

DELS-D-E - R - 71

U. S. ARMY ELECTRONICS RESEARCH & DEVELOPMENT COMMAND

Fort Monmouth, New Jersey



ENGINEERING DIVISION TECHNICAL SUPPORT ACTIVITY

ENVIRONMENTAL TEST REPORT

CUCV CENTER-MOUNT BRACKETS
FOR AN/VRC-12 RADIOS

Prepared By
JOHN V. DENTE

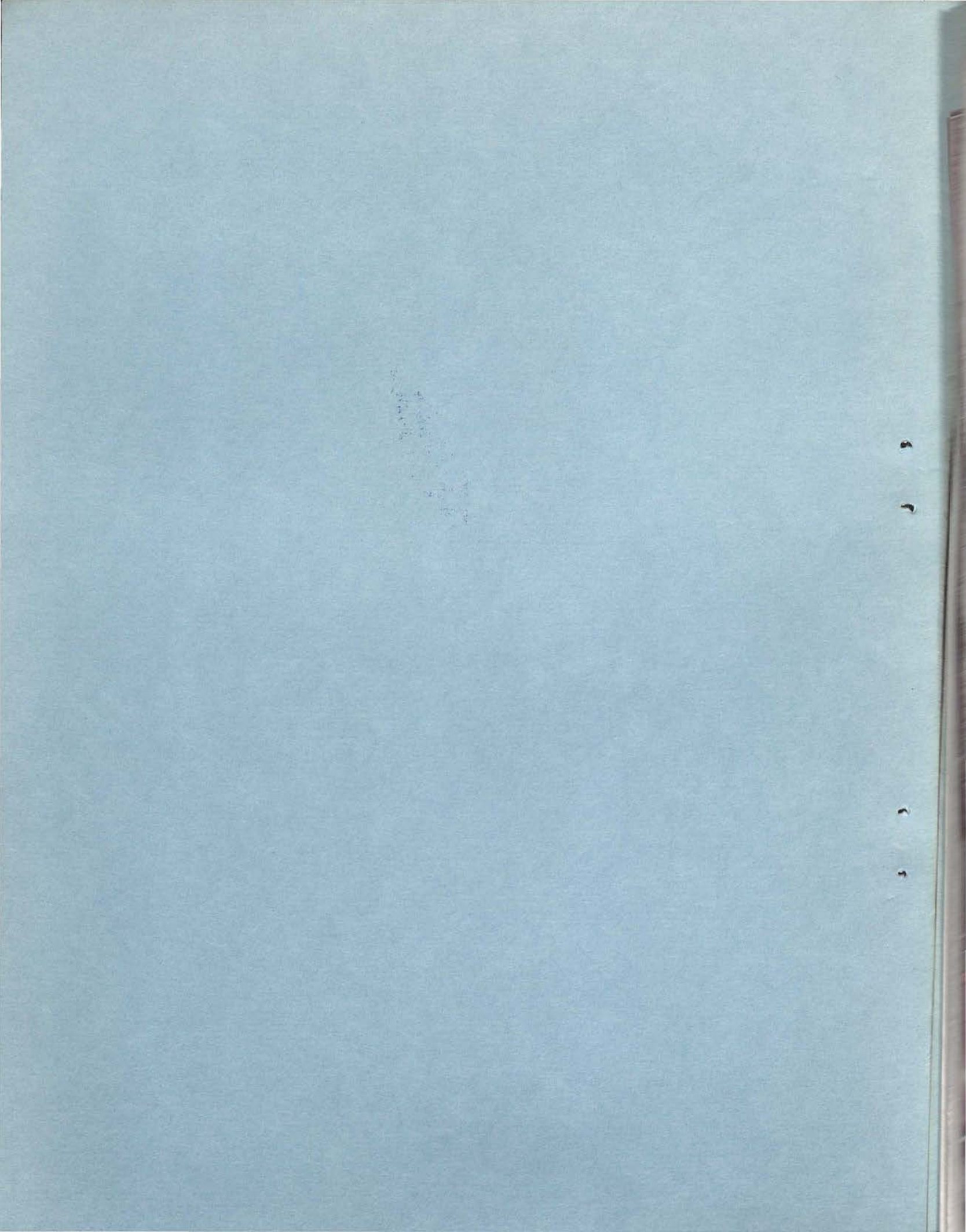
ERADCOM Technical Library
ATTN: DELSD-1 (Reports Section)
Fort Monmouth, NJ 07702-5391

DELS-D-E REPORT NO. 71

30 SEPTEMBER 1985

THE VIEWS, OPINIONS, AND/OR FINDINGS CONTAINED IN THIS REPORT ARE THOSE OF THE ENGINEERING DIVISION, TECHNICAL SUPPORT ACTIVITY, ERADCOM, AND SHOULD NOT BE CONSTRUED AS AN OFFICIAL DEPARTMENT OF THE ARMY POSITION, POLICY, OR DECISION, UNLESS DESIGNATED BY OTHER DOCUMENTATION.

6 FEB 1986



NOTICES

The citation of trade names and names of manufacturers in this report is not to be construed as official Government indorsement or approval of commercial products or services referenced herein.

Disposition

Destroy this report when it is no longer needed. Do not return it to the originator.

This document may be distributed only with the approval of Chief, Environmental Test Branch, Engineering Division, Technical Support Activity, WESBRADCOM

U. S. ARMY ELECTRONICS
RESEARCH & DEVELOPMENT COMMAND
FORT MONMOUTH, NEW JERSEY 07705-5001

ENVIRONMENTAL TEST REPORT

CUCV CENTER-MOUNT BRACKETS
FOR AN/VRC-12 RADIOS

Prepared By
John V. Dente

Environmental Test Branch
Engineering Division
Technical Support Activity

CONCURRED BY:

Howard D. Camp, Jr.
HOWARD D. CAMP, JR.
Chief, Environmental Test Branch

APPROVED BY:

Edward R. Nolan
EDWARD R. NOLAN
Chief, Engineering Division, TSA

This document may be distributed only
with the approval of Chief, Environmental
Test Branch, Engineering Division,
Technical Support Activity, USAERADCOM

U. S. ARMY ELECTRONICS
RESEARCH & DEVELOPMENT COMMAND
FORT MONMOUTH, NEW JERSEY 07703-5301

ENVIRONMENTAL TEST REPORT
 CUCV CENTER-MOUNT BRACKETS
 FOR AN/VRC-12 RADIOS

TABLE OF CONTENTS

	<u>PAGE</u>
1. BACKGROUND	1
2. PURPOSE	1
3. DISCUSSION.	1
4. SINUSOIDAL VIBRATION TEST	2
5. SHAPED PULSE SHOCK TEST	3
6. THERMAL SURVEY	3
7. SUMMARY	4
8. CONCLUSIONS.	5
9. RECOMMENDATIONS	5

LIST OF FIGURES

1. FT. CARSON BRACKET WITH ONE RT-524/VRC RADIO, MOUNTED FOR Y-AXIS VIBRATION, SIDE VIEW	6
2. FT. CARSON BRACKET WITH ONE RT-524/VRC RADIO, MOUNTED FOR Y-AXIS VIBRATION	7
3. FT. CARSON BRACKET WITH RUBBER PADS ATTACHED	8
4. ELECTRICAL TEST EQUIPMENT.	9
5. FT. CARSON BRACKET WITH TWO RT-524/VRC RADIOS, MOUNTED FOR Y-AXIS VIBRATION	10
6. GM BRACKET, WITH ONE RT-524/VRC RADIO AND ONE R-442/VRC RADIO, MOUNTED FOR X-AXIS VIBRATION	11
7. GM BRACKET, MOUNTED FOR X-AXIS VIBRATION, SIDE VIEW	12
8. GM BRACKET, MOUNTED FOR X-AXIS VIBRATION; CLOSE-UP VIEW OF MT-1029/VRC MOUNT	13
9. ACCELERATION VS TIME, SHAPED PULSE SHOCK, -Z-AXIS, FT. CARSON BRACKET	14
10. FT. CARSON BRACKET, MOUNTED FOR -Y-AXIS SHAPED PULSE SHOCK TESTING	15
11. GM BRACKET, MOUNTED FOR -Y-AXIS SHAPED PULSE SHOCK TEST	16

12.	RESULTS OF SHAPED PULSE SHOCK TEST, GM BRACKET.	17
13.	RT-524/VRC RADIO WITH MT-1029/VRC MOUNT, REAR PLATE REMOVED, SHOWING FAN LOCATION.	18
14.	REAR PLATE OF RT-524/VRC RADIO	19
15.	THERMAL SURVEY OF RT-524/VRC RADIO.	20
16.	THERMAL SURVEY OF RT-524/VRC RADIO; THERMOCOUPLE NO. 2, EPOXIED TO COOLING FINS NEAR POWER TUBE IN REAR OF RADIO.	21
17.	THERMAL SURVEY OF RT-524/VRC RADIO; THERMOCOUPLE NO. 3, EPOXIED TO CAPACITOR C9009	22
18.	THERMAL SURVEY OF RT-524/VRC RADIO; THERMOCOUPLE NO. 4, ON COMPONENT P8001, TOP-FRONT OF RADIO	23
19.	THERMAL SURVEY OF AN/VRC-12 RADIO RT-524/VRC, S/N46894, HORIZONTAL VS VERTICAL ORIENTATION	24

APPENDICES

APPENDIX A.	SINSUOIDAL VIBRATION TEST DATA SHEETS.	A-1
APPENDIX B.	SHAPED PULSE SHOCK TEST DATA SHEETS	B-1
APPENDIX C.	THERMAL SURVEY DATA SHEETS.	C-1

2. PURPOSE:

The purpose of this test was threefold:

- 1) To test the ability of the two brackets to survive the CUCY shock and vibration environments.
- 2) To test the ability of the AN/VRC-12 Radios with their shock mounts, to survive the CUCY shock and vibration environments, as mounted on the two brackets.
- 3) To test the ability of the RT-524/VRC Radios to survive the thermal environment it will experience in the fielded application, when mounted vertically.

3. DISCUSSION:

a. The environmental tests were conducted by personnel of the Environmental Test Branch, Technical Support Activity, Fort Monmouth, New Jersey. The environmental test laboratories used are located in Building 7704, Fort Monmouth, New Jersey.

b. The AN/VRC-12 Radios used in this test were two RT-524/VRC Receivers-Transmitters (S/N 40012 and S/N 41371) and one RT-524/VRC Receiver (S/N 7815). These radios and the mounts which hold them were taken from the field and had been used for a number of years.

ENVIRONMENTAL TEST REPORT
ENGINEERING DIVISION
TECHNICAL SUPPORT ACTIVITY
FORT MONMOUTH, NEW JERSEY 07703-5301

DELSD-EE

30 September 1985

DELSD-E REPORT NO. 71

SUBJECT: Environmental Test of CUCV Center-mount Brackets for AN/VRC-12 Radios

1. BACKGROUND:

Two developmental brackets for installation of AN/VRC-12 Radios in the CUCV (Commercial Utility Cargo Vehicle) are being considered as replacements for existing mounting brackets. The new brackets, one produced at Ft. Carson, CO, and the other by General Motors, Inc., are installed on the center console between the driver seat and passenger seat in the front of the vehicle's passenger compartment. Both brackets hold the radios in the vertical or nearly-vertical position, as opposed to the horizontal position, for which the radio was designed. It was requested by the Mobile Systems Branch, Engineering Directorate, CECOM, that the two brackets be tested to determine if the brackets and the attached electronic equipment can withstand the shock and vibration environments they are likely to experience under field conditions when mounted in the CUCV. It was also requested that the RT-524/VRC Radio be tested to determine if changed thermal characteristics due to vertical orientation will cause degradation in the performance of the radio.

2. PURPOSE:

The purpose of this test was threefold:

- 1) To test the ability of the two brackets to survive the CUCV shock and vibration environments.
- 2) To test the ability of the AN/VRC-12 Radios with their shock mounts, to survive the CUCV shock and vibration environments, as mounted on the two brackets.
- 3) To test the ability of the RT-524/VRC Radio to survive the thermal environment it will experience in the fielded application, when mounted vertically.

3. DISCUSSION:

- a. The environmental tests were conducted by personnel of the Environmental Test Branch, Technical Support Activity, Fort Monmouth, New Jersey. The environmental test laboratories used are located in Building 2704, Fort Monmouth, New Jersey.
- b. The AN/VRC-12 Radios used in this test were two RT-524/VRC Receiver-Transmitters (S/N 40032 and S/N 46894) and one R-442/VRC Receiver (S/N 7885). These radios and the mounts which hold them were taken from the field and had been used for a number of years.

c. The vibration level was tailored for the specific application in the CUCV. Because of the absence of the requirement for the Coarse Washboard Section of the Munson Road Test for the CUCV, Curve V from MIL-STD-810C, Method 516.2, Procedure VIII was reduced to 0.5 inches double amplitude (D.A.), from 5 - 7.5 Hz. The basic design shock level from MIL-STD-810C, Method 516.2, Procedure I was 20 G's peak, because of the classification of the CUCV as a truck.

d. The Ft. Carson bracket was first tested with one transmitter mounted on it (See Figures 1 and 2). After this preliminary vibration testing at a reduced level (0.5 G peak sine), the bracket was modified by the addition of rubber pads (See Figure 3), to prevent chattering of the radios against the bracket. The Ft. Carson bracket was then tested at the full level (1.5 G peak sine), with two transmitters attached and the rubber pads in place.

e. Electrical performance testing was done by laboratory personnel, using the following equipment (See Figure 4):

- 1) Logi Metrics Model 925 Signal Generator.
- 2) Bird Model 43 Wattmeter, with plug-in module, Model 100A, 25-60 MHz, 100 watt.
- 3) Dummy Load, Model DA-412A/U.
- 4) Fluke Model 7260A Frequency Counter.
- 5) Attenuator, 20db, 50 watt.

4. SINUSOIDAL VIBRATION TEST:

a. Requirement: The equipment shall withstand vibration induced during vehicular transport, as installed within a military vehicle, over all types of roads and cross-country terrain.

b. Test Facility: The radios were tested on the MB Model C-200 Vibration Exciter. An L.A.B. Horizontal Motion Slip Table was utilized for motions other than vertical. The following equipment was also used during the test:

- 1) Endevco Model 2213E Accelerometer.
- 2) Endevco Model 2735 Charge Amplifier.
- 3) Hewlett-Packard Model 5451B Fast-Fourier Analyzer/Vibration Control System.
- 4) Nicolet Model 660B Dual Channel Analyzer.

c. Test Procedure: The vibration test was performed in accordance with Procedure VIII, Method 514.2 of MIL-STD-810C. The vibration level was in accordance with Curve V, with the exception that the lower end of the curve was reduced to 0.5 inches D.A., in order to simulate the vibration environment in the CUCV. The vibration was applied along each of three mutually perpendicular axes of the test items. The vibration frequency was swept logarithmically from 5-200-5 Hz in 12 minutes. Total cycling time was 3 hours per axis, for a total test time of 9 hours per test item. The Ft. Carson bracket is shown in Figure 5, as mounted for vertical vibration (the bracket is shown without the rubber pads which were used during the test). The GM bracket is shown in Figures 6 & 7 as mounted for front-to-back vibration. Figure 8 shows the shock mounts of the RT-524/VRC in detail.

d. Test Results: There was no damage or degradation in performance to the Ft. Carson bracket or to the two RT-524/VRC Radios attached to it during or after the vibration test. There was no damage to the GM mount or radios during or after the Y-axis or Z-axis vibration. (The R-442/VRC Radio impacted against the bracket during Z- axis vibration). In the X-axis test, the receiver banged loudly against the bracket. After the X-axis test, the receiver was found to have poor sensitivity on all channels and a disabled squelch. The receiver audio and squelch pre-amp module was found to be intermittent.

5. SHAPED PULSE SHOCK TEST:

a. Requirement: The equipment shall withstand shock induced during vehicular transport as installed within a military vehicle over all types of roads and cross-country terrain.

b. Test Facility: The equipment was tested on the Monterey Model 3636 Impac Shock Tester. An Endevco Model 2252 Accelerometer and a Nicolet Model 660B Dual Channel Analyzer with plotter were used to measure, record, and plot the shock pulses.

c. Test Procedure: The equipment was tested in accordance with Method 516.2, Procedure I of MIL-STD-810C. Three terminal peak sawtooth shock pulses of 20 G's nominal peak acceleration and 11 milliseconds nominal duration were applied in both directions along three mutually perpendicular axes of the test items, for a total of 18 shock pulses per test item. Figure 9 is a plot of acceleration vs time for a typical shock pulse. Electrical performance tests were conducted on the radios before and after the shock testing. Figure 10 shows the Ft. Carson Bracket with radios mounted for shock testing. Figure 11 shows the GM Bracket mounted for shock testing.

d. Test Results: In the test of the Ft. Carson Bracket, one of the radios had a receiver and fan which were non-operational before the test. After the test, the radio with the operational receiver and fan lost fan operation, but otherwise operated satisfactorily. No other damage or deterioration was observed. The GM Bracket developed cracks in three of its four legs, near the mounting screw holes (See Figure 12). The radios sustained no damage or deterioration as a result of the testing of the GM Bracket. Figures 13 & 14 show damage to the rear plate of one of the RT-524/VRC Radios which lost fan operation during the test of the Ft. Carson Bracket.

6. THERMAL SURVEY:

a. Test Facility: The thermal survey was conducted in the Webber Model WF-27-100+250v Temperature/Altitude Chamber.

b. Test Procedure: The RT-524/VRC Radio, S/N 46894 was fitted with thermocouples on the following four locations:

1) The power transistor Q9402 located on the right side of the chassis, internally (See Figure 15).

