

TMC SPECIFICATION

NO. S 1215

REV: 0

COMPILED: SR

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APPD: *DB* *ETM*

SHEET

OF

TITLE:

12/18/67 *jb/*

COMPLETE TEST INSTRUCTIONS
FOR
GPT-40KEL

TMC SPECIFICATION

NO. S 1215

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APPD:

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TITLE: TEST INSTRUCTIONS FOR GPT-40KEL - 10K DRIVER SECTION

*A. MECHANICAL INSPECTION

1. Check all knobs and switches on the PA frame for proper operation.
2. Check PA Tune, PA Load, controls for a counter reading of about 000 corresponding to minimum capacity.
3. Check to see that PA bandswitch counter reading corresponds to proper PA bandswitch position.
4. Carefully check the PA bandswitch and PA compartment for good mechanical condition, obvious miswiring and loose connections.
5. Check power supply for loose connections and correct value of circuit components.

*B. PRELIMINARY ELECTRICAL INSPECTION

1. With Main Power switch OFF, check for short circuits to ground:
 - a. The 3 power input phases should read not less than 1 megohm.
 - b. The positive side of the high voltage circuit should read not less than 70K ohms with the Shorting relay contacts open. With the Shorting relay contacts closed, this reading should be ZERO.
2. The following units must be checked for proper termination of cables:
 - a. Relay Panel
 - b. Bias Drawer
 - c. IPA Drawer
3. Check complete unit for correct value of fuses.

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4. Turn ON Main Power switches and observe following:
 - a. Main Power light must go on.
 - b. The PA Blower must turn in the same direction as arrow stamped on the housing.
 - c. The PA top fans must turn counter-clockwise when viewed facing the hub.
5. Circuit fusing checks:
 - a. With the Main Power switch OFF, remove any two of the three main blower fuses, The main blower must not run when the Main Power switch is closed. Open Main Power switch and replace the two fuses. Close Main Power switch and continue fusing circuit checks below.
 - b. Remove Rear Fan fuse. PA TOP FANS MUST STOP.
 - c. Remove the PA Filament fuse. The PA filament voltage must be removed.
 - d. Remove the Timer fuse. This must deactivate the Timer.
 - e. Remove the IPA Blower fuse. The IPA Blower must stop.
 - f. Remove the IPA Filament fuse. The IPA filament voltage must be removed from the IPA tube.
 - g. Remove the IPA LV fuse. This must remove AC power from the LV power supply.
 - h. Remove the IPA Bias fuse, this must remove the IPA bias voltage and deactivate the IPA Bias relay.
 - i. Remove the B plus fuse on the driver drawer, this must remove the B plus voltages, 200 and 400 volts.
6. Set Filament Adjust For 220 Volts AC
7. The PA Bias Control must be Max. CW
8. Unlatch the following overload relays and note the corresponding overload light indicator. It must light:
 - a. PA Plate

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- b. PA Screen
- c. IPA Plate
- d. IPA Screen

By pushing the Overload Reset switch on the main control panel the overload light indicators must go out and the overload relays must reset.

- 9. The energizing of the Tune Operate lights must correspond to the position of the Tune-Operate switch. Also the Tune-Operate relay must energize and de-energize with this switch.
- 10. With the PA Screen switch in the ON position the PA Screen relay must be de-energized. When in the OFF position, the relay must energize.
- 11. The Filament Elapse time meter must indicate when the filaments are on.
- 12. Check the Time Delay relay for proper operation and time interval, between 3 and 5 minutes.
- 13. With the Alarm switch ON the alarm must sound.

C. PROTECTIVE INTERLOCK SYSTEM

- 1. Before checking the interlock system insure that a Jumper is connected from Terminals 1 and 2 of E-1002. Also place (PA) Tune-Operate mode switch in Tune position. The interlock indicator light and switch are connected in such a manner that the indicator will be ON if all interlocks are closed. To find an open interlock always turn the Interlock switch to extreme counter-clockwise position (IPA Bandswitch); rotate in clockwise direction to the position where the indicator light goes out. This is an open interlock. In cases where there is more than one interlock open, the above procedure must be repeated until all interlocks are closed and all individual interlock lights are energized. With the interlock switch in the High Voltage Deck position the interlock indicator light is monitoring the IPA DRAWER, and the HIGH VOLT DECK interlocks. If the IPA DRAWER Indicator is ON, and the High Volt Deck interlock Indicator is OFF. This condition indicates the IPA Drawer is not properly closed.

