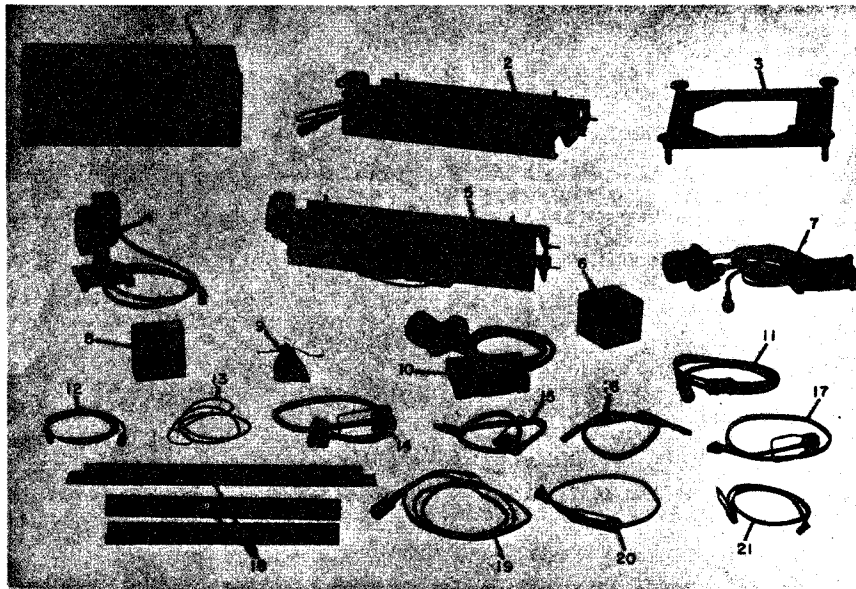
USN

USAF

TYPE CLASS:

Used by

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



TEST HARNESS INTEGRATED ELECTRONIC CENTRAL AN/ASM-84A

FUNCTIONAL DESCRIPTION:

Test Harness Integrated Electronic Central AN/ASM-84A is used for testing and trouble shooting Amplifier-Power Supply-Receiver AM-2349/ASQ-19, Antenna AS-1059/ASQ-19, Antenna AS-909/ARA-48 and Amplifier-Power Supply Receiver AM-2310/ASQ.

No field changes in effect at time of preparation (4 October 1965).

RELATION TO OTHER EQUIPMENT:

The AN/ASM-84A is one way interchangeable with AN/ASM-84. Facilities have been added to the AN/ASM-84 which allow the Test Harness to check out AN/ASQ-56 and 58 as well as the AN/ASQ-19.

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TEST HARNESS INTEGRATED ELECTRONIC CENTRAL AN/ASM-84A

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Headset H-1/AR; (1) DC Power Supply; (1) AC Power Supply (1 ph); (1) AC Power Supply (3 ph, 4 wire); (1) Test Bench.

TECHNICAL CHARACTERISTICS:

POWER REQUIREMENTS:	VOLTAGE	CURRENT OR POWER
	+ 27.5 (25-29) v dc	3 amp
	115 v ac \pm 10% 50 to 70 cps, single ph	50 v amp
	115 v ac \pm 5%, 380 to 420 cps, 3 ph, neutral ground	345 v amp

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Harness Integrated Electronic Central AN/ASM-84A includes:			
1	Distribution Box J-2020/ASM-84		9-7/8 x 12-7/8 x 22	30
1	Mounting MT-3254/ASM		4 x 10-3/16 x 29	16
1	Mounting MT-2711/ASM-84		4-1/4 x 18-1/8 x 18-1/8	10
1	Electronic Equipment Air Cooler HD-544/ASM		5 x 6-1/8 x 7-1/8	5
1	Mounting MT-2710/ASM		4 x 9-7/8 x 29-1/2	15
1	Distribution Box J-2255/ASM-84A		4-5/8 x 4-5/8 x 5-1/8	2
1	Module Maintenance Fixture MT-2712/ASM-84		2-1/8 x 4-1/2 x 5-5/16	1.4
1	Electronic Equipment Tool Kit TK-138/ASM-84			0.5
1	Bench Shelf Riser Bracket		1 x 2 x 23-3/4	0.5
12	Cable Assy			68

REFERENCE DATA AND LITERATURE:

NAVWEPS 16-30ASM84-1: Handbook of Operation and Service Instructions with Illustrated Parts Breakdown for Integrated Electronic Central Test Harness for AN/ASM-84 and AN/ASM-84A.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Not required.

CRYSTALS: Not required.

SEMI-CONDUCTORS: (1) 1N753A (1) 1N538

329

10 December 1965
Cog Service: USN FSN:

TEST HARNESS INTEGRATED ELECTRONIC CENTRAL AN/ASM-85
Functional Class:

USA

USN

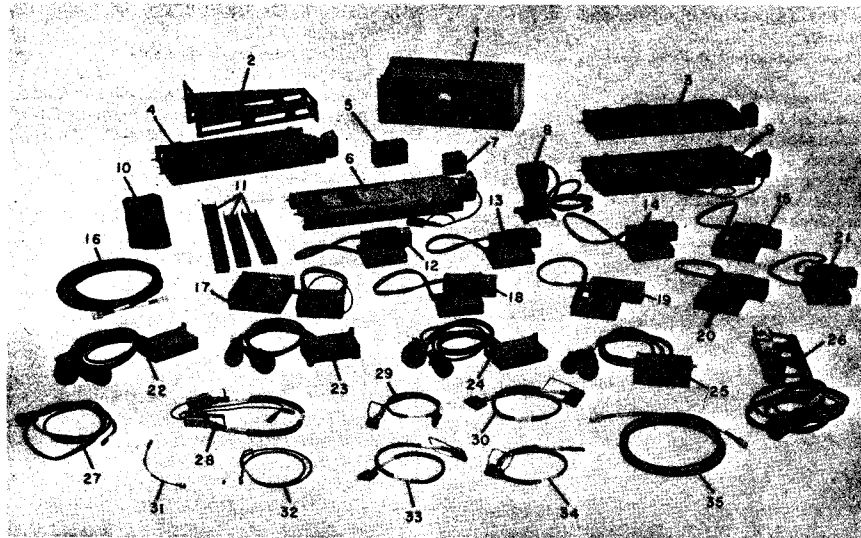
USAF

TYPE CLASS:

Used by

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

331



TEST HARNESS INTEGRATED ELECTRONIC CENTRAL AN/ASM-85

FUNCTIONAL DESCRIPTION:

Test Harness Integrated Electronic Central AN/ASM-85 provides a means for testing and trouble shooting Radio Receiver-Transmitter RT-547/ASQ-19 and Pulse Decoder KY-312/ASQ-19. No field changes in effect at time of preparation (5 October 1965).

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Radio Test Set AN/ARM-22; (1) Indicator Test Set AN/ARM-31; (1) Radio Set Control C-3146/ASQ; (1) Headset H-1/AR; (1) DC Power Supply; (1) AC Power Supply (3 ph); (1) AC Power Supply (1 ph); (2) Test Bench.

TEST HARNESS INTEGRATED ELECTRONIC CENTRAL AN/ASM-85

TECHNICAL CHARACTERISTICS:

POWER REQUIREMENTS:	VOLTAGE	CURRENT OR POWER
	+ 27.5 ± 1.5 v dc	10 amp
	115 v ± 5%, 400 ±	345 v amp
	20 cps 3 ph, Y-connected, neutral ground	
	115 v ± 10%, 60 ± 10 cps	50 v amp
	single ph	

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Harness Integrated Electronic Central AN/ASM-85 includes:			
1	Distribution Box J-2022/ASM-85		9-1/2 x 13-1/4 x 22-1/2	35
1	Auxiliary Mounting MT-2713/ASM-85		8 x 9 x 21	5
1	Mounting 2710/ASM		4 x 9-7/8 x 29-1/2	15
1	Mounting 2714/ASM-85		4 x 10-3/4 x 29-1/2	17
1	Fixed Attenuator CN-832/ASM-85		4 x 4 x 6	1
1	Impedance Matching Network CU-1042/ASM-85		3 x 4 x 5	2
1	Electronic Equipment Air Cooler HD-544/ASM		4 x 10-3/16 x 29	16
1	Electronic Equipment Tool Kit TK-139/ASM-85		18	1.5
1	Bench Shelf Riser Brackets		1 x 2 x 23-3/4	0.5
1	Electrical Module Extender MX-4023/ASM-85		39	3.2
1	Electrical Module Extender MX-4024/ASM-85		39	3.2
1	Electrical Module Extender MX-4019/ASM-85		39	3.2
1	Electrical Module Extender MX-4025/ASM-85		39	3.2
1	Electrical Module Extender MX-4027/ASM-85		39	3.2
1	Electrical Module Extender MX-4021/ASM-85		39	3.2
1	Electrical Module Extender MX-4022/ASM-85		39	3.2
1	Electrical Module Extender MX-4026/ASM-85		39	3.2

4.12 AN/ASM-85: 2

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TEST HARNESS INTEGRATED ELECTRONIC CENTRAL AN/ASM-85

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Electrical Module Extender MX-4020/ASM-85		39	3.2
13	Cable Assy			

REFERENCE DATA AND LITERATURE:

NAVWEPS 16-30ASM85-1: Handbook of Operations and Service Instructions with Illustrated Parts Breakdown for Integrated Electronic Central Test Harness for AN/ASM-85 and AN/ASM-85A.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Not required.

CRYSTALS: Not required.

SEMI-CONDUCTORS: (1) 1N538 (1) 1N753A (4) 1N649 (2) 1N647 (2) 1N756 (18) 1N540
(1) 2N657 (3) 2N338 (1) 2N424 (1) S1968

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
Collins Radio Company	Cedar Rapids, Iowa	NOw 61-0034	

333

10 December 1965
Cog Service: USN FSN:

TEST HARNESS INTEGRATED ELECTRONIC CENTRAL AN/ASM-85A
Functional Class:

USA

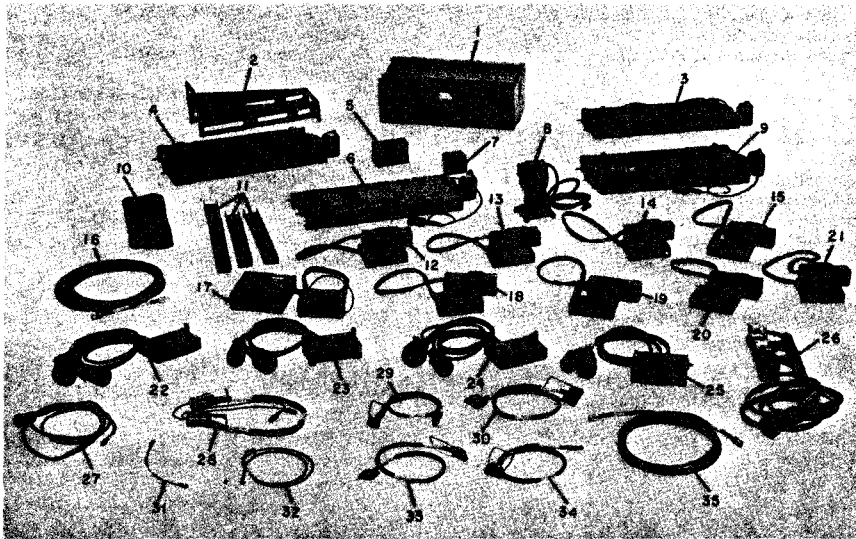
USN

USAF

TYPE CLASS:

Used by

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



TEST HARNESS INTEGRATED ELECTRONIC CENTRAL AN/ASM-85A

FUNCTIONAL DESCRIPTION:

Test Harness Integrated Electronic Central AN/ASM-85A provides a means for testing and trouble shooting Radio Receiver-Transmitter RT-547/ASQ-19, Pulse Decoder KY-312/ASQ-19, Radio Receiver-Transmitter RT-541/ASQ and Pulse Decoder KY-309/ASQ.

No field changes in effect at time of preparation (5 October 1965).

RELATION TO OTHER EQUIPMENT:

The AN/ASM-85A is similar to AN/ASM-85.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Radio Test Set AN/ARM-22; (1) Indicator Test Set AN/ARM-31; (1) Radio Set Control C-3146/ASQ; (1) Headset H-1/AR; (1) DC Power Supply; (1) AC Power Supply (3 ph); (1) AC Power Supply (1 ph); (2) Test Bench.

4.12 AN/ASM-85A: 1

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TEST HARNESS INTEGRATED ELECTRONIC CENTRAL AN/ASM-85A

TECHNICAL CHARACTERISTICS:

POWER REQUIREMENTS: VOLTAGE	CURRENT OR POWER
+ 27.5 ± 1.5 v dc	10 amp
115 v, ± 5%, 400 ± 20 cps 3 ph, Y-connected, neutral ground	345 v amp
115 v ± 10%, 60 ± 10 cps single ph	50 v amp

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Harness Integrated Electronic Central AN/ASM-85A includes:			
1	Distribution Box J-2022/ASM-85		9-1/2 x 13-1/4 x 22-1/2	35
1	Auxiliary Mounting MT-2713/ASM-85		8 x 9 x 21	5
1	Mounting 2710/ASM		4 x 9-7/8 x 29-1/2	15
1	Mounting 2714/ASM-85		4 x 10-3/4 x 29-1/2	17
1	Fixed Attenuator CN-832/ASM-85		4 x 4 x 6	1
1	Impedance Matching Network CU-1042/ASM-85		3 x 4 x 5	2
1	Electronic Equipment Air Cooler HD-544/ASM		4 x 10-3/16 x 29	16
1	Electronic Equipment Tool Kit TK-139/ASM-85		18	1.5
1	Bench Shelf Riser Brackets		1 x 2 x 23-3/4	0.5
1	Mounting MT-3253/ASM-85A		4 x 10-3/16 x 29	16
1	Mounting MT-3254/ASM			
1	Electrical Module Extender MX-4023/ASM-85		39	3.2
1	Electrical Module Extender MX-4024/ASM-85		39	3.2
1	Electrical Module Extender MX-4019/ASM-85		39	3.2
1	Electrical Module Extender MX-4025/ASM-85		39	3.2
1	Electrical Module Extender MX-4027/ASM-85		39	3.2
1	Electrical Module Extender MX-4021/ASM-85		39	3.2
1	Electrical Module Extender MX-4022/ASM-85		39	3.2

4.12 AN/ASM-85A: 2

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TEST HARNESS INTEGRATED ELECTRONIC CENTRAL AN/ASM-85A

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Electrical Module Extender MX-4026/ASM-85		39	3.2
1	Electrical Module Extender MX-4020/ASM-85		39	3.2
15	Cable Assy			

REFERENCE DATA AND LITERATURE:

NAVWEPS 16-30ASM-85-1: Handbook of Operation and Service Instructions with Illustrated Parts Breakdown for Integrated Electronic Central Test Harness AN/ASM-85 and AN/ASM-85A.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Not required.

CRYSTALS: Not required.

SEMI-CONDUCTORS: (1) 1N538 (1) 1N753A (4) 1N649 (2) 1N647 (2) 1N756 (18) 1N540
 (1) 2N657 (3) 2N338 (1) 2N424 (1) S1968

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
Collins Radio Company	Cedar Rapids, Iowa	NOas 59-0278, NOW 60-0100 NOW 61-0034	

336

10 December 1965
Cog Service: USN FSN:

TEST HARNESS, INTEGRATED ELECTRONIC CENTRAL AN/ASM-86
Functional Class:

USA

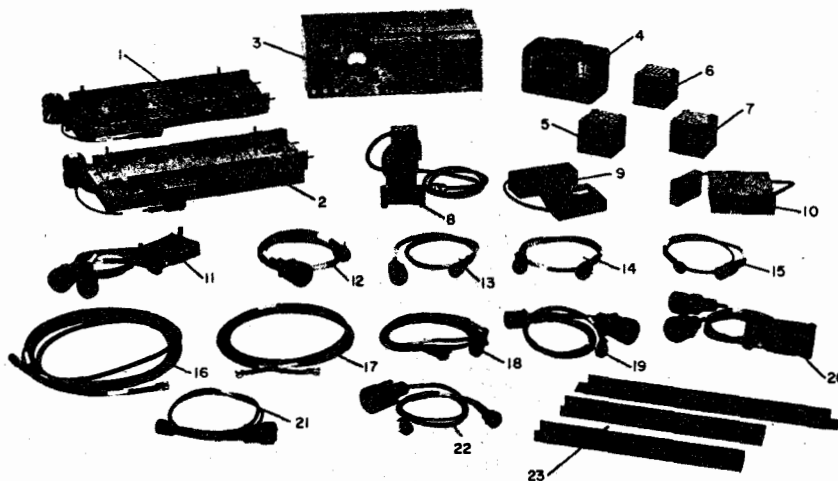
USN

USAF

TYPE CLASS:

Used by

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



TEST HARNESS, INTEGRATED ELECTRONIC CENTRAL AN/ASM-86

FUNCTIONAL DESCRIPTION:

Test Harness, Integrated Electronic Central AN/ASM-86 provides a means of testing and trouble shooting Coder-Receiver-Transmitter KY-311/ASQ-19, Central Control C-3076/ASQ-19, and Frequency Channel Indicator ID-808/ASQ in the maintenance shop.

The AN/ASM-86 consists of a distribution box-power supply, mounting, portable blower, maintenance kit, electrical module extenders, and cable assemblies for interconnecting the components of the AN/ASM-86 and the units under test.

No field changes in effect at time of preparation (5 October 1965).

RELATION TO OTHER EQUIPMENT:

The AN/ASM-86 is similar to the AN/ASM-86A. The AN/ASM-86A contains more components to test additional units.

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TEST HARNESS, INTEGRATED ELECTRONIC CENTRAL AN/ASM-86

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Radar Set Control C-1159/APX-6B; (1) Radar Set Control C-1272A/APA-89; (1) Frequency Channel Indicator ID-808/ASQ; (1) Central Control C-3076/ASQ-19; (1) Headset H-1/AR; (2) Test Bench NT-PSNS or equivalent.

TECHNICAL CHARACTERISTICS:

DISTRIBUTION BOX-POWER SUPPLY: Contains controls, switches, indicator lamps, test jacks, and a voltmeter to permit controlling and monitoring the units under test.

MOUNTING: A mechanical assembly which supports the KY-311/ASQ-19 while it is being tested and repaired. It can be tilted 90° about the horizontal axis.

ELECTRONIC EQUIPMENT AIR COOLER: A portable blower which is used to circulate cooling air over the modules while they are being tested on the module extenders.

ELECTRICAL MODULE EXTENDERS: Provides normal electrical connections to permit operating the A.O.C. and suppression amplifiers module 4A6 and IF amplifier module 4A2 when removed from the chassis.

ELECTRONIC EQUIPMENT MAINTENANCE KIT: Contains the special tools and fixtures required to service the Coder-Receiver-Transmitters.

POWER REQUIREMENTS: 115 v, 60 cps, 1 ph, 50 va; 115 v, 400 cps, 3 ph, 230 va; + 27.5 v dc, 3 amp.

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MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Harness, Integrated Electronic Central AN/ASM-86 includes:			
1	Mounting MT-2710/ASM		4 x 9-7/8 x 29-1/2	15
1	Distribution Box-Power Supply J-2033/ASM-86		9-1/2 x 13-1/4 x 22-1/2	30
1	Electronic Equipment Maintenance Kit MK-654/ASM-86		6-1/2 x 7-1/8 x 10-1/4	4.5
1	Electronic Equipment Air Cooler HD-544/ASM		6 x 7 x 8	5
1	Electrical Module Extender MX-4029/ASM-86			3.2
1	Electrical Module Extender MX-4028/ASM-86			3.2
8	Cable Assembly			
1	Bench Shelf Riser Bracket		1 x 2 x 23-3/4	0.5

REFERENCE DATA AND LITERATURE:

NAVWEPS 16-30ASM86-1: Handbook Operation and Service Instructions with Illustrated Parts Breakdown Integrated Electronic Central Test Harness AN/ASM-86 and AN/ASM-86A.

13 December 1965

TEST HARNESS, INTEGRATED ELECTRONIC CENTRAL AN/ASM-86A

Cog Service: USN FSN:

Functional Class:

USA

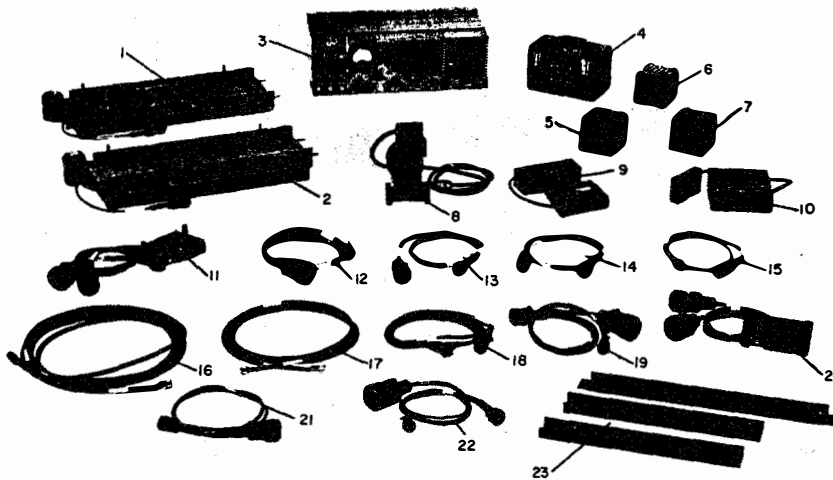
USN

USAF

TYPE CLASS:

Used by

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



TEST HARNESS, INTEGRATED ELECTRONIC CENTRAL AN/ASM-86A

FUNCTIONAL DESCRIPTION:

Test Harness, Integrated Electronic Central AN/ASM-86A provides a means of testing and troubleshooting Coder-Receiver-Transmitter KY-311/ASQ-19, Central Control C-3076/ASQ-19, Frequency Channel Indicator ID-808/ASQ, Coder-Receiver-Transmitter KY-308/ASQ, Radio Set Control C-1607/ARC-52, Radio Set Control C-2791/ARC and Radio Set Control C-3146/ASQ in the maintenance shop.

The AN/ASM-86A consists of a distribution box-power supply, mountings, test point boxes, portable blower, maintenance kit, electrical module extenders, and cable assemblies for interconnecting the components of the AN/ASM-86 and the units under test.

No field changes in effect at time of preparation (5 October 1965).

RELATION TO OTHER EQUIPMENT:

The AN/ASM-86A is similar to the AN/ASM-86.

4.12 AN/ASM-86A: 1

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TEST HARNESS, INTEGRATED ELECTRONIC CENTRAL AN/ASM-86A

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Radar Set Control C-1159/APX-6B; (1) Radar Set Control C-1272A/APA-89; (1) Frequency Channel Indicator ID-808/ASQ; (1) Central Control C-3076/ASQ-19; (1) Headset H-1/AR; (2) Test Bench NT-PSNS or equivalent.

TECHNICAL CHARACTERISTICS:

DISTRIBUTION BOX-POWER SUPPLY: Contains controls, switches, indicator lamps, test jacks, and a voltmeter to permit controlling and monitoring the units under test.

TEST POINT BOXES: Consists of a connector, test jacks, and point-to-point wiring. It is used for continuity checks of circuits not tested by the J-2023/ASM-86 Distribution Box-Power Supply.

MOUNTINGS: A mechanical assembly which supports the KY-311/ASQ-19 or KY-308/ASQ while it is being tested and repaired. It can be tilted 90° about the horizontal axis.

ELECTRONIC EQUIPMENT AIR COOLER: A portable blower which is used to circulate cooling air over the modules while they are being tested on the module extenders.

ELECTRICAL MODULE EXTENDERS: Provides normal electrical connections to permit operating the AOC and suppression amplifiers Module 4A6 and IF amplifier module 4A2 when removed from the chassis.

ELECTRONIC EQUIPMENT MAINTENANCE KIT: Contains the special tools and fixtures required to service the Coder-Receiver-Transmitters.

POWER REQUIREMENTS: 115 v, 60 cps, 1 ph, 50 va; 115 v, 400 cps, 3 ph, 230 va; + 27.5 v dc, 3 amp.

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MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Harness, Integrated Electronic Central AN/ASM-86A includes:			
1	Mounting MT-2710/ASM		4 x 9-7/8 x 29-1/2	15
1	Mounting MT-3254/ASM		4 x 10-3/16 x 29	16
1	Distribution Box-Power Supply J-2023/ASM-86		9-1/2 x 13-1/4 x 22-1/2	30
1	Electronic Equipment Maintenance Kit MK-654/ASM-86		6-1/2 x 7-1/8 x 10-1/4	4.5
1	Test Point Box J-2256/ASM-86A		4-3/8 x 4-5/8 x 5	2
1	Test Point Box J-2257/ASM-86A		4-3/8 x 4-5/8 x 5	2
1	Test Point Box J-2258/ASM-86A		4-3/8 x 4-5/8 x 5	2
1	Electronic Equipment Air Cooler HD-544/ASM		6 x 7 x 8	5
1	Electrical Module Extender MX-4029/ASM-86			3.2
1	Electrical Module Extender MX-4028/ASM-86			3.2
12	Cable Assembly			
1	Bench Shelf Riser Bracket		1 x 2 x 23-3/4	0.5

4.12 AN/ASM-86A: 2

DESIGNATION AN/ASM-87
DATE of request 15 Sept 1961
QUANTITY ON ORDER -
SERVICE APPROVAL LETTER - SERIAL AND DATE -

CLASSIFICATION of equip. UNCLASSIFIED	ITEM NAME Avionics Test Set
SPECIFICATION -	CONTRACT NUMBER AND DATE NOas 56-978, NOas 59-0152, NOas 60-0147
CONTRACTOR'S NAME AND ADDRESS North American Aviation, Inc. 4300 E. Fifth Ave. Columbus, Ohio	

ELECTRICAL CHARACTERISTICS

POWER INPUT 115/200 400	CYCLE	PHASE	AMPS	WATTS	28 dc	CYCLE	PHASE	AMPS	WATTS
OUTPUT SIGNAL CHARACTERISTICS (REP. RATE, I.F. ETC.)	WAVE GUIDE OR CABLE LIMITATIONS		INPUT SIGNAL CHARACTERISTICS		POWER OUTPUT				
OPERATING FREQ. AND FREQ. RANGE	EMISSION OR RECEPTION (TYPE)		FREQ. CONTROL (TYPE)		NO. OF CHANNELS				
ANTENNA OR TRANSDUCER (TYPE)	IMPEDANCE (OHMS)		FEED TYPE		BEAM PATTERN ° HORIZ. ° VERT.				

REFERENCE DATA AND LITERATURE

DRAWING	DWG. NUMBER	DIST. DATE	PUBLICATION	PUB. NUMBER
			TECHNICAL MANUAL	
			OPERATING INSTRUCTION CHART	
			PERFORMANCE STANDARD SHEET	
			MAINTENANCE STANDARD BOOK	

MAJOR UNITS

QTY	NOMENCLATURE AND NAME	OVERALL DIMENSIONS (IN)			H.D. (UNITS)	WEIGHT (LBS)
		HEIGHT	WIDTH	DEPTH		
	Avionics Test Set AN/ASM-87 (Mfr's Part No. E6976-11) consists of:					
1	Programming Test Group OA-3863/ASM-87					
1	Control-Guidance Test Group OA-3864/ASM-87					
1	Radar-Radio Test Group OA-3862/ASM-87					
1	Optical Equipment Test Set TS-1737/ASM-87					

IF ADDITIONAL EQUIPMENTS OR UNITS ARE REQUIRED, ATTACH ADDITIONAL SHEETS AND SPECIFY SOURCE
 CHANGE 72 - BuWeps (RAAV-4111)

B17419 UNCLASSIFIED

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UNCLASSIFIED

NAVSHIPS 93400

ELECTRONIC EQUIPMENT - PRELIMINARY DATA

NAVSHIPS 4457 (Rev. 9-62) (CONT'D)

DESIGNATION	ITEM NAME
AN/ASM-87	Avionics Test Set

FUNCTIONAL DESCRIPTION: SKETCH. MFG. DIMENSIONS, ETC.

The AN/ASM-87 provides a semi-automatic check of the electronic systems of the A3J aircraft on the flight line or flight deck. In use, the system provides the necessary excitation signals to the aircraft electronic systems under normal operating conditions, and makes the necessary measurements to perform fault isolation and periodic systems tests.

No unit cost available

Source of information: Request for Nomenclature

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CLASSIFICATION
UNCLASSIFIED

Rei 4/1/64

CHANGE 63/72 - BuWeps (RAAV-4111)

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B-17876

CLASSIFICATION OF equip. UNCLASSIFIED		ITEM NAME Stall Warning System Test Set	DESIGNATION AN/ASM-92
SPECIFICATION See reverse		CONTRACT NUMBER AND DATE NOas 60-0152r	DATE of request 30 Oct 1961
CONTRACTOR'S NAME AND ADDRESS Control Electronics Co., Inc. 10 Stepar Place Huntington Station, N.Y.			SERVICE APPROVAL LETTER - SERIAL AND DATE -

ELECTRICAL CHARACTERISTICS

POWER INPUT V _____ CYCLE _____ PHASE _____ AMPS _____ WATTS		V _____ CYCLE _____ PHASE _____ AMPS _____ WATTS	
OUTPUT SIGNAL CHARACTERISTICS (REP. RATE, I. F. ETC.)	WAVE GUIDE OR CABLE LIMITATIONS	INPUT SIGNAL CHARACTERISTICS	POWER OUTPUT
OPERATING FREQ. AND FREQ. RANGE	EMISSION OR RECEPTION (TYPE)	FREQ. CONTROL (TYPE)	NO. OF CHANNELS
ANTENNA OR TRANSDUCER (TYPE)	IMPEDANCE (OHMS)	FEED TYPE	BEAM PATTERN °HORIZ. - °VERT.

REFERENCE DATA AND LITERATURE

DRAWING	DWG. NUMBER	DIST. DATE	PUBLICATION	PUB. NUMBER
-			TECHNICAL MANUAL	-
			OPERATING INSTRUCTION CHART	
			PERFORMANCE STANDARD SHEET	
			MAINTENANCE STANDARD BOOK	

MAJOR UNITS

QTY	NOMENCLATURE AND NAME	OVERALL DIMENSIONS (IN)			H. D. (UNITS)	WEIGHT (LBS)
		HEIGHT	WIDTH	DEPTH		
	Stall Warning System Test Set	14-13/16	18-3/4	10-5/16		50
	AN/ASM-92 (Mfr's Part No. E21395) consists of:					
1	Indicator Control C-4122/ASM-92					
1	Test Set Cover CW-629/ASM-92					
1	Dial Indicating Scale MX-4119/ASM-92					
1	Dial Indicating Scale MX-4120/ASM-92					
1	Dial Indicating Scale Mount MT-2729/ASM-92					
1	Electrical Power Cable Assembly W1 (6 ft 0 in.)					
1	Electrical Power Cable Assembly W2 (6 ft 0 in.)					
1	Electrical Special Purpose Cable Assembly W3 (6 ft 0 in.)					
1	Electrical Special Purpose Cable Assembly W4 (6 ft 0 in.)					