- 2) The cooling fins located in the rear of the case adjacent to the power tube (See Figure 16).
- 3) The C9009 Capacitor (see Figure 17).
- 4) The inside of the case near the front of the radio, attached to component P8001 (see Figure 18).

The radio was given a pre-test electrical check and it operated normally. The radio was then placed inside the chamber in the horizontal position and initial temperature readings were taken in the chamber and in the four locations on the radio. The chamber temperature was nominally room temperature, and gradually drifted upward over the hour of testing from +77.2°F to +86.3°F due to the heat generated by the radio. The radio was operated using a 10:1 duty cycle (10 minutes receive/1 minute transmit). Temperature readings were taken at the end of transmission (every 11 minutes). The test was repeated for the vertical orientation (controls facing upward). Chamber temperature drifted from +75.6°F to +86.2°F during this test. Temperature readings were again taken 11 minutes apart at the end of transmission. The radio was given a post-test electrical check and operated normally (see page C-7 for electrical data).

c. Test Results: The temperature variations at the different locations in the radio are plotted in Figure 19. From the plots it can be seen that after 44 minutes of operation there was no more than 3°F difference in temperatures at the same location, for horizontal vs vertical orientation. The starting temperatures for the horizontal orientation were 2°F to 4°F higher than in the vertical orientation, and this difference generally persisted throughout the test.

7. SUMMARY:

<u>TEST</u>	<u>RESULT</u>	
Thermal Survey	Satisfactory	
	<u>FT. CARSON</u> <u>BRACKET</u>	<u>GM</u> <u>BRACKET</u>
Vibration	Satisfactory	Unsatisfactory
Shock	Unsatisfactory	Unsatisfactory

8. CONCLUSIONS:

a. Ft. Carson Bracket.

- (1) The Ft. Carson Bracket, as fitted with rubber pads, passed the vibration test.
- (2) The bracket failed the shock test due to the loss of the cooling fan operation in one radio. This occurred when the radio pushed downward against the louvers of the MT-1029/VRC Mount, deforming a thin metal plate in the rear of the radio, causing interference of the plate with the cooling fan of the radio.

b. GM Bracket.

- (1) The GM Bracket failed the vibration test due to the failure of the receiver. This failure was the result of impacting of the receiver against the bracket.
- (2) The bracket failed the shock test because of the appearance of cracks in three of the four mounting screw holes.

c. Thermal Survey of RT-524/VRC Radio.

- (1) The RT-524/VRC Radio operated satisfactorily in the vertical orientation.
- (2) Operation of the radio in the vertical orientation did not appear to cause an increase in temperature in any of the four locations monitored, compared to operation in the horizontal orientation.

9. RECOMMENDATIONS:

a. Ft. Carson Bracket. The bracket should be fitted with rubber vib-x type pads, as shown in Figure 3. The four pads should be attached by means of an adhesive.

b. GM Bracket.

- (1) The bracket should be fitted with rubber vib-x type pads to prevent impacting of the receivers against the sides of the bracket. A pad also may be required between the two receivers when two receivers are used.
- (2) The design of the feet of the bracket also should be changed to prevent development of cracks near the mounting screw holes.

c. RT-524/VRC Radio with MT-1029/VRC Mount. One-sixteenth inch thick washers should be inserted between the RT-524/VRC Radio and the MT-1029/VRC Mount. These washers should be placed on the two alignment studs and secured by adhesive or another means. This is a field-fix done in lieu of a redesign of the MT-1029 Mount, in order to prevent interference of the rear plate with the fan.

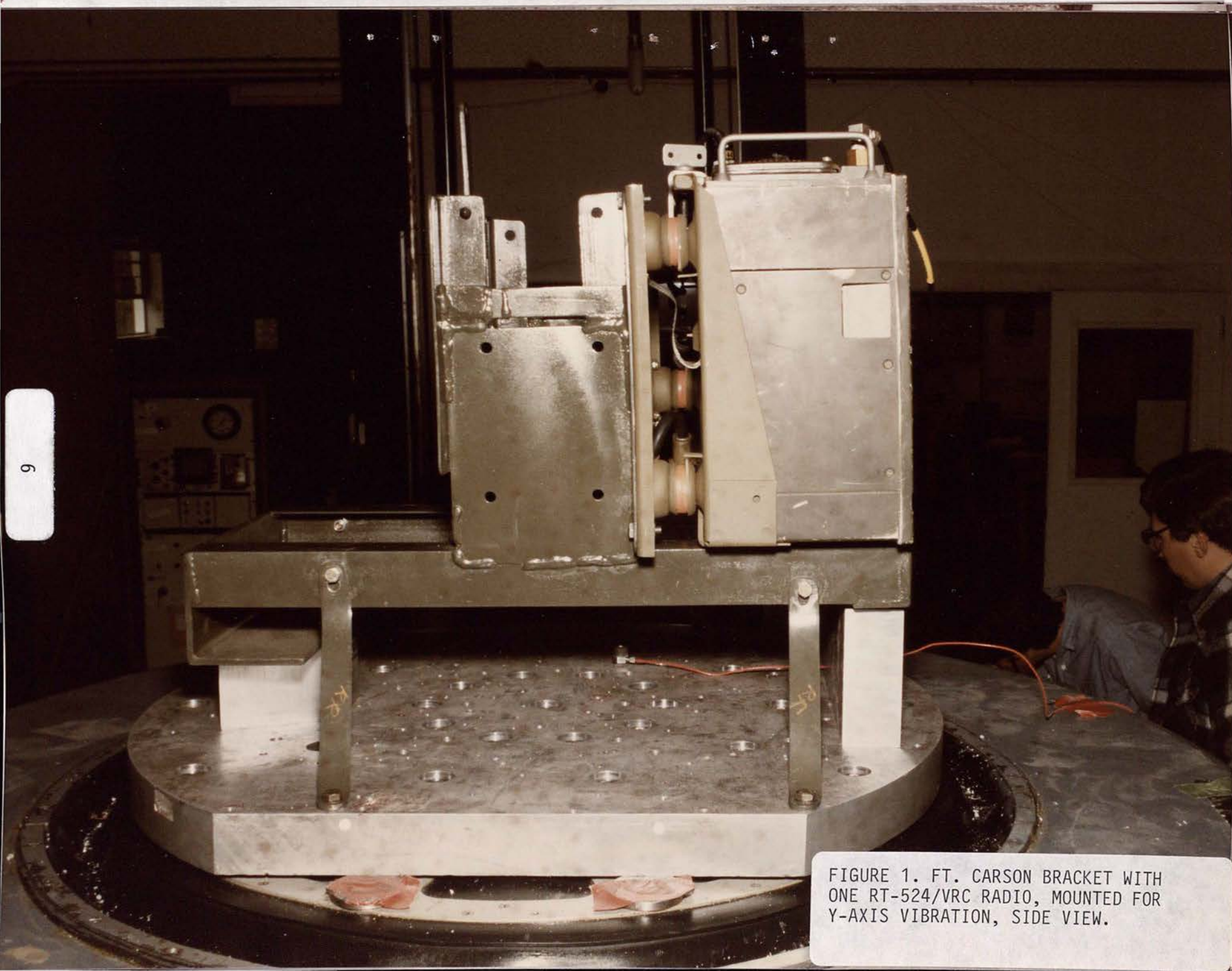
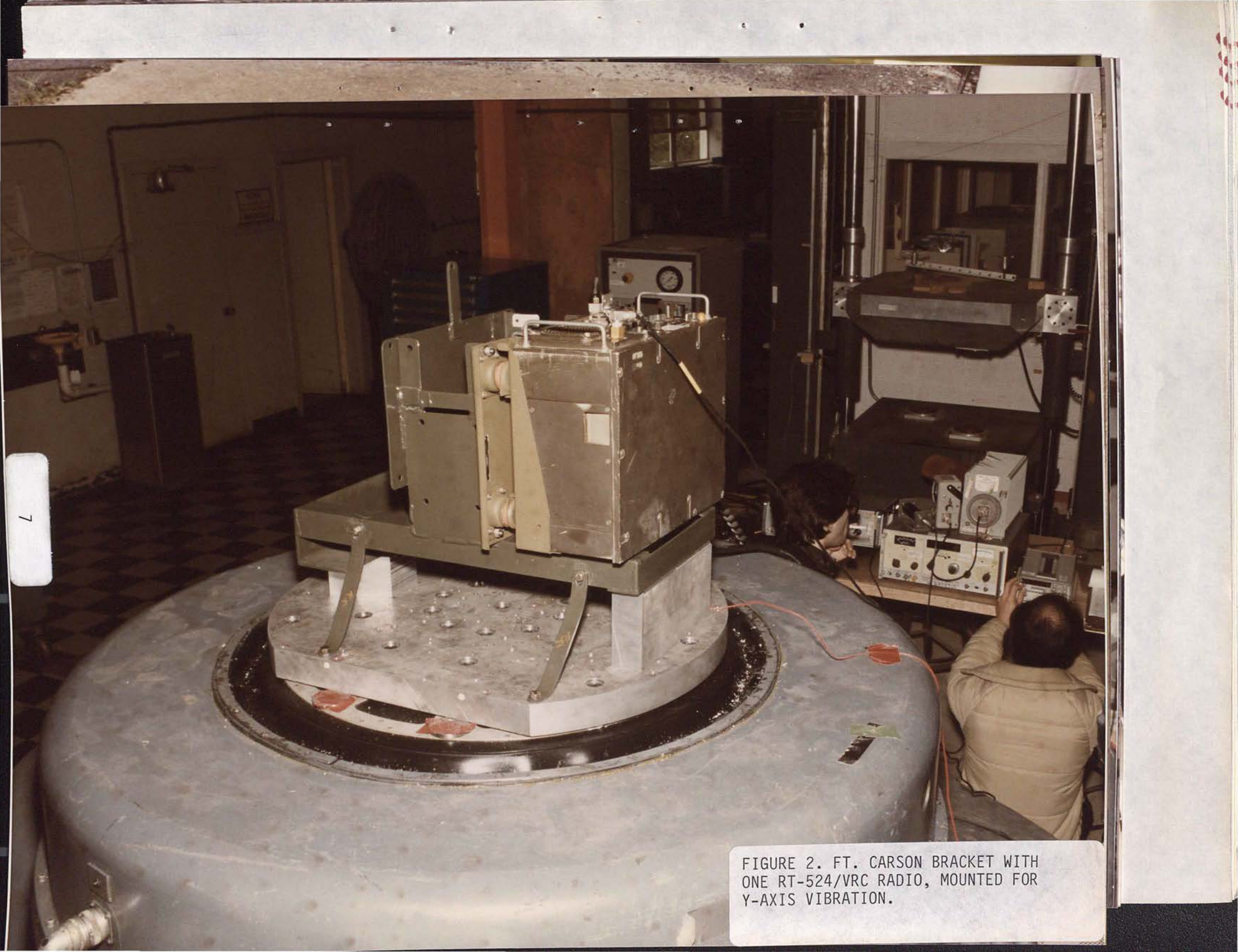


FIGURE 1. FT. CARSON BRACKET WITH ONE RT-524/VRC RADIO, MOUNTED FOR Y-AXIS VIBRATION, SIDE VIEW.



7

FIGURE 2. FT. CARSON BRACKET WITH ONE RT-524/VRC RADIO, MOUNTED FOR Y-AXIS VIBRATION.



FIGURE 3. FT. CARSON BRACKET WITH
RUBBER PADS ATTACHED.

6



FIGURE 4. ELECTRICAL TEST EQUIPMENT.

10

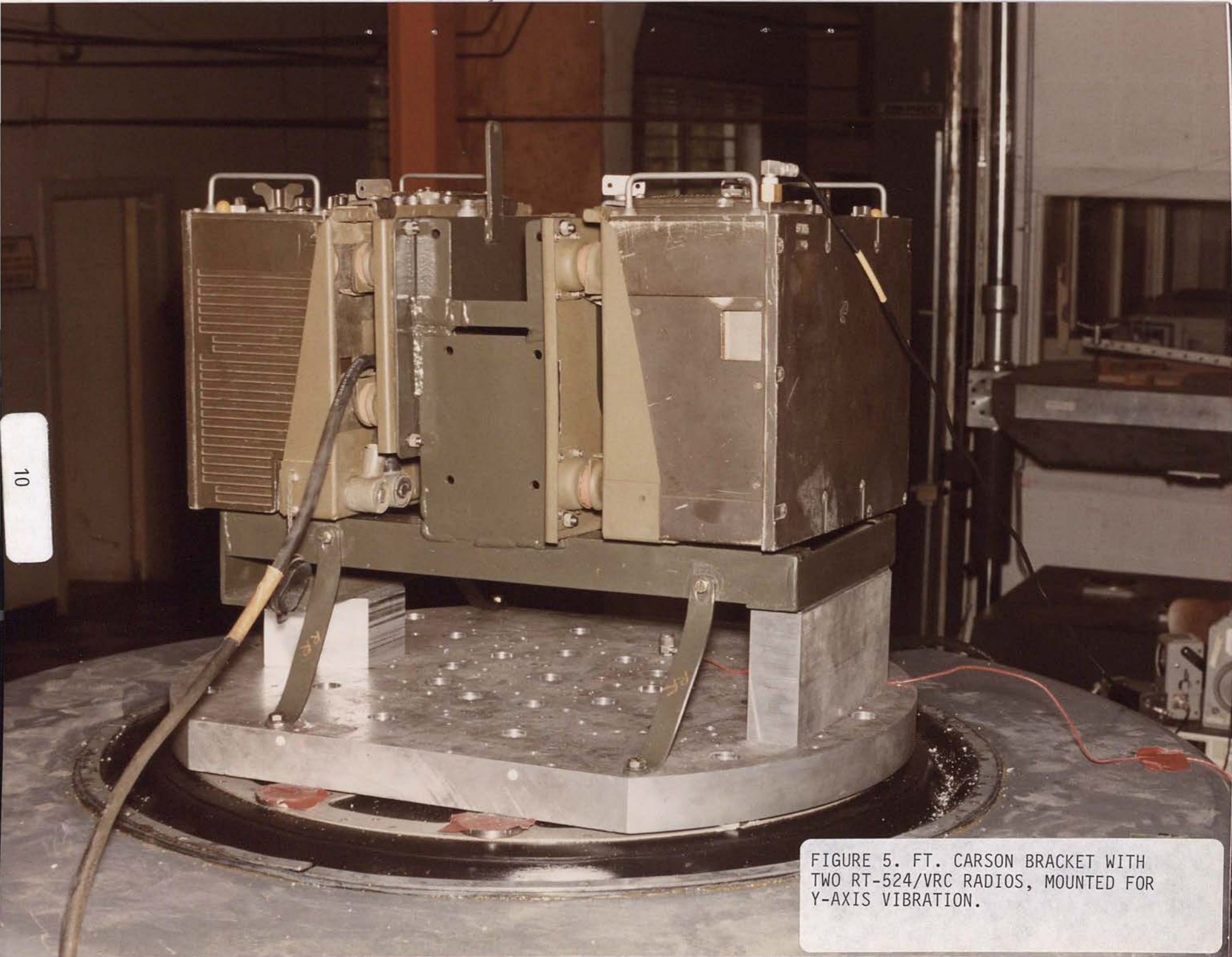
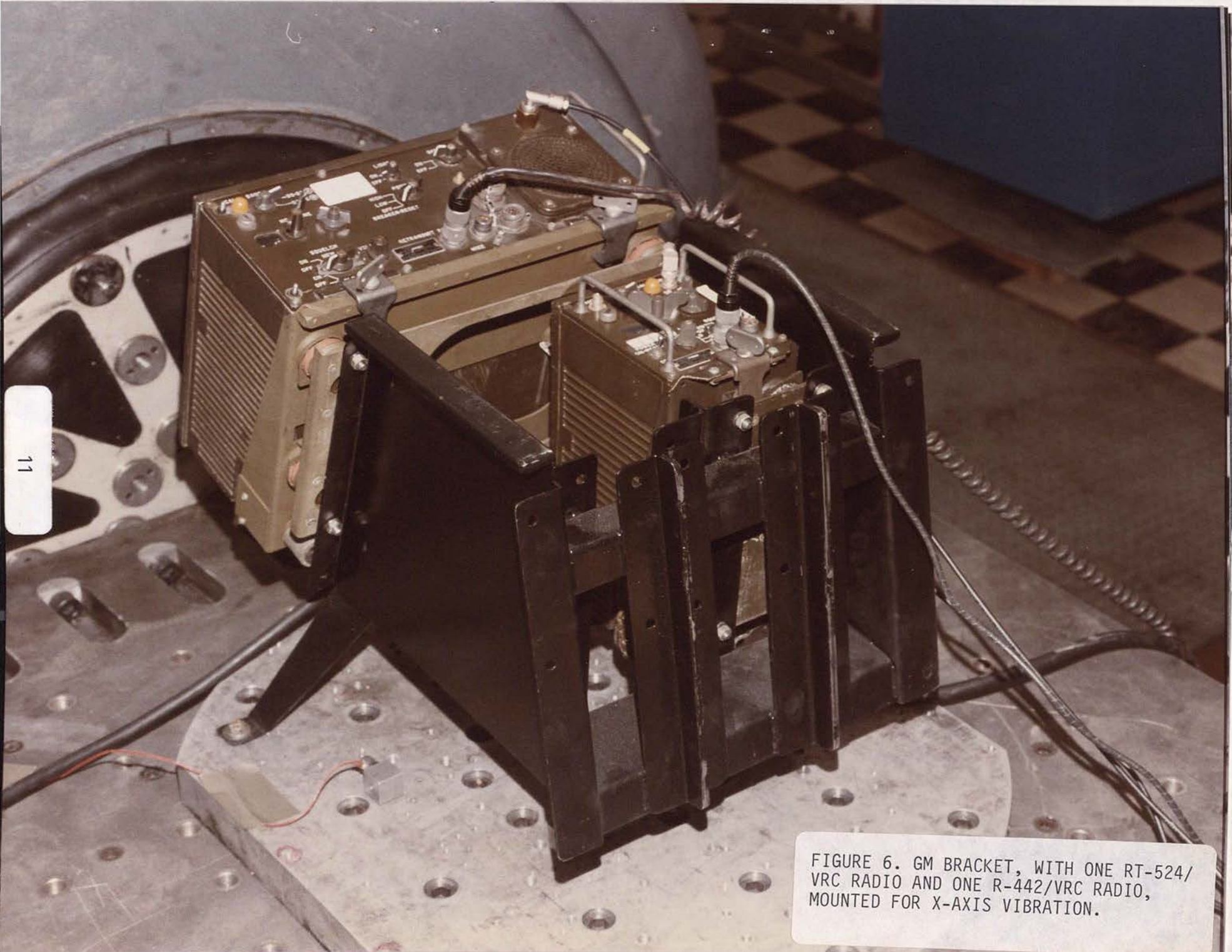


FIGURE 5. FT. CARSON BRACKET WITH TWO RT-524/VRC RADIOS, MOUNTED FOR Y-AXIS VIBRATION.



