DATE 27/11/59 SH. 1 OF 8 COMPILED BY N.K.	TMC SPECIFICATION NO. S - 10023-B	
	TITLE: FINAL TEST PROCEDURE FOR AMC 6-5	JOB D
APPROVED N. K.		MB

FINAL TEST PROCEDURE

OF THE

ANTENNA MULTICOUPLER

MODEL AMC 6-5

Dec.

INDEX

FINAL TEST PROCEDURE FOR AMC 6-5

Mount and connect the pre-amplifier to the main amplifier.
Switch in filter.

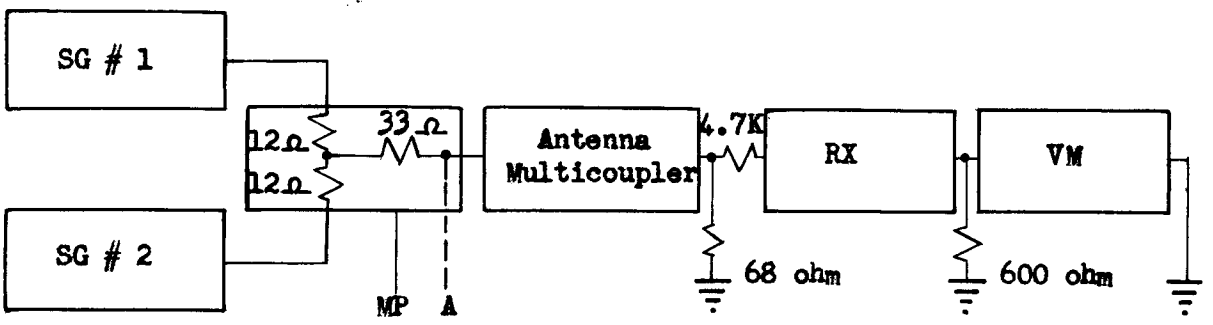
1. METER CALIBRATION (To be done prior to cross-mod adjustment)

(a) Set front panel switch to "calibrate" and adjust C565 (on oscillator assembly) for maximum deflection of the meter needle.

(b) Set front panel switch to any output position (1 to 6) and adjust R551 (on back of the meter panel) to deflect the meter needle to the upper end of the green (unloaded) sector of the meter.

(c) Set front panel switch to "calibrate" and re-adjust C565 to position the meter needle over the "calibrate" line.

2. MEASUREMENT AND ADJUSTMENT OF CROSS-MODULATION



a) Inject two signals with a level of 250 mV each, measured at input jack J501: - (point A)

Set SG #1 to 10.3 mc/s
Set SG #2 to 3.9 mc/s 30% modulated with 1 kc/s.

b) Tune the receiver to 14.2 mc/s and make measurements at the output jack with the worst cross modulation. If the attenuation is less than 50 db down adjust the distribution lines according to the following procedure: -

c) Set up the system for cross modulation on 14.2 mc/s. Determine by adding small capacitance to the grid point of the distribution lines which trimmer has to be adjusted. Repeat this until the cross modulation of the worst jack is at least 50 db down.

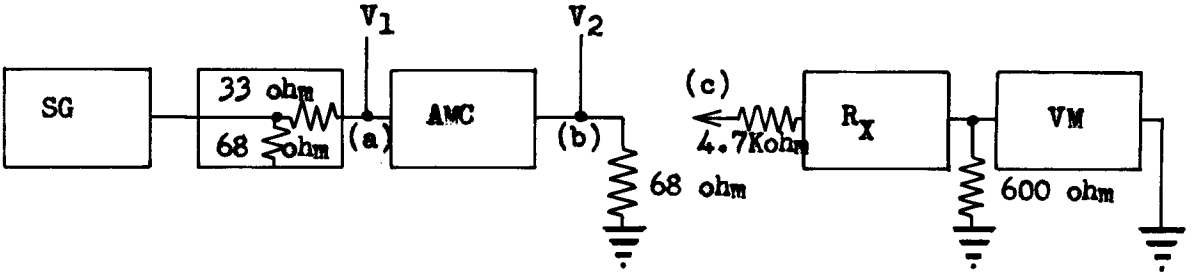
d) Repeat step (a) and tune receiver to 6.4 mc/s. If the cross modulation is less than 50 db adjust the line as outlined in step (c).

e) Repeat steps (c) and (d) until the fundamentals are better than - 50 db.

f) Make cross modulation measurements at the following frequencies: - (measuring always the worst jack)

A	B	Order	Result	Attenuation
3.9 mc/s	7.5 mc/s	b-a a+b	3.6 mc/s 11.4 mc/s	> 50 > 50
3.1 mc/s	6.9 mc/s	b-a a+b	3.8 mc/s 10 mc/s	> 50 > 50

3. GAIN MEASUREMENTS



The 4.7 K ohm resistor is to prevent any serious change in the AMC termination when the detector is connected.

a) Connect point C to point A. Inject a signal of 100 uV (30% modulation) and calibrate receiver.

