

TMC SPECIFICATION

NO. SA 1330

REV:

COMPILED:

J.R.

CHECKED:

APPD:

L.E.L.

SHEET

1

OF

6

TITLE:

PRESENTATION PROCEDURE
FOR
GPT-10K RL

TMC SPECIFICATION

NO. QA 1330

REV:

COMPILED:

J.R.

CHECKED:

APPD: L.E.L.

SHEET

2

OF 6

TITLE:

PRESENTATION PROCEDURE FOR GPT-10K RL

INTRODUCTION

The TMC Model GPT-10K RL is a conservatively rated multiband general purpose transmitter providing 10KW PEP over a frequency of 2-30 MHz. The transmitter is also a multi-mode transmitter capable of various modes of transmission SSB, DSB, ISB, CW, FSK, FAX and AM. In addition provisions have been included for remote High Voltage ON/OFF and remote transmitter drive.

TEST EQUIPMENT REQUIRED

- 1 - PTE Analyzer
- 2 - Square wave generator
- 3 - Communications Receiver
- 4 - Test key (for CW)
- 5 - Ter - 5000-50U dummy load or equivalent

EXTERNAL CONNECTIONS

- 1 - Connect 3 phase AC input to L-1000, L-1001, L-1002. Make certain 3 phases are in correct rotation.
- 2 - Connect 50 ohm dummy load to transmitter output.
- 3 - Connect Audio test tones to audio input jack J-1012 ("A" & "C" for LSB or "E" & "G" for USB).

PRELIMINARY OPERATIONAL CHECK OUT

- 1 - Place transmitter Main Power Breaker to the ON position and observe the following:
 - a - Green AC indicator must light.
 - b - Main Blower and top fans must start running.
 - c - The Tune/Operate light indicating either Tune or Operate depending on the position of the Tune/Operate switch, must light.
- 2 - Place MMX exciter drawer power ON/OFF switch to the ON position.
- 3 - Place MMX power switch and exciter to the ON position power ON light on MMX - must light.

INTERLOCK CHECK

With the AC power breaker and all AC switches on except the High Voltage breaker, check each interlock for the following:

- a - Removal of high voltage when an attempt is made to turn it on (H.V. breaker must trip off when an interlock is open).
- b - Each interlock must correspond to the proper position on the interlock indicator switch. (open interlock will

TMC SPECIFICATION

NO. CA 1330

REV:

COMPILED: JR

CHECKED:

APPD: L.E.L.

SHEET 3 OF 6

TITLE:

PRESENTATION PROCEDURE FOR GPT-10K RL

INTERLOCK CHECK (continued)

cause corresponding light to go out (on the interlock indicator switch). All transmitter interlocks must be checked.

IDLE CURRENT ADJUSTMENTS

Once all interlocks are closed on all interlock indicators are on, press overload reset button, place tune-operate switch in operate position and place H.V. breaker to ON position.

The following must be observed:-

- a - Red plate ON light must light.
- b - Idle current must be observed on PA Plate Current meter
Idle current must be observed on IPA Plate Current meter

Adjust PA Plate current for reading of .5 AMPS as read on PA Plate current meter.

Adjust IPA Plate current 200 ma as read on IPA Plate current meter. Turn H.V. breaker to OFF position.

The transmitter is now ready for tuning on any carrier frequency between 2-30 MHZ. Fill out tuning chart

TRANSMITTER TUNING IN GENERAL

- 1 - Select desired output frequency on MMX- exciter and adjust exciter for carrier only.
- 2 - Select proper driver band, IPA band and PA band.
- 3 - Adjust RF Gain on MMX- exciter for a slight indication on IPA multimeter and adjust driver tuning & IPA Grid tuning for a peak in their respective meter positions.
- 4 - Reduce exciter output to zero.
- 5 - Place tune-operate switch (on main control panel) to the tune position.
- 6 - Turn on H.V. and advance RF Gain control for an indication of IPA Plate current on the IPA Plate current meter and adjust the IPA tune and load capacitor for a resonance dip in IPA Plate current.
- 7 - Advance exciter output further, but make certain PA Plate current does not read beyond .7 AMPS and adjust PA tune and load capacitors for a resonance dip in plate current.

NOTE: It may be necessary to reduce the IPA plate current.

TMC SPECIFICATION

NO. CA 1330

REV:

COMPILED:

J.R.

CHECKED:

APPD:

L.E.L.