IF ADDITIONAL EQUIPMENTS OR UNITS ARE REQUIRED, ATTACH ADDITIONAL SHEETS AND SPECIFY SOURCE
 CHANGE 72 - BuWeps (FWGS-631)

B 1 7 4 1 9
 UNCLASSIFIED

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ELECTRONIC EQUIPMENT - PRELIMINARY DATA

NAVSHIPS 4457 (Rev. 9-62) (CONT'D)

DESIGNATION

AN/ASM-92

ITEM NAME

Stall Warning System Test Set

FUNCTIONAL DESCRIPTION: SKETCH, MFG. DIMENSIONS, ETC.

The AN/ASM-92 supplies operating power and proper simulated signals to the major components of the aircraft stall warning indicator system. In this manner, individual components and the complete indicating system can be checked out dynamically. This set is used with, but is not a part of, aircraft stall warning indicator systems (Grumman Aircraft Engineering Corp.) installed on aircraft designations S2F-3.

The set:

Provides a means of setting the five potentiometers on the adjustment unit of lift computer, Grumman Aircraft Engineering Corp. Part No. 121SCAV101, to their proper dial indications.

Provides a means of checking the proper current outputs of the lift computer proper, Grumman Aircraft Engineering Corp., Part No. 121SCAV101.

Provides facilities for checking that the proper air stream deflection of the vane on the lift transducer, Grumman Aircraft Engineering Corp. Part No. 121SCAV107, produces proper illumination of the SLOW, NORMAL, or FAST speed indicating lamp.

Provides a test set panel lamp indication of proper functioning of the heater element located within the aircraft-installed lift transducer.

Incorporates means of self-checking the batteries located within the circuits of the test set.

Provides two binding post connections to the electro-mechanical circuit of the aircraft medal shakers when the test set NUTCRACKER toggle switch is placed in AIRBORNE position.

Provides six additional binding post connections for checking ac and dc input potentials to the test set; and for checking ac output voltages from either the aircraft-installed or the test set self-contained simulated lift transducer.

The AN/ASM-92 is a portable test set with four bulkhead-mounting inserts at rear of case for mounting to the Standard Navy Test Bench, BuShips Dwg. 1385763.

Specification Data: Grumman Aircraft Engineering Corp. Specification No. AV121CS-44.0

No unit cost available

Source of information: Request for Nomenclature

CLASSIFICATION
UNCLASSIFIED

Rei 4/1/64

CHANGE 63/72 - BuWeps (FWGS-631)

244

D-17876

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9 October 1964
Cog Service: USN FSN:

TEST SET, RECEIVER CONTROL AN/ASM-96
Functional Class:

USA

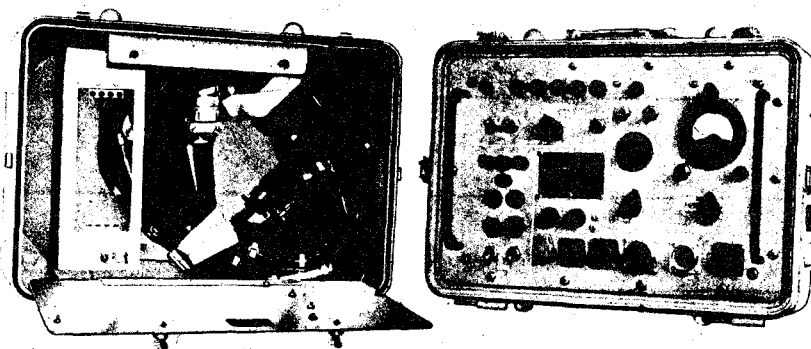
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Austin Electronics, (None applied for).



TEST SET, RECEIVER CONTROL AN/ASM-96

FUNCTIONAL DESCRIPTION:

Test Set, Receiver Control AN/ASM-96 is used in testing the operational performance of Radio Receiver, R-1047/A. It is a complete facility for checking the relay circuits and power control lines of the Receiver, along with its associated Receiver Control Unit. The test set has been designed for malfunction black box isolation and performance monitoring during either line or shop maintenance testing. The Radio Receiver and Control unit may be tested simultaneously as a system or either unit may be checked independently. If proper system performance is not obtained, the test set can then be used to localize trouble to the defective component in the relay circuits or power control lines.

No field changes in effect at time of preparation (28 September 1964).

AN/ASM-96 TEST SET, RECEIVER CONTROL

RELATION TO OTHER EQUIPMENT:**EQUIPMENT REQUIRED BUT NOT SUPPLIED:**

(1) Audio Signal Generator AN/USM-30 (Includes TS-382/U); (1) VHF Signal Generator AN/USM-44A (Includes TS-510A/V); (1) Power Supply 27.5 ± 0.5 v dc, 115 ± 2 v ac 400 cyc; (1) Synchroscope AN/USM-24C or; (1) Oscilloscope AN/USM-105A; (1) Headphones H3/ARR-3 or equivalent; (1) FM-RF Signal Generator FM22E or; Boonton 202E.

TECHNICAL CHARACTERISTICS:

POWER REQUIREMENTS: 104 to 127 v ac, 380 to 420 cyc single ph, 0.125 amp 25 to 29 v dc, 5 amps.

IMPEDANCE: 600 ohms.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Set, Receiver Control			
	AN/ASM-96 includes:			
1	Test Set, Receiver Control			
	TS-1763/ASM-96		7 x 12-1/4 x 17	
1	Schematic Diagram (Plastic)			
	No. 244-1-C19			
1	Pouch, Parts No. 244-SCD-24			
1	Cable Assembly No. W1			
1	Cable Assembly No. W2			
1	Cable Assembly No. W3			
1	Cable Assembly No. W4			
1	Cable Assembly No. W5			
1	Cable Assembly No. W6			
1	Mount, Control Box			
	MT12737/ASM-96			

REFERENCE DATA AND LITERATURE:

NAVWEPS 16-45-865: Handbook for Operation and Service Instructions with Illustrated Parts Breakdown Test Set, Receiver Control AN/ASM-96.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Not required.

CRYSTALS: Not required.

SEMI-CONDUCTORS: (5) 1N457 (5) 1N538

4.12 AN/ASM-96: 2

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SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	1.3	

PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG:

DESIGN COG: USN, BuWeps

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Austin Electronics Part No. 244-1-E02	New York, N. Y.	N0as 60-0152	

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UNCLASSIFIED NAVSHIPS 93400
 ELECTRONIC EQUIPMENT - PRELIMINARY DATA
 NAVSHIPS 4457 (Rev. 9-62)

DESIGNATION	AN/ASM-103
DATE OF REQUEST	20 March 1962
QUANTITY ON ORDER	-
SERVICE APPROVAL LETTER - SERIAL AND DATE	-

CLASSIFICATION OF EQUIP.	ITEM NAME
UNCLASSIFIED	Automatic Flight Control Analyzer
SPECIFICATION	CONTRACT NUMBER AND DATE
Commercial	NOw 60-0154
CONTRACTOR'S NAME AND ADDRESS	
Lear, Incorporated Astronics Division 3171 South Bundy Drive Santa Monica, California	

ELECTRICAL CHARACTERISTICS

POWER INPUT	See reverse			
V	CYCLE	PHASE	AMPS	WATTS
OUTPUT SIGNAL CHARACTERISTICS (REP. RATE, I.F., ETC.)	WAVE GUIDE OR CABLE LIMITATIONS		INPUT SIGNAL CHARACTERISTICS	POWER OUTPUT
-	-		-	-
OPERATING FREQ. AND FREQ. RANGE	EMISSION OR RECEPTION (TYPE)		FREQ. CONTROL (TYPE)	NO. OF CHANNELS
-	-		-	-
ANTENNA OR TRANSDUCER (TYPE)	IMPEDANCE (OHMS)	FEED TYPE	BEAM PATTERN	
-	-	-	°HORIZ. °VERT.	

REFERENCE DATA AND LITERATURE

DRAWING	DWG. NUMBER	DIST. DATE	PUBLICATION	PUB. NUMBER
-			TECHNICAL MANUAL	-
			OPERATING INSTRUCTION CHART	
			PERFORMANCE STANDARD SHEET	
			MAINTENANCE STANDARD BOOK	

MAJOR UNITS

QTY	NOMENCLATURE AND NAME	OVERALL DIMENSIONS (IN)			H.D. (UNITS)	WEIGHT (LBS)
		HEIGHT	WIDTH	DEPTH		
	Automatic Flight Control Analyzer					
	AN/ASM-103 (Mfr's Model 111T-400A) consists of:					
1	Cable Assembly, W-1 (Mfr's Part No. 418896-01)					
1	Cable Assembly, W-2 (Mfr's Part No. 418897-01)					
1	Cable Assembly, W-3 (Mfr's Part No. 418895-01)					
1	Cable Assembly, W-4 (Mfr's Part No. 421185-01)					
1	Cable Assembly, W-5 (Mfr's Part No. 421186-01)					
1	Cable Assembly, W-6 (Mfr's Part No. 421187-01)					
1	Automatic Flight Control Analyzer TS-1829/ASM-103 and ()					

IF ADDITIONAL EQUIPMENTS OR UNITS ARE REQUIRED, ATTACH ADDITIONAL SHEETS AND SPECIFY SOURCE
 CHANGE 72 - BuWeps (FWGS-64)

UNCLASSIFIED

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ELECTRONIC EQUIPMENT - PRELIMINARY DATA**NAVSHIPS 4457 (Rev. 9-62) (CONT'D)**

DESIGNATION

AN/ASM-103

ITEM NAME

Automatic Flight Control Analyzer

FUNCTIONAL DESCRIPTION: SKETCH. MFG. DIMENSIONS. ETC.

The AN/ASM-103 provides ground support by simulating, monitoring, or controlling portions of Automatic Flight Control Set AN/ASW-20 prior to preflight.

Operating power requirements are 115/200 volts, 400 cps, three phase; 22 volts, 400 cps, 3 phase; and 26 volts, 400 cps, 2 phase.

For operating data refer to Mfr's Specification SR 10270.

The equipment is used with, but is not a part of, Automatic Flight Control Set AN/ASW-20.

No unit cost available

Source of information: Request for Nomenclature
Nomenclature correspondence

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CLASSIFICATION

UNCLASSIFIED

Rei 4/1/64

CHANGE 65/72 - BuWeps (FWGS-64)

25

10 December 1965

TEST SET, ELECTRONIC CONTROL AMPLIFIER AN/ASM-108

Cog Service: USN FSN:

Functional Class:

USA

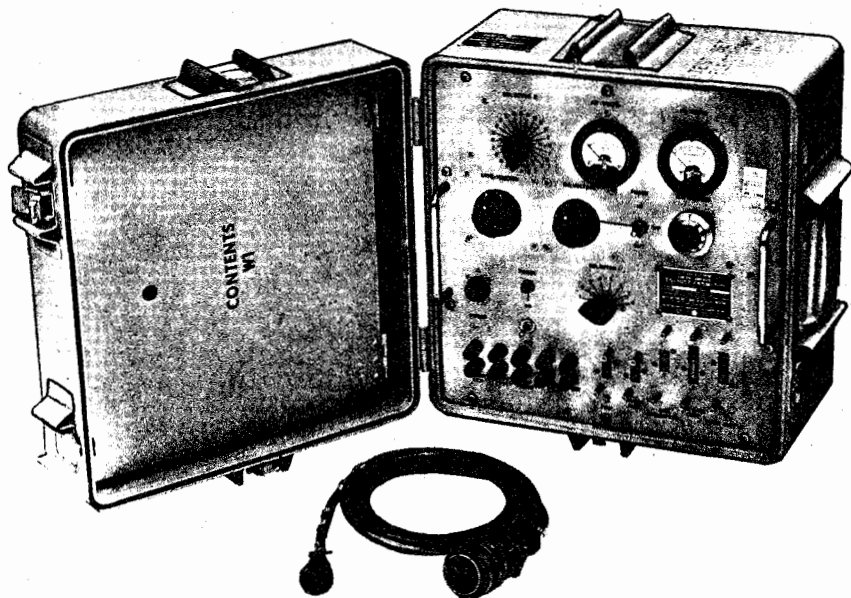
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Gyrodyne Co. of America Incorporated, (10618).



TEST SET, ELECTRONIC CONTROL AMPLIFIER AN/ASM-108

FUNCTIONAL DESCRIPTION:

Test Set, Electronic Control Amplifier AN/ASM-108 is a special support equipment for the Electronic Control Amplifier AM-3082/ASW-20 which is a component part of the DASH Weapon System Model QH-50C Drone. The test set is specifically designed to provide an accurate, rapid, and convenient means of checking the operation of the power supply module, heading data converter module, rpm crossfeed module, motor amplifier module, and four-axis trim calibrator module of the control amplifier.

The test set is essentially a signal injection, excitation, and switching system. The switching system permits inter-connection of various test circuits which furnishes simulated test signals, operating voltages, test loads, and monitoring facilities to the appropriate test points of the module under test. The test circuit includes an ac and dc voltmeter, dc power supplies, a variable frequency amplifier, various switches and controls, connectors, and other electrical components necessary to make the test set functional.

No field changes in effect at time of preparation (7 October 1965).

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TEST SET, ELECTRONIC CONTROL AMPLIFIER AN/ASM-108

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

TECHNICAL CHARACTERISTICS:

POWER REQUIREMENTS: 22 v, 400 cps, 3 ph, delta.

POWER SUPPLY VOLTAGES: 28 v dc, 40 v dc, regulated.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Set, Electronic Control Amplifier AN/ASM-108 includes:		11-3/8 x 16-3/8 x 17-1/4	50
1	Test Set, Electronic Control Amplifier TS-1857/ASM-108			
2	Plug-In Modules			
2	Cable Assembly			

REFERENCE DATA AND LITERATURE:

NAVWEPS 17-15KP-8: Handbook Operation, Service and Overhaul Instructions with Illustrated Parts Breakdown.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Not required.

CRYSTALS: Not required.

SEMI-CONDUCTORS: (14) 1N645 (1) 1N753A (1) 1N1827A (1) 1N2976B (2) 2N657 (2) 2N336
(2) 2N1566 (1) CD3131 (3) CD3138 (1) 402370-03 (2) M5788

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	4.65	52

PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG:

DESIGN COG: USN, BuWeps

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Gyrodyne Co. of America Inc.	St James, L.I. New York	N0w(A) 63-0251-ci	

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15 October 1964

COORDINATE DATA TEST SET AN/ASM-115

Cog Service: USN FSN:

Functional Class:

USA

USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Grumman Aircraft Engineering Corp., (26512).



COORDINATE DATA TEST SET AN/ASM-115

FUNCTIONAL DESCRIPTION:

Coordinate Data Test Set AN/ASM-115 is a combination instrument, capable of performing both line and shop maintenance, which facilitates accurate, efficient, and rapid testing of Coordinate Data Set AN/ASQ-80. For line maintenance, the Test Set is connected to a junction box (the Synchro Signal Amplifier), at which all signals appear. Failures are thus localized to the appropriate major assembly or unit. At the shop level, the Test Set may be used to check out the individual assemblies or units without dependence upon signals from other units in the system, as well as the complete system; permitting failures to be isolated to the particular circuit or sub-assembly at fault. The Test Set also performs accuracy checks on various system outputs.

No field changes in effect at time of preparation (29 September 1964).

AN/ASM-115 COORDINATE DATA TEST SET

RELATION TO OTHER EQUIPMENT:

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

TECHNICAL CHARACTERISTICS:

POWER REQUIREMENTS: 115 v ac, 400 cyc, single ph; 2 amps; 28 v dc, 3 amp.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Coordinate Data Test Set AN/ASM-115 includes:			
1	Test Set Coordinate Test Set TS-1869/ASM-115			
1	Case Test Set Coordinate Test Set CY-3779/ASM-115			
1	Cable Assembly W1 CX-8530/ASM-115			
1	Cable Assembly W2 CX-8534/ASM-115			
1	Cable Assembly W3 CX-8531/ASM-115			
1	Cable Assembly W4 CX-8532/ASM-115			
1	Cable Assembly W5 CX-8533/ASM-115			
1	Cable Assembly W6 CX-8528/ASM-115			
1	Cable Assembly W7 CX-8535/ASM-115			
1	Cable Assembly W8 CX-8539/ASM-115			
1	Cable Assembly W9 CX-8536/ASM-115			
1	Multimeter AN/PSM-48			

REFERENCE DATA AND LITERATURE:

NAVWEPS 16-30-ASM-115-1: Handbook Operation and Service Instructions with Illustrated Parts Breakdown Coordinate Data Test Set AN/ASM-115.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Not required.

CRYSTALS: Not required.

SEMI-CONDUCTORS: (21) 1N645 (1) 1N2979A

4.12 AN/ASM-115: 2

COORDINATE DATA TEST SET AN/ASM-115

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	2.25	

PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG: MIL-T-21200B

DESIGN COG: USN, BuWeps

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Grumman Aircraft Engineering Corporation	Bethpage, Long Island, N. Y.	NOW61-0003	

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22 June 1965

Cog Service: USN FSN: 2F5845-055-3025

SONAR TEST SET AN/BQM-1A

Functional Class:

USA

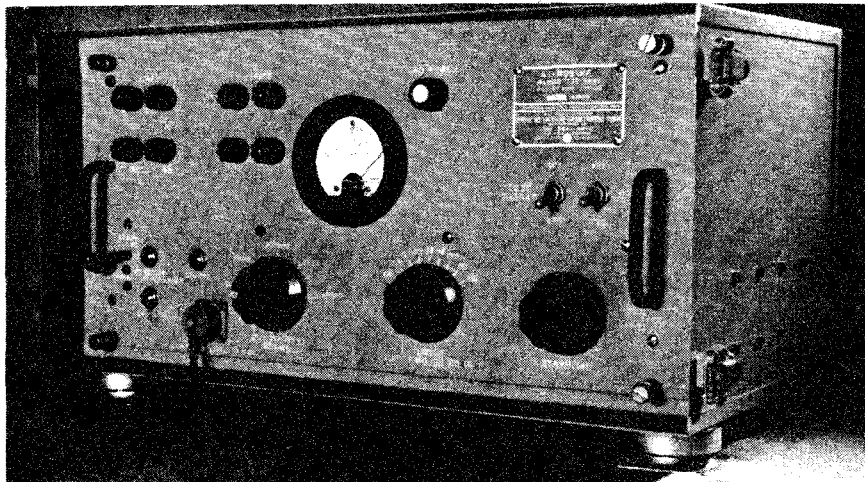
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Weston Instruments Inc., Weston Oceanographic Systems, (94075).



SONAR TEST SET AN/BQM-1A

FUNCTIONAL DESCRIPTION:

Sonar Test Set AN/BQM-1A is designed primarily 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 preamplifiers.

No field changes in effect at time of preparation (17 May 1965).

RELATION TO OTHER EQUIPMENT:

The AN/BQM-1A is two way interchangeable with AN/BQM-1 except by maintenance parts.

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SONAR TEST SET AN/BQM-1A

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

TECHNICAL CHARACTERISTICS:

FREQUENCY RANGE: Represents ship's noises in freq range of 1.5 to 40 kc.

OUTPUT IMPEDANCE: 1 ohm.

POWER REQUIRED: 105 to 130 v, ac, 50, 60 or 400 cyc single ph.

MAXIMUM POWER: 70 W at 130 v.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Sonar Test Set(u) AN/BQM-1A includes:	2F5845-055-3025		
1	Test Set TS-754A/BQM-1		11-1/4 x 12-3/4 x 21	59
1	Junction Box J-567/BQM-1		1-7/8 x 2-11/16 x 7-1/32	1.25
1	Cable Assy CG-1160/U		48	0.25
1	Cable Assy CG-1161/U		48	0.25
1	Cable Assy CX-9279/U		96	0.50
2	Technical Manuals		1/4 x 9 x 11-1/2	1

REFERENCE DATA AND LITERATURE:

NAVSHIPS 95952: Technical Manual for Sonar Test Set(u) AN/BQM-1A.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

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

CRYSTALS: Not required.

SEMI-CONDUCTORS: Not required.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	3.5	82

PROCUREMENT DATA

PROCURING SERVICE: USN

DESIGN COG: USN, BuShips

SPEC &/OR DWG: MIL-S-15604B SHIPS

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Weston Instruments Inc., Weston Oceanographic Systems	Poughkeepsie, New York	N0bsr-87545	

4.12 AN/BQM-1A: 2

358

12 October 1964

Cog Service: USN FSN:

RADIO TEST SET AN/FRM-8

Functional Class:

USA

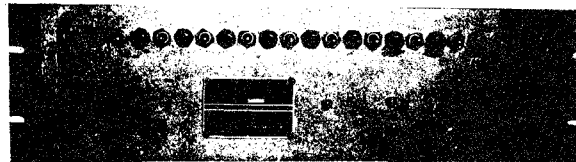
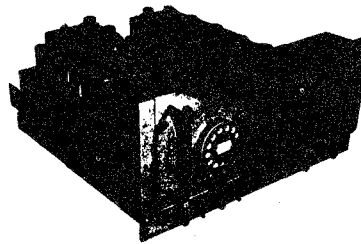
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Cooke Engineering Company, (02002).



RADIO TEST SET AN/FRM-8

FUNCTIONAL DESCRIPTION:

Radio Test Set AN/FRM-8 is provided with ten operating positions in the control area with a hold-down switch and indicating light. All ten lights are lit when any operation position, or the watch supervisor, is making use of the test equipment. The operator at any position may perform a system test of his receiving and control equipment by depressing the hold-down switch. This causes a distinct auto signal to appear in his speaker or headset. This signal, in a manner similar in function to that of a telephone dial tone, indicates that the system test equipment is operating; and that the audioline from the remote receiver, and the local audio equipment, is in working order. This short audio signal is followed immediately by the injection of an RF signal into the remote receiver. The RF signal source is preset to the correct operating frequency and will be either modulated or unmodulated by pre-arrangement to correspond with the circuit requirements. The operator may continue using this signal to make adjustments to his control equipment as long as the switch is held down. When the switch is released, all indicating lights are extinguished and the system test equipment restores

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AN/FRM-8 RADIO TEST SET

itself to a state of readiness for other system testing. A duplicate set of ten switches and an indicating light for each channel are available to the watch supervisor.

No field changes in effect at time of preparation (22 September 1964).

RELATION TO OTHER EQUIPMENT:

Equipment used with Remote Control Receiver System, (AN/FRA-501 Receiver Control Group and AN/FRR-502 Receiver System).

EQUIPMENT REQUIRED BUT NOT SUPPLIED:**TECHNICAL CHARACTERISTICS:**

FREQUENCY RANGE: 2 to 32 mcs.

FREQUENCY CONTROL: A six pole selector switch in each of the ten modular units of Signal Generator, SG-563/FRM-8 provides: Selection of one of two xtal controlled frequencies, or, selection of one of four frequency bands, 2 to 4; 4 to 8; 8 to 16; or 16 to 32 mcs, master oscillator controlled throughout ea freq band.

EMISSION: CW or 1000 cycle tone modulated test signals.

INPUT TO RECEIVERS: The RF test signal is xtal controlled in freq or MO tuned to a designated freq. Magnitude of the RF signal is adjusted by means of the RF attenuation control provided in ea modular RF signal generation unit of Signal Generator unit of Signal Generator, SG-563/FRM-8. Modulation is controlled by variable attenuation of the 1000 cyc input to the oscillators.

POWER REQUIREMENTS

CONTROL INDICATOR: C-6103/FRM-8, 110 v, 60 cyc, 60 W.

SIGNAL GENERATOR: SG-563/FRM-8, 110 v, 60 cyc, 150 W.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Radio Test Set AN/FRM-8 includes:			
1	Control Indicator C-6103/FRM-8		5-1/4 x 7 x 19	20
1	Signal Generator SG-563/FRM-8		8-3/4 x 19 x 19	60
10	Operator's Control			

REFERENCE DATA AND LITERATURE:

NAVSHIPS 94809: Technical Manual for Radio Test Set AN/FRM-8.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (1) 082 (2) 5814 (10) 5654

CRYSTALS: Not required.

4.12 AN/FRM-8: 2

SEMI-CONDUCTORS: (10) 1N34 (9) 1N547

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
Cooke Engineering Company	Alexandria, Virginia	N600(24)60266	

361

12 October 1964

TEST SET TELEGRAPH AN/PGM-1B

Cog Service: USN FSN:

Functional Class:

USA

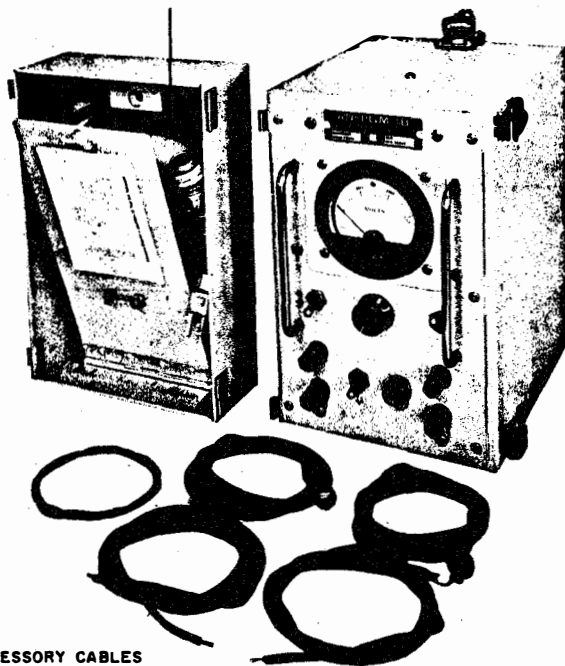
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Kinn Electronics Corp., (09043).



ACCESSORY CABLES

TEST SET TELEGRAPH AN/PGM-1B

FUNCTIONAL DESCRIPTION:

Test Set Telegraph AN/PGM-1B 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 (21 September 1964).

RELATION TO OTHER EQUIPMENT:

Equipment AN/PGM-1B used with Telegraph Terminal Set AN/FGC-5.

4.12 AN/PGM-1B: 1

362

AN/PGM-1B TEST SET TELEGRAPH

EQUIPMENT REQUIRED BUT NOT SUPPLIED:**TECHNICAL CHARACTERISTICS:****POWER REQUIREMENTS**

OUTPUT VOLTAGE: 175 to 275 v dc; 30 to 100 ma.

OUTPUT VOLTAGE ACCURACY: Form 1/2 of 1% at 115 v line voltage.

INPUT POWER REQUIREMENTS

INPUT VOLTAGE: 115 v porm 10%, 50 to 60 cyc, single ph.

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.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Set Telegraph AN/PGM-1B includes:		7-3/4 x 12 x 12	
1	Cable Assy Power W101, ac supply cable			
1	Test Lead W102, pos output cable			
1	Test Lead W103, neg output cable			
1	Fuse 2 amp (spare)			
1	Technical Manual NAVSHIPS 94491			

REFERENCE DATA AND LITERATURE:

NAVSHIPS 94491: Technical manual for Telegraph Terminal Test Set AN/PGM-1B.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:TUBES: (3) 5U4G (3) 5U4GB (2) 6Y6GA (2) 6Y6G (4) 6SL7GT (1) 6SL7WGT (3) 0B2
(2) 0B2WA

CRYSTALS: Not required.

SEMI-CONDUCTORS: Not required.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	0.050	21.5

4.12 AN/PGM-1B: 2

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PROCUREMENT DATA

PROCURING SERVICE: USN

DESIGN COG: USN, BuShips

SPEC AND/OR DWG: MIL-T-21428(SHIPS)

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Kinn Electronics Corp.	Baltimore, Md.	N0bsr-75910	\$271.00

36A

9 October 1964

TEST SET, MAGNETRON AN/SPM-13

Cog Service: USN FSN:

Functional Class:

USA

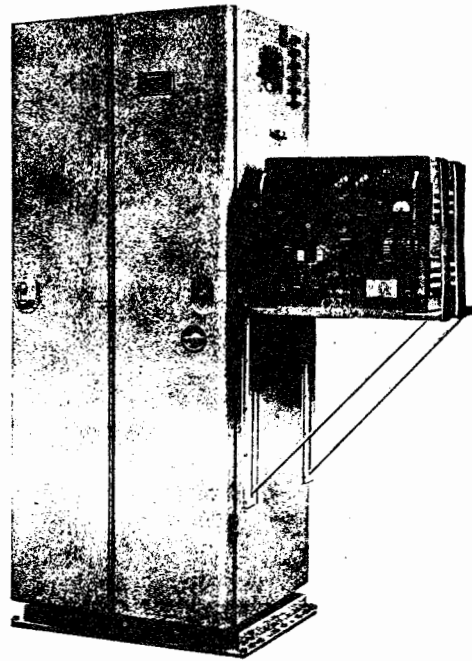
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USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Sperry Microwave Electronics Co., Div. of Sperry Rand Corporation, (06424).



TEST SET, MAGNETRON AN/SPM-13

FUNCTIONAL DESCRIPTION:

Test Set, Magnetron AN/SPM-13 contains all the circuitry necessary to test QK662A Magnetron under high voltage, pulse modulation conditions. It contains a high power pulse modulator, trigger generating circuits, various controls and indicators, and RF circuitry including a dummy load capable of dissipating the RF power developed by the magnetron under test. Built in secondary power supplies provide the high voltage modulator power as well as lower voltages for trigger generating circuits and power for various filaments and heaters, including the magnetron under test. Protective circuitry provides for automatic shut-off protection in case of overloads or other abnormal operating conditions. All operating controls and adjustments are readily accessible on the front panel; there are no internal adjustments. Facilities are provided for visually indicating some of the more common malfunctions of a magnetron, in addition to several meters for monitoring important voltages and currents related to magnetron testing.

No field changes in effect at time of preparation (7 October 1964).

AN/SPM-13 TEST SET, MAGNETRON

RELATION TO OTHER EQUIPMENT:

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Radar Test Set AN/SPM-5; (1) Radar Test Set AN/SPM-5 Description, Operation, and Maintenance Manual NAVWEPS OP2347.

TECHNICAL CHARACTERISTICS:

MAGNETRON TESTED: OK662A.

FREQUENCY RANGE: 5450 to 5825 mc.

POWER OUTPUT MINIMUM: 250 kw peak, 250 W avg.

OPERATING VOLTAGE: 24 to 26 kv.

ANODE CURRENT: 24 ma.

MODULATOR PULSE

AMPLITUDE: 26 kv peak.

WIDTH: At 70 per % amplitude 2 ± 0.2 usec.

REPETITION RATE: Approx 500 pps.

RISE TIME: 20 to 85, 0.15 ± 0.05 usec per % amplitude.

CURRENT PULSE: 24 amp.

DUTY CYCLE: 0.001.

MODULATOR TRIGGER

(1) INTERNAL: Pos, 475 to 525 pps; 200 + 20 v peak; 2 ± 0.2 usec width rise time 0.3 usec.

(2) EXTERNAL: 20 v peak pos, triggers int blocking oscillator; 550 pps max, 5 usec min width.

RF OUTPUT: Approx 30 db below magnetron pulse.

