TMC SPECIFICATION

NO. s10177

REV:	0

COMPILED:	CHECKED:	APPD:	SHEET OF

TITLE: TEST PROCEDURE FOR AMC 21-4, -8, -16/75UB

DATE Mar.26/68 SH.____OF____ COMPILED BY	TMC SPECIFICATION NO. S 10177-1	
	TITLE: TEST PROCEDURE FOR AMC 21-4,-8,-16/75UB	JOB
APPROVED		

PROCEDURE

These units will be tested according to the following instructions using the equipment specified, or, if necessary, their equivalents. The results of these tests will be indicated on the appropriate tests sheets.

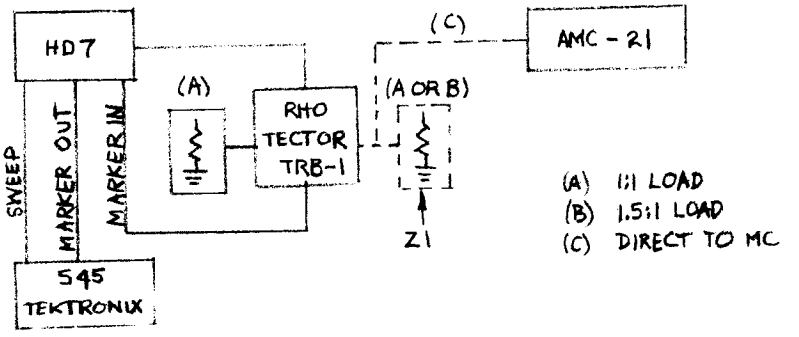
PRELIMINARY CHECKS

The AX10047 assembly should be thoroughly inspected for wiring errors with particular attention to the -24Vdc power supply. This requires examining switches for ON/OFF positioning, fuses, terminations and correct grounding. Inspect the ac line filter and power supply boards for correct placement and polarity of components. Check all other sub-assemblies and wiring within the unit.

When the unit meets the above requirements, it can be switched ON. Connect a voltmeter to the output of the power supply board and adjust R6 to obtain -24Vdc. As this is a "short-proof" supply, a direct short across the output will cause a drop in voltage on the meter. Removing the short will give a -24Vdc indication on the meter. Remove the meter and check the circuitry to see that -24Vdc is supplied to all required points.

INPUT AND OUTPUT IMPEDANCE

The input impedance will vary with frequency and is quoted as a nominal 75 ohms. The variation of the impedance will produce a mismatch to a 75 ohm source. The ratio of the actual to the nominal is stated as a Voltage Standing Wave Ratio (VSWR).



EQUIPMENT REQUIRED

Telonic HD7 Sweep Generat r .....1 req.
Tektronix Scope type 545.....1 r q.
Telonic RHO-Tector model TRB-1 with loads.....1 req.

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a) Set up the RHO-tector as shown, and observe the output on the scope. There should be no deviation from a straight line.

b) Replace Z1 on the Rho-tector with 1.5:1 load.

c) Set the scope to give a deflection easily readable and not the maximum deflection.

d) Replace Z1 with a BNC adapter and hook up to the input of the AMC-21 using a short 75 ohm cable.

e) Note the sweep waveform on the scope. The V.S.W.R. should not exceed the calibrated line on the scope that represents 1.5:1 V.S.W.R.

f) Repeat the same tests on all output jacks and record results on the test sheet.

DATE Mar. 26/68 SH. ____ OF ____ COMPILED BY	TMC SPECIFICATION NO. S 10177-2	
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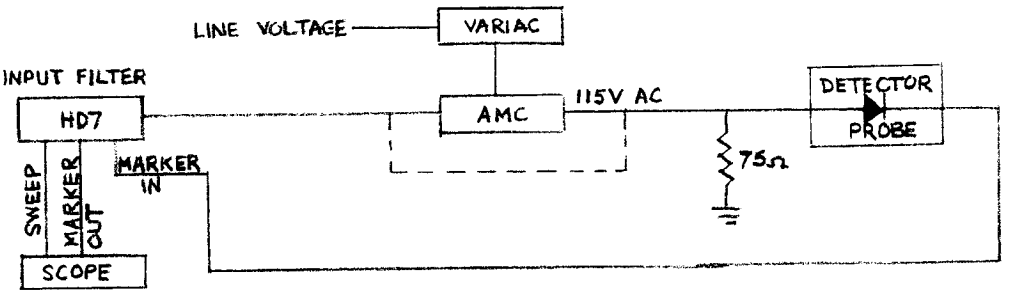
INPUT FILTERS



