

DATE 2 August
 SHEET 1 OF 5

TMC SPECIFICATION NO. S-773

A

RRH
 COMPILED

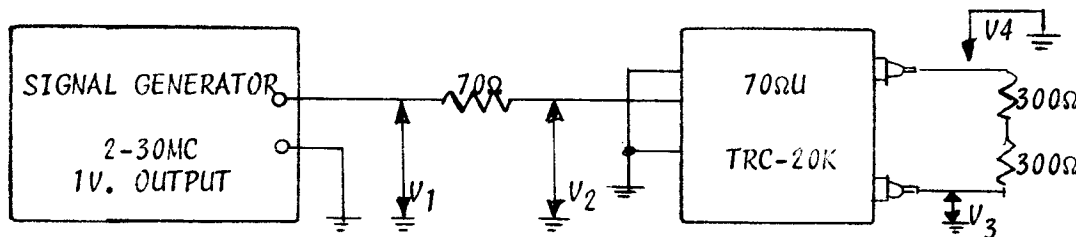
1
 CHECKED

TITLE: TEST PROCEDURE FOR TRC-20K/70U/600B

APPROVED *BP*

1. Frequency Response

Diagram A



NOTE: The TRC-20K is to be tested for percent of unbalance and impedance vs. frequency before it is potted but in its case.

DATA	FMC	V ₁	V ₂	V ₃	V ₄
	4.0	1.0	Record V ₂ , V ₃ , and V ₄ at given frequency. Check that unbalance between V ₃ and V ₄ is not more than 10%.		
	20.0	1.0			
	26.0	1.0			

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SHEET 2 OF 5

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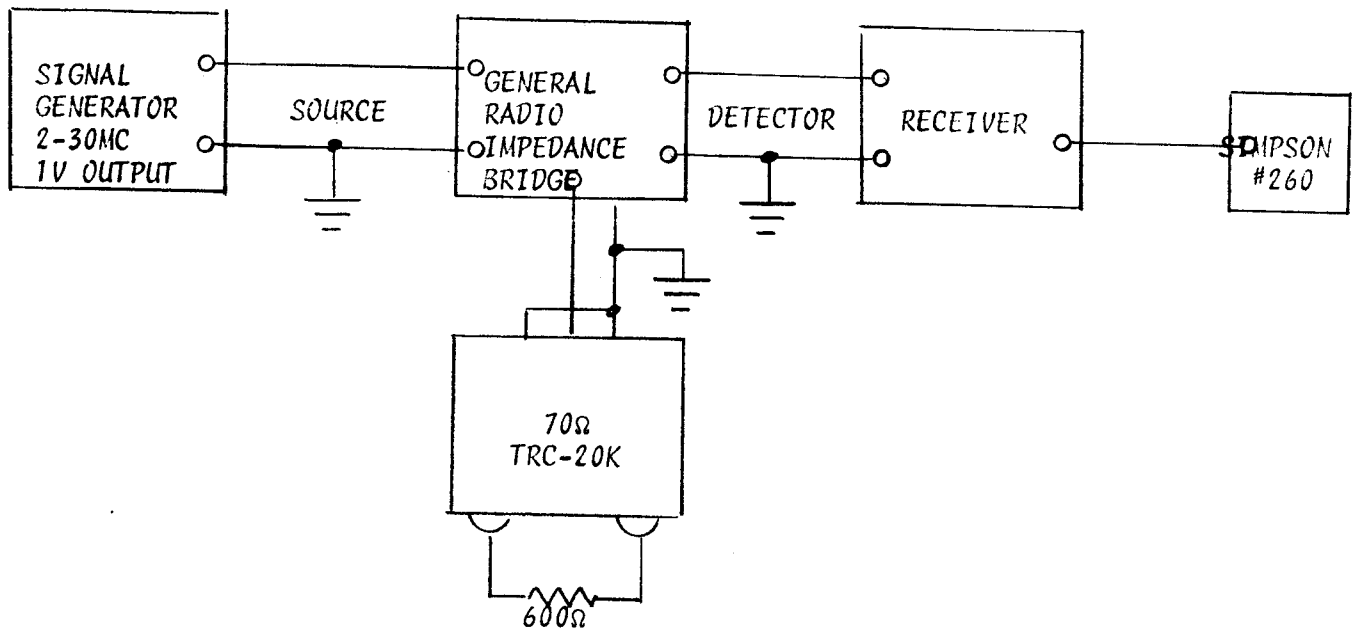
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TITLE: TEST PROCEDURE FOR TRC-20K/70U/600B

APPROVED

2. Impedance Measurements

TEST SET-UP



TYPICAL TEST DATA

F MCS	R	X
4.0	45.0	+16.5
20.0	63.0	- 7.2
26.0	88.0	- 5.4

THE R & X VALUES SHOULD FALL WITHIN 2:1 VSWR CIRCLE WHEN PLOTTED ON A SMITH CHART.