11

FIGURE 6. GM BRACKET, WITH ONE RT-524/
VRC RADIO AND ONE R-442/VRC RADIO,
MOUNTED FOR X-AXIS VIBRATION.



12

FIGURE 7. GM BRACKET, MOUNTED FOR X-AXIS VIBRATION, SIDE VIEW.

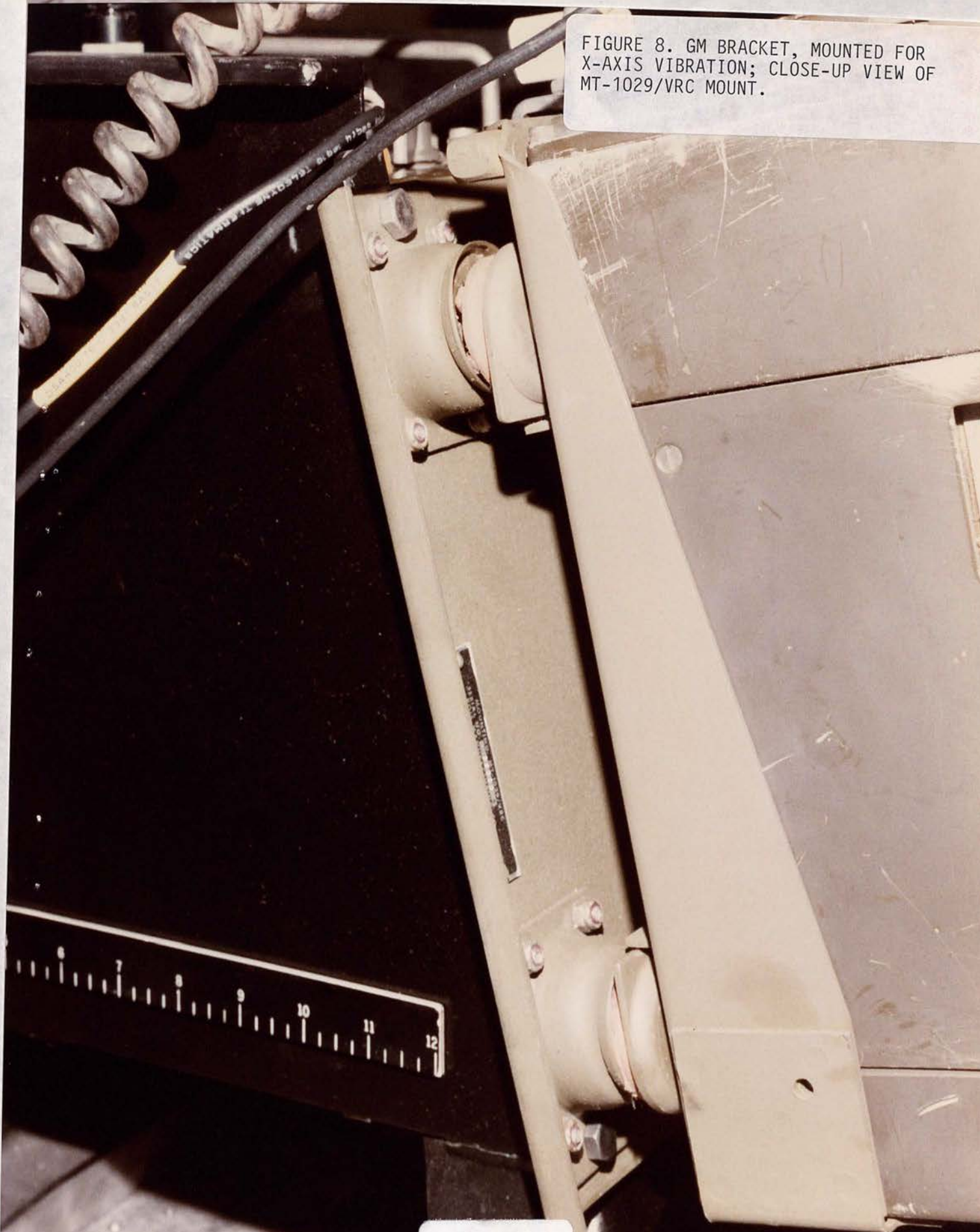


FIGURE 8. GM BRACKET, MOUNTED FOR X-AXIS VIBRATION; CLOSE-UP VIEW OF MT-1029/VRC MOUNT.

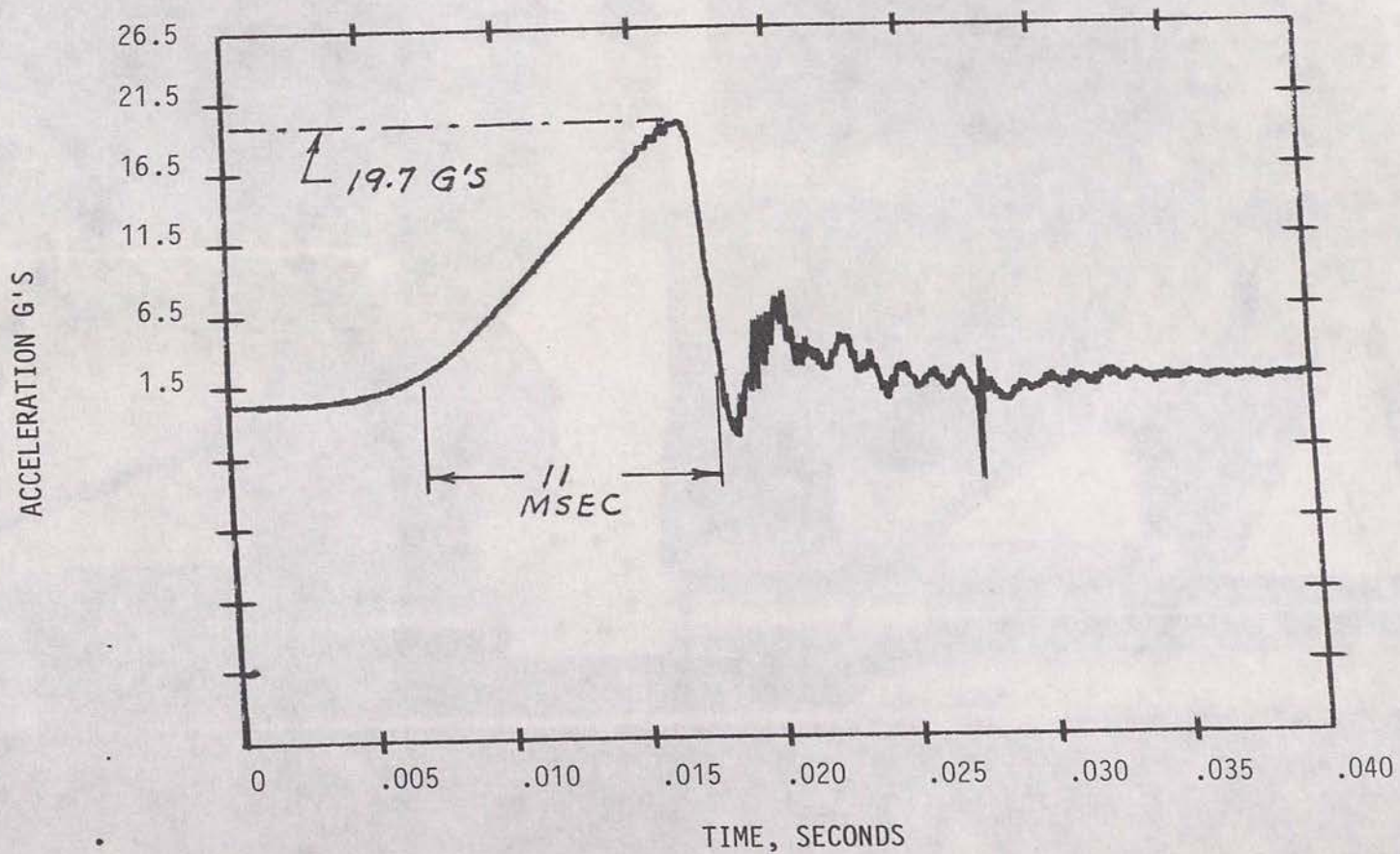


FIGURE 9. ACCELERATION VS. TIME, SHAPED PULSE SHOCK,
-Z AXIS, FT. CARSON BRACKET.

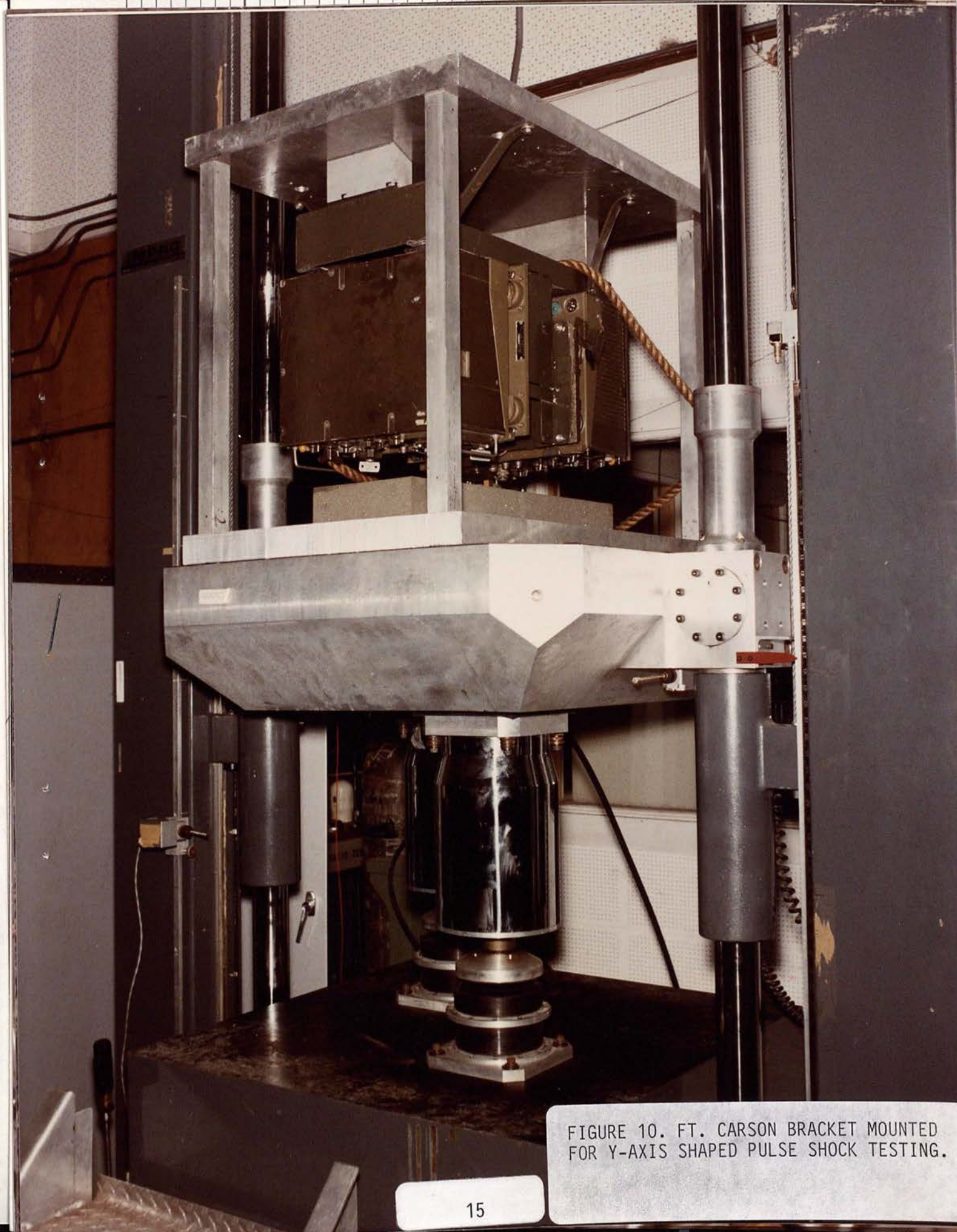


FIGURE 10. FT. CARSON BRACKET MOUNTED FOR Y-AXIS SHAPED PULSE SHOCK TESTING.

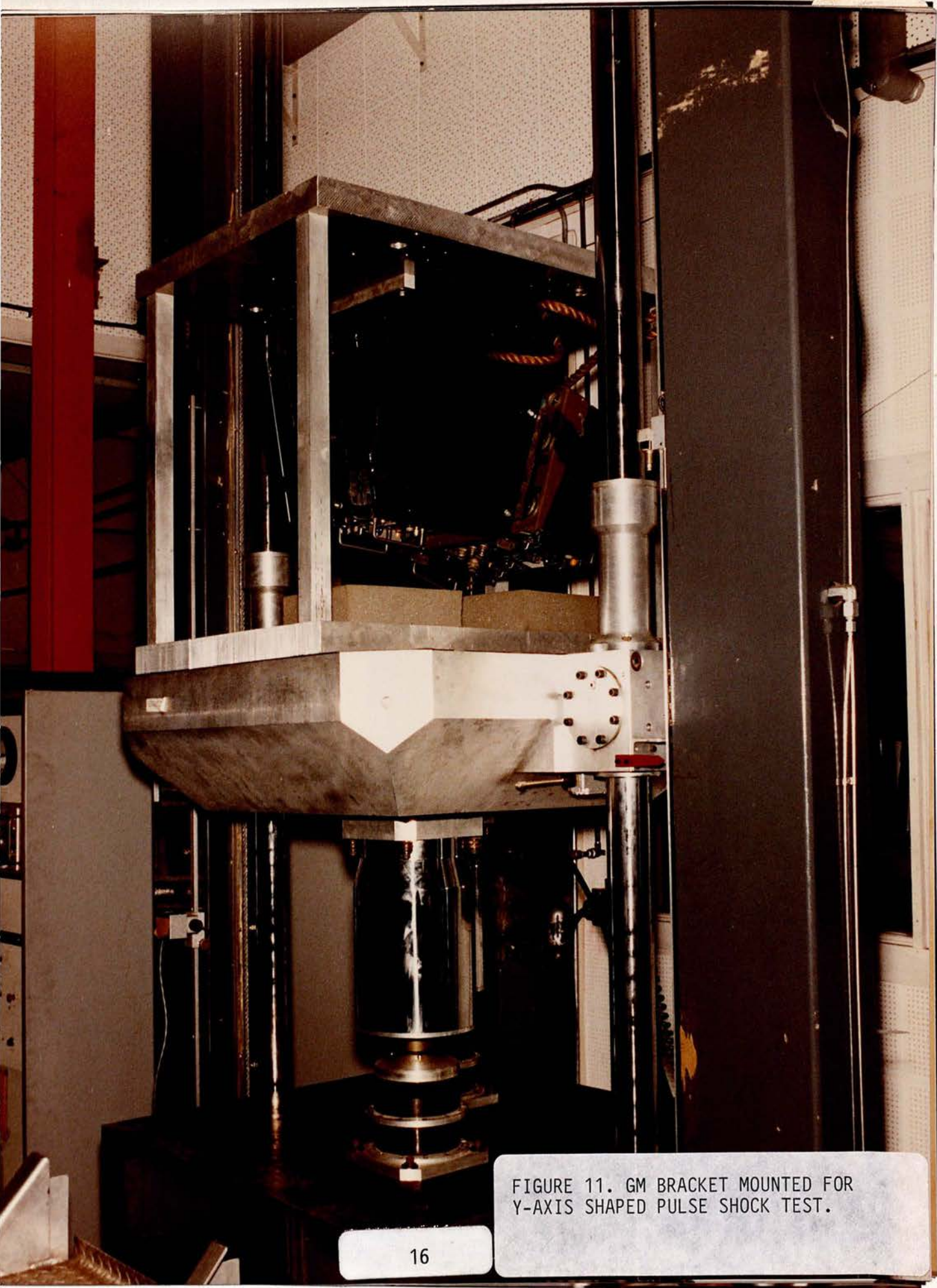


FIGURE 11. GM BRACKET MOUNTED FOR Y-AXIS SHAPED PULSE SHOCK TEST.