EQUIPMENT REQUIRED

1. Sweep Generator, Telonic HD7
2. Oscilloscope, Tektronic type 545 with 53/54B Preamplifier
3. Diode Detector Probe, TMC test jig JG10004 (CK10552)

a) Set up equipment as shown above.

b) Connect the detector probe with a 75 ohm load to the output of the sweep generator and set the generator to give:
   1. 3cm vertical deflection
   2. Horizontal deflection to include the 50MHz marker.

c) Connect the detector to the output of one channel of the AMC and the sweep generator to the input of the AMC.

d) The output can now be read directly from the scope, (3cm being unity gain) and the ratio converted directly to db.

e) Record results on test sheet.

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VOLTAGE GAIN

EQUIPMENT REQUIRED

1. Same as for input filter test.
2. Metered Variac, General Radio W10MT3W

a) Set up equipment as for input filter test.

b) Connect the detector probe with a 75 ohm load to the output of the sweep generator and set the generator and scope to produce:
    1. 3 cm vertical deflection.
    2. Horizontal deflection to include the 50 MHz marker.

c) Connect the detector to the output of channel 1 of the AMC and the sweep generator to the input of the AMC. All unused outputs should be open circuited.

d) The output can now be received directly from the scope (3 cm being unity gain) and the ratio converted directly to db.

e) Repeat the test on all outputs, leaving unused outputs open circuited.

f) Repeat the test on all outputs, shortcircuit all unused outputs.

g) Vary the line voltage to the AMC $\pm$ 10 percent. Repeat the gain test at voltage extremes.

h) Record results on test sheet.

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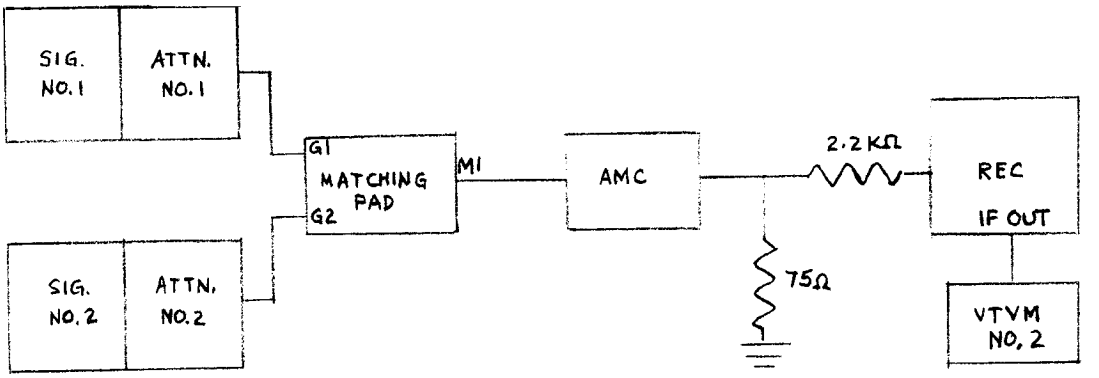
DESENSITIZATION



EQUIPMENT REQUIRED

1. Signal Generator, Hewlett Packard model 606A or equivalent.
2. Attenuator, an integral part of the signal generator.
3. V.T.V.M. # 2Ballantine Laboratories V.T.V.M.
4. Communications Receiver, TMC model GPR90RXD.
5. Matching Pad.

a) Set up equipment as shown.

b) Adjust signal generator no.2 to 2 MHz and attenuator no.2 to full output (3Vrms) then turn the variable attenuator knob completely counterclockwise.

c) Adjust signal generator no. 1 to 25 MHz and 200 MV output.

d) Adjust receiver to 25 MHz and a convenient reading on the db scale of V.T.V.M.

e) Turn the variable attenuator no. 2 of signal generator no.2 fully clockwise to give full output (3 Vrms).

f) Note the change in db on the VTVM at the IF output of the receiver.

g) Repeat the procedure with signal generator no. 2 tuned to 6 MHz.

h) Record results on test sheet.