SHEET

4

OF

6

TITLE:

PRESENTATION PROCEDURE FOR GPT-10K RL

TRANSMITTER TUNING IN GENERAL (continued)

- 8 - Turn H.V. off place tune-operate switch in the operate position and turn H.V. back on.
- 9 - Advance RF Gain control (on MMX) to produce 5KW PA output. Adjust PA tune & PA load capacitors as necessary.

Normal Transmitter indications, at full output are as follows:

- a - PA Plate current ---1.0-1.5 AMPS
- b - PA Screen current---10-40 ma
- c - PA Plate RF ----- 2.0-7.5 KV

- 10 - Reduce RF Gain to zero and turn HV OFF.

Transmitter is now ready for any mode of operation mentioned in the first paragraph of this procedure.

KEYING TEST

- 1 - Connect square wave generator to terminals C and D on J-1011. Set generator frequency at 25 cps, set generator output to 50 Volts.
- 2 - Set MMX exciter controls as follows: Mode switch in PSK position. Set MMX mode switch to CW position and key transmitter vice voltage selector at 50 Volts (8-111 rear of unit).
- 3 - MMX key jack or provide a temporary connection between jack
- 4 - Tune receiver to transmitted frequency, a clear PSK signal J1011 pin (B) and ground.
- 5 - Connect square wave generator to terminals F and G of J-1011, set exciter mode switch to FAX. A clear FAX signal should be heard.

REMOTE TEST

- 1- Remove jumpers from terminals 1 and 2, 4 and 5 of E-1002.
- 2- External Interlock Indicator lamp should go out.
- 3- Reconnect jumper to Terminals 1&2 of E1002, External Interlock Indicator lamp should light.
- 4- Remove jumper from terminals 4 and 5 of E1002.
- 5- Place H.V. switch to on position. High Voltage should not come on with jumpers removed from terminals 4 and 5 of E 1002.
- 6- Connect a variable minus voltage (0-12VDC) to pin(F) of J1013 and ground.
- 7- Adjust variable voltage for 0-VDC and tune transmitter for rated output.
- 8- With transmitter tuned to rated output increase variable voltage connected to pin (F) of J1013, and transmitter output indication should decrease as external variable voltage increases.

TMC SPECIFICATION

NO. 1330

REV:

COMPILED: J.R.

CHECKED:

APPD: L.E.L.

SHEET 5 OF 6

TITLE:

PRESENTATION PROCEDURE FOR GPT-10K RL

REMOTE TEST (continued)

- 9- Turn Test Jig Gain Control CCW. Transmitter output should go to zero.
- 10- Turn OFF High Voltage.
- 11- Remove Test Jig from J- 1013.
- 12- Reconnect Jumper from 1 and 2, 4 and 5 of E-1002.

SPECIFICATION REQUIREMENTS

DISTORTION TEST

- 1- The S/D ratio must be at least 35db below the two tones on a standard two tone test on all frequencies from 2-30 MHZ at full PEP output.

CARRIER SUPPESSION

- 2- Maximum carrier suppression must be at least 55db below full transmitter output.

TMC SPECIFICATION

NO. OA 1330

REV: _____

COMPILED: _____

CHECKED: _____

APPD: _____

SHEET 6 OF 6

TITLE: GPT 10KRL

TEST DATA SHEET

- I. PRELIMINARY OPERATIONAL CHECK _____
2. PROTECTIVE INTERLOCK SYSTEM _____
3. BLOWER ROTATION CHECK _____
4. TUNE/OPERATE LIGHT AND RELAY CHECK _____
5. HIGH VOLTAGE CIRCUITS CHECK _____
 - A. PA PLATE VOLTAGE _____
 - B. PA IDLING PLATE CURRENT ADJUSTED TO _____
 - C. IPA IDLING PLATE CURRENT ADJUSTED TO _____
6. UNBALANCED TUNING COMPLETED FROM 2MHZ TO 30MHZ _____
7. REMOTE CIRCUIT TEST _____
 - A. H.V. ON/OFF _____
 - B. R OUTPUT INCREASE & DECREASE _____
 - C. EXTERNAL INTERLOCK _____
8. DIRECTIONAL WATTMETER _____
 - A. SWR ON 2:I TRIPS OUT _____
 - B. SWR ON 3:I TRIPS OUT _____
9. KEYING TEST _____

TESTED BY _____

SERIAL _____

APPROVED BY _____

DATED _____

