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PHILCO CORPORATION

Western Development Laboratories

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15 February 1963

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296 907

SUBJECT: L/C AF04(695)-278
Submission of Technical Report WDL-TR1946
As a deliverable item

TO: Commander
Space Systems Division
Air Force Systems Command
United States Air Force
Los Angeles 45, California

ATTENTION: Technical Data Center

INFO COPIES: D. Cowart, CSD No. 3 (1 copy)
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REFERENCES: (a) L/C AF04(695)-278, Exhibit "D"
(b) AFBM Exhibit 58-1, Para. 3.4

In accordance with the requirements of references
(a), and (b) we are forwarding ten (10) copies of the following document:

<u>Title</u>	<u>Number and Date</u>
Life Test on WDL-RT-5A	WDL-TR1946
Radar Beacon Transponder with	31 January 1963
6-Command Decoder	

PHILCO CORPORATION
Western Development Laboratories

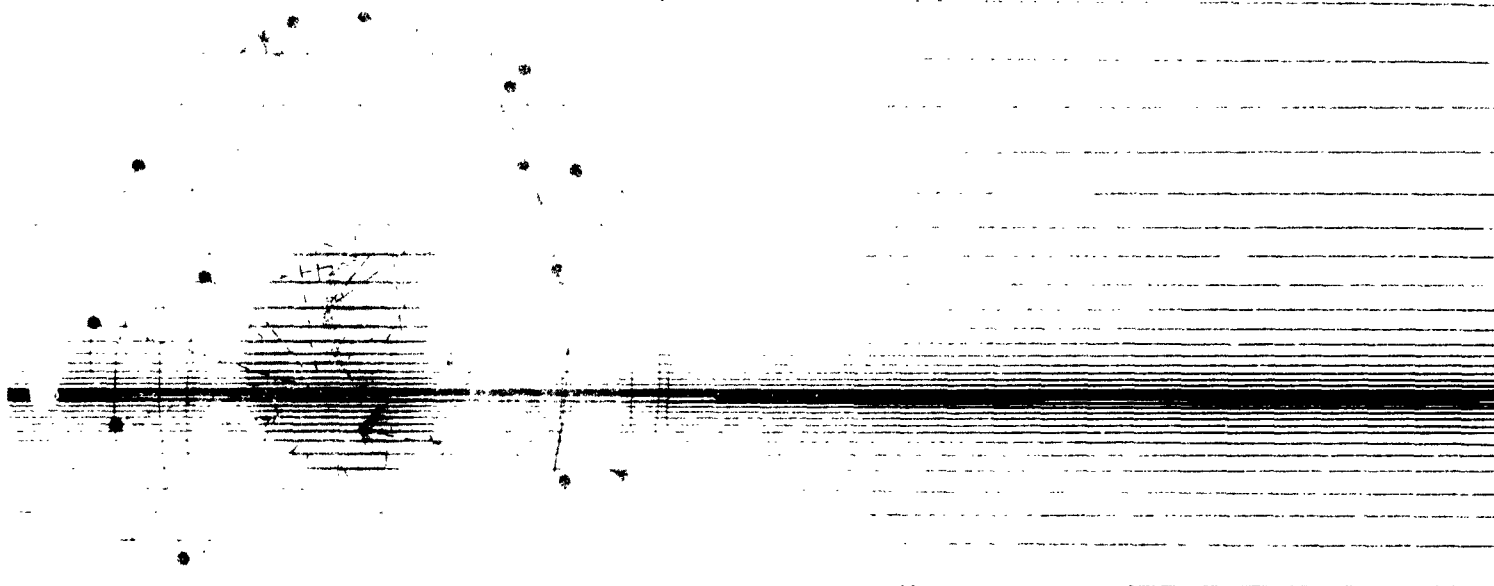
R. W. Boyd

R. W. Boyd
Manager, Contracts Management

PHILCO

WESTERN DEVELOPMENT LABORATORIES

31 JANUARY 1963



LIFE TEST ON WDL-RT-5A RADAR
BEACON TRANSPONDER
WITH 6 - COMMAND DECODER

AF04(695) - 278

PHILCO

SYSTEM DEVELOPMENT LABORATORIES

TECHNICAL OPERATING REPORT

LIFE TEST ON WDL-RT-5A
RADAR BEACON TRANSPONDER WITH
6-COMMAND DECODER

Prepared By

PHILCO CORPORATION
Western Development Laboratories
Palo Alto, California

Contract AF04(695)-278
AFBM Exhibit 58-1, Paragraph 3.4

Prepared for

SPACE SYSTEMS DIVISION
AIR FORCE SYSTEMS COMMAND
UNITED STATES AIR FORCE
Inglewood, California

ABSTRACT

PHILCO WDL-TR1946

UNCLASSIFIED

LIFE TEST ON WDL-RT-5A RADAR BEACON

TRANSPONDER WITH 6-COMMAND DECODER

110 pages

31 January 1963

Contract AF04(695)-278

During lifetesting, Radar Beacon Transponder with 6-Command Decoder, Serial No. 550, disclosed no design weakness or failure trends. The unit has demonstrated an MTBF in excess of the specification requirement (Para. 3.11 of WDL-ES1523B) of 300 hours with 95% assurance level.

The 1000-hour test period was completed without equipment failure or any adjustment, and all performance parameters continued within specification tolerances.

THIS UNCLASSIFIED ABSTRACT IS DESIGNED FOR RETENTION IN A STANDARD 3-BY-5 CARD-SIZE FILE, IF DESIRED. WHERE THE ABSTRACT COVERS MORE THAN ONE SIDE OF THE CARD, THE ENTIRE RECTANGLE MAY BE CUT OUT AND FOLDED AT THE DOTTED CENTER LINE. (IF THE ABSTRACT IS CLASSIFIED, HOWEVER, IT MUST NOT BE REMOVED FROM THE DOCUMENT IN WHICH IT IS INCLUDED.)

FOREWORD

This Technical Operating Report on Definitive Contract AF04(695)-278 is submitted in accordance with Exhibit "D" of that contract, and Section 3, Paragraph 3.4 of AFBM Exhibit 58-1.

ADMINISTRATIVE DATA

PURPOSE OF TEST: The Life Test was performed to disclose design weakness and failure trends and to demonstrate the equipment's capability of exhibiting a Mean-Time-Between-Failures (MTBF) in excess of 300 hours with 95% assurance level.

EQUIPMENT: S-Band Transistorized Radar Transponder with 6 Command Decoder.

MANUFACTURER: ACF Electronics
11 Park Place
Paramus, New Jersey

MODEL NUMBER: WDL-RT-5A

SERIAL NUMBER: 550

QUANTITY TESTED: One

SPECIFICATION: WDL-ES-1523B

SECURITY CLASSIFICATION: Beacon Command Decoder - Confidential
Beacon Receiver/Transponder - Unclassified
WDL-ES-1523 Unclassified
This Report Unclassified

TEST COMPLETED: 500 Hours of test per spec. para. 4.6.2.1, 24 Aug 1962
1000 Hours of test to satisfy spec. para. 3.11
24 Aug 1962

TEST CONDUCTED BY: WDL Vehicle Equipment Section

DISPOSITION OF SPECIMEN: Continuation of Life Test beyond 1000 hours of test with performance checks at 100-hour intervals.

-v-

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LIFE TEST ON WDL-RT-5A RADAR BEACON TRANSPONDER
WITH 6-COMMAND DECODER

1. TEST PROCEDURES

The equipment used in performing the Life Test is listed in Table 1. Equipment on-off cycling was controlled by an automatic timer which was adjusted for a period of 90 minutes, with a duty cycle of 30 percent. After each 25-hour (± 2 hours) of "on" time, performance tests were conducted per specification paragraph 4.6.2.3 and the test data entered on WDL Form 5-72B (reproduced in Appendix A). The operational cycling was then resumed until the next 25-hour (± 2 hour) test interval.

During the 25 ± 2 hour cycling period, a six-minute interval automatic timer controlled a stepping relay and digital recording voltmeter. The voltmeter was used to record: (a) input voltage, (b) received signal monitor, (c) temperature monitor and (d) the four detected command tones.

When 500 hours of "on time" testing had been completed, the referenced performance tests were accomplished at stabilized equipment case temperatures of $-20 \pm 5^{\circ}\text{C}$, $0 \pm 5^{\circ}\text{C}$, $25 \pm 5^{\circ}\text{C}$, and $74 \pm 5^{\circ}\text{C}$. These tests completed the time-test requirements of specification Paragraph 4.6.2.1.

The test was continued for an additional 500 hours (1000 hours total) to demonstrate a capability of exceeding an MTTF of 300 hours with 95 percent assurance level. During this period, performance checks were accomplished at 100 hour intervals.

2. RESULTS OF TESTS

The variations of (a) transmitter power output, (b) receiver sensitivity, (c) transmitter frequency and (d) receiver frequency; are plotted versus test hours on Fig. 1. These graphs and the test data sheet entries (Appendix A) show that the equipment performance has not changed to any significant degree during the 1000 hours of the test.

3. CONCLUSIONS

The Life Test performed on WDL-RT-5A, Serial No. 550, has disclosed no design weakness or failure trends. No failures were experienced during the 1000 hours of test. The unit has demonstrated an MTF in excess of the specification requirement of 300 hours with 95 percent assurance level.

TABLE 1
TEST EQUIPMENT FOR LIFE TEST OF WDL-RT-5A

EQUIPMENT	MANUFACTURER	MODEL	SERIAL NO.	CALIBRATION
Electronic Counter	Hewlett-Packard	524B	3074	3 Months
Frequency Converter Unit	Hewlett-Packard	1783	1790	3 Months
Electronic Counter	Hewlett-Packard	524B	3122	3 Months
Time Interval Unit	Hewlett-Packard	526B	1283	3 Months
Transfer Oscillator	Hewlett-Packard	540A	935	3 Months
Microwave Sig. Gen.	Polarad	MSG-2	265	3 Months
Pulse Burst Gen.	Electro-Pulse	2130A	426	3 Months
DC Power Supply	Perkin Eng. Corp.	MR532-15A	10854	3 Months
Digital Voltmeter	Non Linear System	Mod. 64	11.4119	3 Months
Microwave Pwr. Mtr.	Hewlett-Packard	430C	3834	3 Months
Wide Range Osc.	Hewlett-Packard	200CDR	16888	3 Months
Wide Range Osc.	Hewlett-Packard	200CDR	16793	3 Months
Wide Range Osc.	Hewlett-Packard	200CD	005-90122	3 Months
Oscilloscope	Tektronix	545	10168	3 Months
Dual Trace Plug-In Unit	Tektronix	CA	002755 008638	3 Months
DC Digital Voltmeter	Hewlett-Packard	405CR	120-01132	3 Months
Unit Klystron Osc.	General Radio	1220-A	491	3 Months
Unit Reg. Pwr. Supp.	General Radio	1201-B	-	3 Months
Multipulse Generator	Polarad	MP-1A	217	3 Months
Digital Recorder	Hewlett-Packard	560-A	503	3 Months
DC Pwr. Supply	Perkin Eng. Corp.	MR532-15A	7047	3 Months
Life Test-Test Panels	Philco	-	-	-
Temperature Test Chamber	Delta Design Inc.	7000A	1372	3 Months

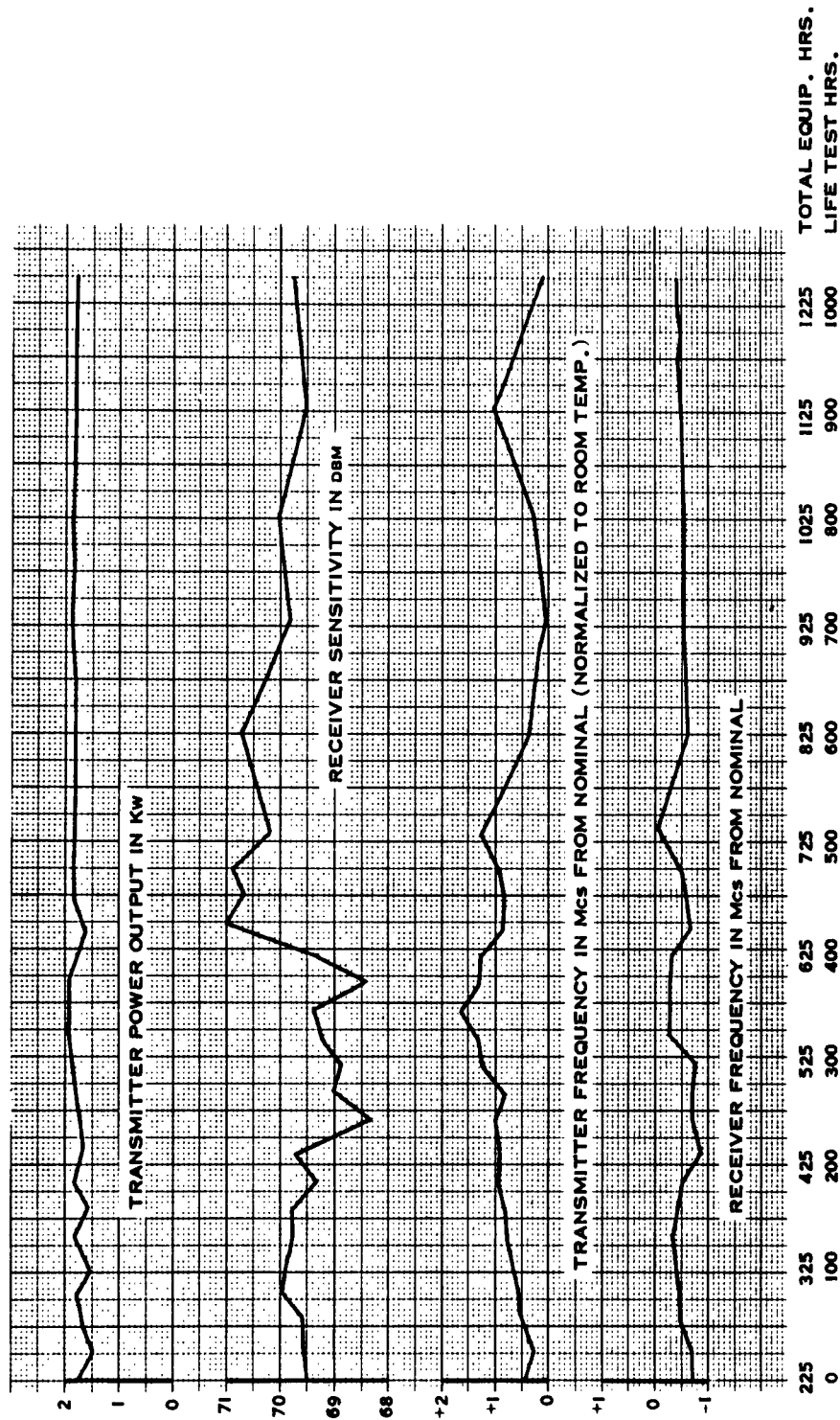


Fig. 1 Functional Variations During 1000-Hour Life Test of WDL-RT-5A Radar Beacon Transponder with 6-Command Decoder (Serial No. 550)

APPENDIX A

LIFE TEST
WDL-RT-5A
RADAR BEACON TRANSPONDER
WITH
6-COMMAND DECODER
DATA SHEETS

(Check One)

INCOMING	RTM	<u>224.4</u>
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FBI

REPAIR

LIFE TEST START

TABLE IV

MODEL NO. RT-5A
SERIAL NO. 550
DATE 6-15-62

ACCEPTANCE TEST
TRANSISTORIZED RADAR TRANSPONDER
(including 6 Command Decoder)

<u>ITEM</u>	<u>PARAGRAPH</u>	<u>PROCEDURE REFERENCE</u>	<u>TEST CONDITION</u>	<u>LIMITS</u>	<u>ACCEPT</u>	<u>REJECT</u>
1.	4.3.7.1	(1) Countdown during vibration (2) Transmitter Pulse Amplitude change (3) False Command (4) Command Drop-out	Ambient Operate	1% MAX 10% MAX		
				None		
				None		
2.	4.3.7.2	Shock	Ambient Non-operate	30g 1/2 sine 6 millisecc		
3.	4.3.7.3	Pressuration	Ambient--Last Test Non-operate	No leaks apparent in 10 minutes		

				-19°C	+74°C	AMBIENT 16° to 31°	ACCEPT	REJECT
4.	4.3.3.2	(1) Input power no command (2) Input power commanding	50 watts MAX 60 watts MAX			33.6 watts		
5.	4.3.4.1	Receiver Frequency	+2 mc w/add 0.1 mc/1°C	mc	mc	-.65 mc		
		Temp. Monitor (Ref.)	1 °C 2 °C 3 °C	vdc	vdc	vdc		
6.	4.3.4.2	Sensitivity	-65 to -70dbm	dbm	dbm	69.5 dbm		
7.	4.3.4.3	Bandwidth	greater than + 3 mc less than + 5 mc	mc	mc	+4.38 mc		
			greater than - 3 mc less than - 5 mc	mc	mc	-5.00 mc		
			8 ± 2 mc	mc	mc	9.38 mc		

MODEL NO. RT-5A
SERIAL NO. 550

PHILCO

LIFE TEST START

ITEM PARAGRAPH PROCEDURE REFERENCE

8. 4.3.4.4 Dynamic Range
0 → -65 dbm
no countdown
9. 4.3.4.5 Image Rejection
+125 mc 30 db MIN
-125 mc 30 db MIN
10. 4.3.4.6 Random Triggers
5 pulses per
second MAX
11. 4.3.4.7 Receiver Monitor
(1) 5000 ohms MAX
(2) 0.pps 0.5VDC
MAX
(3) 410 pps
(4) 820 pps
(5) 1230 pps
(6) 1600 pps
3.0 to 4.5 vdc
(1) +0.5 μ s MIN
(2) -0.5 μ s MIN
(3) +8% of Tb MAX
(4) -8% of Tb MAX
0.8 $\pm$ 0.2 μ s
1 Kw to 2.5 Kw
 $\pm$ 2 mc w/add.
0.1 mc/10C
1.0 $\pm$ 0.5 μ s
0.25 μ s MAX
12. 4.3.4.8 Pulse acceptance and
pulse rejection
13. 4.3.5.1 Transmitter pulse
width
14. 4.3.5.2 Transmitter Power
15. 4.3.5.3 Transmitter frequency
16. 4.3.5.4 Temp. monitor (reference)
17. 4.3.5.5 System Delay
Change in delay

LIMITS

RT-5A Ser #550

-19°C	6-15-62 +74°C AMBIENT 19°C to 31°C	ACCEPT	REJECT
	OK		
pps	pps none pps		
ohms	ohms 4.76 ohms		
vdc	vdc .004 vdc		
vdc	vdc .754 vdc		
vdc	vdc 1.868 vdc		
vdc	vdc 3.003 vdc		
vdc	vdc vdc		
	4.005		
μ s	μ s +1.1 μ s		
μ s	μ s -0.95 μ s		
μ s	μ s +1.35 μ s		
μ s	μ s -1.1 μ s		
	0.7		
Kw	Kw 1.75 Kw		
mc	mc +0.8 mc		
vdc	vdc 2.889 vdc		
μ s	μ s 1.05 μ s		
	0.05 μ s		

MODEL NO. RT-5A
SERIAL NO. 550

PHILCO

ITEM PARAGRAPH LIFE TEST START PROCEDURE REFERENCE

18. 4.3.5.6 Temperature Monitor
1 °C
2 °C
3 °C

19. 4.3.5.7 Transmitter Monitor

20. 4.3.6.1 Command Acceptance

+25°C
A +3.3 - 3.3
B +3.3 - 3.2
C +3.5 - 3.5
D +3.2 - 3.0
4.3.6.2

21 Command Monitor

LIMITS

4.7 VDC MAX

- (1) 5000 ohms MAX
- (2) 0.5 VDC MAX
- (3) 410 pps
- (4) 820 pps
- (5) 1230 pps
- (6) 1600 pps
3.0 to 4.5 vdc

- (1) A & B +2% MIN
- (2) B & C +2% MIN
- (3) A & D +2% MIN
- (4) A & C +2% MIN
- (5) B & D +2% MIN
- (6) C & D +2% MIN

- (1) short
- (2) short
- (3) short
- (4) short
- (5) short
- (6) short
- (7) inf.
- (8) inf.
- (9) inf.
- (10) inf.
- (11) inf.
- (12) inf.

RT-5A Ser #550

-19°C	6-15-62 +74°C	AMBIENT 19°C to 31°C	ACCEPT	REJECT
vdc	vdc	vdc		
		2.97		
ohms	ohms	329k	ohms	
vdc	vdc	.004	vdc	
vdc	vdc	2.369	vdc	
vdc	vdc	8.281	vdc	
vdc	vdc	5.985	vdc	
vdc	vdc	OK	vdc	
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		

MODEL NO.
SERIAL NO.

