

# TMC SPECIFICATION

NO. S 959

REV:

0

COMPILED: JZ

CHECKED: *JEL*

APPD:

SHEET COVER OF 6

TITLE:

Typed by mtp 5/20/65

MCGA-1 TEST PROCEDURE

COMPILED <sup>AP</sup>

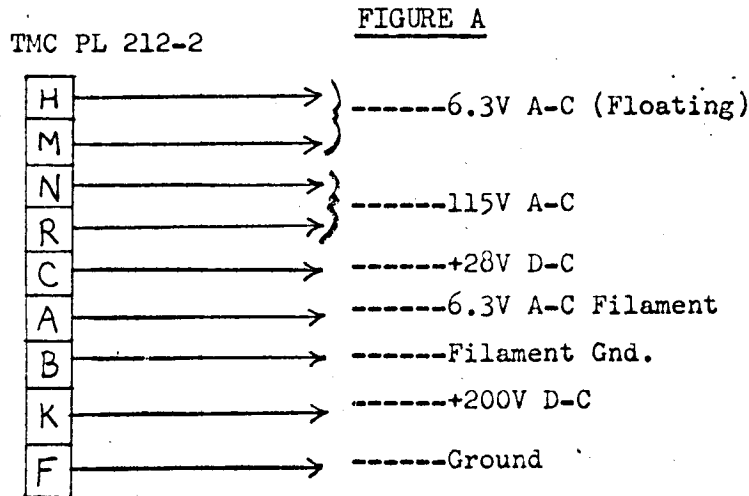
*VP*  
CHECKED

TITLE: MCGA-1 TEST PROCEDURE

APPROVED

I. TEST EQUIPMENT

- A. Lambda Model 25 Power Supply (or equivalent).
- B. 6.3VAC at 3A (floating) for 2 ovens.
- C. Tektronix Scope 545A (or equivalent).
- D. H-P Counter 524C (or equivalent).
- E. Test Cable (Fig. A).
- F. 5 terminations TMC #DL-100-4.



- G. 28V D-C Supply - Harrison Model 865B (or equivalent).

II. PRELIMINARY

- A. Visually inspect unit for any mechanical defects.
- B. Check for any power shorts to ground. J6015 pins N,R,K,H,M.
- C. Set switch to AFC position and check for continuity between J6001 and J6003, J6004, J6005 and J6006.
- D. Set switch to SYN position and check for continuity between J6002 and J6003, J6004, J6005, J6006. Set switch to INT position.
- E. Place dummy 47ohm load (TMC #DL100-4) on J6003, J6005, J6007, J6009, and J6011.
- F. Apply power and adjust power supply for 200V output.

ALLOW UNIT TO WARM UP 30 MINUTES BEFORE MAKING ANY ADJUSTMENTS.

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### III. 100.64KC ADJUSTMENT

- A. Connect counter on Pin 1 of V6003.
- B. Adjust Z6001 (accessible from rear) for 100.640KC  $\pm$  .01.cps.

### IV. PHANTASTRON ADJUSTMENTS

- A. Connect scope to Pin 2 of V6004.
- B. Adjust C6049 for a 4:1 division - waveshape shown below:



SCOPE SETTINGS:

- 1. 20  $\mu$  sec/CM
- 2. 5 V/CM

- C. Connect scope to Pin 2 of V6005. Adjust C6050 for a 4:1 division - waveshape shown below:



Scope settings remain the same.

- D. Connect scope and counter to Pin 7 of V6006. Counter should read 6290 cps. The scope should show a clean sine wave (approx. 10 p-p)

### V. 250KC ADJUSTMENT

- A. Connect scope and counter to J6003 on rear panel.
- B. Peak T6001 for maximum. Lock nut.
- C. Adjust C6002 for 250,000KC  $\pm$  .2cps.
- D. Adjust R6001 for 2.8v out (peak-to-peak).
- E. Repeat steps C and D until conditions are met.

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VI. BALANCE ADJUSTMENT

- A. Remove V6005 temporarily.
- B. Connect scope to arm of R-6045.
- C. Adjust balance pot (R6045) for a symmetrical wave shape. Lock pot after setting.
- D. Replace V6005.

