AUXILIARY FRAME ASSEMBLY

AX-239

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AX-239

Issue Date: 25 October 1966

NOTICE

THE TECHNICAL MATERIEL CORPORATION
COMMUNICATIONS ENGINEERS
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.

*Electron tubes also include semi-conductor devices.

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

THE TECHNICAL MATERIEL CORPORATION
COMMUNICATIONS ENGINEERS
700 FENIMORE ROAD MAMARONECK, N. Y.

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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.
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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.

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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.

*Electron tubes also include semi-conductor devices.

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

CHANGE NO. 1 GPT-10K Sh. 1 of 2

INSTRUCTION BOOK CHANGE NOTICE

Date 6/9/64

Manual affected: Operating Instructions for Transmitting Set, Radio, Model GPT-10K Synthesized IN -317

1. Page 1-1, paragraph 1-2b (1), 8th and 13th lines.

   Change "CHG-2" to "CHG-2A"

2. Page 1-2, paragraph 1-2b (8), 1st line.

   Change "CPP-1" to "CPP-5"

3. Page 1-2, paragraph 1-2c (1), 7th line.

   Change "AX-236" to "AX-509"

4. Page 1-2, paragraph 1-2c (1), 8th line.

   Change "APP-3" to "APP-8"

5. Page 1-2, paragraph 1-2c (2), 1st line.

   Change "AX-236" to "AX-509"

6. Page 1-2, paragraph 1-2c (3), 2nd line.

   Change "AX-113" to "AX-504"

7. Page 1-2, paragraph 1-2c (4), 1st line.

   Change "AX-139" to "AR-161"

8. Page 1-3/1-4, figure 1-2.

   Within dash-lined area "SIDEBAND GENERATOR SBG-1 or SBG-2."

   Change "POWER SUPPLY CPP-1" to "POWER SUPPLY CPP-5"

9. Outside of dashed-lined areas and associated with output of "AUTOTRANSFORMER T3002"

   Change "CPP-1" to "CPP-5"

CHANGE NO. 1 GPT-10K Sh. 2 of 2

INSTRUCTION BOOK CHANGE NOTICE

Date 6/9/64

Manual affected: Operating Instructions for Transmitting Set, Radio, Model GPT-10K Synthesized (cont) IN -317

10. Page 2-11/2-12, figure 2-1. On Power Supply CPP-2.

    Change "FIL 1A/115V 5A/230V" to "FIL 2A/115V 1A/230V"

11. On Auxiliary Power Panel APP-3.

    Change "AUXILIARY POWER PANEL APP-3" to "AUXILIARY POWER PANEL APP-8"

    Add two jacks (one below the other) between MONITOR control and MONITOR OUTPUT jack as follows:

    "CHANNEL 1" (top jack)

    "AUDIO INPUT" (bottom jack)

12. Page 3-4, paragraph 3-6a (1). On transmitter unit controls.

    Change "PA Section AX-236" to "PA Section AX-509"

13. Page 4-6, paragraph 4-3c (2), lines 1 and 3.

    Change "APP-3" to "APP-8"

KMCU AND APP MODIFICATION

The purpose of this addendum is to incorporate information pertaining to the latest equipment-design changes into the GPT-10K operator's manual (IN-317)

With the exception of items 1 and 2 below, there are no significant changes to the GPT-10K transmitter; when the following information is noted in text, the operator's manual will apply as written.

1. Depending upon customer's requirements, Auxiliary Power Panel APP-8 may be replaced with another power panel in the APP series. Therefore, all reference to APP-8 should be changed to APP.

2. The auxiliary frame is wired to accommodate either Tone Intelligence Unit TIS or Transmitter Keyer-Monitor-Control Unit KMCU.

NOTE

Tone Intelligence Unit TIS and Transmitter
Keyer-Monitor-Control Unit KMCU are
both optional equipment.

When used, the KMCU provides on/off control of the transmitter carrier; in addition, the KMCU provides an indication of transmitter status by means of signals to a display board located at the transmitter site. When not installed in the auxiliary frame, Tone Intelligence Unit TIS may be relocated at some remote site, and it can still perform its normal function with the GPT-10K transmitter.

The GPT-10K operator's manual (IN-317) is written to accommodate the TIS, when the KMCU is used, the operator's manual will apply as written with the following exceptions.

a. Table 2-1 (Auxiliary Frame Operating Controls and Indicators) should be

amended to include the KMCU and the appropriate APP controls and indicators.

b. Section 3 of the operator's manual should be amended in accordance with the following information:

(1) Start the transmitter as described in the applicable manual.