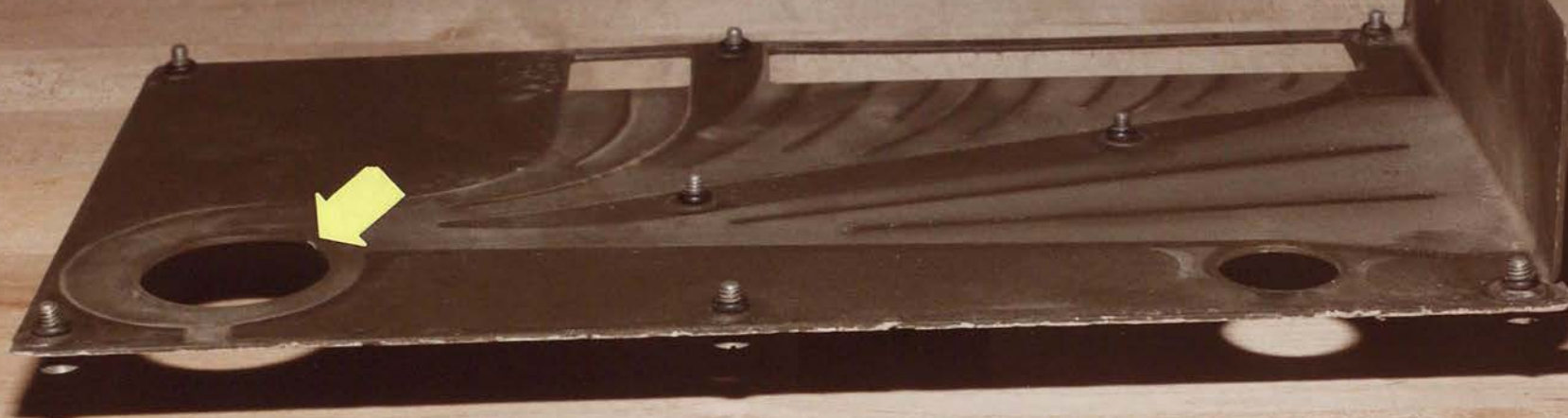
105
KEY:

105

18



FIGURE 13. RT-524/VRC RADIO WITH MT-1029/VRC MOUNT, REAR PLATE REMOVED, SHOWING FAN LOCATION; ARROW POINTS TO DENT ON PLATE.



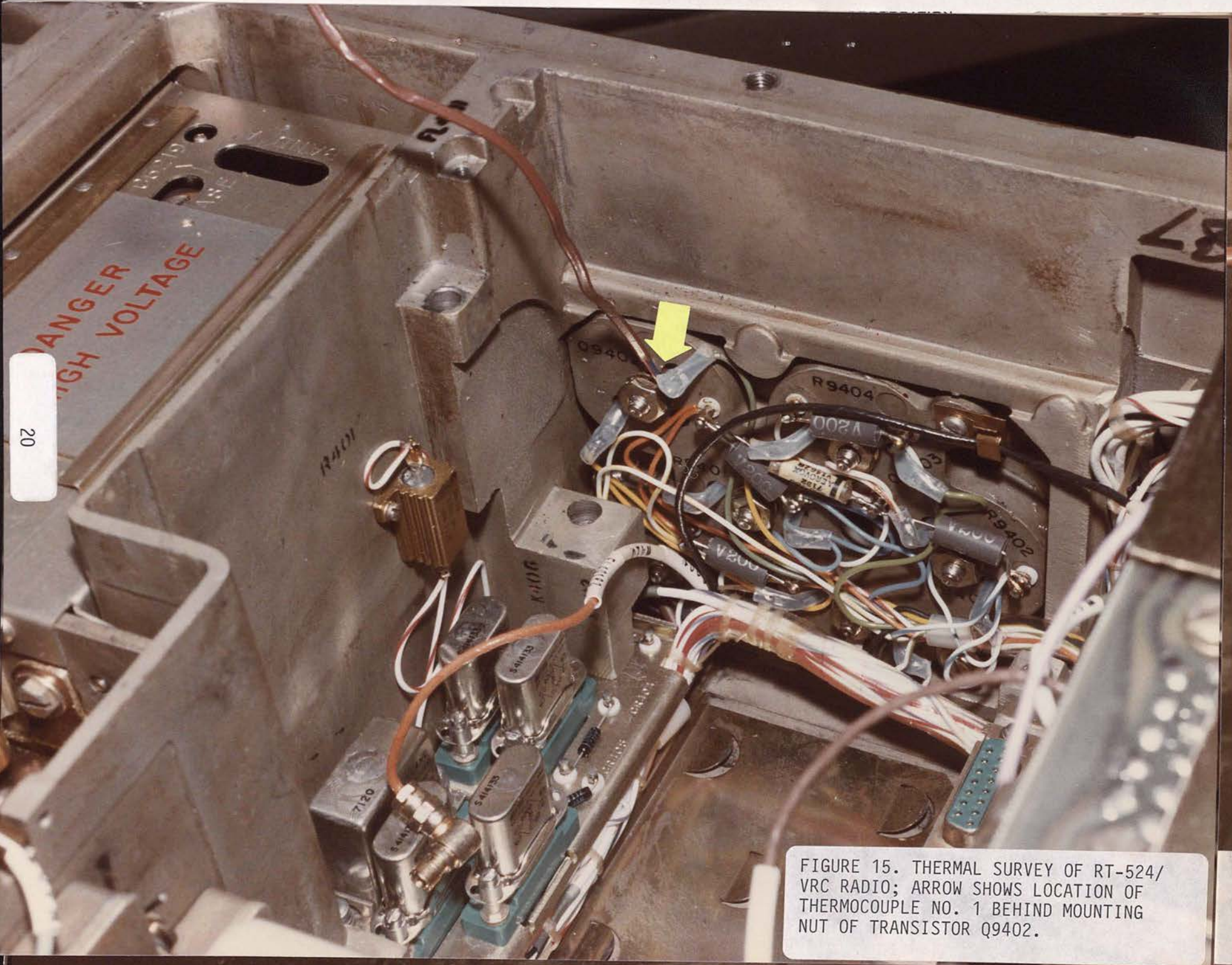
105

KEY:

105

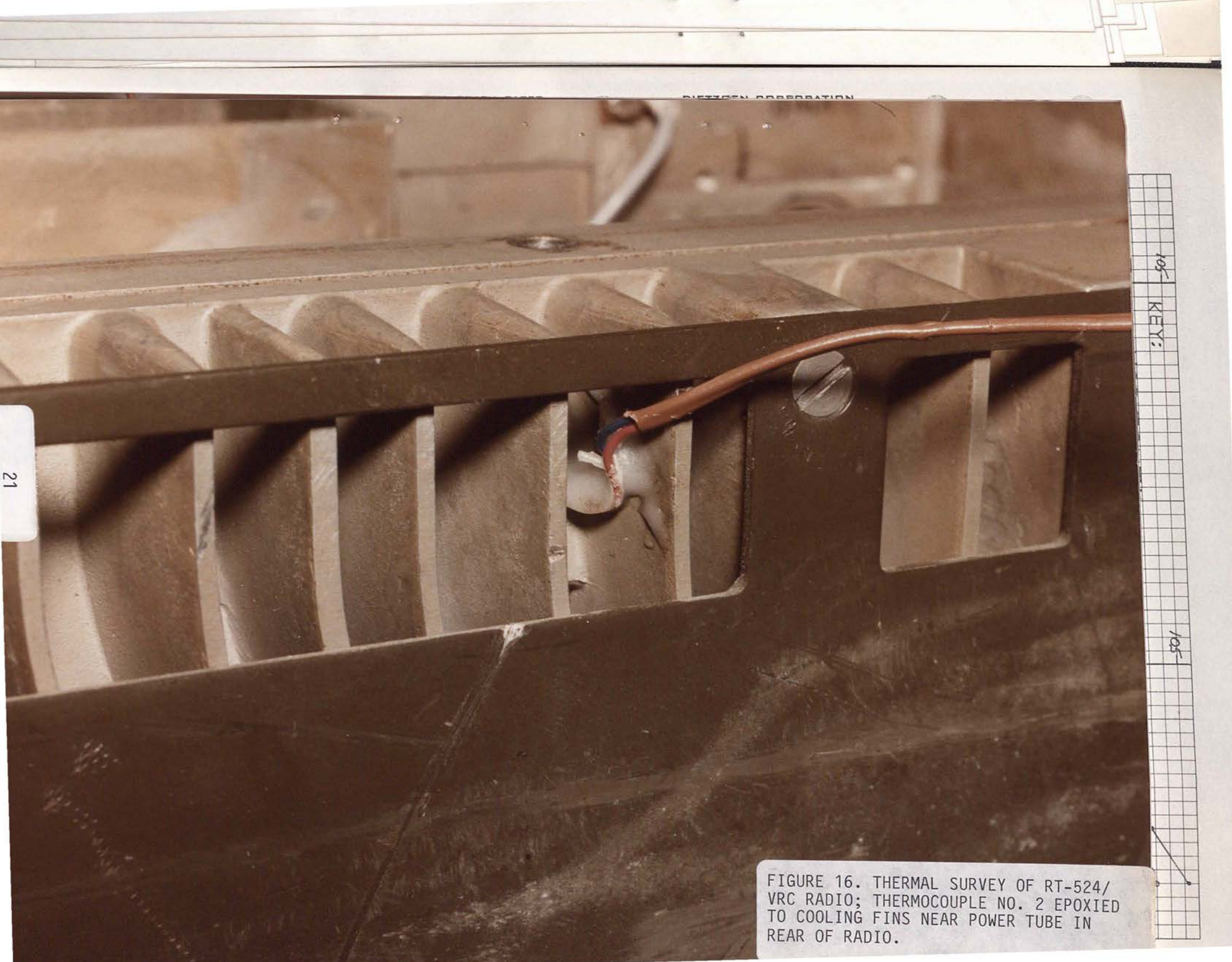
FIGURE 14. REAR PLATE OF RT-524/VRC
RADIO; ARROW POINTS TO DENT ON PLATE.

20



105
KEY:
105

FIGURE 15. THERMAL SURVEY OF RT-524/VRC RADIO; ARROW SHOWS LOCATION OF THERMOCOUPLE NO. 1 BEHIND MOUNTING NUT OF TRANSISTOR Q9402.



DIETZEN OBSERVATION

21

105
KEY:

105

FIGURE 16. THERMAL SURVEY OF RT-524/VRC RADIO; THERMOCOUPLE NO. 2 EPOXIED TO COOLING FINS NEAR POWER TUBE IN REAR OF RADIO.

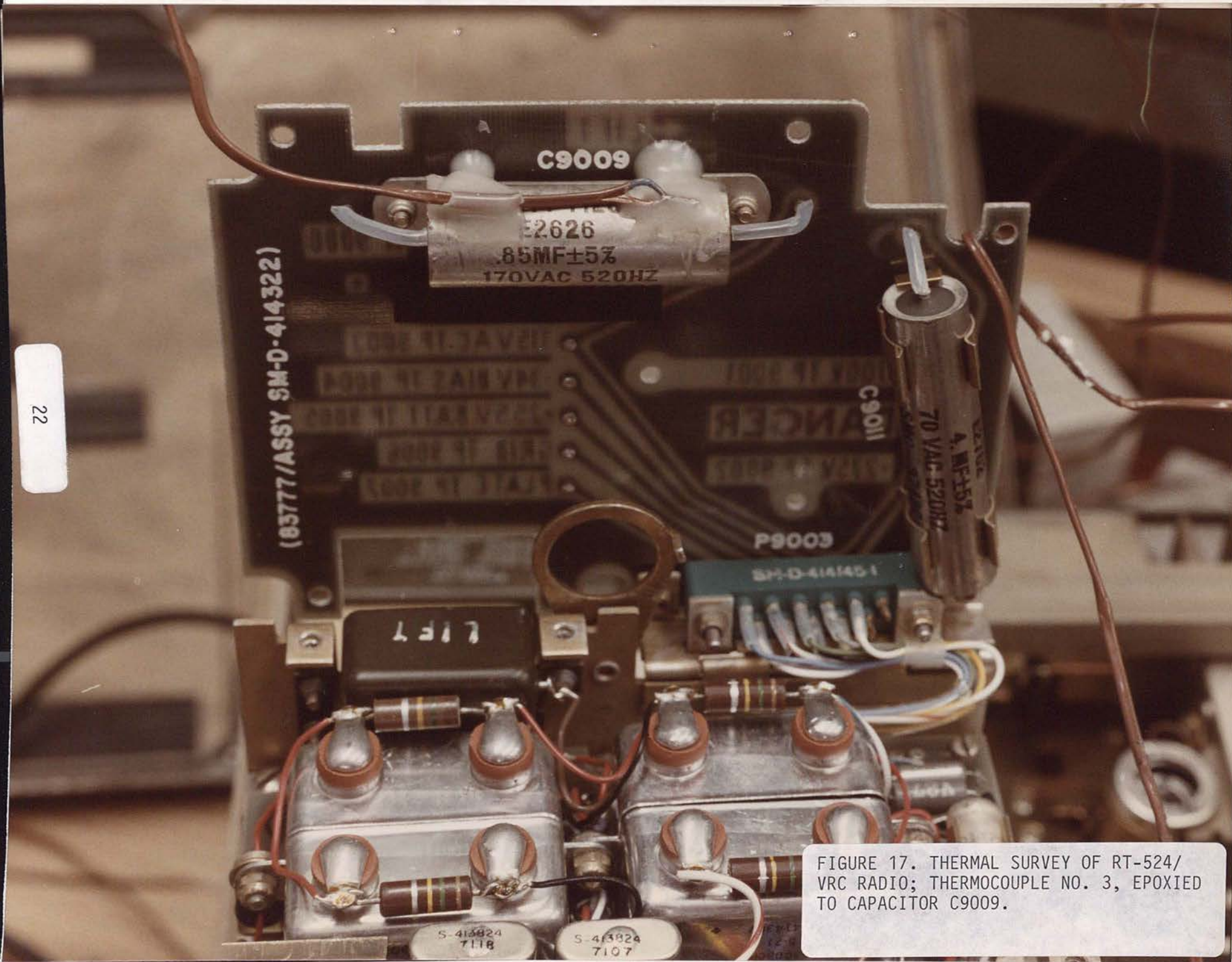
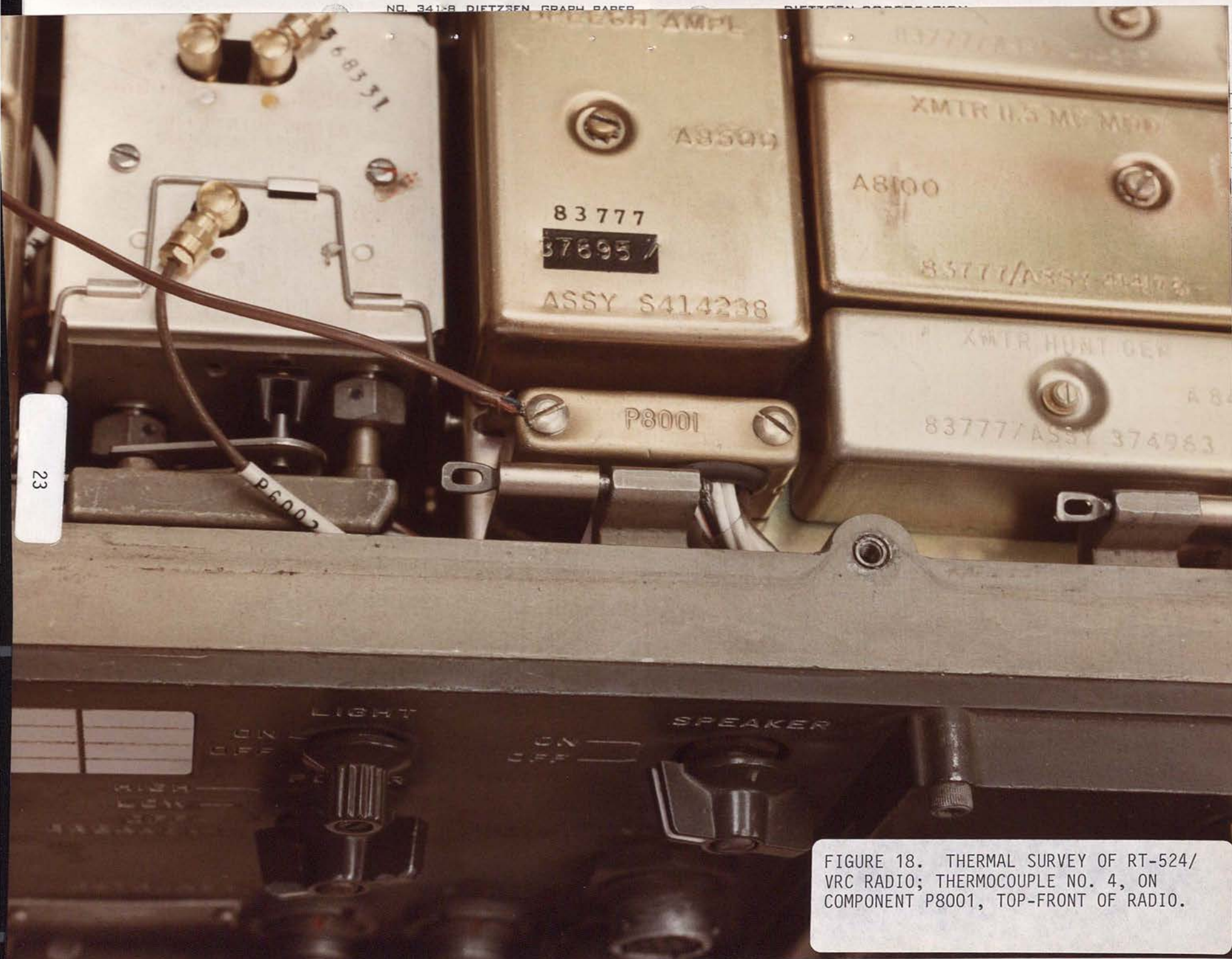


FIGURE 17. THERMAL SURVEY OF RT-524/
VRC RADIO; THERMOCOUPLE NO. 3, EPOXIED
TO CAPACITOR C9009.