VII. 2 MC ADJUSTMENT

- A. Connect scope to J6011 and counter to J6012.
- B. Adjust C6010 for 2.0MC +2 cps.
- C. Adjust R6014 for 2.8v out (peak-to-peak).
- D. Repeat steps B and C until conditions are met.

VIII. OUTBOARD CARRIERS ADJUSTMENTS

- A. Connect scope to J6008 and counter to J6007. Adjust T6006 for 2.8vp-p. Lock nut. Counter should read 243.710KC +2 cps.
- B. Connect scope to J6010 and counter to J6009. Adjust T6007 for 2.8vp-p. Lock nut. Counter should read 256.290KC +2 cps.

IX. FINAL CHECK

- A. Using a scope, recheck all carriers for a clean sine wave, this indicates no modulation or mixing between carriers.
- B. Touch up frequency adjustments on 250KC, 2MC, and 100.64KC oscillators.

X. REMOTE RESISTANCE TEST

- A. Remove power supply and all external cables.
- B. Selector knob to INT position. Check the following resistances:

<u>FROM</u>	<u>TO</u>	<u>RESISTANCE</u>
J6016-H	J6016-E	7 ohms <u>+20%</u>
J6016-J	J6016-E	INF
J6016-F	J6016-E	7 ohms <u>+20%</u>

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## X. REMOTE RESISTANCE TEST - Cont'd

C. Selector knob to AFC position. Check the following resistances:

<u>FROM</u>	<u>TO</u>	<u>RESISTANCE</u>
J6016-E	J6016-J	7 ohms <u>+20%</u>
J6016-E	J6016-H	INF
J6016-E	J6016-F	7 ohms <u>+20%</u>

D. Selector knob to SYN position. Check the following resistances:

<u>FROM</u>	<u>TO</u>	<u>RESISTANCE</u>
J6016-E	J6016-J	7 ohms <u>+20%</u>
J6016-E	J6016-H	7 ohms <u>+20%</u>
J6016-E	J6016-F	INF

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THE TECHNICAL MATERIEL CORPORATION  
MAMARONECK, N.Y.

MCGA-1 TEST DATA SHEET

SERIAL NO.: \_\_\_\_\_

MFG. NO.: \_\_\_\_\_

- A. Mechanical Check \_\_\_\_\_ OK
- B. Wiring Check \_\_\_\_\_ OK

100.64KC ADJUSTMENT

- B. 100.64 K-c oscillator  $\pm .01$  cps \_\_\_\_\_ KC

PHANASTRON ADJUSTMENT

- B. Phantastron 4:1 division \_\_\_\_\_ OK
- C. Phantastron 4:1 division \_\_\_\_\_ OK
- D. Output 6290 cps \_\_\_\_\_ CPS  
Output clean sine wave \_\_\_\_\_ OK

BALANCE ADJUSTMENT

- D. Balanced Mixer \_\_\_\_\_ OK

250KC ADJUSTMENT

- C. 250.000KC  $\pm .2$  cps \_\_\_\_\_ KC
- D. Output 2.8v  $\pm 5\%$  \_\_\_\_\_ V. Peak-to-Peak

2MC ADJUSTMENT

- B. 2,000KC  $\pm 2$  cps \_\_\_\_\_ KC
- C. Output 2.8v  $\pm 5\%$  \_\_\_\_\_ V. Peak-to-Peak

OUTBOARD CARRIER ADJUSTMENT

- A. 243.710KC  $\pm .2$  cps \_\_\_\_\_ KC
- B. 256.290KC  $\pm .2$  cps \_\_\_\_\_ KC

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FINAL CHECK

A. Check for cross no mixing of carriers \_\_\_\_\_ OK  
(i.e. 250KC on 2MC output)

B. Check frequency adjustments:

100.64KC osc. \_\_\_\_\_ KC  
2000KC osc \_\_\_\_\_ KC  
250KC osc \_\_\_\_\_ KC

REMOTE RESISTANCE TEST \_\_\_\_\_ OK

DATE: \_\_\_\_\_

TESTER: \_\_\_\_\_