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VOLUME IIS

UNCLASSIFIED

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TECHNICAL MANUAL
for
TRANSMITTING SET, RADIO,
MODEL GPT-10K



THE TECHNICAL MATERIEL CORPORATION
MAMARONECK, N.Y. OTTAWA, CANADA

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FOREWORD

Technical Materiel Corporation's general purpose transmitter (ten kilowatt, PEP) Model GPT-10K is a two-frame assembly that falls into two broad categories, namely, equipments with conventional exciter and test units and equipments with synthesized exciter and test units. The difference between these two classes of equipments may be ascertained by comparison of the following literature.

GPT-10K Equipped With Conventional Exciter and Test Equipment:

Volume I, Technical Manual for Transmitting Set Radio, Model GPT-10K, 1 January 1962.

Volume II, Technical Manual for Transmitting Set Radio, Model GPT-10K, 1 March 1962.

GPT-10K Equipped With Synthesized Exciter and Test Equipment:

Volume I, Technical Manual for Transmitting Set Radio, Model GPT-10K, 1 January 1962.

Volume II, Technical Manual for Sideband Generator, Models SBG-1 and SBG-2, 1 March 1962.

It should be noted that the Manual entitled "Volume I, Technical Manual for Transmitting Set Radio, Model GPT-10K", is common to both classes of equipments. This means that the larger frame of the two-frame assembly is identical for both classes of equipments.

The smaller frame of the two-frame assembly is considerably different in these two cases. In the first case, the exciter and test frame is stacked with conventional-type exciters, oscillators, and auxiliary equipment. In the second case, the exciter frame is stacked with frequency-translation units synthesized from a precision 1-mc standard.

Within a given class of equipments, minor differences occur as dictated by customer needs. For example, a conventional GPT-10K(T) has two variable frequency oscillators and no frequency shift exciter whereas a conventional GPT-10K(A) has one variable frequency oscillator and one frequency shift exciter. Similarly, synthesized GPT-10K's differ among themselves depending on the units stacked in the exciter frame.

Figure numbers on drawings are given in three parameters such as I-1-1 to indicate volume of manual, section of manual, and serial number of drawing. In the text, reference is made only to the last two parameters unless the referenced drawing is in other volumes.

The following table presents a compilation of equipment units by TMC versus Military designations for the two volumes of synthesized GPT-10Ks together with TMC's colloquial designation. The following Table of Contents for Volume II shows the arrangement of the "building block" books that describe the modular equipment units mounted on the GPT-10K's exciter and test frame.

TABLE OF EQUIPMENT UNITS OR ASSEMBLIES OF TRANSMITTING SET, RADIO, GPT-10K

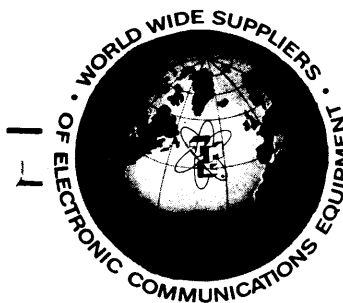
AN/FRT-39B (TMC vs MILITARY DESIGNATIONS)		TMC COLLOQUIAL DESIGNATION
AUXILIARY FRAME CHASSIS (Synthesized exciter and test equipments)		
Sideband Exciter Model CBE-1 (0-714/UR) or CBE-2 (no military designation)		CBE
Controlled Precision Oscillator Model CPO-1 (AN/URA-31) consisting of		CPO
(i)	Frequency Amplifier Model CHG-1 (AM-2505/URA-31) or CHG-2 (no military designation)	CHG
(ii)	Power Supply Model CPP-1 (PP-2561/URA-31)	CPP-1
(iii)	Controlled Master Oscillator Model CMO-1 (0-716/URA-31) or CMO-2 (no military designation)	CMO
(iv)	Primary Standard Model CSS-1 (0-715/URA-31)	CSS
(v)	Divider Chain Model CHL-1 (CV-928/URA-31)	CHL
(vi)	Controlled Oscillator Model CLL-1 (0-717/URA-31)	CLL
(vii)	Power Supply Model CPP-2 (PP-2562/URA-31)	CPP-2
Tone Intelligence Unit Model TIS-3 (TH-39A/UGT)		TIS
AN/FRT-39, -39A (TMC vs Military Designations)	AN/FRT-39B (TMC vs Military Designations)	TMC COLLOQUIAL DESIGNATION
MAIN FRAME CHASSIS		
RF Amplifier Model (None) vs Amplifier, Radio Frequency AM-2103A/URT	RF Amplifier Model (None) vs Amplifier, Radio Frequency AM-2103A/URT	IPA
a. RF Amplifier Model RFC-1	a. RF Amplifier Model RFC-1	a. IPA
b. Power Supply Model AX-104	b. Power Supply Model AX-104	b. AX-104
Power Amplifier Section Model AX-236	Power Amplifier Section Model AX-236	PA
Main Power Supply Section Model AX-138	Main Power Supply Section Model AX-138	Main Power supply
a. High-Voltage Coil and Blower Compartment	a. High-Voltage Coil and Blower Compartment	a. Coil/blower units or compart- ment

TABLE OF EQUIPMENT UNITS OR ASSEMBLIES OF TRANSMITTING SET, RADIO, GPT-10K (C nt.)