23

105
 KEY:
 — HORIZONTAL
 105

FIGURE 18. THERMAL SURVEY OF RT-524/VRC RADIO; THERMOCOUPLE NO. 4, ON COMPONENT P8001, TOP-FRONT OF RADIO.

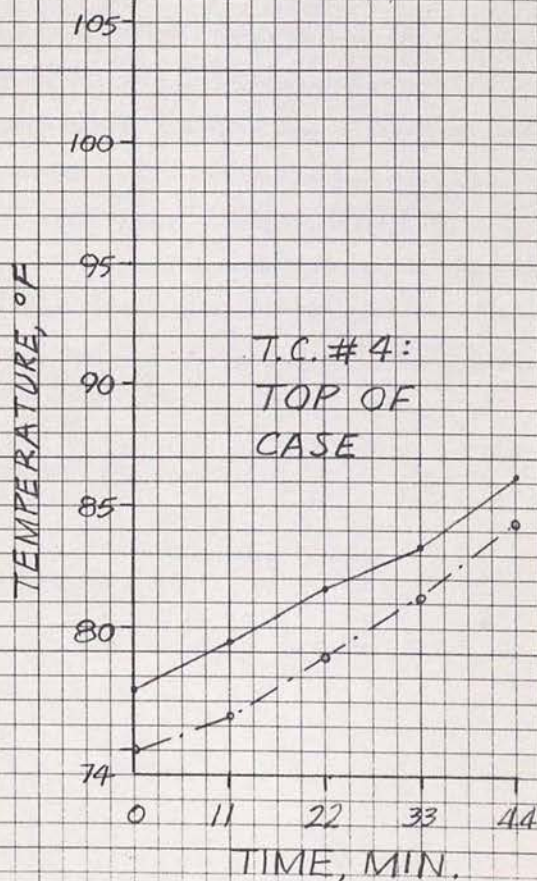
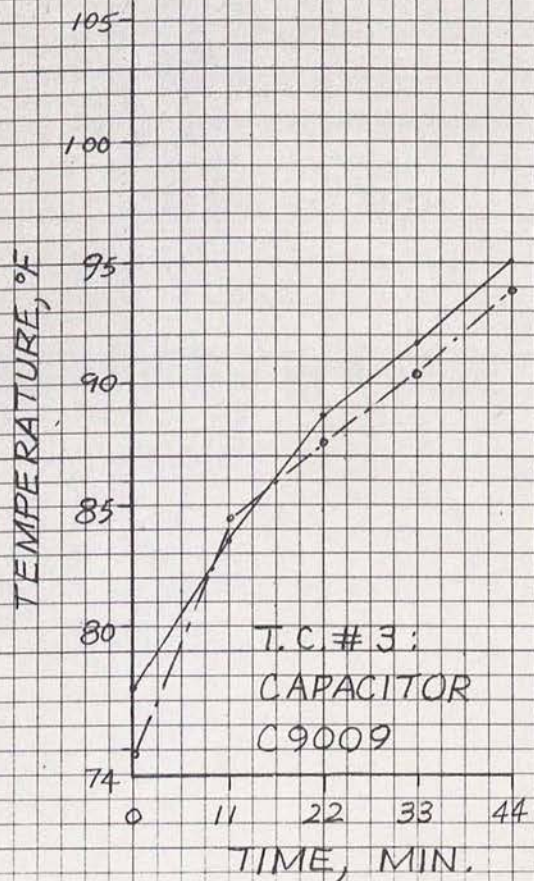
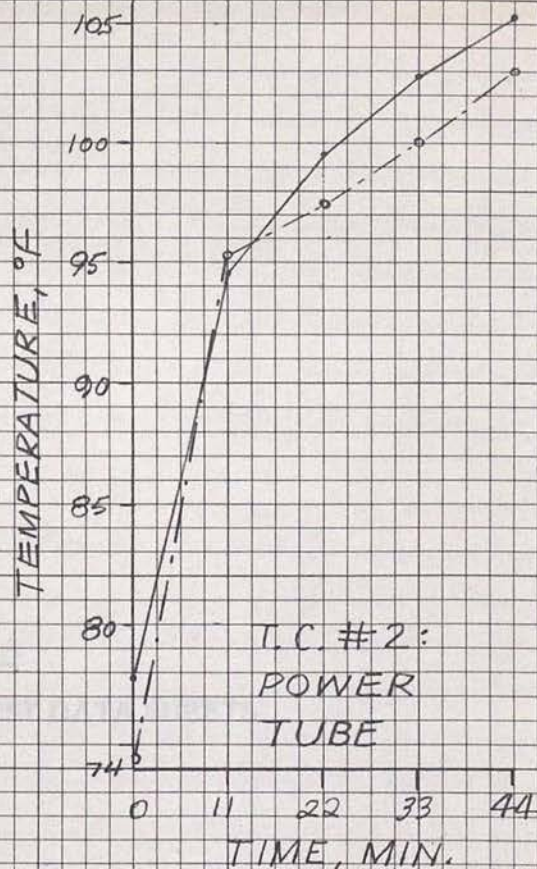
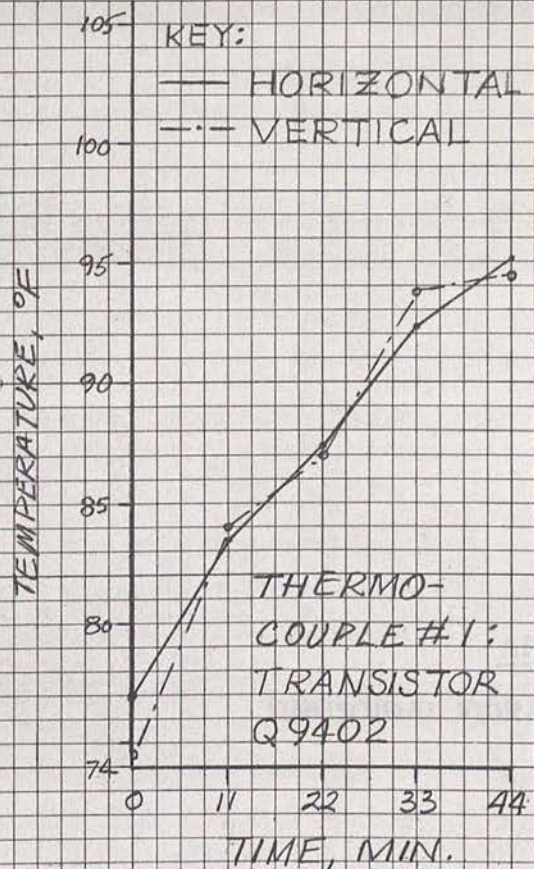


FIGURE 19. THERMAL SURVEY OF RT-524/VRC RADIO,
S/N 46894; HORIZONTAL VS. VERTICAL ORIENTATION.

ENVIRONMENTAL TEST LABORATORY TEST LOG

TEST NO. 67-11
 DATE 6/24/88
 PROJECT ENGINEER G. S. K. G.
 TEST TECH. K. J. L.
 REGULATORY MODEL ST-14/1002 R-942/1000 SERIAL # 1000
 TEST CONDITIONS Resonance 1000/1000 1000 1000 TEST
 DESCRIPTION Gun mount w/ 500 KHz, 500 Hz
 Sinusoidal Vibration 4 g rms
 1-300-5 Hz 1.5 g rms out of phase with 1000 Hz

DATE	TIME	EVENT	INITIAL
6/24	1025	Pre test check OK	ND
	1305	Test start. X-axis shake	KJL
		Control manual - push on	
	1315	REAR ON	
		REAR SHAKE (3-400) 20 g rms	
		(R-100) 20 g rms	
	1316	X-axis OFF	
	1345	REAR ON	
	1412	REAR SHAKE (3-400) 20 g rms	
		(R-100) 20 g rms	
	1415	X-axis ON	
		REAR SET: 20 g rms	
	1416	X-axis OFF	
	1500	ALERT ON	
		REAR SHAKE (3-400) 20 g rms	

APPENDIX A

SINUSOIDAL VIBRATION TEST DATA SHEETS

REMARKS: SEE DATA SHEET NUMBER _____

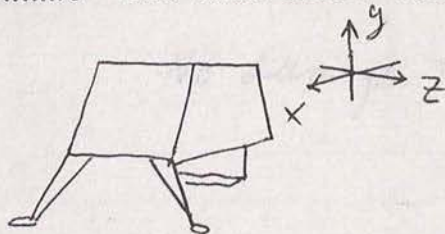


ENVIRONMENTAL TEST LABORATORY TEST LOG

TEST NO. 84-6	DATE 6/22/84
CUSTOMER ORGAN. DRSEL-ED-SM	PROJECT ENGINEER G FISCHE
TEST ENGINEER JVD	TEST TECH. KJL.
NOMENCLATURE MODEL RT-524/VRC & R-442/VRC	SERIAL # 40032 (R-T) 7885 (RCVR)
TEST CONDITIONS POWERED 10 min/hr	ROOM TEMP: 19 min RCVR 1 min XN
DESCRIPTION GM-Mount w/ one XMTR, one RCVR Sine Vibration, Y axis 5-200-5 Hz. 1.5 G's cut off at 0.5 inches DA.	

DATE	TIME	EVENT	INITIAL
6/22	1025	Pre test Oper. chk OK	JVD
	1305	Test start, Y-AXIS SHAKE	KJL
		Both RCVR's operational - power on.	
	1315	RCVR's off, XMTR ON 41 MHz 10. Power out: 44 watts RCVR Sensitivity: (R-442): .40 μ v. (RT-524): .84 μ v	
	1316	XMTR OFF	
	1405	RCVR's ON	
	1415	RCVR Sens.: (R-442): .40 μ v (RT-524): .84 μ v	
	1415	XMTR ON POWER OUT.: 44 watts	
	1416	XMTR OFF	
	1505	* RCVR'S ON RCVR SENS. (R-442): .40 μ v	

REMARKS: SEE DATA SHEET NUMBER _____



ENVIRONMENTAL TEST LABORATORY TEST LOG

TEST NO. <u>84-6</u>	DATE <u>6/22/84</u>
CUSTOMER ORGAN. <u>DRSEL-ED-5M</u>	PROJECT ENGINEER <u>GF</u>
TEST ENGINEER <u>JVD</u>	TEST TECH. <u>KJL</u>
NOMENCLATURE MODEL <u>RT 524 / R442</u>	SERIAL # <u>40032</u> <u>7885</u>
TEST CONDITIONS <u>Powered 10 min/hr</u>	ROOM TEMP: _____
DESCRIPTION <u>GM-mount</u> <u>Sine vibra. - g axis.</u>	

DATE	TIME	EVENT	INITIAL
<u>6/22</u>	<u>1515</u>	<u>X MTR ON</u>	
		<u>POWR OUT: 44 watts</u>	
	<u>1516</u>	<u>X MTR OFF</u>	
	<u>1605</u>	<u>END TEST.</u>	<u>JVD</u>
		<u>E-lectrical check OK.</u>	

REMARKS: SEE DATA SHEET NUMBER _____

bracket
No damage to radio ^{bracket} or mounts is evident.

TEST ITEM: AN/V... Y-AXIS VIBRATION

TEST NO: 84-6

TYPE OF TEST: PRE

FREQ DIAL SETTING (MHZ)	RECEIVER Sensitivity OLD SQUELCH (μ V)	Power output (WATTS)	OUTPUT Frequency (MHZ)
30.00	.52		
41.00	.40	N/A	N/A
52.95	.56		
53.00	.58		
64.00	.48	A	A
75.95	.74		
Sidetone YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>			
Dial lamp YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>			
R 442 Receiver SN 7885 D.C INPUT 25.0 volts			
30.00	.800	44	29.999
41.00	.80	45	40.999
52.95	.30	36	52.949
53.00	.63	42	53.000
64.00	.74	32	64.000
75.95	<.1	36	75.950
Sidetone YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>			
Dial lamp YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>			
RT-524 SN 40032 D.C INPUT 25.0 volts			

REMARKS: Receives some type of local interference

DATE: 6/22/84

SIGNATURE: John V. Dente

DATA SHEET NO. ___ OF ___

TEST DATA SHEET

TEST ITEM: AN/VRC-12 GM-MOUNT

PERFORMED BY: K. LaSala

TYPE OF TEST: POST Y-AXIS VIBRATION

TEST NO: 84-6

FREQ DIAL SETTING (MHZ)	RECEIVER SENSITIVITY OLD SQUELCH (uV)	Power output (WATTS)	OUTPUT Frequency (MHZ)
30.00	<.1 ^⓪		
41.00	.35		
52.95	.45	N/A	N/A
53.00	.4		
64.00	.35		
75.95	.45		

Sidetone YES NO
 Dial Lamp YES NO

R-442 RCVR S/N 7885

30.00	<.1 ^⓪	44	29.999
41.00	.9	44	41.000
52.95	.6	36	52.949
53.00	.8	42	53.000
64.00	.85	33	64.000
75.95	.4	38	75.950

Sidetone YES NO
 Dial Lamp YES NO

RT-524 XMTR S/N 40032

REMARKS: ^⓪ Receive local interference

DATE: 6/22/84

SIGNATURE: John V. Dente

DATA SHEET NO. ___ OF ___

ENVIRONMENTAL TEST LABORATORY TEST LOG

TEST NO. <u>84-6</u>	DATE <u>6/25/84</u>
CUSTOMER ORGAN. <u>DRSEL-ED-SM</u>	PROJECT ENGINEER <u>KF.</u>
TEST ENGINEER <u>JVD</u>	TEST TECH. <u>KJL</u>
NOMENCLATURE MODEL <u>R 442</u> <u>RT 524 - GM Mount</u>	SERIAL # <u>40032</u> <u>7885</u>
TEST CONDITIONS <u>Powered 10 min</u>	ROOM TEMP: _____
DESCRIPTION <u>Sine Vibration Z-axis</u>	

DATE	TIME	EVENT	INITIAL
6/25/84	1005	Pre-test operational check OK START Z-AXIS TEST. *	JVD.
		Both units on (recvr).	
	1015	XMTR ON, RCVR OFF	
	1016	XMTR PWR: 44 watts	
		XMTR OFF, RCVR OFF	
	1105	RCVR ON, RCVR SENS: (R442) .4 mV } (RT524) .82 mV } 41MHZ.	
	1115	XMTR ON, RCVR OFF XMTR PWR: ⁴⁴ 47 watts.	
	1116	XMTR OFF RC	
	1205	RCVR ON, RCVR SENS: RCVR SENS: (R442): .4 mV (RT524): .7 mV	
	1215	XMTR PWR ON: 44 watts	

REMARKS: SEE DATA SHEET NUMBER 1305 END TEST

* RT mount bottoms at low frequencies. Loud noise
Receiver bangs against side of Aeron Bracket.