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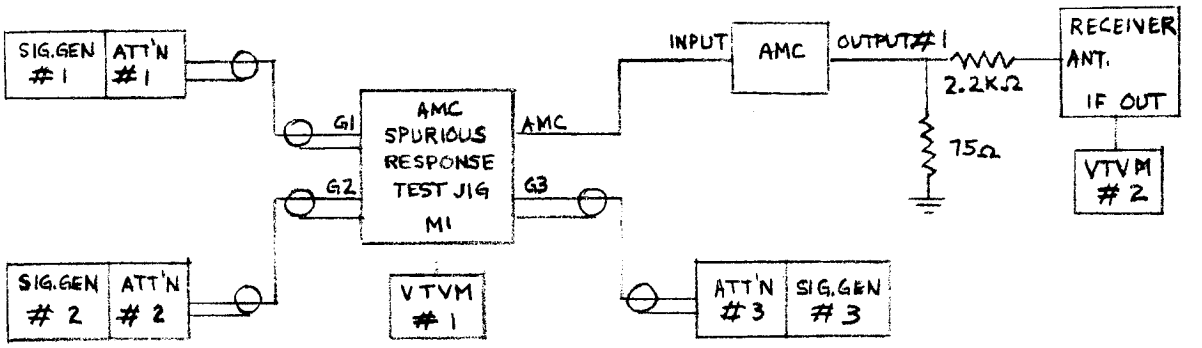
INTERMODULATION DISTORTION



EQUIPMENT REQUIRED

1. Signal Generator, Hewlett Packard model 606A or equivalent (3 required).
2. Attenuator, an Integral part of signal generator (3 required)
3. AMC Spurious Response Test Jig with 50/75 pads, TMC test jig JG10002 (CK10548).
4. VTVM #1 Hewlett Packard model 410B
5. VTVM #2 Ballantine Laboratories ACVTVM
6. Communications Receiver -TMC model GPR90RXD or equivalent.
7. Resistors, 75 ohm ½w, 2.2K ohm ½w.

a) Set up equipment as shown.

b) With the output of signal generator #2 at zero, adjust the frequency of signal generator #1 to 10.3 MHz (F1).

c) With the AMC spurious response test jig switch in position 1, adjust the amplitude of signal generator #1 to 0.5V on VTVM #1. Note the setting then reduce the output of the generator to zero.

d) Adjust the frequency of signal generator #2 to 3.9 MHz (f2)

e) Adjust the amplitude of signal generator #2 to 0.5V on VTVM #1.

f) Reset signal generator #1 to the setting noted in step (c).

g) Tune the receiver to f1 + f2 (14.2 MHz) and set the controls as follows:

RF Selectivity	- NON XTAL
Audio Gain	- a comfortable listening level
AVC	- MANUAL
LIMITER	- OFF
BFO	- OFF
ANT TUNE	- peak indication
RF Gain	- to produce a deflection on VTVM #2

h) Set the switch on the AMC spurious response test jig to position 2.

i) Adjust the receiver RF gain control to produce a convenient reference level at the IF output of the receiver on VTVM #2 Note the level.

j) Mute the receiver (XMIT/REC switch to XMIT) then set the switch on the AMC spurious response test jig to position 3.

k) Set the frequency of signal generator #3 to f1 + f2 (14.2 MHz) and the amplitude to o.50V on VTVM #1.

l) Reduce the output of signal generator #3 approximately 60 db.

m) Unmute the receiver and further attenuate the output of signal generator #3 until the level registered on VTVM #2 equals the reference level established in step (i) above.

n) The attenuation on signal generator #3 is the amount of suppression of second order spurious signals. Note the amount of attenuation .

o) Repeat the test on all output jacks.

p) The 2nd order spurious response of the unit (-db) will be the average suppression of all the jacks. Record results on the test sheet.

q) Repeat the test on all jacks with receiver and signal generator #3 at a frequency of 2f1 + f2 (24.5 MHz).

r) The 3rd order spurious response of the unit (-db) will be the average suppression of all jacks. Record results on test sheet.

REVISION SHEET

TMC (Canada) LTD.
OTTAWA ONT.

MODEL AMC 21-4,-8,-16 750B PROJECT NO. 070/68

DATE	REV.	PAGE	ITEM	DESCRIPTION	REMARKS	CHK.	APP.
27/3/68	0	All	All	Released to Production		EC	