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2. With the Main Power switch closed, each interlock must be checked individually by manually opening and observing the following:

- a. The Shorting relay must release (de-energize).
- b. The corresponding indicator light should go out.

*D. HIGH VOLTAGE CHECKS

1. With the Main Power switch closed the PA tube should have a minimum of three minutes warmup time before applying plate voltage.
2. Turn ON the High Voltage switch and check following:
 - a. PA Plate Voltage should read approximately 7.5 to 8 KV
 - b. The IPA Screen voltage must change from approximately 400 volts to 200 volts as the Tune-Operate switch is moved from the Operate to Tune Position.

E. IDLING PLATE CURRENT ADJUSTMENTS

1. With transmitter energized, blowers running HV switch ON, Tune-Operate switch in Operate position and Screen Voltage switch in ON position make following adjustments:
 - *a. Adjust PA Bias or the relay panel to a PA Plate current reading of 0.5 amperes.
 - *b. Adjust IPA Bias on the driver drawer for an IPA plate current of 200 ma.

F. CHECK OF PROTECTIVE DEVICES FOR REMOVAL OF HIGH VOLTAGES

1. With the transmitter energized as in paragraph F above, and with the Alarm Switch in the ON position; mechanically trip Protective Devices as listed below in sequence. Each time a Protective device is mechanically tripped, the device must be reset electrically, and the HIGH VOLTAGE must be turned ON again, before testing the next PROTECTIVE DEVICE.

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- *a. PA Plate overload
 - *b. PA Screen overload
 - *c. Zener Diode Protect Relay
 - *d. IPA Plate overload
 - *e. IPA Screen overload
 - *f. PA and IPA Bias relays (by removal of IPA fuse.)
2. Mechanically tripping each of the above devices one at a time; the High Voltage must go OFF, the alarm must be energized, the Plate Elapse time meter must stop running.
 3. Turn the High Voltage switch to the OFF position.

G. OVERLOAD ADJUSTMENTS

- *1. PA Plate overload
 - a. Tune transmitter to full output on any frequency within its range.
 - b. Overload the transmitter output by increasing the PA output loading (decreasing Output Load capacity.)
 - c. Retune the PA and increase the SB exciter output.
 - d. Adjust the PA Plate overload adjust to trip at 2. amperes.
- *2. PA Screen overload
 - a. With the transmitter tuned as in paragraph 1a. above, underload transmitter output by decreasing the PA output loading (increasing Output Load capacity).
 - b. Retune the PA and increase the output of the SB exciter to increase the screen current.
 - c. Adjust the PA Screen overload with the PA Screen; Adjust to trip at 80 ma.

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*3. IPA Plate overload.

- a. Adjust the IPA Plate Overload to trip at 600 ma. with the IPA Plate Overload Adjust and perform transmitter tuning as in paragraph 1, PA Plate Overload.

*4. IPA Screen Overload

- a. Adjust the IPA Screen Overload to trip at 30 ma. with the IPA Screen Overload Adjust and perform transmitter tuning as in paragraph 2, PA Screen Overload.

H. MECHANICAL INSPECTION

1. Check all knobs and switches on the PA and PS frames for proper operation.
2. Check PA Tune, PA Load controls for counter readings of about 000 corresponding to minimum capacity. In addition, insure that the two PA load variable capacitors are so ganged as to provide equal capacity variation.
3. Check to see that the PA bandswitch counter reading corresponds to the proper PA bandswitch position.
4. Carefully check the PA bandswitch and PA compartment for good mechanical condition, obvious miswiring, and loose connections.
5. Check units in both frames for obvious miswiring, loose connections and any stray hardware.
6. Open small door on the PA blower, rear, and remove any foreign matter that may be inside.
7. Check the arrows on the Directional Coupler, for the proper directions. Two diodes are incorporated in this coupler, ~~The~~ front diode is for the forward power and the arrow must be pointing up. The second diode is for the reflected power and is located at the back of the coupler, and the arrow must be pointing down. At this time the inspection of the diodes should include checking to see that the diodes are properly seated in their sockets, and making proper electrical contact. Also check the two coaxial leads with the fittings to see that they are secured properly to the front and the back coaxial fittings on the directional coupler.