AN/FRT-39, -39A (TMC vs Military Designations)	AN/FRT-39B (TMC vs Military Designations)	TMC COLLOQUIAL DESIGNATION
MAIN FRAME CHASSIS		
b. High-Voltage Resistor/Capacitor Compartment	b. High-Voltage Resistor/Capacitor Compartment	b. Resistor/ capacitor units or compartment
c. Main Power Transformer Compartment	c. Main Power Transformer Compartment	c. Main power transformer
High-Voltage Rectifier Section Model AX-103	High-Voltage Rectifier Section Model AX-103	HV Rectifier
Relay Panel Assembly Model AX-139	Relay Panel Assembly Model AX-139	Relay control panel
Indicator Control Panel	Indicator Control Panel	Indicator control panel
PA TUNE/PA LOAD Panel Assembly	PA TUNE/PA LOAD Panel Assembly	PA tuning/loading panel or units
Main Power Panel Assembly	Main Power Panel Assembly	Main power control panel
Meter Panel Assembly	Meter Panel Assembly	Meter panel

**TABLE OF CONTENTS
FOR
VOLUME II**

<u>Part</u>	<u>Title of Component Manual</u>
I	General Description of Sideband Generator Model SBG-1, -2
II	Technical Manual for Sideband Exciter Model CBE-1, -2
III	Technical Manuals for Controlled Precision Oscillator Model CPO-1, -2
III(A)	Frequency Amplifier Model CHG-1, -2 and Power Supply Model CPP-1, -5
III(B)	Controlled Master Oscillator Model CMO-1
III(C)	Primary Standard Model CSS-1
III(D)	Divider Chain Model CHL-1
III(E)	Control Oscillator Model CLL-1
III(F)	Power Supply Model CPP-2
III(G)	Appendix - Factory Checkout Test Procedure
IV	Technical Manual for Tone Intelligence Unit Model TIS-3
V	Appendix - Exciter Frame and Accessories



THE TECHNICAL MATERIEL CORPORATION

C O M M U N I C A T I O N S E N G I N E E R S

700 FENIMORE ROAD

MAMARONECK, N. Y.

Warranty

The Technical Materiel Corporation, hereinafter referred to as TMC, warrants the equipment (except electron tubes, fuses, lamps, batteries and articles made of glass or other fragile or other expendable materials) purchased hereunder to be free from defect in materials and workmanship under normal use and service, when used for the purposes for which the same is designed, for a period of one year from the date of delivery F.O.B. factory. TMC further warrants that the equipment will perform in a manner equal to or better than published technical specifications as amended by any additions or corrections thereto accompanying the formal equipment offer.

TMC will replace or repair any such defective items, F.O.B. factory, which may fail within the stated warranty period, PROVIDED:

1. That any claim of defect under this warranty is made within sixty (60) days after discovery thereof and that inspection by TMC, if required, indicates the validity of such claim to TMC's satisfaction.
2. That the defect is not the result of damage incurred in shipment from or to the factory.
3. That the equipment has not been altered in any way either as to design or use whether by replacement parts not supplied or approved by TMC, or otherwise.
4. That any equipment or accessories furnished but not manufactured by TMC, or not of TMC design shall be subject only to such adjustments as TMC may obtain from the supplier thereof.

Electron tubes furnished by TMC, but manufactured by others, bear only the warranty given by such other manufacturers. Electron tube warranty claims should be made directly to the manufacturer of such tubes.

TMC's obligation under this warranty is limited to the repair or replacement of defective parts with the exceptions noted above.

At TMC's option any defective part or equipment which fails within the warranty period shall be returned to TMC's factory for inspection, properly packed with shipping charges prepaid. No parts or equipment shall be returned to TMC, unless a return authorization is issued by TMC.

No warranties, express or implied, other than those specifically set forth herein shall be applicable to any equipment manufactured or furnished by TMC and the foregoing warranty shall constitute the Buyers sole right and remedy. In no event does TMC assume any liability for consequential damages, or for loss, damage or expense directly or indirectly arising from the use of TMC Products, or any inability to use them either separately or in combination with other equipment or materials or from any other cause.

PROCEDURE FOR RETURN OF MATERIAL OR EQUIPMENT

Should it be necessary to return equipment or material for repair or replacement, whether within warranty or otherwise, a return authorization must be obtained from TMC prior to shipment. The request for return authorization should include the following information:

1. Model Number of Equipment.
2. Serial Number of Equipment.
3. TMC Part Number.
4. Nature of defect or cause of failure.
5. The contract or purchase order under which equipment was delivered.

PROCEDURE FOR ORDERING REPLACEMENT PARTS

When ordering replacement parts, the following information must be included in the order as applicable:

1. Quantity Required.
2. TMC Part Number.
3. Equipment in which used by TMC or Military Model Number.
4. Brief Description of the Item.
5. The *Crystal Frequency* if the order includes crystals.

PROCEDURE IN THE EVENT OF DAMAGE INCURRED IN SHIPMENT

TMC's Warranty specifically excludes damage incurred in shipment to or from the factory. In the event equipment is received in damaged condition, the carrier should be notified immediately. Claims for such damage should be filed with the carrier involved and not with TMC.

All correspondence pertaining to Warranty Claims, return, repair, or replacement and all material or equipment returned for repair or replacement, within Warranty or otherwise, should be addressed as follows:

THE TECHNICAL MATERIEL CORPORATION
Engineering Services Department
700 Fenimore Road
Mamaroneck, New York