DATE 12-1-64 SHEET 1 Of 7		TMC SPECIFICATION NO. S183	E
RBY.	CHREKED	TITLE:	
CA-1 APPR			

Complete Instructions For The Production Testing
Of Model RSM-3

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RBY compiled	CHECKED	TITLE: PRODUCTION TESTING FOR RSM-3		
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1. (a). Purpose:

The Model RSM-3 is a component used in the transmit portion of the RCR system. Upon receiving the output of the remote control units (RSC) and the filter units (RSF) it mixes, amplifies and transmits the composite signal on a 600 ohm line or to a transmitter of a VHF link.

(b). Description:

The primary function of the RSM-3 is accomplished in the input network to the amplifier. This network being linear does not effect the character of the individual or composite tones. The amplifier which follows also must not introduce distortion. This is done by the use of balanced push-pull input and output circuits with a means of adjusting for any unbalance due to balanced or unbalanced output. The resultant output signal is monitored by the use of a db meter which gives a visual means of checking the output level. Since the amplifier has a constant gain the output level can be adjusted by the use of an input control mounted on the front panel.

2. Test Equipment Required:

- (a). 1 Audio Signal Generator: Hewlett Packard 200 CD or Equivalent.
- (b). 2 V.T.V.M. (audio type): Ballantine Model 310A or Equivalent.

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(c)	. 1- V.	T.V.M. (D.C. type): Hewlett Packard 410B or Equivalent.	
(d)	. 4_ 68	30 ohm - 10 % 1 watt composition resistors	
(e)	. 2- 12	200 ohm ± 5 % 1 watt composition resistors	
(f)	. 1- Di	stortion Analyzer: Hewlett Packard Model 330C	
	1- TE	F-133 Transformer (used in RSM-3)	
	1- 22	2K ohm [±] 5 % ½ watt resistor	
		(or)	
(g)	. 1- Di	stortion Meter: Barker & Williamson	
3. Inst (a) Signa Gen. VTVM		(b). E1 E2 1 2 VTVM 3 4 2 ea. 1200 ohm (d). E2 Barker Williamson Distortion Meter 2 ea. 1200 ohm	
(2) (3)	6 / 8 G	Hewlett Packard Distortion Analyzer	

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4. Initial Rapid Checks:

- (a) Set and maintain the line voltage at 115 volts throughout the entire test.
- (b) Observe if pilot light is on.
- 5. Test Instructions:
 - (a) Proceed as outlined in Test Sequence and Procedure (part 6
 to follow.)
 - (b) Fill in blanks on Test Data Sheet, rejecting those units which do not meet the following specifications.
 - (c) Sign Data Sheet and submit it to your supervisor.
- 6. Test Sequence and Procedure:

Test 1. Power Check.

Using a V.T.V.M. check B+ on each end of R22.

B+ before R22: 250 to 280 volts

B+ after R22: 205 to 215 volts

Test 2. Amplifier Check (unbalanced output).

- (a). Set up as shown in part 3(a) and 3 (b).
- (b). Set balance control near its midpoint.
- (c). Rotate Output Level control (front panel) fully clockwise.
- (d). Increase signal generator output to give .78 volts or ØDBM on the output AC V.T.V.M. at 1000 cps.
- (e). Measure input voltage across 1 & 2 of El. Acceptable reading: .02 to .1 volts. Record results on Test Data Sheet.

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Test 3. Meter Check

(a). With RSM-3 level meter reading ØDBM, the output AC VTVM across points 1 & 3 of E2 shall read between .755VAC and .790VAC. Record results on Test Data Sheet.

Test 4. Distortion Test. (Balanced Output).

- (a). Set up as shown in part 3(a).
- (b). Set up as shown in part 3(c) or 3(d).
- (c). Check distortion at 1000 cps with level meter reading \emptyset DBM, control R7 fully clockwise.
- (d). Adjust balance control to give minimum distortion figure. Record results on Test Data Sheet if acceptable. Acceptable total measured distortion will be .8% or less.
- (e). Lock R13.
- (f). Connect Distortion Meter to Signal Generator. (If using Hewlett Packard Model 330C Distortion Analyzer, disconnect signal generator from RSM-3 input and connect generator to TF-133 primary - pins 5 and 8.)
- (g). Decrease RSM-3 output by rotating Output Level control counter clockwise.
- (h). Increase generator output sufficiently to operate Distortion Meter.
- (i). Read Distortion Figure and record.
- (j). The two figures (d & i) should be within .2% of each other. If not, a readjustment of the balance control is necessary. If the Distortion Figure is still poor, a check of the tubes is required.

Test 5. Control Check.

(a). Turning Output Level control counterclockwise should decrease reading on level meter.

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		Test Report Sheet	
		Model RSM-3	
Mfa No		Serial No.	
			VAC
Dine voi	cage		_vAc
Test I.	Power	Check	_VAC
Test II.	_	Fier Check (unbalanced output) t for .78VAC or ØDBM output.	_VAC
Test III	. Meter Outpu	Check it voltage for ØDBM meter reading.	_VAC
Test IV.	Distor	rtion Check (balanced output)	
	10	000CPS @ ØDB output	_%
	10	000CPS @ input	_%
Test V.	Contro	ol Check	
Tester			
Date			

MODEL		RS	M-3	REVISION SHEET	5-183	
DATE	REV.	PAGE	ITEM	DESCRIPTION	REMARKS	APP
11-30	A	ALL	GEN.	REVISED 8 RETYPED WAS RSM-1	W2	AJT
12/17	В	6	e	"Lock R13" added.) wor 12/17/54	1
11	В	5	e	"at 1000 cps." added.	1 1/2 AJJ	
!t			£	-Was;02-to1-volts		
12/30	C	5	6	Test 4(d)-"control R7 fully clockwise# added	. K2	AJJ
10/14/	53 D	ALL	10206	Revised Sheets 1 thru 7 per EMN.		16
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