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I. PRELIMINARY ELECTRICAL INSPECTION

1. Check the Shorting Relay, ascertain that it shorts both sides of the HV filter capacitors to ground. Place a piece of insulation between spring contacts and ground studs and check HV B plus to ground, It should read approximately 180K ohms.
2. Pull out the bias drawer and check B minus to ground, from the +600 volt end of R7531. This reading should be approximately 3K ohms. With the ohmmeter connected to same point, remove connector J7501 from the bias drawer, the resistance reading should now be infinity.
3. Remove the piece of insulation from the shorting relay contacts which were inserted in 2 above.
4. Check wiring of the Antenna Connector board in top of PA compartment for unbalance output operation. Connect the TER-25K unbalance load to the 40K output.
5. In the Crowbar drawer set the triggering level control, R8304, to mid position.
6. Connect the three phase input power to the transmitter.
7. Turn the Main Power and Blower breakers ON. The PA, Main blower, must operate.
8. Turn OFF the wall power disconnect switch and when the main blower has slowed sufficiently, check the direction of rotation by feel of the hub of the shaft. It must turn in the direction of the arrow indicator. The top fans should have the fan hubs facing up as viewed from below and rotate clockwise.
9. Turn ON the wall power switch and Final Filament breakers. Set Filament adjust switch on the PS frame for a reading as close to the red marker as possible on the Filament Primary voltmeter.
10. Set the Crowbar Reservoir Filament with crowbar filament adjustment to the voltage stamped on the base of the crowbar tube. Note that the crowbar Filament voltage should read about 6 volts.
11. Close the interlock circuit and with the Bias adjust potentiometer, check the Bias Voltmeter variation from one extreme to the other. The variation should be approximately

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400 to 600 volts. Set this voltage to its maximum negative value, about 600 volts.

12. Check the meter lights, they should be ON. The PA compartment light (white) should go ON when its switch on the control panel is turned ON.
13. The motorized Circuit breaker should go ON and OFF with the Main Power breaker.
14. Depressing the HV Reset switch must electrically reset the motorized circuit breaker.
15. Depressing the Band Switch release must energize the band switch release solenoid and permit a band change with the "PA Band Switch" front panel control.
16. Mechanically unlatch the Plate, Grid overloads, retune and SWR relays. Depressing the Overload Reset switch must reset these relays.
17. Turn the Blower circuit breaker OFF and set the Blower delay timer to approximately $\frac{1}{2}$ minute. Turn ON the Blower breaker. Turn the Main Power breaker OFF. The main blower should stay on and Blower Delay timer should start operating; when it reaches zero the main blower should stop and the timer should de-activate. Set the Blower Delay timer at 3 minutes for normal operation.
18. Set the Time Delay timer for approximately 3 minutes. The normal recommended delay for the PA tube.
19. Turn the Final Filament breaker OFF. The Final Filament light on the relay panel should go ON and the Time Delay timer should reset. The Filament Primary voltmeter should not indicate and the PA tube filament, as viewed through the rear shield window, should be de-energized.

J. FUSE CHECKS

In the below listed fuse checks as the fuse is removed to check for the specified indication(s), each fuse must be checked for correct value and type. Turn ON the Main Power, Blower and Final Filament circuit breakers.

1. Remove the Crowbar Filament Fuse: the Crowbar Filament meter should drop to zero and the Time Delay Timer should de-energize.

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2. Remove the meter light fuse: the meter lights should go out.
3. Remove the Breaker Motor fuse: the Breaker Motor should be rendered inoperative.
4. Remove the Interlock fuse: must remove voltage from the interlock system and the interlock indicator light (make certain the 10K Mode switch is in the OPERATE position).
5. Remove the fuses on the Bias supply one at a time: must remove the associated voltage.
6. Remove the following fuses on the relay panel and observe for the listed indication:
 - a. The Blower Contactor: must deactivate the Main Blower.
 - b. The Blower Delay: must deactivate the Blower Delay timer.
 - c. The Time Delay: must deactivate the Time Delay timer.
 - d. The Top Fan: must stop the Top Fan.
 - e. Shorting Relay: must make the Shorting Relay solenoid inoperative.
 - f. Filament Elapse time meter: must deactivate the Filament Elapse time meter.