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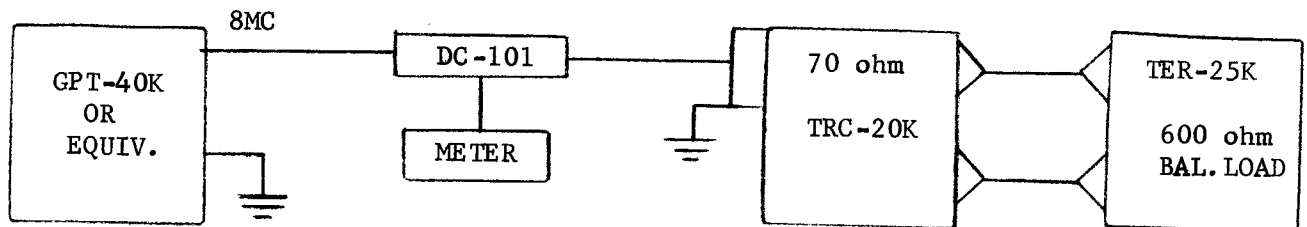
APPD:

SHEET 3 OF 5

TITLE: TEST PROCEDURE TRC-20K-70U/600B

3. POWER TESTS:

The purpose of these tests will be to insure that the TRC-20K is able to withstand normal operation under its maximum rating, 20KW, loss of its 600 ohm termination and shorting of its 600 ohm termination.



A. ENDURANCE TEST:

Connect transmitter and unit under test as per sketch above. Connect TER25K balanced load to 600 ohm side of TRC-20K.

Tune transmitter to 8 MCS and adjust RF drive, carrier only, until DC-101 meter reads 20 KW. Operate in this condition for 5 minutes. Note reading of 1st AMP Ep RF on driver for reference only. Observe unit under test for breakdown.

TMC SPECIFICATION

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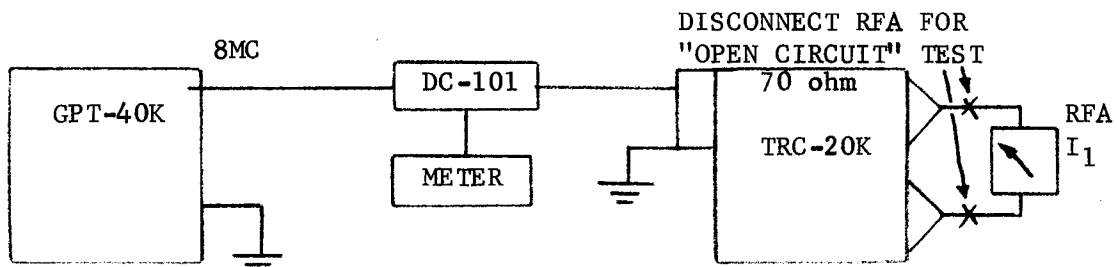
CHECKED:

APPD:

SHEET 4 OF 5

TITLE: TEST PROCEDURE TRC-20K-70U/600B

3. POWER TEST CON'T.



B. OPEN CIRCUIT TEST:

With transmitter tuning controls in same position as para A above, shut down transmitter and disconnect 600 ohm load from TRC-20K. Bring transmitter up. Do not retune adjust drive until 1st AMP Ep RF reads same as in test A. The 40K output meter, DC-101, should read approximately 9KW, the SWR meter approximately 2.5 to 1. The 40K plate RF meter will now read abnormally high and retune overload may kick out. This is to be expected under conditions where the 600 ohm load to the TRC-20K is lost. Operate for about 1 minute, resetting the retune overload as necessary. Observe unit under test for breakdown. Also carefully watch transmitter for possible overheating or arcing.

C. SHORT CIRCUIT TEST:

With transmitter controls in same position as Para A above, shut down transmitter and make connections of RFA to 600 ohm side of TRC-20K as per sketch sheet 4 of 5 in S618. Bring transmitter up, do not retune. Adjust drive until 40K output meter, DC-101, reads same value as in test B above. The short circuit current on the RFA should read 8 to 10 amperes. The 40K SWR will read about 2 to 1. Other meter indicators on the 40K will read abnormal, which is to be expected when the TRC-20K 600 ohm terminals are short circuited. Operate for about 1 minute, carefully observing TRC-20K for overheating or other abnormal conditions.

TMC SPECIFICATION

NO. S 773

REV: A

COMPILED: RRH

CHECKED:

APPD:

SHEET 5 OF 5

TITLE:

TEST PROCEDURE TRC-20K-70U/600B

THE TECHNICAL MATERIEL CORPORATION
MAMARONECK, NEW YORK

TRC-20K TEST DATA SHEET

SERIAL NO. _____

MFG. NO. _____

1. FREQUENCY RESPONSE

FMCS	V1	V2	V3	V4	REQ: 10% MAX % UNBALANCE
4.0	1.0				
20.0	1.0				
26.0	1.0				

2. IMPEDANCE MEASUREMENTS

FMC	R	X
4.0		
20.0		
26.0		

REQ: Recorded values of R and X should be within 2:1 SWR as obtained from graph derived from "Smith" charts.

3A. ENDUANCE TEST, FOR BREAKDOWN

OUTPUT	CHECK
20KW AV.	

3B. OPEN CIRCUIT TEST, FOR BREAKDOWN

OUTPUT	CHECK
20KW	

DATE _____

TESTER _____

3C. SHORT CIRCUIT TEST, FOR BREAKDOWN

OUTPUT	CHECK
20KW	

(8-10 AMPS)