DETECTED PULSE OUTPUT: Approx 70 db below magnetron pulse.

DUMMY LOAD

WAVEGUIDE INPUT: VSWR 1.1:1.

AMBIENT TEMPERATURE: + 65° C (+ 150° F) max.

POWER SUPPLY: 5000 v dc at 200 ma.

POWER REQUIREMENTS

(1) 115 V AC, SINGLE PH 60 CPS, STARTING: 10 amp.

STANDBY: 2.40 amp.

OPERATE: 2.40 amp.

(2) 440 V AC, SINGLE PH 400 CPS, STARTING: 1 amp.

STANDBY: 0.280 amp.

OPERATE: 0.280 amp.

(3) 440 V AC, 3 PH 60 CPS, STARTING: 3.0 amp.

STANDBY: 0.2 amp.

OPERATE: 1.3 amp.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Set, Magnetron AN/SPM-13 includes:		26-5/8 x 29-5/8 x 70	1200
1	RF Cable Assembly			

4.12 AN/SPM-13: 2

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QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
2	Test Set, Magnetron, AN/SPM-13 Description, Operation, and Main- tenance Manuals NAVWEPS OP-2954.			
2	Tie-down straps			

REFERENCE DATA AND LITERATURE:

NAVWEPS OP 2347: Radar Test Set AN/SPM-5, Description, Operation, and Maintenance (u).
 NAVWEPS OP 2954: Description, Operation, and Maintenance for Test Set, Magnetron AN/SPM-13.
 NAVSHIPS 91828(A): Navy Handbook of Test Methods and Practices.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (6) 6587 (3) SR554 (1) 5Y3WGTA (1) 5814A (1) 5670 (1) 5687WA

CRYSTALS: Not required.

SEMI-CONDUCTORS: (1) 1N21C (2) 1N459

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)

PROCUREMENT DATA

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

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Sperry Microwave Electronics Co., Div. of Sperry Rand Corporation	Clearwater, Florida	Nord-18847	

367

8 December 1965

Cog Service: USN FSN:

TEST SET, MAGNETRON AN/SPM-13A
Functional Class:

USA

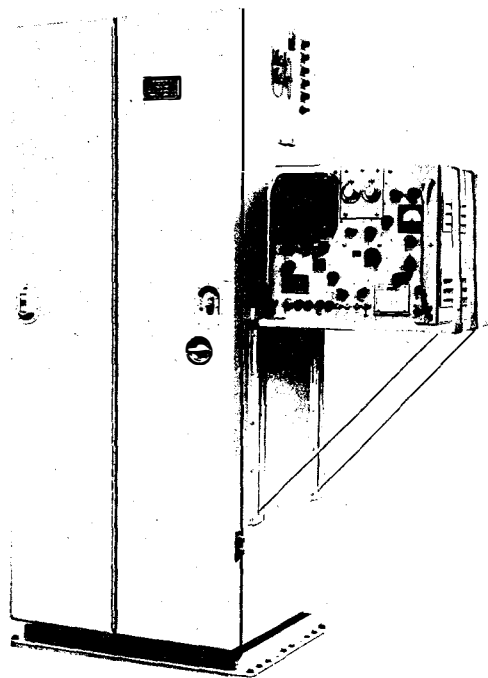
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Sperry Microwave Electronics Division of Sperry Rand Corporation, (06424).



TEST SET, MAGNETRON AN/SPM-13A

FUNCTIONAL DESCRIPTION:

The Test Set, Magnetron AN/SPM-13A contains all the circuitry necessary to test QK447 and QK662A magnetrons under high voltage, pulse modulation conditions. It contains a high power pulse modulator, trigger generating circuits, various controls and indicators, and RF circuitry including a dummy load capable of dissipating the RF power developed by the magnetron under test. Built-in secondary power supplies provide the high voltage modulator power as well as lower voltages for trigger generating circuits and power for various filaments and heaters, including the magnetron under test. Protective circuitry provides for automatic shut-off protection in case of overloads or other abnormal operating conditions. All operating controls and adjustments are readily accessible. Facilities are provided for visually indicating some of the more common malfunctions of a magnetron, in addition to several meters for monitoring important voltages and currents related to magnetron testing.

No field changes in effect at time of preparation (21 October 1965).

4.12 AN/SPM-13A: 1

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TEST SET, MAGNETRON AN/SPM-13A

RELATION TO OTHER EQUIPMENT:

Test Set Magnetron AN/SPM-13A is electrically, mechanically, and functionally interchangeable with Test Set Magnetron AN/SPM-13.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Radar Test Set AN/SPM-5; (1) Radar Test Set AN/SPM-5, Description, Operation, and Maintenance (v) NAVWEPS OP-2347 Manual.

TECHNICAL CHARACTERISTICS:

FREQUENCY RANGE:	TYPE QK447 5450 TO 5825 MC	TYPE QK662A 5450 TO 5825 MC
POWER OUTPUT, MINIMUM:	250 KW PEAK 157 WATTS AVERAGE	250 KW PEAK 157 WATTS AVERAGE
OPERATING VOLTAGE:	23 TO 26 KV	24 TO 26 KV
ANODE CURRENT:	16 MA	24 MA
MODULATOR OUTPUT		
VOLTAGE:	25 KV	25 KV
CURRENT:	24 AMP	24 AMP
WIDTH AT 50 PER CENT AMPLITUDE POINT OF MAGNETRON CURRENT		
PULSE:	0.25 USEC	2 USEC
REPETITION RATE:	2520 PPS	500 PPS
RISE TIME, 20 TO 85 PER CENT AMPLITUDE POINTS ON VOLTAGE		
PULSE (MAGNETRON LOAD):	0.14 USEC	0.15 USEC
DUTY CYCLE:	0.00063	0.001
MODULATOR TRIGGER		
INTERNAL:	POSITIVE, 475 TO 525 PPS 200 ± 20 v PEAK 2 ± 0.2 USEC WIDTH 0.3 USEC RISE TIME	POSITIVE, 475 TO 525 PPS
EXTERNAL:	QK447 20 V PEAK POSITIVE, TRIGGERS INTERNAL BLOCKING OSCILLATOR; 5 USEC MIN PULSE WIDTH; 2750 pps max	QK662A 20 V PEAK POSITIVE, TRIGGERS INTERNAL BLOCKING OSCILLATOR; 5 USEC MIN PULSE WIDTH; 550 pps max
RF OUTPUT:	APPROX 30 DB BELOW MAGNETRON PULSE	APPROX 30 DB BELOW MAGNETRON PULSE
DETECTED PULSE OUTPUT:	APPROX 70 DB BELOW MAGNETRON PULSE	APPROX 70 DB BELOW MAGNETRON PULSE
DUMMY LOAD:	WAVEGUIDE INPUT VSWR 1.1: 1	WAVEGUIDE INPUT VSWR 1.1: 1

TEST SET, MAGNETRON AN/SPM-13A

AMBIENT TEMPERATURE,
MAX

PLUS 65 DEG C (PLUS
150 DEG F)

PLUS 65 DEG C (PLUS
150 DEG F)

POWER REQUIREMENTS:

115 V. 60 CYC, SINGLE PH
440 V, 60 CYC, 3 PH
440 V, 400 CYC, SINGLE PH

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Set, Magnetron AN/SPM-13A includes:		26-5/8 x 29-5/8 x 70	1200
1	RF Cable Assy CG-360A/U			
2	Test Set, Magnetron AN/SPM-13A Description, Operation, and Maintenance			
2	Tie-Down Straps			

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REFERENCE DATA AND LITERATURE:

NAVWEPS OP3059: Test Set, Magnetron AN/SPM-13A; for description, operation and maintenance.
NAVWEPS OP2347: Test Set Radar AN/SPM-5; for description, operation and maintenance (U).
NAVSHIPS 9182a(A): Navy Handbook of Test Methods and Practices.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (1) 5670 (1) 5687 (1) 5814A (1) 5Y3WGTA (1) 6587 (3) SR554

CRYSTALS: Not required.

SEMI-CONDUCTORS: (1) 1N21C (1) 1N459

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	32	1200

PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG:

DESIGN COG: USN, BuWeps

4.12 AN/SPM-13A: 3

TEST SET, MAGNETRON AN/SPM-13A

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Sperry Microwave Electronics Div. of Sperry Rand Corp. Pt. No. 2678682	Clearwater, Fla.	Nord-18847	

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ELECTRONIC EQUIPMENT - PRELIMINARY DATA
NAVSHIPS 4457 (Rev. 9-62)

CLASSIFICATION OF Equip. UNCLASSIFIED		ITEM NAME Radar Test Set	DESIGNATION AN/SPM-14 (XN-1)
SPECIFICATION SHIPS-A-3664		CONTRACT NUMBER AND DATE NObsr-81341, 6/24/60	DATE 1-12-61
CONTRACTOR'S NAME AND ADDRESS Nortronics, System Support A Division of Nort rop Corporation 500 East Orangethorpe Avenue Anaheim, California			QUANTITY ON ORDER Design and Fabricate one set
			SERVICE APPROVAL LETTER - SERIAL AND DATE

ELECTRICAL CHARACTERISTICS

POWER INPUT 115 V 60 CYCLE 1 PHASE 15 AMPS _____ WATTS	_____ V _____ CYCLE _____ PHASE _____ AMPS _____ WATTS		
OUTPUT SIGNAL CHARACTERISTICS (REP. RATE, I. F., ETC.)	WAVE GUIDE OR CABLE LIMITATIONS	INPUT SIGNAL CHARACTERISTICS	POWER OUTPUT
OPERATING FREQ. AND FREQ. RANGE	EMISSION OR RECEPTION (TYPE)	FREQ. CONTROL (TYPE)	NO. OF CHANNELS
ANTENNA OR TRANSDUCER (TYPE)	IMPEDANCE (OHMS)	FEED TYPE	BEAM PATTERN _____ ° HORIZ. _____ ° VERT.

REFERENCE DATA AND LITERATURE

DRAWING	DWG. NUMBER	DIST. DATE	PUBLICATION	PUB. NUMBER
-			TECHNICAL MANUAL	-
			OPERATING INSTRUCTION CHART	-
			PERFORMANCE STANDARD SHEET	-
			MAINTENANCE STANDARD BOOK	-

MAJOR UNITS

QTY	NOMENCLATURE AND NAME	OVERALL DIMENSIONS (IN)			H. D. (UNITS)	WEIGHT (LBS)
		HEIGHT	WIDTH	DEPTH		
	Radar Test Set AN/SPM-14 (XN-1)	72.0	60.0	28.0		
	consists of:					
	Control-Indicator C-3651 (XN-1)/SPM-14					
	Control-Indicator C-3652 (XN-1)/SPM-14					
	Radar Set Control C-3653 (XN-1)/SPM-14					
	Cable Storage Drawer MX-3486 (XN-1)/SPM-14					
	Accessories Storage Drawer MX-3487 (XN-1)/SPM-14					
	Signal Comparator CM-210 (XN-1)/SPM-14					
	Analog to Digital Converter CV-1150 (XN-1)/SPM-14					
	Converter-Power Supply CV-1151 (XN-1)/SPM-14					
	Oscilloscope Cover CW-577 (XN-1)/SPM-14					
	Electrical Equipment Cabinet CY-3137 (XN-1)/SPM-14					
	Decimal Time Indicator ID-916 (XN-1)/SPM-14					
	Distribution Box J-1252 (XN-1)/SPM-14					
	Junction Box J-1253 (XN-1)/SPM-14					
	Power Distribution Unit J-1254 (XN-1)/SPM-14					
	Noise Modulator MD-410 (XN-1)/SPM-14					
	Electrical Command Signals Programmer MX-3479 (XN-1)/SPM-14					
	Coaxial Test Point Selector MX-3480 (XN-1)/SPM-14					
	Test Point Selector MX-3481 (XN-1)/SPM-14					
	Test Point Selector MX-3482 (XN-1)/SPM-14					
	Power Supply PP-2967 (XN-1)/SPM-14					
	Power Supply PP-2980 (XN-1)/SPM-14					
	Digital Data Tape Printer RO-170 (XN-1)/SPM-14					
	Control Transfer Switching Unit SA-790 (XN-1)/SPM-14					
	Indicator Panel SB-1284 (XN-1)/SPM-14					
	CHANGE 61-695A					

IF ADDITIONAL EQUIPMENT OR UNITS ARE REQUIRED, 4.12 AN/SPM-14 (XN-1): 1 SOURCE

B 1 7 4 1 9

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UNCLASSIFIED
ELECTRONIC EQUIPMENT - PRELIMINARY DATA
NAVSHIPS 4457 (Rev. 9-62) (CONT'D)

NAVSHIPS 93400

DESIGNATION	ITEM NAME
AN/SPM-14(XN -1)	Radar Test Set

FUNCTIONAL DESCRIPTION: SKETCH, MFG. DIMENSIONS, ETC.

The AN/SPM-14(XN-1) is an automatic tape intelligence test system which continuously monitors and determines the operational conditions of Radar Set AN/SPS-39A. The system provides four separate modes of operation: operational test, malfunction isolation test, NARATE system self test, and manual operation. The operational test mode is used to perform both system performance monitoring during tactical operation of the radar set and periodic maintenance tests. The malfunction isolation test mode is capable of isolating faults to the smallest replaceable package in the radar set itself. The manual mode of operation has been included to give NARATE the capability of limited manual operation.

The set performs operational and maintenance tests either manually or automatically using programmed tape. It detects radar system output signals and voltages and compares detected output against programmed reference limits to provide both visual and printed GO or NO-GO test results.

It is a multiple item with a rack-type enclosure of stainless steel and aluminum with a light gray, semi-gloss finish.

Total cost including fixed fee of \$34,000.00: \$550,126.00

Source of information: Request for Nomenclature
Contract

373

4.12 AN/SPM-14(XN-1): 2

CLASSIFICATION
UNCLASSIFIED

Rev 4/10/62

CHANGE 49/61 - 695D

118

B-17876

6 July 1965
Cog Service: USN FSN:

TEST SET, TARGET CONTROL SYSTEM AN/SRM-2
Functional Class:

USA

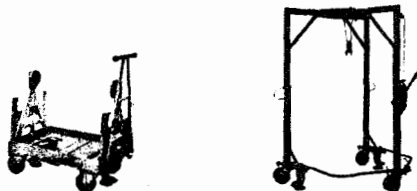
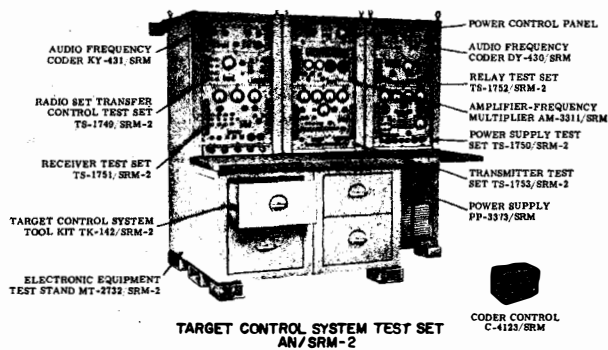
USN

USAF

TYPE CLASS:

Used by

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



TEST SET, TARGET CONTROL SYSTEM AN/SRM-2

FUNCTIONAL DESCRIPTION:

Test Set, Target Control System AN/SRM-2 provides complete testing facilities, when used with certain cables provided with the Transmitting Set Test Harness AN/URM-111A, for the individual components of the Target Control System AN/SRW-4 Series. Certain components of the System Test Set can be used to test the Target Control System Test Set AN/SRM-3.

No field changes in effect at time of preparation (20 April 1965).

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

- (1) Transmitting Set Test Harness AN/URM-111A.

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TEST SET, TARGET CONTROL SYSTEM AN/SRM-2

TECHNICAL CHARACTERISTICS:

INPUT POWER

VOLTAGES: 115 v ac ± 10%, single ph; 230 v ac ± 10%, 3 ph.

FREQUENCY: 55 to 65 cps.

TOTAL POWER CONSUMPTION: 357 W max (for 45 v ac, single ph) and 3300 W max (for 230 v ac, 3 ph).

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Set, Target Control System AN/SRM-2 includes:		51-1/2 x 74-5/8 x 75-1/4	2100
1	Audio Frequency Coder KY-431/SRM		8-3/4 x 19 x 23	60
1	Coder Control C-4123/SRM		8 x 8 x 10-1/2	9.5
1	Radio Set Transfer Control Test Set TS-1749/SRM-2		8-3/4 x 18 x 19	55
1	Receiver Test Set TS-1751/SRM-2		15-3/4 x 19 x 23	59
1	Amplifier-Frequency Multiplier AM-3311/SRM		12-1/4 x 19 x 23	75
1	Transmitter Test Set TS-1753/SRM-2		17-1/2 x 19 x 23	179
1	Audio Frequency Coder KY-430/SRM		8-3/4 x 19 x 23	75
1	Relay Test Set TS-1752/SRM-2		8-3/4 x 18 x 19	42
1	Power Supply Test Set TS-1750/SRM-2		17-1/2 x 19 x 23	80
1	Power Supply PP-3373/SRM		12-1/4 x 19 x 23	110
1	Target Control System Tool Kit TK-142/SRM-2			38
1	Electronic Equipment Test Stand MT-2732/SRM-2		51-1/2 x 74-5/8 x 75-1/4	1250
1	Portable Hoisting Unit E-42/SRM-2		41-5/16 x 50-1/2 x 74	255
1	Electronic Equipment Hoisting Beam MX-4124/SRM-2		2-3/4 x 21-3/4 x 28-3/4	25
1	Electrical Equipment Truck V-244/SRM-2		14-7/8 x 24-1/8 x 37-5/8	355

REFERENCE DATA AND LITERATURE:

NAVWEPS 16-30SRM2-1: Handbook of Operation and Service Instructions with Illustrated Parts Breakdown for Target Control System Test Set AN/SRM-2.

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TEST SET, TARGET CONTROL SYSTEM AN/SRM-2

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (4) 608QWB (1) 12AT7WA (3) 0B2WA (7) 6AU6WB (1) 5R4WGB (2) 6C4WA
(11) 5814A (1) 5727/2D21W (3) 6AHWA (5) 6AN5W (2) 6CB4 (2) 5751/2AX7
(7) 5814 (2) 5842 (1) 5670 (5) 5963 (5) 6703 (15) 6922 (5) 85092
(4) GC10D

CRYSTALS: Not required.

SEMI-CONDUCTORS: (101) 1N540 (4) 1N1614 (1) 1N3028B (8) 1N1614 (4) 1N1416
(108) 1N251 (5) 1N752A (4) 1N1124A (4) 2N297A (4) 2N335 (2) 2N526
(4) 2N1039 (1) 2N1120 (2) 1N645 (1) 1N757A (2) 1N3005B
(1) 1N3039B (39) 1N3070 (2) 1N1733 (1) 1N2954B (1) 1N3014B
(1) 10Z6.2T5

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
Babcock Electronics Corp.	Costa Mesa, California	N0w 60-0658	

926

8 December 1965
Cog Service: USN FSN:

TEST SET TARGET CONTROL SYSTEM AN/SRM-3
Functional Class:

USA

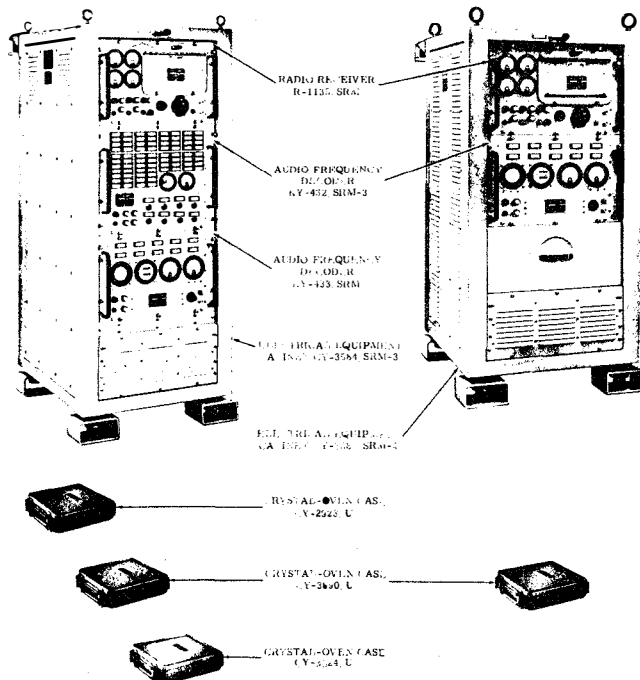
USN

USAF

TYPE CLASS:

Used by

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



TEST SET TARGET CONTROL SYSTEM AN/SRM-3

FUNCTIONAL DESCRIPTION:

The Test Set Target Control System AN/SRM-3 provides facilities to test the over-all performance of the Target Control System AN/SRW-4 (series) and the individual components therein. The AN/SRM-3 test set is capable of receiving, decoding, and displaying both fixed and rotary wing drone aircraft commands transmitted by the AN/SRW-4 (series) systems. By analyzing the test set front panel indications resulting from monitoring AN/SRW-4 (series) system transmitted signals, system maintenance personnel will be able to isolate system malfunctions to one or more system components. Isolation to individual system components and/or component parts is possible when the AN/SRM-3 test set is used in conjunction with the signal generating capabilities of the Target Control System Test Set AN/SRM-F.

No field changes in effect at time of preparation (22 October 1965).

RELATION TO OTHER EQUIPMENT:

The AN/SRM-3 is used with, but is not a part of, the AN/SRW-4 series system rotary and

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TEST SET TARGET CONTROL SYSTEM AN/SRM-3

fixed wing controlled aircraft. It is common to "A", "C", and "D" maintenance levels. It provides facilities for examining and displaying all transmitted or artificially generated control functions of the AN/SRW-4 Target Control Systems.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

TECHNICAL CHARACTERISTICS:

RADIO RECEIVER R-1135/SRM

INPUT POWER

VOLTAGE: 115 v ac.

FREQUENCY: 55 to 65 cps.

TOTAL POWER CONSUMPTION: 250 watts, max.

RF SECTION

SENSITIVITY: 5 to 100,000 uv under standard conditions.

FREQUENCY MODULATION: 300 kc.

FREQUENCY RANGE: 406 to 549.5 mc.

FREQUENCY STABILITY: \pm 0.005 percent.

PRESET RF FREQUENCIES: Six selected from crystals supplied.

IMAGE RESPONSE: 60 db less than desired signal.

IF FREQUENCY: 33.5 mc.

OUTPUT

AUDIO FREQUENCY RANGE: 300 cps to 100 kc.

OUTPUT IMPEDANCE: 2 outputs nominal 500 ohms; 1 output nominal 50 ohms.

AUDIO FREQUENCY DECODER KY-432/SRM-3

INPUT POWER

VOLTAGE: 115 ac.

FREQUENCY: 60 cps.

TOTAL POWER CONSUMPTION: 150 watts.

SIGNAL INPUT

IMPEDANCE: 5000 ohms.

AMPLITUDE (MIN): 0.125 v rms.

AUDIO FREQUENCY RANGE: 7.5 to 73.95 kc (IRIG Channel 1-20).

OUTPUT

INDICATING LAMPS: 76.

METERS: 2.

AUDIO FREQUENCY DECODER KY-433/SRM

INPUT POWER

VOLTAGE: 115 v ac.

FREQUENCY: 60 cps.

TOTAL POWER CONSUMPTION: 120 watts.

SIGNAL INPUT

IMPEDANCE: 3500 ohms.

INPUT AMPLITUDE (MIN): 1.0 v rms.

FREQUENCIES: 43.68 kc, 47.68 kc.

OUTPUT

INDICATING LAMPS: 10.

METERS: 2.

MISCELLANEOUS: Heading and Altitude.

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TEST SET TARGET CONTROL SYSTEM AN/SRM-3

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Set Target Control System AN/SRM-3 includes:		24-5/8 x 28-7/8 x 55-3/32	708
1	Radio Receiver R-1135/SRM		12-7/32 x 19-1/64 x 23-27/32	80
1	Audio Frequency Decoder KY-432/SRM-3		15-25/32 x 19-1/16 x 23-15/16	110
1	Audio Frequency Decoder KY-433/SRM		10-5/8 x 19-1/16 x 23-5/8	85
1	Electrical Equipment Cabinet CY-3584-3		24-5/8 x 27-7/8 x 55-3/32	398
1	Crystal Oven Case CY-2923/U		2-7/8 x 9-13/32 x 10-9/32	5
1	Crystal Oven Case CY-2924/U		2-7/8 x 9-13/32 x 10-9/32	5
1	Crystal Oven Case CY-3690/SRM		2-7/8 x 9-13/32 x 10-9/32	5

REFERENCE DATA AND LITERATURE:

NAVWEPS 16-30SRM3-1: Handbook Operation and Service Instructions with Illustrated Parts Breakdown for Target Control System Test Set AN/SRM-3.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (1) 5722 (2) 5726 (1) 5751 (18) 5814A (1) 5842 (2) 6080WB (1) 7077
 (1) 5725/6AS6W (1) 6AH6WA (1) 6AL5W (4) 6AU6WB (5) 6CB6 (5) 12AT7WA
 (3) 0B2WA

CRYSTALS: Not available.

SEMI-CONDUCTORS: (1) 1N82A (1) 1N87 (37) 1N540 (118) 1N645 (5) 1N752A (12) 1N1614
 (2) 1N3028 (9) 2N297A (4) 2N335 (14) 2N526 (12) 2N1039 (3) 2N1120

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1		718

PROCUREMENT DATA

PROCURING SERVICE: USN
 SPEC &/OR DWG:

DESIGN COG: USN, BuWeps

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Babcock Electronics Corp. Type No. BCRD-10 Part No. 110889	Costa Mesa, Calif.	NOw 60-0658f NOw 60-8018f	

4.12 AN/SRM-3: 3

379

8 December 1965
Cog Service: USN FSN:

TEST SET TARGET CONTROL SYSTEM AN/SRM-4
Functional Class:

USA

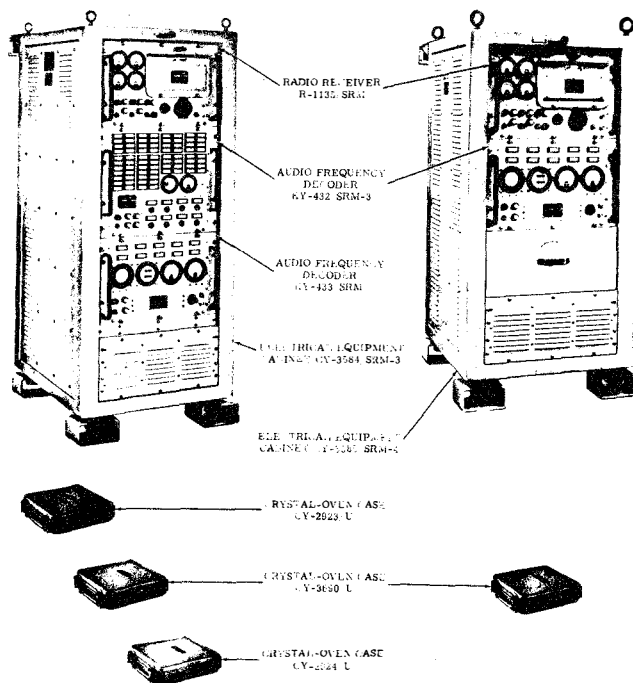
USN

USAF

TYPE CLASS:

Used by

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



TEST SET TARGET CONTROL SYSTEM AN/SRM-4

FUNCTIONAL DESCRIPTION:

The Test Set Target Control System AN/SRM-4 provides the facilities to test the over-all performance of the Target Control System AN/SRW-4B(DASH). The AN/SRM-4 test set is capable of receiving, decoding and displaying rotary wing drone aircraft commands transmitted by the AN/SRW-4B(DASH) system. By analyzing the test set front panel indications resulting from monitoring AN/SRW-4B(DASH) system transmitted signals, system maintenance personnel will be able to isolate system malfunctions to one or more system components and/or component parts is possible when the AN/SRM-4 test set is used in conjunction with the signal generating capabilities of the Target Control System Test Set AN/SRM-6.

No field changes in effect at time of preparation (22 October 1965).

RELATION TO OTHER EQUIPMENT:

The AN/SRM-4 is used with, but is not a part of, the AN/SRW-4 Series System rotary wing

TEST SET TARGET CONTROL SYSTEM AN/SRM-4

controlled aircraft which is intended for use at "D" level maintenance locations aboard DASH destroyers. Provides facilities for examining and displaying all transmitted control functions of the DASH Control System.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

TECHNICAL CHARACTERISTICS:

RADIO RECEIVER R-1135/SRM

INPUT POWER

VOLTAGE: 115 v ac.

FREQUENCY: 55 to 65 cps.

TOTAL POWER CONSUMPTION: 250 watts, max.

RF SECTION

SENSITIVITY: 5 to 100,000 uv under standard conditions.

FREQUENCY MODULATION: 300 kc.

FREQUENCY RANGE: 406 to 549.5 mc.

FREQUENCY STABILITY: ± 0.005 percent.

PRESET RF FREQUENCIES: Six selected from crystals supplied.

IMAGE RESPONSE: 60 db less than desired signal.

IR FREQUENCY: 33.5 mc.

OUTPUT

AUDIO FREQUENCY RANGE: 300 cps to 100 kc.

OUTPUT IMPEDANCE: 2 outputs nominal 500 ohms; 1 output nominal 50 ohms.

AUDIO FREQUENCY DECODER KY-432/SRM-3.

INPUT POWER

VOLTAGE: 115 v ac.

FREQUENCY: 60 cps.

TOTAL POWER CONSUMPTION: 150 watts.

SIGNAL INPUT

IMPEDANCE: 5000 ohms.

AMPLITUDE (MIN): 0.125 v rms.

AUDIO FREQUENCY RANGE: 7.5 to 73.95 kc (IRIG Channel 1-20).

OUTPUT

INDICATING LAMPS: 76.

METERS: 2.

AUDIO FREQUENCY DECODER KY-433/SRM

INPUT POWER

VOLTAGE: 115 v ac.

FREQUENCY: 60 cps.

TOTAL POWER CONSUMPTION: 120 watts.

SIGNAL INPUT

IMPEDANCE: 3500 ohms.

INPUT AMPLITUDE (MIN): 1.0 v rms.

FREQUENCIES: 43.68 kc, 47.68 kc.

OUTPUT

INDICATING LAMPS: 10.

METERS: 2.

MISCELLANEOUS: Heading and Altitude.

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TEST SET TARGET CONTROL SYSTEM AN/SRM-4

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Set Target Control System AN/SRM-4 includes:		24-5/8 x 28-7/8 x 46-1/2	593
1	Radio Receiver R-1135/SRM		12-7/32 x 19-1/64 x 23-27/32	80
1	Audio Frequency Decoder KY-432/SRM		15-25/32 x 19-1/16 x 23-15/16	110
1	Electrical Equipment Cabinet CY-3585/SRM-4		24-5/8 x 27-7/8 x 46-1/2	378
1	Crystal Oven Case CY-3690/SRM		2-7/8 x 9-13/32 x 10-9/32	5

REFERENCE DATA AND LITERATURE:

NAVWEPS 16-30SRM-1: Handbook Operation and Service Instructions with Illustrated Parts Breakdown for Target Control System Test Set AN/SRM-4.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (1) 5722 (2) 5726 (1) 5751 (18) 5814A (2) 6080WB (1) 5842 (1) 7077
 (1) 5725/6AS6W (1) 6AH6WA (1) 6AL5W (4) 6AU6WB (5) 6CB6 (5) 12AT7WA
 (3) 0B2WA

CRYSTALS: Not available.