TEST DATA SHEET

TEST ITEM: AN/VRC-12 PERFORMED BY: K. LaSala

TYPE OF TEST: Pre-Test 7-Axis Vib. TEST NO: 84-6

FREQ DIAL SETTING (MHZ)	RECEIVER Sensitivity OLD SQUELCH (uv)	Power output (WATTS)	OUTPUT Frequency (MHZ)
30.00	.45	N/A	N/A
41.00	.35		
52.95	.45		
53.00	.45		
64.00	.35		
75.95	.5		

Sidetone YES NO
 Dial lamp YES NO

R-442 Serial # 7885

30.00	1.0	44	29.999
41.00	.97	44	40.999
52.95	.85	36	52.949
53.00	.9	42	53.000
64.00	.96	32	64.000
75.95	.75	36	75.950

Sidetone YES NO RT-524 Serial # 40032
 Dial lamp YES NO

REMARKS:

DATE: 25 June 84 SIGNATURE: [Signature] DATA SHEET NO. OF

TEST DATA SHEET

TEST ITEM: AN/VSC-12 PERFORMED BY: K. LaSala

TYPE OF TEST: Post-Test Z-AXIS Vib. TEST NO: 84-6

FREQ DIAL SETTING (MHZ)	RECEIVER Sensitivity OLD SQUELCH (μ V)	Power output (WATTS)	OUTPUT Frequency (MHZ)
30.00	.45	N/A	N/A
41.00	.35	N/A	N/A
52.95	.50	N/A	N/A
53.00	.45	N/A	N/A
64.00	.37	N/A	N/A
75.95	.56	N/A	N/A

Sidetone YES N/A NO
 Dial lamp YES NO

R442 Serial # 7885

30.00	1.1	42	29.999
41.00	1.1	44	40.999
52.95	.80	36	52.949
53.00	.95	42	52.999
64.00	.95	31	64.000
75.95	.85	36	75.950

Sidetone YES NO
 Dial lamp YES NO

REMARKS:

DATE: _____ SIGNATURE: _____ DATA SHEET NO. _____ OF _____

ENVIRONMENTAL TEST LABORATORY TEST LOG

TEST NO. 84-6 **DATE** 6/25/84
CUSTOMER ORGAN. DRSELED SM **PROJECT ENGINEER** GF
TEST ENGINEER JVD **TEST TECH.** KJL
NOMENCLATURE MODEL RT524 VPC/R442, 5M Mnt. **SERIAL #** 40072
 7885
TEST CONDITIONS Powered 10 min/hr **ROOM TEMP:**
DESCRIPTION Sine Vibra. X axis

DATE	TIME	EVENT	INITIAL
6/25/84		Pre-test electrical check OK	
	1355	BEGIN X-AXIS TEST	
		RCVRS ON	
		RCVR SENS: R-442 : .4 μ V	
		RT524 : .84 μ V	
	1405	XMTR ON	
	1406	XMTR OFF	
		XMTR POWER: 44 watts	
		@ 41 MHz.	JVD
	1455	RCVRS ON.	
		RCVR SENS: R 442 .4 μ V	
		RT524 .84 μ V	
		@ 41 MHz.	
	1455	XMTR ON	
		POWER OUT: 44 watts	
	1555	RCVRS ON	

REMARKS: SEE DATA SHEET NUMBER _____

R-442 has problem - low sensitivity in channels (all channels)
RCVR Anders Spectra - no comparison models in lab
RCVR Spectra model better than R-442

ENVIRONMENTAL TEST LABORATORY TEST LOG

TEST NO. <u>84-6</u>	DATE <u>6/25</u>
CUSTOMER ORGAN. <u>DRSEL ED SM</u>	PROJECT ENGINEER <u>GF</u>
TEST ENGINEER <u>JVD</u>	TEST TECH. <u>KJL</u>
NOMENCLATURE MODEL <u>RT524/R442/GM Mnt.</u>	SERIAL # <u>40032</u> <u>7885</u>
TEST CONDITIONS <u>Powered 10 min/hr</u>	ROOM TEMP: _____
DESCRIPTION <u>Sine Vibra. X-AXIS</u>	

DATE	TIME	EVENT	INITIAL
6/25/84	1555	Recvr Sens: R442 - .4 μ V RT524 - .84 μ V	
	1605	XMTR on Power out: 44 watts	
	1606	Power off	
	1645	Test interrupted after 28 completed sweeps @ 5 Hz.	
	0832	test resumed *	
		RT-524 RCVR Sens: .76 μ V	
		Radio) XMTR out pow: 44 watts	
		Chuck) Freq. accuracy: 40.999 MHz (@ 41 MHz)	
		Receiver bangs loudly (either shock isolators are bottoming or unit is banging against side of bracket.) †	

REMARKS: SEE DATA SHEET NUMBER 0845 HRS TEST ENP.

* R-442 has problems: RCVR sensitivity is ~~not~~ no good (all channels)
also, squelch is broken (does not function): only static is heard.

RCVR Audio & Squelch Pre-ampassy Module is bad.
† Banging is severest between 9-15 Hz.

TEST DATA SHEET

TEST ITEM: AN/VRC-12 GM-Mount PERFORMED BY: S. L. [Signature]

TYPE OF TEST: Post Test X-AXIS TEST NO: 24-6

FREQ Dial setting (MHz)	Receiver sensitivity old squelch (uv)	Power output (watts)	output Frequency (MHz)
30.00	.65	43	29.999
41.00	1.1	44	40.999
52.95	.45	36	52.949
53.00	.9	42	53.000
64.00	.8	30	64.000
75.95	.4	35	75.950

Side tone OK RT-524 Serial # 40032
 Dial lamp OK

RCVR R-442 Serial # 7885

SQUELCH CIRCUIT INOPERABLE

Extremely poor sensitivity all channels
 (> 5uv)

REMARKS:

DATE: 26 June 84 SIGNATURE: [Signature] DATA SHEET NO. OF

ENVIRONMENTAL TEST LABORATORY TEST LOG

TEST NO. 84-6 DATE 15 May 84
 CUSTOMER ORGAN. DRSEL-ED-SM PROJECT ENGINEER G. Fiske
 TEST ENGINEER J. Dente TEST TECH. K. LaSala
 NOMENCLATURE MODEL AN/VRC-12//FT.CARS SERIAL # R4D10 40032
 TEST CONDITIONS Powered 10 min/hr. ^{BRACKET} ROOM TEMP: 70°F
 DESCRIPTION 1.5 G. Sine Vibr., modified
 Y-AXIS Mil-810C - Meth 516.2, Proced. VIII
Curve V, modified (cut off @ 1/2" D.A.)

DATE	TIME	EVENT	INITIAL
5/15/84	1409	1/2 level (0.5 G) sweep START (preliminary) mild chattering at 14 Hz, 0.29 Hz. Radio is operational for last 2/3 of sweep	
	1421	5-200-5 Hz. END SWEEP *	J.D.
5/15	1443	2/3 level (1.0 G) sweep START	
	1455	END SWEEP - ‡	
5/15	1515	FULL LEVEL sweep start (1.5 G)	
	1527	END SWEEP.	

REMARKS: SEE DATA SHEET NUMBER _____

* RADIO HAS PROBLEMS : RECVR SENSITIVITY HAS APPARENTLY INCREASED BY FACTOR OF 10.
 ‡ VOICE DID NOT BREAK UP DURING SWEEP
 RTS24 DIAL SETTING 64.00 MHZ RESULTS IN ACTUAL OUTPUT FREQ. OF 63.0 - 64.0

TEST DATA SHEET

TEST ITEM: AN/IRL-12

PERFORMED BY: K. L. 959/s

TYPE OF TEST: FIRST PRELIM. SWEEP.
 AFTER BEFORE AFTER BEFORE

TEST NO: _____
 AFTER BEFORE

FREQ DIAL Setting (MHZ)	RECVR SENS. w. 10% modulation (uv)	Receiver Sensitivity CW (uv)	Power out (watts)	Power out (watts)	OUTPUT Frequency (MHZ)	OUTPUT Frequency (MHZ)
30.00	5.1	.3	34	41	30.0	30.08
41.00	5.0	.38	36	40	40.99	41.00
52.95	6.0	.5	28	36	52.95	52.95
53.00	5.1	.46	30	35	53.00	53.00
64.00	4.0	.3	24	28	62.4-64.0	63.80
75.95	2.8	.36	21	28	75.95	76.05
30.00	RECVR sens 10% Mod 5.0uv	RECVR sens CW 1.4uv				
41.00	4.6uv	1.2uv				
52.95	5.8uv	1.6uv				
53.00	5.0uv	1.6uv				
64.00	4.0uv	1.0uv				
75.95	3.1uv	.54uv				

REMARKS: RT-524 serial # 40032

DATE: 5/15/84

SIGNATURE: [Handwritten Signature]

DATA SHEET NO. ____ OF ____

ENVIRONMENTAL TEST LABORATORY TEST LOG

TEST NO. 84-C **DATE** 5/17/84
CUSTOMER ORGAN. DRSEL-ED-SM **PROJECT ENGINEER** G. FISKE
TEST ENGINEER J. DENTE **TEST TECH.** K. LASALA
NOMENCLATURE MODEL AN/VRC-12 **RADIOS SERIAL #** 40032 * (RT524)
 46894 *
TEST CONDITIONS #1 RADIO POWERED, #2 UNPR ROOM TEMP:
DESCRIPTION SINE VIBRATION, USING 2 @ RT-524 RADIOS
 VERTICAL DIRECTION (Y-AXIS), PRELIMINARY SWEEPS.
 RUBBER PADS PLACED BETWEEN MOUNTS & BRACKET.

DATE	TIME	EVENT	INITIAL
5/17/84	1023	1/3 level (0.5 G) SWEEP START.	JD.
		RADIOS are quiet (chattering is eliminated by rubber pads under mounts)	
	1035	END SWEEP NO damage observed	
	1040	2/3 level (1.0 G) SWEEP START.	
		Displacement of old mount is greater than that of new mount.	
		no chattering. Max Resonance occurs between 11 Hz and 28 Hz	
	1052	END SWEEP	
		ELECTRICAL TEST PERFORMED	
		BOTH RADIOS CHECK OK	

*REMARKS: SEE DATA SHEET NUMBER _____

MOUNT S/N 58978 B (W/ RADIO S/N 46894) (RADIO # 2) (OLD MOUNT)

MOUNT S/N 56303 B (W/ RADIO S/N 40032) (RADIO # 1) (NEW MOUNT)

OLD MOUNT HAS 3/8" MORE CLEARANCE WITH BOTTOM OF RADIO THAN NEW MOUNT TO ALLOW FOR ADDITION OF J-BOX.

RADIO #1 IS FULLY OPERATIONAL BEFORE TEST
 RADIO #2 DOES NOT TRANSMIT IN B-BAND.

TEST DATA SHEET

TEST ITEM: AN/VRC-12/PT. CARSON BRACKET PERFORMED BY: K. L. Saly

TYPE OF TEST: Y-AXIS
Pre-Test Sine Vib. 2 Radios, Prelim sweep TEST NO: 84-6

FREQ DIAL SETTING (MHZ)	RCVR SENSITIVITY (mv)	POWER OUT (Watts)	output Frequency (MHZ)
30.00	1.5	36	30.000
41.00	1.0	38	41.000
52.95	1.1	30	52.950
53.00	.66	32	52.999
64.00	1.0	28	64.000
75.95	.62	23	75.950

↑
③
↓

Sidetone YES NO 0900 HRS 17 MAY 84
 Dial lamp YES NO

RT-524 Serial # 40032
 D.C. Input to Radio - 25.0 vdc

30.00	*	41	29.998
41.00	.58	9.5	40.999
52.95	.95	12.0	52.950
53.00	.80 ①	0 ②	— ②
64.00	.68	0 ②	— ②
75.95	.40	0 ②	— ②

Sidetone YES NO 1000 HRS 17 MAY 84
 Dial lamp YES NO

RT-524 Serial # 46894
 D.C. Input to Radio - 25.0 vdc

REMARKS: * Receiver call lamp illuminates without applying input signal.
 ① 3av scale
 ② B Band has no output power across band.
 ③ OUTPUT Frequency would drift on every channel tested.

DATE: 17 MAY 84 SIGNATURE: Kal J. Lesela DATA SHEET NO. OF

TEST DATA SHEET

TEST ITEM: AN/VRC-12 PERFORMED BY: K. LaSala
 TYPE OF TEST: Y-Axis Post Test Sine Vib. 2 Radios, Prelim sweep TEST NO: 84-6

FREQ DIAL SETTING (MHZ)	RECEIVER Sensitivity OLD SQUELCH (uv)	Power output (WATTS)	OUTPUT Frequency (MHZ)
30.00	1.6	46	30,000
41.00	1.1	36	41,000
52.95	1.2	30	52,940
53.00	1.3	32	53,000
64.00	1.0	26	64,000
75.95	.64	24	75,950

①
↑
↓

Sidetone YES | NO | 1055 Hz | 17 MAY 84
 Dial lamp YES | NO

RT-S24 Serial #40032
 D.C. input to Radio 25.0 vdc

30.00	*	40	29.998
41.00	.6	9	40.999
52.95	.4 ③	13	52.950
53.00	.6 ③	0 ②	— ②
64.00	.73	0 ②	— ②
75.95	.38	0 ②	— ②

Sidetone YES | NO |
 Dial lamp YES | NO

REMARKS: ① output Frequency would drift on every channel tested,
 ② No power out on band B
 ③ ON 3uv scale
 * Receiver call lamp illuminates without applying input signal

DATE: 17 MAY 84 SIGNATURE: K. LaSala DATA SHEET NO. ___ OF ___

ORGAN. DRSEL-ED SM DATE 5/17/84
 ENGINEER J. DENTE PROJECT ENGINEER J. DEAN G. FISHER
 NATURE MODEL AN/VRC-12 TEST TECH. K. LASALA
 CONDITIONS #1 POWERED, #2 UNPWRD. ROOM TEMP:
 TION SINE VIBRATION
 5) 1.5 G, W/ RUBBER FOAM PADS. (RT-524 RADIOS)

TIME	EVENT	INITIALS
1244	FULL LEVEL TEST START	JD
1230	Y-AXIS #1 RADIO CHK: 32 watts	12:30
	NO CHATTERING HEARD 5330 HZ	
	RECEIVER SENSITIVITY: CONSTANTLY ON (SENSITIVITY CANNOT BE CHECKED).	
1324	3240 watts, 53 HZ RADIO CHECK	
	RADIO #1 BANGING AGAINST ITS MOUNT AT LOW FREQUENCY - ADDITIONAL RUBBER PAD PLACED UNDER RADIO TO PREVENT DAMAGE.	
1425	32 watts @ 53 HZ Radio Check	
1445	Y-AXIS TEST END; OBVIOUS DAMAGE: ONE HANDLE ON RADIO #1 HAS COME OFF, (IT WAS LOOSE AT START OF TEST)	
	PERFORMANCE TEST RESULTS: OK	

SEE DATA SHEET NUMBER _____

ENVIRONMENTAL TEST LOG
TEST DATA SHEET

TEST ITEM: AN/VRC-12 PERFORMED BY: K. LaSala

TYPE OF TEST: Y-AXIS Post Test Sine Vib 1.5g 3hr. TEST NO: 84-6

FREQ DIAL SETTING (MHZ)	RECEIVER SENSITIVITY OLD SQUELCH (uV)	Power output (WATTS)	OUTPUT Frequency (MHZ)
30.00	1.8	30	29.995
41.00	1.2	38	40.994
52.95	1.8	37	52.945
53.00	1.3	32	53.004
64.00	1.0	26	64.005
75.95	.6	24	75.953

↑
①
↓

Sidetone YES | NO | 1450 HRS 17 MAY 84
Dial Lamp YES | NO

RT-524 Serial # 40032
D.C Input to Radio - 25.0 vdc

30.00	*	32	29.999
41.00	.52	12	40.999
52.95	.92	14	52.950
53.00	1.0	0 ②	— ②
64.00	.6	0 ③	— ③
75.95	.28	0 ④	— ④

1510 HRS 17 MAY 84

Sidetone YES | NO | Rt 524 Serial # 46894
Dial Lamp YES | NO | D.C Input to radio - 25.0 vdc

REMARKS: ① FREQ output drifts all channels tested
② No power out B BAND
* CALL LAMP illuminated with no input

DATE: 17 MAY 84 SIGNATURE: Karl LaSala DATA SHEET NO. OF

ENVIRONMENTAL TEST LOG

TEST DATA SHEET

TEST ITEM: AN/VRC-12 PERFORMED BY: K. LaSala

TYPE OF TEST: Y-AXIS Post Test Sine Vib 1.5g 3hr. TEST NO: 84-6

FREQ DIAL SETTING (MHZ)	RECEIVER SENSITIVITY OLD SQUELCH (uV)	Power output (WATTS)	OUTPUT Frequency (MHZ)
30.00	1.8	30	29.995
41.00	1.2	38	40.994
52.95	1.8	37	52.945
53.00	1.3	32	53.004
64.00	1.0	26	64.005
75.95	.6	24	75.953

↑
①
↓

Sidetone YES | NO | 1450 HRS 17 MAY 84
 Dial Lamp YES | NO

RT-524 Serial # 40032
 D.C Input to Radio - 25.0 vdc

30.00	*	32	29.999
41.00	.52	12	40.999
52.95	.92	14	52.950
53.00	1.0	0 ②	— ②
64.00	.6	0 ③	— ③
75.95	.28	0 ④	— ④

1510 HRS 17 MAY 84

Sidetone YES | NO | Rt 524 Serial # 46894
 Dial Lamp YES | NO | D.C Input to radio - 25.0 vdc

REMARKS: ① FREQ output drifts all channels tested
 ② No power out B BAND
 * CALL LAMP illuminated with no input

DATE: 17 MAY 84 SIGNATURE: Karl LaSala DATA SHEET NO. OF

ENVIRONMENTAL TEST LABORATORY TEST LOG

TEST NO. 84-6	DATE 5/18/84
CUSTOMER ORGAN. DRSEL-ED-SM	PROJECT ENGINEER G. FISKE
TEST ENGINEER J. DENTE	TEST TECH. KJL
NOMENCLATURE MODEL AN-VRC-12	SERIAL # #1 #2
TEST CONDITIONS	ROOM TEMP: 62°F
DESCRIPTION 1.5 G SINE VIBE - X AXIS	

DATE	TIME	EVENT	INITIAL
5/18/84	1245	#2 RADIO CHK: RECVR SENS: 1.1 μ V @ 41 MHz; OUTPUT PWR 9 watts @ 41 MHz.	J.D
		#1 RADIO CHK: RECVR SENS: 1.3 μ V @ 53 MHz.	
		; OUTPUT PWR: 34 watts @ 53 MHz.	J.D
	1350	#1 RADIO CHK: RECVR SENS: 1.2 μ V @ 53 MHz; XMTR POWER 32 watts @ 53 MHz.	
		#2 RADIO CHK: RECVR SENS: 1.3 μ V @ 41 MHz; OUTPUT PWR 9 watts @ 41 MHz.	
		Shock mounts are bottoming at low frequencies. Rubber particles have come off shock mounts.	

REMARKS: SEE DATA SHEET NUMBER _____

one rubber pad has come out from
under Radio #2.

1407 HRS : TEST END, (X-AXIS)

POST TEST ELECTRICAL TEST :

RADIO #2 : (OK) w/ some high sensitivity readings
RADIO #1 : (OK) w/ " " " "

No mechanical damage ^{is} obvious, ~~is~~ except for
rubber wear from shock mounts.