RT-5
550

LIFE TEST START

PARAGRAPH PROCEDURE REFERENCE

22. 4.3.6.3 Tone Monitor

23. 4.3.6.2.2 30 cps Interference
24. 4.3.7.3 Temperature Tests
25 4.1 Quality Assurance

RT-5A Ser. #550
6-15-62

-19°C	+74°C	AMBIENT 19°C to 31°C	ACCEPT	REJECT
LIMITS (1) 3.0 to 4.5 vdc (2) 3.0 to 4.5 vdc (3) 3.0 to 4.5 vdc (4) 3.0 to 4.5 vdc (5) 5000 ohms MAX (6) 5000 ohms MAX (7) 5000 ohms MAX (8) 5000 ohms MAX No false tone -19°C and +74°C				
3.88 vdc				
3.99 vdc				
3.96 vdc				
4.06 vdc				
3.95k ohms				
4.05k ohms				
4.03k ohms				
4.07k ohms				
OK				
Kenneth L. Seaton			6-19-62	DATE
John M. Ellwanger			6-15-62	

WDL-TR1946

Running Time Meter 0226.4

TABLE IV

(Check One)

INCOMING _____ RTM 251.6

ACCEPTANCE TEST TRANSISTORIZED RADAR TRANSPONDER (including 6 Command Decoder)

1st 25 HR TEST OF LIFE TEST

ITEM	PARAGRAPH	PROCEDURE REFERENCE	TEST CONDITION	LIMITS	ACCEPT	REJECT
1.	4.3.7.1	(1) Countdown during vibration (2) Transmitter Pulse Amplitude change (3) False Command (4) Command Drop-out	Ambient Operate	1% MAX 10% MAX		
2.	4.3.7.2	Shock	Ambient Non-operate	None None 30g 1/2 sine 6 millisecc		
3.	4.3.7.3	Pressuration	Ambient--Last Test Non-operate	No leaks apparent in 10 minutes		

		+19°C	+74°C	AMBIENT 16° to 31°	ACCEPT	REJECT
4.	4.3.3.2	(1) Input power no command (2) Input power commanding	50 watts MAX 60 watts MAX			
5.	4.3.4.1	Receiver Frequency	+2 mc w/add 0.1 mc/10C	mc		
				mc		
				vdc		
				vdc		
				-0.622 mc		
				vdc		
				2.842		
6.	4.3.4.2	Sensitivity	-65 to -70dbm	dbm		
7.	4.3.4.3	Bandwidth	greater than + 3 mc less than + 5 mc	mc		
			greater than - 3 mc less than - 5 mc	mc		
			8 ± 2 mc	mc		
				9.35		

MODEL NO. RT-5A

SERIAL NO. 550

1st 25HR TEST

ITEM PARAGRAPH

6-18-62

PROCEDURE REFERENCELIMITS

8.	4.3.4.4	Dynamic Range	0 → -65 dbm no countdown
9.	4.3.4.5	Image Rejection	+125 mc 30 db MIN -125 mc 30 db MIN
10.	4.3.4.6	Random Triggers	5 pulses per second MAX
11.	4.3.4.7	Receiver Monitor	(1) 5000 ohms MAX (2) 0. pps 0.5VDC MAX
			(3) 410 pps
			(4) 820 pps
			(5) 1230 pps
			(6) 1600 pps
			3.0 to 4.5 vdc
12.	4.3.4.8	Pulse acceptance and pulse rejection	(1) +0.5 μ s MIN (2) -0.5 μ s MIN (3) +8% of Tb MAX (4) -8% of Tb MAX 0.8 $\pm$ 0.2 μ s
13.	4.3.5.1	Transmitter pulse width	1 Kw to 2.5 Kw
14.	4.3.5.2	Transmitter Power	+ 2 mc w/add.
15.	4.3.5.3	Transmitter frequency	0.1 mc/1°C
16.	4.3.5.4	Temp. monitor (reference)	1.0 $\pm$ 0.5 μ s
17.	4.3.5.5	System Delay	0.25 μ s MAX
		Change in delay	

A-6

WDL-TR1946

-19°C	+74°C	AMBIENT 19°C to 31°C	ACCEPT	REJECT
		> 65 db		
		> 60 db		
pps	pps	OK		
ohms	ohms	4.75		
vdc	vdc	0.006		
vdc	vdc	0.748		
vdc	vdc	1.858		
vdc	vdc	2.977		
vdc	vdc			
		3.969		
μ s	μ s	+1.15		
μ s	μ s	-0.9		
μ s	μ s	+1.4		
μ s	μ s	-1.1		
		0.7		
Kw	Kw	61.9db Kw 1.56		
mc	mc	+0.456		
vdc	vdc	2.96		
μ s	μ s	1.05		
		0.1		

MODEL NO.
SERIAL NO.

PHILCO

ITEM	PARAGRAPH	PROCEDURE REFERENCE	LIMITS
18.	4.3.5.6	Temperature Monitor 1 36.2 °C 2 37.2 °C 3 36.2 °C	4.7 VDC MAX
19.	4.3.5.7	Transmitter Monitor	(1) 5000 ohms MAX (2) 0.5 VDC MAX (3) 410 pps (4) 820 pps (5) 1230 pps (6) 1600 pps 3.0 to 4.5 vdc
20.	4.3.6.1 +250 A +3.2 - 3.15 B +3.4 - 3.1 C +3.4 - 3.5 D +3.5 - 3.2	Command Acceptance	(1) A & B $\pm 2\%$ MIN (2) B & C $\pm 2\%$ MIN (3) A & D $\pm 2\%$ MIN (4) A & C $\pm 2\%$ MIN (5) B & D $\pm 2\%$ MIN (6) C & D $\pm 2\%$ MIN (1) short (2) short (3) short (4) short (5) short (6) short (7) inf. (8) inf. (9) inf. (10) inf. (11) inf. (12) inf.
21	4.3.6.2	Command Monitor	

A-7

-19°C	+74°C	AMBIENT 19°C to 31°C	ACCEPT	REJECT
vdc	vdc	vdc		
ohms	ohms	3.29 ohms		
vdc	vdc	0.008 vdc		
vdc	vdc	1.289 vdc		
vdc	vdc	2.390 vdc		
vdc	vdc	3.304 vdc		
vdc	vdc	4.014		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		

PHILCO

WESTERN DEVELOPMENT LABORATORIES

Operator
Supervisor WDL
Air Force
Inspector
Q/C WDL

Running Time Meter 0254.4

Kenneth L. Seaton	6-18-62
Theodore J. Netoff	

(Check One)

INCOMING _____ RTM 0280.4

FINAL _____

REPAIR _____

LIFE TEST 2nd 25HR PERIOD _____

TABLE IV

MODEL NO. RT-5A

SERIAL NO. 550

DATE 6-20-62

ACCEPTANCE TEST
TRANSISTORIZED RADAR TRANSPONDER
(including 6 Command Decoder)

ITEM	PARAGRAPH	PROCEDURE REFERENCE	TEST CONDITION	LIMITS	ACCEPT	REJECT
1.	4.3.7.1	(1) Countdown during vibration (2) Transmitter Pulse Amplitude change (3) False Command (4) Command Drop-out	Ambient Operate	1% MAX 10% MAX None None		
2.	4.3.7.2	Shock	Ambient Non-operate	30g 1/2 sine 6 millisec		
3.	4.3.7.3	Pressuration	Ambient--Last Test Non-operate	No leaks apparent in 10 minutes		

	-19°C	+74°C	AMBIENT 16° to 31°	ACCEPT	REJECT
4.3.3.2			33.6 watts		
4.3.4.1			37.3 watts		
	mc	mc	-41 mc		
	vdc	vdc	vdc		
			2.59		
	dbm	dbm	69.6 dbm		
	mc	mc	+4.05 mc		
	mc	mc	-4.97 mc		
	mc	mc	mc		
			9.02		

A 19

(1) Input power no command 50 watts MAX
(2) Input power commanding 60 watts MAX
Receiver Frequency ± 2 mc w/add
0.1 mc/10C

Temp. Monitor (Ref.) 129.5°C
230.5°C
330.250C

Sensitivity -65 to -70dbm

Bandwidth greater than + 3 mc
less than + 5 mc

greater than - 3 mc
less than - 5 mc

8 $\pm$ 2 mc

MODEL NO.
SERIAL NO.

PHILCO

ITEM	PARAGRAPH	PROCEDURE REFERENCE	LIMITS
8.	4.3.4.4	Dynamic Range	0 $\rightarrow$ -65 dbm no countdown
9.	4.3.4.5	Image Rejection	+125 mc 30 db MIN -125 mc 30 db MIN
10.	4.3.4.6	Random Triggers	5 pulses per second MAX
11.	4.3.4.7	Receiver Monitor	(1) 5000 ohms MAX (2) 0. pps 0.5VDC MAX
			(3) 410 pps (4) 820 pps (5) 1230 pps (6) 1600 pps
12.	4.3.4.8	Pulse acceptance and pulse rejection	3.0 to 4.5 vdc (1) +0.5 μ s MIN (2) -0.5 μ s MIN (3) +8% of Tb MAX (4) -8% of Tb MAX
13.	4.3.5.1	Transmitter pulse width	0.8 $\pm$ 0.2 μ s
14.	4.3.5.2	Transmitter Power	1 Kw to 2.5 Kw
15.	4.3.5.3	Transmitter frequency	$\pm$ 2 mc w/add.
16.	4.3.5.4	Temp. monitor (reference)	0.1 mc/10C
17.	4.3.5.5	System Delay	1.0 $\pm$ 0.5 μ s
		Change in delay	0.25 μ s MAX

-19°C	+74°C	AMBIENT 19°C to 31°C	ACCEPT	REJECT
		OK		
		>65db		
pps	pps	pps		
ohms	ohms	none		
		4.74ohms		
vdc	vdc	.005 vdc		
vdc	vdc	.753 vdc		
vdc	vdc	1.86 vdc		
vdc	vdc	3.00 vdc		
vdc	vdc	vdc		
		4.00		
μ s	μ s	+1.2 μ s		
μ s	μ s	-.9 μ s		
μ s	μ s	+1.3 μ s		
μ s	μ s	-1.1 μ s		
		μ s		
		0.7		
Kw	Kw	Kw		
mc	mc	mc		
vdc	vdc	+8 vdc		
μ s	μ s	2.86 μ s		
		1.05 μ s		
		-.05 μ s		

MODEL NO. RT-5A
SERIAL NO. 550

2nd 25 HR PERIOD OF LIFE TEST

ITEM PARAGRAPH PROCEDURE REFERENCE

18. 4.3.5.6 Temperature Monitor
135.0 °C
236.0 °C
335.5 °C

19. 4.3.5.7 Transmitter Monitor

20. 4.3.6.1 Command Acceptance

A +3.2 - 3.3

B +3.16 - 3.2

C +3.4 - 3.4

D +3.25 - 3.1

21 4.3.6.2 Command Monitor

LIMITS

4.7 VDC MAX

(1) 5000 ohms MAX

(2) 0.5 VDC MAX

(3) 410 pps

(4) 820 pps

(5) 1230 pps

(6) 1600 pps
3.0 to 4.5 vdc

(1) A & B $\pm 2\%$ MIN

(2) B & C $\pm 2\%$ MIN

(3) A & D $\pm 2\%$ MIN

(4) A & C $\pm 2\%$ MIN

(5) B & D $\pm 2\%$ MIN

(6) C & D $\pm 2\%$ MIN

(1) short

(2) short

(3) short

(4) short

(5) short

(6) short

(7) inf.

(8) inf.

(9) inf.

(10) inf.

(11) inf.

(12) inf.

-19°C	+74°C	AMBIENT 19°C to 31°C	ACCEPT	REJECT
vdc	vdc	vdc		
ohms	ohms	3.29k ohms		
vdc	vdc	.007 vdc		
vdc	vdc	1.29 vdc		
vdc	vdc	2.39 vdc		
vdc	vdc	3.32 vdc		
vdc	vdc	4.03 vdc		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		

WDL-TR1946

SERIAL NO. 550

2nd 25HR PERIOD OF LIFE TEST

ITEM	PARAGRAPH	PROCEDURE	REFERENCE
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9
10	10	10	10
11	11	11	11
12	12	12	12
13	13	13	13
14	14	14	14
15	15	15	15
16	16	16	16
17	17	17	17
18	18	18	18
19	19	19	19
20	20	20	20
21	21	21	21
22	22	22	22
23	23	23	23
24	24	24	24
25	25	25	25
26	26	26	26
27	27	27	27
28	28	28	28
29	29	29	29
30	30	30	30
31	31	31	31
32	32	32	32
33	33	33	33
34	34	34	34
35	35	35	35
36	36	36	36
37	37	37	37
38	38	38	38
39	39	39	39
40	40	40	40
41	41	41	41
42	42	42	42
43	43	43	43
44	44	44	44
45	45	45	45
46	46	46	46
47	47	47	47
48	48	48	48
49	49	49	49
50	50	50	50
51	51	51	51
52	52	52	52
53	53	53	53
54	54	54	54
55	55	55	55
56	56	56	56
57	57	57	57
58	58	58	58
59	59	59	59
60	60	60	60
61	61	61	61
62	62	62	62
63	63	63	63
64	64	64	64
65	65	65	65
66	66	66	66
67	67	67	67
68	68	68	68
69	69	69	69
70	70	70	70
71	71	71	71
72	72	72	72
73	73	73	73
74	74	74	74
75	75	75	75
76	76	76	76
77	77	77	77
78	78	78	78
79	79	79	79
80	80	80	80
81	81	81	81
82	82	82	82
83	83	83	83
84	84	84	84
85	85	85	85
86	86	86	86
87	87	87	87
88	88	88	88
89	89	89	89
90	90	90	90
91	91	91	91
92	92	92	92
93	93	93	93
94	94	94	94
95	95	95	95
96	96	96	96
97	97	97	97
98	98	98	98
99	99	99	99
100	100	100	100

LIMITS

22. 4.3.6.3 Tone Monitor

- (1) 3.0 to 4.5 vdc
(2) 3.0 to 4.5 vdc
(3) 3.0 to 4.5 vdc
(4) 3.0 to 4.5 vdc
(5) 5000 ohms MAX
(6) 5000 ohms MAX
(7) 5000 ohms MAX
(8) 5000 ohms MAX

23. 4.3.6.2.2 30 cps Interference

24. 4.3.7.3 Temperature Tests

4.1 Quality Assurance

A-12

Operator

Supervisor WDL

**Air Force
Inspector**

Q/C WDL

Running Time Meter 02826

WDL-TR1946

(Check One)

INCOMING _____ RTM 0304.3

FINAL _____

REPAIR _____

3rd 25 HR. TEST OF LIFE TEST

TABLE IV

ACCEPTANCE TEST
TRANSISTORIZED RADAR TRANSPONDER
(including 6 Command Decoder)

ITEM	PARAGRAPH	PROCEDURE REFERENCE	TEST CONDITION	LIMITS	ACCEPT	REJECT
1.	4.3.7.1	(1) Countdown during vibration (2) Transmitter Pulse Amplitude change (3) False Command (4) Command Drop-out	Ambient Operate	1% MAX 10% MAX		
2.	4.3.7.2	Shock	Ambient Non-operate	None None 30g 1/2 sine 6 millilsec		
3.	4.3.7.3	Pressuration	Ambient--Last Test Non-operate	No leaks apparent in 10 minutes		

	-19°C	+74°C	AMBIENT 16° to 31°	ACCEPT	REJECT
4.					
			33.7 watts		
			37.4 watts		
5.	mc	mc	mc		
	vdc	vdc	-.4 mc		
			2.859 vdc		
6.					
			dbm		
			-70.0 dbm		
7.	mc	mc	mc		
			+4.24 mc		
	mc	mc	mc		
			-4.94 mc		
	mc	mc	mc		
			9.16 mc		
			6-23-62		

MODEL NO. RT-5A
SERIAL NO. 500

3rd 25 HR. TEST OF LIFE TEST
PROCEDURE REFERENCE

6-23-62

LIMITS

8.	4.3.4.4	Dynamic Range	0 → -65 dbm no countdown
9.	4.3.4.5	Image Rejection	+125 mc 30 db MIN -125 mc 30 db MIN
10.	4.3.4.6	Random Triggers	5 pulses per second MAX
11.	4.3.4.7	Receiver Monitor	(1) 5000 ohms MAX (2) 0.pps 0.5VDC MAX
			(3) 410 pps
			(4) 820 pps
			(5) 1230 pps
			(6) 1600 pps
			3.0 to 4.5 vdc
12.	4.3.4.8	Pulse acceptance and pulse rejection	(1) +0.5 μs MIN (2) -0.5 μs MIN (3) +8% of Tb MAX (4) -8% of Tb MAX
			0.8 ± 0.2 μs
13.	4.3.5.1	Transmitter pulse width	1 Kw to 2.5 Kw
14.	4.3.5.2	Transmitter Power	+ 2 mc w/add.
15.	4.3.5.3	Transmitter frequency	0.1 mc/10C
		Temp. monitor (reference)	1.0 ± 0.5 μs
16.	4.3.5.4	System Delay	0.25 μs MAX
17.	4.3.5.5	Change in delay	1 35.5°C 2 36.5°C 3 36.5°C

-19°C	+74°C	AMBIENT 19°C to 31°C	ACCEPT	REJECT
		OK		
		> 65 db		
pps	pps	none	pps	
ohms	ohms	4.73k ohms		
vdc	vdc	004	vdc	
vdc	vdc	0.749	vdc	
vdc	vdc	1.871	vdc	
vdc	vdc	3.001	vdc	
vdc	vdc	4.002	vdc	
μs	μs	+1.0	μs	
μs	μs	-1.0	μs	
μs	μs	+1.2	μs	
μs	μs	-1.2	μs	
		0.7	μs	
Kw	Kw	1.82	Kw	
mc	mc	+1.85	mc	
vdc	vdc	2.969	vdc	
μs	μs	1.05	μs	
		-0.05	μs	
		6-23-62		

PHILCO

RT-5A.
550

PHILCO

3rd 25 HR. TEST OF EFFECT

6-23-62

ITEM	PARAGRAPH	PROCEDURE REFERENCE
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6
7	7	7
8	8	8
9	9	9
10	10	10
11	11	11
12	12	12
13	13	13
14	14	14
15	15	15
16	16	16
17	17	17
18	18	18
19	19	19
20	20	20
21	21	21
22	22	22
23	23	23
24	24	24
25	25	25
26	26	26
27	27	27
28	28	28
29	29	29
30	30	30
31	31	31
32	32	32
33	33	33
34	34	34
35	35	35
36	36	36
37	37	37
38	38	38
39	39	39
40	40	40
41	41	41
42	42	42
43	43	43
44	44	44
45	45	45
46	46	46
47	47	47
48	48	48
49	49	49
50	50	50
51	51	51
52	52	52
53	53	53
54	54	54
55	55	55
56	56	56
57	57	57
58	58	58
59	59	59
60	60	60
61	61	61
62	62	62
63	63	63
64	64	64
65	65	65
66	66	66
67	67	67
68	68	68
69	69	69
70	70	70
71	71	71
72	72	72
73	73	73
74	74	74
75	75	75
76	76	76
77	77	77
78	78	78
79	79	79
80	80	80
81	81	81
82	82	82
83	83	83
84	84	84
85	85	85
86	86	86
87	87	87
88	88	88
89	89	89
90	90	90
91	91	91
92	92	92
93	93	93
94	94	94
95	95	95
96	96	96
97	97	97
98	98	98
99	99	99
100	100	100

SLIMT

18. **4.3.5.6 Temperature Monitor**

4.7 VDC MAX

19. **4.3.5.7 Transmitter Monitor**

- (1) 5000 ohms MAX
- (2) 0.5 VDC MAX
- (3) 410 pps
- (4) 820 pps
- (5) 1230 pps
- (6) 1600 pps

20. **4.3.6.1 Command Acceptance**

A + 3.2 = 3.2
B + 3.3 = 3.3
C + 3.5 = 3.53
D + 3.2 = 3.16

- (1) $A \& B \pm 2\% \text{ MIN}$
- (2) $B \& C \pm 2\% \text{ MIN}$
- (3) $A \& D \pm 2\% \text{ MIN}$
- (4) $A \& C \pm 2\% \text{ MIN}$
- (5) $B \& D \pm 2\% \text{ MIN}$
- (6) $C \& D \pm 2\% \text{ MIN}$

21 4.3.6.2 Command Monitor

[illegible]

6-23-62

MODEL NO. RT-5A
SERIAL NO. 550

3rd 25 HR. TEST OF LIFE TEST
ITEM PARAGRAPH PROCEDURE REFERENCE

6-23-62
LIMITS

22. 4.3.6.3 Tone Monitor
- (1) 3.0 to 4.5 vdc
(2) 3.0 to 4.5 vdc
(3) 3.0 to 4.5 vdc
(4) 3.0 to 4.5 vdc
(5) 5000 ohms MAX
(6) 5000 ohms MAX
(7) 5000 ohms MAX
(8) 5000 ohms MAX

23. 4.3.6.2.2 30 cps Interference
24. 4.3.7.3 Temperature Tests
25 4.1 Quality Assurance

-19°C	+74°C	AMBIENT °C 19°C to 31°C	ACCEPT	REJECT
		3.98 vdc		
		4.09 vdc		
		4.07 vdc		
		4.15 vdc		
		3.79k ohms		
		3.89k ohms		
		3.86k ohms		
		3.90k ohms		
		OK		
		6-23-62		DATE

Operator	Kenneth L. Seaton	6-23-62
Supervisor WDL		
Air Force Inspector		
Q/C WDL	C. Smith	

Running Time Meter 0306.2

MODEL NO. RT-5A
SERIAL NO. 550

4th 25 HR. TEST OF LIFE TEST
PARAGRAPH PROCEDURE REFERENCE

6-25-62

PHILCO

LIMITS

8. 4.3.4.4 Dynamic Range 0 → -65 dbm
no countdown
9. 4.3.4.5 Image Rejection +125 mc 30 db MIN
-125 mc 30 db MIN
10. 4.3.4.6 Random Triggers 5 pulses per
second MAX
11. 4.3.4.7 Receiver Monitor (1) 5000 ohms MAX
(2) 0.pps 0.5VDC
MAX
12. 4.3.4.8 Pulse acceptance and
pulse rejection (3) 410 pps
(4) 820 pps
(5) 1230 pps
(6) 1600 pps
3.0 to 4.5 vdc
(1) +0.5 μs MIN
(2) -0.5 μs MIN
(3) +8% of Tb MAX
(4) -8% of Tb MAX
13. 4.3.5.1 Transmitter pulse
width 0.8 ± 0.2 μs
14. 4.3.5.2 Transmitter Power 1 Kw to 2.5 Kw
15. 4.3.5.3 Transmitter frequency ± 2 mc w/add.
Temp. monitor (reference) 0.1 mc/10C
16. 4.3.5.4 System Delay 1.0 ± 0.5 μs
17. 4.3.5.5 Change in delay 0.25 μs MAX

A-18

-19°C	+74°C	AMBIENT 19°C to 31°C	ACCEPT	REJECT
		OK		
		>65 db		
pps	pps	none pps		
ohms	ohms	4.7k ohms		
vdc	vdc	.004 vdc		
vdc	vdc	0.748 vdc		
vdc	vdc	1.866 vdc		
vdc	vdc	2.974 vdc		
vdc	vdc	3.968 vdc		
μs	μs	+1.05 μs		
μs	μs	-1.0 μs		
μs	μs	+1.25 μs		
μs	μs	-1.20 μs		
		0.7 μs		
Kw	Kw	1.53 Kw		
mc	mc	+1.04 mc		
vdc	vdc	3.05 vdc		
μs	μs	1.05 μs		
		-0.05 μs		

PHILCO

6-25-62
LIMITS

4.7 VDC MAX

(1) 5000 ohms MAX

A + 3.50 - 3.50

3 + 3.3 - 3.2

C + 3.4 = 3.5

D + 3.2 - 3.13

(1) short

(2) short

(3) short

(4) short

(5) short

(6) short

(1) Int.

(b) (5) DPP, (b) (5) ACP

(10) inf

(11) inf.

(12) inf.