CAUTION

NEVER TOUCH ANY EXPOSED PARTS OF THE TRANSMITTER WHEN THE SHORTING RELAY IS ENERGIZED, 600 VOLTS D.C. FROM THE BIAS SUPPLY IS ON THE B-LINE. BE EXTREMELY CAREFUL WHEN WORKING ON THE BIAS SUPPLY AND VICINITY OF SHORTING RELAY IN REAR OF P/S FRAME WHEN THE POWER IS ON.

K. INTERLOCK SWITCH CHECKS

- *1. Turn the 10 KW mode switch to the TUNE position. On the 40K PA front panel the TUNE indicator should light. The 40K EXTERNAL interlock position indicator on the main control panel should be OUT.

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- *2. Place the 10K mode switch to the OPERATE position. The 40K EXTERNAL interlock indicator and OPERATE light on the 40K PA panel should light.
3. Placing the 10K Mode switch in TUNE position must permit the 10K HV to be turned ON but the 40K HV must be disabled.
- *4. Turn the mode switch to OPERATE and check the following interlocks. If all the following switches are closed, the interlock indicator lights as the interlock switch is turned to its 12 positions successively.
 - a. PA DECK (2) (Top one is the TUNE: bottom one is 40K DECK)
 - b. BIAS DRAWER
 - c. RELAY PANEL
 - d. PA FRAME rear door
 - e. AIR SWITCH (to de-energize turn Blower OFF)
 - f. BAND SWITCH
 - g. HV RECTIFIER
 - h. CROWBAR
 - i. PS FRAME rear door
 - j. TIMER Time Delay (P3 front bottom shield monitored in this position)
 - k. EXTERNAL (2) (10K PA deck front: 10K PA deck rear)
- *5. With Main Power, Blower and Filament Circuit breakers ON, the HV circuit breaker OFF, de-energize each interlock one at a time:
 - a. The Interlock Indicator should go OUT in each respective position.
 - b. The Shorting relay should deenergize.
 - c. Bias relay should de-energize. Bias light should come ON.
 - d. The HV circuit breaker should not hold in the ON position when so positioned.

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6. Before the HV is turned ON, the PA tube filament should be preheated for 3 minutes. This is assuming that they have not been warmed up prior to this point.
7. Place the Driver Interlock switch in the ON position. Turn ON the 40K HV.
 - *a. When the first HV contactor closes the Plate voltmeter should read about 7 KV volts.
 - *b. The time between the closing of the first and second HV contactors should be about 4 seconds.
 - *c. When the second HV contactor closes the Plate voltmeter should read about 12 KV.
 - d. The HV Breaker light should go ON. The plate elapse time meter should also energize. The Plate ON indicator should be ON.
 - e. Turn ON the 10K HV. Placing the Driver Interlock in the OFF position should not disable the 10K and 40K HV. However, if the Driver Interlock switch is in the OFF position and the 10K HV is OFF, the 40K HV should be disabled.
 - f. Turn OFF the 10K and 40K HV. Set the 40K Filament Adjustment switch midway between two positions. This should remove AC power from the filament circuits and their respective voltmeters of the Crowbar, Bias Supply and PA tube. In addition, the interlock circuit will be disabled.
 - g. With all power ON successively trip the following relays:

PLATE OVERLOAD
GRID OVERLOAD
RETUNE
SWR

This should deenergize the HV contactors, thus removing HV, and the Plate Elapse Time Meter should stop.

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L. RF OUTPUT:

1. Prior to tuning the transmitter, insure that all necessary safety shields are properly installed and an unbalanced 50/70 ohm TER 25K is connected to the unbalanced output of the 40K. For transmitters equipped with the DC-101 and MR-167, directional wattmeter and RF output meter; 40 KW PEP output is obtained when the RF output meter is reading 16.2 KW with 2 tone drive. With Carrier or Single tone drive 40 KW PEP requires a reading of 20 KW. (For 2 tone drive, the Output meter indication equals the product of .405 and the required PEP output).
2. In the case of the 10K Driver equipped with a directional wattmeter (DC-104 and MR-170), the RF Output meter will indicate the correct average output, 5 KW, with 2 tone drive. With carrier or single tone drive the Output meter should indicate 6.15 KW for average 5 KW (10 KW PEP) output.