(2) Before tuning the exciter on carrier as outlined in paragraph 3-5, set KMCU controls as indicated below:

CONTROL	POSITION
POWER switch	ON
KEYING SELECTOR	To correspond with keying source.
CARRIER	ON (switch is self-locking in this position).

NOTE

In order for the KMCU to perform its intended keying functions, the B+ switch located on Frequency Amplifier CHG must be left in the OFF position when tuning the exciter and transmitter power amplifiers as indicated in step (3) below.

(3) Complete the exciter and transmitter power amplifier tune-up procedures as outlined in section 3 of the manual.

(4) Upon completion of step (3) above, momentarily depress CARRIER switch on KMCU. The switch will automatically assume its off (center) position. It will be noted that the B+ light on the CHG goes off, and that PA screen grid voltage decreases to 600v. Apply keying signals to the transmitter thru associated traffic control matrix on patch panel. Adjust THRESHOLD control on KMCU for proper keying of transmitter. The B+ light on the CHG will light, and PA screen voltage will rise during "keydown" periods. Rotate the HOLD IN ADJ control on the KMCU to maintain 1200v PA screen voltage during momentary breaks in keying as will occur between characters and words. Do not rotate THRESHOLD control cw beyond the position where reasonably bias-free keying is obtained.

RECORD OF CORRECTIONS MADE

Change No.	Date of Change	Date Entered	Entered By

AUXILIARY FRAME ASSEMBLY

AX-239

1. DESCRIPTION

The AX-239 is a single rack providing an enclosure for the various units constituting the exciter portion transmitter (refer to the appropriate transmitter installation manual). The rack contains cable access holes conveniently located for installation flexibility; all power and signal connections between units are made within the rack. Due to its design and construction, the AX-239 acts as a shield to prevent radiation leaks from the installed units.

2. UNPACKING AND INSTALLATION

The rack is 73 inches high, 22-1/2 inches wide, 40-1/2 inches deep and weighs approximately 342 pounds. For unpacking and installation information, refer to the appropriate transmitter installation manual.

3. PARTS LIST

The parts list presented in this section is a cross-reference list of parts identified by a reference designation and TMC part number. In most cases, parts appearing on schematic diagrams are assigned reference designations in accordance with MIL-STD-16. Wherever practicable, the reference designation is marked on the equipment, close to the part it identifies. In most cases, mechanical and electro-mechanical parts have TMC part numbers stamped on them.

To expedite delivery when ordering any part, specify the following:

a. Reference symbol.

b. Description as indicated in parts list.

c. TMC part number.

d. Model and serial numbers of the equipment containing the part being replaced; this can be obtained from the equipment nameplate.

For replacement parts not covered by warranty (refer to warranty sheet in front of manual), address all purchase orders to:

The Technical Materiel Corporation
Attention: Sales Department
700 Fenimore Road
Mamaroneck, New York

PARTS LIST

for

AUXILIARY FRAME ASSEMBLY AX239

REF SYMBOL	DESCRIPTION	TMC PART NUMBER
B3000	FAN, AXIAL: (CCW); single phase; 115/230 V, 50/60 cps (Hz); capacitance 4 uf; nominal RPM 3400; insulation class B; 100 watts full load.	BL105
B3001	Same as B3000.	
C3000 thru C3009	NOT USED	
C3010 thru C3016	Refer to Meter Panel AX107.	
C3017	CAPACITOR, FIXED, PAPER DIELECTRIC: 4 uf, ±10%; 600 WVDC.	CP41B1FF405K
C3018	Same as C3017.	
C3019	CAPACITOR, FIXED, MICA DIELECTRIC: 1,000 uuf, ±10%; 500 WVDC; char. B.	CM20B102K
C3020 thru C3038	Same as C3019.	
CB3000	CIRCUIT BREAKER: 110/230 VAC, 10 amps, double pole.	SW251-2
CP3000	NOT USED	
CP3001	ADAPTER: BNC connector type.	UG274*/U
DS3000	BUZZER: 230 VAC; 5-1/2" mtg. centers.	BZ100
E3000	TERMINAL BOARD: barrier type; plastic; 14 terminals, screw w/feed thru solder lug type.	TM100-14
E3001	TERMINAL BOARD: barrier type; plastic; 8 terminals, screw w/feed thru solder lug type.	TM100-8
E3002	Same as E3000.	
E3003	TERMINAL BOARD: barrier type; 2 terminals, black bakelite.	TM102-2
E3004 thru E3006	CONTACT SET, ELECTRICAL: relay; for K3000, TMC p/n RL130, consisting of 3 each moveable contacts, 3 each line contacts, 3 each load contacts.	AX176