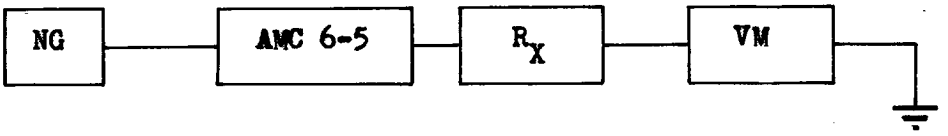
b) Connect point C to point B and readjust signal generator to give same level as in step (a). The following readings are to be obtained at an output jack loaded with a 68 ohm non-reactive resistor.

FREQUENCY, MCS	V1	V2	GAIN	ATTENUATION
0.54	100	>5.63K		>35 db
1.2	100	>5.63K		>35 db
2.0	100	100/56	3+2-3 db	
4.0	100	89/56	3±2 db	
16.0	100	89/56	3±2 db	
30.0	100	89/56	3±2 db	

ALL MEASUREMENTS WITH FILTER "IN".

Gain in db = 20 log 10 $\frac{V1}{V2}$

4. NOISE MEASUREMENT



Follow the standard procedure for noise measurement in accordance with proceedings of I.R.E., July 1953, paragraphs 10.1.2.2, 10.1.2.2.1, 10.1.4.

f (Mc/s)	Corrected AMC Noise
2.5	< 10 db
4.0	< 10 db
16.0	< 10 db
30.0	< 10 db

5. BACK TO FRONT ATTENUATION (See Figure 1 attached)

Follow the standard procedure for back to front measurem nt. The following results should be obtained: -

f (Mc/s)	Attenuation db.
2.0	≤ 60.0
30.0	≤ 60.0

6. JACK TO JACK ATTENUATION (See Figure 1 attached)

Follow standard procedure of jack to jack measurement. The following results should be obtained: -

	J_1		J_3	
f (Mc/s)	2.5	30	2.5	30
J_2	>60	>30	>60	>30

7. INPUT IMPEDANCE

f (Mc/s)	V S W R	
	Input Filter in	Input Filter out
2.5	$\leqslant 1.8$	$\leqslant 1.8$
8.0	$\leqslant 1.8$	$\leqslant 1.8$
28.0	$\leqslant 1.8$	$\leqslant 1.8$

TMC SPECIFICATION NO. S - 10023-B

TITLE: FINAL TEST PROCEDURE FOR AMC 6-5 JOB

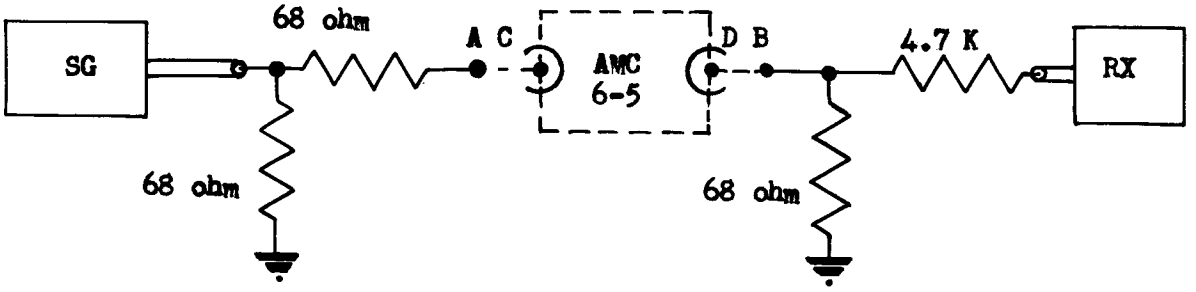
APPROVED M. Kaw

F I G U R E - 1

Calibrate receiver/wattmeter by connecting points A and B with signal generator attenuator set for 10 micro volts. Interpose AMC between points A and B. For jack to jack attenuation C, D are output jacks. For back to front attenuation C is an output and D the antenna jack. Adjust signal generator attenuator to regain wattmeter reading