M. IDLE PLATE CURRENT ADJUSTMENT:

With transmitter turned ON but no RF drive from the exciter, set the PA idle plate current with the Bias Adjust Control for 1.8 amperes.

N. OVERLOAD ADJUSTMENTS:

1. Set the Retune Overload adjust control to maximum clockwise. Tune transmitter to full power output on 6 MCS and set the following protective overloads to trip as indicated below:
- *2. PA Plate Overload - Overload the transmitter for 6 amperes of plate current and adjust PA plate overload adjust so it will trip at 6 amperes of plate current.
- *3. PA Grid Overload - Unload transmitter until the PA Grid current is 200MA then set PA Grid Overload Adjust so that it will trip with 200 MA PA grid current.
- *4. PA Bias Relay - The PA Bias Relay should energize with 550V of PA Bias voltage. Return PA Bias to value that provides 1.8 amperes idle PA plate current.
- *5. Retune Tube Protect Circuit, DC Adjustment:

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- a. With transmitter power ON including the HV, the Tube Protect relay must operate (activate) at 3. amperes and must release (deactivate) at 2.1 amperes of PA plate current.
 - b. Adjust the PA Bias control for 3. amperes of PA plate current.
 - c. With the Retune relay mechanically defeated, set the Tube Protect Adjust on the Relay Panel so that the Tube Protect relay operates (activates) at 3. amperes of plate current.
 - d. To check the release current 2.1 amperes, hold Overload Reset switch closed, set Bias Adjust for 3. amperes plate current so that relay operates. Increase the Bias and note the plate current reading at which the relay releases. If the current is less than 2.1 amperes, turns must be removed from the shunt coil on the relay until it releases at 2.1 amperes of PA plate current.
- *6. a. SWR Overload - The SWR Overload should trip at whatever value (except ZERO) of SWR the RED pointer is set to on the meter. With the transmitter tuned properly set the RED pointer to any value above the CAL point. Hold SWR calibrate switch to calibrate and adjust SWR calibrate control until meter indicates on the CAL point. Release switch, the meter should indicate zero or the true SWR value present. Set the RED pointer to a value below the CAL point, about 2 to 1, place calibrate switch in calibrate. The SWR overload should trip when the black pointer reaches the RED pointer.
- b. To check the reflected power diode and its circuit in the directional coupler shut down the transmitter and reverse the rear diode, diode arrow pointed upwards, and set red pointer on SWR meter to extreme CW position. Turn ON the transmitter and bring up the RF drive carrier only for 20KW output on the Output meter. The SWR meter should indicate in the same relative position on the scale as the Output meter 20KW indication. Slowly turn the red pointer on the SWR meter CCW until it touches the black pointer. At this point the SWR overload should trip the transmitter and turn the reflected power diode to normal position, arrow pointing downwards.
- *7. Retune Overload:
1. With transmitter power OFF, place a milliammeter in series with terminal #23 on the relay panel. With transmitter power ON, HV OFF, no RF drive and the Tube Protect relay activated by hand, the reading should be between

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10 and 15 ma. Remove Bias fuse from the bias supply. Adjust R-7522 in the bias supply for 1.5 ma. reading. Replace the Bias fuse and current should be about 12 ma. With the Tube Protect relay in the deenergized state, the current reading should be zero. Turn OFF transmitter, remove milliammeter from the circuit and reconnect lead to terminal #23.

2. Turn transmitter ON and maintain reduced RF drive to a value between 2 to 2.5 KV PA Plate RF. Turn the Retune Overload adjustment clockwise until Return Overload trips. Now turn this control slightly counterclockwise. Recheck the Retune Overload by detuning PA Plate until the PA plate current reaches 3 amperes and the PA plate RF voltage is less than 2 KV. The Retune Overload should trip.

- *8. PA Tube Protect Thermostat, S-7305, Check:

In the PA tube compartment, place a jumper across terminals 2 and 3 (ground) of E7307, simulating closed circuit condition of S-7305. With the interlock circuit open, turn ON transmitter except the HV. The Retune Overload must trip.