SEMI-CONDUCTORS: (1) 1N82A (1) 1N87 (37) 1N540 (118) 1N645 (5) 1N752A (12) 1N1614
 (2) 1N3028 (9) 2N297A (4) 2N335 (14) 2N526 (12) 2N1039 (3) 2N1120

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1		603

PROCUREMENT DATA

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

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Babcock Electronics Corp. Type No. BCRD-9 Part No. 110885	Costa Mesa, Calif.	NOW 60-0658f NOW 60-8018f	

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12 October 1964

Cog Service: USN FSN:

TEST SET, TRANSMITTER CONTROL AN/SRM-7

Functional Class:

USA

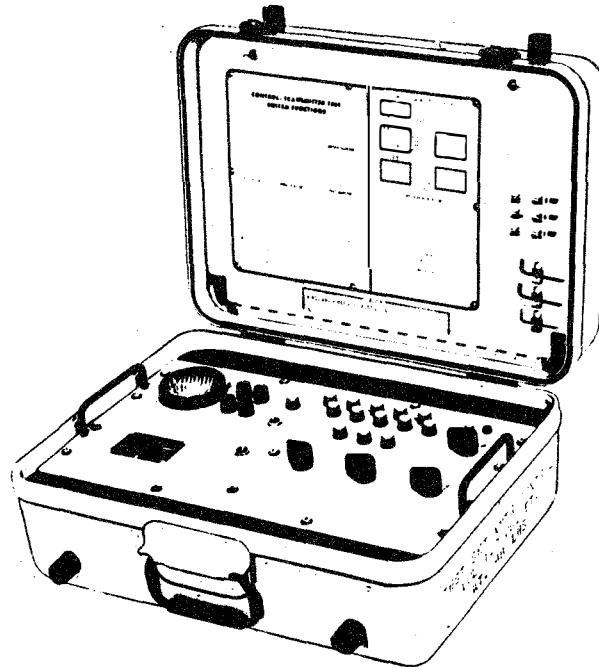
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Gyrodyne Co. of America, (10618).



TEST SET, TRANSMITTER CONTROL AN/SRM-7

FUNCTIONAL DESCRIPTION:

Test Set, Transmitter Control AN/SRM-7 is used to isolate malfunctions within Transmitter Control C-3314/SRW-4C and Transmitter Control C-3313/SRW-4C.

No field changes in effect at time of preparation (7 October 1964).

RELATION TO OTHER EQUIPMENT:

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Transmitter Control C-3314/SRW-4C; (1) Transmitter Control C-3313/SRW-4C.

AN/SRM-7 TEST SET, TRANSMITTER CONTROL

TECHNICAL CHARACTERISTICS:

POWER REQUIREMENTS: 115 ± 11.5 v ac, 55 to 65 cps, 45 W (nominal) 27.3 v dc.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Set, Transmitter Control AN/SRM-7		* 11-1/2 x 15-3/4 x 20 ** 11 x 16-1/2 x 22	45 50

* Fiberglass Case Dimensions and Weight.

** Aluminum Case Dimensions and Weight.

REFERENCE DATA AND LITERATURE:

NAVWEPS 16-30SRM7-1: Handbook of Operation, Service and Overhaul Instructions with Illustrated Parts Breakdown for Transmitter Control Test Set AN/SRM-7.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Not required.

CRYSTALS: Not required.

SEMI-CONDUCTORS: (4) 1N538 (3) 1N963 (3B) 1N483B (4) 1N751A (4) 1N457 (31) 2N526

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
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PROCUREMENT DATA

PROCURING SERVICE: USN

DESIGN COG: USN, BuWeps

SPEC &/OR DWG:

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Gyrodyne Co. of America	St. James, New York	NOW(A) 63-0251-ci	

20 April 1965

Cog. Service: USN FSN:

TEST SET DECODER AN/SRM-9

Functional Class:

USA

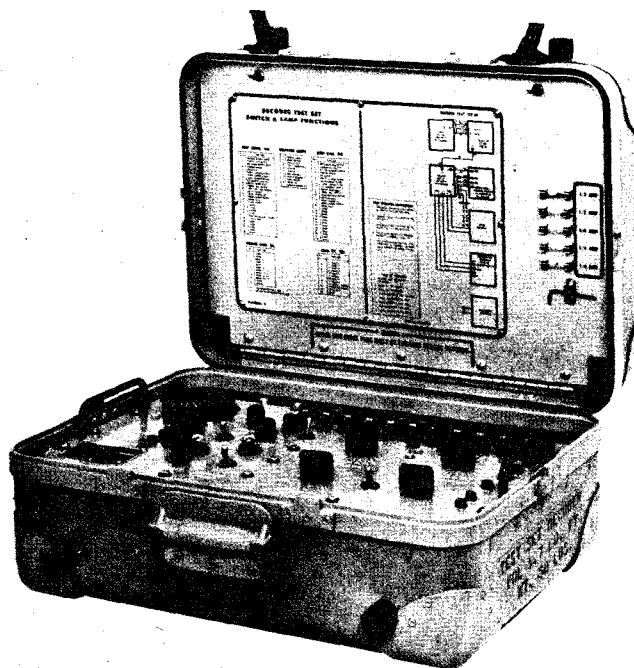
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Gyrodyne Company of America, (10618).



TEST SET DECODER AN/SRM-9

FUNCTIONAL DESCRIPTION:

Test Set Decoder AN/SRM-9 is special support equipment for the decoder component of the Dash Weapon System Model QH-50C Drone. The decoder deciphers a digital message signal from shipboard equipment and provides output control signals for the drone flight control equipment. Details pertaining to the decoder are contained in NAVWEPS 01-150DHB-2-5. The test set is a portable unit, housed in a lightweight transit case and is used to check the operation of the decoder, and to troubleshoot for malfunctions. The test set is used in conjunction with the shipboard coder component (Audio Frequency Coder KY-342/SRW-4C), associated test set, and external oscilloscope, and a vacuum tube voltmeter (VTVM).

No field changes in effect at time of preparation (12 April 1965).

RELATION TO OTHER EQUIPMENT: None.

TEST SET DECODER AN/SRM-9

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Vacuum Tube Voltmeter ME-30A/U; (1) Multimeter AN/PSM-4 or 48; (1) Oscilloscope H02-170A; (1) Audio Oscillator TS-382C/U; (1) Radio Transformer Model PT-4 (Gertsch); (1) Impedance Bridge ZM-11A/U; (1) Insulation Test Set AN/PSM-2; (1) Transistor Tester TS-1100/U.

TECHNICAL CHARACTERISTICS:

POWER REQUIREMENTS: 115 v ac, 60 cps, single ph (three wires), for test set 115 v ac, 400 cps, three ph (four wires), for decoder.

POWER SUPPLY VOLTAGES: 115 v ac (variable from 95 to 115 v ac) three ph 400 cps, (output to decoder); 26 v ac, 400 cps, single ph (output to decoder analog ref transformer); - 28 v dc (for use in test set).

INPUT CHARACTERISTICS

INPUT SIGNAL: Subcarrier signal from coder.

INPUT SIGNAL LEVEL: 1 v rms (min) to 1.5 v rms (max).

INPUT SIGNAL SOURCE IMPEDANCE: 560 ohms.

INPUT IMPEDANCE: 560 ohms.

OUTPUT SIGNAL LEVEL: 5 v rms.

OUTPUT IMPEDANCE: 470 ohms.

ANALOG REFERENCE INPUT: 7.5 v rms, nom from either end to common center tap of analog ref transformer in decoder. In-ph or out of ph w/transformer primary depending on end of transformer secondary selected.

ANALOG INPUT CHANNELS

SPARE: 8 bits, 0 to 7.5 v rms, out of ph.

HEADING: 8 bits, 1.9 to 5.6 v rms in-ph. Bit 1 used to operate heading on-off relay (indicator lamp no. 1).

ALTITUDE CHANNEL-1: (Analog Chan switch position-2) 10 bits, 1.4 v rms; out of ph to 6.1 v rms in-ph.

ALTITUDE CHANNEL-2: (Analog Chan switch position-5) 10 bits, 0 to 7.5 v rms in ph.

SPARE: 2 bits, 0 to 7.5 v rms, out of ph.

LATERAL TRIM: 7 bits, 0 to 7.5 v rms, ph reversible. Bit 1 used to control ph.

AIRSPEED: 8 bits, 0 to 7.5 v rms, ph reversible. Bit 1 used to control ph.

ON-OFF INPUTS: Switch closures from double pole, double throw relays in decoder. The following inputs are provided and displayed on indicator lights; CABLE RELEASE; ENGINE OFF; Arm Weapons; Release Weapon No. 1; Release Weapon No. 2; Cruise/Maneuver; Heading Phase (+ or -); Carrier Loss; Low Voltage; Spare 1; Spare 2.

DECODER TEST POINTS: A cable interconnects various test points at the decoder front panel through the test set to oscilloscope terminals.

FUNCTIONAL CHARACTERISTICS: Provision for varying decoder input source voltage to (1) check operation of low voltage control circuit in decoder, and (2) look out low voltage control circuit and check operation of decoder below minimum allowable input source voltage.

DECODER SIGNAL GAIN: Provision for varying decoder input signal level to check operation at and below min allowable signal level and for operation of carrier loss detector circuit.

ON-OFF COMMAND SIGNALS: Colored indicator lights on test set control panel indicate state of command signals from decoder.

ANALOG SIGNALS: Provision for selecting any analog channel and any bit in channel to compare its analog voltage with a known reference. Error noted on external vacuum tube voltmeter.

DECODER TROUBLE SHOOTING: Provision for trouble shooting decoder with external oscilloscope. Test set selects test point for viewing on oscilloscope. Test set also selects decoder sync signal for oscilloscope (if desired).

TEST SET DECODER AN/SRM-9

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Set, Decoder AN/SRM-9 includes:		*12-1/16 x 16-19/64 x 19-15/16	48
1	Interconnecting Cable W1		**11-1/2 x 15-3/4 x 20	53
1	Interconnecting Cable W2			

*Fiberglass Case dimensions and weight

**Metal Case dimensions and weight

REFERENCE DATA AND LITERATURE:

- NAVWEPS 17-15KP-1: Handbook of Operation and Service Instructions with Illustrated Parts Breakdown Altitude Control Test Set AN/ASM-141.
- NAVWEPS 17-15KP-2: Handbook of Operation, Service, and Overhaul Instructions with Illustrated Parts Breakdown Gyroscope Test Set AN/ASM-117.
- NAVWEPS 17-15KP-3: Handbook of Operation, Service and Overhaul Instructions with Illustrated Parts Breakdown Altitude Controller Tester (VPT-10G).
- NAVWEPS 17-15KP-5: Handbook of Operation, Service and Overhaul Instructions with Illustrated Parts Breakdown Electronic Control Amplifier Test Set AN/ASM-104.
- NAVWEPS 17-15KP-6: Handbook of Operation, Service and Overhaul Instructions with Illustrated Parts Breakdown Automatic Flight Control Analyzer AN/ASM-103.
- NAVWEPS 17-15KP-7: Handbook of Operation, Service and Overhaul Instructions with Illustrated Parts Breakdown Electronic Control, Amplifier Test Set AN/ASM-107.
- NAVWEPS 17-15KP-8: Handbook of Operation, Service and Overhaul Instructions with Illustrated Parts Breakdown Electronic Control, Amplifier Test Set AN/ASM-108.
- NAVWEPS 17-15KP-9: Handbook of Operation and Overhaul Instructions with Illustrated Parts Breakdown Control-Monitor Test Set AN/ASM-106.
- NAVWEPS 17-15KP-10: Handbook of Operation, Service and Overhaul Instructions with Illustrated Parts Breakdown Control-Monitor C-4298/ASW-20 with Shipboard Auxiliary Relay Box.
- NAVWEPS 17-15KP-11: Handbook of Operation, Service and Overhaul Instructions with Illustrated Parts Breakdown Motor Generator PU-559/U.
- NAVWEPS 16-30SRM12-1: Handbook of Operation, Service and Overhaul Instructions with Illustrated Parts Breakdown Decoder Subassembly Test Set AN/SRM-12.
- NAVWEPS 16-45-91: Handbook of Operation and Service, Instructions with Illustrated Parts Breakdown Receiver Test Set AN/ARM-77.
- NAVWEPS 16-30SRM9-1: Handbook Operation, Service and Overhaul Instructions with Illustrated Parts Breakdown Decoder Test Set AN/SRM-9.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Not required.

CRYSTALS: Not required.

SEMI-CONDUCTORS: (4) 1N538 (4) 2N526

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	5.2	55

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TEST SET DECODER AN/SRM-9

PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG:

DESIGN COG: USN, BuWeps

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Gyrodyne Company of America Pt No. 23025B02	St. James, Long Island, N. Y.	NOw(A) 63-0251-ci	

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26 April 1965

TEST SET, TRANSMITTER CONTROL SUBASSEMBLY AN/SRM-10

Cog Service: USN FSN:

Functional Class:

USA

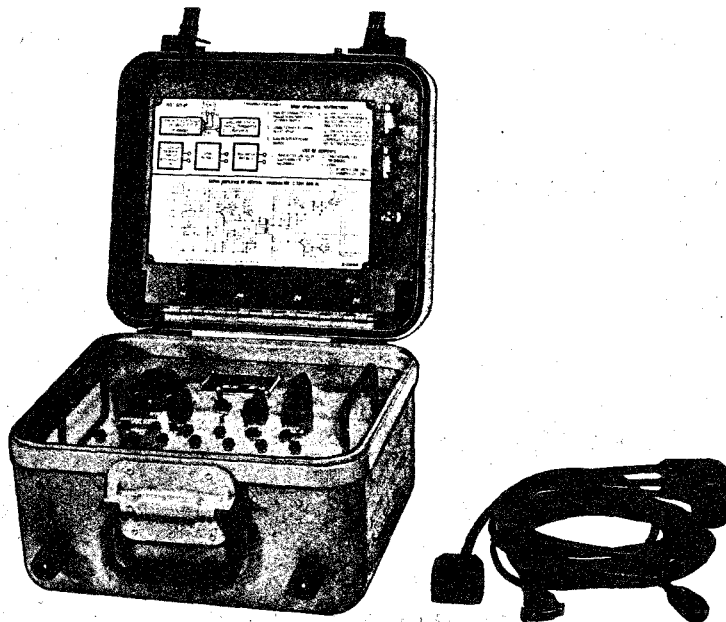
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Gyrodyne Company of America, (10618).



TEST SET, TRANSMITTER CONTROL SUBASSEMBLY AN/SRM-10

FUNCTIONAL DESCRIPTION:

Test Set, Transmitter Control Subassembly AN/SRM-10 is used to localize malfunctions in the two servo-amplifier subassemblies of Transmitter Control C-3314/SRW-4C after the faulty subassembly has been isolated with Transmitter Control Test Set AN/SRM-7.

No field changes in effect at time of preparation (18 April 1965).

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

- (1) Transmitter Control C-3314/SRW-4C.

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TEST SET, TRANSMITTER CONTROL SUBASSEMBLY AN/SRM-10

TECHNICAL CHARACTERISTICS:

POWER REQUIREMENTS: 115 ± 11 v ac, 60 cps, single ph, 4.8 W 48 ma; 28 v dc, 7 W 25 ma.
POWER FACTOR: 0.96.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Set, Transmitter Control Subassembly AN/SRM-10		9-9/64 x 10-13/64 x 12-11/16	16

REFERENCE DATA AND LITERATURE:

NAVWEPS 16-30SRM10-1: Handbook of Operation, Service and Overhaul Instructions with Illustrated Parts Breakdown for Transmitter Control Subassembly Test Set AN/SRM-10.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Not required.

CRYSTALS: Not required.

SEMI-CONDUCTORS: (1) 1N2984B.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
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PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG:

DESIGN COG: USN, BuWeps

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Gyrodyne Company of America	St. James, New York	NOw(A) 63-0251-ci	

062

22 October 1964

TEST SET, DECODER SUBASSEMBLY AN/SRM-12

Cog Service: USN FSN:

Functional Class:

USA

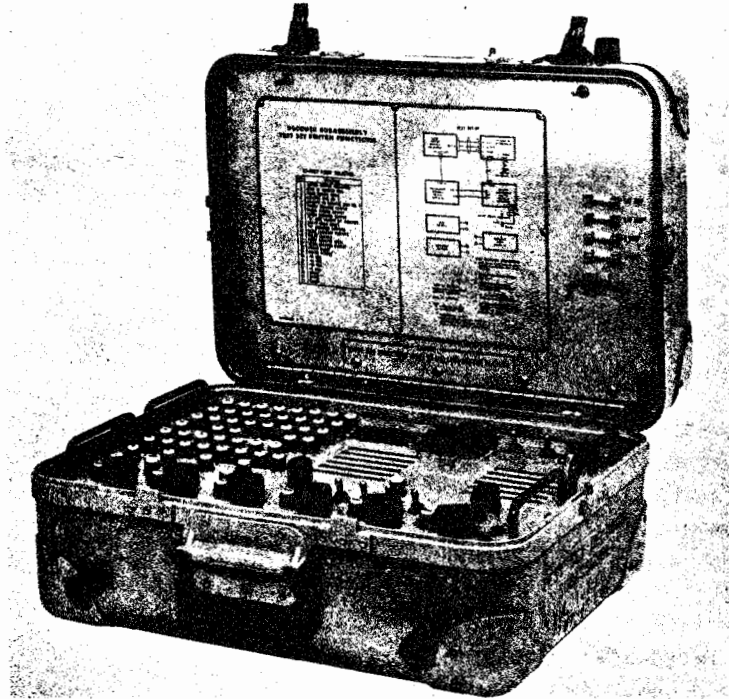
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Gyrodyne Co., of America, (10618).



TEST SET, DECODER SUBASSEMBLY AN/SRM-12

FUNCTIONAL DESCRIPTION:

Test Set, Decoder Subassembly AN/SRM-12 is a lightweight, portable unit used to test and trouble shoot malfunctioning decoder printed-circuit board subassemblies. The test set also is used to isolate malfunctions within itself. The six subassemblies of the test set are called standard boards throughout this handbook. Suspected malfunctioning standard boards can be removed from the internal circuits of the test set, inserted into the test board receptacles on the front of the test set control panel, and tested for normal or abnormal operation exactly as subassemblies from the decoder are tested. The decoder subassemblies and the subassemblies of the test set are identical, function in the same manner, and are interchangeable. For operation, the test set requires as auxiliary equipment a coder (Audio Frequency KY-342/SRW-4C and a Coder Test Set AN/SRM-8 to generate and control code inputs into the test set). Standard test equipment (Oscilloscope Frequency Meter, Multimeter, and vtvm) is required to measure voltages, resistances and wave forms.

No field changes in effect at time of preparation (12 October 1964).

AN/SRM-12 TEST SET, DECODER SUBASSEMBLY

RELATION TO OTHER EQUIPMENT:

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Multimeter AN/PSM-4B; (1) AC-VTVM AN/USM-116; (1) DC-VTVM HP412; (1) Oscilloscope AN/USM-117 or AN/USM-105A or equivalent; (1) Frequency Meter AN/USM-26; (1) Vacuum Tube Voltmeter (vtvm) TS-505D/U; (1) Vacuum Tube Voltmeter ME-26B/U; (1) Connector Adapter (6 mc) UG-274A/U; (1) Insulation Test Set AN/PSM-2; (1) Impedance Bridge TS-460/U; (1) Transistor Tester TS-1100/U.

TECHNICAL CHARACTERISTICS:

POWER REQUIREMENTS: 105 to 127 v ac, three ph, 380 to 420 cps, y connected; 175 v - amp max, 38.5 W ac max.

POWER FACTOR: 0.92.

PHASE A: 100 ma, 11.3 W.

PHASE B: 150 ma, 15.6 W.

PHASE C: 103 ma, 11.6 W. 2.5 amp at 28 v dc, 80 W max.

INTERNAL SUPPLY VOLTAGES: - 18 v dc; - 14 v dc; + 6 v dc + 18 v dc.

INPUT CHARACTERISTICS

MODULATION CHARACTERISTICS: FSK modulation.

SUBCARRIER CENTER FREQUENCY: 45, 680 cps.

FM SUBCARRIER FREQUENCIES: 43, 680 cps (digit one) 47, 680 cps (digit zero).

TYPE OF DETECTION: FM discriminator.

SUBCARRIER PASS BAND: 4 kc.

INPUT THRESHOLD LEVEL: 1 v rms.

INPUT SIGNAL LEVEL: 1 to 3 v rms.

INPUT SIGNAL SOURCE IMPEDANCE: 500 ohms nom.

INPUT IMPEDANCE: 1000 ohms nom.

OUTPUT CHARACTERISTICS

WORD INDICATOR LAMPS: Word indicator lamps illuminate to indicate operation of word circuits in the test set.

NOTE: For individual numbers, ref designations and functions (refer to paragraph 4-3).

LOSS OF CARRIER INDICATOR LAMP: Indicates that good signal is not being received.

NOTE: For ref designations and function of loss of carrier indicator lamp (refer to paragraph (4-3)).

OSCILLATOR CHARACTERISTICS

OSCILLATOR TYPE: Xtal, free running.

FREQUENCY: 16 kc.

FUNCTIONAL CHARACTERISTICS

TIMING: 16 kc xtal oscillator counted down to 1 kc clock freq (bit rate).

BIT WIDTH: 1 ms.

ERROR PROTECTION: Protection against jamming, erroneous signals, and noise provided by preset gates for first two words in ea frame and by an odd parity check over ea word (9 bits).

HIGH NOISE PERFORMANCE: W/A signal to noise ratio of + 13 db at the output of the band-pass filter (FL-1), and a white noise spectrum, decoder subassembly tester provides correct response to a min of 95% of all words received and does not produce an

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incorrect response to more than 0.1% of all words received.

DECODER SUBASSEMBLY TEST SET RESPONSE TIME: After receiving an input command change, corresponding output voltage changes to commanded value within 10 ms. For altitude command, information is contained in two words (Words 5 and 6), and response time is 10 ms for ea word.

CARRIER LOSS OUTPUT TO INDICATOR LAMP: A carrier loss output is provided by a relay. Carrier loss lamp is illuminated whenever good signal is not being received.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Set, Decoder Subassembly AN/SRM-12 includes:		12 x 18 x 23	45
1	Special Purpose Electrical Branched, Decoder Sub- assembly Test Set, Cable Assembly W1			

REFERENCE DATA AND LITERATURE:

- NAVWEPS 16-30SRM12-1: Handbook for Operation, Service and Overhaul Instructions with illustrated Parts Breakdown Decoder Subassembly Test Set AN/SRM-12, Part No. 01-25000B01.
- NAVWEPS 17-15KP-1: Handbook of Operation and Service Instructions with Illustrated Parts Breakdown Altitude Control Test Set AN/ASM-141.
- NAVWEPS 17-15KP-2: Handbook of Operation, Service and Overhaul Instructions with Illustrated Parts Breakdown Gyroscope Test Set AN/ASM-117.
- NAVWEPS 17-15KP-3: Handbook of Operation, Service and Overhaul Instructions with Illustrated Parts Breakdown Altitude Controller Test Set PN VPT-10G-ST11414.
- NAVWEPS 17-15KP-5: Handbook of Operation, Service and Overhaul Instructions with Illustrated Parts Breakdown Electronic Control Amplifier Test Set AN/ASM-104.
- NAVWEPS 17-15KP-6: Handbook of Operation, Service and Overhaul Instructions with Illustrated Parts Breakdown Automatic Flight Control Analyzer AN/ASM-103.
- NAVWEPS 17-15KP-7: Handbook of Operation, Service and Overhaul Instructions with Illustrated Parts Breakdown Electronic Control Amplifier Test Set AN/ASM-107.
- NAVWEPS 17-15KP-8: Handbook of Operation, Service and Overhaul Instructions with Illustrated Parts Breakdown Electronic Control Amplifier Test Set AN/ASM-108.
- NAVWEPS 17-15KP-9: Handbook of Operation, Service and Overhaul Instructions with Illustrated Parts Breakdown Control-Monitor Test Set AN/ASM-106.
- NAVWEPS 17-15KP-10: Handbook of Operation, Service and Overhaul Instructions with illustrated Parts Breakdown Control-Monitor C-4298/ASW-20 with Shipboard Auxiliary Relay Box, Special Purpose Electrical Cable Assemblies and Perlaunch Hold down Assemblies.
- NAVWEPS 17-15KP-11: Handbook of Operation, Service and Overhaul Instructions with illustrated parts Breakdown Motor Generator PU-559/U.
- NAVWEPS 16-30SRM9-1: Handbook of Operation, Service and Overhaul Instructions with illustrated Parts Breakdown Decoder Test Set AN/SRM-9.
- NAVWEPS 16-45-91: Handbook of Operation and Service Instructions with illustrated Parts Breakdown Receiver Test Set AN/ARM-77.

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AN/SRM-12 TEST SET, DECODER SUBASSEMBLY

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Not required.

CRYSTALS: Not required.

SEMI-CONDUCTORS: (146) 1N645 (229) 1N659 (1) 1N754A (2) 1N968B (1) 1/4M2.4Z5
(8) 1/4M14Z5 (10) 2N335 (130) 2N652A

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	7.2	60

PROCUREMENT DATA

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

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Gyrodyne Co. of America	St. James, Long Island, N. Y.	NOw(A)63-0251-ci	

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8 December 1965
Cog Service: USN

FSN:

TEST SET ELECTRONIC CIRCUIT PLUG-IN-UNIT AN/SRM-13
Functional Class:

USA

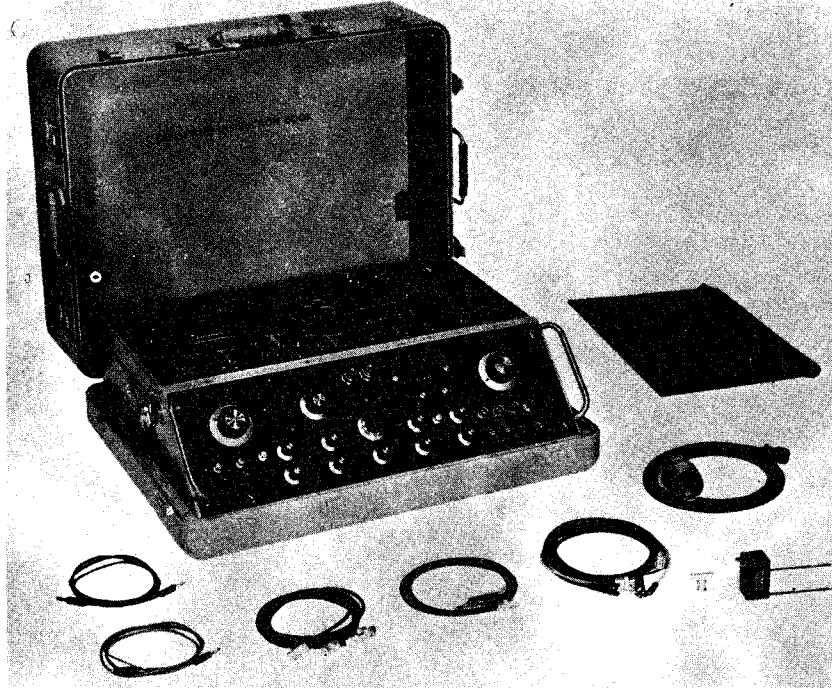
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Collins Radio Co., (95104).



TEST SET ELECTRONIC CIRCUIT PLUG-IN-UNIT AN/SRM-13

FUNCTIONAL DESCRIPTION:

Test Set Electronic Circuit Plug-In-Unit AN/SRM-13 is a case mounted, portable test set which is capable of performing go-on-go tests to 22 individual communications Central AN/SRC-16 subassemblies.

No field changes in effect at time of preparation (21 October 1965).

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

TECHNICAL CHARACTERISTICS:

POWER SUPPLY

INPUT: 115 v, 400 cps, 3 ph.

TEST SET ELECTRONIC CIRCUIT PLUG-IN-UNIT AN/SRM-13

OUTPUT: 6.3 v 400 cps; 26 v 400 cps; 18 v dc, 26 v dc, 130 v dc; 250 v dc.
 PERMEABILITY TUNED OSCILLATOR
 OUTPUT: 1840 to 1860 kc signal.
 FREQUENCY CONVERTER
 RANGE: 90 to 110 kc; 490 to 510 kc.
 SIGNAL INPUTS: 1840 to 1860 kc, 3 mc, 8.5 mc, and 17.5 mc.
 MC FREQUENCY STABILIZER
 INPUT: 500 kc, 8.5 mc to 16 mc and 17.5 mc.
 OUTPUT: Two dc tuning voltages; 8.5 to 16 mc input and 17.5 mc input.
 VARIABLE FREQUENCY OSCILLATOR
 INPUT: 10 v dc bias voltage, 18 v dc, and variable freq oscillator dc control voltage.
 OUTPUT: Varies 3.500 to 2.501 mc in 1-kc steps.
 FREQUENCY DIVIDER
 INPUT: 18 v dc and 100-kc signal.
 OUTPUT: 10 kc pulse and a 1 kc spectrum centered around 550 kc.
 RF OSCILLATOR
 INPUT: 28 v and 18 v dc.
 OUTPUT: Two 500-kc signal and a 100-kc signal.
 RF OSCILLATOR ASSEMBLY
 INPUTS: 130 v dc; 8.5 to 16 mc dc control signal and 17.5 mc dc control signal.
 OUTPUT: 8.5 - to 16 - mc signal and 17.5 mc signal.
 AMPLIFIER DETECTOR MIXER
 INPUT: 26 v dc a 500-kc signal, a 501-kc signal and an audio signal.

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MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Set Electronic Circuit Plug-in Unit AN/ARM-13 includes:		10-7/8 x 20-1/4 x 26	83
1	Electric Power Cable Assy CX-8969/SRM		72 lg	
2	Electrical Special Purpose Cable Assy		48 lg	
2	Radio Frequency Cable Assy		48 lg	
3	Branch Radio Frequency Cable Assy		48 lg	
1	Technical Manual NAVSHIPS 95757(A)			
1	Tee Adapter UG-274B/II			
1	Neutralizing Detector			
3	Plastic Case			

REFERENCE DATA AND LITERATURE:

NAVSHIPS 95757: Technical Manual for Electronic Circuit Plug-in-Unit Test Set AN/SRM-13.

TEST SET ELECTRONIC CIRCUIT PLUG-IN-UNIT AN/SRM-13

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (1) 6U8A (1) 6688 (2) 5749/6BA6W (2) 6AH6WA

CRYSTALS: Not required.