[illegible]

MODEL NO. RT-5A
SERIAL NO. 550

4th 25 HR. TEST OF LIFE TEST
PARAGRAPH PROCEDURE REFERENCE

6-25-62
LIMITS

22. 4.3.6.3 Tone Monitor
- (1) 3.0 to 4.5 vdc
 - (2) 3.0 to 4.5 vdc
 - (3) 3.0 to 4.5 vdc
 - (4) 3.0 to 4.5 vdc
 - (5) 5000 ohms MAX
 - (6) 5000 ohms MAX
 - (7) 5000 ohms MAX
 - (8) 5000 ohms MAX

23. 4.3.6.2.2 30 cps Interference
24. 4.3.7.3 Temperature Tests
- 25 4.1 Quality Assurance

No false tone
-19°C and +74°C

-19°C	+74°C	AMBIENT 19°C to 31°C	ACCEPT	REJECT
		3.95 vdc		
		4.06 vdc		
		4.04 vdc		
		4.13 vdc		
		3.93k ohms		
		4.04 k ohms		
		4.01 k ohms		
		4.06 k ohms		
		OK		
		6-25-62		DATE
Kenneth L. Seaton 6-25-62				
Supervisor WDL				
Air Force Inspector				
George R. Reagan 6-25-62				

Running Time Meter 0331.0

(Check One)

INCOMING _____ RTM 0355.9

FIDAL _____

REPAIR _____

5th 25 HR. TEST OF LIFE TEST

TABLE IV

ACCEPTANCE TEST
TRANSISTORIZED RADAR TRANSPONDER
(including 6 Command Decoder)

ITEM	PARAGRAPH	PROCEDURE REFERENCE	TEST CONDITION	LIMITS	ACCEPT	REJECT
1.	4.3.7.1	(1) Countdown during vibration (2) Transmitter Pulse Amplitude change (3) False Command (4) Command Drop-out	Ambient Operate	1% MAX 10% MAX		
2.	4.3.7.2	Shock	Ambient Non-operate	None None 30g 1/2 sine 6 millisec		
3.	4.3.7.3	Pressuration	Ambient--Last Test Non-operate	No leaks apparent in 10 minutes		

		-19°C	+74°C	AMBIENT 16° to 31°	ACCEPT	REJECT
A						
4.	4.3.3.2	(1) Input power no command (2) Input power commanding		33.6 watts 37.2 watts		
5.	4.3.4.1	Receiver Frequency	mc vdc	-0.3 mc 2.719 vdc		
		Temp. Monitor (Ref.)				
		130.1°C 232.0°C 332.0°C				
6.	4.3.4.2	Sensitivity	dbm	-69.8 dbm		
7.	4.3.4.3	Bandwidth	mc	+4.27 mc		
		greater than + 3 mc less than + 5 mc				
		greater than - 3 mc less than - 5 mc				
		8 ± 2 mc				

MODEL NO.
SERIAL NO.

PHILCO

ITEM	PARAGRAPH	PROCEDURE REFERENCE	LIMITS
8.	4.3.4.4	Dynamic Range	0 → -65 dbm no countdown
9.	4.3.4.5	Image Rejection	+125 mc 30 db MIN -125 mc 30 db MIN
10.	4.3.4.6	Random Triggers	5 pulses per second MAX
11.	4.3.4.7	Receiver Monitor	(1) 5000 ohms MAX (2) 0.pps 0.5VDC MAX
			(3) 410 pps
			(4) 820 pps
			(5) 1230 pps
			(6) 1600 pps
			3.0 to 4.5 vdc
12.	4.3.4.8	Pulse acceptance and pulse rejection	(1) +0.5 μs MIN (2) -0.5 μs MIN (3) +8% of Tb MAX (4) -8% of Tb MAX 0.8 ± 0.2 μs
13.	4.3.5.1	Transmitter pulse width	
14.	4.3.5.2	Transmitter Power	1 Kw to 2.5 Kw
15.	4.3.5.3	Transmitter frequency	± 2 mc w/add.
		Temp. monitor (reference)	0.1 mc/10C
16.	4.3.5.4	System Delay	1.0 ± 0.5 μs
17.	4.3.5.5	Change in delay	0.25 μs MAX

-19°C	+74°C	AMBIENT 19°C to 31°C	ACCEPT	REJECT
		OK		
		>65db		
pps	pps	pps		
ohms	ohms	none		
		4.76kohms		
vdc	vdc	.001 vdc		
vdc	vdc	0.742 vdc		
vdc	vdc	1.864 vdc		
vdc	vdc	2.985 vdc		
vdc	vdc	3.986 vdc		
μs	μs	+1.2 μs		
μs	μs	- .9 μs		
μs	μs	+1.4 μs		
μs	μs	-1.15 μs		
		.7 μs		
Kw	Kw	1.82 Kw		
mc	mc	+1.2 mc		
vdc	vdc	2.89 vdc		
μs	μs	1.05 μs		
		-0.05 μs		

MODEL NO. RT-5A
SERIAL NO. 550

5th 25 HR. TEST OF LIFE TEST
PARAGRAPH PROCEDURE REFERENCE

6-28-62
LIMITS

18. 4.3.5.6 Temperature Monitor
1 33.5 °C
2 36.0 °C
3 35.0 °C

4.7 VDC MAX

19. 4.3.5.7 Transmitter Monitor

(1) 5000 ohms MAX
(2) 0.5 VDC MAX
(3) 410 pps
(4) 820 pps
(5) 1230 pps
(6) 1600 pps
3.0 to 4.5 vdc

20. 4.3.6.1 Command Acceptance

A + 3.5 - 3.4
B + 3.3 - 3.3
C + 3.5 - 3.6
D + 3.2 - 3.2

(1) A & B $\pm 2\%$ MIN
(2) B & C $\pm 2\%$ MIN
(3) A & D $\pm 2\%$ MIN
(4) A & C $\pm 2\%$ MIN
(5) B & D $\pm 2\%$ MIN
(6) C & D $\pm 2\%$ MIN

21 4.3.6.2 Command Monitor

(1) short
(2) short
(3) short
(4) short
(5) short
(6) short
(7) inf.
(8) inf.
(9) inf.
(10) inf.
(11) inf.
(12) inf.

-19°C	+74°C	AMBIENT ° 19°C to 31°C	ACCEPT	REJECT
vdc	vdc	2.95 vdc		
ohms	ohms	3.30k ohms		
vdc	vdc	.001 vdc		
vdc	vdc	1.297 vdc		
vdc	vdc	2.417 vdc		
vdc	vdc	3.340 vdc		
vdc	vdc	4.066 vdc		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		

WDL-TR1946

(Check One)

INCOMING _____ RTM 0380.3

FINAL _____

RTFAIR _____

6th 25 HR. TEST OF LIFE TEST

TABLE IV

ACCEPTANCE TEST
TRANSISTORIZED RADAR TRANSPONDER
(including 6 Command Decoder)

ITEM	PARAGRAPH	PROCEDURE REFERENCE	TEST CONDITION	LIMITS	ACCEPT	REJECT
1.	4.3.7.1	(1) Countdown during vibration (2) Transmitter Pulse Amplitude change (3) False Command (4) Command Drop-out	Ambient Operate	1% MAX 10% MAX		
2.	4.3.7.2	Shock	Ambient Non-operate	None None 30g 1/2 sine 6 millisecc		
3.	4.3.7.3	Pressuration	Ambient--Last Test Non-operate	No leaks apparent in 10 minutes		

	-19°C	+74°C	AMBIENT 16° to 31°	ACCEPT	REJECT
4. 4.3.3.2			33.65 watts		
			38.2 watts		
5. 4.3.4.1	mc	mc	-.38 mc		
	vdc	vdc	2.69 vdc		
6. 4.3.4.2	dbm	dbm	-69.8 dbm		
	mc	mc	+4.53 mc		
7. 4.3.4.3	mc	mc	-4.84 mc		
	mc	mc	9.37 mc		

50 watts MAX
60 watts MAX
+2 mc w/add
0.1 mc/10°C

1 30.0°C
Temp. Monitor (Ref.) 232.0°C
331.8°C

-65 to -70dbm

greater than + 3 mc
less than + 5 mc

greater than - 3 mc
less than - 5 mc

8 ± 2 mc

MODEL NO. RT-5A
SERIAL NO. 550

6th 25 HR. TEST OF LIFE TEST

ITEM PARAGRAPH PROCEDURE REFERENCE

8. 4.3.4.4 Dynamic Range
9. 4.3.4.5 Image Rejection
10. 4.3.4.6 Random Triggers
11. 4.3.4.7 Receiver Monitor
12. 4.3.4.8 Pulse acceptance and pulse rejection
13. 4.3.5.1 Transmitter pulse width
14. 4.3.5.2 Transmitter Power
15. 4.3.5.3 Transmitter frequency
16. 4.3.5.4 Temp. monitor (reference)
17. 4.3.5.5 System Delay
- Change in delay

6-30-62

LIMITS

- 0 → -65 dbm
no countdown
- +125 mc 30 db MIN
-125 mc 30 db MIN
- 5 pulses per second MAX
- (1) 5000 ohms MAX
(2) 0.pps 0.5VDC MAX
- (3) 410 pps
(4) 820 pps
(5) 1230 pps
(6) 1600 pps
- 3.0 to 4.5 vdc
- (1) +0.5 μs MIN
(2) -0.5 μs MIN
(3) +8% of Tb MAX
(4) -8% of Tb MAX
- 0.8 ± 0.2 μs
- 1 Kw to 2.5 Kw
± 2 mc w/add.
- 0.1 mc/10C
- 1.0 ± 0.5 μs
0.25 μs MAX

-19°C	+74°C	AMBIENT 19°C to 31°C	ACCEPT	REJECT
		OK		
pps	pps	none		
chms	chms	4.26kohms		
vdc	vdc	0.004 vdc		
vdc	vdc	0.746 vdc		
vdc	vdc	1.862 vdc		
vdc	vdc	2.988 vdc		
vdc	vdc	3.983 vdc		
μs	μs	+1.1 μs		
μs	μs	-0.9 μs		
μs	μs	+1.3 μs		
μs	μs	-1.15 μs		
		0.7 μs		
Kw	Kw	1.55 Kw		
mc	mc	+1.2 mc		
vdc	vdc	2.86 vdc		
μs	μs	1.05 μs		
		-0.05 μs		

PHILCO

MODEL NO. RT-5A
SERIAL NO. 550

6th 25 HR. TEST OF LIFE TEST

PHILCO

ITEM PARAGRAPH PROCEDURE REFERENCE

18. 4.3.5.6 Temperature Monitor
1 33.5 °C
2 34.5 °C
3 34.5 °C

19. 4.3.5.7 Transmitter Monitor

6-30-62

LIMITS

4.7 VDC MAX

(1) 5000 ohms MAX

(2) 0.5 VDC MAX

(3) 410 pps

(4) 820 pps

(5) 1230 pps

(6) 1600 pps
3.0 to 4.5 vdc

20. 4.3.6.1 Command Acceptance

A + 3.5 - 3.4%

B + 3.4 - 3.3%

C + 3.6 - 3.2%

D + 3.5 - 3.2%

21 4.3.6.2 Command Monitor

-19°C	+74°C	AMBIENT 19°C to 31°C	ACCEPT	REJECT
vdc	vdc	2.92 vdc		
ohms	ohms	3.28k ohms		
vdc	vdc	.004 vdc		
vdc	vdc	1.304 vdc		
vdc	vdc	2.420 vdc		
vdc	vdc	3.343 vdc		
vdc	vdc	4.060 vdc		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		

WDL-TR1946

A-27

MODEL NO.
SERIAL NO.

6th TEST (25 HR.) OF LIFE TEST 6-30-62
PROCEDURE REFERENCE LIMITS

LIMITS

Tone Monitor

(1) 3.0 to 4.5 vdc
(2) 3.0 to 4.5 vdc
(3) 3.0 to 4.5 vdc
(4) 3.0 to 4.5 vdc
(5) 5000 ohms MAX
(6) 5000 ohms MAX
(7) 5000 ohms MAX
(8) 5000 ohms MAX

No false tone

Temperature Tests

Quality Assurance

-19°C and +74°C

-19°C and +74°C

Operator

Supervisor WDL

**Air Force
Inspector**

Q/C WDL

Running Time Meter 0381.7

0381.7

WDL-TR1946

-19 °C	+74 °C	AMBIENT 19 °C to 31 °C	ACCEPT	REJECT
		3.929 vdc		
		4.042 vdc		
		4.026 vdc		
		4.127 vdc		
		3.94k ohms		
		4.04k ohms		
		4.01k ohms		
		4.06k ohms		
		OK		
				DATE
Kenneth L. Seaton			6-30-62	
George R. Reagan			6-30-62	

Kenneth L. Seaton

6-30-62

George R. Reagan

6-30-62

(Check One)

INCOMING _____ RTM 407.1

FINAL _____

REPAIR _____

7th 25 HR. TEST OF LIFE TEST

TABLE IV

ACCEPTANCE TEST
TRANSISTORIZED RADAR TRANSPONDER
(including 6 Command Decoder)

MODEL NO. RT-5A
SERIAL NO. 550
DATE 7-3-62

ITEM	PARAGRAPH	PROCEDURE REFERENCE	TEST CONDITION	LIMITS	ACCEPT	REJECT
1.	4.3.7.1	(1) Countdown during vibration (2) Transmitter Pulse Amplitude change (3) False Command (4) Command Drop-out	Ambient Operate	1% MAX 10% MAX		
2.	4.3.7.2	Shock	Ambient Non-operate	30g 1/2 sine 6 millisecc		
3.	4.3.7.3	Pressuration	Ambient--Last Test Non-operate	No leaks apparent in 10 minutes		

	-19°C	+74°C	AMBIENT 16° to 31°	ACCEPT	REJECT
4.	4.3.3.2	(1) Input power no command (2) Input power commanding	50 watts MAX 60 watts MAX		
5.	4.3.4.1	Receiver Frequency	+2 mc w/add 0.1 mc/10C		
		Temp. Monitor (Ref.) 128.0°C 230.5°C 330.0°C			
6.	4.3.4.2	Sensitivity	-65 to -70dbm		
7.	4.3.4.3	Bandwidth	greater than + 3 mc less than + 5 mc		
			greater than - 3 mc less than - 5 mc		
			8 ± 2 mc		

MODEL NO. RT-5A
SERIAL NO. 550

7th 25 HR. TEST OF LIFE TEST
PARAGRAPH

7-3-62

PHILCO

LIMITS

8.	4.3.4.4	Dynamic Range	0 — -65 dbm no countdown
9.	4.3.4.5	Image Rejection	+125 mc 30 db MIN -125 mc 30 db MIN
10.	4.3.4.6	Random Triggers	5 pulses per second MAX
11.	4.3.4.7	Receiver Monitor	(1) 5000 ohms MAX (2) 0.pps 0.5VDC MAX
			(3) 410 pps
			(4) 820 pps
			(5) 1230 pps
			(6) 1600 pps
			3.0 to 4.5 vdc
12.	4.3.4.8	Pulse acceptance and pulse rejection	(1) +0.5 μ s MIN (2) -0.5 μ s MIN (3) +8% of Tb MAX (4) -8% of Tb MAX 0.8 $\pm$ 0.2 μ s
13.	4.3.5.1	Transmitter pulse width	1 Kw to 2.5 Kw $\pm$ 2 mc w/add.
14.	4.3.5.2	Transmitter Power	0.1 mc/10C
15.	4.3.5.3	Transmitter frequency	1.0 $\pm$ 0.5 μ s
16.	4.3.5.4	Temp. monitor (reference)	0.25 μ s MAX
17.	4.3.5.5	System Delay Change in delay	

-19°C	+74°C	AMBIENT 19°C to 31°C	ACCEPT	REJECT
		OK		
		>65db		
pps	pps	none	pps	
ohms	ohms	4.75k	ohms	
vdc	vdc	.002 vdc	vdc	
vdc	vdc	0.738 vdc	vdc	
vdc	vdc	1.853 vdc	vdc	
vdc	vdc	2.973 vdc	vdc	
vdc	vdc	3.980 vdc	vdc	
μ s	μ s	+1.2 μ s	μ s	
μ s	μ s	- .9 μ s	μ s	
μ s	μ s	+1.35 μ s	μ s	
μ s	μ s	-1.1 μ s	μ s	
		0.7 μ s	μ s	
Kw	Kw	1.8 Kw	Kw	
mc	mc	+1.3 mc	mc	
vdc	vdc	2.864 vdc	vdc	
μ s	μ s	1.05 μ s	μ s	
		-0.1 μ s	μ s	

7th 25 HR. TEST OF LIFE TEST

7-3-62

ITEM	PARAGRAPH	PROCEDURE	REFERENCE
------	-----------	-----------	-----------

LIMITS

18. 4.3.5.6 Temperature Monitor

1	33.5	°C
2	35.0	°C
3	34.0	°C

4.7 VDC MAX

19. **4.3.5.7 Transmitter Monitor**

(1) 5000 ohms MAX

(2) 0.5 VDC MAX

(2) 0.5 VDC MAX

(3) 410 pps

(4) 820 pps

(5) 1230 pps

(6) 1600 pps
3.0 to 4.5 vdc

20. **4.3.6.1 Command Acceptance**

(1) A & B +2% MIN

A+3.45% - 3.35%
B+3.30% - 3.25%
C+3.50% - 3.50%
D+3.25% - 3.15%

(2) B & C $\pm 2\%$ MIN
(3) A & D $\pm 2\%$ MIN
(4) A & C $\pm 2\%$ MIN
(5) B & D $\pm 2\%$ MIN
(6) C & D $\pm 2\%$ MIN

21 4.3.6.2 Command Monitor

(1) short

(2) short

(3) short

4204 (c)

(4) short

11095 (c)

(6) shorts

(7) **inf.**

(8) *inf.*

(9) **inf.**

(10) inf.

(11) inf.

(12) inf.

[illegible]

WDL-TR1946

7th 25 HR. TEST OF LIFE TEST

7-3-62

ITEM	PARAGRAPH	PROCEDURE	REFERENCE
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9
10	10	10	10
11	11	11	11
12	12	12	12
13	13	13	13
14	14	14	14
15	15	15	15
16	16	16	16
17	17	17	17
18	18	18	18
19	19	19	19
20	20	20	20
21	21	21	21
22	22	22	22
23	23	23	23
24	24	24	24
25	25	25	25
26	26	26	26
27	27	27	27
28	28	28	28
29	29	29	29
30	30	30	30
31	31	31	31
32	32	32	32
33	33	33	33
34	34	34	34
35	35	35	35
36	36	36	36
37	37	37	37
38	38	38	38
39	39	39	39
40	40	40	40
41	41	41	41
42	42	42	42
43	43	43	43
44	44	44	44
45	45	45	45
46	46	46	46
47	47	47	47
48	48	48	48
49	49	49	49
50	50	50	50
51	51	51	51
52	52	52	52
53	53	53	53
54	54	54	54
55	55	55	55
56	56	56	56
57	57	57	57
58	58	58	58
59	59	59	59
60	60	60	60
61	61	61	61
62	62	62	62
63	63	63	63
64	64	64	64
65	65	65	65
66	66	66	66
67	67	67	67
68	68	68	68
69	69	69	69
70	70	70	70
71	71	71	71
72	72	72	72
73	73	73	73
74	74	74	74
75	75	75	75
76	76	76	76
77	77	77	77
78	78	78	78
79	79	79	79
80	80	80	80
81	81	81	81
82	82	82	82
83	83	83	83
84	84	84	84
85	85	85	85
86	86	86	86
87	87	87	87
88	88	88	88
89	89	89	89
90	90	90	90
91	91	91	91
92	92	92	92
93	93	93	93
94	94	94	94
95	95	95	95
96	96	96	96
97	97	97	97
98	98	98	98
99	99	99	99
100	100	100	100

LIMITS

22. 4.3.6.3 Tone Monitor

- (1) 3.0 to 4.5 vdc
- (2) 3.0 to 4.5 vdc
- (3) 3.0 to 4.5 vdc
- (4) 3.0 to 4.5 vdc
- (5) 5000 ohms MAX
- (6) 5000 ohms MAX
- (7) 5000 ohms MAX
- (8) 5000 ohms MAX

23. 4.3.6.2.2 30 cps Interference

No false tone

24. 4.3.7.3 Temperature Tests

-19°C and +74°C

4.1 Quality Assurance

-19°C	+74°C	AMBIENT 19°C to 31°C	ACCEPT	REJECT
		3.94 vdc		
		4.05 vdc		
		4.02 vdc		
		4.12 vdc		
		3.95k ohms		
		4.06k ohms		
		4.03k ohms		
		4.08k ohms		
		OK		
				DATE

Running Time Meter 0408.9

(Check One)

INCOMING _____ RTM 435.4

F-4JAL _____

RT-5A _____

TABLE IV

ACCEPTANCE TEST
TRANSISTORIZED RADAR TRANSPONDER
(including 6 Command Decoder)

8th 25 HR. TEST OF LIFE TEST

ITEM	PARAGRAPH	PROCEDURE REFERENCE	TEST CONDITION	LIMITS	ACCEPT	REJECT
1.	4.3.7.1	(1) Countdown during vibration (2) Transmitter Pulse Amplitude change (3) False Command (4) Command Drop-out	Ambient Operate	1% MAX 10% MAX		
2.	4.3.7.2	Shock	Ambient Non-operate	30g 1/2 sine 6 millisecc		
3.	4.3.7.3	Pressuration	Ambient--Last Test Non-operate	No leaks apparent in 10 minutes		

		-19°C	+74°C	AMBIENT 16°C to 31°C	ACCEPT	REJECT
4.	4.3.3.2	(1) Input power no command (2) Input power commanding		33.7 watts 33.7 watts		
5.	4.3.4.1	Receiver Frequency	mc vdc	-0.3 mc 2.69 vdc		
		Temp. Monitor (Ref.)	dbm	-69.7 dbm		
6.	4.3.4.2	Sensitivity	dbm	-69.7 dbm		
7.	4.3.4.3	Bandwidth	mc	+4.77 mc		
		greater than + 3 mc less than + 5 mc	mc	-4.77 mc		
		greater than - 3 mc less than - 5 mc	mc	-4.77 mc		
		8 ± 2 mc	mc	± 5.54 mc		