- *9. Test Procedure for SWR Circuit in 10K Driver:

- a. The following tests and adjustments will be performed with the TUNE-OPERATE switch in the TUNE position.
- b. Place SWR switch on Exciter drawer in 2:1 position.
- c. Rotate reflected power diode to read forward. Arrow on diode must point toward load.
- d. Apply power to the transmitter and tune output to 6 Mc.
- e. Increase side band exciter drive to 540 watts. This point is indicative by SWR ratio of 2 (two) on the output power meter.

NOTE: SWR switch on Main Control Panel must be activated.

- f. Reduce drive to minimum and reset SWR overload by pushing overload reset button.

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- g. Reduce drive and turn OFF High Voltage.
- h. Place SWR switch IN 3:1 position. Turn transmitter on and drive to approximately 1250 watts.
NOTE: SWR switch on Main Control panel must not be activated.
- i. High Voltage breaker must trip at $\pm 10\%$ of the above power.
- j. Remove power and assembly wattmeter to its normal state.

O. UNBALANCE OUTPUT TUNING AND DISTORTION TEST:

1. The transmitter PA output must be connected for Unbalance output 50-70 ohms, operation and terminated in 50-70 ohm unbalance load.
2. Two tone audio test signal from the PTE must be connected with a shielded pair to terminals A & C on J-1012. For this test the lower sideband will be employed.
3. Tune the transmitter to all frequencies listed on tuning test chart CH-593. Make signal to distortion check at each frequency at full power output, 40 KW PEP. Record all data required by the tuning chart.
4. Turn OFF High Voltage.
5. Connect two tone audio signal to upper sideband input terminals on J-1012. Repeat test as described in above paragraph #3 (At 30 MC only).

REQUIREMENT:

- a. At 40 KW PEP the third order distortion products must be at least 35 db below the two tone test level.

P. TUNE OUTPUT TEST:

1. Check the Tune Output, 10K driver unbalance, of the 40K by selecting two frequencies at random.

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Q. CROWBAR TEST AND ADJUSTMENT:

Caution: The first two steps of the procedure below must be done with the HV OFF, and the HV filter capacitors, C-8107 and C-8108 discharged with a Gibbons stick.

1. Check R-8304, triggering level adjustment in the crowbar drawer, arm on this pot should be in mid position.
2. Connect a 1K, $\frac{1}{2}$ watt resistor between the +HV terminal of capacitor C-8108 and ground.
3. Turn ON the HV; the following should happen:
 - a. The crowbar tube should flash.
 - b. The 1K, $\frac{1}{2}$ watt resistor should shatter.
 - c. The main circuit breaker should trip.
 - d. The grid overload should trip.
 - e. The PA plate overload should trip.

NOTE: When a Crowbar Test Jig is available, the test above may be performed by carefully noting the Operating Instructions appended to the jig.

R. KEYING TEST:

1. Connect Square Wave Generator to terminals C and D on J-1011. Set Generator frequency at 25 cps, set $\begin{matrix} + \\ - \end{matrix}$ output to 50 Volts.
2. Set MMX Exciter controls as follows: Mode switch in FSK position. Shift Selector (Rear of Unit) to 425 ohms. Voltage Selector (Rear of Unit) at 50 Volts.
3. Tune Transmitter to any frequency at low power.
4. Tune Receiver to Transmitter frequency. A clear FSK signal should be heard.
5. Turn OFF High Voltage.
6. Connect Square Wave Generator to terminals F and G of J-1011. Set Exciter Mode switch to FAX. Turn ON High Voltage.

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SHEET

17 OF 20

TITLE:

TEST INSTRUCTIONS FOR GPT-40KEL

7. A clear FAX signal should be heard.
8. Turn OFF High Voltage.
9. Remove Generator leads from J-1011. Now connect dry contact key to terminal B and G of J-1011. Set Exciter Mode switch to CW. Turn ON High Voltage and Key.
10. A clear CW signal should be heard.
11. Turn OFF High Voltage and disconnect Key lines.