SEMI-CONDUCTORS: (2) 2N498 (1) 2N1595 (4) 1N1124 (1) 2N1039 (6) 1N1693 (1) 2N333
(5) 1N198 (4) 2N375 (1) 1N3024B (2) 2N404 (3) 1N457 (2) 2N458
(7) 1N645 (1) 2N491 (12) 1N649 (1) 2N498 (3) 1N691 (4) 2N526
(1) 1N718 (2) 2N697 (2) 1N963B (5) 2N706 (1) 1N965B (2) 2N1184

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
Collins Radio Company	Dallas, Texas	Nobsr 89085	

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8 December 1965
Cog Service: USN FSN:

TEST SET ELECTRONIC CIRCUIT PLUG-IN UNIT AN/SRM-14
Functional Class:

USA

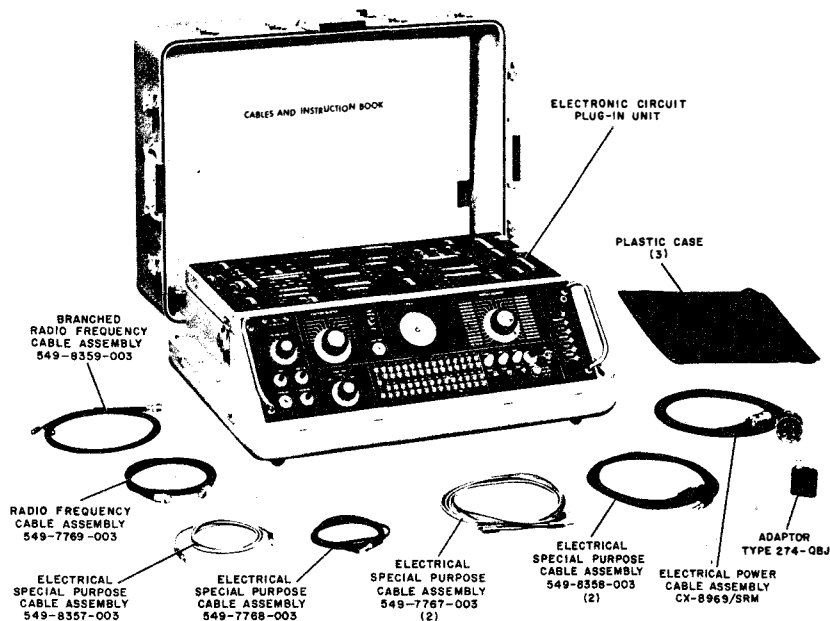
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Collins Radio Company, (95104).



TEST SET ELECTRONIC CIRCUIT PLUG-IN UNIT AN/SRM-14

FUNCTIONAL DESCRIPTION:

The Test Set Electronic Circuit Plug-In Unit AN/SRM-14 is a case mounted, portable test set which is capable of performing go-no-go tests to twenty six individual Communications Central AN/SRC-16 subassemblies.

No field changes in effect at time of preparation (25 October 1965).

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

TECHNICAL CHARACTERISTICS:

POWER SUPPLY A1: Requires an input voltage of 115 v, 400 cps 3 μ n delta connected and produces the following outputs: (1) - 5.5 v dc; (2) - 9.0 v dc; (3) 5.5 v dc; (4) 9.0 v dc;

4.12 AN/SRM-14: 1

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TEST SET ELECTRONIC CIRCUIT PLUG-IN UNIT AN/SRM-14

(5) 28 v dc (non filtered); (6) 28 v dc (filtered).

The - 9 - and 9 - volt dc outputs cannot be obtained simultaneously with the - 5 - 5 - volt dc outputs.

POWER SUPPLY A2: The power supply requires an input voltage of 115 v, 400 cps, 3 phase and produces an output voltage variable from 0 to + 30 volts dc. The output voltage of the power supply is varied by VOLTAGE ADJUST control T6. The output voltage can be monitored at 28 v dc.

COMPARATOR-OSCILLATOR A3: The AF Comparator-Oscillator contains an audio oscillator and a frequency comparator. The audio oscillator produces an output frequency of either 300, 1000, 1275, 1500, 1550, 1569, 2422, or 3000 cps. The frequency comparator compares the reference frequency generated by the audio oscillator to the audio frequency generated by the subassembly under test. The frequency difference between the two auto frequencies produces a dc output which is directly proportional to the difference frequency, with one volt equivalent to 1 cps.

DC AMPLIFIER A4: The dc amplifier requires two input voltages of + 5.5 volts dc. The two outputs of the dc amplifier operate the indicator lamps A (DS-57) and B (DS-58) that are located on the front panel of the test set.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Set Electronic Circuit Plug-In Unit AN/SRM-14 includes:			
1	Test Set Electronic Circuit Plug-In Unit TS-1945/SRM-14		10-7/8 x 20-1/4 x 26	99
1	Electric Power Cable Assembly CX-8969/SRM		72 in. lg	
2	Electrical Special Purpose Cable Assembly Pt. No. 549-7767-003		48 in. lg	
2	Electrical Special Purpose Cable Assembly Pt. No. 549-8358-003		48 in. lg	
1	Electrical Special Purpose Cable Assembly Pt. No. 549-7768-003		48 in. lg	
1	Electrical Special Purpose Cable Assembly Pt. No. 549-8357-003		48 in. lg	
1	Branched Radio Frequency Cable Assembly Pt. No. 549-8359-004		52-1/2 in. lg	
1	Radio Frequency Cable Assembly Pt. No. 549-7769-003		48 in. lg	
1	Adapter Type GR-724-QBJ			

4.12 AN/SRM-14: 2

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TEST SET ELECTRONIC CIRCUIT PLUG-IN UNIT AN/SRM-14

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Technical Manual NAVSHIPS 9575B(A)			
3	Plastic Case			

REFERENCE DATA AND LITERATURE:

NAVSHIPS 9575B(A): Technical Manual for Electronic Circuit Plug-In Unit Test Set AN/SRM-14.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Not required.

CRYSTALS: Not required.

SEMI-CONDUCTORS: (17) 1N645 (8) 1N1124 (3) 1N2042-2 (1) 1N2982B (1) 1N2985B
(1) 1N3204 (2) 1N3016B (1) 1N3032B (1) 2N335 (2) 2N388 (1) 2N526
(6) 2N697 (2) 2N1039 (2) 2N1613 (2) 2N2553

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
Collins Radio Company	Dallas, Texas	N0bsr-89085	

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13 December 1965
Cog Service: USN FSN: 2F6625-769-1223

TEST SET RADAR AN/UPM-111
Functional Class:

USA

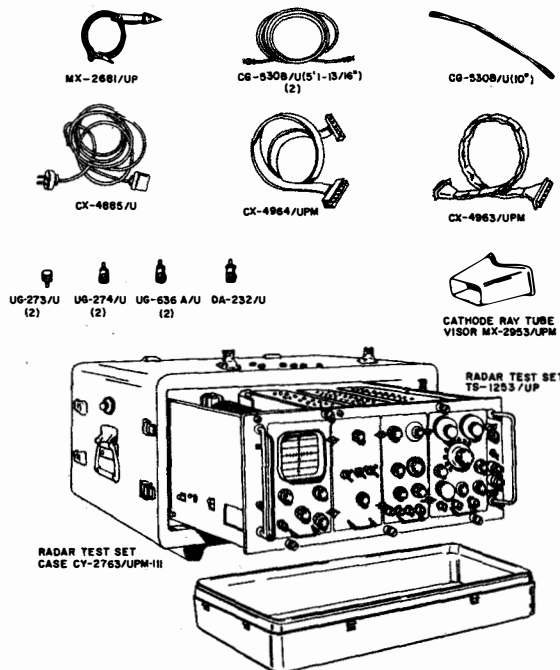
USN

USAF

TYPE CLASS:

Used by

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



TEST SET RADAR AN/UPM-111

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 (18 October 1965).

RELATION TO OTHER EQUIPMENT:

Radar Test Set AN/UPM-111 is physically and functionally identical with Radar Test Set AN/GPM-44, except accessories.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

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TEST SET RADAR AN/UPM-111

TECHNICAL CHARACTERISTICS:

- TRIGGER PULSE OUTPUT: Positive polarity 0.3 to 3 usec.
- PULSE WIDTH: Pulse Amplitudes of 50 to 100 volts into a 500 ohm and 20 volts into a 75 ohm load; PRF is variable from 15 to 4100 cps; delay is variable up to 750 usec; rise time is less than 0.2 usec and decay time is less than 1.0 usec. Usec rise time is less than 0.2 usec and decay time is less than 1.0 usec.
- INPUT TRIGGER REQUIREMENTS: Positive or Negative Polarity; 0.3 to 25 usec pulse width; pulse amplitude is 5 to 50 volts measured across a 75 ohm termination; rise time is less than 0.5 usec per volt; and PRF is 15 to 4100 pps.
- SUPPRESSOR PULSE OUTPUT: Positive Polarity; Pulse Width is variable from 2 to 220 usec; pulse amplitude of 20 volts into a 500 ohm load and greater than 3 volts into a 75 ohm load; rise time is less than 0.4 usec; decay time is less than 0.4 usec; and PRF is variable from 15 to 4100 cps.
- INTENSITY MARKERS: Intensity type modulation of oscilloscope display, with spacing of 0.1, 0.1, and 1.0, 5.0, and 50.5 usec.
- CRYSTAL MARKERS: Positive and Negative type display on time sharing basic with video; with 1.0 or 1.45 usec spacing; amplitude is variable up to one inch display; and marker width is less than 0.2 usec.
- OSCILLOSCOPE: Vertical amplifier frequency response is - 3 db from 5 cps to 6 mc; vertical sensitivity is calibrated at 0.05, 0.1, 0.2, 0.5, 1.0, 2.0, 5.0, 10.00, and 20.0 volts per inch; horizontal sweep duration is variable from 1 to 20,000 usec per sweep; horizontal sweep delay is variable from 0 to 750 usec; and horizontal sweep linearity is more than 75 percent from start to finish.
- SIF REPLY CODES: (Up to 12 in. information pulses, plus two framing pulses, "x" pulse, "ID" pulse); positive polarity; 0.3 to 1.0 usec (nominal 0.45 pulse width; 1.45 usec spacing; and residual delay of 4 usec or less from application of input trigger substitute pulse is the same as for SIF).
- OPERATING POWER REQUIREMENTS: 115 v, 60 cps, single ph.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Set Radar AN/UPM-111 includes:	2F6625-769-1223		
1	Test Set Radar TS-1253/UP		9-3/4 x 16 x 22-3/8	40
1	Test Set Radar Case CY-2763/UPM-111		13-3/8 x 24-5/8 x 25-1/4	30
1	Test Lead MX-2681/UP		1-1/2 x 1-3/4 x 6-3/4	3/4
1	Electrical Cord Assy CX-4885/U		60 lg	
1	Cable Assy, Special Purpose Electrical CX-4963/UPM		36 lg	
1	Cable Assy, Special Purpose Electrical CX-4964/UPM		30 lg	
1	Cable Assy Radio Frequency CG-5308/U		10 lg	
2	Cable Assy Radio Frequency CG-5308/U		1-13/16 x 5	

4.12 AN/UPM-111: 2

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TEST SET RADAR AN/UPM-111

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
2	Adapter, Connector UG-636A/U			
2	Adapter, Connector UG-273/U			
2	Adapter, Connector UG-274/U			
1	Electrical Dummy Load (75 Ohm) DA-232/U			
1	Visor, Cathode Ray Tube MX-2953/UPM		2-1/2 x 6-1/8 x 8-3/4	1/2
1	Maintenance Std Book NAVSHIPS 93520.42			
1	Performance Std Sheet NAVSHIPS 93520.32			
1	Operating Instructions NAVSHIPS 93592.21			

REFERENCE DATA AND LITERATURE:

NAVSHIPS 93520A: Technical Manual for Radar Test Set AN/UPM-111.
 NAVSHIPS 93520-21: Operating Instruction Chart for Radar Test Set AN/UPM-111.
 NAVSHIPS 93520-32: Performance Standard Sheet for Radar Test Set AN/UPM-111.
 NAVSHIPS 93520-42: Maintenance Standard Book for Radar Test Set AN/UPM-111.
 NAVSHIPS 93520-61: Overhaul and Repair for Radar Test Set AN/UPM-111.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (2) 1V2 (2) 6BQ5 (15) 5814A (1) 4MP1 (3) 6U8A (7) 12AT7WA (2) 6AU6WA
 (2) 6AH6 (1) 6J6 (1) 12BY7A (1) 5651WA (7) 5687 (3) 5670 (1) 5726WA
 (2) 6080WA (1) 6216

CRYSTALS: None required.

SEMI-CONDUCTORS: (31) 1N26A (6) 1N277 (22) 1N281 (2) 1N459 (2) 1N643 (3) 1N645
 (1) 1N748A (1) AZ-13 (1) 3Z30A (2) TN-34

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-2234A

4.12 AN/UPM-111: 3

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TEST SET RADAR AN/UPM-111

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Admiral Corporation Pt/Dwg No. 597J123-1	Chicago, Illinois	N0bsr-71516	\$2,474.00

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UNCLASSIFIED
ELECTRONIC EQUIPMENT - PRELIMINARY DATA
NAVSHIPS 4457 (Rev. 11-56)

NAVSHIPS 93400

CLASSIFICATION of Equip. UNCLASSIFIED		COMMON NAME Radar Test Set	NOMENCLATURE AN/UPM-118(XN-1)
SPECIFICATION -		CONTRACT NUMBER AND DATE Nbsr - 72688 3 May 1957	DATE of request 1 March 1961
CONTRACTOR'S NAME AND ADDRESS Sperry Microwave Electronics Division of Sperry Rand Corporation Clearwater, Florida		QUANTITY ON ORDER R and D	
		SERVICE APPROVAL LETTER SERIAL AND DATE	

ELECTROCHEMICAL CHARACTERISTICS

POWER INPUT
115 v 60 CYCLE 1 PHASE AMP\$ WATTS 125v 400 CYCLE 1 PHASE AMP\$ WATTS

OUTPUT SIGNAL CHARACTERISTICS (REP. RATE, I. F. ETC.)
See reverse

WAVE GUIDE OR CABLE LIMITATIONS

POWER OUTPUT
See reverse

OPERATING FREQ. AND FREQ. RANGE
1215 to 1355 mc

EMISSION OR RECEPTION (TYPE)

FREQ. CONTROL (TYPE)

NO. OF CHANNELS

ANTENNA OR TRANSDUCER (TYPE)

IMPEDANCE (OHMS)

FEED TYPE

SEAM PATTERN
°HORIZ. °VERT.

REFERENCE DATA AND LITERATURE

DRAWING	DWG. NUMBER	DIST. DATE	PUBLICATION	PUB. NUMBER
			TECHNICAL MANUAL	
			OPERATING INSTRUCTION CHART	
			PERFORMANCE STANDARD SHEET	
			MAINTENANCE STANDARD BOOK	

EQUIPMENT SUPPLIED

QTY	NOMENCLATURE AND NAME	OVERALL DIMENSIONS (IN)			H.D. (UNITS)	WEIGHT (LBS)
		HEIGHT	WIDTH	DEPTH		
	Radar Test Set AN/UPM-118(XN-1) consists of:					
1	Relay Rack Steel, Grey Finish	51	23-1/2	25-1/2		
1	Steel Case for Monitor Set	4	12	5-1/2		
1	Control - Monitor Set for Radar Test Set					
1	IF Deck					
1	L Band Microwave Deck					
1	Stalo Deck					
1	Power Supply Deck					
1	RF Cable RG-5/U (Calibrated)					
3	RF Cable RG-62/U					
1	Connecting Cable for Control - Monitor Set					
1	AC Power Cable					
1	Synchro Information Connector					

IF ADDITIONAL EQUIPMENTS OR UNITS ARE REQUIRED, ATTACH ADDITIONAL SHEETS AND SPECIFY SOURCE.

CLASSIFICATION

UNCLASSIFIED

CHANGE 64 - 695A

4.12 AN/UPM-118(XN-1): 1

405

NOMENCLATURE	COMMON NAME
AN/UPM-118(XN-1)	Radar Test Set

FUNCTIONAL DESCRIPTION: SKETCH, MFG. DIMENSIONS, ETC.

The AN/UPM-118(XN-1) is a general-purpose test set for use with radar equipment. It has automatic frequency and output-level controls. The set is used to perform the following tests and measurements:

- Overall Radar Performance monitoring and measurement (RF)
- Transmitter Power measurement (RF)
- Receiver Sensitivity measurement (RF)
- Subclutter visibility measurement (RF)
- Cancellation ratio measurement (RF)
- Subclutter visibility measurement (30 mc IF)
- Video cancellation ratio measurement
- System fault isolation by signal tracing technique
- Cancellation ratio measurement (30 mc RF)
- Signal Generator Characteristics (RF)
 - Power Output: -15 to -84 dbm Random Signals
 - 15 to below -100 dbm coherent signals
 - Power Ratio: Fixed to moving targets @ 50 miles 30 db
 - Stability: 1 part in 10^8 short term
 - Frequency: Identical with input frequency
 - Modulation: 5 to 6 usec pulse width, internally generated
 - 200 to 1200 pps repetition rate, external
 - 5 to 200 nautical-miles range delay, internally-generated,
 - continuously-variable, simulated speed
 - 2° to 16° azimuth-gated target simulation
 - 4° to 30° azimuth-gated, clutter-simulation, continuously-
 - variable, azimuth angle position
 - 5/10/15/20/25/30/35/40/45/50 nautical-mile coherent output
 - continuously variable phase for coherent outputs
- Signal Generator Characteristics (IF)
 - Power Output: 0.0 to 0.1 volts - Signal
 - 4 to 6 volts coh reference
 - Power Ratio: Fixed to moving targets @ 50 mi. 40 db
 - Stability: Better than 1 part in 2×10^7 short term
 - Frequency: 30 mc
 - Modulation: As specified for RF output
- Signal Generator Characteristics (Video)
 - Power output: 2 volts into 2k impedance
 - Power Range: 0-50 db below maximum
 - Modulation: As specified for RF output
- Power Meter (RF)
 - Power input: 20 watts to 1 kw peak reading (do not exceed 5 watts average)
 - External Connections Required:
 - Sync Input: 20v min amplitude 10 usec max. duration
 - Azimuth Synchro: 3 \emptyset , 400 cycle 11.8 rms line to line
 - 1 \emptyset , 400 cycle 26v rms reference

Total cost: \$87,320.00

Source of information: Request for Nomenclature
Contract

CLASSIFICATION	Rev 8/15/62	CHANGE 64 - 695A
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406

21 June 1965

Cog Service: USN FSN: 2F6625-266-5123

METER, AUDIO LEVEL AN/URM-38B
Functional Class:

USA

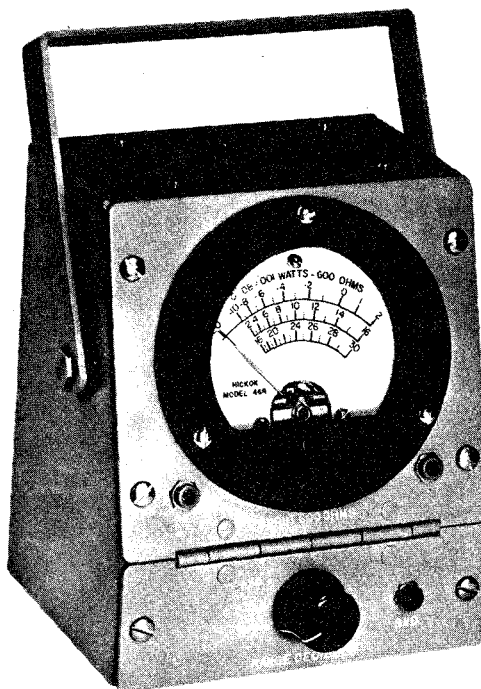
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Hickok Electrical Instrument Company, (28569).



METER, AUDIO LEVEL AN/URM-38B

FUNCTIONAL DESCRIPTION:

Meter, Audio Level AN/URM-38B is a small portable test instrument designed to make necessary power level measurements commonly encountered on audio frequency lines of 600 ohms impedance.

No field changes in effect at time of preparation (10 June 1965).

-RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

TECHNICAL CHARACTERISTICS:

METER SCALE DATA

MEASUREMENT UNIT: DB.

METER, AUDIO LEVEL AN/URM-38B

THREE NONLINEAR SCALES

TOP SCALE: - 20 to + 2.

MIDDLE SCALE: + 2 to + 16.

BOTTOM SCALE: + 16 to + 30.

DIAL MARK: "0" DB = .001 WATT - 600 OHMS.

DIAL COLOR DATA

BACKGROUND: White.

SCALE MARKINGS: Black.

CIRCUIT APPLICATION: Audio frequency, rectifier type (double halfwave bridge).

ACCURACY: $\pm 10\%$ full scale at 23° C.

CONSTANT INPUT IMPEDANCE: 600 ohms $\pm 10\%$.

FREQUENCY RANGE: 60 to 10,000 cps usable.

SENSITIVITY: 0.001 W into 600 ohms for zero db sensitivity.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Meter, Audio Level AN/URM-38B includes:	2F6625-266-5123	4-1/2 x 5 x 7-1/4	3
1	Black Test Lead		48 lg	
1	Red Test Lead		48 lg	
2	Alligator clips		2 lg	
2	Instruction Sheets		1/2 x 8 x 10	

REFERENCE DATA AND LITERATURE:

NAVSHIPS 94862: Instruction Sheets for AN/URM-38B Audio Level Meter.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Not required.

CRYSTALS: Not required.

SEMI-CONDUCTORS: (2) 1NB1A

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	0.6	6

PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG:

DESIGN COG: USN, BuShips

408

METER, AUDIO LEVEL AN/URM-38B

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Hickok Electrical Instru- ment Company	Cleveland, Ohio	N0bsr-87524	

409

26 October 1964

TEST HARNESS, TRANSMITTING SET AN/URM-111

Cog Service: USN FSN:

Functional Class:

USA

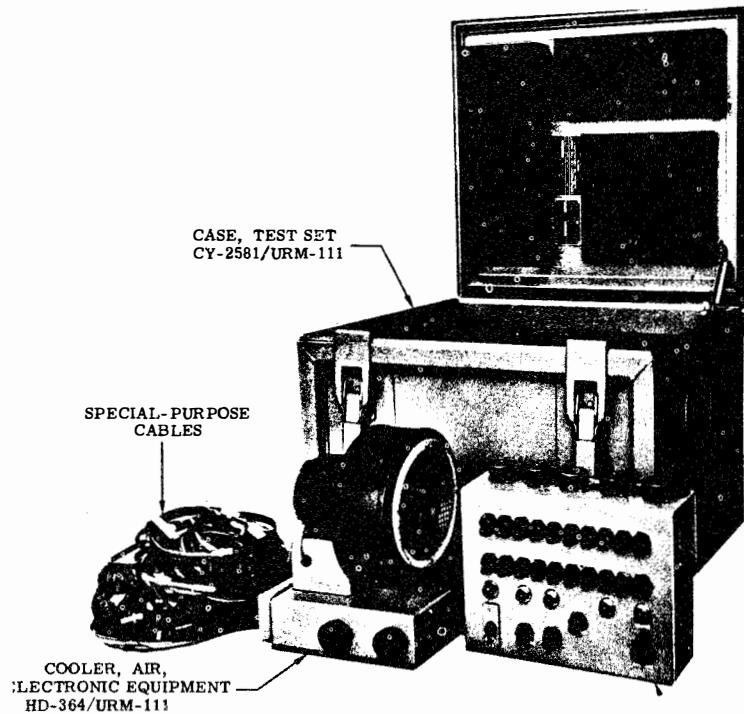
USN

USAF

TYPE CLASS:

Used by

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



TEST HARNESS, TRANSMITTING SET AN/URM-111

FUNCTIONAL DESCRIPTION:

Test Harness, Transmitting Set AN/URM-111 is used in the operation, servicing and testing of Transmitting Set, Radio AN/URW-14. Equipment included in the AN/URM-111 provides means of remote control and interconnecting of the AN/URW-14 elements when these elements are removed from a complete equipment or system.

No field changes in effect at time of preparation (12 October 1964).

RELATION TO OTHER EQUIPMENT:

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Transmitting Set, Radio AN/URW-14.

4.12 AN/URM-111: 1

410

AN/URM-111 TEST HARNESS, TRANSMITTING SET

TECHNICAL CHARACTERISTICS:

POWER REQUIREMENTS: 115 v, 55 to 65 cps.

MAJOR COMPONENTS

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

REFERENCE DATA AND LITERATURE:

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

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Not required.

CRYSTALS: Not required.

SEMI-CONDUCTORS: (4) 1N1084

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-5-21554 (AER)

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

12 October 1964
Cog Service: USN FSM:

TEST HARNESS, TRANSMITTING SET AN/URM-111A
Functional Class:

USA

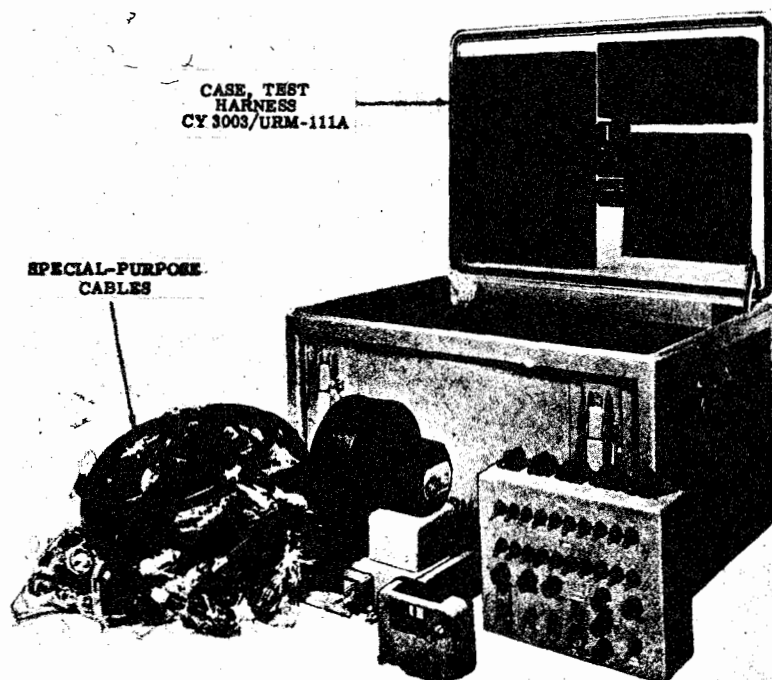
USN

USAF

TYPE CLASS:

Used by

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



TEST HARNESS, TRANSMITTING SET AN/URM-111A

FUNCTIONAL DESCRIPTION:

Test Harness, Transmitting Set AN/URM-111A is used in the operation, servicing and testing of radio transmitters and other elements of control systems that are used with fixed-wing and rotary-wing pilotless aircraft, target aircraft, and missiles. Equipment included in the Test Harness provides means of remote control and interconnecting of control system elements, when these elements are removed from a complete equipment or system.

field changes in effect at time of preparation (2 October 1964).

RELATION TO OTHER EQUIPMENT:

The AN/URM-111A is electrically and functionally interchangeable with AN/URM-111.

AN/URM-111A TEST HARNESS, TRANSMITTING SET

EQUIPMENT REQUIRED BUT NOT SUPPLIED:**TECHNICAL CHARACTERISTICS:**

AC POWER REQUIREMENTS: 115 ± 10 v, 55 to 65 cps, single ph.

MAX POWER REQUIRED DURING TEST: 1200 w.

VOLTAGE OF CONTROL CIRCUITS WITHIN C-2800A/URM-111: 28 v dc.

CURRENT OF 28 V SUPPLY WITHIN C-2800A/URM-111: 100 ma max.

MAXIMUM WARM-UP TIME: No warm-up time required.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Harness, Transmitting Set AN/URM-111A includes:			
1	Case, Test Set CY-3003/URM-111A		14-3/4 x 19-3/8 x 27-3/4	37
1	Control Transmitter C-2800A/URM-111A		5-1/4 x 9-7/32 x 12-5/16	6.5
1	Cooler Air, Electronic Equipment HD-364/URM-111		8-9/16 x 9-3/8 x 10-1/2	10.5
1	Adapter, Test U-221/URM-111		2-29/32 x 3-5/8 x 5-1/16	1
34	Cables Assemblies			37

REFERENCE DATA AND LITERATURE:

NAVWEPS 16-30URM111-2: Handbook of Operation Maintenance Instructions with Illustrated Parts Breakdown for Test Harness Transmitting Set AN/URM-111A.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Not required.

CRYSTALS: Not required.

SEMI-CONDUCTORS: (4) M-500

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
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4.12 AN/URM-111A: 2

TEST HARNESS, TRANSMITTING SET AN/URM-111A

PROCUREMENT DATA

PROCURING SERVICE:

DESIGN COG: USN, BuWeps

SPEC &/OR DWG: MIL-T-21554A (AER)

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Babcock Electronics Corp.	Costa Mesa, California	NOw-60-0658f	

414

2 August 1965

Cog Service: USN FSN:

TEST SET, RADIAC TUBE AN/USM-113A
Functional Class:

USA

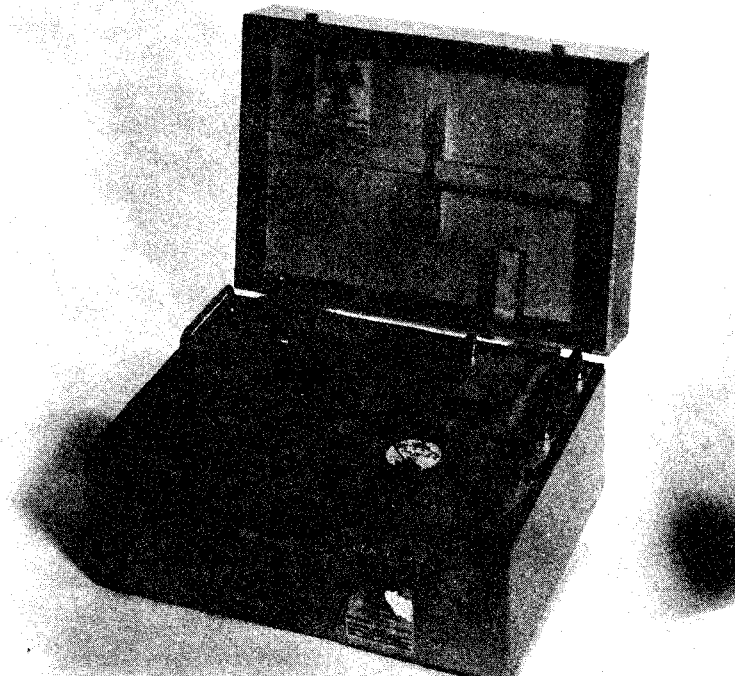
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Nuclear Research Corporation, (96696).



TEST SET, RADIAC TUBE AN/USM-113A

FUNCTIONAL DESCRIPTION:

Test Set, Radiac Tube AN/USM-113A measures the characteristics of Geiger-Muller tubes, corona regulators and special purpose tubes that are unique to radiac equipment.

No field changes in effect at time of preparation (21 June 1965).