AUXILIARY FRAME ASSEMBLY AX239

REF SYMBOL	DESCRIPTION	TMC PART NUMBER
E3007 thru E3009	Same as E3004, E3005, E3006.	
E3010	TERMINAL, FEED-THRU: insulated.	TE114-2
E3011 thru E3019	Same as E3010.	
F3000	FUSE, CARTRIDGE: 1/2 amp; time lag; 1-1/4" long x 1/4" dia.; slo-blo.	FU102-.5
I3000	LAMP, INCANDESCENT: clear; 230/250 volts, 40 watts; standard screw base.	BI106-1
J3000	CONNECTOR, RECEPTACLE, ELECTRICAL: female, 4 contacts. Used on Cable, W3006.	MS3102A14S2S
J3001	CONNECTOR, RECEPTACLE, ELECTRICAL: 1 round female contact; straight type; series BNC to BNC. Used on Cable, W3001.	JJ172
J3002	ADAPTER, CONNECTOR: BNC type. Used on Cable, W3001.	UG492*/U
J3003	Same as J3001. Used on Cable, W3001.	
J3004	Same as J3001. Used on Cable, W3001.	
J3005	NOT USED	
J3006	Same as J3000.	
J3007	CONNECTOR, RECEPTACLE, ELECTRICAL: twistlock; female; brown bakelite.	JJ170
J3008 thru J3014	Same as J3007.	
J3015	CONNECTOR, RECEPTACLE, ELECTRICAL: 1 female contact; 52 ohms; BNC type.	UG625*/U
J3016	Same as J3015.	
J3017	Same as J3001. Used on Cable, W3001.	

AUXILIARY FRAME ASSEMBLY AX239

REF SYMBOL	DESCRIPTION	TMC PART NUMBER
K3000	CONTACTOR, RELAY: 220 V, 60 cps (Hz) coil; auxiliary switch mounted on right side of panel; normally closed contacts.	RL130-1
K3001	CONTACTOR, RELAY: 220 V, 60 cps (Hz) coil; auxiliary switch mounted on left side of panel; normally open contacts.	RL130-2
M3000 thru M3002	Refer to Meter Panel AX107.	
M3003	TIME DELAY: 20 seconds; quick make, quick break; 250 V, 5 amps, switches.	TI100
MP3000	FILTER, AIR CONDITIONING: single pad.	AD103-4
MP3001	FILTER, AIR CONDITIONING: single pad.	AD103-2
MP3002	Same as MP3001.	
MP3003	RETRACTOR, CABLE: stainless steel spring.	SP137-1
MP3004	Same as MP3003.	
P3000	CONNECTOR, PLUG, ELECTRICAL: male; pin type. Used on Cable, W3006.	MS3106B20-29P
P3001	CONNECTOR, PLUG, ELECTRICAL: coaxial. Used on Cable, W3006.	PL244-1
P3002	Same as P3001. Used on Cable, W3006.	
P3003	Same as P3001. Used on Cable, W3006.	
P3004	CONNECTOR, PLUG, ELECTRICAL: male; pin type.	MS3106A14S2P
P3005 thru P3007	Same as P3001. Used on Cable, W3006.	
P3008	Same as P3004.	
P3009 thru P3036	Same as P3001. Used on Cable, W3001.	
P3037	NOT USED	