A-33

MODEL NO. RT-5A

SERIAL NO. 550

8th 25 HR. TEST OF LIFE TEST
PARAGRAPH PROCEDURE REFERENCE

PHILCO

ITEM

8. 4.3.4.4 Dynamic Range
 0 → -65 dbm
 no countdown
9. 4.3.4.5 Image Rejection
 +125 mc 30 db MIN
 -125 mc 30 db MIN
10. 4.3.4.6 Random Triggers
 5 pulses per second MAX
11. 4.3.4.7 Receiver Monitor
 (1) 5000 ohms MAX
 (2) 0.pps 0.5VDC MAX
12. 4.3.4.8 Pulse acceptance and pulse rejection
 (3) 410 pps
 (4) 820 pps
 (5) 1230 pps
 (6) 1600 pps
 3.0 to 4.5 vdc
 (1) +0.5 μ s MIN
 (2) -0.5 μ s MIN
 (3) +8% of Tb MAX
 (4) -8% of Tb MAX
 0.8 $\pm$ 0.2 μ s
13. 4.3.5.1 Transmitter pulse width
 1 Kw to 2.5 Kw
14. 4.3.5.2 Transmitter Power
 $\pm$ 2 mc w/add.
15. 4.3.5.3 Transmitter frequency
 Temp. monitor (reference)
 0.1 mc/10C
16. 4.3.5.4 System Delay
 1.0 $\pm$ 0.5 μ s
17. 4.3.5.5 Change in delay
 0.25 μ s MAX

7-6-62

LIMITS

-19°C	+74°C	AMBIENT 19°C to 31°C	ACCEPT	REJECT
		OK		
		>65db		
pps	pps	none pps		
ohms	ohms	4.74k ohms		
vdc	vdc	0.019 vdc		
vdc	vdc	0.763 vdc		
vdc	vdc	1.880 vdc		
vdc	vdc	3.028 vdc		
vdc	vdc	4.010 vdc		
μ s	μ s	+1.05 μ s		
μ s	μ s	-1.0 μ s		
μ s	μ s	+1.2 μ s		
μ s	μ s	-1.2 μ s		
		0.675		
Kw	Kw	1.7 Kw		
mc	mc	+1.45 mc		
vdc	vdc	3.13 vdc		
μ s	μ s	1.05 μ s		
		-0.05 μ s		

MODEL NO. RT-5A
SERIAL NO. 550

PHILCO

8th 25 HR. TEST OF LIFE TEST
PARAGRAPH PROCEDURE REFERENCE

7-6-62
LIMITS

18. 4.3.5.6 Temperature Monitor
1 36.5 °C
2 38.5 °C
3 37.5 °C

19. 4.3.5.7 Transmitter Monitor

(1) 5000 ohms MAX
(2) 0.5 VDC MAX
(3) 410 pps
(4) 820 pps
(5) 1230 pps
(6) 1600 pps
3.0 to 4.5 vdc
(1) A & B $\pm 2\%$ MIN
(2) B & C $\pm 2\%$ MIN
(3) A & D $\pm 2\%$ MIN
(4) A & C $\pm 2\%$ MIN
(5) B & D $\pm 2\%$ MIN
(6) C & D $\pm 2\%$ MIN

20. 4.3.6.1 Command Acceptance

A+3.6% - 3.4%
B+3.3% - 3.3%
C+3.4% - 3.5%
D+3.2% - 3.2%

21 4.3.6.2 Command Monitor

-19°C	+74°C	AMBIENT 19°C to 31°C	ACCEPT	REJECT
vdc	vdc	3.16 vdc		
ohms	ohms	3.29k ohms		
vdc	vdc	0.020 vdc		
vdc	vdc	1.332 vdc		
vdc	vdc	2.459 vdc		
vdc	vdc	3.402 vdc		
vdc	vdc	4.120 vdc		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		

WDL-TR1946

MODEL NO. RT-5A
SERIAL NO. 550

8th 25 HR. TEST OF LIFE TEST

7-6-62

ITEM	PARAGRAPH	PROCEDURE REFERENCE	LIMITS
22.	4.3.6.3	Tone Monitor	(1) 3.0 to 4.5 vdc (2) 3.0 to 4.5 vdc (3) 3.0 to 4.5 vdc (4) 3.0 to 4.5 vdc (5) 5000 ohms MAX (6) 5000 ohms MAX (7) 5000 ohms MAX (8) 5000 ohms MAX
23.	4.3.6.2.2	30 cps Interference	No false tone
24.	4.3.7.3	Temperature Tests	-19°C and +74°C
25	4.1	Quality Assurance	

-19°C	+74°C	AMBIENT 19°C to 31°C	ACCEPT	REJECT
		3.899 vdc		
		4.003 vdc		
		3.978 vdc		
		4.080 vdc		
		4.04k ohms		
		4.02k ohms		
		4.06k ohms		
		4.09k ohms		
OK				
				DATE
Kenneth L. Seaton			7-6-62	

Operator

Supervisor WDL

Air Force
Inspector

Q/C WDL

Running Time Meter 0437.7

WDL-TR1946

DATE 7-9-62

MODEL NO.
SERIAL NO.

PHILCO

ITEM	PARAGRAPH	PROCEDURE REFERENCE	LIMITS
8.	4.3.4.4	Dynamic Range	C → -65 dbm no countdown
9.	4.3.4.5	Image Rejection	+125 mc 30 db MIN -125 mc 30 db MIN
10.	4.3.4.6	Random Triggers	5 pulses per second MAX
11.	4.3.4.7	Receiver Monitor	(1) 5000 ohms MAX (2) 0.pps 0.5VDC MAX
12.	4.3.4.8	Pulse acceptance and pulse rejection	(3) 410 pps (4) 820 pps (5) 1230 pps (6) 1600 pps 3.0 to 4.5 vdc (1) +0.5 μs MIN (2) -0.5 μs MIN (3) +8% of Tb MAX (4) -8% of Tb MAX 0.8 ± 0.2 μs
13.	4.3.5.1	Transmitter pulse width	
14.	4.3.5.2	Transmitter Power	1 Kw to 2.5 Kw
15.	4.3.5.3	Transmitter frequency	± 2 mc w/add.
16.	4.3.5.4	Temp. monitor (reference)	0.1 mc/10C
17.	4.3.5.5	System Delay	1.0 ± 0.5 μs
		Change in delay	0.25 μs MAX

-19°C	+74°C	AMBIENT 19°C to 31°C	ACCEPT	REJECT
		OK		
		> 55db		
pps	pps	none pps		
ohms	ohms	4.79K ohms		
vdc	vdc	0.004 vdc		
vdc	vdc	0.769 vdc		
vdc	vdc	1.895 vdc		
vdc	vdc	2.989 vdc		
vdc	vdc	vdc		
		4.027		
μs	μs	+1.1 μs		
μs	μs	-1.1 μs		
μs	μs	+1.3 μs		
μs	μs	-1.25 μs		
		0.675 μs		
Kw	Kw	1.7± Kw		
mc	mc	+1.5 mc		
vdc	vdc	2.995 vdc		
μs	μs	1.05 μs		
		0.05 μs		

WDL-TR1946

MODEL NO. RT-5A
SERIAL NO. 550

7-9-62

PHILCO

9th TEST OF LIFE TEST
ITEM PARAGRAPH PROCEDURE REFERENCE

18. 4.3.5.6 Temperature Monitor
135.0 °C
236.5 °C
336.0 °C
19. 4.3.5.7 Transmitter Monitor
- (1) 5000 ohms MAX
(2) 0.5 VDC MAX
(3) 410 pps
(4) 820 pps
(5) 1230 pps
(6) 1600 pps
3.0 to 4.5 vdc
20. 4.3.6.1 Command Acceptance
A + 3.5 - 3.4%
B + 3.3 - 3.2%
C + 3.6 - 3.5%
D + 3.2 - 3.2%
21. 4.3.6.2 Command Monitor
(1) short
(2) short
(3) short
(4) short
(5) short
(6) short
(7) inf.
(8) inf.
(9) inf.
(10) inf.
(11) inf.
(12) inf.

-19°C	+74°C	AMBIENT 19°C to 31°C	ACCEPT	REJECT
vdc	vdc	3.031		
ohms	ohms	3.29k		
vdc	vdc	0.004		
vdc	vdc	1.339		
vdc	vdc	2.471		
vdc	vdc	3.394		
vdc	vdc	4.139		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		

WDL-TR1946

MODEL NO. 550
SERIAL NO. 550

9th TEST OF LIFE TEST

ITEM	PARAGRAPH	PROCEDURE	REFERENCE
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9
10	10	10	10
11	11	11	11
12	12	12	12
13	13	13	13
14	14	14	14
15	15	15	15
16	16	16	16
17	17	17	17
18	18	18	18
19	19	19	19
20	20	20	20
21	21	21	21
22	22	22	22
23	23	23	23
24	24	24	24
25	25	25	25
26	26	26	26
27	27	27	27
28	28	28	28
29	29	29	29
30	30	30	30
31	31	31	31
32	32	32	32
33	33	33	33
34	34	34	34
35	35	35	35
36	36	36	36
37	37	37	37
38	38	38	38
39	39	39	39
40	40	40	40
41	41	41	41
42	42	42	42
43	43	43	43
44	44	44	44
45	45	45	45
46	46	46	46
47	47	47	47
48	48	48	48
49	49	49	49
50	50	50	50
51	51	51	51
52	52	52	52
53	53	53	53
54	54	54	54
55	55	55	55
56	56	56	56
57	57	57	57
58	58	58	58
59	59	59	59
60	60	60	60
61	61	61	61
62	62	62	62
63	63	63	63
64	64	64	64
65	65	65	65
66	66	66	66
67	67	67	67
68	68	68	68
69	69	69	69
70	70	70	70
71	71	71	71
72	72	72	72
73	73	73	73
74	74	74	74
75	75	75	75
76	76	76	76
77	77	77	77
78	78	78	78
79	79	79	79
80	80	80	80
81	81	81	81
82	82	82	82
83	83	83	83
84	84	84	84
85	85	85	85
86	86	86	86
87	87	87	87
88	88	88	88
89	89	89	89
90	90	90	90
91	91	91	91
92	92	92	92
93	93	93	93
94	94	94	94
95	95	95	95
96	96	96	96
97	97	97	97
98	98	98	98
99	99	99	99
100	100	100	100

LIMITS

22. 4.3.6.3 Tone Monitor

- (1) 3.0 to 4.5 vdc
- (2) 3.0 to 4.5 vdc
- (3) 3.0 to 4.5 vdc
- (4) 3.0 to 4.5 vdc
- (5) 5000 ohms MAX
- (6) 5000 ohms MAX
- (7) 5000 ohms MAX
- (8) 5000 ohms MAX

23. 4.3.6.2.2 30 cps Interference

No false tone

24. 4.3.7.3 Temperature Tests

-19°C and +74°C

4.1 Quality Assurance

A-40

Operator

Supervisor WDL

**Air Force
Inspector**

Q/C WDL

Running Time Meter 0465.7

WDL-TR1946

-19°C	+74°C	AMBIENT 19°C to 31°C	ACCEPT	REJECT
		3.899 vdc		
		4.006 vdc		
		3.980 vdc		
		4.083 vdc		
		3.99k ohms		
		4.09k ohms		
		4.05k ohms		
		4.09k ohms		
		OK		
				DATE
		Kenneth L. Seaton	7-9-62	
J. Ellwanger				

(Check One)

INCOMING _____ RTM 0491.4

FINAL _____

REPAIR _____

10th 25 HR. TEST OF LIFE TEST

TABLE IV

ACCEPTANCE TEST
TRANSISTORIZED RADAR TRANSPONDER
(including 6 Command Decoder)

MODEL NO. RT-5A
SERIAL NO. 550
DATE 7-13-62

ITEM	PARAGRAPH	PROCEDURE REFERENCE	TEST CONDITION	LIMITS	ACCEPT	REJECT
1.	4.3.7.1	(1) Countdown during vibration (2) Transmitter Pulse Amplitude change (3) False Command (4) Command Drop-out	Ambient Operate	1% MAX 10% MAX None None		
2.	4.3.7.2	Shock	Ambient Non-operate	30g 1/2 sine 6 millisec		
3.	4.3.7.3	Pressurization	Ambient--Last Test Non-operate	No leaks apparent in 10 minutes		

	-19°C	+74°C	AMBIENT 16° to 31°	ACCEPT	REJECT
4.					
			33.6 watts		
			37.5 watts		
5.	mc	mc	- .7 mc		
	vdc	vdc	2.50 vdc		
6.					
			-69.0 dbm		
			+4.31 mc		
7.					
			-4.99 mc		
			9.30 mc		
			7-13-62		

WDL-TR1946

MODEL NO. RT-5A
SERIAL NO. 550

10th 25 HR. TEST

PHILCO

ITEM PARAGRAPH PROCEDURE REFERENCE

LIMITS

8. 4.3.4.4 Dynamic Range 0 $\rightarrow$ -65 dbm
no countdown
9. 4.3.4.5 Image Rejection +125 mc 30 db MIN
-125 mc 30 db MIN
10. 4.3.4.6 Random Triggers 5 pulses per
second MAX
11. 4.3.4.7 Receiver Monitor (1) 5000 ohms MAX
(2) 0. pps 0.5VDC
MAX
- (3) 410 pps
- (4) 820 pps
- (5) 1230 pps
- (6) 1600 pps
- 3.0 to 4.5 vdc
12. 4.3.4.8 Pulse acceptance and
pulse rejection (1) +0.5 μ s MIN
(2) -0.5 μ s MIN
(3) +8% of Tb MAX
(4) -8% of Tb MAX
- 0.8 $\pm$ 0.2 μ s
13. 4.3.5.1 Transmitter pulse
width 1 Kw to 2.5 Kw
14. 4.3.5.2 Transmitter Power + 2 mc w/add.
15. 4.3.5.3 Transmitter frequency 0.1 mc/10C
- Temp. monitor (reference)
16. 4.3.5.4 System Delay 1.0 $\pm$ 0.5 μ s
17. 4.3.5.5 Change in delay 0.25 μ s MAX

-19°C	+74°C	AMBIENT 19°C to 31°C	ACCEPT	REJECT
		OK		
		>65db		
pps	pps	none	pps	
ohms	ohms	4.79k	ohms	
vdc	vdc	.02	vdc	
vdc	vdc	.76	vdc	
vdc	vdc	1.86	vdc	
vdc	vdc	3.01	vdc	
vdc	vdc	3.996	vdc	
μ s	μ s	+1.1	μ s	
μ s	μ s	-1.0	μ s	
μ s	μ s	+1.3	μ s	
μ s	μ s	-1.2	μ s	
		.675	μ s	
Kw	Kw	1.8	Kw	
mc	mc	+1.2	mc	
vdc	vdc	2.80	vdc	
μ s	μ s	1.05	μ s	
		-.05	μ s	
		7-13-62		

WDL-TR1946

MODEL NO. RT-5A
SERIAL NO. 550

10th 25 HR. TEST OF LIFE TEST

ITEM	PARAGRAPH	PROCEDURE REFERENCE	LIMITS	-19°C	+74°C	AMBIENT 19°C to 31°C	ACCEPT	REJECT
18.	4.3.5.6	Temperature Monitor 1 31.5 °C 2 33.5 °C 3 33.0 °C	4.7 VDC MAX	vdc	vdc	2.86 vdc		
19.	4.3.5.7	Transmitter Monitor	(1) 5000 ohms MAX (2) 0.5 VDC MAX (3) 410 pps (4) 820 pps (5) 1230 pps (6) 1600 pps 3.0 to 4.5 vdc	ohms vdc vdc vdc vdc vdc	ohms vdc vdc vdc vdc vdc	3.31k ohms 0.019 vdc 1.339 vdc 2.473 vdc 3.413 vdc 4.138 vdc		
20.	4.3.6.1	Command Acceptance A + 3.6 - 3.4% B + 3.3 - 3.2% C + 3.5 - 3.5% D + 3.2 - 3.1%	(1) A & B $\pm 2\%$ MIN (2) B & C $\pm 2\%$ MIN (3) A & D $\pm 2\%$ MIN (4) A & C $\pm 2\%$ MIN (5) B & D $\pm 2\%$ MIN (6) C & D $\pm 2\%$ MIN			OK OK OK OK OK OK		
21	4.3.6.2	Command Monitor	(1) short (2) short (3) short (4) short (5) short (6) short (7) inf. (8) inf. (9) inf. (10) inf. (11) inf. (12) inf.			OK OK OK OK OK OK OK OK OK OK OK OK		

WD1-TR1946

PHILCO

MODEL NO. RT-5A
SERIAL NO. 550

10th 25 HR. TEST OF LIFE TEST
ITEM PARAGRAPH PROCEDURE REFERENCE

22. 4.3.6.3 Tone Monitor

LIMITS

- (1) 3.0 to 4.5 vdc
- (2) 3.0 to 4.5 vdc
- (3) 3.0 to 4.5 vdc
- (4) 3.0 to 4.5 vdc
- (5) 5000 ohms MAX
- (6) 5000 ohms MAX
- (7) 5000 ohms MAX
- (8) 5000 ohms MAX

23. 4.3.6.2.2 30 cps Interference

24. 4.3.7.3 Temperature Tests

25 4.1 Quality Assurance

No false tone
-19°C and +74°C

-19°C	+74°C	AMBIENT 19°C to 31°C	ACCEPT	REJECT
		3.89 vdc		
		4.00 vdc		
		3.97 vdc		
		4.08 vdc		
		3.85k ohms		
		4.09k ohms		
		4.04k ohms		
		4.09k ohms		
		OK		
		7-13-62		DATE

A-44

Operator

Supervisor WDL

Air Force
Inspector

Q/C WDL

Kenneth L. Seaton 7-13-62

J. Ellwanger 7-13-62

Running Time Meter 492.6

WDL TR1946

(Check One)

INCOMING _____ RTM 518.9 Hrs.

FINAL _____
REPAIR _____

TABLE IV

ACCEPTANCE TEST
TRANSISTORIZED RADAR TRANSPONDER
(including 6 Command Decoder)

11th 25HR TEST OF LIFE TEST

MODEL NO. _____
SERIAL NO. _____
DATE _____

ITEM	PARAGRAPH	PROCEDURE REFERENCE	TEST CONDITION	LIMITS	ACCEPT	REJECT
1.	4.3.7.1	(1) Countdown during vibration (2) Transmitter Pulse Amplitude change (3) False Command (4) Command Drop-out	Ambient Operate	1% MAX 10% MAX		
2.	4.3.7.2	Shock	Ambient Non-operate	30g 1/2 sine 6 millisec		
3.	4.3.7.3	Pressuration	Ambient--Last Test Non-operate	No leaks apparent in 10 minutes		

	-19°C	+74°C	AMBIENT 16° to 31°	ACCEPT	REJECT
4. 4.3.3.2			33.6 watts		
			37.4 watts		
5. 4.3.4.1	mc	mc	-0.71 mc		
	vdc	vdc	vdc		
			2.75		
	dbm	dbm	-68.9 dbm		
6. 4.3.4.2	mc	mc	mc		
			+4.41		
7. 4.3.4.3	mc	mc	mc		
			-4.65		
	mc	mc	mc		
			9.06		
			7/16/62		

50 watts MAX

60 watts MAX

+2 mc w/add
0.1 mc/10C

-65 to -70dbm

greater than + 3 mc
less than + 5 mc

greater than - 3 mc
less than - 5 mc

8 ± 2 mc

Temp. Monitor (Ref.) 128 °C
230 °C
330 °C

Sensitivity

Bandwidth

WDL-TR1946

MODEL NO.
SERIAL NO.

PHILCO

PARAGRAPH PROCEDURE REFERENCE

LIMITS

- | | | | |
|-----|---------|---|--|
| 8. | 4.3.4.4 | Dynamic Range | 0 → -65 dbm
no countdown |
| 9. | 4.3.4.5 | Image Rejection | +125 mc 30 db MIN
-125 mc 30 db MIN |
| 10. | 4.3.4.6 | Random Triggers | 5 pulses per
second MAX |
| 11. | 4.3.4.7 | Receiver Monitor | (1) 5000 ohms MAX
(2) 0.pps 0.5VDC
MAX |
| | | | (3) 410 pps |
| | | | (4) 820 pps |
| | | | (5) 1230 pps |
| | | | (6) 1600 pps |
| | | | 3.0 to 4.5 vdc |
| 12. | 4.3.4.8 | Pulse acceptance and
pulse rejection | (1) +0.5 μs MIN
(2) -0.5 μs MIN
(3) +8% of Tb MAX
(4) -8% of Tb MAX |
| 13. | 4.3.5.1 | Transmitter pulse
width | 0.8 ± 0.2 μs |
| 14. | 4.3.5.2 | Transmitter Power | 1 Kw to 2.5 Kw |
| 15. | 4.3.5.3 | Transmitter frequency | + 2 mc w/add. |
| | | Temp. monitor (reference) | 0.1 mc/10C |
| 16. | 4.3.5.4 | System Delay | 1.0 ± 0.5 μs |
| 17. | 4.3.5.5 | Change in delay | 0.25 μs MAX |

-19°C	+74°C	AMBIENT 19°C to 31°C	ACCEPT	REJECT
		OK		
		> 65db		
pps	pps	pps		
ohms	ohms	ohms		
vdc	vdc	vdc		
vdc	vdc	vdc		
vdc	vdc	vdc		
vdc	vdc	vdc		
vdc	vdc	vdc		
μs	μs	μs		
μs	μs	μs		
μs	μs	μs		
μs	μs	μs		
Kw	Kw	Kw		
mc	mc	mc		
vdc	vdc	vdc		
μs	μs	μs		

MODEL NO.
SERIAL NO.



PARAGRAPH PROCEDURE REFERENCE

ITEM

LIMITS

18.

4.3.5.6

Temperature Monitor
1 OC
2 OC
3 OC

4.7 VDC MAX
19.

4.3.5.7

Transmitter Monitor

(1) 5000 ohms MAX
(2) 0.5 VDC MAX
(3) 410 pps
(4) 820 pps
(5) 1230 pps
(6) 1600 pps
3.0 to 4.5 vdc
20.

4.3.6.1

Command Acceptance
A +3.6 - 3.4%
B +3.3 - 3.2%
C +3.4 - 3.6%
D +3.2 - 3.1%

(1) A & B +2% MIN
(2) B & C +2% MIN
(3) A & D +2% MIN
(4) A & C +2% MIN
(5) B & D +2% MIN
(6) C & D +2% MIN
- 21

4.3.6.2

Command Monitor

(1) short
(2) short
(3) short
(4) short
(5) short
(6) short
(7) inf.
(8) inf.
(9) inf.
(10) inf.
(11) inf.
(12) inf.