RELATION TO OTHER EQUIPMENT:

The AN/USM-113A is functionally identical with the AN/USM-113.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

TEST SET, RADIAC TUBE AN/USM-113A

TECHNICAL CHARACTERISTICS:

TUBE TYPE AN/USM-113A IS CAPABLE OF MEASURING CHARACTERISTICS:

5962 (BS101)	7616/EP-72M
5979 (BS-1)	7617/EP-92A
5980 (BS-2)	TGC-1
7615/EP-680	7840

OUTPUT SIGNAL CHARACTERISTICS

REFERENCE FREQUENCY: $\pm 2\%$.

PULSE HEIGHT MEASUREMENTS: $\pm 10\%$.

POWER SOURCE REQUIRED: 115 v $\pm 10\%$, 50 to 450 cps, 100 W.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Set, Radiac Tube		9-1/2 x 13 x 18	50
	AN/USM-113A includes:			
1	Test Set, Radiac Tube			
	TS-1713A/USM-113			
2	Technical Manuals			
1	Tube Holder			
1	Screwdriver			
1	Radiation Source CS-137,			
	1.6 Millicuries MP-1			

4/16

REFERENCE DATA AND LITERATURE:

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

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

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

CRYSTALS: Not required.

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

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	3.456	55

4.12 AN/USM-113A: 2

TEST SET, RADIAC TUBE AN/USM-113A

PROCUREMENT DATA

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

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Nuclear Research Corp.	Southampton, Pennsylvania	NObsr 89549	

417

NOMENCLATURE	COMMON NAME
AN/USM-134	Servo Amplifier Test Set

FUNCTIONAL DESCRIPTION: SKETCH, MFG. DIMENSIONS, ETC.

The AN/USM-134 is used on FBM submarine tender ships or shore repair facilities. It provides complete checkout and troubleshooting facilities for a drawer containing two servo amplifiers and a power supply. The set is used with, but not part of, Type II Periscope Servo Drive System.

Government specification data: MIL-T-945A, MIL-T-20060, MIL-P-116, and MIL-M-18010

No unit cost available

Source of information: Request for Nomenclature
Nomenclature correspondence
Contract not available

419

CLASSIFICATION
UNCLASSIFIED

Rev 12/1/62

CHANGE 50/66 - BuWeps

CLASSIFICATION of Equip. UNCLASSIFIED		ITEM NAME Electronic Voltmeter		DESIGNATION AN/USM-143()
SPECIFICATION -		CONTRACT NUMBER AND DATE -		DATE 4-11-61
CONTRACTOR'S NAME AND ADDRESS -				QUANTITY ON ORDER -
				SERVICE APPROVAL LETTER - SERIAL AND DATE -

ELECTRICAL CHARACTERISTICS

POWER INPUT 115/ 10%, 50 /5%, 60/5% and 400/ 10% cycles				
CYCLE _____ PHASE _____ AMP S _____ WATTS _____				
OUTPUT SIGNAL CHARACTERISTICS (REP. RATE, I.F., ETC.)	WAVE GUIDE OR CABLE LIMITATIONS	INPUT SIGNAL CHARACTERISTICS	POWER OUTPUT	
-	-	-	-	
OPERATING FREQ. AND FREQ. RANGE See Reverse	EMISSION OR RECEPTION (TYPE)	FREQ. CONTROL (TYPE)	NO. OF CHANNELS	
-	-	-	-	
ANTENNA OR TRANSDUCER (TYPE)	IMPEDANCE (OHMS)	FEED TYPE	BEAM PATTERN	
-	See Reverse	-	°HORIZ. = °VERT.	

REFERENCE DATA AND LITERATURE

DRAWING	DWG. NUMBER	DIST. DATE	PUBLICATION	PUB. NUMBER
			TECHNICAL MANUAL	- -
			OPERATING INSTRUCTION CHART	- -
			PERFORMANCE STANDARD SHEET	- -
			MAINTENANCE STANDARD BOOK	- -

MAJOR UNITS

QTY	NOMENCLATURE AND NAME	OVERALL DIMENSIONS (IN)			H. D. (UNITS)	WEIGHT (LBS)
		HEIGHT	WIDTH	DEPTH		
	Electronic Voltmeter AN/USM-143()					
	with case	8 1/2	9 1/2	12-3/4		
	When case is stripped for rack mounting	6-22/32	8 1/2	10		
		4.12	AN/USM-143()	1		

420

DESIGNATION	ITEM NAME
AN/USM-143 ()	Electronic Voltmeter
FUNCTIONAL DESCRIPTION: SKETCH, MFG. DIMENSIONS, ETC.	

The AN/USM-143 () is a general-purpose, high-accuracy, portable, electronic ac voltmeter. Second scale converts voltage measurement to db referenced to one milliwatt at 600 ohms. The AN/USM-143() is electrically similar to the ME-207/U (Hewlett Packard Model 400H), but contains a cover, voltage divider cable, and an insulated plastic case to permit safe measurement of voltages above ground.

Characteristics: Ranges-full scale, ranges of 0.001 to 300 vac in 12 steps, plus 1000 vac using voltage divider probe; full scale ranges of -72 to +52 db in 12 steps.

Basic accuracy - $\pm 1\%$ for 50 cycles to 500 kc; $\pm 2\%$ for 20 cycles to 1 mc; $\pm 3\%$ for 20 cycles to 2 mc; $\pm 5\%$ for 10 cycles to 4 mc.

Sensitivity - 1 ma.

Input Impedance - 10 megohms $\pm 10\%$ shunted by 15 mmf on 0.001 to 0.3 ac voltage range; 10 megohms $\pm 10\%$ shunted by 25 mmf on 0.001 to 0.3 ac voltage range.

No unit cost available

Source of information - Request for Nomenclature
Nomenclature correspondence
No contract assigned

4.12 AN/USM-143(): 2

CLASSIFICATION
UNCLASSIFIED

Rei 12/1/62

CHANGE 50/66 - 679A

94

2 August 1965

TEST SET ELECTRONIC CIRCUIT PLUG-IN UNIT AN/USM-156

Cog Service: USN

FSN:

Functional Class:

USA

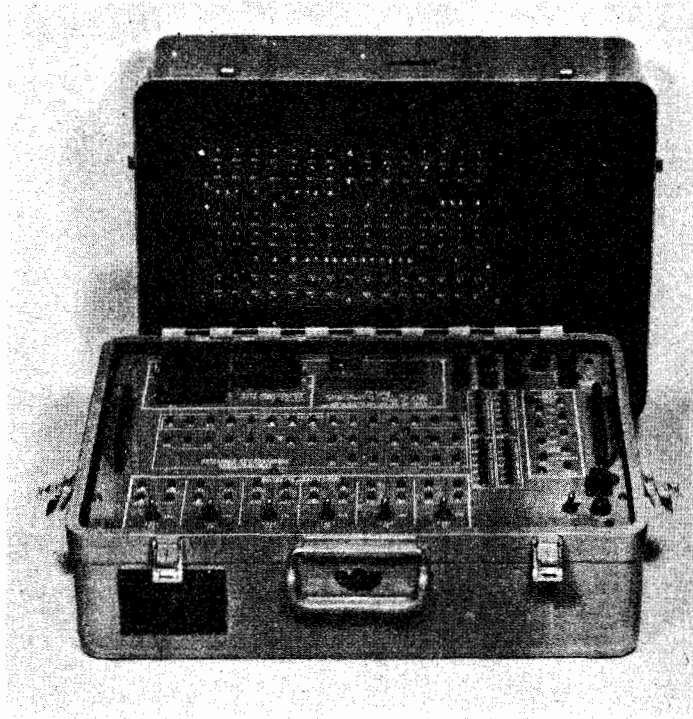
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Univac Div. of Sperry Rand Corp., (90536).



422

TEST SET ELECTRONIC CIRCUIT PLUG-IN UNIT AN/USM-156

FUNCTIONAL DESCRIPTION:

Test Set Electronic Circuit Plug-In Unit AN/USM-156 is designed to aid in troubleshooting the circuit card assemblies used in the multiplexer and A/D converter portion of CV-1123/USQ-20(V). This equipment is used as an input medium for externally generated input signals required to effect the proper output response from the circuit card under test. With the aid of complementary test equipment, the output of each circuit card can be monitored directly from jacks on the card tester.

No field changes in effect at time of preparation (28 June 1965).

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Pulse Generator LaVoie Model 593; (2) Power Supply Kepco Model SC-32-1; (1) Oscillator Waveforms Model 512; (1) Multimeter AN/USM-4; (1) Oscilloscope AN/USM-140; (1) Preamplifier MX-2930A/USM-105; (1) Transformer CN-16 A/U; (1) DC VTVM Millivac Type MV-17C; (2) Battery Eveready Type 411; (1) Auxiliary Bias Circuit.

TECHNICAL CHARACTERISTICS:

INPUT POWER: 115 v \pm 10%, 400 cps 0.75 amp.

POWER SUPPLY CHARACTERISTICS

INPUT: 115 v ac \pm 10%, 400 cps, 1 ph, 0.75 amp.

OUTPUT: + 20 v dc, 200 ma; - 20 v dc, 200 ma; + 15 v dc, 125 ma; - 15 v dc, 125 ma;
+ 3 v dc, 60 ma; - 3 v dc, 60 ma.

COOLING: Convection cooling only.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Set Electronic Circuit Plug-in Unit AN/USM-156 includes:		14-39/64 x 16-27/64 x 23-3/64	48
10	Patch Cords		6 lg	
10	Patch Cords		12 lg	
10	Patch Cords		18 lg	
1	Card Extractor		1-1/4 lg	
1	Card Extractor		2-1/16 lg	
2	Electrostatic Shields		3-1/16 lg	
1	Power Supply Cable		120 lg	
1	Technical Manual NAVSHIPS 94106			

REFERENCE DATA AND LITERATURE:

NAVSHIPS 94106: Technical Manual for Electronic Circuit Plug-In Unit Test Set AN/USM-156.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Not required.

CRYSTALS: Not required.

SEMI-CONDUCTORS: (1) 202-321 (2) 107-343-4 (11) FD3000 (30) GA323 (253) 1N3097
(12) 34317 (2) 1N746A (3) 2N1729 (8) 1N758A (4) T1876 (325) SM15
(500) 1N3592 (5) 1N753A (2) 202-376 (2) 1N758 (12) CGD1248
(4) 1N969B (27) GA322 (38) SM189

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	3.2	48

PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG:

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Univac Div. of Sperry Rand Corp.	St. Paul, Minn.	N0bsr-87204 N0bsr-72769-3 N0bsr-85229 N0bsr-89383-7 N0bsr-91306 N0bsr-91369	

424

8 December 1965
Cog Service: USN FSN: 2F6625-856-7264

TEST SET INSULATION RESISTANCE AN/USM-158
Functional Class:

USA

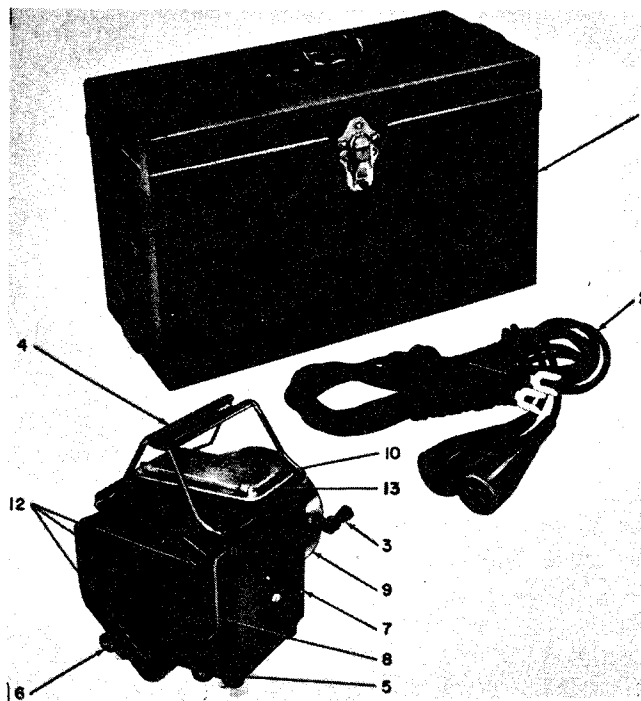
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: James G. Biddle Company, (07239).



TEST SET INSULATION RESISTANCE AN/USM-158

FUNCTIONAL DESCRIPTION:

Test Set Insulation Resistance AN/USM-158 measures the resistance, in megohms, to the flow of current through and/or over the surface of electrical equipment insulation. The test results are used to detect the presence of dirt, moisture, and insulation deterioration.

No field changes in effect at time of preparation (25 October 1965).

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

TECHNICAL CHARACTERISTICS:

TYPE OF OPERATION: Hand Cranked.

OPERATING TEMPERATURE: - 17.8 deg to 48.9 deg C (0 deg to 120 deg F).

4.12 AN/USM-158: 1

TEST SET INSULATION RESISTANCE AN/USM-158

OPERATING VOLTAGE: 0 to 500 volts dc max.
 NORMAL OPERATING VOLTAGE: 500 volts dc.
 NORMAL OPERATING VOLTAGE CRANK SPEED: 160 rpm.
 RESISTANCE RANGE: 0 to 100 megohms.
 ACCURACY: $\pm 1\%$ of scale length 3 inches.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Set Insulation Resistance	2F6625-856-7264		
	AN/USM-158 includes:			
1	Ohmmeter ZM-43/USM-158			
1	Test Set Case		6 x 9-1/4 x 14-1/2	
	CY-3493/USM-158			
2	Test Leads with Test Clips		144 in. h	

REFERENCE DATA AND LITERATURE:

NAVSHIPS 94274: Technical Manual for Insulation Resistance Test Set AN/USM-158.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Not required.

CRYSTALS: Not required.

SEMI-CONDUCTORS: Not required.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)

PROCUREMENT DATA

PROCURING SERVICE: USN DESIGN COG: USN, BuShips
 SPEC &/OR DWG: MIL-0-16485B(SHIPS)

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
James G. Biddle Company	Philadelphia, Pa.	N126-098267	

42.6

2 August 1965
Cog Service: USN

FSN:

TEST SET, SEMI-CONDUCTOR DEVICE AN/USM-206
Functional Class:

USA

USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: AEL Products Inc., (18036).



TEST SET, SEMI-CONDUCTOR DEVICE AN/USM-206

FUNCTIONAL DESCRIPTION:

Test Set, Semi-Conductor Device AN/USM-206 is a small, portable unit which can be used to measure the beta of low- or high-power transistors, and to detect shorted or open transistor junctions without requiring the removal of the transistor from equipment in which it is installed.

No field changes in effect at time of preparation (9 July 1965).

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

TEST SET, SEMI-CONDUCTOR DEVICE AN/USM-206

TECHNICAL CHARACTERISTICS:

BETA (h_{FE} , 1 KC); $I_C = 1.0$ ma; $V_{CB} = 0V$

OUT OF CIRCUIT

RANGE	BETA	ACCURACY
X1	1-100	± 5%
X10	10-1000	± 5%

IN CIRCUIT

RANGE	BETA	ACCURACY	E-B LOAD
X1	1-100	± 10%	500 ohms
X10	10-1000	± 10%	500 ohms

ELECTRODE RESISTANCE MEASUREMENT

EMITTER TO BASE

RANGE: 0 - 5000 ohms.
 ACCURACY: ± 5%.
 MAX POWER OUTPUT: 0.25 uw.

COLLECTOR TO EMITTER

RANGE: 0 - 5000 ohms.
 ACCURACY: ± 5%.
 MAX POWER OUTPUT: 0.25 uw.

COLLECTOR TO BASE

RANGE: 0 - 5000 ohms.
 ACCURACY: ± 5%.
 MAX POWER OUTPUT: 0.25 W.

I_{CBO} ($V_{CB} = 6V$; $I_E = 0$)

RANGE	I_{CBO}	ACCURACY
X1	0-100 ua	± 3% of full scale reading
X10	0-1 ma	± 3% of full scale reading in-circuit

DIODES AND RECTIFIERS: Measured in-circuit for short and opens, which will be detected w/loads of 20 ohms or greater across the device terminals.

I_R AT $V_R = 6$ V

RANGE	I_R	ACCURACY
X1	0-100 ua	± 3% at full scale reading
X100	0-1 ma	± 3% at full scale reading

POWER SOURCE: Six "C" size batteries.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Set, Semi-Conductor Device AN/USM-206 includes:		6-3/4 x 7-11/16 x 9-3/16	9.75
1	Test Probe Assy		3/4 x 1-1/4 x 8	
1	Test Cable Assy		36 lg	
1	Technical Manual NAVSHIPS 0969 002 7011			
1	Transistor Characteristics Booklet			

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TEST SET, SEMI-CONDUCTOR DEVICE AN/USM-206

REFERENCE DATA AND LITERATURE:

NAVSHIPS 0969 002 7011: Technical Manual for Test Set Semi-Conductor AN/USM-206.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Not required.

CRYSTALS: Not required.

SEMI-CONDUCTORS: (3) 2N404 (1) 1N754

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	0.4	10.2

PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG:

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
AEL Products Inc.	Colmar, Pennsylvania	N600(24)62513	

129

25 May 1965

Cog Service: USN FSN:

BOMB DIRECTING SET TEST BENCH AN/UWM-2(XN-1)

Functional Class:

USA

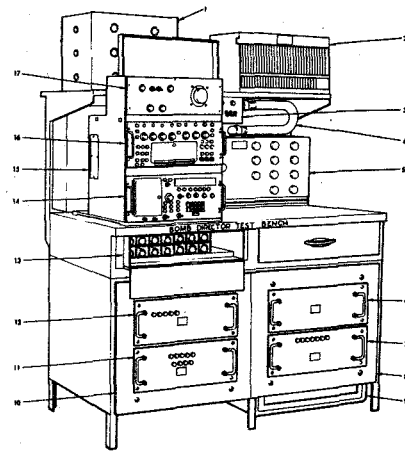
USN

USAF

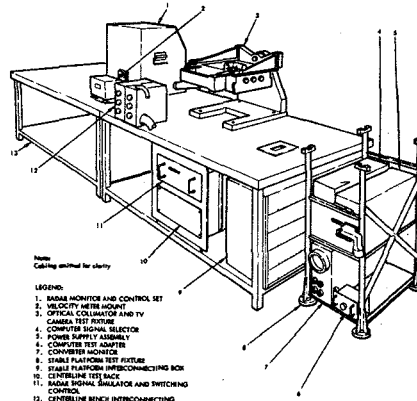
TYPE CLASS:

Used by

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



- LEGEND:
- | | | | |
|---|---------------------------------|------------------------------|---|
| 1. ELECTRICAL SIGNAL SELECTOR | 5. BULKHEAD INTERCONNECTING BOX | 9. FILTER ASSEMBLY | 14. DIGITAL COMPUTER MANUAL CONTROL PANEL |
| 2. DIGITAL COMPUTER TEST CARD SET | 6. NAVIGATOR SIGNAL SIMULATOR | 10. RADAR TEST MACK | 15. DIGITAL COMPUTER TEST MACK |
| 3. POWER DISTRIBUTION ELECTRICAL TEST PANEL | 7. COMPUTER SIGNAL SIMULATOR | 11. RADAR SIGNAL SIMULATOR | 16. CONSOLE |
| 4. AIR HOSE | 8. COMPUTER TEST BACK | 12. DIGITAL SIGNAL SIMULATOR | 17. DIGITAL COMPUTER VOLTAGE MONITOR |
| | | 13. CABLE STORAGE BOX | |
- ALJ-1A 18
Issue 1 of 1



- Note:
Callings omitted for clarity
- LEGEND:
1. RADAR MONITOR AND CONTROL SET
 2. VELOCITY METER ASSEMBLY
 3. OPTICAL COLIMATOR AND TV CAMERA TEST FIXTURE
 4. COMPUTER SIGNAL SELECTOR
 5. POWER SUPPLY ASSEMBLY
 6. COMPUTER TEST ADAPTER
 7. COMPUTER MONITOR
 8. STABLE PLATFORM TEST FIXTURE
 9. STABLE PLATFORM INTERCONNECTING BOX
 10. CENTERLINE TEST MACK
 11. RADAR SIGNAL SIMULATOR AND SWITCHING CONTROL
 12. CENTERLINE BENCH INTERCONNECTING BOX
 13. CENTERLINE TEST BENCH (2)

BOMB DIRECTING SET TEST BENCH AN/UWM-2(XN-1)

FUNCTIONAL DESCRIPTION:

Bomb Directing Set Test Bench AN/UWM-2(XN-1) together with its associated accessories is a semiautomatic facility for shop-testing and trouble shooting units of the air-borne bomb directing set. It is one of the five test benches of the integrated shop-test system.

The bomb directing set test bench is semiautomated by means of a punched tape program which controls address and signal voltages developed in the programming test bench, also a test bench of the integrated shop-test system. Testing of air-borne components is accomplished individually, using the different components of the bench separately. The bomb directing set bulkhead test bench, Part No. 33651-315-11, 33767-315-11 and 33768-315-11, contains four drawers of electronic equipment. These drawers are the navigator signal simulator, and computer signal simulator. In addition to the four drawers of the bench, a radar signal simulator and switching control drawer, and a number of additional items are required to conduct the shop tests on the various units of the bomb directing set. These items are installed on the bomb directing set bulkhead test bench and the centerline bench.

No field changes in effect at time of preparation (1 January 1965).

430

BOMB DIRECTING SET TEST BENCH AN/UWM-2(XN-1)

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

The AN/UWM-2(XN-1) is p/o the Electronic Equipment Test Bench Set AN/USM-124(XN-1).

TECHNICAL CHARACTERISTICS:

CAPABILITIES AND LIMITATIONS

INERTIAL AUTONAVIGATOR:

Stable Platform.
Velocity Meters (part of stable platform).
Stable Platform Amplifier Assembly.
Stable Platform Power Supply Assembly.
Electronic Computer Assembly.
Digital Computer.

TIE-IN EQUIPMENT

Tie-in Converter.
Control Assembly.

GENERAL PURPOSE RADAR

Antenna Assembly (servo portion).
Receiver-Transmitter.
Synchronizer Assembly.
Navigator's Radar and TV Indicator.
Radar and Flight Projected Indicator.
Regulated Power Supply.
Indicator Power Supply.
Radar and TV Control Panel.
Projected Indicator Control Panel.
TV Scanner.
TV Set Control.
TV Scanner Position Indicator.

NAVIGATIONAL BOMBING COMPUTER

ENVIRONMENTAL CONDITIONS

AMBIENT TEMPERATURE

CONTINUOUS OPERATION: 0 to 52 deg C after 30 min. warm-up period.
NON-OPERATIONAL OR STORAGE STATUS: - 54° C to + 72° C.

RELATIVE HUMIDITY

CONTINUOUS OR INTERMITTENT OPERATION: Ranging up to 95% (including water or frost condensation in or on equip).
NON-OPERATIONAL STATUS: Ranging up to 100% for extended periods.

ALTITUDE

OPERATIONAL STATUS: Barometric pressure of 20.6 in. Hg (approx 10,000 ft).
NON-OPERATIONAL OR STORAGE STATUS: Barometric pressure of 3.44 in. Hg (approx 50,000 ft).

POWER REQUIREMENTS

INPUTS REQUIRED: The inputs required for all portions of the bomb directing set test bench consist of the normal output voltages of the components under test. These are in all cases within the limits of 28 v dc and 115 v ac, 400 cps, 1 phase or 3 phase power. The actual voltage levels and the phase relationships of the alternating voltages

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BOMB DIRECTING SET TEST BENCH AN/UWM-2(XN-1)

represent important operating conditions of circuits under test. "Off" and "on" conditions of addressing signals are supplied by the programming test bench.

OUTPUTS SUPPLIED: The output signals supplied by the bomb directing set test bench consists of various voltages (ac or dc) which simulate normal input operating parameters for any particular air-borne unit under test. Further, the resulting output signals from the unit being tested are channeled by means of programmed relay circuitry to the appropriate measuring, monitoring, and readout circuitry within the programming test bench. All output voltages lie within the limits of 28 v dc, and 115 v ac, 1 phase and 3 phase power. The actual voltage levels and the phase relationships of the alternating voltage represent important conditions of the circuits under test.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Bomb Directing Set Test Bench AN/UWM-2(XN-1)			

REFERENCE DATA AND LITERATURE:

NAVWEPS 16-50BAA-2-2: Handbook Operation and Service Instructions Electronic Equipment Test Bench Set AN/USM-124(XN-1) Volume II Bomb Directing Set Test Bench AN/UWM-2(XN-1).

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (1) 6842B (6) 6021 (9) 6111 (1) VR1701 (2) 5647 (4) 6S4A (5) 5639
(1) 6216 (1) 5687WA (1) 6112 (1) 6384 (1) 2C53 (2) 5703WA (2) 12AT7WA
(6) 5814WA (1) 5751WA

CRYSTALS: Not available.

SEMI-CONDUCTORS: Not available.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
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PROCUREMENT DATA

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

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Autonetics Div. of North American Aviation Inc.	Anaheim, California		

432

13 August 1965
Cog Service: USN FSN:

MODULE TEST SET COL-73A1-SW
Functional Class:

USA

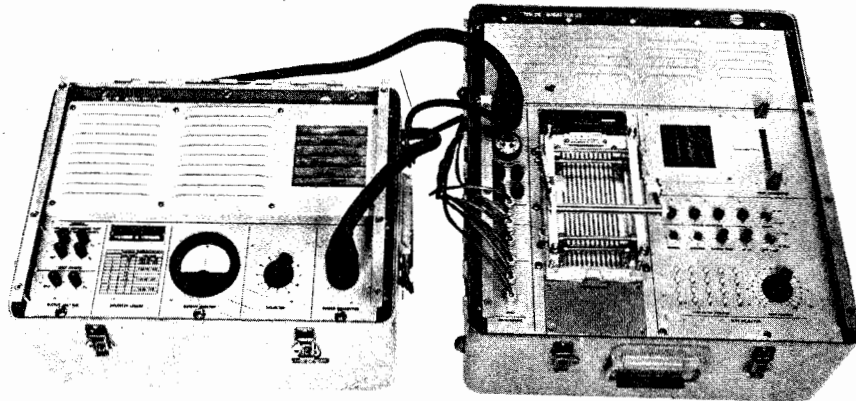
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Collins Radio Company, (95104).



MODULE TEST SET COL-73A1-SW

FUNCTIONAL DESCRIPTION:

Module Test Set 73A1-SW and external test equipment provides all the necessary input signals, voltages, and proper output loading for operation of each module under worst-case conditions. The test operator determines the operational status of the module (circuit card) from information presented on external test equipment.

No field changes in effect at time of preparation (21 June 1965).

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Signal Generator CAQI-200T (250 cps to 100 kc); (1) Electronic Counter CAQI-523CR; (1) Oscilloscope CBTV 545A w/Type CA (dual trace) and Type L (high gain) amplifiers; (1) AC VTVM CAQI-400H; (1) DC VTVM CAQI-413A.

MODULE TEST SET COL-73A1-SW

TECHNICAL CHARACTERISTICS:

DUTY CYCLE: Continuous.
AMBIENT TEMPERATURE RANGE
OPERATING: 0 to 50° C.
NON-OPERATING: - 62 to 75° C.
ALTITUDE: 15000 ft above sea level.
SHOCK AND VIBRATION: 40g for 11 ms.
RELATIVE HUMIDITY: 95% at 50° C.
POWER REQUIRED: 115 v ac, 50 to 400 cps, 260 W.
PROTECTIVE DEVICES: Two 5 amp fuses in the ac line; electronic short circuit and overvoltage protective circuits within the test set.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Module Test Set 73A1-SW includes:			
1	Test Set		12-3/4 x 20-11/16 x 23-1/32	70
1	Power Supply		12-3/4 x 15-15/16 x 21-1/16	70
1	AC Line Cable		84 lg	
1	Interconnecting Cable		84 lg	
1	Test Cable		24 lg	
6	Test Cable		48 lg	

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REFERENCE DATA AND LITERATURE:

NAVSHIPS 94538: Technical Manual for Module Test Set 73A1-SW.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Not required.

CRYSTALS: Not required.

SEMI-CONDUCTORS: (59) 1N198 (5) 1N270 (39) 1N276 (2) 1N645 (1) 1N659 (5) 1N746A
(2) 1N751A (18) 1N816 (3) 1N957B (4) 1N959B (4) 1N963B (2) 1N965B
(1) 1N967B (2) 1N968B (22) 1N1345A (45) 1N3730 (27) 2N388
(37) 2N404 (20) 2N404A (2) 2N428 (10) 2N526 (5) 2N553 (19) 2N1377
(12) 2N1542A (9) 2N1545A (10) 2N1595 (17) 2N2282 (1) 2N1991

SHIPPING DATA

PKGS VOLUME (CU FT) WEIGHT (LBS)

MODULE TEST SET COL-73A1-SW

PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG:

DESIGN COG: Commercial

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Collins Radio Company	Richardson, Texas	N0bsr-85559	

435

13 August 1965
Cog Service: USN FSN:

ELECTRONIC CIRCUIT PLUG-IN-UNIT COL-878N-1
Functional Class:

USA

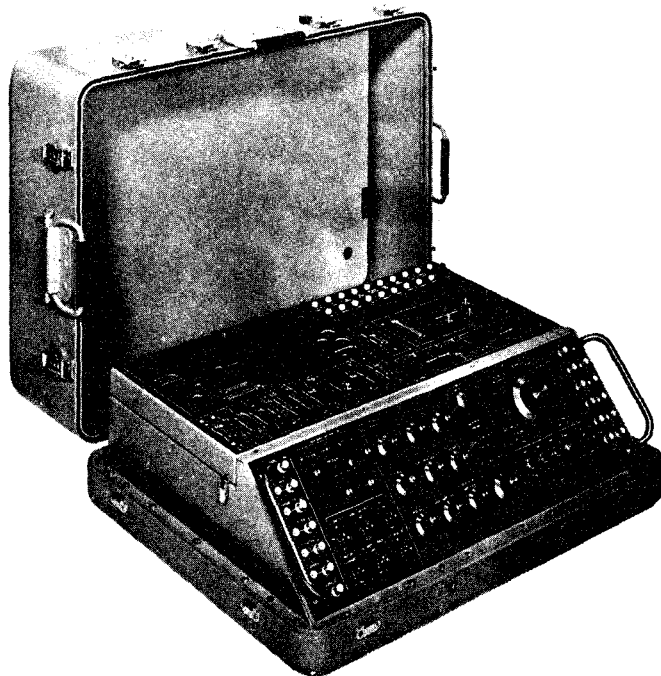
USN

USAF

TYPE CLASS:

Used by

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



ELECTRONIC CIRCUIT PLUG-IN-UNIT COL-878N-1

FUNCTIONAL DESCRIPTION:

Electronic Circuit Plug-In-Unit COL-878N-1 when used in conjunction with external test equipment, provides a means for testing and servicing Communications Central AN/SRC-16(XN-1) subassemblies. It controls and facilitates the interconnection of power, input signals and correct load to the subassemblies under test. External test equipments are connected to jacks on the test set for inserting test signals or monitoring output signals.