TEST DATA SHEET

TEST ITEM: AN/VRC-12 PERFORMED BY: K. LaSala

TYPE OF TEST: X-AXIS Post test Sine Vib 1.5g 3HR. TEST NO: 84-6

FREQ DIAL SETTING (MHZ)	RECEIVER Sensitivity OLD SQUELCH (uV)	Power output (WATTS)	OUTPUT Frequency (MHZ)
30.00	3uV (4)	33	29.998
41.00	2.7 (4)	38	40.999
52.95	1.2 (4)	31	52.949
53.00	1.2uV (3)	33	52.999
64.00	1.6 (4)	26	63.999
75.95	.86	24	75.951

↑
②
↓

Sidetone YES NO 1411 HRS 18 MAY 84
Dial Lamp YES NO

Rt-S24 Serial # 40032
D.C. Inpt to Radio - 25.0 vdc

30.00	1.7 (4)	40	29.998
41.00	1.4 (4)	11	40.999
52.95	2.5uV (4)	14	52.950
53.00	3.0 (4)	0 (1)	— (1)
64.00	1.0 (4)	0 (1)	— (1)
75.95	.5	0 (1)	— (1)

Sidetone YES NO 1430 HRS 18 MAY 84
Dial Lamp YES NO
Rt-S24 Serial # 46894
D.C. Inpt to Radio - 25.0 vdc

REMARKS: (1) No power out BAND B. (4) ON 3uV RANGE
(2) Frequency output drifts
(3) ON 10uV RANGE

DATE: 18 MAY 84 SIGNATURE: K. LaSala DATA SHEET NO. OF

CUSTOMER ORGAN. BELDRSEL-ED-3M
 TEST ENGINEER J. DENTE
 NOMENCLATURE MODEL AN/VRC-12
 TEST CONDITIONS
 DESCRIPTION 1.5 G SINE VIB
 OF VE VEHICLE)

DATE 5/21/84
 PROJECT ENGINEER G. FISKE
 TEST TECH. KJL
 RADIOS SERIAL # #1
 #2
 ROOM TEMP: 62⁴°F
 - Z AXIS (FRONT-TO-RACK)

DATE	TIME	
5/21/84	1100	#1 RADIO
		#2 RADIO
	1134	Z-AXIS
		BRACKET VIBRATION, TEST START.
		TEST FIXTURE MOVES RELATIVE TO
		PADS) FROM 7-11 HZ - DISPLACE-
		MENT OF $\approx \frac{1}{2}$ DA. FOAM PAD
	1200	IS WEARING AWAY.
		BRACKET BOLTS WERE LOOSE; WERE
		TIGHTENED.
	1211	TEST ABORTED AFTER 6 SWEEPS
		@ 12 HZ. TO REPLACE PADS
		ON FIXTURE.
	1259	RESUME TEST, W VIB-X PADS
		ON FIXTURE
	1300	# ABORT

EVENT	INITIAL
CHECK OK	JD
CHECK OK	JD

REMARKS: SEE DATA SHEET NUMBER

ENVIRONMENTAL TEST LABORATORY TEST LOG

TEST NO. 84-6 DATE 5/21/84
 CUSTOMER ORGAN. DRSEL-ED-SM PROJECT ENGINEER G. FISKE
 TEST ENGINEER J. DENTE TEST TECH. K. J. L.
 NOMENCLATURE MODEL AN/VRC-12 RADIOS SERIAL # #1
 TEST CONDITIONS EACH RECV IS POWERED HALF THE TIME ROOM TEMP: _____
 DESCRIPTION 1.5 G SINE VIBE - Z-AXIS
(FRONT TO BACK.)

DATE	TIME	EVENT	INITIAL
1312	1312	RESUME TEST.	
5/21/84	1313	ABORT - PADS ARE POPPING OUT.	
	1334	RESUME TEST.	
	1334	ABORT	
	1350	RADIO CHECK #1 OK	
		RADIO CHECK #2 OK	
	1357	RESUME TEST, COMPUTER	
		STARTED CYCLE NEW. 1 HR 11 MIN.	
		UTES OF TESTING COMPLETED.	
		1 HR, 49 MIN. TO GO.	
	1400	ABORT TEST, BOLTS LOOSE	
	1417	RESUME TEST.	
	1500	RADIO CHECK #1 OK	
		RADIO CHECK #2 OK	
	1505	TEST ABORT - CHANNEL OPEN	
	1514	RESUME TEST	
	1604	TEST END	

REMARKS: SEE DATA SHEET NUMBER _____

TEST DATA SHEET

TEST ITEM: AN/VRC-12 PERFORMED BY: K. La Sala

TYPE OF TEST: Pre-Test 2-Axis Sine Vib. 1.5g 3hr TEST NO: 84-6

FREQ DIAL SETTING (MHZ)	RECEIVER Sensitivity OLD SQUELCH (uv)	Power output (WATTS)	OUTPUT Frequency (MHZ)
30.00	2.7 ②	38	30.000
41.00	2.4 ②	38	41.000
52.95	1 ①	30	52.950
53.00	1.2 ①	32	53.000
64.00	1.7 ②	28	64.000
75.95	.82	24	75.950

↑
③
↓

Sidetone YES NO
 Dial lamp YES NO 0925 21 MAY 84

RT-524 serial # 40032
 D.C. Input to RADIO 25.0vdc

30.00	1.5 ②	44	29.999
41.00	1.3 ②	9	40.999
52.95	2.3 ②	12	52.950
53.00	3.0 ②	0	— ④
64.00	1.0 ②	0	— ④
75.95	.54	0	— ④

Sidetone YES NO 0940 21 MAY 84
 Dial lamp YES NO RT-524 SN 46894
 D.C. Input to Radio - 25.0vdc

REMARKS: ① on 10uv range ④ NO Power out B-BAND
 ② on 3uv range
 ③ output Frequency drifts

DATE: 21 MAY 84 SIGNATURE: Karl La Sala DATA SHEET NO. ___ OF ___

TEST DATA SHEET

TEST ITEM: AN/VRC-12 PERFORMED BY: K. LaSala

TYPE OF TEST: Post test 2-AXIS sine v.b., 2 Radios, 1.5g TEST NO: 84-6

FREQ DIAL SETTING (MHZ)	RECEIVER Sensitivity OLD SQUELCH (uv)	Power output (WATTS)	OUTPUT Frequency (MHZ)
30.00	2.9 ①	38	30.000
41.00	2.3 ①	38	41.000
52.95	1.4 ②	31	52.950
53.00	1.4 ②	32	53.000
64.00	1.8 ①	26	64.000
75.95	.95	24	75.950

↑
③
↓

Sidetone YES NO
Dial Lamp YES NO

22 MAY 84 0800
RT-524 Serial # 40032
D.C. Input to Radio - 25.0 vdc

30.00	1.8 ①	40	29.999
41.00	1.2 ①	10	40.999
52.95	2.0 ①	12	52.950
53.00	2.4 ①	0 ④	_____ ④
64.00	1.0 ①	0 ④	_____ ④
75.95	.40	0 ④	_____ ④

Sidetone YES NO
Dial Lamp YES NO

22 MAY 84 0830
RT-524 Serial # 46894
D.C. Input to Radio 25.0

REMARKS: ① on 3uv RANGE
② on 10uv RANGE
③ output Frequency drifts

DATE: 22 MAY 84 SIGNATURE: Carl J. LaSala DATA SHEET NO. OF

ENVIRONMENTAL TEST LABORATORY TEST LOG

TEST NO. 24-6 DATE 12 JULY 54
 CUSTOMER ORG. DICKSON PROJECT ENGINEER G. FINE
 TEST ENGINEER JVB TEST TECH. TR
 NOMENCLATURE MODEL AD-102-12 KM BANK SERIAL # (RT) 20032 (R) 7435
 TEST CONDITIONS UNDETERMINED ROOM TEMP
 DESCRIPTION 20 BUL T.C. SAW TOOTH BASIS DESIGN CHECK

DATE	TIME	AXIS	EVENT	INITIAL
7/12/54	0830	+Y AXIS	SHOCK #1	JVB
	835		SHOCK #2	JVB
	845		SHOCK #3	JVB
	855		SHOCK #4	JVB
	1012		SHOCK #5	JVB
	1055	-Z AXIS	SHOCK #1	JVB
	1110		SHOCK #2	JVB
	1204		SHOCK #3	JVB
	1226	+Z AXIS	SHOCK #1	JVB
	1257		SHOCK #2	JVB
	1245		SHOCK #3	JVB
	1312	ZZ AXIS	SHOCK #1	JVB
	1334		SHOCK #2	JVB
	1306		SHOCK #3	JVB
	1455	-X AXIS	SHOCK #1	JVB

APPENDIX B

SHAPED PULSE SHOCK TEST DATA SHEETS

REMARKS: SEE DATA SHEET NUMBER 1457 1458 1459 1460 1461 1462 1463 1464 1465 1466 1467 1468 1469 1470 1471 1472 1473 1474 1475 1476 1477 1478 1479 1480 1481 1482 1483 1484 1485 1486 1487 1488 1489 1490 1491 1492 1493 1494 1495 1496 1497 1498 1499 1500 1501 1502 1503 1504 1505 1506 1507 1508 1509 1510 1511 1512 1513 1514 1515 1516 1517 1518 1519 1520 1521 1522 1523 1524 1525 1526 1527 1528 1529 1530 1531 1532 1533 1534 1535 1536 1537 1538 1539 1540 1541 1542 1543 1544 1545 1546 1547 1548 1549 1550 1551 1552 1553 1554 1555 1556 1557 1558 1559 1560 1561 1562 1563 1564 1565 1566 1567 1568 1569 1570 1571 1572 1573 1574 1575 1576 1577 1578 1579 1580 1581 1582 1583 1584 1585 1586 1587 1588 1589 1590 1591 1592 1593 1594 1595 1596 1597 1598 1599 1600 1601 1602 1603 1604 1605 1606 1607 1608 1609 1610 1611 1612 1613 1614 1615 1616 1617 1618 1619 1620 1621 1622 1623 1624 1625 1626 1627 1628 1629 1630 1631 1632 1633 1634 1635 1636 1637 1638 1639 1640 1641 1642 1643 1644 1645 1646 1647 1648 1649 1650 1651 1652 1653 1654 1655 1656 1657 1658 1659 1660 1661 1662 1663 1664 1665 1666 1667 1668 1669 1670 1671 1672 1673 1674 1675 1676 1677 1678 1679 1680 1681 1682 1683 1684 1685 1686 1687 1688 1689 1690 1691 1692 1693 1694 1695 1696 1697 1698 1699 1700 1701 1702 1703 1704 1705 1706 1707 1708 1709 1710 1711 1712 1713 1714 1715 1716 1717 1718 1719 1720 1721 1722 1723 1724 1725 1726 1727 1728 1729 1730 1731 1732 1733 1734 1735 1736 1737 1738 1739 1740 1741 1742 1743 1744 1745 1746 1747 1748 1749 1750 1751 1752 1753 1754 1755 1756 1757 1758 1759 1760 1761 1762 1763 1764 1765 1766 1767 1768 1769 1770 1771 1772 1773 1774 1775 1776 1777 1778 1779 1780 1781 1782 1783 1784 1785 1786 1787 1788 1789 1790 1791 1792 1793 1794 1795 1796 1797 1798 1799 1800 1801 1802 1803 1804 1805 1806 1807 1808 1809 1810 1811 1812 1813 1814 1815 1816 1817 1818 1819 1820 1821 1822 1823 1824 1825 1826 1827 1828 1829 1830 1831 1832 1833 1834 1835 1836 1837 1838 1839 1840 1841 1842 1843 1844 1845 1846 1847 1848 1849 1850 1851 1852 1853 1854 1855 1856 1857 1858 1859 1860 1861 1862 1863 1864 1865 1866 1867 1868 1869 1870 1871 1872 1873 1874 1875 1876 1877 1878 1879 1880 1881 1882 1883 1884 1885 1886 1887 1888 1889 1890 1891 1892 1893 1894 1895 1896 1897 1898 1899 1900 1901 1902 1903 1904 1905 1906 1907 1908 1909 1910 1911 1912 1913 1914 1915 1916 1917 1918 1919 1920 1921 1922 1923 1924 1925 1926 1927 1928 1929 1930 1931 1932 1933 1934 1935 1936 1937 1938 1939 1940 1941 1942 1943 1944 1945 1946 1947 1948 1949 1950 1951 1952 1953 1954 1955 1956 1957 1958 1959 1960 1961 1962 1963 1964 1965 1966 1967 1968 1969 1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037 2038 2039 2040 2041 2042 2043 2044 2045 2046 2047 2048 2049 2050 2051 2052 2053 2054 2055 2056 2057 2058 2059 2060 2061 2062 2063 2064 2065 2066 2067 2068 2069 2070 2071 2072 2073 2074 2075 2076 2077 2078 2079 2080 2081 2082 2083 2084 2085 2086 2087 2088 2089 2090 2091 2092 2093 2094 2095 2096 2097 2098 2099 2100 2101 2102 2103 2104 2105 2106 2107 2108 2109 2110 2111 2112 2113 2114 2115 2116 2117 2118 2119 2120 2121 2122 2123 2124 2125 2126 2127 2128 2129 2130 2131 2132 2133 2134 2135 2136 2137 2138 2139 2140 2141 2142 2143 2144 2145 2146 2147 2148 2149 2150 2151 2152 2153 2154 2155 2156 2157 2158 2159 2160 2161 2162 2163 2164 2165 2166 2167 2168 2169 2170 2171 2172 2173 2174 2175 2176 2177 2178 2179 2180 2181 2182 2183 2184 2185 2186 2187 2188 2189 2190 2191 2192 2193 2194 2195 2196 2197 2198 2199 2200 2201 2202 2203 2204 2205 2206 2207 2208 2209 2210 2211 2212 2213 2214 2215 2216 2217 2218 2219 2220 2221 2222 2223 2224 2225 2226 2227 2228 2229 2230 2231 2232 2233 2234 2235 2236 2237 2238 2239 2240 2241 2242 2243 2244 2245 2246 2247 2248 2249 2250 2251 2252 2253 2254 2255 2256 2257 2258 2259 2260 2261 2262 2263 2264 2265 2266 2267 2268 2269 2270 2271 2272 2273 2274 2275 2276 2277 2278 2279 2280 2281 2282 2283 2284 2285 2286 2287 2288 2289 2290 2291 2292 2293 2294 2295 2296 2297 2298 2299 2300 2301 2302 2303 2304 2305 2306 2307 2308 2309 2310 2311 2312 2313 2314 2315 2316 2317 2318 2319 2320 2321 2322 2323 2324 2325 2326 2327 2328 2329 2330 2331 2332 2333 2334 2335 2336 2337 2338 2339 2340 2341 2342 2343 2344 2345 2346 2347 2348 2349 2350 2351 2352 2353 2354 2355 2356 2357 2358 2359 2360 2361 2362 2363 2364 2365 2366 2367 2368 2369 2370 2371 2372 2373 2374 2375 2376 2377 2378 2379 2380 2381 2382 2383 2384 2385 2386 2387 2388 2389 2390 2391 2392 2393 2394 2395 2396 2397 2398 2399 2400 2401 2402 2403 2404 2405 2406 2407 2408 2409 2410 2411 2412 2413 2414 2415 2416 2417 2418 2419 2420 2421 2422 2423 2424 2425 2426 2427 2428 2429 2430 2431 2432 2433 2434 2435 2436 2437 2438 2439 2440 2441 2442 2443 2444 2445 2446 2447 2448 2449 2450 2451 2452 2453 2454 2455 2456 2457 2458 2459 2460 2461 2462 2463 2464 2465 2466 2467 2468 2469 2470 2471 2472 2473 2474 2475 2476 2477 2478 2479 2480 2481 2482 2483 2484 2485 2486 2487 2488 2489 2490 2491 2492 2493 2494 2495 2496 2497 2498 2499 2500 2501 2502 2503 2504 2505 2506 2507 2508 2509 2510 2511 2512 2513 2514 2515 2516 2517 2518 2519 2520 2521 2522 2523 2524 2525 2526 2527 2528 2529 2530 2531 2532 2533 2534 2535 2536 2537 2538 2539 2540 2541 2542 2543 2544 2545 2546 2547 2548 2549 2550 2551 2552 2553 2554 2555 2556 2557 2558 2559 2560 2561 2562 2563 2564 2565 2566 2567 2568 2569 2570 2571 2572 2573 2574 2575 2576

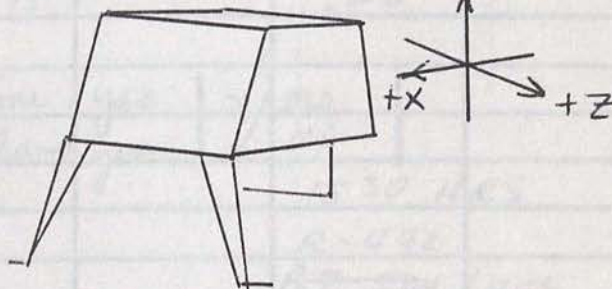
ENVIRONMENTAL TEST LABORATORY TEST LOG

TEST NO. 84-6 **DATE** 18 JULY 84
CUSTOMER ORGAN. DRSEL-ED 5M **PROJECT ENGINEER** G. FISKE
TEST ENGINEER JVD **TEST TECH.** TE.
NOMENCLATURE MODEL AN/IRC-12 / GIM BRACK. **SERIAL #** (RT) 40032 ; (R) 7885
TEST CONDITIONS UNPOWERED **ROOM TEMP:**
DESCRIPTION 20 G. T.P. SAWTOOTH ; BASIC DESIGN SHOCK.