S. REMOTE TEST:

1. Connect Remote Test JIG to J-1013
2. Remove Jumpers from terminals 1 and 2, 4 and 5 of E-1002. Also remove jumper from terminals 5 and 6 of E-8119 (in 40K PS Frame).
Caution: Turn OFF Transmitter Main Power before disconnecting above jumpers.
3. Set Test JIG controls as follows: Gain control full clockwise. All switches to OFF.
4. Turn ON Main Power.
5. External interlock indicator should indicate open.
6. Place Test JIG interlock switch in ON position. Interlock indicator should indicate CLOSED.
7. Place Test JIG High Voltage switch in ON position. Tune transmitter to any frequency at full power.
8. Place Test JIG High Voltage ON-OFF switch in OFF position. Transmitter High Voltage should deenergize.
9. Place Test JIG High Voltage ON-OFF switch in ON position. High Voltage should energize and transmitter come up to full power.
10. Turn Test JIG Gain control. CCW transmitter output should drop to zero.
11. Turn OFF High Voltage and Main Power.
12. Reconnect all jumpers removed in Step #2.

TMC SPECIFICATION

NO. S 1215

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TITLE:

TEST DATA SHEET

10K SECTION

1. (A) Mechanical Inspection _____
2. (B1 thru 13) Preliminary Inspection _____
3. (C1 thru 2) Protective Interlock System _____
4. (D) High Voltage Circuits Check _____
 - (2A) PA Plate Voltage _____
 - (2B) 1 PA Screen Voltage, Operate _____ V Tune _____ V
5. (E1A) PA Idling Plate Current Adj. To _____
 - (E2A) 1 PA Idling Plate Current Adj. To _____
6. (F) Check Protective Devices For Removal of HV _____
 - A PA Plate Overload _____
 - B PA Screen Overload _____
 - C Zener Protect Relay _____
 - D IPA Plate Overload _____
 - E IPA Screen Overload _____
 - F PA and IPA Bias Relays _____
6. (G) Overload Adjustments _____
 - (1) PA Plate Overload Set To Trip At _____
 - (2) PA Screen Overload Set To Trip At _____
 - (3) IPA Plate Overload Set To Trip At _____
 - (4) IPA Screen Overload Set To Trip At _____

TMC SPECIFICATION

NO. S 1215

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SHEET 19 OF 20

TITLE:

TEST DATA SHEET

40K SECTION

- | | | |
|-----|---|--------------------------|
| 7. | (H1 thru 7) Mechanical Inspection completed | _____ () |
| 8. | (I1 thru 20) Preliminary Electrical Inspection Completed | _____ () |
| 9. | (J1 thru 7 ⁶) Fuse Checks completed | _____ () |
| 10. | (K) Interlocks and Overloads: | _____ () |
| | a. (K1,2) 10K Mode Switch check | _____ () |
| | b. (K4,5) Interlock Circuit check | _____ () |
| | c. (K7a) Plate Voltage after 1st Contactor Closes | _____ V.DC |
| | d. (K7c) Plate Voltage after 2nd Contactor Closes | _____ V.DC |
| | e. (K7b) Time Interval between 1st and 2nd Contactor Closing, approximately | _____ Secs. |
| | f. (K7g) Removal of HV by overloads tripping | _____ () |
| 11. | (M) PA Idle Plate Current adjusted to | _____ amps. |
| 12. | (N) Overloads Adjusted to trip as follows: | |
| | a. (N-2) PA Plate at | _____ amps. |
| | b. (N-3) PA Grid at | _____ amps. |
| | c. (N-4) PA Bias Relay Energizes at | _____ amps. |
| | d. (N-5) Retune Tube Protect activates at
and deactivates at | _____ amps. |
| | e. (N-6) 40K SWR at | _____ SWR |
| | f. (N-7) Retune overload at Plate RF, and
PA Plate current | _____ KV.
_____ amps. |
| | g. (N-8) PA tube Protect thermostat circuit operation checked | _____ () |

TMC SPECIFICATION

NO. S 1215

REV:

COMPILED: SR

CHECKED:

APPD:

SHEET 20 OF 20

TITLE:

TEST DATA SHEET (cont'd)

40K SECTION

- h. (N-9) SWR in 10K driver adjusted at _____ SWR
and checked for tripping at _____ SWR
13. (O) Unbalance Output tuning and Distortion test completed _____ ()
14. (P) Tune Output for 10 KW PEP performed and _____ MCS.
_____ MCS.
15. (Q) Crowbar test completed _____
16. (S) Keying Test _____
17. (T) Remote Test _____

TESTED BY _____

MFG. NO. _____

APPROVED BY _____

SER. NO. _____