The test set, consisting of a chassis and nine subassemblies, is mounted in the lower half of a carrying case. The carrying case cover, normally removed and stored during operation, has facilities for storing eight cables, a tee adapter, and the technical manual. The cables consist of a power cable and seven cables for connection to external test equipment.

No field changes in effect at time of preparation (23 June 1965).

RELATION TO OTHER EQUIPMENT: None.

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ELECTRONIC CIRCUIT PLUG-IN-UNIT COL-878N-1

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Distortion Analyzer COL-476D-1; (1) Receiver COL-51J-4; (1) Distortion Analyzer CAQI-3308; (1) Electronic Counter CAQI-5248; (1) Signal Generator CAQI-606A; (1) Vacuum-Tube Voltmeter CAQI-400D; (1) Vacuum-Tube Voltmeter CAQI-4108; (1) Wide Range Oscillator CAQI-200CD; (1) Multimeter CTO-630; (1) Oscilloscope CBTV-545A; (1) Oscilloscope Preamplifier CBTV-B; (1) Oscilloscope Probe CBTV-P6000; (1) Precision DC Differential Voltmeter CBWR-801; (1) RF Voltmeter CYK-91-C.

TECHNICAL CHARACTERISTICS:

SUBASSEMBLIES TESTED:

- Balanced Modulator.
- Frequency Divider.
- Frequency Multiplier.
- IF/AM Amplifier.
- KC Frequency Stabilizer.
- LSB Amplifier-Mixer.
- MC Frequency Stabilizer.
- 100-KC Frequency Divider.
- 1-MC Frequency Divider.
- Radio Frequency Isolation Amplifier.
- Receiver Gain Control.
- RF Tuner.
- Transmitter Gain Control.
- USB Amplifier-Mixer.
- Variable RF Attenuator.

POWER REQUIREMENTS: 115 v, 3 ph delta connected, 400 cps, and external test equipment.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Electronic Circuit Plug-In-Unit COL-878N-1 includes:		10-7/8 x 20-1/4 x 26	41
9	Subassemblies			
1	Carrying Case		10-7/8 x 20-1/4 x 26	29
1	Power Cord Assembly		72 lg	
1	Electric Cord Assembly No. 1		48 lg	
1	Electric Cord Assembly No. 2		48 lg	
2	Electric Cord Assembly No. 3		48 lg	
1	Electric Cord Assembly No. 4		51 lg	
2	Electric Cord Assembly No. 5		52-1/2 lg	
1	Tee Adapter UG-2748/U			

437

ELECTRONIC CIRCUIT PLUG-IN-UNIT COL-878N-1

REFERENCE DATA AND LITERATURE:

NAVSHIPS 94539: Technical Manual for Electronic Circuit Plug-in-Unit 878N-1.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (3) 5670 (1) 5687 (2) 5749 (1) 5814A

CRYSTALS: (1) 1,350.000 kc (1) 1,750.0 kc (1) 3,000.000 kc

SEMI-CONDUCTORS: (5) 1N198 (5) 1N457 (1) 1N538 (3) 1N627 (2) 1N645 (12) 1N649
(1) 1N965B (1) 1N1513A (1) 1N3024B (1) 2N333 (4) 2N375 (1) 2N384
(2) 2N404 (2) 2N458 (2) 2N489 (1) 2N491 (1) 2N498 (2) 2N526
(8) 2N697 (2) 2N1184 (1) 2N1196 (26) 2N1285 (1) 2N1595 (7) TK21

SHIPPING DATA

PKGS VOLUME (CU FT) WEIGHT (LBS)

PROCUREMENT DATA

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

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Collins Radio Company	Cedar Rapids, Iowa	N0bsr-85559	

438

13 August 1965

ELECTRONIC CIRCUIT PLUG-IN-UNIT COL-878N-2

Cog Service: USN FSN:

Functional Class:

USA

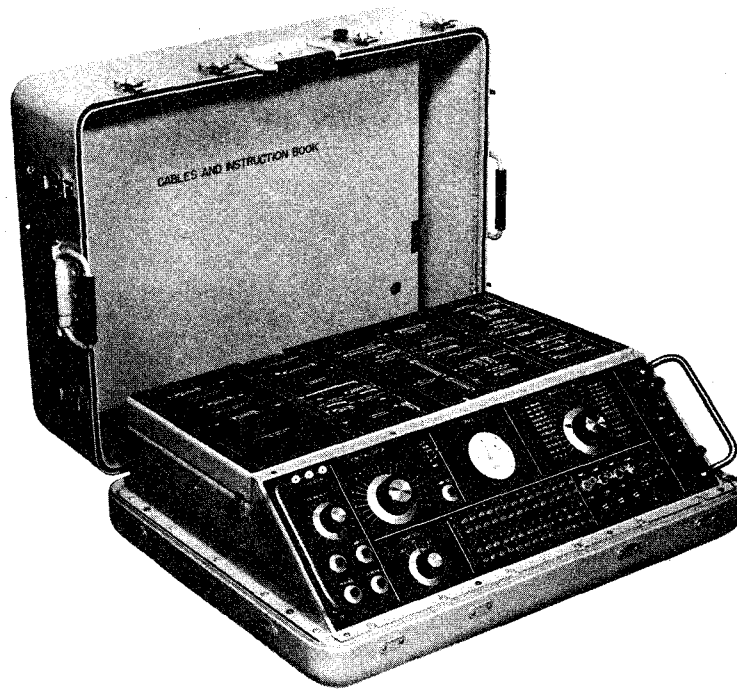
USN

USAF

TYPE CLASS:

Used by

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



ELECTRONIC CIRCUIT PLUG-IN-UNIT COL-878N-2

FUNCTIONAL DESCRIPTION:

Electronic Circuit Plug-In-Unit COL-878N-2 when used in conjunction with external test equipment, provides a means for testing and servicing Communications Central A1/SRC-16(XN-1) subassemblies. It controls and facilitates the interconnection of power, input signals, and correct load to the subassemblies under test. External test equipment are connected to jacks on the test set for inserting test signals or monitoring output signals.

The test set, consisting of a chassis and two subassemblies, is mounted in the lower half of a carrying case. The carrying case cover, normally removed and stored during operation, has facilities for storing eight cables and the technical manual. The cables consist of a power cable and seven cables for connection to external test equipment.

No field changes in effect at time of preparation (24 June 1965).

RELATION TO OTHER EQUIPMENT: None.

ELECTRONIC CIRCUIT PLUG-IN-UNIT COL-878N-2

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Alignment Rod for S2 COL-549-8561-002; (1) Alignment Rod for S1 COL-549-8562-002;
 (1) Distortion Analyzer CAQI-330B; (1) Wide Range Oscillator CAQI-200CD; (1) Vacuum-Tube
 Voltmeter CAQI-400D; (1) Vacuum-Tube Voltmeter CAQI-4108; (1) Frequency Counter CAQI-5248;
 (1) Multimeter CTO-630.

TECHNICAL CHARACTERISTICS:

SUBASSEMBLIES TESTED:

Channel Power Supply.
 Signaling Power Supply.
 Common Power Supply.
 Receiver Switching Control.
 AC Power Supply.
 Electronic Control Amplifiers.
 Power Supply.
 Transformer Module.
 Frequency Shift Keyer.
 Antenna Coupler Control.
 Audio-Frequency Amplifiers.
 Radio Set Adapter.
 Rotary Switch Control.
 Speaker Amplifier.
 Frequency Shift Converter.
 Compression Amplifier.
 Frequency Shift Oscillator.
 Transmitter Switching Control.
 De-multiplex Switching Control.
 RF Amplifier Switching Control.

440

POWER REQUIREMENTS: 115 v, 3 ph delta-connected, 400 cps and external test equipment.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Electronic Circuit Plug-In-Unit COL-878N-2 includes:		10-7/8 x 20-1/4 x 26	60
2	Subassemblies			
1	Carrying Case		10-7/8 x 20-1/4 x 26	29
1	Power Cord Assembly		72 1g	
1	Electrical Cord Assembly No. 1		48 1g	
1	Electrical Cord Assembly No. 2		48 1g	
2	Electrical Cord Assembly No. 6		48 1g	
2	Electrical Cord Assembly No. 7		48 1g	
1	Cord Assembly, Electrical, Branched		52-1/2 1g	

ELECTRONIC CIRCUIT PLUG-IN-UNIT COL-878N-2

REFERENCE DATA AND LITERATURE:

NAVSHIPS 94540: Technical Manual for Electronic Circuit Plug-In-Unit 878N-2.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: None required.

CRYSTALS: None required.

SEMI-CONDUCTORS: (3) 1N457 (67) 1N645 (12) 1N649 (1) 1N718A (1) 1N965B (14) 1N1124
(1) 1N2982B (1) 1N3019B (1) 1N3024B (7) 1N3189 (1) 2N333
(4) 2N375 (2) 2N388A (1) 2N498 (3) 2N526 (1) 2N1595
(1) CCBS-3Z5.6T5 (2) CCNL-PS6465

SHIPPING DATA

PKGS VOLUME (CU FT) WEIGHT (LBS)

PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG:

DESIGN COG: USN, Commercial

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Collins Radio Company	Cedar Rapids, Iowa	N0bsr-85559	

441

26 October 1964

TESTER CAPACITOR TYPE FUEL GAGE TANK UNIT MD-2

Cog Service: USN FSN:

Functional Class:

USA

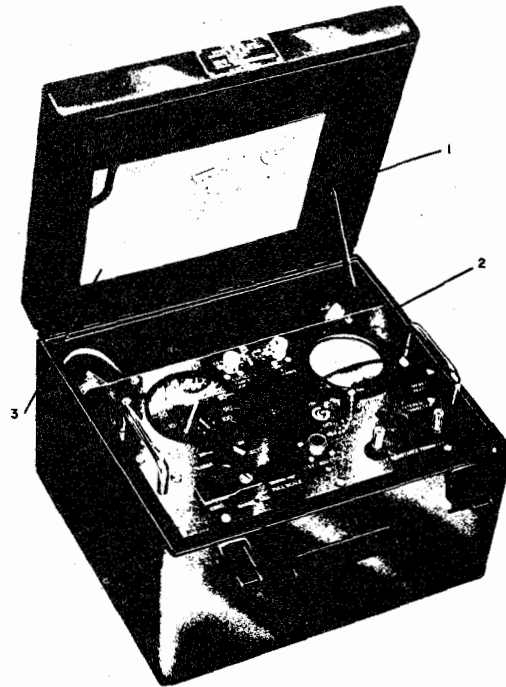
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Avien Incorporated, (97485).



TESTER CAPACITOR TYPE FUEL TANK UNIT MD-2

FUNCTIONAL DESCRIPTION:

Tester Capacitor Type Fuel Gage Tank Unit MD-2 is a single unit field or bench test equipment for use principally in the following two applications: (a) Reading the capacitance of individual fuel-gaging probes (tank units) or complete fuel-gaging systems; (b) measuring leakage resistance of tank units or complete systems.

The instrument may be used, however, to measure any unknown capacitance from 0.5 uuf to 5000 uuf, and to check relatively high resistances from about 0.1 megohm up to about 10,000 megohms.

No field changes in effect at time of preparation (9 October 1964).

RELATION TO OTHER EQUIPMENT:

MD-2 TESTER CAPACITOR TYPE FUEL GAGE TANK UNIT

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

TECHNICAL CHARACTERISTICS:

POWER REQUIREMENTS: 115 v, 400 cps, 25 W.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Tester Capacitor-Type Fuel Gage Tank Unit Type MD-2 includes:		8 x 10-1/2 x 12	18
10	Cable Assemblies			

REFERENCE DATA AND LITERATURE:

NAVWEPS 17-15CF-505: Handbook of Operation, Service, and Overhaul Instructions with Illustrated Parts Breakdown for Tester, Capacitor-Type Fuel Gage Tank Unit, Type MD-2.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (1) 5651 (1) 5751WA (1) 6005/6AQ5/6095 (1) 6AT6 (1) 6X4W

CRYSTALS: Not required.

SEMI-CONDUCTORS: Not required.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
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PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG:

DESIGN COG: USN, BuWeps

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Avien Incorporated	Woodside, New York		

7 July 1965

TEST SET MK-365 MOD 0

Cog Service: USN FSN:

Functional Class:

USA

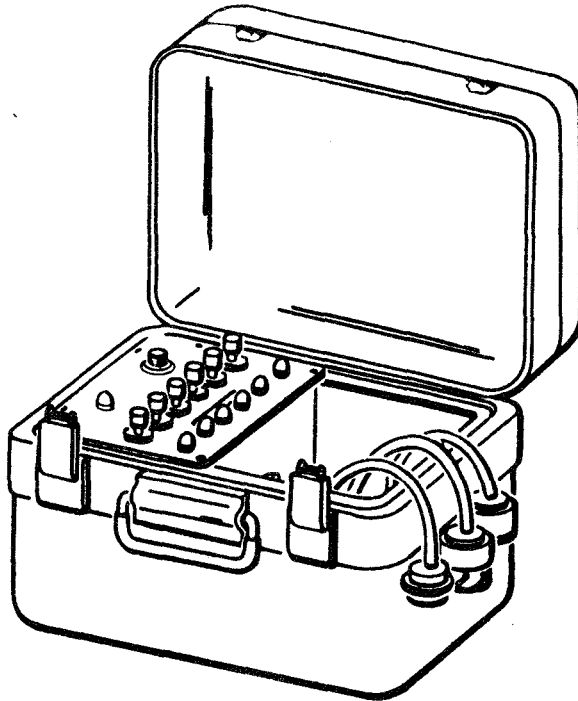
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER:



TEST SET MK-365 MOD 0

FUNCTIONAL DESCRIPTION:

Test Set MK 365 Mod 0 is a special purpose test instrument used during deck check of Torpedo MK 45 Mod 0 in both exercise and warshot conditions. It visually indicates the presence of torpedo control power and of warhead signals during a simulated torpedo run. It also performs functions in the torpedo monitor circuit.

The Test Set performs the following three functions: (a) During warmup it simulates possible conditions of the warhead monitor circuit; (b) After fire, lamps light to indicate the presence of torpedo control power and of warhead signals as they occur; (c) When the Test Set is used with an exercise torpedo it connects and monitors torpedo power and signals to the exercise section.

No field changes in effect at time of preparation (1 June 1965).

RELATION TO OTHER EQUIPMENT: None.

TEST SET MK-365 MOD 0

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

TECHNICAL CHARACTERISTICS:

TESTS TORPEDO FUNCTIONS: Application of 28 v dc power of afterfire circuitry enable, arm, burst and monitor circuit.

MONITOR CIRCUIT: Test Set is connected to the torpedo monitor circuit so that the torpedo circuit can be closed, opened or bypassed by monitor circuit. These functions are performed with the torpedo in the warmup condition.

TORPEDO CONTROL POWER: When torpedo is fired, six yellow lamps labeled 28 v AFTERFIRE light to indicate that power is available from the afterfire bus. This power is also connected to the test terminals of the lamps for the press-to-test function of these lamps.

ENABLE H.V. ARM AND BURST LAMPS: During a deck check; as simulated range is increased, the six red lamps light by pairs, in sequence, to indicate when their appropriate torpedo functions exist.

MAJOR COMPONENTS

445

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Set MK 365 Mod 0			10

REFERENCE DATA AND LITERATURE:

NAVWEPS OD12402: Description, Operation and Maintenance Handbook for Test Set MK 365 Mod 0.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Not required.

CRYSTALS: Not required.

SEMI-CONDUCTORS: Not required.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
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PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG:

DESIGN COG: USN, Buweps

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
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2 July 1965

Cog Service: USN FSN:

TEST GROUP AVIONICS OA-3345/ASM-43

Functional Class:

USA

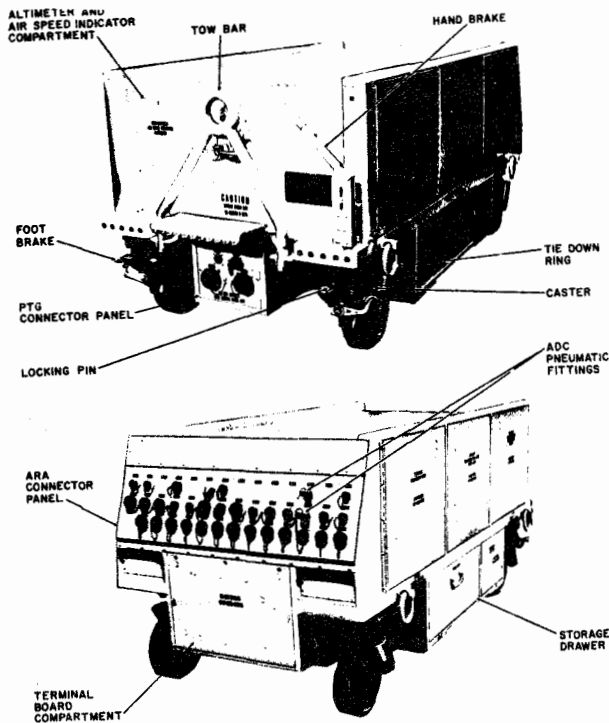
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Grumman Aircraft Engineering Corporation. (26512).



TEST GROUP AVIONICS OA-3345/ASM-43

FUNCTIONAL DESCRIPTION:

Test Group Avionics OA-3345/ASM-43 for line (E) Level Maintenance, the equipment is connected between the Test Set Group, Programming, and the Avionic Subsystem to be tested. As part of a mobile Test Set, the Test Set Group, Avionics, provides the stimuli, adaptation, and conversion in response to programmed tests, to indicate malfunction of Avionic subsystems, and locate faulty major replaceable units.

No field changes in effect at time of preparation (8 April 1965).

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

TEST GROUP AVIONICS OA-3345/ASM-43

TECHNICAL CHARACTERISTICS:

TECHNICAL CHARACTERISTICS

AC POWER: 115 v, 400 cps, 3 ph, 4 wire, wye connected; 102 to 124 v per ph; 380 to 420 cps.

VA EA SYSTEM AS FOLLOWS

AIR DATA SIMULATOR: 600 va max.

ADC CONVERTER SIMULATOR: 65 va max.

INS CONVERTER SIMULATOR: 450 va max.

ANALOG AND DIGITAL CONVERTER SIMULATORS: 208 va max.

DC POWER: 25 to 29 v dc.

VA EA SYSTEM AS FOLLOWS

AIR DATA SIMULATOR: 150 va max.

ADC CONVERTER SIMULATOR: 75 va max.

INS CONVERTER SIMULATOR: 400 va max.

ANALOG AND DIGITAL CONVERTER SIMULATORS: 120 va max.

CONDITIONED AIR: 0° C (+32° F) to 8° C (72° F); VOLUME: 50 cfm.

TEMPERATURE: Continuous 0° C (32° F) to 55° C (131° F); Intermittent 71° C (160° F) max for 20 min; NOT OPERATING: - 62° C (- 80° F) to 85° C (185° F).

INPUT SIGNALS: 28 v dc command signals from programming test group; Analog and digital test signals from system under test; 28 v dc response signals from system under test.

OUTPUT SIGNALS: 28 v dc command signals to system under test programmed ac and dc power to system under test.

447

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Group Avionics			
	OA-3345/ASM-43 includes:			
1	Mechanical Test Trailer Assembly		34-7/8 x 40 x 77-1/2	800
	No. 128SEAV17120-1			
1	Converter-Simulator (Comp)		8-1/2 x 19 x 22-5/8	80
	CV-1297/ASM-43			
1	Converter-Simulator (Comp)		8-1/2 x 19 x 22-5/8	90
	CV-1298/ASM-43			
1	Converter-Simulator (Comp)		8-1/2 x 19 x 22-5/8	70
	CV-1353/AS			
1	Converter-Simulator ADC		8-1/2 x 19 x 22-5/8	30
	CV-1367/AS			
1	Air Data Simulator SM-389/AS		17 x 19 x 22-5/8	92
1	Signal Selector includes:			
1	Keyer KY-521/ASA-48		7 x 9-7/8 x 18-1/2	34
1	Keyer KY-520/ASA-48		7 x 9-7/8 x 18-1/2	34
1	Keyer-Control C-6195/ASA-48		3-3/4 x 8 x 13-1/2	13
1	Altitude and Air Speed Indicator			
	No. 128SEAV15259-1			
1	ARA Connector Panel		3/8 x 9-3/16 x 10-3/32	15
	No. 128SEAV15232-9			

TEST GROUP AVIONICS OA-3345/ASM-43

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Power Distribution Panel No. 17005-29		3/8 x 8-1/16 x 9-3/16	5
1	Air Conditioning Unit No. 128SEAV13040-1		9-1/4 x 18 x 25-1/2	150
1	Converter Unit No. 128SEAV13289-1		2-1/4 x 6-1/2 x 8-1/2	3-1/2
1	Temperature Control Assy 128SEAV17078-1		1-3/8 x 3-5/16 x 5-5/8	1-1/2
1	Cable Storage Rack Assy 128SEAV17200-3 Cable as required Pneumatic Hose Assy 128SEAV13045-1		24 x 34-1/2 x 60	300

REFERENCE DATA AND LITERATURE:

NAVWEPS 16-50AAB-2-3: Handbook Operation and Service Instructions for Avionics Test Group
(Computer Platform) OA-3345/ASM-43.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Not required.

CRYSTALS: Not required.

SEMI-CONDUCTORS: Not required.

DIODES: (7) 1N100 (4) 1N456 (9) 1N459 (4) 1N463 (71) 1N538 (2) 1N540 (18) 1N546M
(150) 1N645 (4) 1N646 (6) 1N658 (1) 1N749A (8) 1N754A (3) 1NB27
(11) 1N968B (1) 1N970B (2) 1N1780 (1) 1N1891 (28) 1N1908 (1) 1N3022B
(1) 1N3189 (42) 900120-96 (591) 900120-97 (24) 900120-110 (1) 900120-111
(1861) 900120-144 (24) 900120-158 (807) 900120-184 (2) 900120-238
(327) 900120-281 (5) 900120-289 (5) 900201-117 (1) 900201-192 (6) 947083-7741
(2) 7700099-1 (16) LPR100

TRANSISTORS: (5) 2N174 (5) 2N333 (3) 2N335 (10) 2N335A (2) 2N343 (6) 2N404
(6) 2N501 (2) 2N549 (2) 2N599 (14) 2N697 (1) 2N1132 (2) 2N1233
(2) 2N1774 (2) 2N2348 (490) 900201-37 (6) 900201-54 (1) 900201-65
(3) 900201-104 (2) 900201-204 (2) 900201-211 (21) 900201-221

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
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4.12 OA-3345/ASM-43: 3

834

TEST GROUP AVIONICS OA-3345/ASM-43

PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG:

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Grumman Aircraft Engineering Corp.	Bethpage, L. I., N. Y.	NOa(s) 61-0024i NOW 62-0340i	

647

19 April 1965

TEST CONSOLE COMPUTER AIR DATA OA-3739/ASA-48

Cog Service: USN FSN:

Functional Class:

USA

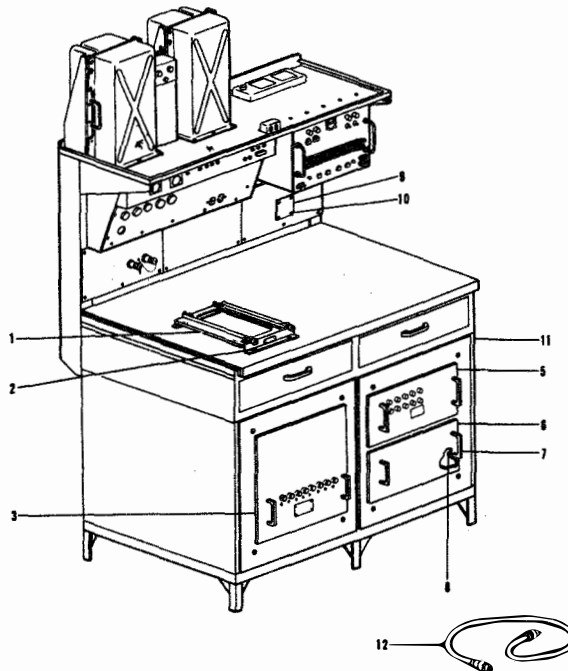
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Grumman Aircraft Engineering Corporation, (26512).



450

TEST CONSOLE COMPUTER AIR DATA OA-3739/ASA-48

FUNCTIONAL DESCRIPTION:

Test Console Computer Air Data OA-3739/ASA-48 provides capability of Semi-Automatic performance evaluation and Fault Isolation to the module level of the CADC and serves to function under Shop Environment to provide facilities for Navy C and D levels of maintenance for Electronic Units removed from the W2F-1 aircraft.

No field changes in effect at time of preparation (5 April 1965).

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

TEST CONSOLE COMPUTER AIR DATA OA-3739/ASA-48

TECHNICAL CHARACTERISTICS:

POWER REQUIREMENTS: 115 v, 400 cyc, 3 ph; 28 v dc.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Console, Computer Air Data OA-3739/ASA-48		36 x 48 x 72-1/2	

REFERENCE DATA AND LITERATURE:

NAVWEPS 16-50BAB-4-3: Illustrated Parts Breakdown for Air Data Computer Test Console
OA-3739/ASA-48.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Not required.

CRYSTALS: Not required.

SEMI-CONDUCTORS: (2) 1N459 (4) 1N463 (2) 1N540 (6) 1N658 (43) LPR100 (2) UT-652-3

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
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PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG:

DESIGN COG: USN, BuWeps

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Grumman Aircraft Engineer- ing Corporation	Bethpage Long Island, N. Y.	NOa(s) 57-628c	

451

20 April 1965

Cog Service: USN FSN:

TEST CONSOLE FLIGHT CONTROL OA-3740/ASA-48

Functional Class:

USA

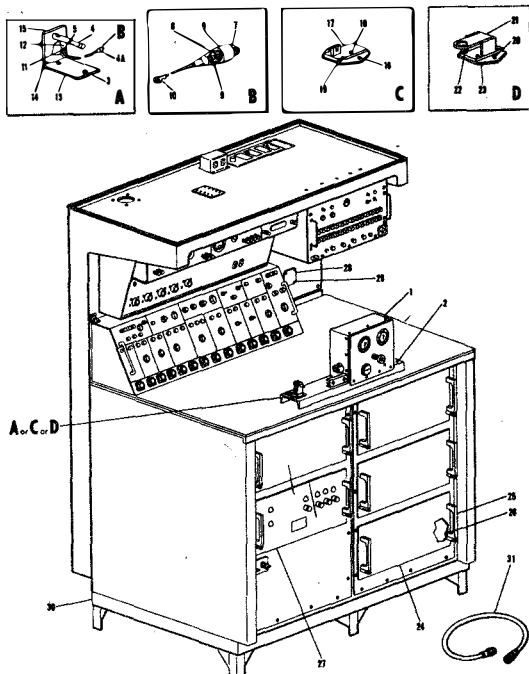
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TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Grumman Aircraft Engineering Corp., (26512).



452

TEST CONSOLE FLIGHT CONTROL OA-3740/ASA-48

FUNCTIONAL DESCRIPTION:

Test Console Flight Control OA-3740/ASA-48 serves to function under shop environment to provide facilities for Navy C & D levels of maintenance for electronic units removed from the W2F-1 aircraft. Provides the capability of semi-automatic fault isolation of the AN/ASW-15 or AN/ASW-16 Flight Control Computers to the module level and manual fault isolation to the replaceable part level.

No field changes in effect at time of preparation (6 April 1965).

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

TEST CONSOLE FLIGHT CONTROL OA-3740/ASA-48

TECHNICAL CHARACTERISTICS:

POWER REQUIREMENTS: 115 v ac, 400 cps, 3 ph, 4 wire, 28 v dc.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Console Flight Control OA-3740/ASA-48		36 x 48 x 72-1/2	

REFERENCE DATA AND LITERATURE:

NAVWEPS 16-50BAB-4-4: Illustrated Parts Breakdown for Flight Control Test Console
OA-3740/ASA-48.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Not required.

CRYSTALS: Not required.

SEMI-CONDUCTORS: (1) 1N3031B (61) UT242 (4) SG1172 (4) 2N333 (3) 2N343 (1) 2N458A
(2) 2N697M

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
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PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG:

DESIGN COG: USN, BuWeps

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Grumman Aircraft Engineering Corp.	Bethpage, L. I., N. Y.	NOas 57-628C NOas 59-0259	

453

19 April 1965

Cog Service: USN FSN:

CONSOLE RADAR NAVIGATION OA-3741/ASA-48

Functional Class:

USA

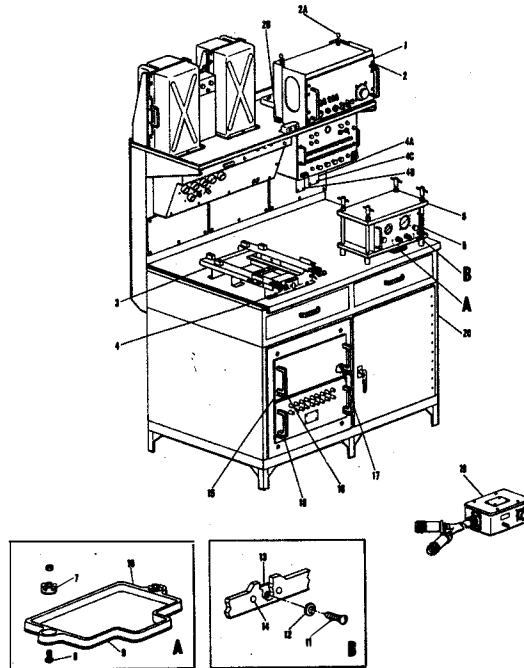
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Grumman Aircraft Engineering Corp., (26512).



CONSOLE RADAR NAVIGATION OA-3741/ASA-48

FUNCTIONAL DESCRIPTION:

Console Radar Navigation OA-3741/ASA-48 provides the capability of semi-automatic performance evaluation and fault isolation to the module level for assemblies of the Navigation Set, Radar AN/APN-122(V) and also serves to function under shop environment to provide facilities for Navy C and D levels of maintenance for Electronic Units removed from the W2F-1 Aircraft.

No field changes in effect at time of preparation (7 April 1965).

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

CONSOLE RADAR NAVIGATION OA-3741/ASA-48

TECHNICAL CHARACTERISTICS:

POWER REQUIREMENTS: 115 v ac, 400 cps, 3 ph; 28 v dc.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Console Radar Navigation OA-3741/ASA-48		36 x 48 x 72-1/2	

REFERENCE DATA AND LITERATURE:

NAVWEPS 16-50BAB-4-6: Illustrated Parts Breakdown for Radar Navigation Test Console
OA-3741/ASA-48.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Not required.