$$\text{Attn} \_\_\_\_\_ 20 \log_{10} \frac{\text{V reset}}{\text{V Cal.}}$$

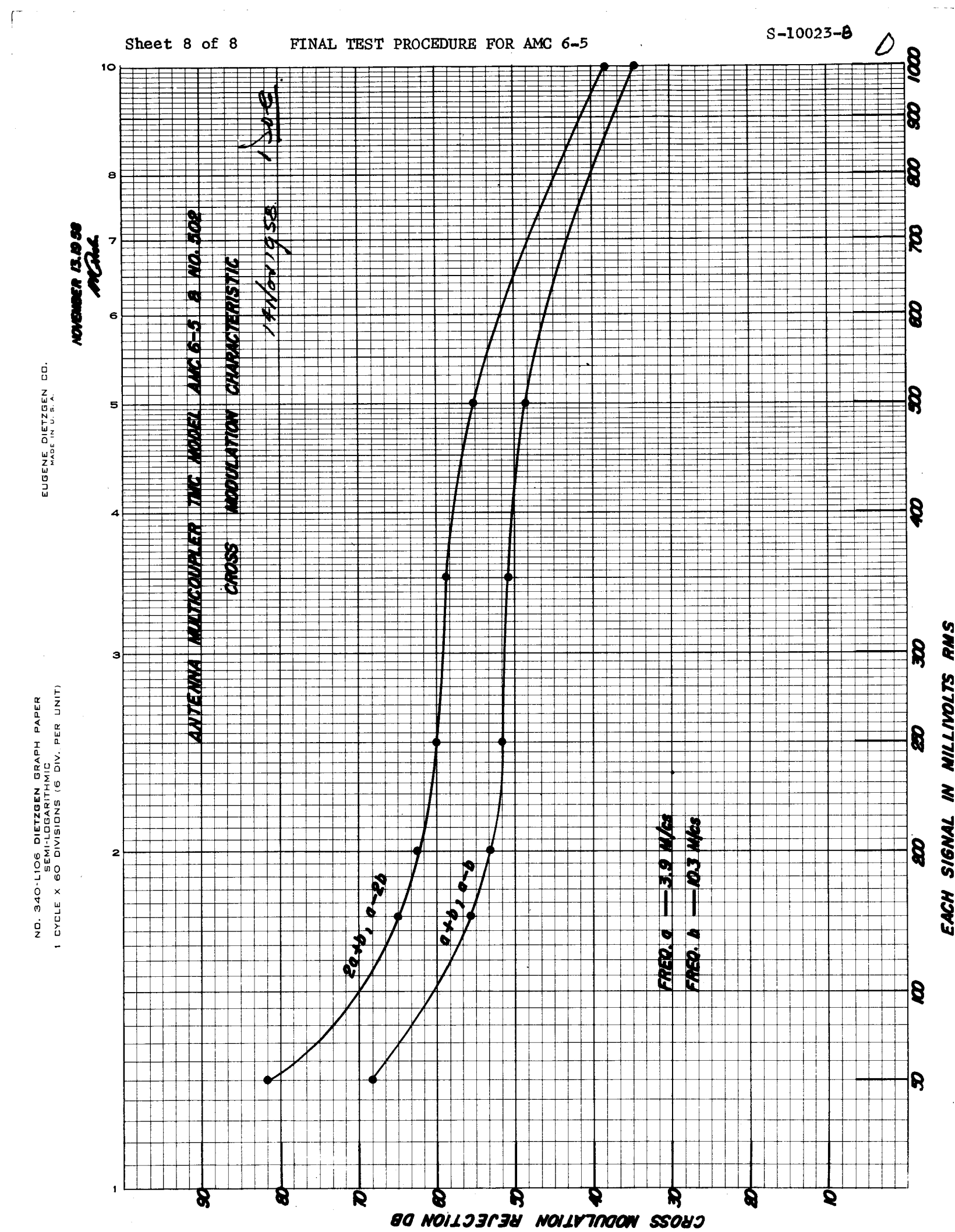
Where V Cal is the 10 microvolt level and V reset is the attenuator reading necessary to regain wattmeter reading.



FINAL TEST PROCEDURE FOR AMC 6-5

S-10023-B

D



REVISION SHEET

THE TECHNICAL MATERIEL CORP.
MAMARONECK NEW YORK

S-10023-B
LIST NO.

DATE	REV.	SHEET	EMN #	DESCRIPTION	APP.
	A	3		Reverse the signs on the Attenuation column in Para.1	
		4		Test Circuit Diagram for Gain Measurements Revised	
		5		Noise Measurement figures in Para. 3 Revised	
				Back to Front Attenuation figures in Para. 4 Revised. Test	
				Circuit Diagram and Procedure Revised in Figure 1 on Page4.	
				Test Figures and Top Frequency Revised	
		6		Onput Impedance Figures Revised	
	B	2		Index Page Provided	
		3		Cross Modulation Test Circuit Diagram Revised	
				Figures Revised in Table in Para. 1F	
		4		Test Circuit Diagram and Procedure for Gain Measurement Revised	
		5		Noise Measurement Frequencies Revised to include 2.5, 4, 16,	
				and 30 MCs only.	
				Back to Front Attenuation Test Frequencies Revised to	
				include 2 and 30 MCs only.	
4/4/63	C	4	8734	On Freq. 2.0, Chg. "V2" from 89/56 to 100/56	
				Chg. "Gain" from 3±2 db to 3+2-3 db	
				Renumber sheets	
11/14/66	D	3	17248	Revised per EMN	ae

TMC FORM MLR-1, OGILVIE PRESS, INC. NO. 450M TYPEMASTER