DATE	TIME	EVENT	INITIAL
7/18/84	0830	+Y AXIS, SHOCK #1	JVD
	835	SHOCK #2	JVD
	843	SHOCK #3 11.17	JVP
	955	-Y AXIS SHOCK #1 19.0G, 11.17 MSEC	
	1008	#2	
	1012	#3 18.05G, 11.68 MSEC	
	1053	-Z AXIS SHOCK #1	
	1116	#2	
	1204	#3 19.5G, 11.57 MSEC	
	1226	+Z AXIS SHOCK #1	
	1237	#2	
	1245	#3 18.6G, 11.71 MSEC	
	1303	+X AXIS SHOCK #1	
	1304	SHOCK #2	
	1306	#3 20.7G, 12.46 MSEC	
	1443	-X AXIS SHOCK #1	

REMARKS: SEE DATA SHEET NUMBER 1458 HRS. SHOCK #2

+Y 1504 HRS SHOCK #3 18.8G, 11.29 MSEC
(PLOT MADE)



TEST DATA SHEET

TEST ITEM: *AN/VRC-12 Radios* ~~PRE-GM~~ PERFORMED BY: *JVD*
~~EXPOSED MOUNT~~
 TYPE OF TEST: *Elect. Performance* ~~PRE-TEST SHOCK~~ TEST NO: *84-6*

(MHZ) Freq. Dial Setting	RCVR Sensitivity Old Squelch (µV)	Power Output (watts)	Output Frequency (MHZ)
30.00	.60	40	29.999
41.00	.68	43	40.999
52.95	.32	37	52.949
53.00	.53	42	53.000
64.00	.53	32	64.000
75.95	.35	37	75.950

Sidetone *yes* | | *NO*
 Dial lamp *yes* | | *NO*

RT-524/VRC SERIAL# *40032*
 DC INPUT TO RADIO: *25.0 V*
1400 HRS 7/17

30.00	.33 <i>.22</i>	X	X
41.00	<i>.25</i>		
52.95	<i>.22</i>		
53.00	<i>.37</i>		
64.00	<i>.39</i>		
75.95	<i>.22</i>		

Sidetone *yes* | | *no*
 Dial lamp *yes* | | *no*

1530 HRS
R-442
~~RT-524~~/VRC SERIAL# *7885*
 DC INPUT: *25.0 V*

REMARKS:

DATE: *7/17/84* SIGNATURE: *JVD* DATA SHEET NO. ___ OF ___

TEST DATA SHEET

TEST ITEM: AN/VRC-12 Radios ^{GM} Mount PERFORMED BY: JVD

TYPE OF TEST: Elect. Performance ^{POST-SHOCK} TEST NO: 84-6

(MHZ) Freq. Dial Setting	RCVR Sensitivity Old Squelch (uV)	Power Output (watts)	Output Frequency (MHZ)
30.00	.40	35	29.999
41.00	.55	43	40.999
52.95	.30	35	52.950
53.00	.44	41	53.000
64.00	.48	31	64.000
75.95	.34	35	75.950

Sidetone yes NO
Dial lamp yes NO

RT-524 S/N 40032
DC INPUT TO RADIO: 25.0 V
1617 HRS 7/18/84

30.00	.36	X	X
41.00	.25		
52.95	.34		
53.00	.41		
64.00	.38		
75.95	.28		

Sidetone yes NO
Dial lamp yes NO

R-442 S/N 7885
DC INPUT: 25.0 V
1632 HRS 7/18/84

REMARKS:

DATE: 7/18/84 SIGNATURE: John V. Dento DATA SHEET NO. ___ OF ___

TEST DATA SHEET

TEST ITEM: *AN/VRC-12 Radios* FT CAR-
SON MNT PERFORMED BY: *JVD*

TYPE OF TEST: *Elect. Performance* PRE-
SHOCK TEST NO: *84-6*

(MHZ) Freq. Dial Setting		RCVR Sensitivity <i>Old Squelch (4.0V)</i>		Power Output (watts)		Output Frequency (MHZ)
30.00						
41.00						
52.95		*		*		*
53.00						
64.00						
75.95						
Silentone		yes	NO			
Dial Lamp		yes	NO			
* RT 524 S/N 40032 (SEE POST SHOCK FOR GM MOUNT TEST)						
30.00		‡		30 ①	①	29.999
41.00		‡		44 ①	①	40.999
52.95		‡		42 ①	①	52.950
53.00		‡		36 ①	①	53.001
64.00		‡		39 ①	①	64.001
75.95		‡		36 ①	①	75.952
Silentone		yes	no			
Dial Lamp		yes	no			
RT-524 S/N 46894 DC INPUT: 25.0V 0835 HAS 7/19/84						

REMARKS: ‡ call light is on at all frequencies ~~without~~ with zero input signal.
① fan does not operate

DATE: _____ SIGNATURE: _____ DATA SHEET NO. _____ OF _____

TEST DATA SHEET

TEST ITEM: *AN/VRC-12 Radios* FT CAR-SON MOUNT PERFORMED BY: *JVD*

TYPE OF TEST: *Elect. Performance* POST-SHOCK TEST NO: *84-6*

(MHZ) Freq. Dial Setting	RCVR Sensitivity Old Squelch (µV)	Power Output (watts)	Output Frequency (MHZ)
30.00	.56	38 *	29.999
41.00	.56	43 *	41.000
52.95	.28	35 *	52.950
53.00	.46	42 *	53.000
64.00	.53	42 34*	64.000
75.95	.30	35 *	75.950

Sidetone *yes* | | NO
 Dial lamp *yes* | | NO

RT-524 S/N 40032
 DC INPUT: 25.0 V

* Fan does not always work operate

30.00	±	32 *	29.999
41.00	±	45 *	40.999
52.95	±	42 *	52.950
53.00	±	37 *	53.001
64.00	±	39 *	64.001
75.95	±	31*	75.952

Sidetone *yes* | | no |
 Dial lamp *yes* | | no

RT-524 S/N 48894
 DC INPUT: 25.0 V.

REMARKS: ± Fan Call light is on at ^{all} frequencies with zero input signal.
 * Fan does not operate

DATE: *7/19/84* SIGNATURE: *John V Derto* DATA SHEET NO. ___ OF ___

ENVIRONMENTAL TEST LABORATORY TEST LOG

TEST NO. 14-6 DATE 6/15/77
 CUSTOMER ORG. D-161 50 111 PROJECT ENGINEER G. FINE
 TEST ENGINEER J. DENTON TEST TECH.
 NOMENCLATURE MODEL RT-527/VRC SERIAL # 16 874
 TEST CONDITIONS HORIZONTAL ROOM TEMP.
 DESCRIPTION DA TEMP T THERMAL SURVEY
REPEAT 1MG, DUTY CYCLE 10%

DATE	TIME	EVENT	INITIAL
6/15/77	1113	INITIAL READINGS	
		T1 COUPLES #1 76.9°F	
		#2 77.2	
		#3 76.5	
		#4 76.1	
		(unlabeled) #5 78.5	
		(room temp) #6 77.2	
	1118	Radio shutdown - 5:10:12	
		Low Power 332 cps test	
	1127	Lowest at high power	
		DC input 256 VDC	
	1128	Scout on	
		Maximum max. temp. 120°F	
		42, 43, 44, 45, 46, 47, 48, 49	
		5 complete - 120.5°F	

APPENDIX C

THERMAL SURVEY DATA SHEETS

REMARKS: SEE DATA SHEET NUMBER _____

PROSP. HAS FUNCTIONS NORMALLY AFTER COOL-DOWN FROM 120°F TEST - UNDER PLANNED.

KEY:

- T1 COUPLES #1 : TRANSISTOR Q9102
- #2 : PWR. TRANS (REAR OF CASE)
- #3 : CAPACITOR C1009
- #4 : TOP FRONT OF CASE
- #5 : INTERIOR
- #6 : ROOM SURFACE

ENVIRONMENTAL TEST LABORATORY TEST LOG

TEST NO. <u>84-6</u>	DATE <u>6/15/84</u>
CUSTOMER ORGAN. <u>DRSEL-ED-SM</u>	PROJECT ENGINEER <u>G. FISKE</u>
TEST ENGINEER <u>J. DENTE</u>	TEST TECH. _____
NOMENCLATURE MODEL <u>RT-524/VRC</u>	SERIAL # <u>46894</u>
TEST CONDITIONS <u>HORIZONTAL</u>	ROOM TEMP: _____
DESCRIPTION <u>RM. TEMP & THERMAL SURVEY</u>	
<u>OPERATE 1HR, DUTY CYCLE: 10:1</u>	

DATE	TIME	EVENT	INITIAL
<u>6/19/84</u>	<u>1113</u>	<u>INITIAL READINGS</u>	
<u>1201</u>		<u>T'COUPLE #1: 76.9°F</u>	
		<u>#2 77.8</u>	
		<u>#3 76.5</u>	
		<u>#4 76.5</u>	
		<u>(inside chamber) #5 78.5</u>	
		<u>(room temp) #6 77.2</u>	
	<u>1118</u>	<u>Radio turned on - 4MHz,</u>	
		<u>low power, old squelch</u>	
	<u>1128</u>	<u>transmit at high power: with</u>	
		<u>DC input: 25.6 Volts</u>	
	<u>1129</u>	<u>Recvr. on.</u>	
		<u>Receiver sens. has gone up to</u>	
		<u>.96 μV (from .35 μV)</u>	
		<u>T'couple #1: 83.4°F</u>	

REMARKS: SEE DATA SHEET NUMBER _____

RADIO HAS FUNCTIONS NORMALLY AFTER COOL-DOWN FROM 120°F TEST - UNEXPLAINED.

KEY:

- T'COUPLE #1 : TRANSISTOR Q9402
- #2 : PWR. TUBE (REAR OF CASE)
- #3 : CAPACITOR C9009
- #4 : TOP FRONT OF CASE,
INSIDE
- #5 : INSIDE CHAMBER



ENVIRONMENTAL TEST LABORATORY TEST LOG

TEST NO. 84-6	DATE 6/20/84
CUSTOMER ORGAN. DRSEL-ED-JM	PROJECT ENGINEER G. FISKE
TEST ENGINEER JVD	TEST TECH. KJL
NOMENCLATURE MODEL RT-524/VRC	SERIAL # 46894
TEST CONDITIONS HORIZONTAL	ROOM TEMP: 77.2 - 77.9 °F
DESCRIPTION ROOM TEMP THERMAL SURVEY.	

DATE	TIME	EVENT	INITIAL
6/20	1151	Recr on.	
		T'couple #1 92.2 °F	
		#2 102.8	
		#3 91.7	
		#4 83.3	
		* #5 84.7	
	1201	Transmit, out pow: 45 watts	
	1202	Recr on.	
	210	T'couple #1 95.1	
		#2 105.2	
		#3 95.1	
		#4 86.2	
		‡ #5 86.3	
	1212	transmit, out. pow: watts	
	1213	Recr on	
		T'couple #1 97.6	

REMARKS: SEE DATA SHEET NUMBER _____

* Recr sens : .37 μV
 ‡ Recr sens : 2.1 μV.
 † Recr sens : 0.30 μV.

#1 92.2 °F
 #2 102.8
 #3 91.7
 #4 83.3
 #5 84.7
 #1 95.1
 #2 105.2
 #3 95.1
 #4 86.2
 #5 86.3
 #1 97.6
 #2 107.6
 #3 98.8
 #4 87.9
 † #5 87.3
 #6 77.9

1218 HRS

END TEST.

ENVIRONMENTAL TEST LABORATORY TEST LOG

TEST NO. <u>84-6</u>	DATE <u>6/24/84</u>
CUSTOMER ORGAN. <u>DRSEL-ED-SM</u>	PROJECT ENGINEER <u>GF</u>
TEST ENGINEER <u>ID</u>	TEST TECH. <u>KL</u>
NOMENCLATURE MODEL <u>RT-524/VRC</u>	SERIAL # <u>46894</u>
TEST CONDITIONS <u>VERTICAL</u>	ROOM TEMP: <u>75.9°F</u>
DESCRIPTION <u>ROOM TEMP. THERMAL SURVEY</u>	

DATE	TIME	EVENT	INITIAL
<u>6/21/84</u>	<u>1347</u>	<u>INITIAL READINGS</u>	
		<u>+1 COUPLE #1 74.7 °F</u>	
		<u>#2 74.5</u>	
		<u>#3 74.9</u>	
		<u>#4 75.0</u>	
		<u>INSIDE CHAMBER #5 75.6</u>	
		<u>ROOM TEMP #6 76.1</u>	
	<u>1357</u>	<u>RCVR ON; SUPPLY</u>	
		<u>VOLTAGE: 25.6 VDC.</u>	
		<u>RCVR SENS: .45 μV @ 41 MHz</u>	
	<u>1407</u>	<u>TRANSMITTER ON</u>	
		<u>OUTPUT PWR: 48 WATTS</u>	
		<u>+1 COUPLE #1 82.9</u>	
		<u>#2 95.1</u>	
		<u>#3 84.4</u>	

REMARKS: SEE DATA SHEET NUMBER _____

<u>#4</u>	<u>76.4</u>
<u>#5</u>	<u>82.0</u>
<u>#6</u>	<u>76.9</u>

ENVIRONMENTAL TEST LABORATORY TEST LOG

TEST NO. 84-6	DATE 6/21/84
CUSTOMER ORGAN. DRSEL-ED-SM	PROJECT ENGINEER GF
TEST ENGINEER JVD	TEST TECH. KJL
NOMENCLATURE MODEL RT-524/VRC	SERIAL # 46894
TEST CONDITIONS VERT.	ROOM TEMP:
DESCRIPTION Room Temp Therm. Survey	

DATE	TIME	EVENT	INITIAL
6/21/84	1408	RCVR ON	
	4	RCVR SENS: .38 μ V	
	1418	TRANSMITTER ON	
		OUT. PWR: 47.0 watts	
		T'COUPLE #1 87.0 $^{\circ}$ F	
		#2 97.5 $^{\circ}$ F	
		#3 87.7	
		#4 78.9	
		#5 82.6	
		#6 76.7	
	1419	RCVR ON	
		RCVR SENS: .47 μ V	
	1429	TRANSMITTER ON	
		OUT. PWR. 47.0 watts	
		T'COUPLE #1 93.8 $^{\circ}$ F	
		#2 100.1	

REMARKS: SEE DATA SHEET NUMBER _____

#3	90.4
#4	81.2
#5	85.6
#6	77.4

ENVIRONMENTAL TEST LABORATORY TEST LOG

TEST NO. <u>87-6</u>	DATE <u>6/21/84</u>
CUSTOMER ORGAN. <u>DRSEL-ED-SM</u>	PROJECT ENGINEER <u>K GF</u>
TEST ENGINEER <u>JVD</u>	TEST TECH. <u>KJL</u>
NOMENCLATURE MODEL <u>R7-524/VRC</u>	SERIAL # <u>46894</u>
TEST CONDITIONS <u>VERT.</u>	ROOM TEMP: _____
DESCRIPTION <u>R.M. TEMP. THERM. SURVEY</u>	

DATE	TIME	EVENT	INITIAL
<u>6/21/84</u>	<u>1430</u>	<u>RCVR ON</u>	
	<u>#</u>	<u>RCVR SENS. : .45MV</u>	
	<u>1440</u>	<u>TRANSMITTER ON</u>	
		<u>OUT. PWR. : watts</u>	
		<u>T'COUPLE #1 94.2</u>	
		<u>#2 103.0</u>	
		<u>#3 93.9</u>	
		<u>#4 84.3</u>	
		<u>#5 86.2</u>	
		<u>#6 77.1</u>	
	<u>1441</u>	<u>RCVR ON</u>	
		<u>RCVR SENS. .79MV</u>	
	<u>1447</u>	<u>END TEST</u>	

REMARKS: SEE DATA SHEET NUMBER _____

TEST DATA SHEET

TEST ITEM: AN/VRC-12	PERFORMED BY: K. LaSala
TYPE OF TEST: ELECTRICAL PERF.	TEST NO: 84-6

FREQ DIAL SETTING (MHZ)	RECEIVER SENSITIVITY OLD SQUELCH (uV)	Power output (WATTS)	OUTPUT Frequency (MHZ)
30.00	.34	36	29.999
41.00	.35	47	40.999
52.95	.50	44	52.950
53.00	.47	39	53.001
64.00	.38	42	64.001
75.95	.28	36	75.952

Sidetone	YES	<input checked="" type="checkbox"/>	NO	
Dial lamp	YES	<input checked="" type="checkbox"/>	NO	RM TEMP: 80.4°F

RT-524/VRC SN 46894
 D.C. INPUT = 25.6 VOLTS
 19 JUNE 84 / 20 JUNE PRE-ROOM TEMP TEST
 (HORIZONTAL)

FREQ DIAL SETTING (MHZ)	RECEIVER SENSITIVITY OLD SQUELCH (uV)	Power output (WATTS)	OUTPUT Frequency (MHZ)
30.00	.40	33	29.999
41.00	.40	44	40.999
52.95	.55	44	52.950
53.00	.62	39	53.000
64.00	.50	41	64.000
75.95	.43	38	75.952

Sidetone	YES	<input checked="" type="checkbox"/>	NO	
Dial lamp	YES	<input checked="" type="checkbox"/>	NO	21 JUNE 84 POST ROOM TEMP TEST (VERTICAL)

REMARKS:

DATE: **6/21/84** SIGNATURE: *John V. Dente* DATA SHEET NO. ___ OF ___