-19°C	+74°C	AMBIENT 19°C to 31°C	ACCEPT	REJECT
vdc	vdc	vdc		
ohms	ohms	3.104		
vdc	vdc	3.32k		
vdc	vdc	0.020		
vdc	vdc	1.352		
vdc	vdc	2.490		
vdc	vdc	3.433		
vdc	vdc	4.163		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		

PHILCO

WESTERN DEVELOPMENT LABORATORIES

A-18

(Check One)

INCOMING _____ RTM 541.3

REPAIR _____

TABLE IV

12th 25 HR. TEST OF LIFE TEST
ACCEPTANCE TEST
TRANSISTORIZED RADAR TRANSPONDER
(including 6 Command Decoder)

MODEL NO. RT-5A
SERIAL NO. 550
DATE 7-29-62

ITEM	PARAGRAPH	PROCEDURE REFERENCE	TEST CONDITION	LIMITS	ACCEPT	REJECT
1.	4.3.7.1	(1) Countdown during vibration (2) Transmitter Pulse Amplitude change (3) False Command (4) Command Drop-out	Ambient Operate	1% MAX 10% MAX None None		
2.	4.3.7.2	Shock	Ambient Non-operate	30g 1/2 sine 6 millilsec		
3.	4.3.7.3	Pressuration	Ambient--Last Test Non-operate	No leaks apparent in 10 minutes		

	-19°C	+74°C	AMBIENT 16° to 31°	ACCEPT	REJECT
4.	4.3.3.2	(1) Input power no command (2) Input power commanding	50 watts MAX 60 watts MAX		
5.	4.3.4.1	Receiver Frequency	+2 mc w/add 0.1 mc/10C		
		Temp. Monitor (Ref.) 1 32.0°C 2 32.0°C 3 32.0°C Internal 2.791VDC	taken after RCVR Monitor Checks -65 to -70dbm		
6.	4.3.4.2	Sensitivity	greater than + 3 mc less than + 5 mc		
7.	4.3.4.3	Bandwidth	greater than - 3 mc less than - 5 mc 8 ± 2 mc		
			7-20-62		

MODEL NO. RT-5A

SERIAL NO. 550

12th 25 HR. TEST OF LIFE TEST

ITEMPARAGRAPHPROCEDURE REFERENCELIMITS

8.	4.3.4.4	Dynamic Range	0 → -65 dbm no countdown
9.	4.3.4.5	Image Rejection	+125 mc 30 db MIN -125 mc 30 db MIN
10.	4.3.4.6	Random Triggers	5 pulses per second MAX
11.	4.3.4.7	Receiver Monitor	(1) 5000 ohms MAX (2) 0.pps 0.5VDC MAX
			(3) 410 pps (4) 820 pps (5) 1230 pps (6) 1600 pps 3.0 to 4.5 vdc
12.	4.3.4.8	Pulse acceptance and pulse rejection	(1) +0.5 μ s MIN (2) -0.5 μ s MIN (3) +8% of Tb MAX (4) -8% of Tb MAX 0.8 $\pm$ 0.2 μ s
13.	4.3.5.1	Transmitter pulse width	
14.	4.3.5.2	Transmitter Power	1 Kw to 2.5 Kw
15.	4.3.5.3	Transmitter frequency	$\pm$ 2 mc w/add.
		Temp. monitor (reference)	0.1 mc/1 $^{\circ}$ C
16.	4.3.5.4	System Delay	1.0 $\pm$ 0.5 μ s
17.	4.3.5.5	Change in delay	0.25 μ s MAX

-19 $^{\circ}$ C	+74 $^{\circ}$ C	AMBIENT 19 $^{\circ}$ C to 31 $^{\circ}$ C	ACCEPT	REJECT
		OK		
		>65db OK		
pps	pps	none	pps	
ohms	ohms	4.74k ohms		
vdc	vdc	0.012 vdc		
vdc	vdc	0.749 vdc		
vdc	vdc	1.862 vdc		
vdc	vdc	2.988 vdc		
vdc	vdc	3.984 vdc		
μ s	μ s	+1.15 μ s		
μ s	μ s	-1.00 μ s		
μ s	μ s	+1.30 μ s		
μ s	μ s	-1.20 μ s		
		0.68 μ s		
Kw	Kw	1.94 Kw		
mc	mc	+1.90 mc		
vdc	vdc	2.844 vdc		
μ s	μ s	1.05 μ s		
		0.05 μ s		

MODEL NO. RT-5A
SERIAL NO. 550

12th 25 HR. TEST OF LIFE TEST

ITEM PARAGRAPH PROCEDURE REFERENCE

18. 4.3.5.6 Temperature Monitor
1 °C
2 °C
3 °C

19. 4.3.5.7 Transmitter Monitor

20. 4.3.6.1 Command Acceptance

A +3.7 - 3.6%
B +3.3 - 3.2%
C +3.5 - 3.6%
D +3.2 - 3.1%

21 4.3.6.2 Command Monitor

LIMITS

4.7 VDC MAX

(1) 5000 ohms MAX

(2) 0.5 VDC MAX

(3) 410 pps

(4) 820 pps

(5) 1230 pps

(6) 1600 pps
3.0 to 4.5 vdc

(1) A & B $\pm 2\%$ MIN

(2) B & C $\pm 2\%$ MIN

(3) A & D $\pm 2\%$ MIN

(4) A & C $\pm 2\%$ MIN

(5) B & D $\pm 2\%$ MIN

(6) C & D $\pm 2\%$ MIN

(1) short

(2) short

(3) short

(4) short

(5) short

(6) short

(7) inf.

(8) inf.

(9) inf.

(10) inf.

(11) inf.

(12) inf.

-19°C	+74°C	AMBIENT 19°C to 31°C	ACCEPT	REJECT
vdc	vdc	2.879 vdc		
ohms	ohms	3.29k ohms		
vdc	vdc	0.011 vdc		
vdc	vdc	1.336 vdc		
vdc	vdc	2.473 vdc		
vdc	vdc	3.416 vdc		
vdc	vdc	4.143 vdc		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		

WDL-TR1946

PHILCO

MODEL NO. RT-5A
SERIAL NO. 550

12th 25 Hr. TEST OF LIFE TEST
PARAGRAPH PROCEDURE REFERENCE

PHILCO

- | | | | |
|-----|-----------|---------------------|--------------------|
| 22. | 4.3.6.3 | Tone Monitor | LIMITS |
| | | | (1) 3.0 to 4.5 vdc |
| | | | (2) 3.0 to 4.5 vdc |
| | | | (3) 3.0 to 4.5 vdc |
| | | | (4) 3.0 to 4.5 vdc |
| | | | (5) 5000 ohms MAX |
| | | | (6) 5000 ohms MAX |
| | | | (7) 5000 ohms MAX |
| | | | (8) 5000 ohms MAX |
| 23. | 4.3.6.2.2 | 30 cps Interference | No false tone |
| 24. | 4.3.7.3 | Temperature Tests | -19°C and +74°C |
| 25 | 4.1 | Quality Assurance | |

Operator
Supervisor WDL
Air Force
Inspector
Q/C WDL

-19°C	+74°C	AMBIENT 19°C to 31°C	ACCEPT	REJECT
		3.97 vdc		
		4.08 vdc		
		4.05 vdc		
		4.16 vdc		
		3.98k ohms		
		4.08k ohms		
		4.05k ohms		
		4.10k ohms		
		OK		
		7-20-62		DATE

Robert S. Suda

J. Ellwanger

7-20-62

RTM 568.6

FINAL REPAIR

13th 25HR TEST OF LIFE TEST

TABLE IV

ACCEPTANCE TEST
TRANSISTORIZED RADAR TRANSPONDER
(including 6 Command Decoder)

MODEL NO. _____
SERIAL NO. _____
DATE _____

<u>ITEM</u>	<u>PARAGRAPH</u>	<u>PROCEDURE REFERENCE</u>	<u>TEST CONDITION</u>	<u>LIMITS</u>	<u>ACCEPT</u>	<u>REJECT</u>
1.	4.3.7.1	(1) Countdown during vibration (2) Transmitter Pulse Amplitude change (3) False Command (4) Command Drop-out	Ambient Operate	1% MAX 10% MAX		
				None		
				None		
2.	4.3.7.2	Shock	Ambient Non-operate	30g 1/2 sine 6 millisecc		
3.	4.3.7.3	Pressuration	Ambient--Last Test Non-operate	No leaks apparent in 10 minutes		

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		-19°C	+74°C	AMBIENT 16° to 31°	ACCEPT	REJECT
4.	4.3.3.2	(1) Input power no command (2) Input power commanding	50 watts MAX 60 watts MAX	33.6 watts		
5.	4.3.4.1	Receiver Frequency	+2 mc w/add 0.1 mc/10c	-0.20 mc		
6.	4.3.4.2	Temp. Monitor (Ref.) 1 -24°C 2 -25°C 3 -25°C		vdc	2.47 vdc	
7.	4.3.4.3	Sensitivity	-65 to -70dbm	dbm	69.4 dbm	
		Bandwidth	greater than + 3 mc less than + 5 mc	mc	+4.47 mc	
			greater than - 3 mc less than - 5 mc	mc	-4.94 mc	
			8 + 2 mc	mc	+9.41 mc	
					7/23/62	

WDL-TR1946

MODEL NO.
SERIAL NO.

PHILCO

ITEM	PARAGRAPH	PROCEDURE REFERENCE	LIMITS
8.	4.3.4.4	Dynamic Range	0 → -65 dbm no countdown
9.	4.3.4.5	Image Rejection	+125 mc 30 db MIN -125 mc 30 db MIN
10.	4.3.4.6	Random Triggers	5 pulses per second MAX
11.	4.3.4.7	Receiver Monitor	(1) 5000 ohms MAX (2) 0.pps 0.5VDC MAX (3) 410 pps (4) 820 pps (5) 1230 pps (6) 1600 pps 3.0 to 4.5 vdc (1) +0.5 μ s MIN (2) -0.5 μ s MIN (3) +8% of Tb MAX (4) -8% of Tb MAX 0.8 $\pm$ 0.2 μ s 1 Kw to 2.5 Kw $\pm$ 2 mc w/add. 0.1 mc/10C 1.0 $\pm$ 0.5 μ s 0.25 μ s MAX

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WESTERN DEVELOPMENT LABORATORIES

WDL TR1946

-19°C	+74°C	AMBIENT 19°C to 31°C	ACCEPT	REJECT
		OK		
		>65		
pps	pps	pps		
ohms	ohms	ohms		
vdc	vdc	0.016 vdc		
vdc	vdc	0.745 vdc		
vdc	vdc	1.865 vdc		
vdc	vdc	2.99 vdc		
vdc	vdc	vdc		
		3.98		
μ s	μ s	+1.20 μ s		
μ s	μ s	-1.00 μ s		
μ s	μ s	+1.30 μ s		
μ s	μ s	-1.20 μ s		
		0.68		
Kw	Kw	1.94Kw		
mc	mc	+2.13 mc		
vdc	vdc	2.73 vdc		
μ s	μ s	1.00 μ s		
		0.06		

PHILCO

LIMITS

4.7 VDC MAX

(1) 5000 ohms MAX

(2) 0.5 VDC

(3) 410 pps

(4) 820 pps

(5) 1230 pps

(6) 1600 pps

3.0 to 4.5 vdc

(1) A & B +2% MIN

100

(1) short

(2) short

(3) short

(4) Joints

(3) 40000

(7) inf.

(8) inf.

(9) Int.

III (OT) f-1

(12) inf.

WDL-TR1946

PHILCO

22. 4.3.6.3 Tone Monitor

- (1) 3.0 to 4.5 vdc
- (2) 3.0 to 4.5 vdc
- (3) 3.0 to 4.5 vdc
- (4) 3.0 to 4.5 vdc
- (5) 5000 ohms MAX
- (6) 5000 ohms MAX
- (7) 5000 ohms MAX
- (8) 5000 ohms MAX

24. 4.3.7.3 Temperature Tests

No false tone

A-56

Supervisor WDL

Q/C WDL

WDL-TR1946

-19°C	+74°C	AMBIENT 19°C to 31°C	ACCEPT	REJECT
		3.932 vdc		
		4.05 vdc		
		4.02 vdc		
		4.12 vdc		
		3.93k ohms		
		4.03k ohms		
		3.99k ohms		
		4.03k ohms		
		OK		
				DATE

F. L. Beamer

7/23/62

J. Ellwanger

7/23/62

(Check One)

INCOMING _____ RTM 593.4

FINAL _____

REPAIR _____

14th 25 HR. TEST OF LIFE TEST

TABLE IV

ACCEPTANCE TEST
TRANSISTORIZED RADAR TRANSPONDER
(including 6 Command Decoder)

ITEM	PARAGRAPH	PROCEDURE REFERENCE	TEST CONDITION	LIMITS	ACCEPT	REJECT
1.	4.3.7.1	(1) Countdown during vibration (2) Transmitter Pulse Amplitude change (3) False Command (4) Command Drop-out	Ambient Operate	1% MAX 10% MAX		
2.	4.3.7.2	Shock	Ambient Non-operate	None None 30g 1/2 sine 6 millisec		
3.	4.3.7.3	Pressuration	Ambient--Last Test Non-operate	No leaks apparent in 10 minutes		

	-19°C	+74°C	AMBIENT 16° to 31°	ACCEPT	REJECT
4.					
			33.6 watts		
			watts		
5.					
	mc	mc	-0.2 mc		
	vdc	vdc	2.57 vdc		
6.					
	dbm	dbm	68.4 dbm		
7.					
	mc	mc	+4.480 mc		
	mc	mc	-5.348 mc		
	mc	mc	9.828 mc		
			7-26-62		

MODEL NO.

SERIAL NO.

14th 25 HR. TEST OF LIFE TEST
PARAGRAPH PROCEDURE REFERENCE

PHILCO

LIMITS

8. 4.3.4.4 Dynamic Range 0 —→ -65 dbm
no countdown
9. 4.3.4.5 Image Rejection +125 mc 30 db MIN
-125 mc 30 db MIN
10. 4.3.4.6 Random Triggers 5 pulses per
second MAX
11. 4.3.4.7 Receiver Monitor (1) 5000 ohms MAX
(2) 0.pps 0.5VDC
MAX
12. 4.3.4.8 Pulse acceptance and
pulse rejection (3) 410 pps
(4) 820 pps
(5) 1230 pps
(6) 1600 pps
3.0 to 4.5 vdc
(1) +0.5 μ s MIN
(2) -0.5 μ s MIN
(3) +8% of Tb MAX
(4) -8% of Tb MAX
13. 4.3.5.1 Transmitter pulse
width 0.8 $\pm$ 0.2 μ s
14. 4.3.5.2 Transmitter Power 1 Kw to 2.5 Kw
15. 4.3.5.3 Transmitter frequency $\pm$ 2 mc w/add.
16. 4.3.5.4 Temp. monitor (reference) 0.1 mc/10C
17. 4.3.5.5 System Delay 1.0 $\pm$ 0.5 μ s
Change in delay 0.25 μ s MAX

-19°C	+74°C	AMBIENT 19°C to 31°C	ACCEPT	REJECT
		OK		
		>65		
pps	pps	none pps		
ohms	ohms	4.73kohms		
vdc	vdc	.016 vdc		
vdc	vdc	.752 vdc		
vdc	vdc	1.86 vdc		
vdc	vdc	2.98 vdc		
vdc	vdc	3.98 vdc		
μ s	μ s	+1.1 μ s		
μ s	μ s	-1.1 μ s		
μ s	μ s	+1.2 μ s		
μ s	μ s	-1.25 μ s		
		0.65		
Kw	Kw	1.9 Kw		
mc	mc	+1.82 mc		
vdc	vdc	2.81 vdc		
μ s	μ s	1.0 μ s		
		0.1 μ s		
		7-26-62		

PHILCO

PARAGRAPH

4.3.5.6 Temperature Monitor

4.3.5.7 Transmitter Monitor

(2) 0.5 VDC MAX

(3) 410 pps

(4) 820 pps

(S) 1230 pps

(9) 1600 pps

(6) 1600 pps
3.0 to 4.5 vdc

4.3.6.1 Command Acceptance

A +3.7 - 3.6%

B +3.4 - 3.3%

C + 3.7 = 3.7%

D +3.3 - 3.2%

4.3.6.2 Command Monitor

4.3.6.2

Command Monitor

(1) short

(2) short

(3) short

(4) short

(3) SHORT

(5) short

(6) short

(7) inf.

(8) inf.

(9) inf

THE (5)

(10) inf.

(11) inf.

(12) inf.

WDL-TR1946

7-26-62

MODEL NO.
SERIAL NO.

14th 25 HR. TEST OF LIFE TEST

ITEM PARAGRAPH PROCEDURE REFERENCE

22. 4.3.6.3 Tone Monitor

LIMITS

- (1) 3.0 to 4.5 vdc
(2) 3.0 to 4.5 vdc
(3) 3.0 to 4.5 vdc
(4) 3.0 to 4.5 vdc
(5) 5000 ohms MAX
(6) 5000 ohms MAX
(7) 5000 ohms MAX
(8) 5000 ohms MAX

23. 4.3.6.2.2 30 cps Interference

No false tone

24. 4.3.7.3 Temperature Tests

-19°C and +74°C

25 4.1 Quality Assurance

A-60

-19°C	+74°C	AMBIENT 19°C to 31°C	ACCEPT	REJECT
		3.95 vdc		
		4.06 vdc		
		4.03 vdc		
		4.13 vdc		
		4.0 k ohms		
		4.11k ohms		
		4.07k ohms		
		4.11k ohms		
		OK		
		7-26-62		DATE
R. S. Suda				
Supervisor WDL				
Air Force Inspector				
Q/C WDL				
J. Ellwanger			7-26-62	

Running Time Meter 594.4

WDL-TR1946

(Check One)

INCOMING _____ RTM 618.6

FINAL _____

REPAIR _____

PHILCO

TABLE IV

MODEL NO. _____
SERIAL NO. _____
DATE _____

ACCEPTANCE TEST
TRANSISTORIZED RADAR TRANSPONDER
(including 6 Command Decoder)

15th TEST ON LIFE TEST

ITEM	PARAGRAPH	PROCEDURE REFERENCE	TEST CONDITION	LIMITS	ACCEPT	REJECT
1.	4.3.7.1	(1) Countdown during vibration (2) Transmitter Pulse Amplitude change (3) False Command (4) Command Drop-out	Ambient Operate	1% MAX 10% MAX		
2.	4.3.7.2	Shock	Ambient Non-operate	30g 1/2 sine 6 millisec		
3.	4.3.7.3	Pressurization	Ambient--Last Test Non-operate	No leaks apparent in 10 minutes		

	-19°C	+74°C	AMBIENT 16° to 31°	ACCEPT	REJECT
4. 4.3.3.2			watts		
			33.6 watts		
5. 4.3.4.1	mc	mc	-0.3 mc		
	vdc	vdc	vdc		
			2.77		
	dbm	dbm	-69.4 dbm		
6. 4.3.4.2	mc	mc	mc		
			+4.59		
7. 4.3.4.3	mc	mc	mc		
			4.40		
	mc	mc	mc		
			8.99		
			7/30/62		

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WDL-TR1946

MODEL NO.
SERIAL NO.

PHILCO

ITEM	PARAGRAPH	PROCEDURE REFERENCE	LIMITS
8.	4.3.4.4	Dynamic Range	0 $\rightarrow$ -65 dbm no countdown
9.	4.3.4.5	Image Rejection	+125 mc 30 db MIN -125 mc 30 db MIN
10.	4.3.4.6	Random Triggers	5 pulses per second MAX
11.	4.3.4.7	Receiver Monitor	(1) 5000 ohms MAX (2) 0.pps 0.5VDC MAX
			(3) 410 pps (4) 820 pps (5) 1230 pps (6) 1600 pps
12.	4.3.4.8	Pulse acceptance and pulse rejection	3.0 to 4.5 vdc (1) +0.5 μ s MIN (2) -0.5 μ s MIN (3) +8% of Tb MAX (4) -8% of Tb MAX
13.	4.3.5.1	Transmitter pulse width	0.8 $\pm$ 0.2 μ s
14.	4.3.5.2	Transmitter Power	1 Kw to 2.5 Kw
15.	4.3.5.3	Transmitter frequency	$\pm$ 2 mc w/add.
16.	4.3.5.4	Temp. monitor (reference)	0.1 mc/10C
17.	4.3.5.5	System Delay	1.0 $\pm$ 0.5 μ s
		Change in delay	0.25 μ s MAX

-19°C	+74°C	AMBIENT 19°C to 31°C	ACCEPT	REJECT
		OK		
		>65		
pps	pps	pps		
ohms	ohms	4.72k ohms		
vdc	vdc	.007 vdc		
vdc	vdc	0.746 vdc		
vdc	vdc	1.85 vdc		
vdc	vdc	2.96 vdc		
vdc	vdc	vdc		
		3.97		
μ s	μ s	+1.05 μ s		
μ s	μ s	-1.05 μ s		
μ s	μ s	+1.2 μ s		
μ s	μ s	-1.2 μ s		
		.67		
Kw	Kw	1.74kw Kw		
mc	mc	+1.9 mc		
vdc	vdc	2.98 vdc		
μ s	μ s	1.05 μ s		
		0.06 μ s		

WDL-TR1946

PHILCO

PROCEDURE REFERENCE

Temperature Monitor

Transmitter Monitor

4.3.6.1 Command Acceptance +25°C

A +4.0 - 3.8%
B +3.7 - 3.6%
C +4.0 - 4.0%
D +3.6 - 3.4%

Command Monitor

4.7 VDC MAX

- (1) 5000 ohms MAX
- (2) 0.5 VDC MAX
- (3) 410 pps
- (4) 820 pps
- (5) 1230 pps
- (6) 1600 pps
3.0 to 4.5 vdc

- (1) $A \& B \pm 2\% \text{ MIN}$
- (2) $B \& C \pm 2\% \text{ MIN}$
- (3) $A \& D \pm 2\% \text{ MIN}$
- (4) $A \& C \pm 2\% \text{ MIN}$
- (5) $B \& D \pm 2\% \text{ MIN}$
- (6) $C \& D \pm 2\% \text{ MIN}$

(1) short
(2) short
(3) short
(4) short
(5) short
(6) short
(7) inf.
(8) inf.
(9) inf.
(10) inf.
(11) inf.
(12) inf.

WDI.-TR1946

MODEL NO.
SERIAL NO.

