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VOLUME IIS

UNCLASSIFIED

★
TECHNICAL MANUAL

for

TRANSMITTING SET, RADIO,
MODEL GPT-10K



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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

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VOLUME II**

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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