AUXILIARY FRAME ASSEMBLY AX239

REF SYMBOL	DESCRIPTION	TMC PART NUMBER
P3038	CONNECTOR, PLUG, ELECTRICAL: male; pin type. Used on Cable, W3002.	MS3106B20-27P
P3039	CONNECTOR, PLUG, ELECTRICAL: female; angle type; 16 contacts, brass silver plated. Used on Cable, W3002.	PL186
P3040	Same as P3039. Used on Cable, W3003.	
P3041	CONNECTOR, PLUG, ELECTRICAL: male; angle type; 16 contacts, brass silver plated. Used on Cable, W3003.	PL187
P3042	Same as P3039. Used on Cable, W3004.	
P3043	Same as P3041. Used on Cable, W3004.	
P3044	Same as P3039. Used on Cable, W3005.	
P3045	Same as P3041. Used on Cable, W3005.	
P3046	Same as P3001. Used on Cable, W3001.	
P3047	Same as P3001. Used on Cable, W3001.	
P3048	Same as P3001. Used on Cable, W3006.	
P3049	Same as P3001. Used on Cable, W3006.	
P3050	Same as P3001. Used on Cable, W3001.	
P3051	Same as P3001. Used on Cable, W3006.	
P3052	Same as P3001. Used on Cable, W3006.	
P3053	CONNECTOR, PLUG, ELECTRICAL: 14 number 16 female contacts; straight type.	MS3106B20-27S
P3054	Same as P3038. Used on Cable, W3006.	
P3055 thru P3057	Same as P3001. Used on Cable, W3001.	
P3058	CONNECTOR, PLUG, ELECTRICAL: female. Used on Cable, W3006.	MS3106A14S2S
P3059	CONNECTOR, PLUG, ELECTRICAL: male. Used on Cable, W3001.	PL105-1

AUXILIARY FRAME ASSEMBLY AX239

REF SYMBOL	DESCRIPTION	TMC PART NUMBER
R3000	HEATING ELEMENT, ELECTRICAL: finstrip; 12 ohms, 1,250 watts.	RR127-1
R3001	Same as R3000.	
R3002	Same as R3000.	
R3003	Refer to Meter Panel AX107.	
R3004	Refer to Meter Panel AX107.	
R3005	RESISTOR, FIXED, COMPOSITION: 33 ohms, ±5%; 2 watts.	RC42GF330J
R3006	Same as R3005.	
R3007	RESISTOR, FIXED, COMPOSITION: 47 ohms, ±5%; 2 watts.	RC42GF470J
T3000	NOT USED	
T3001	Refer to Meter Panel AX107.	
T3002	TRANSFORMER, AUDIO FREQUENCY: input 95-250 volts; output 115 volts; 50/60 cps (Hz); rectangular steel case.	TF275
W3000	NOT USED	
W3001	CABLE ASSEMBLY, SPECIAL PURPOSE, BRANCHED, ELECTRICAL: consists of various MIL type RG-174/U and MWC wire, 36 connectors, J3001 thru J3004, J3017, P3009 thru P3036, P3046, P3047, P3050, P3055 thru P3057, P3059 and various terminal lugs.	CA1007
W3002	CABLE ASSEMBLY, POWER, ELECTRICAL: 13 conductors, length 6 feet. Consists of P3038, P3039.	CA576-6-0
W3003	CABLE ASSEMBLY, POWER, ELECTRICAL: 16 conductors, length 8 feet 5 inches. Consists of P3040, P3041.	CA551-5
W3004	CABLE ASSEMBLY, POWER, ELECTRICAL: 16 conductors, length 9 feet 5 inches. Consists of P3042, P3043.	CA551-6
W3005	CABLE ASSEMBLY, POWER, ELECTRICAL: 16 conductors, length 6 feet 5 inches. Consists of P3044, P3045.	CA551-4

AUXILIARY FRAME ASSEMBLY AX239

REF SYMBOL	DESCRIPTION	TMC PART NUMBER
W3006	WIRING HARNESS, BRANCHED, ELECTRICAL: consisting of various MIL type RG-174/U and MWC wire; 13 connectors, J3000, P3000 thru P3003, P3005 thru P3007, P3048, P3049, P3051 thru P3054, P3058 and various terminal lugs.	CA1041
W3007	CABLE ASSEMBLY, POWER, ELECTRICAL: consists of 60" lengths of insulated wire rubber covered.	CA452
W3008	CABLE ASSEMBLY, POWER, BRANCHED, ELECTRICAL: consisting of various types of HWC wire and insulated terminal lugs.	CA680
W3009	CABLE ASSEMBLY, POWER, ELECTRICAL: consisting of 3 MIL type HWC wire; rubber jacket covered.	CA683
XF3000	FUSEHOLDER: lamp indicating; accommodates cartridge fuse 1-1/4" long x 1/4" dia.; 90 to 250 volts, 20 amps; neon lamp type with 220K ohm lamp resistor; transparent clear flat sided knob; black body.	FH104-3
XI3000	LIGHT, INDICATOR: lamp with red lens; 230 volts; 50/60 cps (Hz); lamp BI106-1.	AX124