PHILCO

ITEM	PARAGRAPH	PROCEDURE REFERENCE	LIMITS
22.	4.3.6.3	Tone Monitor	(1) 3.0 to 4.5 vdc (2) 3.0 to 4.5 vdc (3) 3.0 to 4.5 vdc (4) 3.0 to 4.5 vdc (5) 5000 ohms MAX (6) 5000 ohms MAX (7) 5000 ohms MAX (8) 5000 ohms MAX
23.	4.3.6.2.2	30 cps Interference	No false tone
24.	4.3.7.3	Temperature Tests	-19°C and +74°C
25	4.1	Quality Assurance	

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-19°C	+74°C	AMBIENT °C 19°C to 31°C	ACCEPT	REJECT
		3.91 vdc		
		4.01 vdc		
		3.9k vdc		
		4.09 vdc		
		3.93k ohms		
		4.04k ohms		
		4.01k ohms		
		4.05k ohms		
		OK		
				DATE

R. S. Suda

J. Ellwanger

7/30/62

Operator

R. S. Suda

Supervisor WDL

Air Force
Inspector

Q/C WDL

J. Ellwanger 7/30/62

Running Time Meter 620.2

WDL-TR1946

MODEL NO. _____
SERIAL NO. _____
DATE _____

RTM 642.3

INCOMING _____

FINAL

TRANSISTORIZED RADAR TRANSPONDER
(including 6 Command Decoder)

16th 25HR LIFE TEST

<u>ITEM</u>	<u>PARAGRAPH</u>	<u>PROCEDURE REFERENCE</u>	<u>TEST CONDITION</u>	<u>LIMITS</u>	<u>ACCEPT</u>	<u>REJECT</u>
1.	4.3.7.1	(1) Countdown during vibration (2) Transmitter Pulse Amplitude change (3) False Command (4) Command Drop-out	Ambient Operate	1% MAX 10% MAX		
				None		
				None		
2.	4.3.7.2	Shock	Ambient Non-operate	30g 1/2 sine 6 millisecc		
3.	4.3.7.3	Pressuration	Ambient--Last Test Non-operate	No leaks apparent in 10 minutes		

		-19°C	+74°C	AMBIENT 16° to 31°	ACCEPT	REJECT
4.	4.3.3.2	(1) Input power no command (2) Input power commanding	50 watts MAX 60 watts MAX	33.6 watts 37.6 watts		
5.	4.3.4.1	Receiver Frequency	+2 mc w/add 0.1 mc/10C	mc vdc	-0.6 mc vdc	
6.	4.3.4.2	Temp. Monitor (Ref.) Sensitivity	1-31 °C 2-32 °C 3-32 °C -65 to -70dbm	25.89		
7.	4.3.4.3	Bandwidth	greater than + 3 mc less than + 5 mc greater than - 3 mc less than - 5 mc 8 ± 2 mc	mc mc mc mc mc	71.0 dbm +4.35 -5.05 9.40	

MODEL NO.
SERIAL NO.

PHILCO

ITEM	PARAGRAPH	PROCEDURE REFERENCE	LIMITS
8.	4.3.4.4	Dynamic Range	0 → -65 dbm no countdown
9.	4.3.4.5	Image Rejection	+125 mc 30 db MIN -125 mc 30 db MIN
10.	4.3.4.6	Random Triggers	5 pulses per second MAX
11.	4.3.4.7	Receiver Monitor	(1) 5000 ohms MAX (2) 0.pps 0.5VDC MAX
			(3) 410 pps (4) 820 pps (5) 1230 pps (6) 1600 pps 3.0 to 4.5 vdc
12.	4.3.4.8	Pulse acceptance and pulse rejection	(1) +0.5 μ s MIN (2) -0.5 μ s MIN (3) +8% of Tb MAX (4) -8% of Tb MAX 0.8 $\pm$ 0.2 μ s
13.	4.3.5.1	Transmitter pulse width	
14.	4.3.5.2	Transmitter Power	1 Kw to 2.5 Kw
15.	4.3.5.3	Transmitter frequency	$\pm$ 2 mc w/add.
		Temp. monitor (reference)	0.1 mc/10C
16.	4.3.5.4	System Delay	1.0 $\pm$ 0.5 μ s
17.	4.3.5.5	Change in delay	0.25 μ s MAX

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WESTERN DEVELOPMENT LABORATORIES

WDL-TR1946

-19°C	+74°C	AMBIENT 19°C to 31°C	ACCEPT	REJECT
		OK		
		>65		
pps	pps	pps		
ohms	ohms	4.73 ϕ hms		
vdc	vdc	.012 vdc		
vdc	vdc	0.753 vdc		
vdc	vdc	1.87 vdc		
vdc	vdc	2.993 vdc		
vdc	vdc	3.991		
μ s	μ s	+1.05 μ s		
μ s	μ s	-1.1 μ s		
μ s	μ s	+1.2 μ s		
μ s	μ s	-1.2 μ s		
		.67		
Kw	Kw	1.62kw		
mc	mc	+1.35 mc		
vdc	vdc	2.971 vdc		
μ s	μ s	1.05 μ s		
		0.05 μ s		

MODEL NO.
SERIAL NO.

PHILCO

ITEM	PARAGRAPH	PROCEDURE REFERENCE	LIMITS
18.	4.3.5.6	Temperature Monitor 1 OC 2 OC 3 OC	4.7 VDC MAX
19.	4.3.5.7	Transmitter Monitor	(1) 5000 ohms MAX (2) 0.5 VDC MAX (3) 410 pps (4) 820 pps (5) 1230 pps (6) 1600 pps 3.0 to 4.5 vdc
20.	4.3.6.1	Command Acceptance A. +4.0 - 3.9% B. +3.6 - 3.6% C. +4.0 - 4.0% D. +3.5 - 3.5%	(1) A & B $\pm$ 2% MIN (2) B & C $\pm$ 2% MIN (3) A & D $\pm$ 2% MIN (4) A & C $\pm$ 2% MIN (5) B & D $\pm$ 2% MIN (6) C & D $\pm$ 2% MIN
21	4.3.6.2	Command Monitor	(1) short (2) short (3) short (4) short (5) short (6) short (7) inf. (8) inf. (9) inf. (10) inf. (11) inf. (12) inf.

-19°C	+74°C	AMBIENT 19°C to 31°C	ACCEPT	REJECT
vdc	vdc	vdc		
ohms	ohms	2.994		
vdc	vdc	3.29k		
vdc	vdc	.013		
vdc	vdc	1.35		
vdc	vdc	2.494		
vdc	vdc	3.431		
vdc	vdc	4.17		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		

WFL-TR1946

MODEL NO.
SERIAL NO.

PHILCO

ITEM	PARAGRAPH	PROCEDURE REFERENCE	LIMITS
22.	4.3.6.3	Tone Monitor	(1) 3.0 to 4.5 vdc (2) 3.0 to 4.5 vdc (3) 3.0 to 4.5 vdc (4) 3.0 to 4.5 vdc (5) 5000 ohms MAX (6) 5000 ohms MAX (7) 5000 ohms MAX (8) 5000 ohms MAX
23.	4.3.6.2.2	30 cps Interference	No false tone
24.	4.3.7.3	Temperature Tests	-19°C and +74°C
25	4.1	Quality Assurance	

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-19°C	+74°C	AMBIENT 19°C to 31°C	ACCEPT	REJECT
		3.93 vdc		
		4.03 vdc		
		4.00 vdc		
		4.11 vdc		
		3.99k ohms		
		4.09k ohms		
		4.01k ohms		
		4.09k ohms		
		OK		
				DATE
R. S. Suda				
Supervisor WDL				
Air Force Inspector				
J. Ellwanger				
8/3/62				

WDL TR1946

Running Time Meter 643.4

(Check One)

INCOMING _____ RTM 668.1
FINAL _____
REPAIR _____

PHILCO

TABLE IV

ACCEPTANCE TEST
TRANSISTORIZED RADAR TRANSPONDER
(including 6 Command Decoder)

17th 25HR TEST OF LIFE TEST

MODEL NO. RT-5A
SERIAL NO. 550
DATE 8-7-62

ITEM	PARAGRAPH	PROCEDURE REFERENCE	TEST CONDITION	LIMITS	ACCEPT	REJECT
1.	4.3.7.1	(1) Countdown during vibration (2) Transmitter Pulse Amplitude change (3) False Command (4) Command Drop-out	Ambient Operate	1% MAX 10% MAX		
2.	4.3.7.2	Shock	Ambient Non-operate	30g 1/2 sine 6 millisec		
3.	4.3.7.3	Pressuration	Ambient--Last Test Non-operate	No leaks apparent in 10 minutes		

	-19°C	+74°C	AMBIENT 16° to 31°	ACCEPT	REJECT
4.					
			33.6 watts		
			37.5 watts		
5.	mc	mc	- .55 mc		
	vdc	vdc	vdc		
			3.027		
6.	dbm	dbm	dbm		
	mc	mc	70.7db		
7.	mc	mc	+4.39		
	mc	mc	mc		
	mc	mc	-4.94		
			9.33		
			8/7/62		

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WDL-TR1946

MODEL NO.
SERIAL NO.

PHILCO

ITEM	PARAGRAPH	PROCEDURE REFERENCE	LIMITS
8.	4.3.4.4	Dynamic Range	0 → -65 dbm no countdown
9.	4.3.4.5	Image Rejection	+125 mc 30 db MIN -125 mc 30 db MIN
10.	4.3.4.6	Random Triggers	5 pulses per second MAX
11.	4.3.4.7	Receiver Monitor	(1) 5000 ohms MAX (2) 0.pps 0.5VDC MAX
			(3) 410 pps (4) 820 pps (5) 1230 pps (6) 1600 pps
			3.0 to 4.5 vdc
12.	4.3.4.8	Pulse acceptance and pulse rejection	(1) +0.5 μ s MIN (2) -0.5 μ s MIN (3) +8% of Tb MAX (4) -8% of Tb MAX 0.8 $\pm$ 0.2 μ s
13.	4.3.5.1	Transmitter pulse width	1 Kw to 2.5 Kw
14.	4.3.5.2	Transmitter Power	+ 2 mc w/add.
15.	4.3.5.3	Transmitter frequency	0.1 mc/10C
16.	4.3.5.4	Temp. monitor (reference)	1.0 $\pm$ 0.5 μ s
17.	4.3.5.5	System Delay	0.25 μ s MAX
		Change in delay	

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WESTERN DEVELOPMENT LABORATORIES

WDJ.-TR1946

-19°C	+74°C	AMBIENT 19°C to 31°C	ACCEPT	REJECT
		OK		
		>65db		
pps	pps	pps		
ohms	ohms	ohms		
vdc	vdc	vdc		
vdc	vdc	vdc		
vdc	vdc	vdc		
vdc	vdc	vdc		
vdc	vdc	vdc		
		4.002		
μ s	μ s	+1.0 μ s		
μ s	μ s	-1.1 μ s		
μ s	μ s	+1.2 μ s		
μ s	μ s	-1.3 μ s		
		.65		
Kw	Kw	1.75kw		
mc	mc	+1.35 mc		
vdc	vdc	3.159 vdc		
μ s	μ s	1.05 μ s		
		- .06		

PHILCO

18. 4.3.5.6 Temperature Monitor

19. 4.3.5.7 Transmitter Monitor

20. 4.3.6.1

	Command	Acceptance
A.	+3.45	- 3.6%
B.	+3.2	- 3.2%
C.	+3.5	- 3.5%
D.	+3.2	- 3.1%

21 4.3.6.2 Command Monitor

LIMITS

4.7 VDC MAX

- (1) 5000 ohms MAX
- (2) 0.5 VDC MAX
- (3) 410 pps
- (4) 820 pps
- (5) 1230 pps
- (6) 1600 pps
3.0 to 4.5 vdc

- (1) A & B $\pm 2\%$ MIN
- (2) B & C $\pm 2\%$ MIN
- (3) A & D $\pm 2\%$ MIN
- (4) A & C $\pm 2\%$ MIN
- (5) B & D $\pm 2\%$ MIN
- (6) C & D $\pm 2\%$ MIN

- (1) short
- (2) short
- (3) short
- (4) short
- (5) short
- (6) short
- (7) inf.
- (8) inf.
- (9) inf.
- (10) inf.
- (11) inf.
- (12) inf.

-19°C	+74°C	AMBIENT 19°C to 31°C	ACCEPT REJECT
vdc	vdc	2.691 vdc	
ohms	ohms	3.31k ohms	
vdc	vdc	.016 vdc	
vdc	vdc	1.362 vdc	
vdc	vdc	2.515 vdc	
vdc	vdc	3.409 vdc	
vdc	vdc	4.204 vdc	
		OK	
		OK	
		OK	
		OK	
		OK	
		OK	
		OK	
		OK	
		OK	
		OK	
		OK	
		OK	
		OK	
		OK	
		OK	

WDL-TR1946

WDL-TR1946

MODEL NO. RT-5A

SERIAL NO. 550

17th 25HR TEST OF LIFE TEST

ITEM PARAGRAPH PROCEDURE REFERENCE

22. 4.3.6.3 Tone Monitor

LIMITS

- (1) 3.0 to 4.5 vdc
(2) 3.0 to 4.5 vdc
(3) 3.0 to 4.5 vdc
(4) 3.0 to 4.5 vdc
(5) 5000 ohms MAX
(6) 5000 ohms MAX
(7) 5000 ohms MAX
(8) 5000 ohms MAX

23. 4.3.6.2.2 30 cps Interference

No false tone

24. 4.3.7.3 Temperature Tests

-19°C and +74°C

25 4.1 Quality Assurance

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-19°C	+74°C	AMBIENT 19°C to 31°C	ACCEPT	REJECT
		3.92 vdc		
		4.02 vdc		
		4.00 vdc		
		4.10 vdc		
		3.97k ohms		
		4.09k ohms		
		4.04k ohms		
		4.09k ohms		
		OK		
				DATE
Kenneth L. Seaton 8-7-62				
J. Fillwanger 8-7-62				

Operator

Supervisor WDL

Air Force

Inspector

Q/C WDL

Running Time Meter 670.7

WDL-TR1946

(Check One)

INCOMING _____ RTM 0694.2

FINAL _____

REPAIR _____

TABLE IV

ACCEPTANCE TEST
TRANSISTORIZED RADAR TRANSPONDER
(including 6 Command Decoder)

18th 25HR TEST OF LIFE TEST

ITEM	PARAGRAPH	PROCEDURE REFERENCE	TEST CONDITION	LIMITS	ACCEPT	REJECT
1.	4.3.3.7.1	(1) Countdown during vibration (2) Transmitter Pulse Amplitude change (3) False Command (4) Command Drop-out	Ambient Operate	1% MAX 10% MAX		
2.	4.3.3.7.2	Shock	Ambient Non-operate	None None 30g 1/2 sine 6 millisec		
3.	4.3.3.7.3	Pressurization	Ambient--Last Test Non-operate	No leaks apparent in 10 minutes		

A-73

	-19°C	+74°C	AMBIENT 16° to 31°	ACCEPT	REJECT
4. 4.3.3.2			33.8 watts		
			38.0 watts		
5. 4.3.4.1	mc	mc	mc		
	vdc	vdc	vdc		
			2.67		
6. 4.3.4.2	dbm	dbm	dbm		
			-70.9dbm		
7. 4.3.4.3	mc	mc	mc		
			+4.66		
	mc	mc	mc		
			-4.75		
	mc	mc	mc		
			9.41		
			8/10/62		

WDL-TR1946

PHILCO

MODEL NO. RT-5A

SERIAL NO. 55017th

25HR TEST OF LIFE TEST

8-10-62

LIMITS

PROCEDURE REFERENCE

PARAGRAPH

ITEM

8.	4.3.4.4	Dynamic Range	0 → -65 dbm no countdown
9.	4.3.4.5	Image Rejection	+125 mc 30 db MIN -125 mc 30 db MIN
10.	4.3.4.6	Random Triggers	5 pulses per second MAX
11.	4.3.4.7	Receiver Monitor	(1) 5000 ohms MAX (2) 0. pps 0.5VDC MAX
			(3) 410 pps
			(4) 820 pps
			(5) 1230 pps
			(6) 1600 pps
			3.0 to 4.5 vdc
12.	4.3.4.8	Pulse acceptance and pulse rejection	(1) +0.5 μ s MIN (2) -0.5 μ s MIN (3) +8% of Tb MAX (4) -8% of Tb MAX
13.	4.3.5.1	Transmitter pulse width	0.8 $\pm$ 0.2 μ s
14.	4.3.5.2	Transmitter Power	1 Kw to 2.5 Kw
15.	4.3.5.3	Transmitter frequency	$\pm$ 2 mc w/add.
		Temp. monitor (reference)	0.1 mc/10C
16.	4.3.5.4	System Delay	1.0 $\pm$ 0.5 μ s
17.	4.3.5.5	Change in delay	0.25 μ s MAX

-19°C	+74°C	AMBIENT 19°C to 31°C	ACCEPT	REJECT
		OK		
		>65db		
pps	pps	pps		
ohms	ohms	ohms		
vdc	vdc	.017 vdc		
vdc	vdc	.757 vdc		
vdc	vdc	1.872 vdc		
vdc	vdc	2.989 vdc		
vdc	vdc	vdc		
		3.999		
μ s	μ s	+1.1 μ s		
μ s	μ s	-1.1 μ s		
μ s	μ s	+1.3 μ s		
μ s	μ s	-1.25 μ s		
		.66		
Kw	Kw	1.78 Kw		
mc	mc	+1.6 mc		
vdc	vdc	3.059 vdc		
μ s	μ s	1.05 μ s		
		-.05 μ s		

WDL-TR1946

MODEL NO.
SERIAL NO.

PHILCO

ITEM	PARAGRAPH	PROCEDURE REFERENCE	LIMITS
18.	4.3.5.6	Temperature Monitor 1 35.7 °C 2 36.0 °C 3 35.7 °C	4.7 VDC MAX
19.	4.3.5.7	Transmitter Monitor	(1) 5000 ohms MAX (2) 0.5 VDC MAX (3) 410 pps (4) 820 pps (5) 1230 pps (6) 1600 pps 3.0 to 4.5 vdc
20.	4.3.6.1	Command Acceptance A. +3.6 - 3.55% B. +3.4 - 3.2% C. +3.6 - 3.6% D. +3.3 - 3.7%	(1) A & B +2% MIN (2) B & C +2% MIN (3) A & D +2% MIN (4) A & C +2% MIN (5) B & D +2% MIN (6) C & D +2% MIN
21	4.3.6.2	Command Monitor	(1) short (2) short (3) short (4) short (5) short (6) short (7) inf. (8) inf. (9) inf. (10) inf. (11) inf. (12) inf.

A-75

WDL-TR1946

SERIAL NO. 550

ITEM	18th 25HR TEST OF LIFE TEST	PARAGRAPH	PROCEDURE	REFERENCE
1	1.1	1.1	1.1	1.1
2	2.1	2.1	2.1	2.1
3	3.1	3.1	3.1	3.1
4	4.1	4.1	4.1	4.1
5	5.1	5.1	5.1	5.1
6	6.1	6.1	6.1	6.1
7	7.1	7.1	7.1	7.1
8	8.1	8.1	8.1	8.1
9	9.1	9.1	9.1	9.1
10	10.1	10.1	10.1	10.1
11	11.1	11.1	11.1	11.1
12	12.1	12.1	12.1	12.1
13	13.1	13.1	13.1	13.1
14	14.1	14.1	14.1	14.1
15	15.1	15.1	15.1	15.1
16	16.1	16.1	16.1	16.1
17	17.1	17.1	17.1	17.1
18	18.1	18.1	18.1	18.1
19	19.1	19.1	19.1	19.1
20	20.1	20.1	20.1	20.1
21	21.1	21.1	21.1	21.1
22	22.1	22.1	22.1	22.1
23	23.1	23.1	23.1	23.1
24	24.1	24.1	24.1	24.1
25	25.1	25.1	25.1	25.1
26	26.1	26.1	26.1	26.1
27	27.1	27.1	27.1	27.1
28	28.1	28.1	28.1	28.1
29	29.1	29.1	29.1	29.1
30	30.1	30.1	30.1	30.1
31	31.1	31.1	31.1	31.1
32	32.1	32.1	32.1	32.1
33	33.1	33.1	33.1	33.1
34	34.1	34.1	34.1	34.1
35	35.1	35.1	35.1	35.1
36	36.1	36.1	36.1	36.1
37	37.1	37.1	37.1	37.1
38	38.1	38.1	38.1	38.1
39	39.1	39.1	39.1	39.1
40	40.1	40.1	40.1	40.1
41	41.1	41.1	41.1	41.1
42	42.1	42.1	42.1	42.1
43	43.1	43.1	43.1	43.1
44	44.1	44.1	44.1	44.1
45	45.1	45.1	45.1	45.1
46	46.1	46.1	46.1	46.1
47	47.1	47.1	47.1	47.1
48	48.1	48.1	48.1	48.1
49	49.1	49.1	49.1	49.1
50	50.1	50.1	50.1	50.1
51	51.1	51.1	51.1	51.1
52	52.1	52.1	52.1	52.1
53	53.1	53.1	53.1	53.1
54	54.1	54.1	54.1	54.1
55	55.1	55.1	55.1	55.1
56	56.1	56.1	56.1	56.1
57	57.1	57.1	57.1	57.1
58	58.1	58.1	58.1	58.1
59	59.1	59.1	59.1	59.1
60	60.1	60.1	60.1	60.1
61	61.1	61.1	61.1	61.1
62	62.1	62.1	62.1	62.1
63	63.1	63.1	63.1	63.1
64	64.1	64.1	64.1	64.1
65	65.1	65.1	65.1	65.1
66	66.1	66.1	66.1	66.1
67	67.1	67.1	67.1	67.1
68	68.1	68.1	68.1	68.1
69	69.1	69.1	69.1	69.1
70	70.1	70.1	70.1	70.1
71	71.1	71.1	71.1	71.1
72	72.1	72.1	72.1	72.1
73	73.1	73.1	73.1	73.1
74	74.1	74.1	74.1	74.1

8-10-62

LIMITS

22. 4.3.6.3 Tone Monitor

- | | |
|-----|----------------|
| (1) | 3.0 to 4.5 vdc |
| (2) | 3.0 to 4.5 vdc |
| (3) | 3.0 to 4.5 vdc |
| (4) | 3.0 to 4.5 vdc |
| (5) | 5000 ohms MAX |
| (6) | 5000 ohms MAX |
| (7) | 5000 ohms MAX |
| (8) | 5000 ohms MAX |

23. 4.3.6.2.2 30 cps Interference

24. 4.3.7.3 Temperature Tests

4.1 Quality Assurance

No false tone
-19°C and +74°C

A-76

Operator

Supervisor WDL

**Air Force
Inspector**

Q/C WDL

Running Time Meter 695.6

-19°C	+74°C	AMBIENT 19°C to 31°C	ACCEPT	REJECT
		3.91 vdc		
		4.02 vdc		
		3.99 vdc		
		4.09 vdc		
		3.90k ohms		
		4.01k ohms		
		4.00k ohms		
		4.03k ohms		
		OK		
				DATE