CRYSTALS: (1) VH10/1A88C-F (1) VH10/1A88B-H (1) MC131A13.5KC (1) 500628G3
 (1) VH10/1A88C-E (1) MC13A5.350KC (1) CR50A/U24KC (1) 500628G4
 (1) VH10/1A88B-D (1) MC13A5.250KC (1) 500628G1 (1) VH10/1A88B-E
 (1) MC13A5.251KC (1) 500628G2

SEMI-CONDUCTORS: (4) 1N255 (1) 1N3027B (4) 1N429 (1) 1N3033B (264) 1N485B
 (2) 1N3039B (8) 1N538 (1) CD-32722 (24) 1N645 (1) ES-2185-205
 (51) 1N649 (1) SZ831 (1) 1N746A (12) 2N328A (12) 2N332 (2) 2N657
 (86) 1N914 (15) 2N333 (55) 2N335 (6) 1N938B (20) 2N337 (1) 2N656
 (1) 1N941B (11) 2N697 (1) 1N944B (2) 2N706 (34) 2N929 (2) 1N971B
 (1) 2N1358 (2) 2N1724 (1) 1N1124 (12) 2N1943 (1) WX118XB

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
Grumman Aircraft Engineering Corp.	Bethpage, L. I., N. Y.	NOa(s) 57-628C	

20 April 1965
Cog Service: USN FSN:

TEST CONSOLE, INERTIAL NAVIGATION OA-3742/ASA-48
Functional Class:

USA

USN

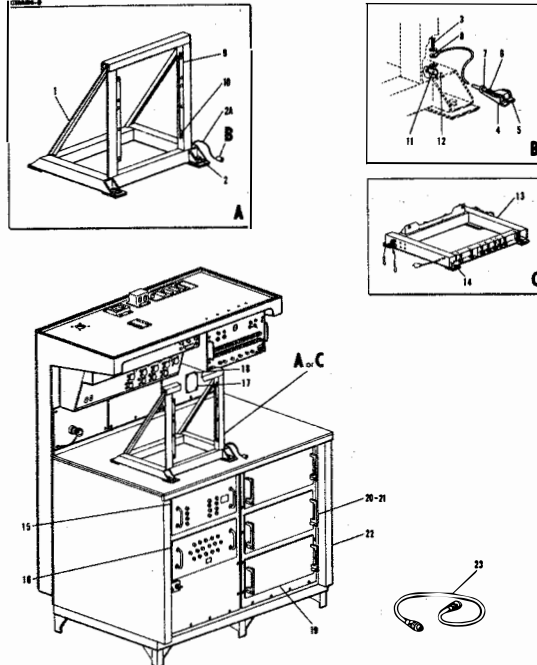
USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Grumman Aircraft Engineering Corp., (26512).

Group Assembly Parts List



TEST CONSOLE, INERTIAL NAVIGATION OA-3742/ASA-48

FUNCTIONAL DESCRIPTION:

Test Console, Inertial Navigation OA-3742/ASA-48 provides Class C (Shop) level maintenance facility for assemblies of the AN/ASN-31 and AN/ASN-36 Inertial Navigation Systems. The assembly to be tested is mounted on the Shop Bench Assembly and evaluated semi-automatically under the control of the Programming Test Console. The Inertial Navigation Test Console contains self-test capabilities sufficient for fault isolation of the test equipment to the replaceable part level.

No field changes in effect at time of preparation (7 April 1965).

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

TEST CONSOLE, INERTIAL NAVIGATION OA-3742/ASA-48

TECHNICAL CHARACTERISTICS:

POWER REQUIREMENTS: 115 v ac, 3 ph 4 wire 400 cps; 28 v dc.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Console, Inertial Navigation OA-3742/ASA-48		36 x 48 x 72-1/2	

REFERENCE DATA AND LITERATURE:

NAVWEPS 16-50BAB-4-7: Illustrated Parts Breakdown for Inertial Navigation Test Console
OA-3742/ASA-48.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Not required.

CRYSTALS: Not required.

SEMI-CONDUCTORS: (5) 1N457 (3) 900201-71 (5) 1N646 (1) 900201-124 (1) 1N968B (1) 1N970
(11) 900201-130 (4) 2N174 (1) 1N3022B (7) 2N333 (1) 1N3070 (2) 2N335
(9) 900120-27 (2) 2N343 (3) 900120-89 (2) 2N404 (1) 900120-102
(2) 2N599 (5) 900120-172 (3) 900201-28 (4) 900201-71 (2) 900120-233
(3) 900201-75 (1) 900201-78 (704) 900120-281 (5) 900201-80 (4) 900201-63

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
Grumman Aircraft Engineering Corp.	Bethpage, Long Island, N. Y.	NOa(s) 57-628C NOa(s) 59-0259C	

7 July 1965
Cog Service: USN FSN:

TEST CONSOLE ELECTRONIC OA-3743/ASA-48
Functional Class:

USA

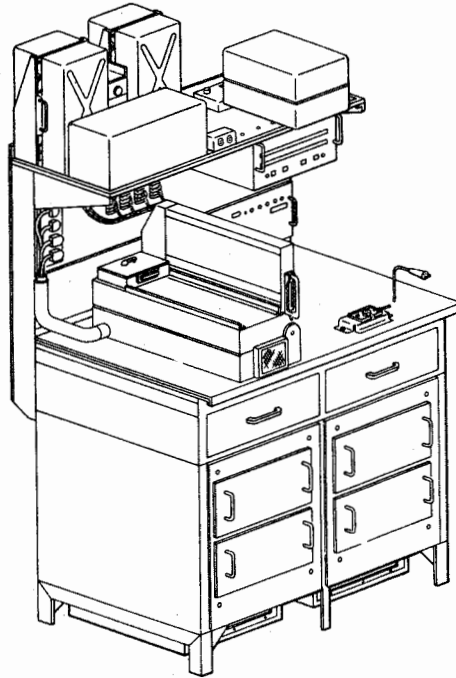
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Grumman Aircraft Engineering Corporation, (26512).



858

TEST CONSOLE ELECTRONIC OA-3743/ASA-48

FUNCTIONAL DESCRIPTION:

Test Console Electronic OA-3743/ASA-48 provides Class "C" shop level maintenance facilities for assemblies of the AN/ASQ-57, and AN/ASQ-58 Integrated Electronic Centrals. The assembly to be tested, is installed on the MX-4739/ASA-48 Selector Adapter Test Signal where facilities for cooling air, and electrical connections to the Test Console are provided. Performance evaluation is then conducted under the control of the Test Console, Programming OA-3738/ASA-48. The Test Console, Electronic OA-3743/ASA-48 contains self test capabilities sufficient for fault isolation of the test equipment to the replaceable part level. (This revision will be a 100% back-fit).

No field changes in effect at time of preparation (7 April 1965).

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

TEST CONSOLE ELECTRONIC OA-3743/ASA-48

TECHNICAL CHARACTERISTICS:

POWER REQUIREMENTS: 115 v ac, 3 ph, 4 wire 400 cps, 28 v dc.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Console Electronic OA-3743(XZ-1)/ASA-48		36 x 48 x 72-1/2	

REFERENCE DATA AND LITERATURE:

NAVWEPS 16-50BAB-4-5: Illustrated Parts Breakdown for Electronic Test Console
OA-3743(XN-1)/ASA-48.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Not required.

CRYSTALS: Not required.

SEMI-CONDUCTORS: (3) 1N645

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
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PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG:

DESIGN COG: USN, BuWeps

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Grumman Aircraft Engineering Corp.	Bethpage, Long Island, N. Y.	NOw 61-0035-c NOw 62-0268-i	

20 November 1964

GENERATOR, PULSE DELAY SG-142/DPM-1

Cog Service: USN FSN:

Functional Class:

USA

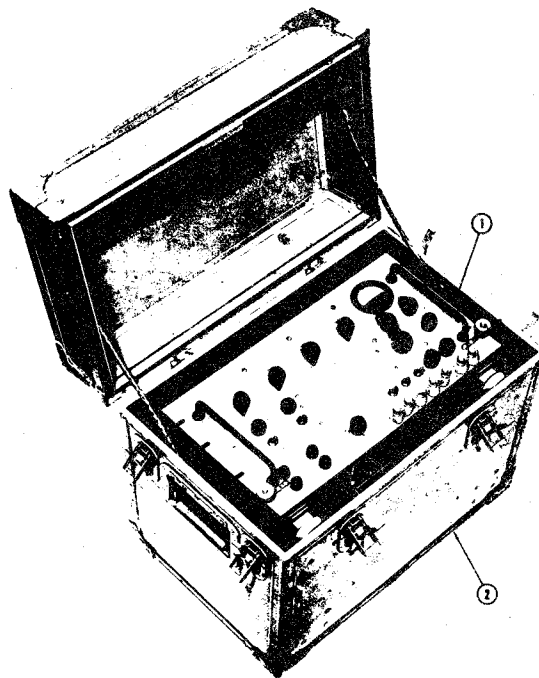
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Chance Vought Aircraft Incorporated, (80378).



GENERATOR, PULSE DELAY SG-142/DPM-1

FUNCTIONAL DESCRIPTION:

Generator, Pulse Delay SG-142/DPM-1 is a portable unit which can be installed for rack or bench use. The pulse delay generator generates a positive delayed pulse whose displacement in time from a reference pulse is variable from 1.0 to 999.9 microseconds. The generator may be synchronized by external or internal means, the PRF in both instances being registered on an indicator mounted on the front panel of the instrument. An internal PRF generator circuit provides trigger pulses in two ranges 20 to 200 pps and 100 to 800 pps, and supplies an oscilloscope trigger 2 microseconds ahead of the reference or time-zero pulse. The pulse delay generator is a precision instrument which generates a delayed positive pulse output for use as a comparison and reference standard to calibrate pulse time intervals of other electronic equipment. Capabilities: The pulse delay generator provides the following types of pulse outputs: (a) A positive delayed pulse output variable from 1.0 to 999.9 microseconds in steps of 0.1 microseconds for use as a precision comparison standard; (b) A positive normal scope trigger output pulse 2 microseconds ahead of the time-zero pulse; (c) A

4.12 SG-142/DPM-1: 1

460

SG-142/DPM-1 GENERATOR, PULSE DELAY

positive delayed scope trigger output pulse variable from 10 to 1,000 microseconds in 10 microsecond steps and synchronized with an internal pulse train for jitter-free sweep synchronization; (d) A positive time-zero SYNC OUTPUT pulse for synchronization with other equipment; (e) A means for external synchronization with a positive SYNC INPUT signal; (f) A positive test signal output consisting of a time-zero pulse combined with a variable delayed pulse output, or a positive test signal output containing only the pulse video input; (g) A positive mixed output pulse consisting of a pulse video input combined with a delayed pulse output.

No field changes in effect at time of preparation (16 November 1964).

RELATION TO OTHER EQUIPMENT:

Pulse Delay Generator SG-142/DPM-1, under contract NOa(s)53-886C differs from Pulse Delay Generator SG-142/DPM-1, under contract NOa(s)55-368 and NOa(s)57-196. Pulse Delay Generator SG-142/DPM-1, under contract NOa(s)53-886C has resistor 270 ohms, across pins 1 and 2 of the 100 microsecond delay line Z103.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Adapter Tee (with 100 ohm load) Namy 49199 (modified); (1) Audio Oscillator TS-382D/U; (1) Electronic Multimeter TS-505/U; (1) Oscilloscope AN/USM-25A; (1) Vacuum Tube Voltmeter ME-6B/U; (1) Variac (Variable Audio Transformer) V-10MT.

TECHNICAL CHARACTERISTICS:

POWER REQUIREMENTS: 115 v ac, 60 cps single ph 2 amps.

NEGATIVE VOLTAGE LIMITS: The pulse delay generators under contract NOa(s)55-886C are - 27 (± 2) v and - 15 (± 1) v.

INTERNAL POWER SUPPLY: Converts externally supplied 115 v, 60 cps input into four dc voltage outputs. These outputs are + 270 v dc, + 105 v dc, - 27 v dc, and - 15 v dc.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Generator, Pulse Delay SG-142/DPM-1 includes:		10-1/2 x 17-1/4 x 19	
1	Transit Case CY-1912/DPM-1			

REFERENCE DATA AND LITERATURE:

NAVAER 16-45-586: Handbook Operation and Service Instructions with illustrated Parts Break-down Test Set, Pulse Delay Generator SG-142/DPM-1.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (1) 5670 (2) 5687 (1) 5725/6SA6W (1) 5726/6AL5W (1) 5727/2D21W (1) 5751
(1) 5750/6BE6W (1) 6080 (1) 0B2WA (3) 6X4W (15) 12AT7WA

GENERATOR, PULSE DELAY SG-142/DPM-1

CRYSTALS: (1) CR18/U (1000 kc)

SEMI-CONDUCTORS: (23) 1N198

SHIPPING DATA

PKG VOLUME (CU FT) WEIGHT (LBS)

PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG: MIL-T-945A

DESIGN GOG: USN, BuWeps

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Chance Vought Aircraft Incorporated	Dallas, Texas	NOa(s) 53-886C NOa(s) 55-368 and NOa(s) 57-196	

462

23 April 1965

Cog Service: USN FSN:

TEST SET, COMPONENT TS-1016/ASB-7
Functional Class:

USA

USN

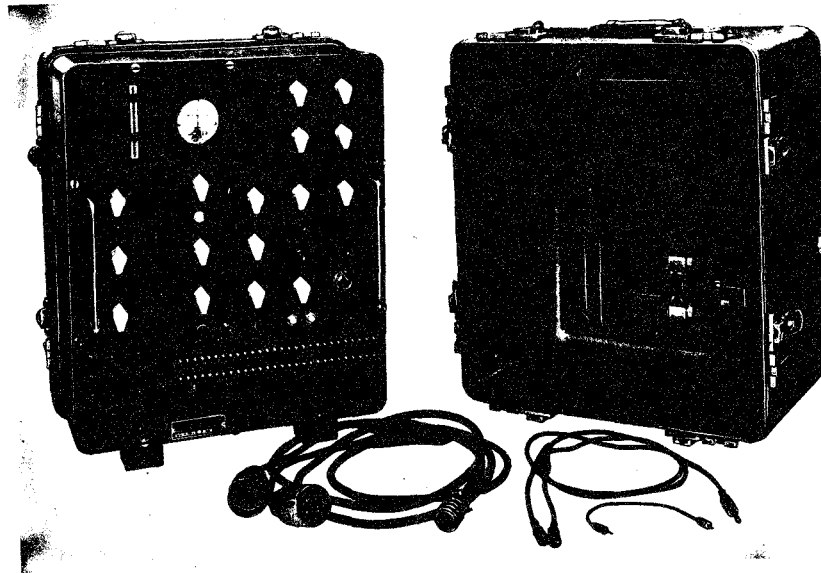
USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Librascope Inc., (36090).

463



TEST SET, COMPONENT TS-1016/ASB-7

FUNCTIONAL DESCRIPTION:

Test Set, Component TS-1016/ASB-7 is a portable unit designed to test the plug-in components of Bombing Data Computer CP-209/ASB-7 a unit of the Computer Subsystem of Bomb Directing Set AN/ASB-7.

No field changes in effect at time of preparation (15 April 1965).

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Oscilloscope AN/USM-105A (R6625-785-6500) or equivalent; (1) Vacuum Tube Voltmeter ME-30A/U (RH6625-376-4921) or equivalent; (1) Multimeter AN/PSM-4B (RM-6625-643-1668) or equivalent.

4.12 TS-1016/ASB-7: 1

TEST SET, COMPONENT TS-1016/ASB-7

TECHNICAL CHARACTERISTICS:

POWER REQUIREMENTS: 28 v dc and 120 to 208 v ac, 3 ph, Y-connected, 400 cyc.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Set, Component TS-1016/ASB-7 includes:		15-3/4 x 18 x 20-7/8	88
1	Power Cable #58A81D56			
1	VTVM Cable #58A71D223			
1	Jumper Cable #58A81B162			

REFERENCE DATA AND LITERATURE:

- NAVWEPS 11-70 FEB-501: Handbook of Operation and Service Instructions for Component Test Set TS-1016-ASB-7.
- NAVWEPS 11-70 FEA-501-1: Functional Description and Maintenance Instructions, for Computer Subsystem of Bomb Directing Set AN/ASB-7
- NAVWEPS 11-70 FEA-500-2: Diagrams for Computer Subsystem of Bomb Directing Set AN/ASB-7.
- NAVWEPS 11-70 FEA-502: Illustrated Parts Breakdown for Computer Subsystem or Bomb Directing Set AN/ASB-7.
- NAVWEPS 11-70 FEA-3: Program Handbook for Computer Subsystem of Bomb Directing Set AN/ASB-7.
- NAVWEPS 11-70 FEB-502: Operation and Service Instruction with Illustrated Parts Breakdown for Synchronizer Electrical SN-328/ASB-7.
- NAVWEPS 11-70 FEB-503: Operation and Service Instructions with Illustrated Parts Breakdown for Test Set Computer Bombing Data TS-1769/ASB-7.
- NAVWEPS 11-70 FEB-5: Operation and Service Instructions with Illustrated Parts Breakdown, for Test Set Computer AN/ASM-45.
- NAVWEPS 11-70 FEB-6: Operation and Service Instructions with Illustrated Parts Breakdown for Test Set, Converter Reader TS-1468/ASB-7.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Not required.

CRYSTALS: Not required.

SEMI-CONDUCTORS: (14) 1N538 (8) 1N540

SHIPPING DATA

PKGS VOLUME (CU FT) WEIGHT (LBS)

PROCUREMENT DATA

PROCURING SERVICE: USN

DESIGN COG: USN, BuWeps

SPEC &/OR DWG:

4.12 TS-1016/ASB-7: 2

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TEST SET, COMPONENT TS-1016/ASB-7

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Librascope Inc.	Glendale, California		

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2 August 1965

TEST SET, FREQUENCY SHIFT CONVERTER TS-1618(XN-1)/UG

Cog Service: USN

FSN:

Functional Class:

USA

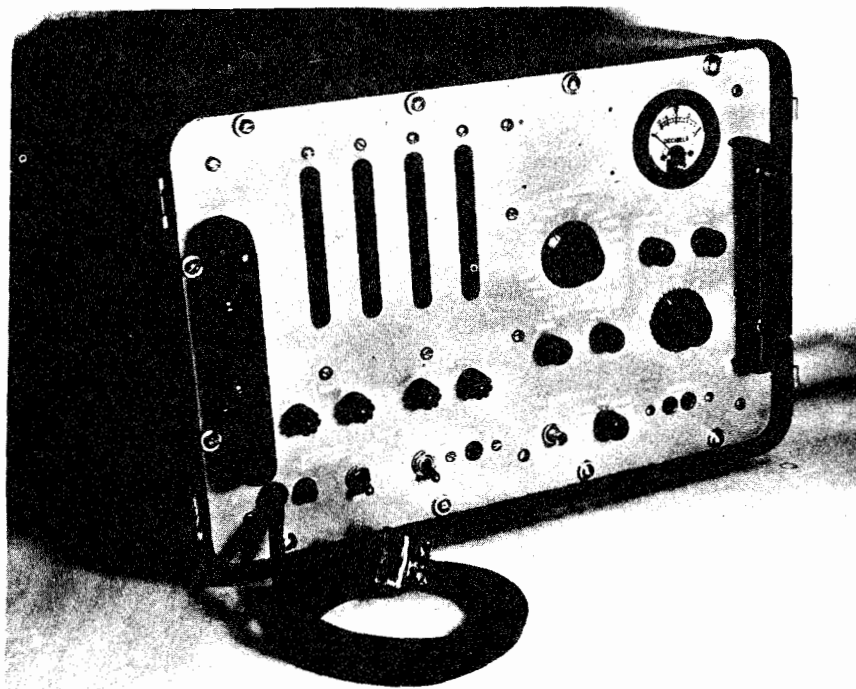
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Cooke Engineering Co., (02002).



TEST SET, FREQUENCY SHIFT CONVERTER TS-1618(XN-1)/UG

FUNCTIONAL DESCRIPTION:

Test Set, Frequency Shift Converter TS-1618(XN-1)/UG is designed for testing and adjusting tone and carrier frequency-shift converters in teletype and facsimile systems on both shipboard and shore installations. The test set can be used to check sensitivity, garbling, and similar characteristics of such typical converters as Frequency-Shift Converter-Comparator Group AN/URA-8 or AN/URA-8A and Radio Teletype Terminal Set AN/SGC-1A.

The equipment consists basically of a signal source, an electronic switch, a calibrated attenuator, and a frequency counter. The test set output can be modulated by a dc input signal from a teleprinter or a transmitter distributor to produce frequency-shifted audio pulses which are fed to a converter for test purposes. The highly stable audio output signal composed of mark and space frequencies, can be shifted by adjustable amounts (42.5, 50, 85, 100 or 425 cps) on either side of the frequency which is also adjustable over a 425 to 3230 cps range. The test signal oscillators can be electronically keyed (neutral) from a teletype line using

TEST SET, FREQUENCY SHIFT CONVERTER TS-1618(XN-1)/UG

20 or 60 ma of line current. The rate of keying may be from 60 to 240 words per minute.

Provision is also made for supplying an audio signal which is manually variable from 1500 to 2300 cps for testing the converter in a facsimile receiving system. Audio output levels of both teletype and facsimile test signals are indicated on the front panel and are manually adjustable over a range of - 67 to + 23 db. The frequency of space, mark, and facsimile output signals or external signals can be measured by use of the electronic decade counter which is part of the test set. The frequency of the measured signal is automatically displayed as lighted numerals on the front panel counter indicator.

No field changes in effect at time of preparation (24 June 1965).

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

TECHNICAL CHARACTERISTICS:

FREQUENCY RANGE

TELETYPE: 325 to 4000 cps w center freq adjustable in steps of 170 cps.

FACSIMILE: 1500 to 2300 cps, manually adjustable.

FREQUENCY SHIFT

SHIFTS: Adjustable to obtain shifts of ± 42.5 , ± 50 , ± 85 , or ± 100 cps over entire freq range and ± 425 above 1000 cps center freq.

TELEGRAPH BIAS DISTORTION: Less than 2% when input signal has zero distortion.

ACCURACY: ± 2 cps.

OUTPUT: Variable from - 67 to + 23 dbm for both teletype and facsimile.

TELETYPE INPUT: 20 ma or 60 ma dc (neutral) teletype loop, either side grounded; input res of 200 ohms at 60 ma operation or 560 ohms for 20 ma operation.

FREQUENCY MEASUREMENT: Capability of measuring and instantaneously indicating internal or external freq from 20 to 9999 cps.

POWER REQUIREMENTS: 115 v $\pm 10\%$, 50 to 400 cps, 1 ph, 150 W.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Set, Frequency Shift Converter TS-1618(XN-1)/UG		12 x 12 x 18	48

REFERENCE DATA AND LITERATURE:

NAVSHIPS 94187: Technical Manual for Test Set, Frequency Shift Converter TS-1618(XN-1)/UG.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (1) 5687WA (1) 5727/2D21W (3) 5725/6AS6WA (1) 5751WA (2) 5814WA (1) 6AH6WA
(7) 6J6WA (1) 6BK7B (1) 6922 (3) 12AT7WA (1) 0A2WA (1) 0D3/VR150 (1) 0G3

CRYSTALS: Not required.

TEST SET, FREQUENCY SHIFT CONVERTER TS-1618(XN-1)/UG

SEMI-CONDUCTORS: (8) 1N547 (12) 1N661

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
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PROCUREMENT DATA

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

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Cooke Engineering Co.	Alexandria, Va.	N0bsr 75295	

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24 November 1964

TEST SET, COMPUTER BOMBING DATA TS-1769/ASB-7

Cog Service: USN FSN:

Functional Class:

USA

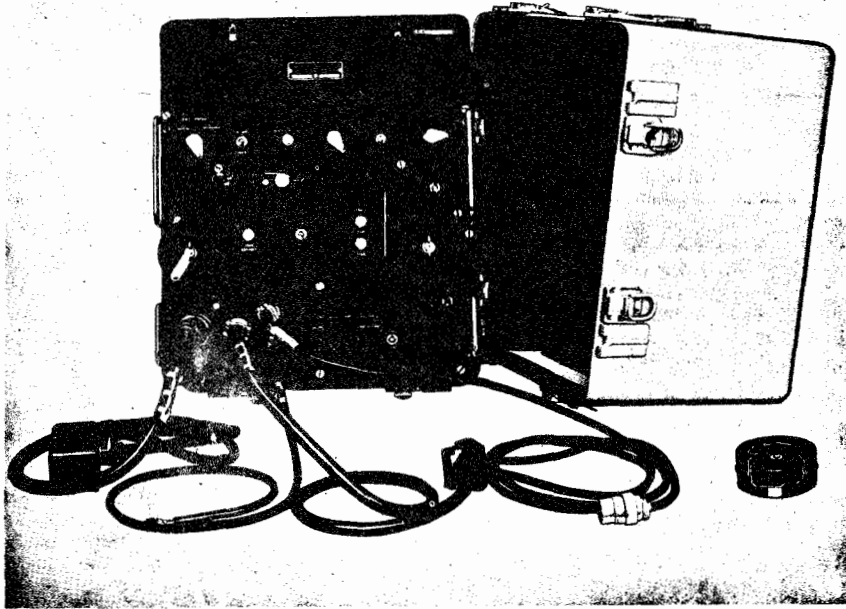
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: General Precision, Inc., (36090).



TEST SET, COMPUTER BOMBING DATA TS-1769/ASB-7

FUNCTIONAL DESCRIPTION:

Test Set, Computer Bombing Data TS-1769/ASB-7 is a semi-automatic instrument designed to transfer program information from pre-punched tape to Bombing Data Computer CP-209/ASB-7, a unit of the Computer Subsystem of Bomb Directing Set AN/ASB-7. The test set also has the capability of checking the entire transfer to insure that no errors have been impressed on the memory drum.

No field changes in effect at time of preparation (13 November 1964).

RELATION TO OTHER EQUIPMENT:

TS-1769/ASB-7 TEST SET, COMPUTER BOMBING DATA

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Bench Cooler Assembly No. 58A80J93; (1) Drum Extender Posts (4) No. 58A808214; (1) 22 Pin Card Extenders; (2) (4 Adapters per extender) No. 58A80D215; (1) 28 Pin Extender No. 58A80D280; (1) Oscilloscope AN/USM-105A; (1) Vacuum Tube Voltmeter ME-30A/U; (1) Volt-Ohmmeter AN/PSM-4A; (1) Extender Cable No. 58A80D318; (1) Extender Cable No. 58A80D319.

TECHNICAL CHARACTERISTICS:

POWER REQUIREMENTS: 115 v ac, 400 cyc, three-ph Y, power source. Individual circuit breakers are in series w/ea of the three power leads.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Test Set, Computer Bombing Data TS-1769/ASB-7 includes:		15-1/4 x 18 x 21	70
1	Panel Assembly			
1	Test Cable 101			
1	Test Cable 102			
1	Power Cable 103			
1	Test Cable 104			
1	Punched Tape, ASB Program BN-18			
1	Punched Tape, ASB Program BN-1C			
1	Reel, Punched Tape			

REFERENCE DATA AND LITERATURE:

NAVWEPS 11-70FEB503: Handbook, Operation and Service Instructions with Illustrated Parts Breakdown Test Set, Computer Bombing Data TS-1769/ASB-7.

NAVWEPS 11-70FEA-501-1: Functional Description and Maintenance Instructions, Computer Subsystem of Bomb Directing Set AN/ASB-7.

NAVWEPS 11-70FEA-501-2: Diagrams Computer Subsystem of Bomb Directing Set AN/ASB-7.

NAVWEPS 11-70FEA-502: Illustrated Parts Breakdown, Computer Subsystem of Bomb Directing Set AN/ASB-7.

NAVWEPS 11-70FEA-3: Program Handbook, Computer Subsystem of Bomb Directing Set AN/ASB-7.

NAVWEPS 11-70FEB-501: Operation and Service Instructions, Component Test Set TS-1016/ASB-7.

NAVWEPS 11-70FEB-502: Operation and Service Instructions with Illustrated Parts Breakdown, Synchronizer, Electrical SN-328/ASB-7.

NAVWEPS 11-70FEB-5: Operation and Service Instructions with Illustrated Parts Breakdown, Test Set, Computer AN/ASM-45.

NAVWEPS 11-70FEB-6: Operation and Service Instructions with Illustrated Parts Breakdown, Test Set, Converter Reader TS-1468/ASB-7.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (1) 16T76021 (1) 12Z13005-632 (3) 12Z13005-634 (6) 5639 (9) 6111

CRYSTALS: Not required.

SEMI-CONDUCTORS: (234) HD6621 (2) 1480763 (2) 1Z12T5

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
General Precision, Inc.	Glendale, California	N0as-57-788 c	

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CLASSIFICATION of Equip. UNCLASSIFIED		ITEM NAME Syncro Test Set	DESIGNATION TS-1933/UP
SPECIFICATION CSY-3-FY63 -14		CONTRACT NUMBER AND DATE -	DATE of Request -
CONTRACTOR'S NAME AND ADDRESS		QUANTITY ON ORDER -	
		SERVICE APPROVAL LETTER - SERIAL AND DATE	

ELECTRICAL CHARACTERISTICS

POWER INPUT 117 V, 400 CYCLE 1 PHASE		AMPS		WATTS		V		CYCLE		PHASE		AMPS		WATTS	
OUTPUT SIGNAL CHARACTERISTICS (REP. RATE, I.F. ETC.)				WAVE GUIDE OR CABLE LIMITATIONS				INPUT SIGNAL CHARACTERISTICS				POWER OUTPUT			
-				-				-				-			
OPERATING FREQ. AND FREQ. RANGE				EMISSION OR RECEPTION (TYPE)				FREQ. CONTROL (TYPE)				NO. OF CHANNELS			
-				-				-				-			
ANTENNA OR TRANSDUCER (TYPE)				IMPEDANCE (OHMS)				FEED TYPE				BEAM PATTERN			
-				-				-				°HORIZ. - °VERT.			

REFERENCE DATA AND LITERATURE

DRAWING	DWG. NUMBER	DIST. DATE	PUBLICATION	PUB. NUMBER
-	-	-	TECHNICAL MANUAL	-
			OPERATING INSTRUCTION CHART	
			PERFORMANCE STANDARD SHEET	
			MAINTENANCE STANDARD BOOK	

MAJOR UNITS

QTY	NOMENCLATURE AND NAME	OVERALL DIMENSIONS (IN)			H.D. (UNITS)	WEIGHT (LBS)
		HEIGHT	WIDTH	DEPTH		
	Syncro Test Set TS-1933/UP	4	6	10		

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UNCLASSIFIED

NAVSHIPS 93400

ELECTRONIC EQUIPMENT - PRELIMINARY DATA

NAVSHIPS 4457 (Rev. 9-62) (CONT'D)

DESIGNATION	ITEM NAME
TS-1933/UP	Syncro Test Set

FUNCTIONAL DESCRIPTION: SKETCH, MFG. DIMENSIONS, ETC.

The TS-1933/UP provides a quick, safe means to align the one speed and 36 speed syncros of the remote radar indicators. The unit is used with Radar Sets AN/MPS-16() and AN/TPS-37, and Indicator Group AN/UPA-25().

No unit cost available

Source of information: Request for Nomenclature

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CLASSIFICATION
UNCLASSIFIED

7/29/63

CHANGE 70 - 675 (USMC)

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