Kenneth L. Seaton 8-10-62

J. Ellwanger 8-10-62

WDL-TR1946

(Check One)

INCOMING _____ RTM 724.8

FINAL _____
REPAIR _____

TABLE IV

ACCEPTANCE TEST
TRANSISTORIZED RADAR TRANSPONDER
(including 6 Command Decoder)

MODEL NO. RT-5A
SERIAL NO. 550
DATE 8-20-62

500 HR. TEST OF LIFE TEST

ITEM	PARAGRAPH	PROCEDURE REFERENCE	TEST CONDITION	LIMITS	ACCEPT	REJECT
1.	4.3.7.1	(1) Countdown during vibration (2) Transmitter Pulse Amplitude change (3) False Command (4) Command Drop-out	Ambient Operate	1% MAX 10% MAX None None		
2.	4.3.7.2	Shock	Ambient Non-operate	30g 1/2 sine 6 millisecc		
3.	4.3.7.3	Pressurization	Ambient--Last Test Non-operate	No leaks apparent in 10 minutes		

A-77

	-19°C	+74°C	AMBIENT 16° to 31°	ACCEPT	REJECT
4. 4.3.3.2	32.6 W		33.1 watts		
5. 4.3.4.1	37.4		37.6 watts		
	+0.3mc	mc	+0.49 mc		
	vdc	vdc	vdc		
	0.749		1.189		
6. 4.3.4.2	dbm	dbm	dbm		
	-69.5		70.2		
7. 4.3.4.3	+4.97	mc	+4.74 mc		
	mc	mc	mc		
	-4.80		-4.70		
	mc	mc	mc		
	9.77		9.44		

WDL-TR1946

MODEL NO. RT-5A

SERIAL NO. 550

500 HR. TEST OF LIFE TEST
PARAGRAPH PROCEDURE REFERENCE

8-20-62

LIMITS

ITEM	TEST OF LIFE TEST PARAGRAPH	PROCEDURE REFERENCE	8-20-62 LIMITS	-19°C	+74°C	AMBIENT 19°C to 31°C	ACCEPT	REJECT
8.	4.3.4.4	Dynamic Range	0 → -65 dbm no countdown	OK		OK		
9.	4.3.4.5	Image Rejection	+125 mc 30 db MIN -125 mc 30 db MIN	>65db		>65db		
10.	4.3.4.6	Random Triggers	5 pulses per second MAX	0 pps	pps	0 pps		
11.	4.3.4.7	Receiver Monitor	(1) 5000 ohms MAX (2) 0. pps 0.5VDC MAX	ohms 4.75k .039 vdc	ohms vdc	4.74k ohms .038 vdc		
			(3) 410 pps	0.68 vdc	vdc	0.725 vdc		
			(4) 820 pps	1.7 vdc	vdc	1.302 vdc		
			(5) 1230 pps	2.7 vdc	vdc	2.897 vdc		
			(6) 1600 pps	3.7 vdc	vdc	3.872 vdc		
			3.0 to 4.5 vdc					
12.	4.3.4.8	Pulse acceptance and pulse rejection	(1) +0.5 μs MIN (2) -0.5 μs MIN (3) +8% of Tb MAX (4) -8% of Tb MAX	+ .9 μs -1.3 μs +1.1 μs -1.6 μs	μs μs μs μs	+1.0 μs -1.1 μs +1.2 μs -1.35 μs		
			0.8 ± 0.2 μs			0.65 μs		
13.	4.3.5.1	Transmitter pulse width						
14.	4.3.5.2	Transmitter Power	1 Kw to 2.5 Kw	1.7 Kw	Kw	1.82 Kw		
15.	4.3.5.3	Transmitter frequency	± 2 mc w/add.	+5.0 mc	mc	+3.6 mc		
		Temp. monitor (reference)	0.1 mc/10C	0.68 vdc	vdc	1.233 vdc		
16.	4.3.5.4	System Delay	1.0 ± 0.5 μs	1.05 μs	μs	1.05 μs		
17.	4.3.5.5	Change in delay	0.25 μs MAX	-0.05 μs		-0.05 μs		

MODEL NO. RT-5A
SERIAL NO. 550

500 HR. TEST OF LIFE TEST

8-20-62

ITEM PARAGRAPH PROCEDURE REFERENCE

18. 4.3.5.6 Temperature Monitor
-20°C
1-20.0 °C
2-19.5 °C
3-20.5 °C

19. 4.3.5.7 Transmitter Monitor

LIMITS

0°C
4.7 VDC MAX
+25°C.
+75°C.
0°C.

(1) 5000 ohms MAX
(2) 0.5 VDC MAX
(3) 410 pps
(4) 820 pps
(5) 1230 pps
(6) 1600 pps
3.0 to 4.5 vdc

20. 4.3.6.1 Command Acceptance
-20°C

A +3.4 - 3.5%
B +2.9 - 2.95%
C +2.5 - 2.3%
D +2.6 - 2.7%

(1) A & B +2% MIN
(2) B & C +2% MIN
(3) A & D +2% MIN
(4) A & C +2% MIN
(5) B & D +2% MIN
(6) C & D +2% MIN

21 4.3.6.2 Command Monitor

(1) short
(2) short
(3) short
(4) short
(5) short
(6) short
(7) inf.
(8) inf.
(9) inf.
(10) inf.
(11) inf.
(12) inf.

-19°C	+74°C	AMBIENT 19°C to 31°C	ACCEPT	REJECT
vdc	vdc	vdc		
0.686		1.256		
3.29k	ohms	3.29k	ohms	
0.039	vdc	0.039	vdc	
1.30	vdc	1.351	vdc	
2.39	vdc	2.487	vdc	
3.32	vdc	3.434	vdc	
4.032	vdc	4.164	vdc	
OK		OK		
OK		OK		
OK		OK		
OK		OK		
OK		OK		
OK		OK		
OK		OK		
OK		OK		
OK		OK		
OK		OK		
OK		OK		
OK		OK		
OK		OK		
OK		OK		
OK		OK		

WDL-TR1946

MODEL NO. RT-5A
SERIAL NO. 550

500 HR. TEST OF LIFE TEST
ITEM PARAGRAPH PROCEDURE REFERENCE

8-20-62
LIMITS

22. 4.3.6.3 Tone Monitor
- (1) 3.0 to 4.5 vdc
 - (2) 3.0 to 4.5 vdc
 - (3) 3.0 to 4.5 vdc
 - (4) 3.0 to 4.5 vdc
 - (5) 5000 ohms MAX
 - (6) 5000 ohms MAX
 - (7) 5000 ohms MAX
 - (8) 5000 ohms MAX

23. 4.3.6.2.2 30 cps Interference No false tone
24. 4.3.7.3 Temperature Tests -19°C and +74°C
25. 4.1 Quality Assurance

A-80

Operator
Supervisor WDL
Air Force Inspector
Q/C WDL

Running Time Meter 726.7 728.2
-20°C. 0°C.
TEST TEST

-19°C	+74°C	AMBIENT 19°C to 31°C	ACCEPT	REJECT
3.87		3.89 vdc		
4.02		4.03 vdc		
3.99		4.00 vdc		
4.11		4.12 vdc		
3.95		3.94k ohms		
4.13		4.09k ohms		
4.09		4.04k ohms		
4.14		4.10k ohms		
OK		OK		
		3-20-62		DATE

Kennet L. Seaton	8-20-62
J. Ellwanger	8-20-62

(Check One)

INCOMING RT-5A RTM 128.4

FINAL
REPAIR

TABLE IV

ACCEPTANCE TEST
TRANSISTORIZED RADAR TRANSPONDER
(including 6 Command Decoder)

MODEL NO. RT-5A
SERIAL NO. 550
DATE 8-24-62
500HR

ITEM	PARAGRAPH	PROCEDURE REFERENCE	TEST CONDITION	LIMITS	ACCEPT	REJECT
1.	4.3.7.1	(1) Countdown during vibration (2) Transmitter Pulse Amplitude change (3) False Command (4) Command Drop-out	Ambient Operate	1% MAX 10% MAX		
2.	4.3.7.2	Shock	Ambient Non-operate	30g 1/2 sine 6 millisec		
3.	4.3.7.3	Pressuration	Ambient--Last Test Non-operate	No leaks apparent in 10 minutes		

	-19°C	+74°C	AMBIENT 16° to 31°	ACCEPT	REJECT
4.		34.1	33.3 watts		
		37.0	37.5 watts		
5.	mc	1.4 mc	+ .0 mc		
	vdc	vdc	vdc		
		4.65	2.55		
	dbm	dbm 70.0	dbm 70.2		
6.	mc	mc	mc		
		+3.93	+ 4.24		
7.	mc	mc	mc		
		-3.33	- 4.55		
	mc	mc	mc		
		7.26	8.79		

MODEL NO.
SERIAL NO.

PHILCO

ITEM	PARAGRAPH	PROCEDURE REFERENCE	LIMITS
8.	4.3.4.4	Dynamic Range	0 $\longrightarrow$ -65 dbm no countdown
9.	4.3.4.5	Image Rejection	+125 mc 30 db MIN -125 mc 30 db MIN
10.	4.3.4.6	Random Triggers	5 pulses per second MAX
11.	4.3.4.7	Receiver Monitor	(1) 5000 ohms MAX (2) 0 pps 0.5VDC MAX
12.	4.3.4.8	Pulse acceptance and pulse rejection	(3) 410 pps (4) 820 pps (5) 1230 pps (6) 1600 pps 3.0 to 4.5 vdc (1) +0.5 μ s MIN (2) -0.5 μ s MIN (3) +8% of Tb MAX (4) -8% of Tb MAX
13.	4.3.5.1	Transmitter pulse width	0.8 $\pm$ 0.2 μ s
14.	4.3.5.2	Transmitter Power	1 Kw to 2.5 Kw
15.	4.3.5.3	Transmitter frequency	$\pm$ 2 mc w/add.
16.	4.3.5.4	Temp. monitor (reference)	0.1 mc/10C
17.	4.3.5.5	System Delay Change in delay	1.0 $\pm$ 0.5 μ s 0.25 μ s MAX

-19°C	+74°C	AMBIENT 19°C to 31°C	ACCEPT	REJECT
	OK	OK		
	>65db	>65db		
pps	pps none	pps none		
ohms	ohms 4.80K	ohms 4.73K		
vdc	.044vdc	.039 vdc		
vdc	.839vdc	0.772 vdc		
vdc	1.984 vdc	1.889 vdc		
vdc	3.113 vdc	3.000 vdc		
vdc	vdc	vdc		
	4.096	3.968		
μ s	+0.9 μ s	+1.0 μ s		
μ s	-0.9 μ s	-1.1 μ s		
μ s	+1.1 μ s	+1.3 μ s		
μ s	-1.1 μ s	-1.3 μ s		
	0.65 μ s	0.65 μ s		
Kw	1.62 Kw	1.75 Kw		
mc	-1.5 mc	+1.6 mc		
vdc	4.689 vdc	2.54 vdc		
μ s	1.2 μ s	1.1 μ s		
	-0.05	-0.05 μ s		

MODEL NO. RT-5A
SERIAL NO. 550

PHILCO

500 HR. TEST OF LIFE TEST
PARAGRAPH PROCEDURE REFERENCE

LIMITS

18. 4.3.5.6 Temperature Monitor 4.7 VDC MAX
1 28.5 °C 1 74.5°C.
2 29.0 °C 2 76.0°C.
3 28.5 °C 3 75.0°C.
19. 4.3.5.7 Transmitter Monitor
(1) 5000 ohms MAX
(2) 0.5 VDC MAX
(3) 410 pps
(4) 820 pps
(5) 1230 pps
(6) 1600 pps
3.0 to 4.5 vdc
20. 4.3.6.1 Command Acceptance
+25°C +74°C
A +3.7 - 3.6% A +2.85 - 2.7%
B +3.4 - 3.2% B +3.2 - 3.0%
C +3.5 - 3.2% C +2.7 - 3.1%
D +3.2 - 3.1% D +3.0 - 2.9%
A-83
- 21 4.3.6.2 Command Monitor
(1) short
(2) short
(3) short
(4) short
(5) short
(6) short
(7) inf.
(8) inf.
(9) inf.
(10) inf.
(11) inf.
(12) inf.

-19°C	+74°C	AMBIENT 19°C to 31°C	ACCEPT	REJECT
vdc	vdc	vdc		
	4.70	2.57		
ohms	ohms	ohms		
3.30k	3.30k	3.29k		
vdc	vdc	vdc		
.044	.044	.039		
vdc	vdc	vdc		
1.404	1.404	1.387		
vdc	vdc	vdc		
2.571	2.571	2.539		
vdc	vdc	vdc		
3.523	3.523	3.499		
vdc	vdc	vdc		
4.254	4.254	4.239		
OK	OK	OK		
OK	OK	OK		
OK	OK	OK		
OK	OK	OK		
OK	OK	OK		
OK	OK	OK		
OK	OK	OK		
OK	OK	OK		
OK	OK	OK		
OK	OK	OK		
OK	OK	OK		
OK	OK	OK		
OK	OK	OK		
OK	OK	OK		
OK	OK	OK		

WDL-TR1946

MODEL NO. RT-5A
SERIAL NO 550

500HR TEST OF LIFE TEST

ITEM PARAGRAPH PROCEDURE REFERENCE

8-24-62

LIMITS

22. 4.3.6.3 Tone Monitor
- (1) 3.0 to 4.5 vdc
(2) 3.0 to 4.5 vdc
(3) 3.0 to 4.5 vdc
(4) 3.0 to 4.5 vdc
(5) 5000 ohms MAX
(6) 5000 ohms MAX
(7) 5000 ohms MAX
(8) 5000 ohms MAX

23. 4.3.6.2.2 30 cps Interference

No false tone

24. 4.3.7.3 Temperature Tests

-19°C and +74°C

- 25 4.1 Quality Assurance

A-84

Operator

Supervisor WDL

Air Force

Inspector

Q/C WDL

Running Time Meter

+25°C	+74°C
729.4	730.9

-19°C	+74°C	AMBIENT 19°C to 31°C	ACCEPT	REJECT
	3.93	3.91 vdc		
	4.01	4.02 vdc		
	3.99	3.99 vdc		
	4.08	4.10 vdc		
	4.05K	3.97k ohms		
	4.09K	4.09k ohms		
	4.19K	4.02k ohms		
	4.11K	4.08k ohms		
	OK	OK		
				DATE
Kenneth L. Seaton			8-24-62	
George R. Reagan			8-24-62	

(Check One)

INCOMING _____ RTI 825.6

FINAL _____

REPAIR _____

1st 100 HR. CHECK AFTER 500 HR. LT

TABLE IV

MODEL NO. RT-5A

SERIAL NO. 550

DATE 8-31-62

ACCEPTANCE TEST
TRANSISTORIZED RADAR TRANSPONDER
(including 6 Command Decoder)

ITEM PARAGRAPH PROCEDURE REFERENCE TEST CONDITION

LIMITS ACCEPT REJECT

1.	4.3.7.1	(1) Countdown during vibration	Ambient	1% MAX		
		(2) Transmitter Pulse Amplitude change	Operate	10% MAX		
2.	4.3.7.2	(3) False Command	None	None		
		(4) Command Drop-out	None	None		
3.	4.3.7.3	Shock	Ambient	30g		
			Non-operate	1/2 sine		
		Pressurization	Ambient--Last Test Non-operate	6 millisecc		
				No leaks apparent in 10 minutes		

A-85

-19°C	+74°C	AMBIENT 16° to 31°	ACCEPT	REJECT
		33.6 watts		
		37.8 watts		
mc	mc	-5 mc		
vdc	vdc	2.649vdc		
dbm	dbm	-70.7 dbm		
mc	mc	+4.03 mc		
mc	mc	-4.53 mc		
mc	mc	8.56 mc		

WDL-TR1946

4.	4.3.3.2	(1) Input power no command	50 watts MAX
		(2) Input power commanding	60 watts MAX
5.	4.3.4.1	Receiver Frequency	+2 mc w/add 0.1 mc/10C
		Temp. Monitor (Ref.)	1 °C 2 °C 3 °C
6.	4.3.4.2	Sensitivity	-65 to -70dbm
7.	4.3.4.3	Bandwidth	greater than + 3 mc less than + 5 mc greater than - 3 mc less than - 5 mc 8 ± 2 mc

MODEL NO. RT-5A
SERIAL NO. 55C

1st 100 HR. CHECK AFTER 500 HR. LT
PARAGRAPH PROCEDURE REFERENCE

ITEM

LIMITS

- | | | | |
|-----|---------|---|--|
| 8. | 4.3.4.4 | Dynamic Range | 0 → -65 dbm
no countdown |
| 9. | 4.3.4.5 | Image Rejection | +125 mc 30 db MIN
-125 mc 30 db MIN |
| 10. | 4.3.4.6 | Random Triggers | 5 pulses per
second MAX |
| 11. | 4.3.4.7 | Receiver Monitor | (1) 5000 ohms MAX
(2) 0.pps 0.5VDC
MAX
(3) 410 pps
(4) 820 pps
(5) 1230 pps
(6) 1600 pps
3.0 to 4.5 vdc
(1) +0.5 μs MIN
(2) -0.5 μs MIN
(3) +8% of Tb MAX
(4) -8% of Tb MAX
0.8 ± 0.2 μs
1 Kw to 2.5 Kw
+ 2 mc w/add.
0.1 mc/10C
1.0 ± 0.5 μs
0.25 μs MAX |
| 12. | 4.3.4.8 | Pulse acceptance and
pulse rejection | |
| 13. | 4.3.5.1 | Transmitter pulse
width | |
| 14. | 4.3.5.2 | Transmitter Power | |
| 15. | 4.3.5.3 | Transmitter frequency | |
| 16. | 4.3.5.4 | Temp. monitor (reference) | |
| 17. | 4.3.5.5 | System Delay
Change in delay | |

A-86

-19°C	+74°C	AMBIENT 19°C to 31°C	ACCEPT	REJECT
		OK		
		>65 db		
pps	pps	none	pps	
ohms	ohms	4.76k ohms		
vdc	vdc	.039 vdc		
vdc	vdc	0.779 vdc		
vdc	vdc	1.900 vdc		
vdc	vdc	3.009 vdc		
vdc	vdc	4.032 vdc		
μs	μs	±1.0 μs		
μs	μs	±1.0 μs		
μs	μs	±1.2 μs		
μs	μs	±1.2 μs		
		.65		
Kw	Kw	1.75 Kw		
mc	mc	±.6 mc		
vdc	vdc	3.09 vdc		
μs	μs	1.0 μs		
		-.05		

MODEL NO. RT-5A
SERIAL NO. 550

ITEM 1st 100 HR. CHECK AFTER 500 HR. LT
PARAGRAPH PROCEDURE REFERENCE

22. 4.3.6.3 Tone Monitor
- LIMITS
- (1) 3.0 to 4.5 vdc
 - (2) 3.0 to 4.5 vdc
 - (3) 3.0 to 4.5 vdc
 - (4) 3.0 to 4.5 vdc
 - (5) 5000 ohms MAX
 - (6) 5000 ohms MAX
 - (7) 5000 ohms MAX
 - (8) 5000 ohms MAX

23. 4.3.6.2.2 30 cps Interference
24. 4.3.7.3 Temperature Tests
- 25 4.1 Quality Assurance

A-88

-19°C	+74°C	AMBIENT 19°C to 31°C	ACCEPT	REJECT
		3.94 vdc		
		4.04 vdc		
		4.02 vdc		
		4.12 vdc		
		3.96k ohms		
		4.05k ohms		
		4.03k ohms		
		4.08k ohms		
		OK		
				DATE

Operator	Kenneth L. Seaton	8-31-62
Supervisor WDL		
Air Force Inspector		
Q/C WDL	H. B. Stevenson	

WDL-TR1946

Running Time Meter 826.9

(Check One)

INCOMING _____ RTM 925.9

FINAL _____
REPAIR _____

PHILCO

TABLE IV

MODEL NO. RT-5A

SERIAL NO. 550

DATE 9-6-62

ACCEPTANCE TEST
TRANSISTORIZED RADAR TRANSPONDER
(including 6 Command Decoder)

2nd 100 HR. TEST AFTER LIFE TEST

ITEM	PARAGRAPH	PROCEDURE REFERENCE	TEST CONDITION	LIMITS	ACCEPT	REJECT
1.	4.3.7.1	(1) Countdown during vibration (2) Transmitter Pulse Amplitude change (3) False Command (4) Command Drop-out	Ambient Operate	1% MAX 10% MAX		
2.	4.3.7.2	Shock	Ambient Non-operate	30g 1/2 sine 6 millisecc		
3.	4.3.7.3	Pressuration	Ambient--Last Test Non-operate	No leaks apparent in 10 minutes		

A 89

	-19°C	+74°C	AMBIENT 16° to 31°	ACCEPT	REJECT
4.			33.7 watts		
			37.8 watts		
5.	mc	mc	-.49 mc		
	vdc	vdc	2.689vdc		
6.	dbm	dbm	-69.8 dbm		
7.	mc	mc	+4.58 mc		
	mc	mc	-4.84 mc		
	mc	mc	9.42 mc		

(1) Input power no command 50 watts MAX
(2) Input power commanding 60 watts MAX
Receiver Frequency +2 mc w/add
0.1 mc/10C

Temp. Monitor (Ref.) 1 °C
2 °C
3 °C

Sensitivity -65 to -70dbm

Bandwidth greater than + 3 mc
less than + 5 mc

greater than - 3 mc
less than - 5 mc

8 ± 2 mc

WDL-TR1946

MODEL NO. RT-5A

SERIAL NO. 550

2nd 100 HR. TEST AFTER LIFE TEST
PARAGRAPH PROCEDURE REFERENCE

PHILCO

LIMITS

8.	4.3.4.4	Dynamic Range	0 → -65 dbm no countdown
9.	4.3.4.5	Image Rejection	+125 mc 30 db MIN -125 mc 30 db MIN
10.	4.3.4.6	Random Triggers	5 pulses per second MAX
11.	4.3.4.7	Receiver Monitor	(1) 5000 ohms MAX (2) 0.pps 0.5VDC MAX
12.	4.3.4.8	Pulse acceptance and pulse rejection	(3) 410 pps (4) 820 pps (5) 1230 pps (6) 1600 pps 3.0 to 4.5 vdc (1) +0.5 μs MIN (2) -0.5 μs MIN (3) +8% of Tb MAX (4) -8% of Tb MAX 0.8 ± 0.2 μs
13.	4.3.5.1	Transmitter pulse width	0.8 ± 0.2 μs
14.	4.3.5.2	Transmitter Power	1 Kw to 2.5 Kw
15.	4.3.5.3	Transmitter frequency	+ 2 mc w/add.
16.	4.3.5.4	Temp. monitor (reference)	0.1 mc/10°C
17.	4.3.5.5	System Delay	1.0 ± 0.5 μs
		Change in delay	0.25 μs MAX

A-90

WESTERN DEVELOPMENT LABORATORIES

WDL-TR1946

-19°C	+74°C	AMBIENT 19°C to 31°C	ACCEPT	REJECT
		OK		
		>65 db		
pps	pps	none pps		
ohms	ohms	4.72k ohms		
vdc	vdc	.008 vdc		
vdc	vdc	.743 vdc		
vdc	vdc	1.861 vdc		
vdc	vdc	2.984 vdc		
vdc	vdc	3.979 vdc		
μs	μs	+1.1 μs		
μs	μs	-1.05 μs		
μs	μs	+1.2 μs		
μs	μs	-1.25 μs		
		.65 μs		
Kw	Kw	1.82 Kw		
mc	mc	+ .2 mc		
vdc	vdc	2.91vdc		
μs	μs	1.05 μs		
		-.05 μs		

MODEL NO. RT-5A
SERIAL NO. 550

PHILCO

2nd 100 HR. TEST AFTER LIFE TEST
ITEM PARAGRAPH PROCEDURE REFERENCE

9-6-62
LIMITS

18. 4.3.5.6 Temperature Monitor
1 OC
2 OC
3 OC

4.7 VDC MAX

19. 4.3.5.7 Transmitter Monitor

(1) 5000 ohms MAX
(2) 0.5 VDC MAX
(3) 410 pps
(4) 820 pps
(5) 1230 pps
(6) 1600 pps
3.0 to 4.5 vdc

20. 4.3.6.1 Command Acceptance
A +3.6 --3.4%
B +3.7 --3.2%
C +3.4 --3.5%
D +3.2 --3.1%

(1) A & B $\pm 2\%$ MIN
(2) B & C $\pm 2\%$ MIN
(3) A & D $\pm 2\%$ MIN
(4) A & C $\pm 2\%$ MIN
(5) B & D $\pm 2\%$ MIN
(6) C & D $\pm 2\%$ MIN

21 4.3.6.2 Command Monitor

(1) short
(2) short
(3) short
(4) short
(5) short
(6) short
(7) inf.
(8) inf.
(9) inf.
(10) inf.
(11) inf.
(12) inf.

-19°C	+74°C	AMBIENT 19°C to 31°C	ACCEPT	REJECT
vdc	vdc	2.97 vdc		
ohms	ohms	3.83k ohms		
vdc	vdc	.008 vdc		
vdc	vdc	1.37 vdc		
vdc	vdc	2.5 vdc		
vdc	vdc	3.505 vdc		
vdc	vdc	4.247 vdc		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		

WDL-TR1946

MODEL NO. RT-5A
SERIAL NO. 550

2nd 100 HR. TEST AFTER 500 HR. LIFE TEST
ITEM PARAGRAPH PROCEDURE REFERENCE

22.

4.3.6.3

Tone Monitor
23.

4.3.6.2.2

30 cps Interference
24.

4.3.7.3

Temperature Tests
- 25

4.1

Quality Assurance
- LIMITS

(1) 3.0 to 4.5 vdc

(2) 3.0 to 4.5 vdc

(3) 3.0 to 4.5 vdc

(4) 3.0 to 4.5 vdc

(5) 5000 ohms MAX

(6) 5000 ohms MAX

(7) 5000 ohms MAX

(8) 5000 ohms MAX

No false tone

-19°C and +74°C

A-92

Operator
Supervisor WDL
Air Force Inspector
Q/C WDL

-19°C	+74°C	AMBIENT 19°C to 31°C	ACCEPT	REJECT
		3.92 vdc		
		4.02 vdc		
		4.00 vdc		
		4.10 vdc		
		3.83k ohms		
		3.93k ohms		
		3.90k ohms		
		3.95k ohms		
		OK		
				DATE

Kenneth L. Seaton 9-6-62

H. B. Stevenson

Running Time Meter 926.8

(Check One)

INCOMING _____ RTM 1025.2

FINAL _____

REPAIR _____

TABLE IV

MODEL NO. RT-5A
 SERIAL NO. 550
 DATE 9-14-62

ACCEPTANCE TEST
 TRANSISTORIZED RADAR TRANSPONDER
 3rd 100 HR. TEST AFTER 500 HR. LIFE TEST (including 6 Command Decoder)

ITEM	PARAGRAPH	PROCEDURE REFERENCE	TEST CONDITION	LIMITS	ACCEPT	REJECT
1.	4.3.7.1	(1) Countdown during vibration (2) Transmitter Pulse Amplitude change (3) False Command (4) Command Drop-out	Ambient Operate	1% MAX 10% MAX None None 30g 1/2 sine 6 millisecc		
2.	4.3.7.2	Shock	Ambient Non-operate			
3.	4.3.7.3	Pressuration	Ambient--Last Test Non-operate	No leaks apparent in 10 minutes		

A-93

			-19°C	+74°C	AMBIENT 16° to 31°	ACCEPT	REJECT
4.	4.3.3.2	(1) Input power no command (2) Input power commanding			34.2 watts 38.3 watts		
5.	4.3.4.1	Receiver Frequency	mc	mc	-.5 mc		
		Temp. Monitor (Ref.)	vdc	vdc	2.83 vdc		
6.	4.3.4.2	Sensitivity	dbm	dbm	-70 dbm		
7.	4.3.4.3	Bandwidth	mc	mc	+4.85 mc		
		greater than + 3 mc less than + 5 mc	mc	mc	-4.74 mc		
		greater than - 3 mc less than - 5 mc	mc	mc	9.59 mc		
		8 ± 2 mc					

WDL-TR1946

PHILCO

MODEL NO. RT-5A
SERIAL NO. 550

3rd 100 HR. TEST AFTER 500 HR. LIFE TEST
PARAGRAPH PROCEDURE REFERENCE LIMITS

8. 4.3.4.4 Dynamic Range 0 → -65 dbm
no countdown

9. 4.3.4.5 Image Rejection +125 mc 30 db MIN
-125 mc 30 db MIN

10. 4.3.4.6 Random Triggers 5 pulses per
second MAX

11. 4.3.4.7 Receiver Monitor (1) 5000 ohms MAX
(2) 0.pps 0.5VDC
MAX

(3) 410 pps
(4) 820 pps
(5) 1230 pps
(6) 1600 pps
3.0 to 4.5 vdc

12. 4.3.4.8 Pulse acceptance and
pulse rejection (1) +0.5 μs MIN
(2) -0.5 μs MIN
(3) +8% of Tb MAX
(4) -8% of Tb MAX

13. 4.3.5.1 Transmitter pulse
width 0.8 ± 0.2 μs

14. 4.3.5.2 Transmitter Power 1 Kw to 2.5 Kw

15. 4.3.5.3 Transmitter frequency ± 2 mc w/add.
Temp. monitor (reference) 0.1 mc/10C

16. 4.3.5.4 System Delay 1.0 ± 0.5 μs

17. 4.3.5.5 Change in delay 0.25 μs MAX

-19°C	+74°C	AMBIENT 19°C to 31°C	ACCEPT	REJECT
		OK		
		>65 db		
pps	pps	none	pps	
ohms	ohms	4.77k ohms		
vdc	vdc	.027 vdc		
vdc	vdc	0.784 vdc		
vdc	vdc	1.89 vdc		
vdc	vdc	3.0 vdc		
vdc	vdc	4.02 vdc		
μs	μs	+1.1 μs		
μs	μs	-1.0 μs		
μs	μs	+1.2 μs		
μs	μs	-1.2 μs		
		.67		
Kw	Kw	1.82 Kw		
mc	mc	+55 mc		
vdc	vdc	3.05 vdc		
μs	μs	1.1 μs		
		-.05		

PHILCO

18. 4.3.5.6 Temperature Monitor
1 oC
2 oC
3 oC

19. 4.3.5.7 Transmitter Monitor

4.7 VDC MAX

(1) 5000 ohms MAX
(2) 0.5 VDC MAX
(3) 410 pps
(4) 820 pps
(5) 1230 pps
(6) 1600 pps
3.0 to 4.5 vdc

A +3.7 - 3.6%
B +3.3 - 3.2%
C +3.6 - 3.5%
D +3.3 - 3.1%

A-95

(1) short
(2) short
(3) short
(4) short
(5) short
(6) short
(7) inf.
(8) inf.
(9) inf.
(10) inf.
(11) inf.
(12) inf.

[illegible]

WD-1R1046

MODEL NO.
SERIAL NO.

PHILCO

ITEM	PARAGRAPH	PROCEDURE REFERENCE	LIMITS
22.	4.3.6.3	Tone Monitor	(1) 3.0 to 4.5 vdc (2) 3.0 to 4.5 vdc (3) 3.0 to 4.5 vdc (4) 3.0 to 4.5 vdc (5) 5000 ohms MAX (6) 5000 ohms MAX (7) 5000 ohms MAX (8) 5000 ohms MAX
23.	4.3.6.2.2	30 cps Interference	No false tone
24.	4.3.7.3	Temperature Tests	-19°C and +74°C
25	4.1	Quality Assurance	

A-96

-19°C	+74°C	AMBIENT 19°C to 31°C	ACCEPT	REJECT
		3.91 vdc		
		4.01 vdc		
		3.99 vdc		
		4.09 vdc		
		3.96K ohms		
		4.07k ohms		
		4.04k ohms		
		4.09k ohms		
		OK		
				DATE
Kenneth L. Seaton 9-14-62				
Operator				
Supervisor WDL				
Air Force Inspector				
Q/C WDL				
H. B. Stevenson				

WDL-TR1946

Running Time Meter 1026.0

(Check One)

INCOMING _____ RTM 1125.4

FINAL _____

REPAIR _____

4th 100 HR. TEST AFTER 500 HR. LIFE TEST
TEST OF LIFE TEST ACCEPTANCE TEST
TRANSISTORIZED RADAR TRANSPONDER
(including 6 Command Decoder)

TABLE IV

MODEL NO. RT-5A
SERIAL NO. 550
DATE 9-18-62

ITEM	PARAGRAPH	PROCEDURE REFERENCE	TEST CONDITION	LIMITS	ACCEPT	REJECT
1.	4.3.7.1	(1) Countdown during vibration (2) Transmitter Pulse Amplitude change (3) False Command (4) Command Drop-out	Ambient Operate	1% MAX 10% MAX None None		
2.	4.3.7.2	Shock	Ambient Non-operate	30g 1/2 sine 6 millisecc		
3.	4.3.7.3	Pressuration	Ambient--Last Test Non-operate	No leaks apparent in 10 minutes		

A-97

		-19°C	+74°C	AMBIENT 16° to 31°	ACCEPT	REJECT
4.	4.3.3.2	(1) Input power no command (2) Input power commanding	50 watts MAX 60 watts MAX	34.2 watts 38.3 watts		
5.	4.3.4.1	Receiver Frequency	+2 mc w/add 0.1 mc/10c	mc vdc		
		Temp. Monitor (Ref.)	1 °C 2 °C 3 °C	2.72 vdc		
6.	4.3.4.2	Sensitivity	-65 to -70dbm	dbm		
7.	4.3.4.3	Bandwidth	greater than + 3 mc less than + 5 mc greater than - 3 mc less than - 5 mc 8 ± 2 mc	mc mc mc mc mc		

MODEL NO. RT-5A

SERIAL NO. 550

900 HR. TEST OF LIFE TEST PARAGRAPH PROCEDURE REFERENCE

9-19-62 LIMITS

8.	4.3.4.4	Dynamic Range	0 → -65 dbm no countdown
9.	4.3.4.5	Image Rejection	+125 mc 30 db MIN -125 mc 30 db MIN
10.	4.3.4.6	Random Triggers	5 pulses per second MAX
11.	4.3.4.7	Receiver Monitor	(1) 5000 ohms MAX (2) 0.pps 0.5VDC MAX
12.	4.3.4.8	Pulse acceptance and pulse rejection	(3) 410 pps (4) 820 pps (5) 1230 pps (6) 1600 pps 3.0 to 4.5 vdc (1) +0.5 μs MIN (2) -0.5 μs MIN (3) +8% of Tb MAX (4) -8% of Tb MAX 0.8 ± 0.2 μs
13.	4.3.5.1	Transmitter pulse width	1 Kw to 2.5 Kw
14.	4.3.5.2	Transmitter Power	+ 2 mc w/add.
15.	4.3.5.3	Transmitter frequency	0.1 mc/1°C
16.	4.3.5.4	Temp. monitor (reference)	1.0 ± 0.5 μs
17.	4.3.5.5	System Delay	0.25 μs MAX
		Change in delay	

A-98

-19°C	+74°C	AMBIENT 19°C to 31°C	ACCEPT	REJECT
		OK		
		>65 db		
pps	pps	none	pps	
ohms	ohms	4.72kohms		
vdc	vdc	0.001 vdc		
vdc	vdc	0.715 vdc		
vdc	vdc	1.81 vdc		
vdc	vdc	2.89 vdc		
vdc	vdc	3.91 vdc		
μs	μs	+1.0 μs		
μs	μs	-1.0 μs		
μs	μs	+1.2 μs		
μs	μs	-1.3 μs		
		0.65 μs		
Kw	Kw	1.88 Kw		
mc	mc	+1.5 mc		
vdc	vdc	2.57 vdc		
μs	μs	1.05 μs		
		-0.1 μs		

WDL-TR1946

MODEL NO. RT-5A
 SERIAL NO. 550
 900 HR. TEST OF LIFE TEST
 ITEM PARAGRAPH PROCEDURE REFERENCE

PHILCO

18. 4.3.5.6 Temperature Monitor
 1 OC
 2 OC
 3 OC
19. 4.3.5.7 Transmitter Monitor

LIMITS

- 4.7 VDC MAX
- (1) 5000 ohms MAX
 (2) 0.5 VDC MAX
 (3) 410 pps
 (4) 820 pps
 (5) 1230 pps
 (6) 1600 pps
 3.0 to 4.5 vdc
- (1) A & B $\pm 2\%$ MIN
 (2) B & C $\pm 2\%$ MIN
 (3) A & D $\pm 2\%$ MIN
 (4) A & C $\pm 2\%$ MIN
 (5) B & D $\pm 2\%$ MIN
 (6) C & D $\pm 2\%$ MIN
- (1) short
 (2) short
 (3) short
 (4) short
 (5) short
 (6) short
 (7) inf.
 (8) inf.
 (9) inf.
 (10) inf.
 (11) inf.
 (12) inf.

20. 4.3.6.1 Command Acceptance
 A + 3.7 -3.5 %
 B + 3.3 -3.4 %
 C + 3.5 -3.7 %
 D + 3.3 -3.2 %
- 21 4.3.6.2 Command Monitor

-19°C	+74°C	AMBIENT 19°C to 31°C	ACCEPT	REJECT
vdc	vdc	2.74 vdc		
ohms	ohms	3.26k ohms		
vdc	vdc	0.006 vdc		
vdc	vdc	1.36 vdc		
vdc	vdc	2.54 vdc		
vdc	vdc	3.54 vdc		
vdc	vdc	4.28 vdc		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		
		OK		

WDL-TR1946

MODEL NO. RT-5A
 SERIAL NO. 550
 900 HR. TEST OF LIFE TEST

ITEM PARAGRAPH PROCEDURE REFERENCE

22. 4.3.6.3 Tone Monitor

- LIMITS
- (1) 3.0 to 4.5 vdc
 - (2) 3.0 to 4.5 vdc
 - (3) 3.0 to 4.5 vdc
 - (4) 3.0 to 4.5 vdc
 - (5) 5000 ohms MAX
 - (6) 5000 ohms MAX
 - (7) 5000 ohms MAX
 - (8) 5000 ohms MAX

23. 4.3.6.2.2 30 cps Interference
 24. 4.3.7.3 Temperature Tests
 25 4.1 Quality Assurance

No false tone
 -19°C and +74°C

A-100

-19°C	+74°C	AMBIENT 19°C to 31°C	ACCEPT	REJECT
		3.88 vdc		
		3.98 vdc		
		3.96 vdc		
		4.06 vdc		
		3.87k ohms		
		3.97k ohms		
		3.94k ohms		
		3.98k ohms		
		OK		
				DATE
Kenneth L. Seaton 9-19-62				
H. B. Stevenson				

Operator
 Supervisor WDL
 Air Force
 Inspector
 Q/C WDL

Running Time Meter 1127.0

WDL-TR1946

(Check One)

INCOMING _____ RTM 1245.5

FINAL _____

REPAIR _____

1000 + HR. TEST OF LIFE TEST

TABLE IV

ACCEPTANCE TEST
TRANSISTORIZED RADAR TRANSPONDER
(including 6 Command Decoder)

ITEM	PARAGRAPH	PROCEDURE REFERENCE	TEST CONDITION	LIMITS	ACCEPT	REJECT
1.	4.3.7.1	(1) Countdown during vibration (2) Transmitter Pulse Amplitude change (3) False Command (4) Command Drop-out	Ambient Operate	1% MAX 10% MAX None None		
2.	4.3.7.2	Shock	Ambient Non-operate	30g 1/2 sine 6 millisec		
3.	4.3.7.3	Pressuration	Ambient--Last Test Non-operate	No leaks apparent in 10 minutes		

A-101

	-19 °C	+74 °C	AMBIENT 16° to 31°	ACCEPT	REJECT
4.	4.3.3.2	(1) Input power no command (2) Input power commanding	50 watts MAX 60 watts MAX		
5.	4.3.4.1	Receiver Frequency	+2 mc w/add 0.1 mc/10C		
		Temp. Monitor (Ref.)	1 °C 2 °C 3 °C		
6.	4.3.4.2	Sensitivity	-65 to -70dbm		
7.	4.3.4.3	Bandwidth	greater than + 3 mc less than + 5 mc greater than - 3 mc less than - 5 mc 8 ± 2 mc		

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MODEL NO. RT-5A
SERIAL NO. 550

1000 + HR. TEST OF LIFE TEST
PARAGRAPH PROCEDURE REFERENCE

9-24-62
LIMITS

8.	4.3.4.4	Dynamic Range	0 → -65 dbm no countdown
9.	4.3.4.5	Image Rejection	+125 mc 30 db MIN -125 mc 30 db MIN
10.	4.3.4.6	Random Triggers	5 pulses per second MAX
11.	4.3.4.7	Receiver Monitor	(1) 5000 ohms MAX (2) 0.pps 0.5VDC MAX
12.	4.3.4.8	Pulse acceptance and pulse rejection	(3) 410 pps (4) 820 pps (5) 1230 pps (6) 1600 pps 3.0 to 4.5 vdc (1) +0.5 μs MIN (2) -0.5 μs MIN (3) +8% of Tb MAX (4) -8% of Tb MAX 0.8 ± 0.2 μs
13.	4.3.5.1	Transmitter pulse width	0.8 ± 0.2 μs
14.	4.3.5.2	Transmitter Power	1 Kw to 2.5 Kw
15.	4.3.5.3	Transmitter frequency	+ 2 mc w/add.
16.	4.3.5.4	Temp. monitor (reference)	0.1 mc/1°C
17.	4.3.5.5	System Delay	1.0 ± 0.5 μs
		Change in delay	0.25 μs MAX

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-19°C	+74°C	AMBIENT 19°C to 31°C	ACCEPT	REJECT
		OK		
		>65 db		
pps	pps	none pps		
ohms	ohms	4.76k ohms		
vdc	vdc	0.019 vdc		
vdc	vdc	0.759 vdc		
vdc	vdc	1.880 vdc		
vdc	vdc	3.014 vdc		
vdc	vdc	4.017 vdc		
μs	μs	+1.0 μs		
μs	μs	-1.0 μs		
μs	μs	+1.3 μs		
μs	μs	-1.2 μs		
		0.66 μs		
Kw	Kw	1.8 Kw		
mc	mc	+0.3 mc		
vdc	vdc	3.089 vdc		
μs	μs	1.1 μs		
		-.05 μs		

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MODEL NO. RT-5A
SERIAL NO. 550

ITEM	1000 + HR. TEST OF LIFE TEST	PARAGRAPH	PROCEDURE	REFERENCE
1	1000 + HR. TEST OF LIFE TEST	1000 + HR. TEST OF LIFE TEST	1000 + HR. TEST OF LIFE TEST	1000 + HR. TEST OF LIFE TEST

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LIMITS

18. 4.3.5.6 Temperature Monitor

4.7 VDC MAX

19. 4.3.5.7 Transmitter Monitor

(1) 5000 ohms MAX

(2) 0.5 VDC MAX

(3) 410 pps

(4) 820 pps

(5) 1230 pps

(6) 1600 pps

3.0 to 4.5 vdc

20. 4.3.6.1 Command Acceptance

(1) A & B +2% MIN

A +3.7 - 3.6%

B +3.3 - 3.3%

C +3.6 - 3.5%

D +3.3 - 3.2%

21 **4.3.6.2 Command Monitor**

(1) short

[illegible]

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MODEL NO. RT-5A
SERIAL NO. 550

ITEM 1000 + HR. TEST OF LIFE TEST
PARAGRAPH PROCEDURE REFERENCE

9-24-62

LIMITS

22. 4.3.6.3 Tone Monitor
- (1) 3.0 to 4.5 vdc
(2) 3.0 to 4.5 vdc
(3) 3.0 to 4.5 vdc
(4) 3.0 to 4.5 vdc
(5) 5000 ohms MAX
(6) 5000 ohms MAX
(7) 5000 ohms MAX
(8) 5000 ohms MAX

23. 4.3.6.2.2 30 cps Interference
24. 4.3.7.3 Temperature Tests
- 25 4.1 Quality Assurance

No false tone
-19°C and +74°C

A-104

-19°C	+74°C	AMBIENT 19°C to 31°C	ACCEPT	REJECT
		3.90 vdc		
		4.01 vdc		
		3.98 vdc		
		4.09 vdc		
		3.97k ohms		
		4.07k ohms		
		4.04k ohms		
		4.09k ohms		
		OK		
				DATE

Operator	Kenneth L. Seaton	9-24-62
Supervisor WDL		
Air Force Inspector		
Q/C WDL	H. B. Stevenson	9-24-62

Running Time Meter 1246.8

WDL-TR1946

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